COMMUNITY INPUT

PUBLIC PARTICIPATION AND CONSULTATION

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

CONNECT SoCal

APPENDIX 3A

COMMENT LETTERS A - CE
ADOPTED ON SEPTEMBER 3, 2020

PUBLIC PARTICIPATION AND CONSULTATION

APPENDIX 3A

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COMMENT LETTERS A - CE

ARSAC Alliance for a Regional Solution to Airport Congestion
7929 Breen Ave., Los Angeles, CA 90045
310 641-4199 WWW.RegionalSolution.org info@regionalsolution.org

January 24, 2020

Mr. Randal Ok
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

Via email: 2020PEIR@scag.ca.gov

Re: Comments to the Draft Program Environmental Impact Report (PEIR) (SCH#2019011061) in accordance with the California Environmental Quality Act (CEQA) for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy).

Dear Mr. Ok:

Since 1995, ARSAC has advocated for the increased utilization of unconstrained underserved or unserved outlying regional airports such as Ontario and Palmdale to meet Southern California's airport capacity needs instead of expanding LAX.

ARSAC supports a safe, secure, modern and convenient LAX. LAX, the dominant So Cal airport, is limited in operational land and is in a very congested airspace. In 2016, ARSAC negotiated a second legal settlement to extend the 153 gate cap by four additional years through December 31, 2024. The gate cap is based upon Aircraft Design Group III sized aircraft comprised of the narrow body mainline aircraft such as the Airbus A320 and Boeing 737 series commercial airplanes. LAX is currently the largest public works project in Los Angeles County.

ARSAC is disappointed with the PEIR:

1. The outreach for public comment appears to very limited.
2. The time for public comment is too short. The PEIR was released in December when most people are paying attention to the holidays and not public policy. SCAG should extend the comment period an additional 45 days and provide lots of publicity to encourage public comment.
3. The content of the PEIR appears to be thinner in scope than in the past, especially the Aviation Element. Instead of doing the RTP right, it appears as "RTP Lite."

The draft document repeatedly states its lack of authority to mandate actions. SCAG can be a much stronger contributor to the economic and environmental development of this region by providing increased guidance for transportation priorities. It provides extensive housing priorities and goals and to increase mass transportation to reduce vehicle miles travelled. It appears to favor "active transportation" such as bikes and scooters but fails to project how will be used to generate meaningful data resulting in congestion improvement.

ARSAC strongly agrees with the five decade old principle that our airport system must provide a regional accommodation to travelers and cargo. Mass transit train stations and buses must be

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built to support our airport system. Much of the RTP discusses "livable communities" in which single vehicle traffic is discouraged for densified communities. The call for active mobility choices with inadequate parking may serve local communities, but this will not work well for travelers who generally have luggage. Bike centric projects may increase active transportation alternatives but it also reduces vehicle capacity and slows down vehicle traffic resulting in increased GHG.

Traffic around LAX is legendary. Despite all of the major changes proposed we expect that "Every day will be like Thanksgiving gridlock" if the increased projection of 127 Million Annual Passengers (MAP) occurs. No documentation is provided anywhere in the RTP to validate that this 35% increase from current gridlock can be accommodated within or around LAX.

ARSAC strongly encourages data collection and analysis activity to highlight the sources of passengers and to encourage airlines to offer flights at airports most convenient to travelers.

SCAG congestion analyses and "transportation analysis zones" around airports must be detailed enough to identify potential action for improvements not only at end of the planning period of 2045, but also incrementally to match changes within airport areas. When will this data be used? If it is only for 2045, then it will be too late.

In this RTP, SCAG seems to have backed away from 5 decades of advocacy for regional accommodation of commercial aviation needs. The wording, "Regionalization" in reference to Aviation is absent from the draft despite its critical importance to ensuring optimum access and emergency back up for both natural and man-made disasters.

The definition of regionalization has been crafted by ARSAC and the cities of Inglewood and Culver City in 2011 which SCAG should consider adopting:

"Regionalization is the proactive redistribution of a portion of Southern California's aviation demand to unconstrained airports in the Southern California region other than LAX, in order to achieve a more equitable and proportional allocation of airport growth and aircraft operations among the airports, reduce congestion, increase safety, and minimize vehicle miles traveled, with consequent benefits to both the environment and the economy."

ARSAC was part of the coalition to "SetONTario Free" whereby Ontario International Airport (ONT) ownership and management returned to local control. ONT has been dramatically increasing domestic service and adding new long-haul international service such as Taipei, Republic of China. ONT is a great example of airport regionalization in Southern California.

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We agree with the RTP statement: "SCAG has and will continue to play a role in terms of aviation systems research, planning, and analysis, as well as encouraging collaboration and communication amongst the region's aviation stakeholders."

As the federally recognized Metropolitan Planning Organization (MPO) for Southern California and its ability to prioritize ground transportation dollars, SCAG must do more to help underutilized regional airports become more attractive for airline service by providing easy access by road, rail (Metrorail, Metrolink, Amtrak, High Speed Rail such as Brightline/Virgin Trains) and other mass transit.

Part of Southern California's freeway congestion problems stems from leakage of passengers from one airport catchment area (natural marketing area) to other airports causing millions of extra vehicle miles traveled. All of Palmdale Regional Airport's possible passengers are forced to drive to Hollywood-Burbank (BUR), Ontario International (ONT) or Los Angeles International (LAX) to catch a flight. LAX has 70% of the region's flights including 95% of the international flights. While it is not possible to accommodate all leakage from one catchment area to another, without airline service at places such as PMD freeway congestion will continue to increase. SCAG must work with airports in the region to have ground access projects prioritized. SCAG must re-commit itself to making airport regionalization a reality.

In the RTP, some airports having commercial jet service are designated "Reliever Airports".

Were these "Reliever Airports" included in calculations such as Air Quality, Green House Gas Emissions, Noise, etc.???

Additional information that should be included in the RTP about "reliever airports":

1. March Inland Port (RIV). As of 2018, Amazon Air has 6 cargo flights per day.
Reference: https://en.wikipedia.org/wiki/March_Air_Reserve_Base

2. Palmdale Regional Airport (PMD). PMD has charter Boeing 737 flights to support US Defense projects such as the B-21 bomber program. The City of Palmdale is in the planning process to build a new passenger terminal on the northwest corner of Air Force Plant 42 (southeast corner of Sierra Highway and Avenue M). This location is adjacent to the Metrolink Antelope Valley Line and would be perfect for a train station stop to make PMD an intermodal and multimodal facility. Virgin Trains USA could also make this a station.
Reference 1: https://en.wikipedia.org/wiki/Palmdale_Regional_Airport
Reference 2: https://cityofpalmdale.org/DocumentCenter/View/5858/Palmdale-Regional-Airport-Facts-and-Figures-PDF?bidId=
Reference 3: https://www.avpress.com/news/palmdale-explores-return-of-service-to-airport/article_c0ffc290-bbf9-11e9-8a1a-7fd9889b4667.html

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3. San Bernardino International Airport (SBD). SBD has a new passenger terminal with Federal Inspection Service (FIS) facilities. SBD has commercial aircraft Maintanence, Repair and Overhaul (MRO) facilities. FedEx and UPS have cargo flights from SBD to 9 US cities. Reference: https://en.wikipedia.org/wiki/San_Bernardino_International_Airport

4. Southern California Logistics Airport (VCV). SCLA is a major aircraft storage, maintenance, overhaul and testing facility. Boeing Capital Corporation, a subsidiary of The Boeing Company, stores aircraft here for future leases and sales. GE Aircraft Engines does flight testing of engines here including the new GE9X engine powering the new Boeing 777X. Airtanker 910, which has a McDonnell Douglas DC-10, uses VCV for fighting forest fires in California. Reference: https://en.wikipedia.org/wiki/Southern_California_Logistics_Airport

Main document comments and questions.

1. RTP Page 1.03: "The region is home to the two largest container ports in the Western Hemisphere (Los Angeles and Long Beach), and the world's fifth busiest airport system (Los Angeles World Airports)."

The statement above needs to be updated. According to Airport Council Internationals, Los Angeles International Airport (LAX) is the world's fourth busiest airport as of 2018. Los Angeles World Airports operates LAX. LAX is on track to becoming the world's third busiest airport according to first half 2019 figures. Reference: https://en.wikipedia.org/wiki/List_of_busiest_airports_by_passenger_traffic

2. RTP Appendix 3.13. This document leaves out the noise contours for airports classified as "Reliever Airports."

Palmdale (PMD), March Inland (RIV), San Bernardino International (SBD) and Southern California Logistics Airport (VCV) all have jet air traffic that impacts airport neighbors with noise, pollution and vibration issues. Are these reliever airports included in the air quality, greenhouse gas emission, noise and other analyses? If not, then the RTP could be inadequate in disclosing and analyzing these important issues.

Aviation and Airport Ground Access Technical Report comments and questions

1. Overall. SCAG must recommit to an active policy of "regionalization", a policy that SCAG embraced for the past five decades. Why does SCAG no longer mention regionalization in the RTP? How can we get SCAG to implement regionalization?

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2. Executive Summary, page 2. "Only a small percentage of air passengers used transit to travel to and from the region's airports."

SCAG must work with airports in the region to identify and prioritize projects that will encourage passengers to use public and mass transit to airports. Hollywood-Burbank Airport (BUR) is a good local model of being an intermodal and multimodal facility. LAX is working on the Landside Access Modernization Program (LAMP) to improve mass transit connectivity. Plans to extend the Metro Gold Line and Metrolink to and from Ontario International (ONT) need to be prioritized.

3. Executive Summary, page 2. "The majority of air passengers in the region are traveling to and from Los Angeles International Airport." Again, SCAG needs an active regionalization program to help redirect passengers who are leaking from other SCAG airports. This will help to reduce pressure on LAX to expand in the future and to reduce traffic congestion on freeways and local streets around LAX.

4. Executive Summary, page 2. "The growth in air passenger demand globally can be explained in part due to the health of the economy and an ongoing trend of decreasing airfare."

The statement is correct, but leaves out important components of growing international air service: Open Skies Agreements between the United States and other countries which removed restrictions on city pairs and aircraft types and the use of new fuel efficient long range aircraft such as the Airbus A350XWB and the Boeing 787 Dreamliner that have made flying between smaller size markets profitable.

5. Exhibit 1, SCAG Region Airports, Page 4.

Why is Palmdale Regional Airport listed as "Palmdale Air Terminal" on the map?

6. Table 1, Commercial Air Carriers (and Destinations) Operating in the SCAG Region Airports, Pages 10 and 13

   a. The list appears to be LAX-centric. Why was the list not broken out by individual SCAG airports with airlines and destinations?
   b. The destinations are missing for Aer Lingus (Dublin), Aeroflot (Moscow), Aeromexico (Mexico City, etc.), Aeromexico Connect, Air Canada (Vancouver, Calgary, Edmonton, Toronto, Montreal), Air Canada Rouge and Air China (Beijing). Where did the information about "O&M Exisiting Service" and " Bridges, pavement" come from?
   c. Why were these airlines not listed? Air Italy (Milan)? Boutique Air (Merced)? Finnair (Helskini)?
   d. Why are Air Canada and Volaris listed twice?

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e. Norwegian Air Shuttle has reduced its destinations from LAX
f. Scandinavian Airlines just switched its destination from Stockholm to Copenhagen
g. Thomas Cook Airlines, WOW Air and XL Airways France have ceased operations.

7. Table 2, SCAG Region Cargo Airlines and Destinations, Pages 14 and 15
   a. The list appears to be LAX-centric. Why was the list not broken out by individual SCAG airports with airlines and destinations?
   b. Does this list account for Amazon's Prime Air operation at March Inland Port (RIV)?

8. MPO's have no authority over Airport Development, Pages 18 and 19. Please refer to our comments above concerning active regionalization.

9. Where are air passengers coming from and how are they getting to the airport?, Pages 24 to 26. Again, SCAG has an opportunity and a responsibility to work with airports in facilitating projects to create and enhance mass transit projects to airports to encourage more air passengers to use transit options other than single occupancy vehicles or Transportation Networking providers.

10. Air Cargo traffic to the SCAG region airports, Page 26. Why did SCAG only include the top 5 cargo airports in the SCAG modeling program for truck trips? Other airports such as San Bernardino (FedEx and UPS) and March Inland Port (Amazon Prime Air) produce truck trips. It is anticipated that these 2 airports will likely see increases in cargo service from these cargo carriers and this will impact roadways with more truck traffic.

11. Strategies, Page 31. Again, SCAG must be more pro-active in working with SCAG region airports on ground access to make these airports more intermodal and multimodal.
12. Table 12, SCAG Region Airport Forecast for 2020-2045 RTP/SCS, Page 33. What documentation and justification has LAWA provided for the projected 127 Million Annual Passengers in the 2045 horizon year?

13. General Aviation Forecast, Page 34. Does the forecast include the possible closure of Santa Monica Airport (SMO)? Does the forecast include membership flying services such as SurfAir and FLOAT?

14. New Airport Ground Access and Modernization Projects, Pages 34 to 36. ARSAC appreciates that the 2028 Olympic Games are mentioned, but again, it appears that there is lack of urgency in this RTP to have airport access projects completed before the Olympic games making the airports in the SCAG region, "Olympics ready." ARSAC supports efforts to bring Metrolink and Metrorail to Ontario International Airport (ONT).
15. Supersonic aircraft missing from RTP. Supersonic passenger aircraft are expected to debut during the 2020-2045 timeframe of the RTP. These include the Boom Technology Overture and Aerion AS2 supersonic business jet. Boom has 10 options each from Japan Airlines and Virgin Atlantic, both of whom serve LAX.
    Reference 1: https://en.wikipedia.org/wiki/Boom_Technology

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Reference 2: https://en.wikipedia.org/wiki/Aerion

16. Drones also missing from RTP. Drones are being deployed for law enforcement and commercial purposes such as filming and package delivery.

17. Helicopters also missing from RTP. Helicopters are used law enforcement, fire fighting, medical, news coverage and private transportation. Helicopters negatively affect residents when they fly low.

18. VTOL. New services such as Uber Elevate are on the horizon. This service will require new landing pads to enable its usage. The safety of manned and unnamed VTOL needs to be examined. From Wikipedia: "UberAIR / UberElevate will provide short flights using VTOL aircraft. Demonstration flights are projected to start in 2020 in Dallas and Los Angeles. Commercial operations are projected to begin in 2023.[48] Although technically feasible, the program is expected to encounter safety and regulatory obstacles.[49]"
Reference: https://en.wikipedia.org/wiki/Uber#Riding_with_Uber

Passenger Rail Technical Report comments and questions

1. Table 1, Private Transportation Providers, Page 18. Destinations are missing for Tres Estrellas de Oro and TUFESA.

2. Los Angeles to Las Vegas, Page 27. Was XpressWest and its successor Virgin Trains USA approved for a Palmdale to Victorville segment? Why is this not mentioned about a Virgin Trains station in Palmdale?

3. Airport Ground Access, Page 33. Were the City of Palmdale's plans for a new airport terminal on the northwest corner of Air Force Plant 42 (southeast corner of Sierra Highway and Avenue M) considered in this RTP?

ARSAC will continue to work with SCAG to improve our regional economic and environmental conditions. We encourage SCAG to increase its outreach and to foster discussion and action within each of the Counties and Cities of our region.
Sincerely,

Denny
Schneider
President

Robert Acherman
Vice President

2019 Federal Transportation Improvement Program

Los Angeles County
Local Highway
Including Amendments 1-11
(In $000`s)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LA0G171	Los Angeles	SCAB		1AL04	RAN07						L	EXEMPT - 93.126	0
Description:							PTC	12,800			Agency	LONG BEACH	

Navy Mole Storage Yard: The proposed project includes three new tracks along the west side of Pier T. This project will also involve relocating the existing utilities.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
PORT FUNDS	1,500	100	11,200	12,800	1,500	1,100	10,200					12,800
LA0G171 Total	1,500	100	11,200	12,800	1,500	1,100	10,200					12,800

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LA0G172	Los Angeles	SCAB		1AL04	TRR15						L	EXEMPT - 93.126	0
Description:							PTC	29,000			Agency	LONG BEACH	

TI Wye Track Realignment: This project will provide for double tracking the south leg of the wye to accommodate simultaneous train switching moves from these various activities on Terminal Island.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
PORT FUNDS	4,000		25,000	29,000	1,000	1,263	3,122	23,615				29,000
LA0G172 Total	4,000		25,000	29,000	1,000	1,263	3,122	23,615				29,000

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LA0G173	Los Angeles	SCAB		1ITS04	RAN07						L	EXEMPT - 93.126	0
Description:							PTC	27,610			Agency	LONG BEACH	

Reconfiguration of Control Point (CP) Mole - The new control point at the Mole will enable increased train speeds and reduced train delays caused by manual switch operations.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
PORT FUNDS	4,610		23,000	27,610	2,600	5,810		19,200				27,610
LA0G173 Total	4,610		23,000	27,610	2,600	5,810		19,200				27,610

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LA0G830	Los Angeles	SCAB		LA0G830	CAX77						L	NON-EXEMPT	1
Description:							PTC	330,000			Agency	LONG BEACH	

I-710 Improvements/Shoemaker Bridge Replacement: Replace the existing Shoemaker bridge with a new bridge. The new bridge will be reduced to have two mixed-flow lanes in the NB and in the SB directions to tie the flow into I-710. The new bridge will also include pedestrian and bicycle access. Additionally, bicycle, pedestrian, and street enhancements will be provided on adjacent thoroughfares.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
CITY FUNDS	2,664			2,664	2,664							2,664
MEASURE R 20H - HIGHWAY CAPITAL	11,000			11,000	5,500	5,500						11,000
STIP Advance Cons	14,000			14,000		14,000						14,000
LA0G830 Total	27,664			27,664	8,164	19,500						27,664

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LAE0701	Los Angeles	SCAB		LAE0701	NCR30						L	EXEMPT - 93.126	0
Description:							PTC	1,920			Agency	LONG BEACH	

DEVELOP AND IMPLEMENT TRAFFIC CALMING MEASURES FOR TRAFFIC EXITING THE I-710 INTO LONG BEACH

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
DEMO-SAFETEA-LU			1,600	1,600		1,600						1,600
AGENCY	64		256	320	64	256						320
LAE0701 Total	64		1,856	1,920	64	1,856						1,920

January 22, 2020

To whom it may concern,

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS) (collectively called Connect SoCal). In 2012, with release of the prior RTP/SCS, Friends of Harbors, Beaches and Parks coordinated a cross-county regional conservation coalition focused on the inclusion of natural lands mitigation and policies within that SCAG plan. The Bolsa Chica Land Trust is now a part of this growing coalition in 2020.

The Bolsa Chica Land Trust is a 5,000 member non-profit organization established in 1992. Our mission is the acquisition, preservation and restoration of all of Bolsa Chica and the education of the public to its natural wonders and cultural significance. The Bolsa Chica Ecological Reserve, located on our Orange County coastline, is owned and managed by the State. Bolsa Chica is an international birding location visited by approximately 80,000 visitors each year. Over the course of our 27 year history, BCLT has been the catalyst for the protection of hundreds of acres of coastal wetlands and 118 acres of coastal uplands at Bolsa Chica from development.

We offer the following comments on the Natural and Farmland policy, goals, and next steps.

We are pleased to see conservation of our natural lands as one of the 10 main policies of Connect SoCal. Land preservation not only reduces greenhouse gas (GHG) emissions, but also sequesters carbon. Any investment in habitat restoration improves this sequestration potential as well. SCAG has demonstrated that Metropolitan Planning Organizations can play a vital, thoughtful, and science-based role in mitigating impacts to our natural environment from transportation, infrastructure, and other development projects. By incorporating natural and farmlands protection strategies into your policy document, we believe the many benefits of this broad-based conservation approach will be realized sooner than expected. We thank you for your leadership.

[redacted]

BCLT agrees that future development should be focused in existing city-centers and near transit. When developments are built in the city center, it relieves pressure from the fringe. However, the Plan fails to outline exactly how (or with what conservation mechanism) these fringe lands (or any lands) will actually be protected. Just because the pressure is relieved by focusing development elsewhere, doesn't mean the land then automatically becomes protected. Numerous organizations, ours included, focus our work on protecting important habitat lands. A lot of time, energy, money, strategy, and political will are combined to create a successful conservation transaction that lead to permanently conserved lands. Further, just because local agencies may be contributing to the conservation arena, in no way should you discount the roles of the conservation non-profit community. In short, SCAG must identify the actual mechanism, process or plan on how the greenfields and agricultural lands will be protected.

Many of the benefits of open space and parkland have been outlined in the Plan and Natural Lands Appendix. In addition, there are many economic benefits of open space. These are realized through increased property values, ecosystem services, support of local businesses through park visitor purchases, and a reduction in the urban heat island effect. Further, conservation of natural lands has many on-the-ground co-benefits like access to recreational opportunities, preservation of important habitats and species, protection of cultural and archeological sites, increased job opportunities, protection of threatened/endangered species, and environmental education experiences. Our natural lands filter water, clean the air, and provide homes for wildlife. Natural lands preservation also protects our watersheds, rivers, and water sources. Voters consistently support measures that benefit their local water and natural resources.

The Plan outlines that the region anticipates an additional 3.8 million people by 2045 providing increased pressure to our existing parkland. Existing studies document that many communities in the Southern California region already do not have enough parkland as outlined by the Quimby Act (five acres per 1000 residents). As cities grow, more parks and more park access will be needed. What is the mechanism for this? Additionally, and more importantly, these city parks are fundamentally different than habitat-focused parks. Usually city and regional parks include high intensity activities, like turfed soccer and baseball fields. The types of land acquired as mitigation or through local conservation efforts typically focus on preservation of natural habitat and less intensive uses (birding, hiking, etc.). In fact, many of these mitigation lands have limited or managed public access. Providing "more" access to either high or low intensity parks and/or habitat lands may have significant consequences for the land manager. How additional access will be provided should be addressed, as well as how additional lands will actually be acquired and preserved.

Wildlife corridors are critical components to Southern California conservation efforts. Ensuring survival of the top predator and the suite of species in the ecosystem means our natural lands must also maintain environmental functions, be sustainable over the long term, and include plans for long term stewardship. The issue is that many housing and transportation projects eliminate the wildlife movement corridors and fragment the landscapes into smaller, less viable pieces of land. Ensuring our open spaces are connected to one another is essential for species survival. Wildlife corridors allow landscapes to maintain ecological functions, allow places for regeneration after natural disasters such as fire, flood or landslide, and improve the resiliency in the face of climate change impacts. The Plan would be stronger if it supported the enhancement of and/or protection of documented wildlife corridors *prior to commencing* impactful projects.

Many non-profits like BCLT are working to ensure additional bays, estuaries, wetlands, bluffs, and beaches are preserved forever. Additionally, one way our coasts are connected to inland areas are through our rivers and streams. These riparian areas serve as recreational trail corridors, water recharge and infiltration locations,

[redacted]

and serve as places our wildlife use for watering sources. However, transportation and land use generated urban runoff are still problems. Our beaches and coastline are inundated with pollution. Litter, debris, and pollutants should be decreased prior to reaching the coast. Ensuring everyone has a positive experience on the sand and in the surf should be our goal, but we need to address Southern California's trash problem.

One key way to improve the environment is through restoration projects. These can be on land, in riparian areas, and even in the ocean. Restoration provides benefits by adding native plants, removing the non-native plants and their seedbank, as well as increasing carbon storage, and providing improved habitats for our wildlife. Our environment benefits from these improvements, as do our watersheds, our air, and our communities. Having improved habitats means that our water is cleaner, our soils won't erode as easily, it creates jobs for local residents, and our unique biodiversity is maintained. Further, the many endemic and threatened/endangered plants and animals benefit from these restoration projects as well. Thank you for including restoration as a key component in the natural lands and agricultural policy. We feel it is important to note that although restoration dollars are available through State measures, there is overwhelming competition for those dollars, particularly for Southern California where restoration projects are typically more expensive to implement. SCAG support of restoration will be an important element to achieving restored and functioning habitats.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this Plan, especially as it relates to the conservation policy and Natural and Farmlands Appendix. Should you need to contact me, I can be reached at [redacted]. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to me at [redacted]

Sincerely,

Kim Kolpin
Executive Director

The Bolsa Chica Land Trust is a Non-Profit, 501(c)3 organization. All donations are tax deductible to the extent allowed by law. Our tax ID# 33-0516059.

[redacted]

CALIFORNIA
AIR RESOURCES BOARD

January 24, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Suite 1700
Los Angeles, California 90017

RE: CARB comments on SCAG's draft update to its 2020 RTP/SCS

Dear Mr. Ajise:

California Air Resources Board (CARB) staff appreciate the opportunity to review and engage with the Southern California Association of Governments (SCAG) staff on the draft update to its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) known as "Connect SoCal." This work is more important than ever as CARB's first SB 150 progress report[1] showed that California is not on track to meet the greenhouse gas (GHG) reductions expected under Senate Bill (SB) 375 for 2020 and that vehicle miles traveled (VMT) is increasing. To achieve the State's climate mandates, California needs significant and immediate changes to how we plan, fund, and build our communities and transportation systems. Recognizing this, Governor Newsom signed Executive Order N-19-19 this past September to redouble the State's efforts to reduce GHG emissions, with an explicit focus on lowering VMT. The SCS plays a critical role in supporting the State's climate efforts, as well as local objectives to create an economically vibrant region that responds to the needs of its diverse communities and provides better access to jobs and cleaner air for its residents. We appreciate SCAG's work as we endeavor together to achieve these shared goals.

In meetings held in December 2019 and January 2020, CARB staff voiced concerns that SCAG's 2020 draft RTP/SCS is missing information CARB needs to conduct its GHG evaluation under SB 375. For all third round RTP/SCSs, like Connect SoCal, CARB will focus on assessing whether plan GHG reductions are reasonably supported

[1] CARB's *2018 Progress Report: California's Sustainable Communities and Climate Protection Act* at: https://ww2.arb.ca.gov/resources/documents/tracking-progress.

with regional implementation actions and investments. After discussing these expectations, CARB and SCAG staff agreed on additional information and clarifications that SCAG staff will make in the final 2020 RTP/SCS based on CARB's updated Sustainable Community Strategy Program and Evaluation Guidelines.[2] CARB staff appreciate SCAG staff's cooperation and commitment to incorporate these items, which include:

- Adding performance reporting for the year 2035 to demonstrate how SCAG's plan meets the 2035 GHG emissions reduction target (e.g., through changes in VMT, mode split, and trip length).

- Clarifying what strategies are being quantified for credit toward achievement of SCAG's SB 375 2035 target, and making sure these correspond to the strategies listed in SCAG's Technical Methodology submittal to CARB. Currently, the strategies listed in the draft RTP/SCS and the Technical Methodology are different and use inconsistent terminology.

- Clarifying the description of SCAG's Preferred Scenario/Final Growth Vision as referenced in the SCS Technical Report and Chapters 3 and 4 of the Draft Plan, so CARB staff can identify what principles SCAG has applied to develop the final adopted development pattern, and to what extent SCAG's preferred scenario is a change from current trends.

- Adding information identifying the commitments, investments, and actions SCAG and its local members are making to demonstrate why the land use growth constraint assumptions in the plan are likely to be implemented, and therefore reasonable for inclusion.

- Adding long-term induced demand analysis information and associated estimates of VMT and GHG into the final plan's GHG emissions and VMT.

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[2] CARB's *Final Sustainable Communities Strategy Program and Evaluation Guidelines* at: https://ww2.arb.ca.gov/sites/default/files/2019-11/Final%20SCS%20Program%20and%20Evaluation%20Guidelines%20Report.pdf

- Clarifying how the current 6th cycle and previous 5th cycle regional housing needs allocation (RHNA) are or are not reflected in the plan, so CARB can verify that the plan development pattern and strategies reflect best available information, and are therefore reasonable.

In addition, as we discussed, we request that SCAG staff provide the following information that is equally critical to our evaluation:

- Adding reporting of observed data as it relates to achievement of the latest 2020 targets, and if needed, discussing what adjustments and changes SCAG has prioritized in the SCS to get the region on track to achieve its 2020 target as soon as is reasonably practicable. Given that 2020 is a milestone year for SB 375, CARB staff expect that MPOs will continue to monitor and report current observed data as it relates to the 2020 targets within their SCSs.

- Adding data on the status of implementing all strategies and actions that were included in its previous 2016 RTP/SCS such that CARB staff can discern progress the region has made towards meeting its GHG emissions reduction targets through its implementation efforts. SCAG should also include discussion of how this information has influenced change in the set of strategies and actions included in the 2020 RTP/SCS. CARB's evaluation will include reporting on the region's implementation status.

- Clarifying for each strategy what SCAG staff is assuming regarding the applicable geographic scope, with specific locations if known; the implementation timeframes; and what measureable actions and investments SCAG and its member agencies will make to support and track strategy implementation. CARB will use this information to assess whether the strategies are likely to be implemented as assumed, and are therefore reasonable for inclusion and credit. Adding this information is especially important for the following highlighted draft strategies:

  - Pricing strategies (i.e., mileage-based user fees, TNC user fees, and congestion pricing). SCAG may be able to attribute emissions reductions from these strategies toward SB 375 target credit provided what the region

implements is above and beyond State actions.[3] To do so, SCAG needs to provide the above requested information (i.e., geographic scope, implementation timeframes and measureable actions and investments) and should clarify how SCAG has made reasonable adjustments to previous pricing assumptions from the last plan. For example, providing evidence of regional actions to support pricing implementation.

- Multimodal dedicated lane strategy. SCAG needs to provide the above requested information (i.e., geographic scope, implementation timeframes and measureable actions and investments) and should clarify why it is reasonable to assume emissions reductions from conceptual-phase complete streets projects for the 2020 RTP/SCS that are not reflected in the fiscally constrained RTP project list.

- Adding regionally specific data to support SCAG's adjustment of baseline trip level VMT and GHG emissions for Telemedicine and E-Commerce trip reductions for medical and retail trips for the 2020 RTP/SCS. CARB staff are concerned about SCAG's inclusion of Telemedicine and E-Commerce baseline VMT adjustments based on the data SCAG is using to develop its assumptions. SCAG is currently using information based on national and international data regarding health care claims and retail sales and has not provided clear evidence that trends in these data sets translate to reductions in GHG emissions, trips, or VMT in Southern California. We understand that SCAG is working to provide local data to CARB, as well as develop a more conservative approach. However, if SCAG cannot provide sufficient local supporting data, CARB staff recommend removing these assumptions from the 2020 RTP/SCS and reevaluating their inclusion in subsequent RTP/SCS updates once local data are available.

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[3] See pages 28 – 29 of CARB's *Updated Final Staff Report Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets* at: https://ww3.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf?_ga=2.256147811.272438952.1572376271-1067821673.1540248233 and *Final Sustainable Communities Strategy Program and Evaluation Guidelines* at https://ww2.arb.ca.gov/resources/documents/scs-evaluation-resources, for discussion of Local/Regional Pricing Policy.

CARB staff are committed to working with SCAG staff on potential approaches to address these requests and remedy aspects of SCAG's technical methodology for estimating GHG emissions.

Without this information, it is difficult for staff to determine whether the draft RTP/SCS would meet the targets. It would be helpful to receive the identified information prior to adoption, so that we have an opportunity to discuss any further issues.

We look forward to continuing our collaboration with SCAG. If you have any questions, please contact me at [redacted] or my staff, Nicole Dolney, at [redacted]

Sincerely,

Jennifer Gress

Jennifer Gress
Chief
Sustainable Transportation and Communities Division

cc: Nicole Dolney
Chief
Transportation Planning Branch

[redacted]

Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

RE: Draft Connect SoCal RTP/SCS Plan and Program EIR

Dear Team Members:

We write to followup on the comments we made during the Scoping Plan, as a civil rights organization focused on promoting minority home ownership and opposing government "redlining" actions that result in residential segregation and disparate harms to California's minority communities.

We are deeply distressed that the draft Connect SoCal RTP/SCS Plan is even more forcefully aimed at ending minority home ownership opportunities in California's most populous region, especially since the majority of the region's residents are minorities – and especially since homeownership has long been recognized as the most successful pathway to the middle class and the intergenerational wealth accumulation that helps fund income interruptions from injuries or job losses, college expenses for kids, and other unplanned expenses for all family members. Senate Bill 375 expressly requires SCAG to develop and periodically update these regional plans to meet the region's actual (not aspirational based on some "end capitalism" or "massively redistribute wealth" advocacy vision) housing and transportation needs. SB 375 also requires that these regional plans accommodate for continued economic growth (which we believe requires preserving upward mobility for California's hard working minorities, as well as young people), and actually advance California's climate leadership – not simply induce Californians to leave to other states to find housing they can afford to buy, allowing California to falsely claim a GHG reduction credit for reducing its population and in-state economic activities.

We are fully supportive of the SB 375 goals – but we oppose making minorities the collateral damage in California's war on climate change. We oppose the RTP/SCS as an unlawful agency action to promote *de jure* residential racial segregation while exacerbating the adverse environmental, commuter health, and family welfare harms caused by intentionally increasing roadway gridlock. We further conclude that the Program EIR for the RTP/SCS is false, as well as wholly unlawful, for failing to acknowledge that the catastrophic physical, social, and civil rights consequences of the SoCal Connect plan's high density infill rental housing, someone-else-should-ride-the-bus agenda, including further increases in homeless and poverty with attendant significant adverse health, safety, and environmental impacts. We support an "all of the above" strategy for solving the housing crisis, which brings a clear-eyed

recognition of what the region's families can actually afford to buy (and rent), and which matches the region's overwhelming transportation mode automobile choice with transportation plan solutions that actually work for people – not agencies, not staff, and not the legion of consultants who profit from taxpayer-funded planning that has not, and does not, work in the real world. SCAG's prior SB 375 plans did not reduce VMT: VMT increases with population and employment. SCAG's prior SB 375 plans were implemented when both the homelessness and housing crisis got much worse, not better. Professor Einstein said the definition of "insanity" is doing the same thing over and over again while expecting a different outcome. The SoCal Connect Plan is indeed insane: it provides neither housing nor transportation solutions that match the needs of the region, especially the needs of the region's minorities and young people.

We further support a rationale and transparent consideration of all regional greenhouse gas reduction strategies, not simply the fiction that Vehicle Mile Travelled (VMT) reductions for California families will actually meaningfully reduce global GHG. The fact is that SB 375's GHG reduction mandate was unlawfully converted into an unlawful VMT reduction mandate by the California Air Resources Board in an unlawful underground regulation "guidance" document that is no less than a bureaucratic putsch to end-run the Legislature's repeated refusal to mandate regressive (and ultimately racist) VMT reductions. By aiding and abetting CARB in this unlawful and racially discriminatory anti-housing and anti-transportation plan, SCAG joins CARB in violating the civil rights of the region's minority population while making zero – or negative – progress in reducing global GHG.

In fact, SB 375 did not authorize any agency, including SCAG, to make homeownership unattainable, worsen the homelessness crisis, and increase housing costs and make transportation more costly and less efficient for hard working minorities and young people. In adopting SB 375 the Legislature considered, and expressly rejected, requiring the reduction in Vehicle Miles Travelled (VMT) as a climate legal imperative in California. Later legislation to require VMT reductions have likewise failed, which is not surprising given the inherently regressive consequences of increasing commute durations and costs for the very people priced out of more proximate housing, the overwhelming ongoing dependence of Californians on cars and falling transit utilization, and the far more equitable and effective climate change strategies and mandates that have been adopted by the Legislature.

While CARB and its allies routinely assert that transportation is the largest GHG emission sector left in California, they omit the fact that the cars needed by people to get to and from work and attend to medical appointments, family care, and other routine family needs, are both increasingly cleaner – with more electric car mandates underway – and account for only a fraction of the plane, train, shipping, and heavy duty truck transportation sector GHG. They also routinely omit the fact that California already has a very low per capita VMT relative to other states outside the historic East Coast, that passenger car smog emissions have dropped by more than 99% through the methodical and transparent regulatory implementation of the Clean Air Act, that VMT has of course actually substantially increased – with the highest increase by far coming from Latino workers and families. They also ignore the fact that coastal Southern California already has the highest population densities in the United States.

We implore SCAG to resist the lure of redlining by elitist anti-car and anti-homeownership planners, and avoid violating civil rights, air quality, transportation, and housing laws to appease the takeover of land use decisionmaking by CARB to worsen California's homelessness, housing and poverty crises.

Residential re-segregation in Southern California is already well underway based on the housing crisis, which has caused a shortage of housing supply and skyrocketing housing costs in the region, and which has in turn resulted in relentless increase in the homeless population, and caused California to have the nation's highest poverty rate – and by far the highest poor population count based on US Census Bureau data. In even more accurate poverty data compiled by United Way of California, even when state public assistance is taken into account (e.g., assistance with rent, childcare, food and medical care), nearly 40% of Californians – disproportionately minorities, children, and seniors – cannot meet routine monthly living expenses. Struggling to Stay Afloat: The Real Cost Measure in California 2019, https://www.unitedwaysca.org/realcost. "Redlining" to exacerbate redlining remains endemic in California's government agencies through tools like the California Environmental Quality Act (CEQA): the most common target of CEQA lawsuits are housing, and within the SCAG region 14,000 housing units were challenged in just a three year study period. Virtually all (99%) of the challenged housing was in urbanized areas not greenfields, most (70%) was within one-half mile of the 2016 SB 375's priority transit areas, and most (78%) were in the region's whiter, wealthier and healthier communities rather than in the designated minority "environmental justice" neighborhoods suffering from higher poverty and unemployment rates, and lower educational and health outcomes, for residents. California Environmental Quality Act Lawsuits and California's Housing Crisis, Hastings Law School Environmental Law Journal, Fall 2018 https://repository.uchastings.edu/hastings_environmental_law_journal/vol24/iss1/3/

The 200 has filed three civil rights lawsuits against state agencies that have weaponized CEQA as an anti-housing, anti-transportation redlining litigation cudgel to be deployed against housing that hard working minority families can afford to buy. The first lawsuit targeted CARB's four measures in the CARB scoping plan, including the unlawful VMT reduction mandate rejected by the Legislature; in unsuccessfully attempting to dismiss that lawsuit, CARB's attorneys argued that it was lawful for CARB to engage in racially discriminatory housing practices because housing was not a protected class. The second lawsuit sought disclosure under the Public Records Act of documents deemed by CARB and its allied agencies such as the Office of Planning and Research (OPR) to be "too controversial" for public release; attorneys for the state have employed a variety of litigation tactics to delay that lawsuit by nearly two years. The most recent lawsuit challenged the anti-housing 2018 expansions of CEQA regulations, and is attached hereto as a separate comment to this letter because SCAG's draft SoCal Connect Plan – like its unlegislated and unlawful CARB and OPR predecessors – is a violation of the state and federal constitutional due process and equal protection provisions, violates state and federal fair housing act laws, and violates air quality and transportation and land use laws, by distorting approved housing and transportation plans that have already been approved by voters, elected officials, and environmental and transportation agencies, to intentionally increase traffic congestion and intentionally curtail or even eliminate market rate housing that is actually affordable for purchase by the majority-minority median income workers in the SCAG region. Each paragraph in the attached Complaint is a separate comment, and

provides factual and legal evidence demonstrating that the draft SoCal Connect Plan is as unlawful as the discriminatory anti-housing regulatory expansion of CEQA.

The Program EIR for the plan is likewise unlawful under CEQA. The plan ignores the environmental consequences of its economically infeasible (to the vast majority of the region's residents, including especially minorities) high cost, high density infill-only housing plan, which will cause more homelessness, poverty, out-migration, and supercommutes. The San Francisco Bay Area, which has pursued this failed high density infill-only strategy for a decade, now draws workers from 21 counties – an explosion of "supercommuters" forced to live ever-greater distances away from the woke advocates who decided that global climate change required the wholesale adoption of bikes and scooters instead of cars, and 500 square foot one-bedroom apartments costing $4000 per month. Even in the Bay Area, which has median incomes well in excess of Los Angeles, this fictional "housing plan" has left thousands of approved high rise apartments unbuilt because they are financially infeasible, and has created gridlock conditions so bad that even commuters in counties adjacent to San Francisco have earned "supercommuter" status by spending more than 90 minutes per day on the road.

The Program EIR's deficiencies span every single environmental impact section based on the document's willful omission of any analysis of the mismatch of the plan's housing and transportation "solutions" with the urgent housing and transportation needs of the community. If the plan called for a housing solution consisting of $1 million mansions, it's racist and exclusionary character would be obvious. In fact the plan does something much worse, by calling for $1 million small condos (or equally costly rental apartments), because high density and even medium density housing costs 3-7 times more to build than two story homes, duplexes and townhomes. If the plan called for a transportation solution that banned driving every Friday, those who must be physically present – on time – at their job to remain employed and be paid would be grossly harmed, while those in the "keyboard economy" of college graduates working on agency plans and studies could happily remain in their pajamas clacking away on their computers at home. In fact the plan does just that, with a VMT reduction mandate from CARB that is the equivalent of eliminating a weekday of driving. (Although called GHG reduction in the plan, but counted as a GHG reduction by CARB only if it derives from VMT reductions per CARB's unlawful underground regulatory "guidance" to SCAG and other MPOs). Construction workers, nurses, teachers, emergency responders, and the hundreds of other job categories that require physical presence on jobsites can't do their work wearing jammies in their kitchen – and these workers, and the region's economy, need a transportation system that actually works.

Also included in this comment letter, as a separate comment for which responses are required, is the 200's lawsuit against the four anti-housing measures in the CARB scoping plan, which includes in detail the adverse physical consequences to the environment of these measures – inclusive of the VMT reduction mandate, and imposition of higher costs and litigation obstacles to housing. These are the same impacts ignored in the Program EIR for the draft SoCal Connect Plan.

The Program EIR is also fatally flawed in failing to acknowledge, and assess the impacts of, accommodating the 1.34 million new homes assigned to the region in the latest Regional Housing Needs Assessment (RHNA) cycle, or SCAG's preliminary allocation of new housing

obligations among the counties and cities of the region which constitutes the best available information about the future location of this planned growth, or the SCAG Board's endorsement of requiring most of the new housing units – 1 million – to be built in Orange and Los Angeles county. The 200 takes no position on whether this is an accurate housing number, or whether SCAG's initial distribution of these units is appropriate or final. CEQA, however, requires that this additional housing be assessed as part of the cumulative impact analysis under every CEQA threshold of significance used in the Program EIR, and otherwise required by CEQA.

The Program EIR also violates CEQA by failing to identify, and implement, all feasible mitigation measures for each of the dozens of significant unavoidable impacts identified as consequences of SoCal Connect Plan implementation. CEQA requires the full and complete assessment even of feasible mitigation measures that are outside the jurisdiction and control of SCAG itself to implement or enforce, and includes the lead agency's (SCAG's) obligation to identify such measures as being within the jurisdiction and control of specified other agencies which SCAG believes can and should implement such measures. SCAG cannot escape CEQA compliance because it is politically difficult, technically complex, or requires an assessment of the reasonably foreseeable consequences of failing to provide housing solutions that the region's people can afford or transportation solutions that the region's people actually need.

The 200 implores SCAG, which has done tremendous analysis and work for decades, to apply its own knowledge to develop an alternative regional land use and transportation plan that actually does provide housing that is affordable for purchase by median income families, and transportation solutions that do ease congestion and reduce gridlock. Part of this solution is undoubtedly some high density housing in the wealthiest neighborhoods where $1m condos and $4000 rents are in fact affordable. Virtually none of the solution for median and above-median income families can be paid for by taxpayers, given the overwhelming needs and extraordinarily high cost of providing housing for the homeless, special needs populations, and the lowest income families. Practical solutions for solving the housing and transportation crisis will reduce GHG by preventing the need for people to move to high GHG states to find housing they can afford, and clean car and other transportation sector legal mandates will reduce GHG just as smog was reduced from a combination of emerging technologies and actual rulemaking rather than underground regulations.

The preparation and analysis of an alternate housing and transportation plan that actually complies with SB 375's mandate to accommodate the housing, transportation, and economic expansion of the region will require recirculation of the Program EIR. An honest and legally adequate assessment of the draft SoCal Connect plan's adverse environmental, health and safety consequences – and the legally adequate identification and assessment of feasible mitigation measures in and outside SCAG's jurisdictional reach – will also require recirculation of the Program EIR. Finally, the legally required cumulative impact assessment of accommodating the RHNA housing allocation for the region – all of which is to occur within the earlier years of the planning horizon used in the SoCal Connect plan, will likewise require revision and recirculation of the Program EIR.

It is immoral, and unlawful, for any public agency in California to worsen the homelessness and housing crisis. It is immoral, and unlawful, for any public agency in

California to discriminate against minority families, or worsen poverty for the 40% of Californians who cannot meet their monthly expenses. SCAG has no history of such immoral and unlawful conduct, and – when handed a racially discriminatory and unlegislated mandate by a state agency like CARB – should resist the lure of joining in the long line of California agencies that engaged in intentionally discriminatory redlining practices. The 200 has two videos – the history of redlining, and CEQA as redlining – on its website at https://www.thetwohundred.org/ . The 200 urges SCAG staff and leaders to reconsider the plan, and substantially revise the Program EIR.

Finally, we understand that SCAG staff is concerned that delaying approval of the unlawful SoCal Connect Plan and Program EIR pending completion of a lawful and effective housing and transportation plan for the region could cause the United States Environmental Protection Agency (EPA) to determine that the region is in nonconformance with Clean Air Act mandates. Members of The 200 have a long history, and very high success rate, in persuading both federal and state agencies – with and without lawsuits – to stop engaging in racially discriminatory practices. Given California's willingness to sue the current federal administration on environmental matters, and the emergency nature of the California homelessness and housing crisis, we would be pleased to assist SCAG in advocating for the necessity of a one year extension for the conformity determination. There is also precedent for this one year extension in San Diego. Unsubstantiated hypothetical fears of a delayed conformity determination to force approval of an infeasible and discriminatory housing and transportation plan is, bluntly, elevating bureaucratic bean counting over the actual needs of actual people.

Please do not hesitate to contact us if you have any questions, would like any further information, or would like to discuss a consensual path forward. Some of our members have been civil rights leaders for more than 50 years, and had hoped that civil rights laws had finally addressed the decades of de jure racial discrimination by public agencies. We commend to your collective attention The Color of Law, by Richard Rothstein, which describes in detail the scores of residential housing discrimination practices inflicted on minorities by state and local agencies in California. Mr. Rothstein calls this the "forgotten" history of redlining in America. We have not forgotten, and stand ready to litigate – as a last resort – to prevent the recurrence of redlining under the bureaucracy's new favorite label of climate change. We can reduce GHG emissions; we cannot deprive minorities of attainable homeownership and effective transportation solutions.

Sincerely,

John Gamboa
Vice-Chair, The Two Hundred

Attachments: The Two Hundred v. Office of Planning and Research
The Two Hundred v. California Air Resources Board

Jennifer L. Hernandez (State Bar No. 114951)
Charles L. Coleman III (State Bar No. 65496)
Marne S. Sussman (State Bar No. 273712)
David I. Holtzman (State Bar No. 299287)
HOLLAND & KNIGHT LLP
50 California Street, 28th Floor
San Francisco, California 94111
Tel: (415) 743-6900 Fax: (415) 743-6910
Email: jennifer.hernandez@hklaw.com
charles.coleman@hklaw.com

Attorneys for Plaintiffs/Petitioners
THE TWO HUNDRED, *et al.*

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF FRESNO

UNLIMITED CIVIL JURISDICTION

THE TWO HUNDRED, an unincorporated association of civil rights leaders, including LETICIA RODRIGUEZ, TERESA MURILLO, and EUGENIA PEREZ, Plaintiffs/Petitioners, v. CALIFORNIA AIR RESOURCES BOARD, RICHARD COREY, in his Official Capacity, and DOES 1-50, Respondents/Defendants.	Case No. 18CECG01494 **FIRST AMENDED[1] VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF** **[Code Civ. Proc. §§ 1085, 1094.5, 1060, 526; Gov. Code § 12955 *et seq.* (FEHA); 42 U.S.C. § 3601 *et seq.* (FHA); Cal. Const. Art. I, § 7; Art. IV, § 16; U.S. Const. Amd. 14, § 1; 42 U.S.C. § 1983; Pub. Res. Code § 12000 *et seq.* (CEQA); Gov. Code § 11346 *et seq.* (APA); H&S Code § 38500 *et seq.* (GWSA); H&S Code § 39000 *et seq.* (CCAA); Gov. Code § 65088 *et seq.* (Congestion Management Plan)]**

[1] Principal added and revised allegations are at ¶¶ 262-351 and 379 (pages 79-108, 112) below. A full comparison between this First Amended Petition/Complaint and the original Petition/ Complaint, generated using Adobe Acrobat® Compare software, is attached as Exhibit 3.

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I. INTRODUCTION AND SUMMARY OF REQUESTED RELIEF

A. California's Greenhouse Gas Policies and Housing-Induced Poverty Crisis

1. California's reputation as a global climate leader is built on the state's dual claims of substantially reducing greenhouse gas ("GHG") emissions while simultaneously enjoying a thriving economy. Neither claim is true.

2. California has made far less progress in reducing GHG emissions than other states. Since the effective date of California's landmark GHG reduction law, the Global Warming Solutions Act,[2] 41 states have reduced per capita GHG emissions by more than California

3. California's lead climate agency, the California Air Resources Board ("CARB"), has ignored California's modest scale of GHG reductions, as well as the highly regressive costs imposed on current state residents by CARB's climate programs.

4. Others have been more forthcoming. Governor Jerry Brown acknowledged in 2017 that the state's lauded cap-and-trade program, which the non-partisan state Legislative Analysist's Office ("LAO") concluded would cost consumers between 24 cents and 73 cents more per gallon of gasoline by 2031,[3] actually "is not that important [for greenhouse gas reduction]. I know that. I'm Mr. 'It Ain't That Much.' It isn't that much. Everybody here [in a European climate change conference] is hype, hype to the skies."[4]

5. Governor Brown's acknowledgement was prompted by a report from Mother Jones—not CARB—that high rainfall had resulted in more hydroelectric power generation from

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[2] The Global Warming Solutions Act of 2006 ("GWSA") is codified at Health and Safety Code ("H&S Code") § 38500 *et seq.* and became effective in 2007. The Act is often referred to as "AB 32", the assembly bill number assigned to the legislation. AB 32 required California to reduce GHG emissions from a "business as usual" scenario in 2020 to the state's 1990 GHG emission level. AB 32 was amended in 2017 by Senate Bill 32 by the same author. SB 32 established a new GHG reduction mandate of 40% below California's 1990 GHG levels by 2030.

[3] LAO, Letter to Assembly Member Fong (Mar. 29, 2017), www.lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

[4] Julie Cart, *Weather Helped California's Greenhouse Gas Emissions Drop 5% Last Year*, CALMatters (Dec. 2, 2017), https://timesofsandiego.com/tech/2017/12/02/weather-helped-californias-greenhouse-gas-emissions-drop-5-last-year/.

existing dams than had occurred during the drought, and that this weather pattern resulted in a 5% decrease in California's GHG emissions.[5]

6. GHG emissions data from California's wildfires are also telling. As reported by the *San Francisco Chronicle* (again not CARB), GHG emissions from all California regulatory efforts "inched down" statewide by 1.5 million metric tons (from total estimated emissions of 440 million metric tons),[6] while just one wildfire near Fresno County (the Rough Fire) produced 6.8 million metric tons of GHGs, and other fires on just federally managed forest lands in California emitted 16 million metric tons of GHGs.[7]

7. Reliance on statewide economic data for the false idea that California's economy is thriving conflates the remarkable stock market profits of San Francisco Bay Area technology companies with disparate economic harms and losses suffered by Latino and African American Californians statewide, and by white and Asian American Californians outside the Bay Area.

8. Since 2007, which included both the global recession and current sustained period of economic recovery, California has had the highest poverty rate in the country—over 8 million people living below the U.S. Census Bureau poverty line when housing costs are taken into account.[8] By another authoritative poverty methodology developed by the United Way of California, which counts housing as well as other basic necessities like transportation and medical costs (and then offsets these with state welfare and related poverty assistance programs), about 40% of Californians "do not have sufficient income to meet their basic cost of living."[9] The

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[5] *Ibid.*

[6] California Air Resources Board, 2017 Edition California Greenhouse Gas Inventory for 2000-2015 (June 2017), https://www.arb.ca.gov/cc/inventory/data/data.htm.

[7] David R Baker, *Huge wildfires can wipe out California's greenhouse gas gains,* SF Chronicle, (Nov. 21, 2017), https://www.sfchronicle.com/bayarea/article/Huge-wildfires-can-wipe-out-California-s-12376324.php.

[8] Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; Dan Walters, *Why does California have the nation's highest poverty level?*, CALMatters (Aug. 13, 2017), https://calmatters.org/articles/california-nations-highest-poverty-level/.

[9] Betsy Block et al., Struggling to Get By: The Real Cost Measure in California 2015, United Ways of California (2016), https://www.unitedwaysca.org/realcost.

Public Policy Institute of California used a methodology that also accounts for the cost of living and independently concluded that about 40% of Californians live in poverty.[10]

9. Poverty is just one of several indicators of the deep economic distress affecting California. California also has the highest homeless population, and the highest homelessness rate, in the nation. According to the U.S. Department of Housing and Urban Development, about 25% of the nation's homeless, or about 135,000 individuals, are in California.[11]

10. National homeownership rates have been recovering since the recession levels, but California's rate has plunged to the second lowest in the country—with homeownership losses steepest and most sustained for California's Latinos and African Americans.[12]

11. As shown in Figure 1, with the exception of white and Asian populations in the five-county Bay Area, elsewhere in California—and for Latino and African American residents statewide—incomes are comparable to national averages.

Figure 1

Median Income in 2007 and 2017, White, Asian, Latino and Black Populations

Bay Area, California excluding the Bay Area, and U.S. excluding California

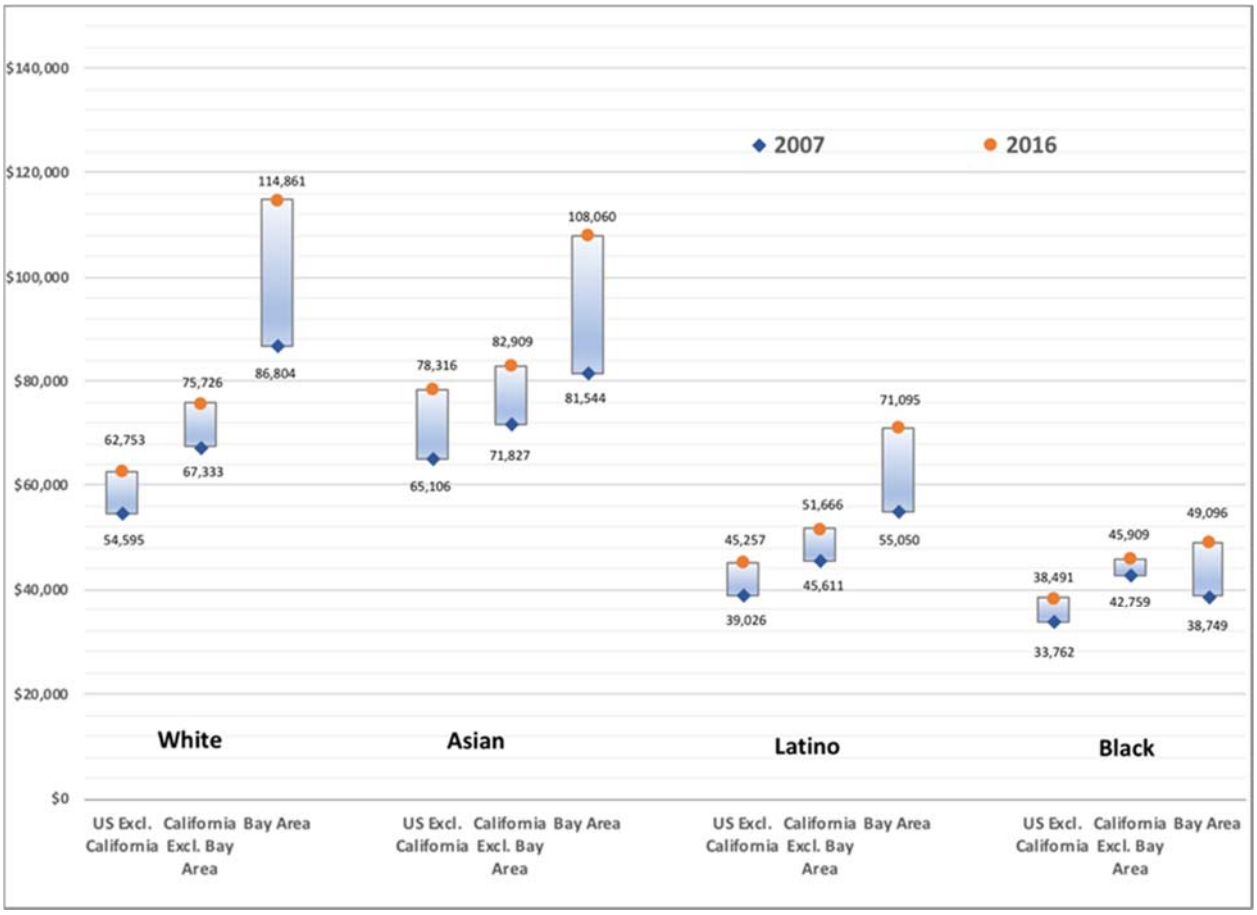
(nominal current dollars)[13]

[10] Public Policy Institute of California, Poverty in California (Oct. 2017), http://www.ppic.org/publication/poverty-in-california/.

[11] U.S. Department of Housing and Urban Development, 2017 Annual Homeless Assessment Report to Congress, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf; Kevin Fagan et al., *California's homelessness crisis expands to country*, SF Chronicle (Sept. 8, 2017), https://www.sfchronicle.com/news/article/California-s-homelessness-crisis-moves-to-the-12182026.php.

[12] U.S. Census Bureau, Housing Vacancies and Homeownership (CPS/HVS), Table 16. Homeownership Rates for the 75 Largest Metropolitan Statistical Areas: 2015 to 2017, https://www.census.gov/housing/hvs/data/ann17ind.html. See also 2007 and 2016 American Community Survey 1-Year Estimates, Table B25003 series (Tenure in Occupied housing units), California, https://factfinder.census.gov/.

[13] Median income estimated from household income distributions for 2007 and 2016 American Community Survey 1-Year Estimates, Table B19001 series, https://factfinder.census.gov/ (using the estimation methodology described by the California Department of Finance at http://www.dof.ca.gov/Forecasting/Demographics/Census_Data_Center_Network/documents/How_to_Recalculate_a_Median.pdf).



12. However, Californians pay far higher costs for basic necessities. A national survey of housing, food, medical and other costs conducted by the Council for Community & Economic Research showed that in 2017, California was the second most expensive state in the nation (after Hawaii), and had a cost of living index that was 41% higher than the national average.[14] The LAO reported that "California's home prices and rents are higher than just about anywhere else," with average home prices 2.5 times more than the national average and rents 50% higher than the national average.[15] Californians also pay 58% more in average electricity cost per KWh hour (2016 annual average)[16] and about $0.80 cents more per gallon of gas than the national average.[17]

[14] The 2017 survey by the Council for Community & Economic Research was published by the Missouri Economic Research and Information Center, https://www.missourieconomy.org/indicators/cost_of_living/index.stm.

[15] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[16] U.S. Energy Information Agency, Electric Power Annual, Table 2.10 (Dec. 2, 2017), https://www.eia.gov/electricity/annual/ (showing average annual 2016 prices).

[17] American Automobile Association, Regular Gas Prices, http://gasprices.aaa.com/state-gas-price-averages/, last visited April 25, 2018.

13. These high costs for two basic living expenses—electricity and transportation—are highest for those who live in the state's inland areas (and need more heating and cooling than the temperate coast), and drive farthest to jobs due to the acute housing crisis the LAO has concluded is worst in the coastal urban job centers like the San Francisco Bay Area and Los Angeles.[18]

14. An estimated 138,000 commuters enter and exit the nine-county Bay Area megaregion each day.[19] These are workers who are forced to "drive until they qualify" for housing they can afford to buy or rent.

15. San Joaquin County housing prices in cities nearest the Bay Area, such as Stockton, are about one-third lower, even though commute times to San Jose are 77 minutes each direction (80 miles and 2.5 hour daily commutes), and to San Francisco are 80 minutes (82 miles and 3 hour daily commutes).[20] The median housing price in Stockton is about $286,000—still double the national average of $140,000—while the median housing price in San Jose is over $1,076,000 and in San Francisco is over $1,341,000.[21]

16. California's poverty, housing, transportation and homeless crisis have created a perfect storm of economic hardship that has, in the words of the civil rights group Urban Habitat, resulted in the "resegregation" of the Bay Area.[22] Between 2000 and 2014, substantial African American and Latino populations shifted from central cities on and near the Bay, like San Francisco, Oakland, Richmond and San Jose, to eastern outer suburbs like Antioch, and Central Valley communities like Stockton and Suisun City.[23] As reported:

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[18] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[19] Bay Area Council, Another Inconvenient Truth (Aug. 16, 2016), www.bayareaeconomy.org/report/another-inconvenient-truth/.

[20] Commute times from Google navigation, calculated April 25, 2018.

[21] Zillow, Stockton CA Home Prices & Home Values, https://www.zillow.com/stockton-ca/home-values/; San Jose CA Home Prices and Home Values, https://www.zillow.com/san-jose-ca/home-values/; San Francisco CA Home Prices and Home Values, https://www.zillow.com/san-francisco-ca/home-values/.

[22] Urban Habitat League, Race, Inequality, and the Resegregation of the Bay Area (Nov. 2016), http://urbanhabitat.org/new-report-urban-habitat-reveals-growing-inequality-and-resegregation-bay-area-reflecting-divided; see also LAO, Lower Income Households Moving to Inland California from Coast (Sept. 2015), http://www.lao.ca.gov/LAOEconTax/Article/Detail/133.

[23] *Id.* p. 10-11, Maps 5 and 6.

> Low income communities of color are increasingly living at the expanding edges of our region. . . . Those who do live closer to the regional core find themselves unable to afford skyrocketing rents and other necessities; many families are doubling or tripling up in homes, or facing housing instability and homelessness.[24]

17. Los Angeles (#1) and the Bay Area (#3) are already ranked the worst in the nation for traffic congestion, flanking Washington DC (#2).[25] Yet California's climate leaders have decided to intentionally increase traffic congestion—to lengthen commute times and encourage gridlock—to try to get more people to ride buses or take other form of public transit.[26] This climate strategy has already failed, with public transit ridership—particularly by bus—continuing to fall even as California has invested billions in public transit systems.[27]

18. Vehicle miles travelled ("VMT") by Californians forced to drive ever-greater distances to homes they can afford have also increased by 15% between 2000 and 2015.[28] Serious

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[24] *Id.* p. 2.

[25] INRIX Global Traffic Scorecard (2017), http://inrix.com/scorecard/.

[26] Governor's Office of Planning and Research ("OPR"), Updating Transportation Analysis in the CEQA Guidelines, Preliminary Discussion Draft (Aug. 6, 2014), http://www.opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf, p. 9 (stating that "research indicates that adding new traffic lanes in areas subject to congestion tends to lead to more people driving further distances. (Handy and Boarnet, "DRAFT Policy Brief on Highway Capacity and Induced Travel," (April 2014).) This is because the new roadway capacity may allow increased speeds on the roadway, which then allows people to access more distant locations in a shorter amount of time. Thus, the new roadway capacity may cause people to make trips that they would otherwise avoid because of congestion, or may make driving a more attractive mode of travel"). In subsequent CEQA regulatory proposals, and in pertinent parts of the 2017 Scoping Plan, text supportive of traffic congestion was deleted but the substantive policy direction remains unchanged. Further, the gas tax approved by the Legislature in 2017 was structured to limit money for addressing congestion to $250 million (less than 1% of the $2.88 billion anticipated to be generated by the new taxes). See Jim Miller, *California's gas tax increase is now law. What it costs you and what it fixes.* Sacramento Bee (April 28, 2017), http://www.sacbee.com/news/politics-government/capitol-alert/article147437054.html.

[27] See, e.g., Bay Area Metropolitan Planning Commission, Transit Ridership Report (Sept. 2017), http://www.vitalsigns.mtc.ca.gov/transit-ridership (showing transit ridership decline on a per capita basis by 11% since 1990 with per capita bus boardings declining by 33%); see also University of California Institute for Transportation Studies, Falling Transit Ridership: California and Southern California (Jan. 2018), https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf (showing Los Angeles regional public transit decline).

[28] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf.

adverse health impacts to individual commuters,[29] as well as adverse economic impacts to drivers and the California economy,[30] from excessive commutes have also worsened.

19. In 2016 and 2017, the combination of increased congestion and more VMT reversed decades of air quality improvements in California, and caused increased emissions of both GHG and other traditional air pollutants that cause smog and other adverse health effects,[31] for which reductions have long been mandated under federal and state clean air laws.

20. In short, in the vast majority of California, and for the whole of its Latino and African American populations, the story of California's "thriving" economy is built on CARB's reliance on misleading statewide averages, which are distorted by the unprecedented concentration of stock market wealth created by the Bay Area technology industry.

21. For most Californians, especially those who lost their home in the Great Recession (with foreclosures disproportionately affecting minority homeowners),[32] or who never owned a home and are struggling with college loans or struggling to find a steady job that pays enough to cover California's extraordinary living costs, CARB's assertion that California is a booming, "clean and green" economy is a distant fiction.

B. California's Historical Use of Environmental and Zoning Laws and Regulations to Oppress and Marginalize Minority Communities

22. The current plight of minority communities in California is the product of many decades of institutional racism, perpetuated by school bureaucrats of the 1940's who defended the "separate but equal" system, highway bureaucrats of the 1950's who targeted minority neighborhoods for demolition to make way for freeway routes, urban planning bureaucrats in the

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[29] Carolyn Kylstra, *10 Things Your Commute Does to Your Body*, Time Magazine (Feb. 2014), http://time.com/9912/10-things-your-commute-does-to-your-body/.

[30] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf (stating that traffic congestion is estimated to cost California $28 billion, including lost time for drivers and businesses, and wasted fuels).

[31] Next 10, 2017 CA Green Innovation Index (Aug. 22, 2017), http://next10.org/sites/default/files/2017-CA-Green-Innovation-Index-2.pdf.

[32] Gillian White, *The Recession's Racial Slant,* Atlantic Magazine (June 24, 2015), https://www.theatlantic.com/business/archive/2015/06/black-recession-housing-race/396725/.

1960's who destroyed minority communities in pursuit of redevelopment, and those who enabled decades of "redlining" practices by insurance and banking bureaucrats aimed at denying minorities equal access to mortgages and home insurance.[33]

23. Environmental regulators are no less susceptible to racism and bias than other regulators. Members of The Two Hundred had to intervene when environmental regulators threatened to block construction of the UC Merced campus, which is the only UC campus in the Central Valley and serves the highest percentage of Latino students of any UC campus.[34]

24. Members of The Two Hundred also had to intervene to require environmental regulators to establish clear standards for the cleanup of contaminated property that blighted many minority neighborhoods, where cleanup and redevelopment could not be financed without the standards that virtually all other states had already adopted.[35]

25. Racial bias in environmental advocacy organizations, including those that heavily lobbied CARB in 2017 Scoping Plan proceedings, was also confirmed in an influential study funded by major foundations that contribute to such organizations.[36]

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[33] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017).

[34] UC Merced's Latino undergraduates comprise 53% of the student population, compared to the 21% rate of Latino undergraduate enrollment for the UC system as a whole. University of California System Enrollment (2017), https://www.universityofcalifornia.edu/infocenter/fall-enrollment-glance; UC Merced Fast Facts 2017-2018, https://www.ucmerced.edu/fast-facts; see also John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (March 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[35] John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (Mar. 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[36] Dorceta E. Taylor, Ph.D., The State of Diversity in Environmental Organizations: Mainstream NOGs, Foundations & Government Agencies (July 2014), http://vaipl.org/wp-content/uploads/2014/10/ExecutiveSummary-Diverse-Green.pdf.

26. Additional studies have confirmed racial bias in environmental organizations, and in media reports on environmental issues.[37] As the newest President of the Sierra Club Board of Directors, African American Aaron Mair recently confirmed: "White privilege and racism within the broader environmental movement is existent and pervasive."[38]

27. The simple fact is that vast areas of California, and disproportionately high numbers of Latino and African American Californians, have fallen into poverty or out of homeownership, and California's climate policies guarantee that housing, transportation and electricity prices will continue to rise while "gateway" jobs to the middle class for those without college degrees, such as manufacturing and logistics, will continue to locate in other states.

C. Four New GHG Housing Measures in CARB's 2017 Scoping Plan Are Unlawful, Unconstitutional, and Would Exacerbate the Housing-Induced Poverty Crisis

28. Defendant/Respondent CARB is the state agency directed by the Legislature to implement SB 32, which requires the State to set a target to reduce its GHG emissions to forty percent below 1990 levels by 2030 ("2030 Target").

29. CARB adopts a "Scoping Plan" every five years, as described in the GWSA. The most recent Scoping Plan sets out the GHG reduction measures that CARB finds will be required to achieve the 2030 Target ("2017 Scoping Plan"). The 2017 Scoping Plan was approved in December 2017.

30. The most staggering, unlawful, and racist components of the 2017 Scoping Plan target new housing. The Plan includes four measures, challenged in this action, that increase the cost and litigation risks of building housing, intentionally worsen congestion (including commute

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[37] See, e.g., Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/; Jedidiah Purdy, *Environmentalism's Racist History,* The New Yorker (Aug. 13, 2015), https://www.newyorker.com/news/news-desk/environmentalisms-racist-history; Brentin Mock, *The Green Movement Is Talking About Racism? It's About Time*, Outside Magazine (Feb. 27, 2017), https://www.outsideonline.com/2142326/environmentalism-must-confront-its-social-justice-sins.

[38] Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/

times and vehicular emissions) for workers who already spend more than two hours on the road instead of with their families, and further increase the cost of transportation fuels and electricity.

31. These newly-adopted measures (herein the "GHG Housing Measures") are: (A) The new VMT mandate; (B) The new "net zero" CEQA threshold; (C) The new CO2 per capita targets for local climate action plans for 2030 and 2050; and (D) The "Vibrant Communities" policies in Appendix C to the 2017 Scoping Plan, to the extent they incorporate the VMT, net zero and new CO2 per capita targets.[39]

32. The presumptive "net zero" GHG threshold requires offsetting GHG emissions for all new projects including housing under CEQA, the "Vibrant Communities" measures include limiting new housing to the boundaries of existing developed communities, and a mandate to substantially reduce VMT even for electric vehicles by (among other means) intentionally increasing congestion to induce greater reliance on buses and other transit modes.

33. The development of, and the measures included in, the 2017 Scoping Plan was required to be informed by an environmental analysis ("EA") pursuant to the California Environmental Quality Act (Pub. Res. Code § 21000 *et seq.*) ("CEQA"), and an economic fiscal analysis ("FA") as mandated by both the GWSA and the Administrative Procedure Act, Gov. Code § 11346 *et seq.* ("APA").

34. However, in one of many examples of the lack of analysis in the 2017 Scoping Plan and related documents, CARB does not disclose the GHG emission reductions it expects from the GHG Housing Measures. The Scoping Plan also omits any economic analysis that accounts for the cost of these measures on today's Californians, and omits any environmental analysis of the Plan's effects on existing California communities and infrastructure.

35. CARB concluded that in 2017 California's entire economy will emit 440 million metric tons of GHGs per year, and that California will need to reduce emissions by 181.8 million

[39] While CARB styled the GHG Housing Measures as "guidelines", they are self-implementing and unlawful underground regulations. All other components of the 2017 Scoping Plan will be implemented as regulations, such as the Cap and Trade program and low carbon fuel standard, and thus will undergo a formal rulemaking process. However, CARB refused to undertake the same legislatively-mandated public process for the four GHG Housing Measures.

metric tons to meet the 2030 Target. Notwithstanding widespread reports, and public and agency concern about the housing crisis, the homelessness crisis, the housing-induced poverty crisis, and the transportation crisis (collectively referred to herein as the "housing crisis"), neither the 2017 Scoping Plan, nor the environmental or economic analyses, disclose how much of this 181.8 million metric ton GHG reduction must or even may be achieved by constructing the at least three million new homes that experts,[40] and all candidates for Governor,[41] agree California must produce to resolve the current housing shortfall.

36. The core elements of the Scoping Plan related to housing call for new housing in California's existing communities (which comprise 4% of California's lands), with smaller multi-family units instead of single family homes located near public transit to reduce VMT. The 2017 Scoping Plan does not contemplate the need for any new regulations to implement this housing regime. Instead, it includes expert agency conclusions about how CEQA, a 1970 environmental law, must be implemented to achieve California's statutory climate change mandates as well as the unlegislated 2050 GHG reduction goal (80% reduction from 1990 GHG emissions by 2050) included in various Executive Orders from California Governors.

37. The best available data on the actual GHG reductions that will be achieved by the Scoping Plan's GHG Housing Measures is the "Right Type, Right Place" report, prepared by a multi-disciplinary team of housing and environmental law experts at the University of California, Berkeley, that examined some of the consequences from the housing crisis solution embedded in the 2017 Scoping Plan's GHG Housing Measures ("UCB Study").[42]

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[40] Jonathan Woetzel et al., Closing California's Housing Gap, McKinsey Global Institute (Oct. 2016), https://www.mckinsey.com/global-themes/urbanization/closing-californias-housing-gap.

[41] Liam Dillon, *We asked the candidates how they planned to meet housing production goals. Here's how they responded*, LA Times (March 6, 2018), http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-we-asked-the-candidates-how-they-planned-1520382029-htmlstory.html.

[42] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

38. The UCB Study anticipates constructing only 1.9 million new homes, less than two-thirds of California's 3.5 million shortfall identified by other experts. The Study examines the continuation of existing housing production, which is dominated by single family homes with fewer than 1% of Californians living in high rise structures, and compares this with a changed housing pattern that would confine new housing to the boundaries of existing cities and towns and replace traditional single family homes with smaller apartments or condos (thereby equating 2,000 square foot homes with 800 square foot apartments).

39. The UCB Study concludes that high rise and even mid-rise (e.g., six story) buildings are far more costly to build on a per unit basis than single family homes—three to five time higher—and are thus infeasible in most markets for most Californians. The Study thus recommends focusing on less costly housing units such as quadplexes (four units in two-story buildings) and stacked flats (one or two units per floor, generally limited to four stories)—which are still approximately 30% more costly than single family homes on a per unit basis.

40. The UCB Study then concludes that it would be possible for California to build all 1.9 million new homes in existing communities with these small multi-family structures, but to confine all new units to the 4% of California that is already urbanized would require the demolition of "tens, if not hundreds of thousands, of single family homes." The Study does not quantify the GHG emissions from such massive demolition activities, nor does it identify any funding source or assess any non-GHG environmental, public service, infrastructure, historic structure, school, traffic, or other impact associated with this new housing vision.

41. Unlike CARB's 2017 Scoping Plan, the UCB Study does quantify the GHG reductions to be achieved by remaking California's existing communities and housing all Californians harmed by the current housing crisis in small apartments. With this new housing future, California will reduce annual GHG emissions by 1.79 million metric tons per year, less than 1% of the 181.8 million metric tons required to meet the 2030 Target in SB 32.

42. The Scoping Plan's new CEQA provisions, which have already been cited as CEQA legal mandates by opponents to a Los Angeles County housing project called

"Northlake,"[43] would increase still further the cost of new housing (and thereby make it even less affordable to California's minority and other families). Since new housing—especially infill housing—is already the top target of CEQA lawsuits statewide, [44] the GHG Housing Measures will encourage even more anti-housing lawsuits, with attendant increases in project litigation costs and construction delays, as well as vehement opposition from existing residents.

43. CEQA lawsuits also disproportionately target multi-family housing such as apartments in existing urbanized "infill" locations. In a recent 3-year study of all CEQA lawsuits filed statewide, the approximately 14,000 housing units challenged in the six county region comprising the Southern California Association of Governments ("SCAG"), which includes Los Angeles, Orange, San Bernadino, Ventura, Imperial, and Riverside counties and all cities within those counties, SCAG determined that 98% of the challenged housing units were located in existing urbanized areas, 70% were within areas designated for transit-oriented high density development, and 78% were located in the whiter, wealthier and healthier areas of the region (outside the portions of the regions with higher minority populations, poverty rates, pollution, and health problems associated with adverse environmental conditions such as asthma).[45]

44. CEQA lawsuit petitioners also have an unusually high success rate against the cities and other government agencies responsible for CEQA compliance. A metastudy of administrative agency challenges nationally showed that agencies win approximately 70% of such cases. In contrast, three different law firm studies of CEQA reported appellate court opinions showed that CEQA petitioners prevailed in almost 50% of such cases.[46]

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[43] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

[44] Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf.

[45] Jennifer Hernandez, David Friedman, Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), p. 31-34, https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf.

[46] Jennifer Hernandez, Spencer Potter, Dan Golub, Joanna Meldrum, CEQA Judicial Outcomes: Fifteen Years of Reported California Appellate and Supreme Court Decisions (2015), p. 3-4, 10, https://www.hklaw.com/files/Uploads/Documents/Articles/0504FINALCEQA.pdf.

45. As noted by senior CEQA practitioner William Fulton, "CEQA provides a way for anybody who wants anything out of a public agency to get some leverage over the situation – whether that's unions, environmentalists, businesses, developers, and even local governments themselves."[47]

46. As the founder of California's first law firm focused on filing CEQA lawsuit petitions, E. Clement Shute, recently reported when accepting a lifetime environmental law firm award from the California State Bar Environmental Section:

> Moving to the bad and ugly side of CEQA, projects with merit that serve valid public purposes and not be harmful to the environment can be killed just by the passage of the time it takes to litigate a CEQA case.
>
> In the same vein, often just filing a CEQA lawsuit is the equivalent of an injunction because lenders will not provide funding where there is pending litigation. This is fundamentally unfair. There is no need to show a high probability of success to secure an injunction and no application of a bond requirement to offset damage to the developer should he or she prevail.
>
> CEQA has also been misused by people whose move is not environmental protection but using the law as leverage for other purposes. I have seen this happen where a party argues directly to argue lack of CEQA compliance or where a party funds an unrelated group to carry the fight. These, in my opinion, go to the bad or ugly side of CEQA's impact.[48]

47. African American radio host and MBA, Eric L. Frazier, called this climate-based CEQA housing regime "environmental apartheid" since whiter, wealthier and older homeowners were less likely to be affected, while aspiring minority homeowners were likely to be denied housing even longer based on community opposition to widespread density increases and destruction of single family homes, bear even higher housing costs given the absence of funding

[47] William Fulton, Insight: Everyone wants to keep leverage under CEQA, California Planning & Development Report (Sept. 30, 2014), http://www.cp-dr.com/node/3585.

[48] E. Clement Shute, Jr., Reprise of Fireside Chat, Yosemite Environmental Law Conference, 25 Envtl Law News, 3 (2016).

sources to expand and replace undersized infrastructure and public services, and never be within reach of purchasing a family home.[49]

48. CARB's 2017 Scoping Plan, and its required CEQA analysis, also provide no assessment of alternatives for achieving the only 1% reduction in GHG emissions that the new housing future will accomplish from other sectors or sources, which could avoid adverse impacts to California's minority communities, avoid increased housing costs and CEQA litigation risks, and avoid impacting existing California communities by—for example—allowing urbanization of even 1% more of California's land.

49. CARB also ignores a history of success in reducing traditional pollutants from cars, as required by the federal and state Clean Air Acts, while preserving the transportation mobility of people and goods. U.S. Environmental Protection Agency ("EPA") reported in 2016 that most auto tailpipe pollutants had declined by 98-99% in comparison to 1960's cars, gasoline got cleaner with the elimination of lead and reduction in sulfur, and even though it had not been directly regulated, the primary GHG from cars (carbon dioxide) has risen nationally by less than 20% even as VMT nationally more than doubled as a co-benefit of mandatory reductions of traditional pollutants.[50]

50. In contrast to this success, CARB's VMT reduction scheme and its ongoing efforts to intentionally increase congestion are an assault on the transportation mobility of people, which disparately harm minority workers who have been forced by the housing crisis to drive ever greater distances to work.

51. CARB staff's response to The Two Hundred's December 2017 comment letter on the 2017 Scoping Plan is plain evidence of the intentional concealment and willful omission of the true impacts of the 2017 Scoping Plan and the GHG Housing Measures on California. CARB

[49] Eric L. Frazier, The Power is Now, Facebook Live Broadcast (Feb. 28, 2018), https://thepowerisnow.com/events/event/jennifer-hernandez/.

[50] U.S. EPA, Historic Success of the Clean Air Act (2016), https://www.epa.gov/air-pollution-transportation/accomplishments-and-success-air-pollution-transportation.

staff said that GHG Housing Measures were in a separate chapter and thus not part of the 2017 Scoping Plan after all.[51]

52. California's climate change policies, and specifically those policies that increase the cost and delay or reduce the availability of housing, that increase the cost of transportation fuels and intentionally worsen highway congestion to lengthen commute times, and further increase electricity costs, have caused and will cause unconstitutional and unlawful disparate impacts to California's minority populations, which now comprise a plurality of the state's population. These impacts also disproportionately affect younger Californians including millennials (the majority of whom are minorities), as well as workers without college degrees.

53. In short, in the midst of California's unprecedented housing, homeless, poverty and transportation crisis, CARB adopted a 2017 Scoping Plan which imposes still higher housing, transportation and electricity costs on Californians. CARB did so without disclosing or assessing the economic consequences or the significant adverse environmental consequences of its GHG Housing Measures on California residents.

54. In doing so, CARB again affirmed its now-wanton and flagrant pattern of violating CEQA—a pattern consistent with what an appellate court termed "ARB's lack of good faith" in correcting earlier CEQA violations as ordered by the courts.

55. The GHG Housing Measures have a demonstrably disproportionate adverse impact on already-marginalized minority communities and individuals, including but not limited to Petitioners LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, who are Latina residents of Fresno County that are personally, directly and disproportionately adversely affected by the affordable housing shortage and the future exacerbation of that shortage if the GHG Housing Measures are allowed to remain in effect.

56. The Legislature has recognized the equal right to access to housing, *inter alia*, in the California Fair Employment and Housing Act (Gov. Code § 12900 *et seq.*) ("FEHA"). FEHA

[51] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

§ 12921(b) provides that: "The opportunity to seek, obtain, and hold housing without discrimination because of race, color, . . . source of income . . . or any other basis prohibited by Section 51 of the Civil Code is hereby recognized and declared to be a civil right."

57. California's housing crisis is particularly acute, and has long-lasting adverse impacts. As the Director of the California Department of Housing and Community Development, Ben Metcalf, recently reported: "Research has been unequivocal in supporting two undeniable conclusions: Low-income households paying more than half their income in rent have profoundly reduced expenditures on food, retirement, health care, and education compared with non–rent-burdened households. And children growing up in neighborhoods of concentrated poverty are more likely to have psychological distress and health problems."[52]

58. The 2017 Scoping Plan is also violative of the due process and equal protection clauses of the California and U.S. Constitutions (Cal. Const. Art. I, § 7, U.S. Const., Amd. 14, § 1). Accordingly, Petitioners in this action seek declaratory and injunctive relief from these violations pursuant to 42 U.S.C. § 1983. The GHG Housing Measures are thus unconstitutional on their face and as applied to Petitioners.

59. While the unlawful and unconstitutional disparate impact of the GHG Housing Measures on minority communities, including Petitioners, is the most egregious feature of the regulations, there are numerous other flaws, *each* of which is fatal to the 2017 Scoping Plan and the GHG Housing Measures. As detailed herein, these include violations of CEQA, the APA, the GWSA, the California Health and Safety Code, including the California Clean Air Act (H&S Code § 39607 *et seq.*) ("CCAA"), and the California Congestion Management Act (Gov. Code § 65088 *et seq.*). Moreover, CARB has acted in excess of its statutory authority (ultra vires).

60. The GHG Housing Measures are unlawful both procedurally (because they were adopted in violation of numerous statutory requirements, including but not limited to CEQA) and substantively (because they frustrate and violate a wide range of state and federal laws and regulations prohibiting housing regulations that have an unjustified discriminatory effect).

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[52] Donna Kimura, Pop Quiz with Ben Metcalf, Affordable Housing Finance (July 8, 2016), http://www.housingfinance.com/news/pop-quiz-with-ben-metcalf_o.

61. California's commitment to climate leadership does not require or allow CARB to violate the civil rights of California's minority communities, or constitutional and statutory mandates for clean air, fair housing, historic preservation, consumer protection, transportation mobility, CEQA, or administrative rulemaking.

62. With climate change repeatedly described as a "catastrophe" that could destroy civilizations, perhaps it is necessary for CARB to plunge more of California's minority residents into poverty and homelessness. If so—if climate change requires that the state ignore civil rights, federal and state clean air, fair housing, transportation and consumer protection mandates, and ignore the administrative law checks and balances that require a thorough environmental and economic assessment of regulatory proposals—then this is a conclusion that may only be implemented by the Legislature, to the extent it can do so consistent with the California and federal Constitutions.

63. For this reason, this action seeks declaratory and injunctive relief setting aside the four GHG Housing Measures, each of which places a disproportionate burden on California's minority community members, including Petitioners, and for the court to direct CARB to complete a thorough economic and environmental analysis prior to adopting any new regulations or taking other actions to implement the 2017 Scoping Plan, and to return to this court with a revised Scoping Plan that complies with state and federal law.

II. JURISDICTION AND VENUE

64. This Court has jurisdiction over this proceeding pursuant to California Code of Civil Procedure ("CCP") §§ 410.10, 1085, 1094.5, 526, *et seq.* and 1060. Defendants are subject to personal jurisdiction because their new GHG Housing Measures would, if allowed to remain in effect, pertain to Petitioners and others located within the County of Fresno. Defendants may be properly be served here, and jurisdiction and venue are proper here under CCP § 401, because Defendants are being sued in their official capacities as members of an agency of the State of California, and the Attorney General maintains an office in Fresno, California and the GHG regulations complained of herein have an effect in, and apply in, the County of Fresno, California.

III. PARTIES

65. Petitioners/Plaintiffs THE TWO HUNDRED are a California-based unincorporated association of community leaders, opinion makers and advocates working in California (including in Fresno County) and elsewhere on behalf of low income minorities who are, and have been, affected by California's housing crisis and increasing wealth gap.[53]

66. The Two Hundred is committed to increasing the supply of housing, to reducing the cost of housing to levels that are affordable to California's hard working families, and to restoring and enhancing home ownership by minorities so that minority communities can also benefit from the family stability, enhanced educational attainment over multiple generations, and improved family and individual health outcomes, that white homeowners have long taken for granted. The Two Hundred includes civil rights advocates who each have four or more decades of experience in protecting the civil rights of our communities against unlawful conduct by government agencies as well as businesses.

67. The Two Hundred supports the quality of the California environment, and the need to protect and improve public health in our communities.

68. The Two Hundred have for many decades watched with dismay decisions by government bureaucrats that discriminate against and disproportionately harm minority communities. The Two Hundred have battled against this discrimination for entire careers, which for some members means working to combat discrimination for more than 50 years. In litigation and political action, The Two Hundred have worked to force two government bureaucrats to reform policies and programs that included blatant racial discrimination—by for example denying minority veterans college and home loans and benefits that were available to white veterans, and promoting housing segregation as well as preferentially demolishing homes in minority communities.

69. The Two Hundred sued and lobbied and legislated to force federal and state agencies to end redlining practices that denied loans and insurance to aspiring minority home

[53] See www.the200leaders.org.

buyers and small businesses. The Two Hundred sued and lobbied to force regulators and private companies to recognize their own civil rights violations, and end discriminatory services and practices, in the banking, telecommunication, electricity, and insurance industries.

70. The Two Hundred have learned, the hard way, that California's purportedly liberal, progressive environmental regulators and environmental advocacy group lobbyists are as oblivious to the needs of minority communities, and are as supportive of ongoing racial discrimination in their policies and practices, as many of their banking, utility and insurance bureaucratic peers.

71. Several years ago, The Two Hundred waged a three year battle in Sacramento to successfully overcome state environmental agency and environmental advocacy group opposition to establishing clear rules for the cleanup of the polluted properties in communities of The Two Hundred, and experienced first-hand the harm caused to those communities by the relationships between regulators and environmentalists who financially benefited from cleanup delays and disputes instead of creating the clear, understandable, financeable, insurable, and equitable rules for the cleanup and redevelopment of the polluted properties that blighted these communities.

72. THE TWO HUNDRED's members include, but are not limited to, members of and advocates for minority communities in California, including the following:

- Joe Coto- Joe Coto is Chair of THE TWO HUNDRED. Mr. Coto is an American educator, city council member, and Democratic politician. From 2004-2010, he was a member of the California State Assembly, representing the 23rd Assembly District. He served as Chair of the Assembly's Insurance committee, and held positions on the Elections and Redistricting, Governmental Organization, and Revenue and Taxation committees. He also served on the Special committee on Urban Education. Coto served as Chair of the 26 member Latino Legislative Caucus for a 2-year term, and as Vice Chair for a 2-year term..
- John Gamboa – John Gamboa is Vice-Chair of THE TWO HUNDRED. Mr. Gamboa is the former Executive Director of the Greenlining Institute and has experience in academia, the private sector and the non-profit sector. Prior to the

Greenlining Institute, he was Executive Director of Latino Issues Forum, Communications Manager at U.C. Berkeley, Executive Director of Project Participar, a citizenship program, and Marketing and Advertising Manager at Pacific Bell. At the Greenlining Institute, Mr. Gamboa focuses on public policy issues that promote economic development in urban and low-income areas, and in developing future leaders within the country's minority youth. He has been active in combating redlining and in providing a voice for the poor and underserved in insurance, philanthropy, banking, housing, energy, higher education and telecommunications. He has served on numerous boards and commissions.

- Cruz Reynoso – Cruz Reynoso, now retired, formerly served as Legal Counsel for THE TWO HUNDRED. Mr. Reynoso has dedicated his life to public service championing civil rights, immigration and refugee policy, government reform, and legal services for the poor. Mr. Reynoso began his career in private practice then moved to public service as the assistant director of the California Fair Employment Practices Commission, the associate general counsel of the Equal Employment Opportunity Commission, and head of the California Rural Legal Assistance (CRLA). Mr. Reynoso was a faculty member at the University of New Mexico School of Law and in 1976, he was appointed associate justice of the California Courts of Appeal. In 1982, he became the first Latino to be appointed an associate justice of the California Supreme Court. Mr. Reynoso later returned to private practice, and resumed his teaching career by joining the UCLA School of Law and then the UC Davis School of Law. Mr. Reynoso has served as Vice Chair of the U.S. Commission on Civil Rights, was a member of the Select Commission on Immigration and Human Rights, and received the Presidential Medal of Freedom.
- José Antonio Ramirez – José Antonio Ramirez is a Council Member of THE TWO HUNDRED. He has dedicated his life to public service, especially for the residents

of the Central Valley, seeking to improve economic vitality, strengthen community life, and increase educational opportunities and housing affordability for all Californians, including disadvantaged members of the Latino community. He currently serves as President of Community Development Inc. and as City Manager for the City of Livingston. He was previously Program Manager, International Affairs Coordinator and Security Engineer and Emergency Management Coordinator for the U.S. Bureau of Reclamation. He served on the San Joaquin River Resource Management board, the Valley Water Alliance Board and as Chairman of the Technical Review Boards for Merced and Fresno County.

- Herman Gallegos – Herman Gallegos is a Council Member of THE TWO HUNDRED. He has provided active leadership in a wide variety of community, corporate and philanthropic affairs spanning local, national and international interests. As a pioneer civil rights activist in the early 1950s, Gallegos was a leader in the formation of the Community Service Organization, a civil rights-advocacy group organized to promote the empowerment and well-being of Latinos in California. In 1965, while serving as a Consultant to the Ford Foundation's National Affairs Program, Gallegos, with Dr. Julian Samora and Dr. Ernesto Galarza, made an assessment with recommendations on how the foundation might initiate support to address the critical needs of the rapidly growing Latino population in the U.S.. As a result, he was asked to organize a new conduit for such funds—the Southwest Council of La Raza, now the National Council of La Raza. Gallegos went on to become the council's founding executive director. Gallegos also served as CEO of several business firms, including the U. S. Human Resources Corporation and Gallegos Institutional Investors Corporation. He became one of the first Latinos elected to the boards of publicly traded corporations and the boards of preeminent private and publicly supported philanthropic organizations, such as the Rockefeller Foundation, The San Francisco Foundation, The Poverello Fund and the California Endowment.

- Hyepin Im – Hyepin Im is a Council Member of THE TWO HUNDRED. She currently serves as the Founder and President of Korean Churches for Community Development (KCCD) whose mission is to help churches build capacity to do economic development work. Under Ms. Im's leadership, KCCD has implemented a historic homeownership fair in the Korean community, a Home Buyer Center Initiative with Freddie Mac, a national database and research study on Korean American churches, and ongoing training programs. Previously, Ms. Im was a venture capitalist for Renaissance Capital Partners, Sponsorship and Community Gifts Manager for California Science Center, a Vice President with GTA Consulting Company, and a Consultant and Auditor with Ernst & Young LLP. Ms. Im serves on the Steering Committee of Churches United for Economic Development, as Chair for the Asian Faith Commission for Assemblymember Herb Wesson, and has served as the President of the Korean American Coalition, is a member of the Pacific Council, was selected to be a German Marshall Fund American Memorial Marshall Fellow, and most recently, was selected to take part in the Harvard Divinity School Summer Leadership Institute.
- Don Perata – Don Perata is a Council Member of THE TWO HUNDRED. Mr. Perata began his career in public service as a schoolteacher. He went on to serve on the Alameda County Board of Supervisors (1986-1994) and the California State Assembly (1996-1998). In 1998, he was elected to the California State Senate and served as president pro tem of the Senate from 2004-2008. As president pro tem, Mr. Perata oversaw the passage of AB 32, California's cap and trade regulatory scheme to reduce greenhouse gases. Mr. Perata has guided major legislation in health care, in-home services, water development and conservation and cancer, biomedical and renewable energy. Mr. Perata has broad experience in water, infrastructure, energy, and environmental policies, both as an elected official and a consultant. He is versed in the State Water Project, Bay Delta restoration,

renewable energy, imported water and water transfers, recycling, conservation, groundwater regulation, local initiative, storage and desalination.

- Steven Figueroa – Steven Figueroa is a Council Member of THE TWO HUNDRED. He was born in East L. A., with a long history in California. Working on his first political campaign at age nine he learned that if you want change you have to be involved. As an adult he was involved in the labor movement through the California School Employees Association and later as a union shop steward at the U.S.P.S. A father of three, Steven has been advocating for children with disabilities for 30 years, beginning in 1985, for his own son, who is autistic. He took the Hesperia School District to court for violating his disabled son's rights and prevailed. He advocates for disabled children throughout the United States, focusing on California. Currently, he serves as president of the Inland Empire Latino Coalition and sits on the advisory boards of California Hispanic Chambers of Commerce, the National Latina Business Women Association Inland Empire the Disability Rights and Legal Center Inland Empire, and as Executive Director for Latin PBS. He previously served as the vice president of the Mexican American Political Association Voter Registration & Education Corp.
- Sunne Wright McPeak – Sunne McPeak is a Council Member of THE TWO HUNDRED. She is the President and CEO of the California Emerging Technology Fund, a statewide non-profit whose mission is to close the Digital Divide by accelerating the deployment and adoption of broadband. She previously served for three years as Secretary of the California Business, Transportation and Housing Agency where she oversaw the largest state Agency and was responsible for more than 42,000 employees and a budget in excess of $11 billion. Prior to that she served for seven years as President and CEO of the Bay Area Council, as the President and CEO of the Bay Area Economic Forum, and for fifteen years as a member of the Contra Costa County Board of Supervisors. She has led numerous statewide initiatives on a variety of issues ranging from water, to housing, to child

care, and served as President of the California State Association of Counties in 1984. She was named by the San Francisco League of Women Voters as "A Woman Who Could Be President." She also served on the Boards of Directors of First Nationwide Bank and Simpson Manufacturing Company.

- George Dean – George Dean is a Council Member of THE TWO HUNDRED. Mr. Dean has been President and Chief Executive Officer of the Greater Phoenix Urban League since 1992. As such, he has brought a troubled affiliate back to community visibility, responsiveness and sound fiscal accountability. Mr. Dean, a former CEO of the Sacramento, California and Omaha, Nebraska affiliates boasts more than 25 years as an Urban League staff member. His leadership focuses on advocacy toward issues affecting the African-American and minority community, education, training, job placement and economic development. Mr. Dean annually raises more than 3 million dollars from major corporations, local municipalities and state agencies for the advancement of minority enterprises, individuals, families and non-profits. Mr. Dean is nationally recognized in the field of minority issues and advancement, and affordable housing.
- Joey Quinto – Joey Quinto is a Council Member of THE TWO HUNDRED. Mr. Quinto's has made many contributions to the advancement of the API community. He began his professional career as a mortgage banker. As a publisher, his weekly newspaper advances the interests of the API community and addresses local, consumer and business news, and community events. He is a member of several organizations including the Los Angeles Minority Business Opportunity Committee and The Greenlining Coalition. Mr. Quinto is the recipient of the Award for Excellence in Journalism during the Fourth Annual Asian Pacific Islander Heritage Awards in celebration of the Asian Pacific Islander American Heritage Month. He was also listed among the Star Suppliers of the Year of the Southern California Regional Purchasing Council, received the Minority Media

Award from the U.S. Small Business Administration, and earned a leadership award from the Filipino American Chamber of Commerce based in Los Angeles.

- Bruce Quan, Jr. – Bruce Quan is a Council Member of THE TWO HUNDRED. Mr. Quan is a fifth generation Californian whose great grandfather, Lew Hing founded the Pacific Coast Canning Company in West Oakland in 1905, then one of the largest employers in Oakland. Bruce attended Oakland schools, UC Berkeley, and Boalt Hall School of Law. At Berkeley, he was a community activist for social justice, participated in the Free Speech Movement and the Vietnam Day Committee and was elected student body president. In 1973, he was chosen as one of three students to clerk for the Senate Watergate Committee and later returned to Washington to draft the "Cover-up" and "Break-in" sections of the committee's final report. He worked in the Alameda's City Attorney office, his own law practice advising Oakland's Mayor Lionel Wilson on economic development issues in Chinatown and serving Mayor Art Agnos as General Counsel for the San Francisco-Shanghai Sister City Committee and the San Francisco-Taipei Sister City Committee. In 2000, he moved to Beijing, continued his law practice, worked as a professor with Peking Law School, and became senior of counsel with Allbright Law Offices. Now in Oakland, he has reengaged in issues affecting the Chinese community and on issues of social justice, public safety and economic development in Oakland.
- Robert J. Apodaca – Robert Apodaca is a Council Member of THE TWO HUNDRED. He is a Founder of ZeZeN Advisors, Inc., a boutique financial services firm that connects institutional capital with developers and real estate owners. He has a 45-year career that spans private and public sectors. He was Chairman and Trustee of Alameda County Retirement Board (pension fund) and then joined Kennedy Associates, an institutional investor for pension funds as Senior Vice President & Partner. He represented Kennedy Companies on Barings Private Equity's "Mexico Fund" board of directors. He later joined McLarand

Vasquez Emsiek & Partners, a leading international architectural and planning firm, as Senior Vice President of Business Development. He currently serves on numerous board of directors including Jobs and Housing Coalition, Greenlining Institute, California Community Builders and California Infill Federation.

- Ortensia Lopez – Ortensia Lopez is a Council Member of THE TWO HUNDRED. She is a nationally recognized leader in creating coalitions, collaboratives and partnerships, resulting in innovative initiatives that ensure participation for low-income communities. Ms. Lopez has worked in the non-profit sector for over forty-one years in executive management positions. She is the second of 11 children born to parents from Mexico and the first to graduate from college. She currently serves on the California Public Utilities Commission's Low-Income Oversight Board, as Co-Chairperson and founding member of the Greenlining Institute, as Vice-President Chicana/Latina Foundation, as Director of Comerica Advisory Board, and on PG&E's Community Renewables Program Advisory Group. Ms. Lopez has earned numerous awards, including Hispanic Magazine's "Hispanic Achievement Award", San Francisco's "ADELITA Award", the prestigious "Simon Bolivar Leadership Award", the League of Women Voters of San Francisco "Woman Who Could Be President" award, California Latino Civil Rights Network award, and the Greenlining Lifetime Achievement.
- Frank Williams – Frank Williams is a Council Member of THE TWO HUNDRED. He is an established leader in the mortgage banking industry, with over 25 years of experience, and is an unwavering advocate for creating wealth through homeownership for underrepresented communities. Frank began his real estate finance career in 1990, emphasizing Wholesale Mortgage Banking. He founded Capital Direct Funding, Inc. in 2009. Today, as Co-founder and Divisional Manager, Mr. Williams has made Capital Direct Funding into California's premier private lending firm. Capital Direct Funding's foundations are built on giving back to the community by supporting several non-profits. He

currently serves as President of East LA Classic Theater, a non-profit that works with underserved school districts in California. Frank was also Past President for Los Angeles' National Association of Hispanic Real Estate Professionals.

- Leticia Rodriguez - Leticia Rodriguez is a resident of Fresno County, California. She is a low-income single mother and Latina who suffers ongoing personal harm from the severe shortage of housing that is affordable to working-class families. Within the last three years, she has spent more than 30% of her income on rent. She has been forced to move into her parents' home because she cannot afford a decent apartment for herself and her family.
- Teresa Murillo – Teresa Murillo is a resident of the City of Parlier in Fresno County, California. She is a young Latina with a low income. In recent years, she has spent approximately 30% of her income on housing. She currently is unable to afford a decent apartment and has been forced to move back in with her parents.
- Eugenia Perez – Eugenia Perez is a resident of Fresno County, California. She is a Latina grandmother. The majority of her income goes to pay rent. She currently is renting a room on E. Fremont Avenue in Fresno. She struggles to pay rent and lives in fear of becoming homeless if housing prices and rent continue to increase.

73. Defendant CALIFORNIA AIR RESOURCES BOARD is an agency of the State of California. On information and belief, current members of the CALIFORNIA AIR RESOURCES BOARD are: Mary D. Nichols, Sandra Berg, John R. Balmes, Hector De La Torre, John Eisenhut, Dean Flores, Eduardo Garcia, John Gioia, Ricardo Lara, Judy Mitchell, Barbara Riordan, Ron Roberts, Phil Serna, Alexander Sherriffs, Daniel Sperling, and Diane Takvorian.

74. Defendant RICHARD COREY, sued herein in his official capacity, is Executive Officer of the CALIFORNIA AIR RESOURCES BOARD.

75. Petitioners are ignorant of the true names or capacities of the defendants sued herein under the fictitious names DOES 1 through 20 inclusive. When their true names and capacities are ascertained, Petitioners will amend this Petition/Complaint to show such true names and capacities. Petitioners are informed and believe, and thereon allege, that DOES 1 through 20,

inclusive, and each of them, are agents or employees of one or more of the named Defendants responsible, in one way or another, for the promulgation and prospective enforcement of the GHG Housing Measures sought to be invalidated and set aside herein.

IV. GENERAL ALLEGATIONS

A. California's Statutory Scheme To Reduce Greenhouse Gas Emissions and Avoid Disparate Impacts

76. As part of developing solutions to global warming, the California Legislature adopted the California Global Warming Solutions Act of 2006 (otherwise known as "AB 32" or the "GWSA") and established the first comprehensive greenhouse gas regulatory program in the United States. H&S Code § 38500 *et seq.*

77. Under AB 32, CARB is the state agency charged with regulating and reducing the sources of emissions of GHGs that cause global warming. H&S Code § 38510.

78. AB 32 required CARB to set a statewide GHG emissions limit equivalent to California's 1990 GHG emissions to be achieved by 2020. H&S Code § 38550.

79. AB 32 also required CARB to prepare, approve, and periodically update a scoping plan detailing how it would achieve the maximum technologically feasible and cost-effective GHG emissions reductions by 2020. H&S Code § 38561(a). The scoping plan is required to identify and make recommendations on direct emissions reductions measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources to achieve reductions of GHGs by 2020. H&S Code § 38561(b). The scoping plan must be updated at least every five years. H&S Code § 38561(h).

80. In adopting a scoping plan, CARB must evaluate the total potential costs and total potential benefits of the plan to California's economy, environment, and public health. H&S Code § 38561(d).

81. Each scoping plan update also must identify, for each emissions reduction measure, the range of projected GHG emissions reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

82. The initial scoping plan[54] was discussed in public hearings on or about December 11, 2008. The initial scoping plan was adopted by CARB on or about May 7, 2009.

83. On or about December 23, 2009, the initial scoping plan was challenged in the Superior Court for the City and County of San Francisco for failing to meet the statutory requirements of AB 32, the APA, and CEQA. The superior court accepted the challenge in part and the appeal was thereafter resolved after a further environmental document was filed.[55]

84. The Low Carbon Fuel Standard ("LCFS") was an early action item under AB 32. The LCFS was adopted on or about November 25, 2009 by CARB's executive officer. CARB's action to adopt the LCFS also was challenged for CEQA and APA violations. On or about November 2011, the Superior Court of Fresno County found that CARB had not violated the APA or CEQA. On or about July 15, 2013 the Fifth District Court of Appeal reversed the superior court's judgment and ordered it to issue a preemptory writ of mandate ordering CARB to revise and recertify its environmental assessment to meet CEQA's standards.[56]

85. The first update to the scoping plan[57] was adopted on or about May 22, 2014.

86. Thereafter, on or about May 30, 2017, the Fifth District Court of Appeal again found that CARB had violated CEQA and the APA, and that it had not acted in good faith in responding to certain of the Court's prior orders.[58] Specifically, the court found that CARB violated CEQA in deferring its analysis and mitigation of potential increases in nitrogen oxide emissions resulting from impacts of the LCFS regulations.

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[54] California Air Resources Board, Climate Change Scoping Plan (Dec. 2008), https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

[55] *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.*, 2011 WL 8897315 (Cal. Super. May 20, 2011) (approving challenges to alternatives analysis and improper "pre-approval" under CEQA) and *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.* (2012) 206 Cal.App.4th 1487.

[56] *POET, LLC v. California Air Resources Board* (2013) 217 Cal.App.4th 1214 (holding that CARB prematurely approved the LCFS and improperly deferred analysis and mitigation of potential NOx emissions increased by the rule).

[57] California Air Resources Board, First Update to the Climate Change Scoping Plan (May 2014), https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

[58] *POET, LLC v. State Air Resources Board* (2017) 12 Cal.App. 5th 52.

87. In 2016, the California Legislature adopted SB 32, which required CARB to ensure that rules and regulations adopted pursuant to the GWSA would target California's GHG emissions for reductions of 40% below 1990 levels by 2030. H&S Code § 38566.

88. AB 32 requires CARB to update the scoping plan at least every five years. CARB superseded its 2014 Scoping Plan with the current 2017 Scoping Plan adopted on December 14, 2017. The 2017 Scoping Plan contains the new GHG Housing Measures complained of herein.[59]

89. Between December, 2017 and mid-April, 2018, Petitioners, through counsel, sought to persuade CARB to eliminate or materially modify the four new GHG Housing Measures complained of herein, without success. During this time, the parties entered into a series of written tolling agreements that were continuously operative until April 30, 2018.

B. The 2017 Scoping Plan

90. Throughout 2016 and 2017, CARB prepared the 2017 Scoping Plan. CARB held meetings on or about January 27, 2017, February 16-17, 2017 and December 14, 2017 to accept public comment on the proposed 2017 Scoping Plan.

91. Because the Scoping Plan is both sweeping and vague, and because it was not preceded by a notice of proposed rulemaking, Petitioners THE TWO HUNDRED, *et al.* did not initially appreciate the significance of the new GHG regulations and standards embedded in the 2017 Scoping Plan by CARB staff.

92. Petitioners submitted a detailed letter commenting on the 2017 Scoping Plan on December 11, 2017, in advance of CARB's meeting to vote on the 2017 Scoping Plan.[60] The letter included extensive citations to documents and publications analyzing California's ongoing housing crisis and the disproportionate impact of the worsening housing shortage on marginalized minority communities.

[59] California Air Resources Board, The 2017 Climate Change Scoping Plan Update (Jan. 20, 2017), https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

[60] The Two Hundred Comment Letter dated Dec. 11, 2017, can be found in the Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 74, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf

93. On December 14, 2017, CARB adopted the 2017 Scoping Plan.

94. While the 2017 Scoping Plan is replete with protestations to the effect that it is only providing "guidance" rather than a "directive or mandate to local governments" (see, e.g., Scoping Plan, p. 99), it is plain that CARB's pronouncements on the GHG Housing Measures, by their nature, will be given the force and effect of law. Numerous courts have stated that when an agency has specific expertise in an area and/or acts as lead or responsible agency under CEQA, and publishes guidance, that guidance must be taken into consideration and will be given heavy weight.

95. In *California Building Industry Assn. v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App.5th 1067, 1088, the court rejected the notion that the District's CEQA guidelines were a nonbinding, advisory document. The court stated that the guidelines suggested a routine analysis of air quality in CEQA review and were promulgated by an air district that acts as either lead or responsible agency on projects within its jurisdictional boundaries.

96. In addition, in *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 229, the court recognized the value of "performance based standards" as CEQA thresholds, as outlined in the Scoping Plan or other authoritative body of regulations.

97. Further, in *Cleveland Nat. Forest Foundation, et al v. San Diego Assoc. of Governments* (2017) 3 Cal.5th 497, 515, the court held that even though the 2050 Executive Order was not an adopted GHG reduction plan and there was no legal requirement to use it as a threshold of significance, that was not dispositive of the issue. Although lead agencies have discretion in designing an Environmental Impact Report ("EIR") under CEQA, the court stated that the exercise of that discretion must be "based to the extent possible on scientific and factual data" and thus the scientific basis for the Executive Order's and CARB's emission reduction goals must be considered in a CEQA analysis.

98. Thus, because CEQA documents must take a long term view of GHG compliance and because of the deference and weight other agencies are required to give to CARB guidance, the measures alleged to be "guidance" are in reality self-implementing regulations having an immediate "as applied" effect.

99. The LAO also has recognized that CARB's Scoping Plans include "a wide variety of regulations intended to help the state meet its GHG goal…"[61]

C. CARB's Improper "Cumulative Gap" Reduction Requirement

100. In AB 32, the Legislature directed CARB to reduce statewide GHG emissions to 1990 levels by 2020 via measures in the first Scoping Plan. This legislative mandate is simple and uncontested. CARB concluded that California's GHG emissions were 431 million metric tons of carbon dioxide equivalent ("$MMTCO_2e$") in 1990.

101. SB 32 established the more stringent mandate of reducing GHG emissions to 40% below 1990 levels by 2030, even though California's population and economic activities are expected to continue to increase during this period. The 2030 Target is simple math: 40% below 431 $MMTCO_2e$ equals 258.6 $MMTCO_2e$.[62] Thus, the 2017 Scoping Plan created measures to reduce statewide emissions to 260 MMTCO2e by 2030.

102. The 2017 Scoping Plan first evaluates the "Reference Scenario", which is the emissions expected in 2030 by continuing "Business as Usual" and considering existing legal mandates to reduce GHG emissions that have been implemented, but without adopting any new GHG reduction measures. The Scoping Plan concludes that in this scenario California's GHG .emissions will fall to 389 MMTCO2e by 2030.

103. Because numerous GHG reduction mandates are being phased in over time, CARB also evaluated a "Known Commitments Scenario" (which CARB confusingly named the "Scoping Plan Scenario") which estimates GHG emissions in 2030 based on compliance with all legally required GHG reduction measures, including those that have not yet been fully implemented. Under the "Known Commitments Scenario" the 2017 Scoping Plan concludes that California's GHG emissions will fall to 320 MMTCO2e by 2030.

[61] LAO, Cap-and-Trade Revenues: Strategies to Promote Legislative Priorities (Jan. 21, 2016), http://www.lao.ca.gov/reports/2016/3328/cap-trade-revenues-012116.pdf, at p. 5-6.

[62] CARB generally rounds this to 260 MMTCO2e.

104. Given that SB 32 required a reduction to 260 MMTCO2e, this left a gap of 60 MMTCO2e for which CARB was required to identify measures in the 2017 Scoping Plan in the "Known Commitments Scenario" and 129 MMTCO2e in the "Reference Scenario".

105. CARB declined to comply with this legislated mandate, and instead invented a different "cumulative gap" reduction requirement which requires far more GHG emission reductions.

106. Neither the Scoping Plan nor any of its appendices explain how this "cumulative gap" reduction requirement was derived, and the methodology and assumptions CARB used can only be located in one of several modeling spreadsheets generally referenced in the plan.

107. CARB's unlegislated "cumulative gap" requirement is based on the unsupportable assumption that state emissions must decline in a fixed trajectory from 431 $MMTCO_2e$ in 2020 to 258.6 MMTCO2e in 2030 despite the fact that SB 32 does not require that the state reach the 2030 Target in any specific way. CARB arbitrarily created the "cumulative gap" requirement by summing the annual emissions that would occur from 2021-2030 if emissions declined in a straight line trajectory, which totaled 3,362 MMTCO2e, as follows:

	Annual emissions based on a straight line trajectory from 2020 to 2030 ($MMTCO_2e$)
2020	431.0
2021	413.8
2022	396.5
2023	379.3
2024	362.0
2025	344.8
2026	327.6
2027	310.3
2028	293.1
2029	275.8
2030	258.6
2021-2030 Cumulative Emissions	3,362

108. CARB then summed the annual emissions projected to occur from 2021-2030 under the "Reference Scenario" without the implementation of the measures included in the "Known Commitments Scenario," as 3,982 MMTCO2e.

109. CARB then subtracted the cumulative "Reference Scenario" emissions (3,982 $MMTCO_2e$) from the cumulative emissions based on the straight line trajectory (3,362 $MMTCO_2e$) and illegally used the difference, 621 $MMTCO_2e$, as a new, unlegislated GHG "cumulative gap" reduction requirement.

Year	"Reference Scenario" Annual Emissions ($MMTCO_2e$)
2020	415.8
2021	411.0
2022	405.5
2023	400.3
2024	397.6
2025	398.7
2026	396.8
2027	395.5
2028	394.4
2029	393.9
2030	388.9
2021-2030 Cumulative Emissions	3,982
Difference from Straight Line Cumulative Emissions Total	621

110. Scoping Plan Figure 7, for example, is titled "Scoping Plan Scenario – Estimated Cumulative GHG Reductions by Measure (2021–2030)." The identified measures show the amount of reductions required to "close" the 621 $MMTCO_2e$ GHG "cumulative gap" CARB invented from the difference in cumulative emissions from 2021-2030 between a hypothetical straight line trajectory to the 2030 Target and the "Reference Scenario" projections.

111. Figure 8 of the Scoping Plan and associated text provide an "uncertainty analysis to examine the range of outcomes that could occur under the Scoping Plan policies and measures" which is entirely based on the 621 $MMTCO_2e$ GHG "cumulative gap" metric.[63]

112. CARB also calculated that the cumulative annual emissions projected to occur under the "Known Commitments Scenario" from 2021-2030 would be 3,586 MMTCO2e and subtracted this amount from the cumulative emissions generated by the straight line trajectory (3,362 $MMTCO_2e$). The difference is 224 $MMTCO_2e$, which is incorrectly shown as 236 $MMTCO_2e$ in Table 3 of the Scoping Plan and in the text following Table 3. CARB illegally characterized the 224 $MMTCO_2$ difference as the "cumulative emissions reduction gap" in the "Known Commitments Scenario" in the Scoping Plan and evaluated the need for additional measures on the basis of "closing" this unlegislated and unlawful "cumulative gap".

Year	"Known Commitments Scenario" Annual Emissions ($MMTCO_2e$)
2020	405.5
2021	396.8
2022	387.1
2023	377.6
2024	367.4
2025	362.7
2026	354.4
2027	347.1
2028	340.4
2029	331.8
2030	320.4
2021-2030 Cumulative Annual Emissions	3,586
Difference from Straight Line Cumulative Emissions Total	224

[63] The analysis discussion references Scoping Plan Appendix E for more details.

113. The California legislature in no way authorized CARB to invent a "cumulative gap" methodology based on an unreasonable and arbitrary straight line trajectory from 2020 to the 2030 Target, which counted each year's shortfall against the 2030 Target and then added all such shortfalls to inflate reduction needed from the 129 and 60 $MMTCO_2e$ (depending on scenario) required by the 2030 Target to the 621 and 224 $MMTCO_2e$ "cumulative gap" requirements.

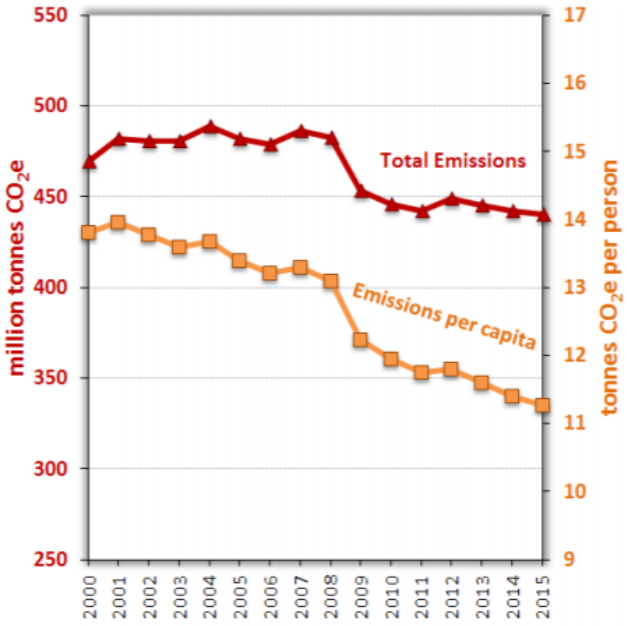
114. SB 32 does not regulate cumulative emissions and only requires that the 2030 Target of 260 MMTCO2e be achieved by 2030. CARB's own analysis shows that existing legal requirements will reduce emissions to 320 $MMTCO_2e$ in 2030. At most, CARB was authorized to identify measures in the Scoping Plan that would further reduce emissions by 60 $MMTCO_2e$ in 2030 under the "Known Commitments Scenario". CARB instead illegally created new, and much larger "cumulative gap" reduction requirements of 224 $MMTCO_2e$ and 621 $MMTCO_2e$.

115. CARB arbitrarily determined that the straight line trajectory to the 2030 Target was the only way to reach the mandate of 260 MMTCO2e by 2030 when there are numerous potential paths that California's GHG emission reductions could take between 2021 and 2030.

116. For example, as shown in Figure 1 below, in reaching the 2020 Target, California's GHG emissions reductions have not followed a straight line trajectory, but have gone up and down based on the economy and other factors.[64]

[64] Figure 1 is from the California Air Resources Board's 2017 Edition of California's GHG Emission Inventory (June 6, 2017), p. 2, https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2015/ghg_inventory_trends_00-15.pdf.

Figure 1. California Total and Per Capita GHG Emissions



117. CARB's arbitrary and capricious requirement that reductions must meet a cumulative GHG reduction total, rather than take any path feasible that gets the state to the 2030 Target is unlawful.

118. Both AB 32 (and earlier Scoping Plans) and SB 32 contemplated a "step down" of GHG emissions to the quantity established for the target year, with the "step down" increments occurring as new technologies, regulations, and other measures took effect. This step down approach has been part of air pollution control law for decades.

119. Under the federal Clean Air Act ("CAA"), the EPA sets National Ambient Air Quality Standards ("NAAQS") that set air quality levels in certain years for specific pollutants (*e.g.*, the 2015 NAAQS for ozone is 70 ppb and it must be achieved as expeditiously as possible). States then create and adopt State Implementation Plans ("SIPs") which include control measures to indicate how the state will meet the NAAQS standard. The reductions that the SIPs must achieve via their control measures to reach the NAAQS are always interpreted as being applicable to the target year, *i.e.*, how much reduction will need to occur in one year to reduce emissions from business as usual to the NAAQS level? The SIPs do not plan for emission reduction measures that must reduce emissions cumulatively over time (from the time of adoption of the

2015 ozone NAAQS until the year it is reached), such that not meeting the NAAQS in earlier years means that those excess emissions must be added to future years to create the required emissions reductions to balloon over time as the NAAQS goes unmet.

120. In addition, criteria air pollutants regulated by EPA, CARB, and California's local air districts are always regulated under a cost/ton disclosure metric in which the expected cost to reduce emissions must be not only explained in rulemaking documents, but taken into consideration in deciding whether to adopt any rule controlling emissions. This system has worked to reduce tailpipe emissions of criteria pollutants from passenger cars by 99% over time.

121. Given this clear and consistent pattern of EPA and CARB interpretation of the legal status of air quality levels to be achieved by a certain time, it was arbitrary and capricious for CARB to create this "deficit accounting" metric in the cumulative gap analysis rather than merely creating measures which would meet the 2030 Target by 2030.

122. CARB also used the unlawful "cumulative gap" reduction metric to identify the nature and extent of Scoping Plan reduction measures, including the GHG Housing Measures, address uncertainties in achieving these reductions, and to complete the legally mandated FA and EA for the 2017 Scoping Plan.

123. CARB's unilateral creation and use of the "cumulative gap" reduction requirement instead of the statutory SB 32 2030 Target is unlawful, and imposes new cost burdens, including on housing, that will further exacerbate the housing-induced poverty crisis.

D. The Four New, Unlawful GHG Housing Measures the 2017 Scoping Plan Authorizes

1. Unlawful VMT Reduction Requirement

124. Among the new regulations and standards added to CARB's 2017 Scoping Plan—which were not in any of its earlier scoping plans—is a requirement to reduce VMT. This requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy."[65]

[65] See Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

125. The "Mobile Source Strategy" includes a requirement to reduce VMT. This allegedly would be achieved by continued implementation of SB 375, regional Sustainable Communities Strategies, statewide implementation of SB 743, and potential additional VMT reduction strategies included in Appendix C ("Potential VMT Reduction Strategies for Discussion"). Scoping Plan, p. 25.

126. The 2017 Scoping Plan states that "VMT reductions will be needed to achieve the 2030 target" and to meet the 2050 GHG emission reduction goal set in Executive Order S-3-05. Scoping Plan, p. 75.

127. CARB states that VMT reductions of 7 percent below projected VMT are necessary by 2030 and 15 percent below projected VMT by 2050. Scoping Plan, p. 101.

128. The "Mobile Source Strategy" measure requires a 15 percent reduction in total light-duty VMT from the business as usual scenario by 2050. Scoping Plan, p. 78. It also requires CARB to work with regions to update SB 375 targets to reduce VMT to reach the 2050 goal and to implement VMT as the CEQA metric for assessing transportation impacts. ***Id.***

129. The "Mobile Source Strategy" as a whole is estimated to result in cumulative GHG emission reductions of 64 $MMTCO_2e$ per year. Scoping Plan, p. 28.

130. These VMT reduction requirements are included in the 2017 Scoping Plan without appropriate recognition of the counterproductive effects of such a fixation on reducing VMT in the context of affordable housing proximate to job centers.

131. The 2017 Scoping Plan notes that promoting stronger boundaries to suburban growth, such as urban growth boundaries, will reduce VMT. Scoping Plan, p. 78. This also raises housing prices within the urban growth boundary and pushes low-income Californians, including minorities, to unacceptable housing locations with long drive times to job centers.

132. Other VMT reduction measures in the 2017 Scoping Plan, such as road user and/or VMT-based pricing mechanisms, congestion pricing, and parking pricing, further disadvantage low-income and minority residents who must drive farther through more congested roads.

133. The VMT reductions called for in Chapters 2 and 5 of the Scoping Plan make no distinction for miles driven by electric vehicles with zero GHG emissions or for miles driven by

hybrid vehicles when using only electric power. Instead, they would advance a suite of new burdens, including charging individual drivers for each vehicle mile travelled, and intentionally increasing overall roadway congestion to induce more workers to use public transit.

134. CARB's new VMT requirements, which purport to encourage public transit, essentially ignore the fact that far fewer than 10% of Californians can get from their home to their jobs in less than one hour on public transit, and that public transit ridership has fallen nationally and in California.[66] CARB's new VMT requirements fail to rationally address the reality that VMT continues to increase rather than decrease in California due to increasing population and employment levels.[67]

135. CARB's answer to reducing VMT by increasing bicycling, walking, and transit use is a laughable solution for low-income Californians, such as those living in the San Joaquin Valley and commuting to jobs in the San Francisco Bay Area.[68]

136. The burden of CARB's VMT reduction measures falls disproportionately on minority workers already forced by the housing crisis to endure long and even "mega" commutes lasting more than three hours per day.[69] The vast majority of middle and lower-income jobs (disproportionately performed by minority workers) require those workers to be physically present at their job sites to be paid. Affected job categories include teachers, nurses, emergency

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[66] Laura J. Nelson, *L.A. Bus Ridership Continues to Fall: Officials Now Looking to Overhaul the System*, L.A. Times (May 23, 2017) http://www.latimes.com/local/lanow/la-me-ln-bus-ridership-study-20170518-story.html; Center for Transportation Studies, Access Across America, University of Minnesota (2017) http://www.cts.umn.edu/research/featured/access.

[67] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, Feb. 2018, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf, p. 19.

[68] Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[69] 2007 and 2016 American Community Survey 1-Year Estimates, Table B08303 series (Travel Time To Work, Workers 16 years and over who did not work at home), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing increase in commute time from 2007 to 2016 in California and Bay Area); 2007 and 2016 American Community Survey 1-Year Estimates, Table S802 series (Means of transportation to work by selected characteristics), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing more Latino and noncitizen workers commuting to work by driving alone).

responders, courtroom and municipal service workers, construction workers, day care and home health care workers, retail clerks, and food service workers.[70]

137. In addition to being ill-conceived, CARB's new VMT measures are not statutorily authorized. The Legislature has repeatedly rejected proposed legislation to mandate that Californians reduce their use of cars and light duty trucks (e.g., personal pickup trucks), including most recently in 2017 (Senate Bill 150, Allen).

138. Only a different agency, the Office of Planning and Research ("OPR"), has legislative authority to regulate VMT. It has not done so. In Senate Bill 743 (2013), the Legislature authorized OPR to consider adopting VMT as a new threshold for assessing the significance of transportation impacts under CEQA, but only after OPR completed a rulemaking process and amended the regulatory requirements implementing CEQA, *i.e.*, the CEQA Guidelines (14 C.C.R. § 15000 *et seq.*) ("CEQA Guidelines"). OPR has commenced but not completed the process for amending the CEQA Guidelines as authorized by SB 743.

139. Instead of regulating VMT, CARB's role under SB 375 is to encourage higher density housing and public transit and thereby reduce GHGs. In this context, CARB has included VMT reduction metrics for helping achieve GHG reduction goals in current SB 375 targets.

140. In the past, when CARB proposed to establish standalone VMT reduction targets (independent of GHG emission reduction targets) it has been swamped with objections and concerns, including challenges to its legal authority to attempt to impose fees and restrictions on driving as a standalone mandate independent of regional GHG reduction targets.

141. Until its adoption of the 2017 Scoping Plan, CARB had rightly stopped short of purporting to set out standalone VMT reduction targets and methods. At the same meeting that CARB approved the 2017 Scoping Plan, CARB agreed to indefinitely postpone establishing regional VMT reduction targets for a variety of reasons (including but not limited to the fact that notwithstanding current efforts, VMT is actually increasing).

[70] Adam Nagourney and Conor Dougherty, *The Cost of a Hot Economy in California: A Severe Housing Crisis,* N.Y. Times (July 17, 2017), https://www.nytimes.com/2017/07/17/us/california-housing-crisis.html.

142. Immediately following its determination to indefinitely postpone its proposal to adopt standalone VMT reduction targets, CARB nevertheless voted to approve the 2017 Scoping Plan's VMT reduction mandate, which includes in pertinent part a GHG measure requiring additional VMT reductions beyond the reductions achieved via SB 743 and SB 375. See Scoping Plan p. 25, Table 1, p. 101.

143. The inherent contradiction between the morning CARB agenda discussion indefinitely postponing establishing SB 375 VMT reduction targets, and CARB's afternoon agenda item approving the 2017 Scoping Plan, going above and beyond the VMT reductions CARB elected not to set a few hours earlier, caused widespread confusion. Even the CARB Board chair reported that she was "confused" – but CARB's unlawful action to mandate reduced driving by individual Californians was nevertheless unanimously approved in the 2017 Scoping Plan that CARB has now adopted.

144. In order to achieve these newly-mandated reductions in VMT, CARB intends to intentionally increase congestion to induce transit use. OPR's proposal for updating the CEQA Guidelines to include VMT as a metric for analyzing transportation impacts states that adding new roadway capacity increases VMT.[71] The OPR proposal further states that "[r]educing roadway capacity (i.e. a "road diet") will generally reduce VMT and therefore is presumed to cause a less than significant impact on transportation. Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel." *Id.* at p. III:32.

145. Attempting to reduce VMT by purposefully increasing congestion by reducing roadway capacity will not lead to GHG emission reductions. Instead, increasing congestion will cause greater GHG emissions due to idling, not to mention increased criteria air pollutant[72] and

[71] OPR, Revised Proposal on Updates to the CEQA Guidelines Evaluating Transportation Impacts in CEQA (Jan. 20, 2016), p. I:4, http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf.

[72] The six criteria air pollutants designated by the Environmental Protection Agency ("EPA") are particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2" or "NOx"), carbon monoxide ("CO"), sulfur dioxide ("SO_2"), and lead.

toxic air contaminant[73] emissions. CARB has no authority to impose a VMT limit and any VMT limit imposed by an agency must be approved in a formal rulemaking process.

146. As implemented, CARB's VMT reduction measure will not achieve the GHG reductions ascribed to it in the 2017 Scoping Plan and has no rational basis. In fact, it will increase air quality and climate related environmental impacts, something not analyzed in the EA for the 2017 Scoping Plan.

147. In addition, CARB has recently undergone an update of regional GHG emission reduction targets under SB 375 in which CARB stated that: "In terms of tons, CARB staff's proposed [SB 375] targets would result in an estimated additional reduction of approximately 8 million metric tons of CO2 per year in 2035 compared to the existing targets. The estimated remaining GHG emissions reductions needed would be approximately 10 million metric tons CO2 per year in 2035 based on the Scoping Plan Update scenario. These remaining GHG emissions reductions are attributed to new State-initiated VMT reduction strategies described in the Scoping Plan Update."[74]

148. Thus, CARB's only stated support for needing the VMT reduction mandates in the 2017 Scoping Plan is to close a gap to the Scoping Plan Update Scenario that the SB 375 targets will not meet. However, all of the allegedly "necessary" reductions in the Scoping Plan Update Scenario are based on CARB's unlawful "cumulative gap" reduction requirement, which, as described above, improperly ballooned the GHG reductions required from 60 to 224 $MMTCO_2e$ based on the "Known Commitments Scenario" and from 129 to 621 $MMTCO_2e$ based on the "Reference Case Scenario."

149. Because of CARB's unlawful "cumulative gap" calculation, CARB now argues that the VMT reduction mandates are necessary, but the only reason they are necessary is to meet the unlawful "cumulative gap" reduction requirements.

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[73] Toxic air contaminants, or TACs, include benzene, hexavalent chrome, cadmium, chloroform, vinyl chloride, formaldehyde, and numerous other chemicals.

[74] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 35, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

150. There is also no evidence that CARB's estimated 10 MMTCO2e per year reductions based on the VMT reduction mandate is in any way achievable. The Right Type, Right Place report[75] estimates only 1.79 MMTCO2e per year will be reduced from both lower VMT and smaller unit size houses using less energy and thus creating lower operational emissions.

151. The Staff Report for SB 375 acknowledges that VMT has increased, that the results of new technologies are at best mixed in early reports as to VMT reductions, and that the correlation between VMT and GHG is declining.[76] There is no evidence that the 10 MMTCO2e per year reductions based on the VMT reduction mandate in the 2017 Scoping Plan is in any way something other than a number created solely based on the fundamental miscalculation about the 2030 target demonstrated by the "cumulative gap" methodology in the 2017 Scoping Plan.

2. Unlawful CEQA Net Zero GHG Threshold

152. The 2017 Scoping Plan also sets a net zero GHG threshold for all projects subject to CEQA review, asserting that "[a]chieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development". Scoping Plan, p. 101-102.

153. The Scoping Plan directs that this new CEQA "zero molecule" GHG threshold be presumptively imposed by all public agencies when making all new discretionary decisions to approve or fund projects in all of California, where under CEQA "project" is an exceptionally broad legal term encompassing everything from transit projects to recycled water plants, from the renovation of school playgrounds to building six units of affordable housing, from the adoption of General Plans applicable to entire cities and counties to the adoption of a single rule or regulation.

154. This is an unauthorized, unworkable and counterproductive standard as applied to new housing projects. CEQA applies to the "whole of a project", which includes construction

[75] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

[76] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 19, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities. Meeting a net zero threshold for these activities is not possible. While there have been examples of "net zero" buildings—which are more expensive than other housing[77]—none of these examples included the other components of a "project" as required by CEQA.

155. The Scoping Plan's "net zero" CEQA provisions also would raise housing and homeowner transportation costs and further delay completion of critically needed housing by increasing CEQA litigation risks—thereby exacerbating California's acute housing and poverty crisis.[78]

156. Despite CARB's claim that this "net zero" threshold is "guidance", CARB's status as the expert state agency on GHG emissions means that all lead agencies or project proponents will have to accept this standard in CEQA review unless they can prove by substantial evidence that a project cannot meet the standard.

157. The threshold has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. An agency's failure to use the 2017 Scoping Plan's CEQA threshold has already been cited as legal error in the comment letter preceding the expected lawsuit against the Northlake housing project in Los Angeles.[79]

158. A "net zero" GHG threshold is inconsistent with current California precedent affirming that compliance with law is generally an acceptable CEQA standard. See, e.g., *Center for Biological Diversity v. Dept. of Fish and Wildlife* (2016) 62 Cal.4th 204, 229 ("*Newhall"*) (a lead agency can assess consistency with AB 32 goal by looking to compliance with regulatory programs). This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts.

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[77] LAO, Evaluating California's Pursuit of Zero Net Energy State Buildings (Nov. 14, 2017), http://www.lao.ca.gov/Publications/Report/3711.

[78] Chang-Tai Hsieh and Enrico Moretti, *How Local Housing Regulations Smother the U.S. Economy*, N.Y. Times (Sept. 6, 2017), https://www.nytimes.com/2017/09/06/opinion/housing-regulations-us-economy.html.

[79] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

159. The Scoping Plan's expansive new "net zero" GHG CEQA threshold is directly at odds with, and is dramatically more stringent than, the existing CEQA regulatory threshold for GHG emissions. This existing threshold was adopted by OPR pursuant to specific authorization and direction from the Legislature in SB 97. In the SB 97 rulemaking context, OPR, in its Statement of Reasons, expressly rejected a "zero molecule" or "no net increase" GHG threshold (now adopted by CARB without Legislative authority) as being inconsistent with, and not supported by, CEQA's statutory provisions or applicable judicial precedent. OPR stated that "[n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA."[80]

160. In January of 2017, OPR commenced a formal rulemaking process for what it describes as a "comprehensive" set of regulatory amendments to the CEQA Guidelines. After adoption of the 2017 Scoping Plan, OPR has not proposed to change the existing GHG thresholds in the Guidelines to conform with CARB's unauthorized new "net zero" GHG threshold. Instead, OPR has expressly criticized reliance on a numerical project-specific assessment of GHGs.

161. In short, CARB's "net zero" GHG threshold is inconsistent with OPR's legal conclusion that CEQA cannot be interpreted to impose a "net zero" standard.[81]

162. In addition to being Legislatively unauthorized and unlawful, the "net zero" GHG threshold would operate unconstitutionally so as to disproportionately disadvantage low income minorities in need of affordable housing relative to wealthier, whiter homeowners who currently occupy the limited existing housing stock.[82] This disadvantage arises because of the use of CEQA

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[80] OPR, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (Dec. 2009), p. 25, http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf.

[81] See OPR, Proposed Updates to the CEQA Guidelines (Nov. 2017), p. 81-85, http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf.

[82] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017) for a historical review of how zoning and land use laws were designed to promote discrimination against African Americans and other communities of color, patterns that, in many instances, have been maintained to this day; see also Housing Development Toolkit, The White House (Sept. 2016), https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Housing_Development_Toolkit%20f.2.pdf.

litigation by current homeowners to block new housing for others, including especially low income housing for minorities.[83]

163. Under CEQA, once an impact is considered "significant", it must be "mitigated" by avoidance or reduction measures "to the extent feasible." Pub. Res. Code §§ 21002, 21002.1; 14 C.C.R. § 15020(a)(2). By imposing a presumptive "net zero" GHG threshold on all new projects pursuant to CEQA, CARB has instantly and unilaterally increased the GHG CEQA mitigation mandate to "net zero" unless a later agency applying CEQA can affirmatively demonstrate, through "substantial evidence", that this threshold is not "feasible" as that term is defined in the CEQA Guidelines.

164. Under CEQA, any party—even an anonymous litigant—can file a CEQA lawsuit challenging the sufficiency of a project's analysis and mitigation for scores of "impacts," including GHG emissions. *See Save the Plastic Bag Coalition v. City of Manhattan Beach* (2011) 52 Cal.4th 155.

165. Anonymous use of CEQA lawsuits, as well as reliance on CEQA lawsuits to advance economic objectives such as fast cash settlements, union wage agreements, and competitive advantage, has been repeatedly documented—but Governor Brown has been unable

[83] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/.

to secure the Legislature's support for CEQA because, as he explains, unions use CEQA to leverage labor agreements.[84]

166. Using CEQA to advance economic rather than environmental objectives, and allowing anonymous lawsuits to mask more nefarious motives including racism and extortion, has established CEQA litigation (and litigation threats) as among the top reasons why adequate housing supplies have not been built near coastal jobs centers.[85]

167. The "net zero" threshold, as applied to new housing projects in California, adds significantly to the risk and CEQA litigation outcome uncertainty faced by persons who wish to build such housing.[86] Not even the California Supreme Court, in *Newhall, supra,* 62 Cal.4th 204, could decide how CEQA should apply to a global condition like climate change in the context of considering the GHG impacts of any particular project. Instead, the Supreme Court identified four "potential pathways" for CEQA compliance. Notably, none of these was the "net zero" threshold adopted by CARB in its 2017 Scoping Plan.

168. The California Supreme Court has declined to mandate, under CEQA, a non-statutory GHG threshold. Instead, the California Supreme Court has recognized that this area remains in the province of the Legislature, which has acted through directives such as SB 375. *Cleveland National Forest Foundation v. San Diego Assn. of Gov'ts* (2017) 3 Cal.5th 497 ("*SANDAG"*).

169. As explained in The Two Hundred's comment letter, and referenced academic and other studies in that letter, the top litigation targets of CEQA lawsuits statewide are projects that

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[84] See Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf, p. 10-12 (stating Governor Brown's 2016 conclusion that CEQA litigation reform was politically impossible because labor unions use litigation threats to "hammer" project sponsors into agreeing to enter into union labor agreements, and Building Trades Council lobbyist Caesar Diaz testimony in "strong opposition" to legislative proposal to require disclosure of the identity and interests of those filing CEQA lawsuits at the time CEQA lawsuits are filed, rather than at the end of the litigation process when seeking attorneys' fees, wherein Mr. Diaz concluded that requiring such disclosure would "dismantle" CEQA).

[85] Legislative Analyst's Office, California's High Housing Costs: Causes and Consequences, May 17, 2015, http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[86] See *Id.*

include housing.[87] Over a three year period in the SCAG region, nearly 14,000 housing units were challenged in CEQA lawsuits, even though 98% of these units were located in already developed existing communities and 70% were located within a short distance of frequent transit and other existing infrastructure and public services. This and a referenced prior study also showed that the vast majority of CEQA lawsuits filed statewide are against projects providing housing, infrastructure and other public services and employment uses within existing communities.[88]

170. Thus, the same minority families victimized by the housing-induced poverty crisis, and forced to drive ever longer distances to qualify for housing they can afford to rent or buy are disproportionately affected by CEQA lawsuits attacking housing projects that are proximate to jobs.

171. Expanding CEQA to require only future occupants of acutely needed housing units to double- and triple-pay to get to and from work with a CEQA mitigation obligation to purchase GHG offsets to satisfy a "net zero" threshold unlawfully and unfairly discriminates against new occupants in violation of equal protection and due process.

172. Finally, CARB's "net zero" threshold fails to address the likelihood that it will actually be counterproductive because of "leakage" of California residents driven out to other states because of unaffordable housing prices.[89] Including this measure in the 2017 Scoping Plan bypasses statutory requirements to discourage and minimize "leakage"—movement of

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[87] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/

[88] *Ibid.*

[89] California experienced a net loss of 556,710 former residents to other states during 2010 to 2017. U.S. Census Bureau, Table 4. Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017 (NST-EST2017-04) (Dec. 2017), https://www.census.gov/data/datasets/2017/demo/popest/nation-total.html.

economically productive activities to other states or countries that have much higher GHG emissions on a per capita basis than California. Imposing "net zero" standards that end up shutting down or blocking economic activities in California results in a global increase in GHGs when those activities move to other states or countries with higher per capita GHG emissions.[90]

173. It is noteworthy that the GWSA and SB 32 "count" only GHG emissions produced within the state, and from the generation of out-of-state electricity consumed in the state. When a family moves from California to states such as Texas (nearly three times higher per capita GHG emissions) or Nevada (more than double California's per capita GHG emissions), *global* GHG emissions increase even though California's GHG emissions decrease.

174. The housing crisis has resulted in a significant emigration of families that cannot afford California housing prices, and this emigration increases global GHG emissions—precisely the type of "cumulative" contribution to GHGs that OPR explains should be evaluated under CEQA, rather than CARB's net zero GHG threshold which numerically-focuses on project-level GHG emissions and mitigation.[91]

175. The Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

3. Unlawful Per Capita GHG Targets for Local Climate Action Plans

176. California's per capita GHG emissions are already far lower than all but two states. The only state with low per capita GHG emissions that is comparable to California is New York, which has a lower per capita GHG emission level but also six nuclear power plants

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[90] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[91] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

(compared to California's one) as well as more reliable hydropower from large dams that are less affected by the cyclical drought cycles affecting West Coast rivers.[92]

177. California's current very low per capita GHG emissions are approximately 11 MMTCO2e.

178. The existing CEQA Guidelines include a provision that allows projects that comply with locally-adopted "climate action plans" ("CAPs") to conclude that project-related GHG emissions are less than significant, and thus require no further mitigation that would add to the cost of new housing projects.

179. In *Newhall*, *supra,* 62 Cal.4th at 230, the California Supreme Court endorsed CAPs, and wrote that a project's compliance with an approved CAP could be an appropriate "pathway" for CEQA compliance. No local jurisdiction is required by law to adopt a CAP, but if a CAP is adopted, then the Supreme Court has held that it must have enforceable measures to actually achieve the CAP's GHG reduction target. *SANDAG, supra,* 3 Cal.5th 497.

180. The CAP compliance pathway through CEQA was upheld in *Mission Bay Alliance v. Office of Community Invest. & Infrastructure* (2016) 6 Cal.App.5th 160. This compliance pathway provides a more streamlined, predictable, and generally cost-effective pathway for housing and other projects covered by the local CAP.

181. In stark contrast, CARB's unlawful new per capita GHG requirements effectively direct local governments—cities and counties—to adopt CAPs that reduce per capita GHG emissions from eleven to six MMTCO2e per capita by 2030, and to two MMTCO2e per capita by 2050. This mandate is unlawful.

182. First, CARB has no statutory authority to impose any 2050 GHG reduction measure in CAPs or otherwise since the Legislature has repeatedly declined to adopt a 2050 GHG target (including by rejecting earlier versions of SB 32 that included such a 2050 target), and the California Supreme Court has declined to interpret CEQA to mandate a 2050 target based on an Executive Order. *SANDAG, supra,* 3 Cal.5th at 509; *Newhall, supra,* 62 Cal.4th at 223.

[92] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

183. Second, the Scoping Plan attributes the vast majority of state GHG emissions to transportation, energy, and stationary source sectors over which local governments have little or no legal jurisdiction or control. A local government cannot prohibit the sale or use of gasoline or diesel-powered private vehicles, for example—nor can a local government regulate and redesign the state's power grid, or invent and mandate battery storage technology to capture intermittent electricity produced from solar and wind farms for use during evening hours and cloudy days.

184. The limited types of GHG measures that local governments can mandate (such as installation of rooftop solar, water conservation, and public transit investments) have very small—or no—measurable quantitative effect on GHG emission reductions. The 2017 Scoping Plan Appendix recommending local government action does not identify any measure that would contribute more than a tiny fraction toward reducing a community's per capita GHG emissions to six metric tons or two metric tons, respectively.

185. Additionally, under state law, local governments' authority to require more aggressive GHG reductions in buildings is subject to a cost-effectiveness test decided by the California Building Standards Commission ("CBSC")—the same CBSC that has already determined that "net zero", even for single family homes and even for just the electricity used in such homes, is *not* yet feasible or cost-effective to impose.[93]

186. Third, it is important to consider the per capita metrics that the 2017 Scoping Plan wants local governments to achieve in their localized climate action plans in a real world context. Since most of the world's energy is still produced from fossil fuels, energy consumption is still highly correlated to economic productivity and per capita incomes and other wealth-related metrics such as educational attainment and public health.[94] The suggested very low per capita

[93] California Energy Commission, 2019 Building Energy Efficiency Standards PreRulemaking Presentation - Proposed 2019 Building Energy Efficiency Standards ZNE Strategy (Aug. 24, 2017), http://docketpublic.energy.ca.gov/PublicDocuments/17-BSTD-01/TN220876_20170824T105443_82217_ZNE_Strategy_Presentation.pdf.

[94] See Mengpin Ge, Johannes Friedrich, and Thomas Damassa, 6 Graphs Explain the World's Top 10 Emitters, World Resources Institute (Nov. 25, 2014), https://wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters (see tables entitled "Per Capita Emissions for Top 10 Emitters" and "Emissions Intensity of Top 10 Emitters" showing that emissions are generally linked to GDP).

metrics in the 2017 Scoping Plan are currently only achieved by countries with struggling economies, minimal manufacturing and other higher wage middle income jobs, and extremely high global poverty rates.

187. Growing economies such as China and India bargained for, and received, permission to substantially increase their GHG emissions under the Paris Accord precisely because economic prosperity remains linked to energy use.[95] This is not news: even in the 1940's, the then-Sierra Club President confirmed that inexpensive energy was critical to economic prosperity AND environmental protection.

188. Nor has CARB provided the required economic or environmental analysis that would be required to try to justify its irrational and impractical new per capita GHG target requirements. As with CARB's project-level "net zero" CEQA threshold, the per capita CEQA expansion for CAPs does not quantify the GHG emission reductions to be achieved by this measure.

189. Finally, these targets effectively create CEQA thresholds as compliance with a CAP is recognized by the California Supreme Court as a presumptively valid CEQA compliance pathway. *Newhall, supra,* 62 Cal.4th at 230 (stating that local governments can use climate action plans as a basis to tier or streamline project-level CEQA analysis). The targets clearly establish CARB's position on what would (or would not) be consistent with the 2017 Scoping Plan and the State's long-term goals. Courts have stated that GHG determinations under CEQA must be consistent with the statewide CARB Scoping Plan goals, and that CEQA documents taking a goal-consistency approach to significance need to consider a project's effects on meeting the State's longer term post-2020 goals. Thus, these per capita targets are essentially self-implementing CEQA requirements that lead and responsible agencies will be required to use.

190. The CAP measure thus effectively eliminates the one predictable CEQA GHG compliance pathway that has been upheld by the courts, compliance with an adopted CAP. The

[95] Marianne Lavelle, *China, India to Reach Climate Goals Years Early, as U.S. Likely to Fall Far Short,* Inside Climate News (May 16, 2017), https://insideclimatenews.org/news/15052017/china-india-paris-climate-goals-emissions-coal-renewable-energy.

pathway that CARB's per capita GHG targets would unlawfully displace is fully consistent with the existing CEQA Guidelines adopted pursuant to full rulemaking procedures based on express Legislative direction.

191. In short, the 2017 Scoping Plan directs local governments to adopt CAPs—which the Supreme Court has explained must then be enforced—with per capita numeric GHG reduction mandates in sectors that local governments have no legal or practical capacity to meet, without any regard for the consequential losses to middle income jobs in manufacturing and other business enterprises, or to the loss of tax revenues and services from such lost jobs and businesses,[96] or to the highly disparate impact that such anti-jobs measures would have on minority populations already struggling to get out of poverty and afford housing.

192. While the 2017 Scoping Plan acknowledges that some local governments may have difficulty achieving the per capita targets if their communities have inherently higher GHG economic activities, such as agriculture or manufacturing, such communities are required to explain why they cannot meet the numeric targets—and withstand potential CEQA lawsuit challenges from anyone who can file a CEQA lawsuit.

193. As with CARB's project-level "net zero" CEQA threshold, CARB's new per capita GHG targets are entirely infeasible, unlawful, and disparately affect those in most need of homes they can afford with jobs that continue to exist in manufacturing, transportation, and other sectors having GHG emissions that are outside the jurisdiction and control of local governments.

[96] Just four states—Ohio, Pennsylvania, Georgia and Indiana—collectively have a population and economy comparable with California. With a combined gross product of $2.25 trillion in 2016, these four states would be the 8th largest economy in the world if considered a nation. Yet despite achieving five times more GHG emission reductions than California since 2007, in 2016 these four states had 560,000 fewer people in poverty and 871,000 more manufacturing jobs (including 200,000 new jobs from 2009 to 2017 compared with just 53,000 in California). U.S. Bureau of Labor Statistics, Monthly Total Nonfarm Employment, Seasonally Adjusted, https://www.bls.gov/data/; U.S. Bureau of Economic Analysis, Table 3. Current-Dollar Gross Domestic Product (GDP) by State, 2016:Q1-2017:Q3, https://www.bea.gov/newsreleases/regional/gdp_state/qgdpstate_newsrelease.htm; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; U.S. Census Bureau, 2016 American Community Survey 1-Year Estimates, Table B15001, Sex by age by educational attainment for the population 18 years and over, https://factfinder.census.gov/.

They are also inconsistent with current standards and common sense and result in unjustifiable disproportionate adverse impacts on California minorities, including Petitioners.

4. Appendix C "Vibrant Communities" Policies Incorporating Unlawful VMT, "Net Zero" and CO2 Per Capita Standards

194. Chapter 5 of CARB's 2017 Scoping Plan explains that notwithstanding the other GHG Housing Measures (*e.g.*, the VMT reduction mandated in Chapter 2), California must do "more" to achieve the 2030 Target. With this in mind, CARB purports to empower eight new state agencies—including itself—with a new, non-legislated role in the plan and project approval process for local cities and counties. This hodgepodge of unlegislated, and in many cases Legislatively-rejected, new "climate" measures is included in what the Scoping Plan calls a "Vibrant Communities" appendix.

195. Cities and counties have constitutional and statutory authority to plan and regulate land use, and related community-scale health and welfare ordinances. Cities and counties are also expressly required to plan for adequate housing supplies, and in response to the housing crisis and resulting poverty and homeless crisis, in 2017 the Legislature enacted 15 new bills designed to produce more housing of all types more quickly. These include: Senate Bills ("SB") 2, SB 3, SB 35, SB 166, SB 167, SB 540, SB 897, and Assembly Bills ("AB") 72, AB 73, AB 571, AB 678, AB 1397, AB 1505, AB 1515, and AB 1521.

196. The Legislature has periodically, and expressly, imposed new statutory obligations on how local agencies plan for and approve land use projects. For example, in recent years, the Legislature required a greater level of certainty regarding the adequacy of water supplies as well as expressly required new updates to General Plans, which serve as the "constitution" of local land use authority, to expressly address environmental justice issues such as the extent to which poor minority neighborhoods are exposed to disproportionately higher pollution than wealthier and whiter neighborhoods.

197. Local government's role in regulating land uses, starting with the Constitution and then shaped by scores of statutes, is where the "rubber hits the road" on housing: without local

government approval of housing, along with the public services and infrastructure required to support new residents and homes, new housing simply cannot get built.

198. The Legislature has repeatedly authorized and/or directed specific agencies to have specific roles in land use decisionmaking.

199. The Legislature also is routinely asked to impose limits on local land use controls that have been rejected during the legislative process, such as the VMT reduction mandates described above. The Vibrant Communities Scoping Plan appendix is a litany of new policies, many of which were previously considered and rejected by the Legislature, directing eight state agencies to become enmeshed in directing the local land use decisions that under current law remain within the control of cities and counties (and their voting residents) and not within any role or authority delegated by the Legislature.

200. Just a few examples of Vibrant Community Scoping Plan measures adopted by CARB that have been expressly considered and rejected by the Legislature or are not legal include:

(A) **Establishing mandatory development area boundaries (urban growth boundaries) around existing cities,** that cannot be changed even if approved by local voters as well as the city and county, to encourage higher density development (*e.g.*, multi-story apartments and condominiums) and to promote greater transit use and reduce VMT. An authoritative study that CARB funded, as well as other peer reviewed academic studies, show that there is no substantial VMT reduction from these high density urban housing patterns—although there is ample confirmation of "gentrification" (displacement of lower income, disproportionately minority) occupants from higher density transit neighborhoods to distant suburbs and exurbs where workers are forced to drive greater distances to their jobs.[97] Mandatory urban growth boundaries have been routinely rejected in the Legislature. See AB 721 (Matthews, 2003)

[97] UCLA Department of Urban and Regional Planning, Oriented For Whom? The Impacts of TOD on Six Los Angeles Neighborhoods (June 2, 2015), http://www.urbandisplacement.org/sites/default/files/images/spring_2015_tod.pdf.

(proposing the addition of mandatory urban growth boundaries in the land use element of municipalities' general plans).

(B) **Charging new fees for cities and counties to pay for "eco-system services"** such as carbon sequestration from preserved vegetation on open space forests, deserts, agricultural and rangelands. Taxes or fees could not be imposed on residents of Fresno or Los Angeles to pay for preservation of forests in Mendocino or watersheds around Mount Lassen unless authorized by votes of the people or the Legislature—*except* that payment of fees has become a widespread "mitigation measure" for various "impacts" under CEQA. The 2017 Scoping Plan's express approval of the "Vibrant Communities" Appendix creates a massive CEQA mitigation measure work-around that can be imposed in tandem with agency approvals of local land use plans and policies that entirely bypasses the normal constitutional and statutory requirements applicable to new fees and taxes. Since CEQA applies only to new agency approvals, this unlawful and unauthorized framework effectively guarantees that residents of newly-approved homes will be required to shoulder the economic costs of the additional "mitigation" measures. This idea of taxation has been rejected by voter initiatives such as Proposition 13 (which limits ad valorem tax on real property to 1 percent and requires a 2/3 vote in both houses to increase state tax rates or impose local special taxes) and Proposition 218 (requiring that all taxes and most charges on property owners are subject to voter approval).

(C) **Intentionally worsening roadway congestion**, even for voter-funded and CARB-approved highway and roadway projects, to "induce" people to rely more on walking, biking, and public transit, and reduce VMT. Efficient goods movement, and avoidance of congestion, on California's highways and roads is required under both federal and state transportation and air quality laws. This component of "Vibrant Communities" is another example of a VMT reduction mandate, but is even more flatly inconsistent with applicable laws and common sense. Voters have routinely approved funding for new carpool lanes and other congestion relief projects. The goods movement industry—which is linked to almost 40% of all economic activity in Southern California and is critical to agricultural and other product-based business sectors throughout

California—cannot function under policies that intentionally increase congestion.[98] CARB has itself approved hundreds of highway improvement projects pursuant to the Legislative mandates in SB 375—yet the "Vibrant Communities" appendix unilaterally rejects this by telling Californians not to expect any relief from gridlock, ever again. The Legislature and state agencies have also consistently rejected VMT reduction mandates. See SB 150 (Allen, 2017) (initially requiring regional transportation plans to meet VMT reductions but modified before passage); SB 375 (Steinberg, 2008) (early version stating bill would require regional transportation plan to include preferred growth scenario designed to achieve reductions in VMT but modified before passage).

(D) **Mileage-based road pricing strategies which charge a fee per miles driven.** These types of "pay as you drive" fees are barred by current California law, which prohibits local agencies from "imposing a tax, permit fee or other charge" in ways that would create congestion pricing programs. Vehicle Code § 9400.8. Yet CARB attempts to override a Legislative mandate via the 2017 Scoping Plan and its "Vibrant Communities" strategies.

201. Through the Vibrant Communities strategies, CARB attempts to give state agencies expansive authority and involvement in city and county decisionmaking. The 2017 Scoping Plan asserts that the Vibrant Communities strategies will reduce GHG emissions by an amount that is "necessary" to achieving California's 2030 Target. However, no effort is made by CARB to quantify the reductions it anticipates would result from injecting these agencies into local decisionmaking processes. Instead, CARB merely states that the "Vibrant Communities" appendix is a supposedly-necessary step to meet the 2030 Target.

202. The eight named state agencies CARB attempts to give unauthorized authority over local actions are:[99]

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[98] Edward Humes, *Four Easy Fixes for L.A. Traffic*, L.A. Times (Apr. 10, 2016), http://www.latimes.com/opinion/livable-city/la-oe-humes-why-cant-trucks-and-cars-just-get-along-20160410-story.html; Eleanor Lamb, *California Eyes Future Projects to Relieve Freight Congestion,* Transport Topics (Mar. 26, 2018), http://www.ttnews.com/articles/california-eyes-future-projects-relieve-freight-congestion.

[99] Several of the eight named agencies are parent agencies, each of which has several subordinate agencies and departments. If these are counted, they collectively elevate the number of state agencies being coopted to join in CARB's local land use power grab to nearly twenty.

(1) **Business, Consumer Services and Housing Agency**, which among other subordinate agencies includes the Department of Housing and Community Development (HCD), which alone among these agencies has direct statutory responsibility for designating housing production and corresponding land use planning requirements for cities and counties;

(2) **California Environmental Protection Agency**, which is the parent agency for CARB as well as several other agencies and departments;

(3) **California Natural Resources Agency**, another parent agency of subordinate agencies and departments;

(4) **California State Transportation Agency**, most notably **Caltrans** – which the Scoping Plan would redirect from implementing their statutory responsibilities to reduce congestion and facilitate transportation on the state's highways to instead advancing CARB's "road diet" policy of intentionally increasing congestion to satisfy CARB's desire to induce more public transit ridership;

(5) **California Health and Human Services Agency**, which among other duties administers health and welfare assistance programs;

(6) **California Department of Food and Agriculture**, which among other duties regulates food cultivation and production activities;

(7) **Strategic Growth Council**, formed in 2008 by SB 732, which is tasked with "coordinating" activities of state agencies to achieve a broad range of goals but has no independent statutory authority to regulate housing or local land use plans and projects; and

(8) **Governor's Office of Planning and Research**, which has statutory responsibility to issue the CEQA Guidelines as well as "advisory" guidelines for local agency preparation of General Plans pursuant to Gov. Code § 65040.

203. The "Vibrant Communities" Appendix includes provisions that conflict with applicable law and/or have been rejected by the Legislature and cannot now be imposed by CARB through the 2017 Scoping Plan given California's comprehensive scheme of agency-allocated land use obligations (certain agencies—such as California Department of Fish and

Game, the Regional Water Quality Control Boards, and the Coastal Commission—already possess land use authority or obligations based on statutory or voter-approved schemes).

204. If CARB intends that other agencies be imbued with similar land use authority, it should ask the Legislature for such authority for those agencies, not its own Board. The "Vibrant Communities" Appendix should be struck from the 2017 Scoping Plan for this reason.

205. Less housing that is more expensive (urban growth boundary)[100], increased housing cost (CEQA mitigation measure fees), and ever-worsening gridlock resulting in ever-lengthier commutes with ever-increasing vehicular emissions and ever-reduced time at home with children, is the dystopian "necessity" built into the "Vibrant Communities" appendix.

206. Bureaucrats and tech workers in the "keyboard" economy who can work remotely, with better wages, benefits and job security that remove the economic insecurity of lifetime renter status, should be just fine. They can live in small apartments in dense cities filled with coffee shops and restaurants, rely on home delivery of internet-acquired meals and other goods, and enjoy "flextime" jobs that avoid the drudgery of the five-day work week model.

207. But for the rest of the California populace—including particularly the people (disproportionately minorities) staffing those restaurants and coffee shops, delivering those goods, providing home healthcare and building and repairing our buildings and infrastructure, and those Californians that are actually producing food and manufacturing products that are consumed in California and around the world—"Vibrant Communities" is where they can't afford to live, where they sleep in their cars during the week, where they fall into homelessness for missing rental payments because of an illness or injury to themselves or a family member.[101] For these folks, "Vibrant Communities" amounts to an increase in poverty, homelessness, and premature "despair deaths" as well as permanent drop outs from the work force.

[100] Shishir Mathur, Impact of Urban Growth Boundary on Housing and Land Prices: Evidence from King County, Washington, Journal of Housing Studies Vol. 29 – Issue 1 (2014), https://tandfonline.com/doi/abs/10.1080/02673037.2013.825695.

[101] Alastair Gee, *Low-income workers who live in RVs are being 'chased out' of Silicon Valley streets,* The Guardian (June 29 2017), https://www.theguardian.com/us-news/2017/jun/29/low-income-workers-rvs-palo-alto-california-homeless.

208. For the foregoing reasons, the "Vibrant Communities" appendix is an unlawful and unconstitutional attempt by CARB to supplant existing local land use law and policy processes with a top-down regime that is both counterproductive and discriminatory against already-disadvantaged minority Californians, including but not limited to Petitioners.

E. CARB's Inadequate Environmental Analysis and Adverse Environmental Effects of the 2017 Scoping Plan

209. Along with the 2017 Scoping Plan, CARB prepared an EA purporting to comply with CEQA requirements.[102]

210. Under its certified regulatory program, CARB need not comply with requirements for preparing initial studies, negative declarations, or environmental impact reports. CARB's actions, however, remain subject to other provisions of CEQA. CEQA Guidelines § 15250.

211. CARB's regulatory program is contained in 17 C.C.R. §§ 60005, 60006, and 60007. These provisions require the preparation of a staff report at least 45 days before the public hearing on a proposed regulation, which report is required to be available for public review and comment. It is also CARB's policy "to prepare staff reports in a manner consistent with the environmental protection purposes of [ARB's] regulatory program and with the goals and policies of [CEQA]." The provisions of the regulatory program also address environmental alternatives and responses to comments on the EA.

212. For purposes of its CEQA review, CARB defined the project as the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Scoping Plan) and the recommended measures in the 2017 Plan (Chapter 2).

213. The Draft EA was released on or about January 20, 2017 for an 80-day public review period that concluded on or about April 10, 2017.

214. On or about November 17, 2017, CARB released the Final EA. CARB did not modify the Draft EA to bring it into compliance with CEQA's requirements.

[102] CARB has a regulatory program certified under Pub. Res. Code § 21080.5 and pursuant to this program CARB conducts environmental analyses to meet the requirements of CEQA.

215. The Final EA provides a programmatic analysis of the potential for adverse environmental impacts associated with implementation of the 2017 Scoping Plan. It also describes feasible mitigation measures for identified significant impacts.

216. The Final EA states that, although the 2017 Scoping Plan is a State-level planning document that recommends measures to reduce GHG emissions to achieve the 2030 target, and its approval does not directly lead to any adverse impacts on the environment, implementation of the measures in the Plan may indirectly lead to adverse environmental impacts as a result of reasonably foreseeable compliance responses.

217. The Final EA also states that CARB expects that many of the identified potentially significant impacts can be feasibly avoided or mitigated to a less-than-significant level either when the specific measures are designed and evaluated (e.g., during the rulemaking process) or through any project-specific approval or entitlement process related to compliance responses, which typically requires a project-specific environmental review.

218. The EA violated CEQA by failing to comply with its requirements in numerous ways, as described below.

1. Deficient Project Description

219. The EA's Project description was deficient because CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan (in Chapters 2 and 5) and thus the "project" for CEQA purposes should have been defined to include potential direct and indirect impacts on the environment from the four GHG Housing Measures. Instead, CARB described the Project for CEQA purposes as the measures only in Chapter 2 of the 2017 Scoping Plan.

220. CARB has acknowledged that Chapter 5 of the 2017 Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the

Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[103] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

221. The VMT reduction requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy".[104] Chapter 2 is included in the description of the Project in the EA but Chapter 5 is not, despite the fact that the VMT reduction mandate is found in both chapters.

222. For this reason, CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes.

2. Improper Project Objectives

223. The Project objectives in the EA are also improperly defined in relation to the 2017 Scoping Plan, the unlawful GHG Housing Measures, and the goals explained in the 2017 Scoping Plan.[105] The EA states that the primary objectives of the 2017 Scoping Plan are:

- Update the Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions to reflect the 2030 target;
- Pursue measures that implement reduction strategies covering the State's GHG emissions in furtherance of executive and statutory direction to reduce GHG emissions to at least 40 percent below 1990 levels by 2030;
- Increase electricity derived from renewable sources from one-third to 50 percent;
- Double efficiency savings achieved at existing buildings and make heating fuels cleaner;
- Reduce the release of methane and other short-lived climate pollutants;

[103] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

[104] Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

[105] Appendix F to 2017 Scoping Plan, Final Environmental Analysis for the Strategy for Achieving California's 2030 Greenhouse Gas Target, p. 10-11, https://www.arb.ca.gov/cc/scopingplan/2030sp_appf_finalea.pdf.

- Pursue emission reductions that are real, permanent, quantifiable, verifiable and enforceable;
- Achieve the maximum technologically feasible and cost-effective reductions in GHG emissions, in furtherance of reaching the statewide GHG emissions limit;
- Minimize, to the extent feasible, leakage of emissions outside of the State;
- Ensure, to the extent feasible, that activities undertaken to comply with the measures do not disproportionately impact low-income communities;
- Ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, efforts to achieve and maintain the NAAQS and CAAQS and reduce toxic air contaminant ("TAC") emissions;
- Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health;
- Minimize, to the extent feasible, the administrative burden of implementing and complying with the measure;
- Consider, to the extent feasible, the contribution of each source or category of sources to statewide emissions of GHGs;
- Maximize, to the extent feasible, additional environmental and economic benefits for California, as appropriate;
- Ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

224. Because CARB used the unlawful "cumulative gap" methodology to calculate the emission reductions that it was required to achieve by 2030, the 2017 Scoping Plan does not meet the project objectives as described in the EA, *i.e.*, to meet the 2030 Target.

225. As explained throughout this Petition, CARB's 2017 Scoping Plan and the unlawful GHG Housing Measures are not cost-effective, are contrary to law, are not equitable to all Californians, and will increase criteria and TAC emissions preventing attainment of the NAAQS and CAAQS

226. For this reason, other alternatives to the 2017 Scoping Plan, including an alternative without the GHG Housing Measures, should have been assessed in the EA.

3. Illegal Piecemealing

227. CEQA requires an environmental analysis to consider the whole of the project and not divide a project into two or more pieces to improperly downplay the potential environmental impacts of the project on the environment.

228. CARB improperly piecemealed its 2017 Scoping Plan and the GHG Housing Measures within it from its similar and contemporaneous SB 375 GHG target update.[106] Both projects address mandated GHG reductions based on VMT and thus should have been addressed as one project for CEQA purposes.

229. In separately issuing the 2017 Scoping Plan and the SB 375 GHG target update, CARB improperly piecemealed a project under CEQA and thus the EA is inadequate as a matter of law.

4. Inadequate Impact Analysis

230. The analysis in the EA also was deficient because the EA did not analyze impacts from implementing the four GHG Housing Measures in Chapter 5, including, but not limited to, the CEQA net zero threshold, the VMT limits, and per capita GHG CAP targets, and the suite of Vibrant Communities measures.

231. Potential environmental impacts from these GHG Housing Measures overlap substantially with similar high density, transit-oriented, automobile use reduction measures included in regional plans to reduce GHGs from the land use and transportation sectors under SB 375. CARB has reviewed and approved more than a dozen SB 375 regional plans, each of which is informed by its own "programmatic environmental impact report ("PEIR").

232. Each PEIR for each regional plan has identified multiple significant adverse environmental impacts which cannot be avoided or further reduced with feasible mitigation

[106] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), https://www.arb.ca.gov/cc/sb375/sb375.htm.

measures or alternatives.[107] In the first regional plan adopted for the SCAG region, California's most-populous region, the PEIR compared the impacts of developing all new housing within previously-developed areas in relation to developing half of such new housing in such areas, and the other half in previously-undeveloped areas near existing major infrastructure like freeways.

233. The SCAG 2012 PEIR concluded that the all-infill plan caused substantially more unavoidable significant adverse environmental impacts in relation to the preferred plan which divided new development equally between infill and greenfield locations.[108]

234. Following public comments and refinement of the PEIR (inclusive of the addition and modification of various mitigation measures to further reduce significant adverse environmental impacts), SCAG approved the mixed infill/greenfield plan instead of the all-infill alternative. CARB then approved SCAG's plan—first in 2012 and then again in 2016—as meeting California's applicable statutory GHG reduction mandates.[109]

235. The Scoping Plan's GHG Housing Measures now direct an infill only (or mostly infill) outcome, which SCAG's 2012 PEIR assessed and concluded caused far worse environmental impacts, even though it would result in fewer GHG emissions. In other words, SCAG's PEIR—and the other regional land use and transportation plan PEIRs prepared under SB 375—all disclosed a panoply of adverse non-GHG environmental impacts of changing California's land use patterns, and shaped both their respective housing plans and a broad suite of mitigation measures to achieve California's GHG reduction mandates while minimizing other adverse environmental impacts to California.

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[107] See SB 375 "Sustainable Communities Strategies" review page at https://www.arb.ca.gov/cc/sb375/sb375.htm, which includes links to the regional land use and transportation plans for multiple areas (which then further link to the PEIRs).

[108] SCAG, Final PEIR for the 2012-2035 RTP/SCS (April 2012), http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx.

[109] CARB Executive Order accepted the SCAG determination that its regional plan that balanced infill and greenfield housing development, and increased transit investments to encourage greater transit use without any VMT reduction mandate, would meet the GHG reduction targets mandated by law. See generally https://www.arb.ca.gov/cc/sb375/sb375.htm.

236. CARB's willful refusal to acknowledge, let alone analyze, the numerous non-GHG environmental impacts of its GHG Housing Measures in the 2017 Scoping Plan EA is an egregious CEQA violation.

237. Based on the greater specificity and the significant unavoidable adverse non-GHG environmental impacts identified in regional SB 375 plan PEIRs, the EA here clearly did not fully analyze the potential adverse environmental impacts from creating high-density, transit-oriented development that will result from the measures in the 2017 Scoping Plan, such as:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

238. CARB failed to complete a comprehensive CEQA evaluation of these and related reasonably foreseeable impacts from forcing all or most development into higher densities within existing urban area footprints, intentionally increasing congestions and prohibiting driving, and implementing each of the many measures described in the "Vibrant Communities" appendix. The

EA failed to identify, assess, and prescribe feasible mitigation measures for each of the significant unavoidable impacts identified above.

F. CARB's Insufficient Fiscal Analysis and Failure To Comply with the APA's Cost-Benefit Analysis Requirements

239. The APA sets out detailed requirements applicable to state agencies proposing to "adopt, amend or repeal any administrative regulation." Gov. Code § 11346.3.

240. CARB is a state agency with a statutory duty to comply with the rulemaking laws and procedures set out in the APA.

241. The APA requires that CARB, "prior to submitting a proposal to adopt, amend, or repeal a regulation to the office [of Administrative Law], shall consider the proposal's impact on business, with consideration of industries affected including the ability of California businesses to compete with businesses in other states. For purposes of evaluating the impact on the ability of California businesses to compete with businesses in other states, an agency shall consider, but not be limited to, information supplied by interested parties." Gov. Code § 11346.3(a) (2).

242. The APA further requires that "[a]n economic assessment prepared pursuant to this subdivision for a major regulation proposed on or after November 1, 2013, shall be prepared in accordance with subdivision (c), and shall be included in the initial statement of reasons as required by Section 11346.2." Gov. Code § 11346.3(a)(3).

243. CARB's new GHG Housing Measures will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000) and therefore constitute a "major regulation" within the meaning of the APA and the California Department of Finance regulations incorporated therein. Gov. Code § 11346.3(c); 1 C.C.R. § 2000(g).

244. In adopting its 2017 Scoping Plan, CARB has failed to comply with these and other economic impact analysis requirements of the APA.

245. The 2017 Scoping Plan continues CARB's use of highly aggregated macroeconomic models that provide almost no useful information about potential costs and

impacts in industries and households. The LAO, an independent state agency, has consistently pointed out the flaws in CARB's approach since the first Scoping Plan was developed in 2008.

246. CARB's disregard of the APA's economic impact analysis requirements in issuing the 2017 Scoping Plan is only the latest example of a repeated flouting of the APA's requirements in pursuit of its pre-determined regulatory goals. The inadequacy of CARB's compliance with APA requirements has been documented in multiple LAO documents, including the following:

- In a November 17, 2008 letter to Assembly Member Roger Niello,[110] the LAO found that "ARB's economic analysis raises a number of questions relating to (1) how implementation of AB 32 was compared to doing BAU, (2) the incompleteness of the ARB analysis, (3) how specific GHG reduction measures are deemed to be cost-effective, (4) weak assumptions relating to the low-carbon fuel standard, (5) a lack of analytical rigor in the macroeconomic modeling, (6) the failure of the plan to lay out an investment pathway, and (7) the failure by ARB to use economic analysis to shape the choice of and reliance on GHG reduction measures."
- In a March 4, 2010 letter to State Senator Dave Cogdill,[111] the LAO stated that while large macroeconomic models used by CARB in updated Scoping Plan assessments can "capture some interactions among broad economic sectors, industries, consumer groupings, and labor markets," the ability of these models to "adequately capture behavioral responses of households and firms to policy changes is more limited. Additionally, because the data in such models are highly aggregated, they capture at best the behavioral responses of hypothetical "average" households and firms and do not score well in capturing and predicting the range of behavioral responses to policy changes that can occur for individual or subgroupings of households or firms. As a result, for example, the adverse jobs impacts—including job losses associated with those firms that are especially negatively impacted by the Scoping Plan—can

[110] LAO, http://www.lao.ca.gov/2008/rsrc/ab32/AB32_scoping_plan_112108.pdf.

[111] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_impact/ab32_impact_030410.aspx.

be hard to identify since they are obscured within the average outcome." The letter further noted multiple ways that the SP could affect jobs.

- Similarly, in a June 16, 2010 letter to Assembly Member Dan Logue,[112] the LAO found that CARB's revision to CARB's 2008 Scoping Plan analysis "still exhibits a number of significant problems and deficiencies that limit its reliability. These include shortcomings in a variety of areas including modeling techniques, identification of the relative marginal costs of different SP measures, sensitivity and scenario analyses, treatment of economic and emissions leakages, identification of the market failures used to justify the need for the regulations selected, analysis of specific individual regulations to implement certain Scoping Plan measures, and various data limitations." As a result, the LAO concluded that, contrary to CARB's statutory mandates, "The SP May Not Be Cost-Efficient." Given these and other issues, it is unclear whether the current mix and relative importance of different measures in the Scoping Plan will achieve AB 32's targeted emissions reductions in a cost-efficient manner as required."
- In a June 2017 presentation to the Joint Committee on Climate Change Policies, *Overview of California Climate Goals and Policies,*[113] and after the draft 2017 Scoping Plan had been released for public review, the LAO concluded that "To date, there have been no robust evaluations of the overall statewide effects—including on GHG reductions, costs, and co-pollutants—of most of the state's major climate policies and spending programs that have been implemented."

247. CARB's persistent failure to address the APA's economic analysis requirements, and its penchant for "jumping the gun" by taking actions without first complying with CEQA and other rulemaking requirements, also has drawn criticism from the courts.

[112] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_logue_061610/ab32_logue_061610.pdf.

[113] LAO, http://lao.ca.gov/handouts/resources/2017/Overview-California-Climate-Goals-Policies-061417.pdf.

248. In *Lawson v. State Air Resources Board* (2018) 20 Cal.App.5th 77, 98, 110-116 ("*Lawson*"), the Fifth District Court of Appeal, in upholding Judge Snauffer's judgment, found both that CARB "violated CEQA by approving a project too early" and that it also violated the APA. The Court explained the economic impact assessment requirements of the APA "granularly" to provide guidance to CARB for future actions and underscored that "an agency's decision to include non-APA compliant interpretations of legal principles in its regulations will not result in additional deference to the agency", because to give weight or deference to an improperly-adopted regulation "would permit an agency to flout the APA by penalizing those who were entitled to notice and opportunity to be heard but received neither." *Id.* at 113. Despite these recent warnings, CARB has chosen to proceed without complying with CEQA or the APA.

249. CARB's use of the improper "cumulative gap" methodology to determine the GHG reductions it claims are necessary for the 2017 Scoping Plan to meet the 2030 Target means that the inputs for the CARB FA were improper. The FA, which is supposed to inform policymakers and the public about the cost-effectiveness and equity of the Scoping Plan measures, is based on meeting the 621 $MMTCO_2e$ GHG "cumulative gap" reduction requirement invented by CARB.

250. In fact, the final FA adopted by CARB indicates that an earlier version was based on the asserted "need" to fill an even larger "cumulative gap" of 680 $MMTCO_2e$. This improper analysis renders the FA and the cost analysis required under the APA invalid.

G. The Blatantly Discriminatory Impacts of CARB's 2017 Scoping Plan

251. CARB has recognized that "[i]t is critical that communities of color, low-income communities, or both, receive the benefits of the cleaner economy growing in California, including its environmental and economic benefits." Scoping Plan, p. 15.

252. The GWSA specifically provides, at H&S Code § 38565, that: "The state board shall ensure that the greenhouse gas emission reduction rules, regulations, programs, mechanisms, and incentives under its jurisdiction, where applicable and to the extent feasible, direct public and private investment toward the most disadvantaged communities in California and provide an opportunity for small businesses, schools, affordable housing associations, and other community

institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions."

253. CARB's standards, rules, and regulations also must, by statute, be consistent with the state goal of providing a decent home and suitable living environment for every Californian. H&S Code § 39601(c). This includes affordable housing near jobs for hard working, low-income minority families.

254. California produces less than one percent of global GHG emissions, and has lower per capita GHG emissions than any other large state except New York, which unlike California still has multiple operating nuclear power plants to reduce its GHG emissions.[114]

255. As Governor Brown and many others have recognized, California's climate change leadership depends not on further mass reductions of the one percent of global GHG emissions generated within California, but instead on having other states and nations persuaded to follow the example already set by California.

256. In any event, as recently demonstrated in a joint study completed by scholars from the University of California at Berkeley and regulators at the Bay Area Air Quality Management District ("BAAQMD")[115], high wealth households cause far more global GHG emissions than middle-class and poor households. The Scoping Plan ignores this undisputed scientific fact and unfairly, and unlawfully, seeks to burden California's minority and middle-class households in need of affordable housing with new regulatory costs and burdens that do not affect existing, wealthier homeowners who "already have theirs".

257. California has the nation's highest poverty rate, highest housing prices, greatest housing shortage, highest homeless population—and highest number of billionaires.[116] While it is

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[114] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[115] BAAQMD and Cool Climate Network at UC Berkeley, Consumption Based GHG Emissions Inventory (2016), http://www.baaqmd.gov/research-and-data/emission-inventory/consumption-based-ghg-emissions-inventory.

[116] David Friedman, Jennifer Hernandez, California's Social Priorities, Holland & Knight, Chapman University Press (2015), https://perma.cc/XKB7-4YK4; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html.

not the function of the courts to address economic inequalities, the federal and state Constitutions prohibit the State from enacting regulatory provisions that have the inevitable effect of unnecessarily and disproportionately disadvantaging minority groups by depriving them of access to affordable housing that would be available in greater quantity but for CARB's new GHG Housing Measures.

258. Members of hard working minority families, in contrast to wealthier white elites, currently are forced to "drive until they qualify" for housing they can afford to own, or even rent.[117] As a result, long-commute minority workers and their families then suffer a cascading series of adverse health, educational and financial consequences.[118]

259. It is well-documented and undisputed, in the record that the current housing shortage—which CARB's regulations would unnecessarily exacerbate—falls disproportionately on minorities. As stated in a United Way Study, "Struggling to Get By: The Real Cost Measure in California 2015" [119]: "Households led by people of color, particularly Latinos, disproportionately are likely to have inadequate incomes. Half (51%) of Latino households have incomes below the Real Cost Measure,[120] the highest among all racial groups. Two in five (40%) of African American households have insufficient incomes, followed by other races/ethnicities (35%), Asian Americans (28%) and white households (20%)." Put simply, approximately 80% of the poorest households in the State are non-white families.

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[117] Mike McPhate, *California Today: The Rise of the Super Commuter,* N.Y. Times (Aug. 21, 2017), https://www.nytimes.com/2017/08/21/us/california-today-super-commutes-stockon.html; Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[118] Rebecca Smith, Here's the impact long commutes have on your health and productivity, *Business Insider* (May 22, 2017), http://www.businessinsider.com/long-commutes-have-an-impact-on-health-and-productivity-2017-5.

[119] Betsy Block et al, Struggling to Get By: The Real Cost Measure in California 2015 (2016), p. 10, https://www.norcalunitedway.org/sites/norcalunitedway.org/files/Struggling_to_Get_By_3.pdf.

[120] The United Way study uses the "Real Cost Measure" to take account of a family budget to meet basic needs, composed of "costs all families must address such as food, housing, transportation, child care, out-of-pocket health expenses, and taxes." *Id.*, p. 8.

260. As noted in the same report: "Housing costs can consume almost all of a struggling household's income. According to Census Bureau data, housing (rent, mortgage, gas/electric) makes up 41% of household expenses in California. . . . Households living above the Federal Poverty Level but below the Real Cost Measure spend almost half of their income on rent (and more in many areas), and households below the Federal Poverty Level, however, report spending 80% of their income on housing, a staggering amount that leaves precious little room for food, clothing and other basics of life." *Id.*, p. 65.[121]

261. As further documented in the United Way report presented to CARB: "Recognizing that households of all kinds throughout the state are struggling should not obscure one basic fact: race matters. Throughout Struggling to Get By, we observe that people of Latino or African American backgrounds (and to a lesser extent Asian American ones) are less likely to meet the Real Cost Measure than are white households, even when the families compared share levels of education, employment backgrounds, or family structures. While all families face challenges in making ends meet, these numbers indicate that families of color face more obstacles in attempting to achieve economic security."[122]

262. Against this background, CARB's new GHG Housing Measures, which disproportionately harm housing-deprived minorities while not materially advancing the cause of GHG reductions, cannot be justified. CARB's new GHG Housing Measures, facially and as applied to the housing sector in particular, are not supported by sound scientific analysis and are in fact counterproductive. CARB's new GHG Housing Measures establish presumptive legal standards under CEQA that currently impose, as a matter of law, costly new mitigation obligations that apply only to housing projects proposed now and in the future to meet

[121] In addition, family wealth of homeowners has increased in relation to family wealth of renters over time and a homeowners' net worth is 36 times greater than a renters' net worth. Jesse Bricker, et al., Changes in US Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances, 100 Fed. Reg. Bull. 4 (Sept. 2014), https://www.federalreserve.gov/pubs/bulletin/2014/articles/scf/scf.htm.

[122] *Id.* p. 75. Studies predict that the 2014-2016 dataset will show a wealth differential between homeowners and renters of 45 times. Lawrence Yun, *How Do Homeowners Accumulate Weath?*, Forbes (Oct. 14, 2015), https://www.forbes.com/sites/lawrenceyun/2015/10/14/how-do-homeowners-accumulate-wealth/#7eabbecd1e4b.

California's current shortfall of more than three million homes that experts and the Governor-elect agree are needed to meet current housing needs. Two specific examples are provided below.

263. By establishing a new "net zero" GHG CEQA significance threshold for all new projects, CARB has created a new legal obligation for such new projects to "mitigate" to a "less than significant" level all such GHG impacts. The California Air Pollution Control Officers Association ("CAPCOA"), which consists of the top executives of all of the local and regional air districts in California, has developed a well-established model for calculating GHG emissions from such new projects called The California Emissions Estimator Model ("CalEEMod").[123] This model is in widespread use throughout the state, and has been determined by the California Supreme Court to be a valid basis for estimating GHG emissions from residential projects for purposes of CEQA. *Newhall,* supra, 62 Cal.4th at 217-218.

264. CalEEMod calculates GHG emissions for 63 different types of development projects, including multiple types of residential projects. The scientific and legal framework of CalEEMod is the foundational assumption that all GHG project emissions are "new" and would not occur if the proposed project was not approved or built.

265. Within this overall framework, CalEEMod identifies GHG emissions that occur during construction (e.g., from construction vehicles and construction worker vehicular trips to and from the project site), and during ongoing project occupancy by new residents. GHG occupancy or "operational" emissions include GHG emissions from offsite electricity produced to serve the project, from onsite emissions of GHG from natural gas appliances, from on- and off-site GHG emissions associated with providing drinking water and sewage treatment services to the project, from vegetation removal and planting, and from vehicular use by project occupants on an ongoing basis. *See, e.g.*, Appendix A of CalEEMod[124]; South Coast Air Quality Management District User's Guide to CalEEMod[125].

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[123] Available at: http://www.caleemod.com/.

[124] CalEEMod Appendix A: Calculation Details for CalEEMOd, available at: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf.

[125] CalEEMod User's Guide, available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

266. Under the CalEEMod CEQA compliance framework, if the project does not occur then the GHG emissions do not occur—notwithstanding the practical and obvious fact that people who cannot live in new housing they can afford must still live somewhere, where they will still engage in basic activities like consuming electricity, drinking water, and driving cars.

267. Under CEQA, a "significant" environmental impact is required to be "mitigated" by measures that avoid or reduce the significance of that impact by all "feasible" means. Pub. Res. Code § 21102. The CEQA Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal , social and technological factors." 14 C.C.R. § 15364.

268. The first of two examples of immediate and ongoing harm relates to the increased cost of housing caused by the "net zero" threshold. Before the 2017 Scoping Plan was approved, no agency or court had ever required a "net zero" GHG threshold. The only example of a residential project that met this target involved a voluntary commitment by the project applicant to a "net zero" project, in which 49% of the project's GHG emissions were "offset" by GHG reductions to be achieved elsewhere (e.g., funding the purchase of cleaner cook stoves in Africa) and paid for by higher project costs.

269. There is no dispute that funding these types of GHG reduction measures somewhere on Earth is "feasible" taking into account three of CEQA's five "feasibility" factors (environmental, social and technological). With housing costs already nearly three times higher in California than other states, home ownership rates far lower, and housing-induced poverty rates the highest in the nation, it remains possible – in theory – to demonstrate that in the context of a given housing project, adding $15,000-$30,000 more to the price of a home to fund the purchase of cleaner cook stoves in Africa, for example, would not be "legally" or "economically" feasible.

270. This theoretical possibility of demonstrating that any particular mitigation cost results in "economic infeasibility" has not succeeded, however, for any housing project in the nearly-50 year history of CEQA. A lead agency decision that a mitigation measure is infeasible must be supported by substantial evidence in the record—effectively the burden is placed on the project applicant to prove this latest "net zero" increment of mitigation costs is simply too

expensive and will make the project "infeasible." No court has found that a housing project has met this burden. *See, e.g.*, *Uphold our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587. Further, this infeasibility evaluation applies to the applicant for the housing project, not prospective future residents—simply raising housing prices affordable only to wealthier buyers.

271. The CEQA mitigation criterion of legal infeasibility is likewise illusory when applied to the GHG mitigation measures required to achieve a "net zero" significance threshold. Although there is some judicial precedent recognizing that lead agencies cannot impose CEQA mitigation obligations outside their jurisdictional boundaries (e.g, in adjacent local jurisdictions), this precedent—like OPR's definitive regulatory conclusion that CEQA cannot be used to impose a "net zero" threshold even and specifically within the context of GHG—is directly challenged by the 2017 Scoping Plan, which cited with approval the one "net zero" GHG residential project that relied in part on offsite (off-continent) GHG reduction measures.

272. This "legal infeasibility" burden of proof also is extremely high under CEQA. For example, the California Supreme Court considered in *City of San Diego, et al. v. Board of Trustees of California State University* (2015) 61 Cal.4th 945, the University's "economic infeasibility" argument in relation to making very substantial transfer payments to local government to help fund local highway and transit infrastructure, which would be used in part by the growing student, faculty and staff for the San Diego campus. Although the Court acknowledged that the Trustees had expressly requested, and been denied, funding by the Legislature to help pay for these local transportation projects, the Court did not agree this was adequate to establish economic infeasibility under CEQA since the Trustees could have sought alumni donations or funding from other sources, or elected to stop accommodating new students in San Diego and instead grown other campuses with potentially lower costs. When CARB's "net zero" GHG measures are coupled with the "legal infeasibility" burden of proof, the result is a legal morass that frustrates the efforts of local governments to implement the Legislature's pro-housing laws and policies, to the detriment of under-housed minorities, including Petitioners.

273. The second example of immediate and ongoing harm is CARB's direct intervention in projects already in CEQA litigation by opining on the acceptable CEQA

mitigation for GHG emissions from fuel use, which typically create the majority of GHG emissions from new housing projects. In a long series of evolving regulations including most recently the 2018 adoption of new residential Building Code standards[126], and in compliance with the consumer protection and cost-effectiveness standards required for imposing new residential Building Code requirements established by the Legislature (Pub. Resources Code §§ 25402(b)(3), (c)(1); 25943(c)(5)(B)), California law requires new residences to be better insulated, use less electricity, install the most efficient appliances, use far less water (especially for outdoor irrigation), generate electricity (from rooftop solar or an acceptable alternative), and transition to future electric vehicles. These and similar measures have substantially reduced the GHG emissions from ongoing occupancy of new housing.

274. Under the CalEEMod methodology, however, gasoline and hybrid cars used by new residents are also counted as "new" GHG emissions attributed to that housing project – and these vehicular GHG emissions now account for the vast majority of a typical housing project's GHG emissions.[127]

275. In 2017, the Legislature expanded its landmark "Cap and Trade" program establishing a comprehensive approach for transitioning from fossil fuels to electric or other zero GHG emission technologies, which already includes a "wells to wheels" program for taxing oil and natural gas extraction, refinement, and ultimate consumer use.[128] CARB has explained that the Cap and Trade Program requires fuel suppliers to reduce GHG emissions by supplying low

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[126] See California Building Standards Commission, 2018 Triennial Code Adoption Cycle, available at: http://www.bsc.ca.gov/Rulemaking/adoptcycle/2018TriennialCodeAdoptionCycle.aspx. *See also* California Energy Code, California Code of Regulations, Title 24, Part 6; Building Energy Efficiency Standards (2019 update).

[127] In the Northlake project challenged in a comment letter citing noncompliance with the 2017 Scoping Plan discussed *supra* ¶ 42, for example, total project GHG emissions after mitigation were 56,722 metric tons, of which mobile sources from vehicles comprised 53,863 metric tons. Los Angeles County, Draft Supplemental EIR (May 2017), Table 5.7-3 (p. 5.7-26), available at https://scvhistory.com/scvhistory/files/northlakehills_deir_0517/northlakehills_deir_0517.pdf

[128] A.B. 398, 2017 (California Global Warming Solutions Act of 2006: market-based compliance mechanisms: fire prevention fees: sales and use tax manufacturing exemption).

carbon fuels or purchasing allowances to cover the GHG emissions produced when the conventional petroleum-based fuels they supply are burned.

276. Specifically, as part of the formal rulemaking process for the Cap and Trade Legislation, CARB staff explained in its *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap and Trade Program*, that:

> To cover the emissions from transportation fuel combustion and that of other fuels by residential, commercial, and small industrial sources, staff proposes to regulate fuel suppliers based on the quantifies of fuel consumed by their customers. … Fuel suppliers are responsible for the emissions resulting from the fuel they supply. In this way, a fuel supplier is acting on behalf of its customers who are emitting the GHGs … Suppliers of transportation fuels will have a compliance obligation for the combustion of emissions from fuel that they sell, distribute, or otherwise transfer for consumption in California. … [B]ecause transportation fuels and use of natural gas by residential and commercial users is a significant portion of California's overall GHG emissions, ***the emissions from these sources are covered indirectly through the inclusion of fuel distributers [in the Cap and Trade program]***."(emphasis added).[129]

277. CARB's express recognition of the fact that the Cap and Trade program "covers" emissions from the consumption of fossil fuels in the Cap and Trade regulatory approval process, in marked contrast with the challenged Housing Measures in the 2017 Scoping Plan, was subject to its own comprehensive environmental and economic analysis – which in no way disclosed, analyzed, or assessed the impacts of forcing residents of new housing to pay for GHG emission reductions from their fossil fuel uses at the pump (and in electricity bills) like their already-housed neighbors, and then paying *again – double-paying* – in the form extra GHG mitigation measures for the *same emissions*, resulting in higher housing costs.

278. The 2017 Scoping Plan likewise entirely omitted any analysis of the double-charging of residents of new homes for GHG emissions from the three million new homes the state needs to build to solve the housing crisis. Simply put, CARB should not now be permitted to use what purports to be only an "advisory" 2017 Scoping Plan to disavow and undermine its

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[129] CARB. October 2011. California's Cap-And-Trade Program Final Statement of Reasons, p. 2: https://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf; (incorporating by reference CARB. October 28, 2010. Staff Report: *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap-and-Trade Program Part 1, Vol. 1,* pp. II-10, II-20, II-21, 11-53: https://www.arb.ca.gov/regact/2010/capandtrade10/capisor.pdf)

formal rulemaking statement for the Cap and Trade regulations, nor can CARB use this asserted "advisory" document to invent the new CEQA GHG mitigation mandates (and preclude use of Cap and Trade as CEQA mitigation) without going through a new regulatory process to amend its Cap and Trade program.

279. Whether compliance with Cap and Trade for fossil fuels used to generate electricity or power cars used by a particular project is an adequate mitigation measure for GHG under CEQA has been hotly contested in past and pending CEQA lawsuits. In *Newhall*, *supra*, 62 Cal.4th 204, one of the approved GHG compliance pathways for CEQA identified by the Court was compliance with applicable laws and regulations. That case was extensively briefed by numerous advocates (*see* Opening Brief on the Merits, *Center for Biological Diversity v. California Department of Fish and Game* (2015) 62 Cal.4th 204 (No. 5-S217763), and Consolidated Reply Brief, *Center for Biological Diversity v. California Department of Fish and Game*, (2015) 62 Cal.4th 204 (No. 9-S217763), which urged the Court to conclude as a matter of law that CEQA requires "additive" mitigation beyond what is otherwise required to comply with applicable environmental, health and safety laws.

280. Neither the appellate courts nor Supreme Court have imposed this novel interpretation of the GHG mandates imposed by CEQA as a newly discovered legal requirement lurking within this 1970 statute. As noted above, the Supreme Court declined to do so by expressly recognizing that compliance with law was one of several compliance "pathways" for addressing GHG impacts under CEQA. (*Newhall, supra,* 62 Cal.4th at 229). (*See also, Center for Biological Diversity et al. v. Department of Fish and Game* (2014) 224 Cal.App.4th 1105.)[130]

281. Consistent with this Supreme Court directive, and informed by both the Legislative history of the Cap and Trade program and by CARB's contemporaneous explanation that compliance with Cap and Trade is indeed the sole GHG mitigation required for fossil fuel use, several projects have mitigated GHG emissions from fossil fuel by relying on the legislated,

[130] This appellate court decision, which was reversed and remanded by the Supreme Court decision in the same case, is cited as evidence for the proposition that what constitutes adequate mitigation for GHG impacts under CEQA has been hotly contested in the courts.

and regulated, Cap and Trade program and similar legislative as well as regulatory mandates to reduce GHG emissions from fossil fuel. This has been accomplished through measures such as the Low Carbon Fuel Standards, which collectively and comprehensively mandate prescribed reductions in GHG emissions from fossil fuel use.

282. This approach has been expressly upheld by the Fifth District Court of Appeal in *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708 ("*AIR*"). Although the project at issue was a refinery source that was itself clearly included within the category of industrial operations directly regulated by the Cap and Trade Program, opponents challenged that project's reliance on the Cap and Trade program for non-refining GHG emissions such as GHG emissions produced offsite by the electricity producers that provided power to the consumer power grid, and by vehicles used by contractors and employees engaged in refinery construction and operational activities. *See, e.g.*, Appellants' Opening Brief, *AIR*, *5th Dist. Case No. F073892 (December 9, 2016) at 29 (arguing that "[c]ap-and-trade does not apply to greenhouse gas emissions from trains, trucks, and building construction . . . .") and at 34-35 (arguing that participation in the cap and trade program is inadequate mitigation for project emissions). The CEQA lead agency and respondent project applicant argued that reliance on Cap and Trade as CEQA mitigation was lawful and sufficient under CEQA. *See* Joint Respondents' Brief, *AIR*, 5th Dist. Case No. F073892 (March 10, 2017), at 52-56 (arguing that "The EIR Properly Incorporated GHG Emission Reductions Resulting From Cap-and-Trade In The Environmental Analysis").

283. The Fifth District concluded that compliance with the Cap and Trade program for the challenged project were adequate CEQA GHG mitigation. That case was then unsuccessfully challenged, and unsuccessfully petitioned for depublication, by numerous advocates that continued to assert that CEQA imposes an "additive" GHG mitigation obligation that could not be met by paying the higher fuel costs imposed by the Cap and Trade program.[131]

[131] *See* Letter from CARB to City of Moreno Valley regarding Final Environmental Impact Report for World Logistics Center, available at: https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf.

284. California already has the highest gasoline prices of any state other than Hawaii. CARB has consistently declined to disclose how much gasoline and diesel prices would increase under the 2017 Cap and Trade legislation. The non-partisan LAO completed an independent analysis of this question, and in 2017 concluded that under some scenarios, gasoline would increase by about 15¢ per gallon – and in others by about 73¢ per gallon. The LAO also noted that these estimated increases in gasoline prices "are an intentional design feature of the program."[132]

285. By using CEQA mitigation mandates created by the Scoping Plan to require only the disproportionately minority occupants of critically needed future housing to double-pay (both at the pump and in the form of higher housing costs imposed as a result of CEQA mitigation for the same fuel consumption), CARB has established a disparate new financial burden that is entirely avoided by those generally whiter, wealthier, and older Californians who have the good fortune of already occupying a home.

286. Both CARB and the Attorney General have acted in bad faith, and unlawfully, in their public description of and subsequent conduct regarding the immediate effectiveness and enforcement of the 2017 Scoping Plan.

287. First, in a written staff report distributed at the December 17, 2017 hearing at which the CARB Board approved the Scoping Plan, CARB staff misled the public and its Board by pretending that the challenged Housing Measures are simply not part of the Scoping Plan at all, and thus need not be considered as part of the environmental or economic study CARB was required to complete as part of the Scoping Plan approval process. This assertion flatly contradicted an earlier description of the immediately-implementing status of these Housing Measures made in a public presentation by a senior CARB executive.

288. Next, the Attorney General repeatedly advised this Court that the challenged Housing Measures were merely "advisory" and explained "the expectation that new measures proposed in the [Scoping] plan would be implemented through subsequent legislation or

[132] LAO, https://lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

regulations." (Memorandum of Points and Authorities in Support of Demurrer to Plaintiff's Verified Petition for Writ of Mandate, Case No. 18-CECG-01494 (August 31, 2018), p. 8:18-19 ("AG Memo")). The AG Memo argued that the disparate harms caused by such measures are not ripe because such subsequent implementing legislative or regulatory actions "have yet to be taken" (Reply Memorandum in Support of Defendants California Air Resources Board and Richard Corey's Demurrer to Plaintiffs' Verified Petition for Writ of Mandate *etc.*, Case No. 18-CECG-01494(October 16, 2018), p. 2:6-7 ("AG Reply Memo"), and that Petitioners' assertions that the challenged Housing Measures would result in litigation disputes aimed at stopping or increasing the cost of housing was "wildly speculative" (AG Memo, p. 10:7). Further the Attorney General argued that the 2017 Scoping Plan "cannot be reasonably viewed as providing a valid basis for filing suit under CEQA." (AG Memo, p. 14:15) The same arguments were advanced in this Court's hearing on October 26, 2018.

289. Meanwhile, however, and virtually simultaneously with making contrary assertions to this Court, both the Attorney General and CARB were filing comment letters (precedent to CEQA lawsuits), and the Attorney General filed an amicus brief in a CEQA lawsuit, to challenge the legality of a CEQA lead agency's mitigation measure (in one case) and proposed General Plan element approval (in another case) *based on alleged failure to comply with applicable Housing Measures in the Scoping Plan.*

290. CARB's (and the Attorney General's) claims that the 2017 Scoping Plan is merely "advisory" and that its future effects are merely "speculative" (as well as its express denial at the December 2017 hearing on the 2017 Scoping Plan that the four challenged GHG Housing Measures are even part of the Plan), have been belied by the actual use of the 2017 Scoping Plan by CARB and the Attorney General themselves, as well as by third party agencies and anti-housing project CEQA litigants. Among the recent examples of the use of the Scoping Plan are the following:

A. **CARB September 7, 2018 Comment Letter:** Before even completing its Demurrer briefing to this Court, on September 7, 2018, CARB filed a comment letter criticizing the revised Final Environmental Impact Report for the World

Logistics Center project. A copy of this letter can be found at https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf. CARB's comment letter opines that as an absolute and unambiguous matter of law, compliance with the Cap and Trade program is not a permissible mitigation under CEQA. CARB's comment dismisses as "novel" the contention that compliance with laws and regulations requiring reductions in GHG can be, and is in fact, a permissible and legally sufficient mitigation measure under CEQA. Strikingly, CARB's letter simply ignores the *Newhall* decision. As for the Fifth District's on-point decision in *AIR*, CARB's letter states (at p. 11, note 23) that, "*[i]n CARB's view this case was wrongly decided as to the Cap-and-Trade issue* . . . ." Thus, CARB in its public comments is urging permitting agencies to *disregard* court decisions on GHG issues and instead to follow CARB's supposedly "advisory" Scoping Plan policies, which it cites extensively . This type of CEQA "expert agency" letter can be used by the agency itself, if it chooses to file a lawsuit against an agency approving a project in alleged noncompliance with CEQA, or it can be used for its evidentiary value (and expert agency opinions are presumptively entitled to greater deference) by any other third party filing a CEQA lawsuit against that project, or even in another lawsuit raising similar issues provided that the CARB comment letter is submitted in the agency proceeding that is targeted by such second and subsequent lawsuits.

B. **Attorney General's September 7, 2018 Comment Letter:** Also on September 7, 2018, the Attorney General ("AG") joined CARB in criticizing the World Logistics Project's GHG analysis in a comment letter that prominently featured the 2017 Scoping Plan. A copy of this letter can be found at https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/comments-revised-sections-feir.pdf. Like CARB, the AG relied on the Scoping Plan to measure the adequacy of GHG measures under CEQA. Also like CARB, the AG sought to sidestep the Fifth District's *AIR* decision, but did so "[w]ithout commenting on

whether or not that case was rightly decided" in the AG's opinion (p. 6). The Attorney General's comment letter relies on the 2017 Scoping Plan in opining that "CEQA requires" the CEQA lead agency to "evaluate the consistency of the Project's substantial increases in GHG emissions with state and regional plans and policies calling for a dramatic reduction in GHG emissions" The AG goes on to conclude that the lead agency engaged in a "failure to properly mitigate" impacts as required by CEQA because the project's "increase in GHG emissions conflicts with the downward trajectory for GHG emissions necessary to achieve state climate goals." The AG again cites the 2017 Scoping Plan text in explaining that, unless they mandate CEQA GHG mitigation measures that go beyond compliance with applicable GHG reduction laws and regulations, "local governments would . . . not be doing their part to help the State reach its ambitious, yet necessary, climate goals." [AG letter at p. 7-11]

C. **Attorney General's November 8, 2018 Amicus Filing:** A third example is provided by the AG's November 8, 2018 filing of an "Ex Parte Application of People of the State of California for Leave to File Amicus Curiae Brief in Support of Petitioners" in *Sierra Club, et al. v. County of San Diego* (Nov. 8, 2018) No. 37-2018-00014081-CU-TT-CTL (San Diego Superior Court). A true copy of this Ex Parte Application and accompanying AG memorandum is attached hereto as **Exhibit 1**. A copy of the underlying Sierra Club petition, into which the AG has sought to inject the Scoping Plan, is attached hereto as **Exhibit 2**. In the amicus filing (Exhibit 1), the Attorney General asserts that he "has a special role in ensuring compliance with CEQA", and that he "has actively participated in CEQA matters raising issues of greenhouse gas ("GHG") emissions and climate change." (Application at 3:16, 24-25.) The challenged San Diego County Climate Action Plan actually includes and requires implementation of the 2017 Scoping Plan's "recommended" Net Zero GHG CEQA threshold for new projects, but was nevertheless challenged in this lawsuit the grounds that it did not also mandate a

reduction in Vehicle Miles Traveled because it allowed the County to approve new housing projects that fully mitigated ("Net Zero GHG") all GHG emissions but still resulted in an increase in VMT from residents living in this critically needed new housing. Petitioners in the consolidated proceedings in this case have claimed that based on the state's climate laws including the 2017 Scoping Plan, the County could not lawfully approve any amendment to its General Plan to accommodate any of the state's three million home shortfall unless such housing was higher density (e.g., apartments) and located inside or immediately adjacent to existing urban areas served by transit, because only that type of housing and location could result in the required reduction in VMT. Petitioners in these cases further identified the pending housing projects they believed could not be approved by the County. Petitioners sought (and obtained) injunctive relief to prevent such housing projects from relying on this "Net Zero" GHG Climate Action Plan as allowed by one of the CEQA compliance pathways identified by the Supreme Court in its *Newhall* decision, and identified by the Legislature itself in CEQA compliance provisions set forth in SB 375. In his amicus brief, the Attorney General repeatedly cites CARB's 2017 Scoping Plan as the legal basis for a new mandate that allegedly prohibits San Diego County (and all other counties) from meeting any part of the housing shortfall with more traditional homes (e.g., small "starter" homes and duplexes, which cost less than a third to build than higher density apartment units), or from locating these new homes anywhere other than an existing developed city or unincorporated community. The Attorney General also falsely argues that VMT reductions are mandated by other state laws; however, no law enacted by the California Legislature mandates any VMT reduction, and the Legislature has repeatedly rejected enacting such a mandate.[133]

[133] The Attorney General further argues that VMT reductions are required by SB 375, which is designed to reduce GHG (not VMT) with land use and transportation plans, even though SB 375 specifically directs CARB to develop compliance metrics and CARB has

291. CARB cannot have it both ways: it cannot coyly claim that the 2017 Scoping Plan is merely "advisory" and then fire into the end of a second round of CEQA documentation for a single project a new legal conclusion that upends the published judicial precedents of our courts. The AG similarly cannot assure this Court that it is "wildly speculative" for a CEQA lawsuit to be filed in reliance on the challenged measures in the 2017 Scoping Plan, and then six days later file an amicus in a CEQA lawsuit that does just that. If CARB wants to change Cap and Trade laws and regulations, and other GHG reduction laws and regulations applicable to fossil fuels, to make those not already fortunate enough to have housing pay both at the pump, and in their down-payment/mortgage and rent check, for "additive" GHG reductions above and beyond what their more fortunate, generally whiter, wealthier and older well-housed residents have to pay, then that is first and foremost a new mandate that can only be imposed by the Legislature given direct court precedent on this issue.

292. If such a mandate were proposed by the Legislature, a full and transparent debate about the disparate harms such a proposal would confirm that those most affected by the housing crisis, including disproportionately our minority communities, would suffer the equivalent of yet another gasoline tax on those least able to pay, and most in need of new housing. Petitioners are confident that the Legislature would not approve such a proposal.

293. Even these few examples of direct CARB and Attorney General implementation actions of the 2017 Scoping Plan to require more mitigation or block new housing demonstrate the immediate and ongoing harm of the 2017 Scoping Plan's challenged Housing Measures, which CARB and the Attorney General have opined impose higher CEQA "mitigation" costs on housing under a "net zero" GHG mitigation framework, and block otherwise lawful new housing altogether under the Scoping Plan's "VMT reduction" framework. The harms caused by these Housing Measures is not "wildly speculative"— they are already underway. They already disproportionately affect California minority communities not already blessed with wealth and

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itself repeatedly declined to require VMT reduction compliance metrics under SB 37 as late as December of 2017 and March of 2018.

homeownership, and they are already the subject of both administrative and judicial proceedings. They are properly and timely before this Court. The following paragraphs provide additional evidence of ripeness in the context of the three other challenged Housing Measures, beyond the "Net Zero" GHG threshold and corresponding mitigation mandates described above.

294. The 2017 Scoping Plan's new numeric thresholds for local climate action plans present similarly immediate and ongoing harms to Petitioner/Plaintiffs. In its *Newhall* decision, the California Supreme Court concluded that one of the "pathways" for CEQA compliance was designing projects that complied with a local Climate Action Plan ("CAP") having the then-applicable GHG statutory reduction mandate of reducing GHG emissions to 1990 levels by 2020.

295. Housing projects that complied with a local CAP had been duly approved by the same local governments responsible for planning and approving adequate housing for our minority communities. This provided a judicially streamlined pathway for GHG CEQA compliance for housing. Local CAPs include community-scale GHG reduction strategies such as pedestrian, bicycle and transit improvements that are beyond the ability of any single housing project to invent or fully fund, and thus CAP compliance is a known and legally-defensible CEQA GHG compliance pathway. The Scoping Plan destroyed that pathway, and accordingly caused and is causing immediate harm to new housing projects that could otherwise rely on the CAP compliance pathway for CEQA.

296. There is no statutory obligation for a city or county to adopt a CAP, nor are there any regulations prescribing the required contents of a CAP; instead, a CAP's primary legal relevance to proposed new housing projects occurs within the CEQA compliance context.

297. There has been a flurry of unresolved and ongoing CEQA interpretative issues with respect to CAPs that have been and remain pending in courtrooms throughout California. For example, in the City of San Diego and the County of Sonoma, multi-year lawsuits have resulted in two judicial decisions that make clear that any jurisdiction electing to voluntarily approve a CAP must assure that the CAP has clear, adequate and enforceable measures to achieve the GHG reduction metric included in the CAP. *See Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152; *California Riverwatch v. County of Sonoma* (July 20, 2017) Case No.

SCV-259242 (Superior Court for the County of Sonoma)[134]; *see also Mission Bay Alliance, et. al. v. Office of Community Investment and Infrastructure, et. al.* (2016) 6 Cal.App.5th 160 (upholding the adequacy of a CAP as CEQA compliance for a new professional sports facility).

298. The new numeric GHG per capita metric that the 2017 Scoping Plan prescribes as the presumptively correct GHG reduction target for CAPs places the entire burden of achieving the state's legislated 40% reduction target by 2030, and the unlegislated 80% reduction target by 2050, on local governments, with for example a numeric GHG reduction target of 2 tons per person per year by 2050. However, as the 2017 Scoping Plan itself makes clear, the vast majority of GHG emissions derive from electric power generation, transportation, manufacturing, and other sectors governed by legal standards, technologies, and economic drivers that fall well beyond the land use jurisdiction and control of any local government. The Scoping Plan does not even quantify the GHG reductions to be achieved by local governments, in their voluntary caps or otherwise: it seeks to define and achieve the state's GHG reduction mandates with measures aimed at specific GHG emission sectors.

299. The 2018 San Diego County CAP, adopted after the County lost its first CEQA lawsuit, adopts both CARB's numeric GHG targets—and the mandate that new housing projects entirely absorb the additional cost of fully offsetting GHG emissions in compliance with the "net zero" standard by paying money to fund GHG reduction projects somewhere on earth. The San Diego CAP both proves the immediacy of the disparate mitigation cost harms of the Scoping Plan's imposition of even higher costs to housing critically needed by California's minority communities, and provides a case study in the anti-housing legal morass created by the 2017 Scoping Plan's ambiguous—and unexamined from an equity, environmental, economic disclosure or public review process—new CEQA "net zero" threshold and CAP per capita numeric standards.

[134] The trial court order in *California Riverwatch v. County of Sonoma* is cited herein as evidence for the existence of CEQA litigation challenges to local climate action plans and not as legal precedent. The order is available at: http://transitionsonomavalley.org/wp-content/uploads/2017/07/Order-Granting-Writ-7-20-17.pdf.

300. San Diego County faces its third round of CAP litigation (with the prior two rounds still ongoing in various stages of judicial remand and review) in a lawsuit filed in 2018, in which the same group of petitioners allege that the County again failed to include sufficient mandatory measures to achieve the 2017 Scoping Plan per capita GHG reduction metric because it continued to allow new housing to be built if offsetting GHG reductions were funded by the housing project in or outside the County. A copy of one such lawsuit (consolidated with others) is attached for reference as Exhibit 2. This lawsuit seeks a blanket, County-wide writ of mandate that would block "processing of permits for development projects on unincorporated County lands" unless these new housing-blocking measures are included. (See Exhibit 2 at p. 17:3-7.) The petitioners in these consolidated cases against San Diego County have further made clear that their ongoing objections to the County's CAP were so severe that they had also been compelled to file CEQA lawsuits *against individual housing projects*, and in their lawsuit, they have included a list of nearly a dozen pending housing projects that in their judgment should not be allowed to proceed. As described above, the Attorney General filed a request for leave to file an amicus brief in this case, accompanied by an amicus brief. See Exhibit 1. Based on CARB's 2017 Scoping Plan, the AG has sought to bolster to the petitioners' anti-housing CEQA lawsuits, including their claims that designated housing projects in unincorporated San Diego County cannot lawfully be approved or built based on VMT impacts, even if all GHG impacts are mitigated to "net zero."

301. This CEQA morass of extraordinary GHG reduction costs imposed only on residents of newly constructed housing, with still pending and unresolved CEQA lawsuit challenges against the CAP and specific housing projects, for GHG reductions that are not even quantified, let alone critical to California's climate leadership, is itself an ample demonstration of the disparate harms of CARB's poorly-conceived and discriminatory GHG Housing Measures.

302. The Scoping Plan's VMT reduction measure is likewise causing immediate, ongoing, and disparate harm to California's minority communities who are forced to drive ever-greater distances to find housing they can afford to buy or rent. As in the case of local climate action plans, there is no statewide statutory or regulatory mandate for reducing VMT. The

Legislature considered and rejected imposing a VMT reduction mandate, and CARB considered and rejected imposing a VMT reduction mandate as part of the regional land use and transportation planning mandated under SB 375 (first postponing its decision in December of 2017, at the same hearing CARB approved the Scoping Plan – and then definitively rejecting it in March of 2018).

303. At these hearings, CARB was informed that VMT had increased in California while transit utilization had fallen dramatically notwithstanding billions of dollars in new transit system investments. VMT reduction thus could not appropriately be included as SB 375 compliance metrics and with increases in electric and high efficiency hybrid vehicles, the correlation between VMT and GHG emissions is increasingly weak.

304. Even more than CARB's other GHG Housing Measures, the VMT reduction mandate is uniquely targeted to discriminate against minority workers. The American Community Survey ("ACS") is a project of the U.S. Census Bureau and tracks a wide range of data over time—including the ethnicity, transportation mode, and times of California commuters. The ACS data demonstrate that in the 10 year period between 2007 and 2016, 1,117,273 *more* Latino workers drove to their jobs, 377,615 *more* Asian workers drove to their jobs, and 18,590 *more* African American workers drove to their jobs.[135] During the same period, 447,063 *fewer* white workers drove to their jobs. Transit utilization increased for white and Asian workers, but fell for Latino and African American workers. During the same period, commute times lengthened substantially as more people—again disproportionately minorities—were forced to commute longer distances to housing they could afford.

305. By 2016, about 445,000 people in the Bay Area were commuting more than an hour each direction—an increase of 75% over the 2006 count of long distance Bay Area commuters. Anyone driving between the Bay Area and Central Valley during commute times vividly experiences the gridlock conditions, adverse personal health (e.g., stress, high blood

[135] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2018), Table 3.7, p. 84, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

pressure, back pain), and adverse family welfare (e.g., missed dinners, homework assistance, and exhaustion) consequences of these commutes.

306. CARB (and the Attorney General) also have no support for their argument disputing the fact that the challenged Housing Measures disproportionately affect minority community members. As early as 2014, CARB received a comprehensive report from NextGen, a firm closely aligned with the strongest supporters of California's climate leadership, urging CARB to restructure its electric car subsidy program, which was found to be disproportionately benefitting those in Marin County and other wealthier and whiter areas that could afford to purchase costly new electric vehicles. In "No Californian Left Behind," Next Gen noted the obvious: "the overwhelming majority of Californians still use cars to get to work," including 77% who commute alone and 12% who carpool. Further, "[i]n less densely developed and rural areas like California's San Joaquin Valley, commuters often have long distances to drive between home, school, work and shopping; as a result, car ownership is often not a choice, but a necessity." Even more specifically, the report found that in Fresno County, even for workers earning less than $25,000, fewer than 3 percent of commuters take public transportation to work; in Madera County, only 0.3% of low-income workers took transit, and the results were comparable in in the rest of the San Joaquin Valley. Next Generation, *No Californian Left Behind: Clean and Affordable Transportation Options for all through Vehicle Replacement*, *http://www.thenextgeneration.org/files/No_Californian_Left_Behind_1.pdf (February 27, 2014) at p. 9. NextGen advocated a restructured vehicle program designed to equitably retire and replace the oldest most polluting cars, and to shift subsidy and incentive programs to help those who are either low income or need rural transport to obtain cleaner, lower-GHG emitting cars. (*Id.* p. 5) NextGext noted:

> "California is already a leader in advanced and high tech transportation and transit solutions. It is time we also became a leader in pragmatic solutions for a population that is sometimes left behind in these discussions: non-urban, low-income, car-dependent households."

The VMT reduction mandate in the 2017 Scoping Plan was specifically identified as CARB was fully on notice of the disparate harms caused to minority communities by its approach. In a report submitted to CARB by the climate advocacy group NextGen in February 2014, CARB was informed that Central Valley Latinos drive longer distances than any other ethnic group in any other part of California—and live in communities and households with the highest poverty rates.

307. Notwithstanding CARB's express acknowledgement in March of 2018 (and preview in December of 2017) that even the regional transportation and housing plans required by SB 375 cannot attain a VMT reduction target, CARB and its fellow "Vibrant Communities Appendix" agencies, remain committed to using CEQA to require new projects—including housing that is affordable and critically needed for California's minority communities—to pay higher costs to fund VMT reductions through CEQA.

308. As with the "net zero" GHG mitigation mandate, the immediate and ongoing effect of this VMT reduction measure is to increase housing costs to even less affordable and attainable levels for California's minority communities.

309. Even before enactment of the 2017 Scoping Plan, OPR (the Vibrant Communities agency that has the responsibility for adopting regulatory updates to CEQA) had been proposing to regulate the act of driving a car (even an electric vehicle or carpool) one mile (one VMT) as a new CEQA "impact" requiring "mitigation"— independent of whether the mile that was driven actually caused any air quality, noise, GHG, safety, or other impacts to the physical environment.

310. This expansion of CEQA was prompted in 2013, when OPR was directed by the Legislature in SB 743 to adopt a metric other than congestion-related traffic delay in transit-served "infill" areas as the appropriate transportation impact required to be evaluated and mitigated under CEQA, since these neighborhoods were intentionally being planned for higher density, transit/bike/pedestrian rather than automobile-dependent, neighborhoods. Pub. Res. Code § 21099(b).

311. In SB 743, the Legislature authorized but did not require the state Office of Planning and Research (OPR) to use VMT as the replacement metric for transit-served areas, and authorized but did not require OPR to apply an alternate transportation impact metric outside

designated urban infill transit neighborhoods. OPR responded with three separate rounds of regulatory proposals, each of which proposed expanding CEQA by making VMT a new CEQA impact, and requiring new mitigation to the extent a VMT impact was "significant." OPR further proposed a series of VMT significance thresholds, analytical methodologies, and potential mitigation measures, which varied over time but included a "road diet" and measures to discourage reducing congestion, on the theory that such congestion could somehow "induce" transit use and VMT reductions.

312. Under all three sets of OPR proposals, projects would be required to do more mitigation to reduce significant VMT impacts—by reducing VMT (i.e., reducing GHG or other air pollutants is not a valid CEQA mitigation approach for a new VMT impact). OPR received scores of comments objecting to expanding CEQA by making driving a mile a new "impact" requiring "mitigation," particularly given the disparate impact such a metric has on minority communities and the many adverse impacts to the environment, and public health and welfare, caused by the housing crisis and the state's worst-in-the-nation commutes.

313. OPR, again and repeatedly citing to the asserted need to reduce VMT to meet California's GHG reduction and climate leadership commitments, held a recent round of workshops on VMT mitigation strategies, working in close coordination with CARB's earlier and since-abandoned proposal to include VMT reductions as a required SB 375 regional transportation plan compliance measures.

314. At these workshops, OPR and its outside experts from an Oregon university conceded that VMT could likely not be "mitigated" by reducing miles driven by the future residents of any particular housing project (e.g., by adding secure bike racks or charging extra for parking), since whether people drive a mile or call an Uber—or hop on a bike or bus—is a function of available, cost- and time-effective transportation modes as well as the incomes and planned destinations of future residents. Agency workshop participants expressly acknowledged that VMT had increased 6% over 2011 levels, even though California's primary climate statutes (including many programs designed to promote transit and higher density development, and many

billions of dollars in completed transit systems improvements) were in effect during this same period.

315. These experts also conceded that with the success of on-demand ride services like Uber and Lyft, including the increasing cost-effectiveness and popularity of voucher-based on-demand rides by transit agencies in lieu of operating fixed route buses with low and still-declining utilization levels, there was *no evidence* that VMT could be substantially reduced by a particular project in a particular location as part of the CEQA review process for that project.

316. Instead, the VMT mitigation proposals shared during the workshops required that new housing pay others to operate school buses, bikeshare, and make improvements to bike and pedestrian pathways to the extent these measures could be demonstrated to reduce VMT. The suggested VMT mitigation measures had in common the payment of substantial fees (with some options suggested requiring annual payments, in perpetuity, of $5000 per apartment or home).

317. A recent academic study of VMT mitigation under CEQA likewise concedes the difficulty of a particular project achieving VMT reductions, and endorses the concept of adding to housing and other project costs payments to VMT "banks" or "exchanges" to fund third party VMT reductions – VMT reductions that occur somewhere, by someone.

318. This OPR VMT saga, like CARB's ultimate decision not to require a VMT compliance metric under SB 375, further demonstrates that the 2017 Scoping Plan's VMT reduction mandate measure – which CARB's senior executive expressly acknowledged was intended to be "self-executing" - is a fundamentally flawed "throw-away" measure that was neither acknowledged nor given an equity, environmental, or economic evaluation before being included in CARB's 2017 Scoping Plan.

319. The last of the challenged GHG Housing Measures is the Vibrant Communities Appendix, in which eight state agencies (including OPR) join with CARB in committing to undertake a series of actions to implement the approved Scoping Plan. Some of these agencies already have begun implementing the Scoping Plan, to the immediate and ongoing harm of California minority communities who are already disproportionately suffering from the housing crisis.

320. The Vibrant Communities appendix is an "interagency vision for land use, **and** for discussion" (emphasis added) of "State-Level Strategies to Advance Sustainable, Equitable Communities and Reduce Vehicles Miles of Travel (VMT)." 2017 Scoping Plan Appendix C, p. 1.

321. **First,** all of disparate and unlawful current and ongoing harms described in connection with the Scoping Plan's VMT Reduction measure apply equally to the actions of other State agencies based on the Vibrant Communities appendix measures. None have a rational basis for claiming any actual success in reducing VMT through their respective direct regulatory activities.

322. **Second,** there is no constraint in the "Vibrant Communities Appendix" preventing any of the eight state agency signatories from taking immediate steps to directly enforce these "land use" policies, while claiming to "work together to achieve this shared vision and to encourage land use and transportation decisions that minimize GHG emissions." 2017 Scoping Plan Appendix C, p. 2.

323. OPR's VMT expansion of CEQA, discussed above, is an example of an agency action to reduce VMT and GHG that is at least subject to formal rulemaking procedures and is thus not yet being "implemented."

324. In contrast, in June of 2018, a combination of four Vibrant Communities Appendix implementing agencies joined by one other agency[136] announced that they would henceforth implement – without benefit of any further Legislative or regulatory action –the "December 2017 Scoping Plan directive". This announcement was made at the San Francisco Bay Area Regional Meeting announcing the "California's 2030 Natural and Working Lands Climate Change Implementation Plan." Consistent with the anti-housing bias built into CARB's GHG Housing Measures, these agencies collectively promised to avoid "conversion of land for development."

[136] The five agencies are: the California Environmental Protection Agency, the California Natural Resources Agency, CARB, the California Department of Food and Agriculture, and the Coastal Conservancy.

325. These five agencies made no exception for developing housing, even for housing that CARB has already concluded as part of the SB 375 regional plan process meets California's legislated GHG emission reduction requirements. These agencies likewise made no exception for transportation or other critical infrastructure, even if consistent with local and regional plans, even if approved by federal or state agencies other than this five-agency consortium, even if within an approved city limit, and even if approved by voters. *Simply put, these agencies – which have combinations of funding, permitting, planning and enforcement obligations – have signaled that they are not going to approve new development on land that is not already developed.*

326. The sole reed upon which this vast new legal prohibition rests is the 2017 Scoping Plan, and more specifically the Vibrant Communities Appendix. See SF Bay Area Regional Meeting, *California's 2020 Natural and Working Lands Climate Change Implementation Plan*, available at http://resources.ca.gov/wp-content/uploads/2018/08/SF-Bay-Area-NWL-meeting-presentation-6.18.pdf.

327. Less than 6% of California is urbanized, and each city and county is charged by state law with adopting a General Plan that must accommodate the housing, transportation, and infrastructure needs of its existing and planned future residents. Under SB 375, these local land use plans are effectively consolidated into regional transportation and land use plans that must accommodate future population and economic growth as well as meet CARB targets for reducing GHG from the land use sector. Every regional Sustainable Communities Strategy ("SCS") plan includes some combination of housing, infrastructure (including transportation improvements), schools and other land uses that are carefully and deliberatively sited within each jurisdiction's boundaries – and adopted only after each local government first complies with CEQA and completes an extensive public notice, comment, and hearing process before appointed and elected officials.

328. The decision of the California Department of Fish & Wildlife ("CDFW") to simply stop issuing permits for housing and related infrastructure projects that have already been approved by local elected officials, after community input, in compliance with all applicable laws—and have further already been approved by CARB, as part of the SB 375 regional plan

approval process—is a blatant example an announced harm being committed against housing by a state agency in furtherance of CARB's 2017 Scoping Plan.

329. **Third**, consistent with normal practice for lawsuits that include a claim that the respondent agency has failed to comply with CEQA, Petitioners elected to prepare the administrative record that is relevant to the disposition of this CEQA cause of action. The Legislature has specifically prescribed the content of the CEQA administrative record, which includes in part: "Any other written materials relevant to the respondent public agency's compliance with this division or to its decision on the merits of the project" and "all . . . internal agency communications, including staff notes and memoranda relating to the project." Pub. Res. Code § 21167.6(c)(10).

330. Petitioners timely sought the administrative record from CARB, and in another normal practice for CEQA lawsuits submitted requests filed under the California Public Records Act ("CPRA") to each of the Vibrant Communities Appendix agencies in relation to each agency's Scoping Plan and Vibrant Communities Appendix, and VMT or other Scoping Plan documents.

331. Many months later, only incomplete responses have been provided by CARB (which sought to limit the administrative record in this case to select excerpts from its Scoping Plan docket).

332. Several of the Vibrant Communities Appendix agencies, including CDFW, OPR, parent and affiliated agencies of each (Natural Resources Agency and Strategic Growth Council), and CalSTA, responded with minimal documents and instead asserted that the requested documents were exempt from disclosure under the CPRA because they could result in public "controversy."

333. One of these partially-responsive agencies admitted that the withheld documents involved the highest level of state government, and included legislative proposals. All of these partially-responsive agencies declined a second letter request to disclose the withheld documents, or provide a privilege log describing each withheld document and the reason for its concealment.

334. There is no centralized or otherwise public repository of Vibrant Communities Appendix agency documents that disclose to the public their current, planned, or future activities with respect to implementing the Scoping Plan. There is likewise no centralized or otherwise public repository of which implementing activities are being (or will be) directly undertaken, and which will not be undertaken without future rulemaking or authorizing legislation.

335. From just the "direct" implementation activities noted above—and in particular CARB's intervention in an ongoing CEQA project-level review to opine on GHG mitigation requirements in a manner that is contrary to published judicial opinions, and CDFW's announced intention to cease authorizing activities that would convert land to development with no exception for new housing or related infrastructure that is already included in approved General Plans, infrastructure plans, voter-approved bonds, or CARB-approved Sustainable Communities Strategies implementing SB 375, is ample evidence of the immediate and ongoing new costs and regulatory obstacles already being imposed by these agency Scoping Plan implementing actions.

336. CARB's GHG reduction compliance metric is arbitrary, not supported by science, has no rational basis, and is racially discriminatory. In California's GHG and climate leadership laws, the Legislature did not prescribe any specific measurement methodology or compliance metric for meeting California's GHG reduction goals. The methodology and metrics that CARB has chosen completely ignore massive GHG emissions that occur when California's forests burn, as has tragically occurred at a large scale for several of the past years, notwithstanding estimates that just one major forest fire wipes out an entire year of GHG reductions achieved by CARB's regulatory actions.[137]

337. Similarly, CARB does not count—or require reductions of—GHG emissions associated with imported foods or other goods, or with a multitude of other activities such as airplane trips. However, every time a California resident (or job) leaves California, CARB counts that as a GHG reduction—even though the top destinations for the hundreds of thousands of

[137] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2017), p. 60-61, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

Californians who have migrated to lower cost states in recent years, notably including Texas, Arizona and Nevada—have per capita GHG emissions that are more than double the emissions those same individuals would have if they remained in California.

338. Climate change and GHG emissions are a global challenge, and nearly tripling the GHG emissions of a California family that needs to move to Texas or Nevada to find housing they can afford to rent or buy, increases global GHG.

339. It may be that there are other environmental priorities favored by CARB and its allies that justify policies that are in fact resulting in the displacement and relocation of California's minority communities, that reduce the state's population, and that eliminate higher energy production jobs like manufacturing that traditionally provided a middle class income (and home ownership) to a hard worker without a college degree. These discriminatory anti-minority policies cannot, however, be scientifically, politically, or legally justified in the name of global reductions of GHG.

340. CARB's International Policy Director on climate, former Obama administration senior climate team Lauren Sanchez, admitted that the GHG reduction metrics used by CARB – that simply and completely ignores the increased global GHG emissions from forcing Californians to live in high GHG states to find housing they can afford to buy with commute times that did not damage driver health, family welfare, and the environment - were "flawed" at the recent (October 2018) Environmental Law Conference in Yosemite. This admission rebuts the politically shocking and legally invalid assertion that it is constitutional for CARB to implement racially discriminatory measures (because CARB's discriminatory objective is merely to force minority Californians to either try to live in housing they cannot afford located nowhere near their job, or migrate to another state).

341. The 2017 Scoping Plan is required to reduce California's share of *global* GHG emissions, but it completely ignores massive emission sources that are controversial within the environmental community (e.g. managing California's massive wildfire risks which result in GHG emissions that dwarf CARB's regulatory GHG reductions, based on what the non-partisan

Little Hoover Commission reported in February 2018 as a century of forest mismanagement including clashes between environmental agencies). [138]

342. The 2017 Scoping Plan also completely ignores other massive GHG emissions attributed to the behavior of wealthier Californians (e.g., airplane rides, and consumption of costly imported consumer products).[139] Instead, as summarized a Chapman University Research Brief, CARB has administered California's climate laws with actions such as the 2017 Scoping Plan that drive up the fundamental costs of living for ordinary Californians—housing, electricity, transportation—and thereby drive more people (and disproportionately minorities) into poverty, and out of the state.[140]

343. The 2017 Scoping Plan fails even the most rudimentary "rational basis" constitutional test, and it is being implemented today by organizations and agencies including CARB that are driving up housing costs and blocking housing projects today. To cause this much pain and hardship to this many people, and to place the greatest burdens on those already disparately harmed by the housing crisis, is unconscionable. It is also ongoing, illegal, and unambiguously intentional, for CARB to impose these "flawed" GHG reduction metrics that cause disparate harms to racial minorities living in California.

344. The foregoing paragraphs describe agency actions that are exacerbating the State's extreme poverty, homelessness and housing crisis while *increasing* global GHG emissions by driving Californians to higher per capita GHG states.[141]

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[138] Little Hoover Commission, *Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada* (February 2018), available at https://lhc.ca.gov/report/fire-mountain-rethinking-forest-management-sierra-nevada.

[139] Bay Area Air Quality Management District and Cool Climate Network at UC Berkeley, *Consumption-Based GHG Emissions Inventory: Prioritizing Climate Action for Different Locations* (December 15, 2015), available at https://escholarship.org/uc/item/2sn7m83z

[140] Friedman, Id., Summary at p. 7-9.

[141] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), available at http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), available at https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-

345. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, deprive Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, of the fundamental right to live in communities that are free from arbitrary, government-imposed standards whose inevitable effect is to perpetuate their exclusion from participation in the housing markets in or near the communities in which they work. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, have a disparate adverse impact on Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, as compared to similarly-situated non-minorities who currently enjoy affordable access to housing near their workplaces.

346. CARB's new GHG Housing Measures, on their face and as applied to the sorely-needed development of new, affordable housing, are arbitrary and not rationally related to the furtherance of their purported regulatory goal of reducing overall GHG emissions.

H. CARB'S GHG Housing Measures Are "Underground Regulations" and Ultra Vires

347. A regulation is defined as "every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure." Gov. Code § 11342.600.

348. State agencies are required to adopt regulations following the procedures established in the APA and are prohibited from issuing and enforcing underground regulations. Gov. Code § 11340.5. Under the APA, an underground regulation is void.

349. Each of CARB's new GHG Housing Measures are being implemented by CARB, and other state and local agencies, without further rulemaking or compliance with the APA. The GHG Housing Measures are underground regulations requiring APA compliance, and cannot be

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housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, available at https://www.eia.gov/environment/emissions/state/.

lawfully implemented absent authorizing Legislation or formal rulemaking (inclusive of environmental and economic review as required by the APA).

350. CARB's new GHG Housing Measures infringe on areas reserved for other State agencies in two ways:

A. Senate Bill ("SB") 97 directs OPR to develop CEQA significance thresholds via the CEQA Guidelines. OPR's update does not include the Scoping Plan's presumptive CEQA GHG threshold. CARB was expressly allowed by the Legislature in SB 97 to adopt a CEQA significance threshold only in the context of updates to the CEQA Guidelines, which must undergo a rigorous rulemaking process. CARB has acted *ultra vires* and contrary to the express command of the Legislature in adopting its recommended CEQA significance threshold in the Scoping Plan.

B. California has adopted new building standards, which are designed to assure that new building code requirements are cost effective (with payback to the consumer). "Net zero" new home building standards were not included. CARB has no Legislative authority to bypass and frustrate this consumer protection law by using CEQA as a workaround to require "net zero".[142]

351. In articulating and publishing its new GHG Housing Measures, CARB has not complied with the APA's rulemaking procedures and requirements. As a consequence, CARB's new GHG Housing Measures are unlawful underground regulations, and should be held to be void and of no effect.

FIRST CAUSE OF ACTION

(Fair Employment and Housing Act, Gov. Code § 12955 *et seq.*)

352. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-351 above, as well as in paragraphs 358-458.

[142] See generally California Department of Housing and Community Development, State Housing Law Program Laws and Regulations, http://www.hcd.ca.gov/building-standards/state-housing-law/state-housing-laws-regulations.shtml.

353. The Fair Employment and Housing Act (Gov. Code , § 12955 *et seq.*) ("FEHA") provides, *inter alia*, that: "It shall be unlawful . . . (l) To discriminate through public or private land use practices, decisions, and authorizations, because of race, color, . . national origin, source of income or ancestry."

354. CARB's new GHG Housing Measures, on their face and as applied, constitute public land use practices decisions and/or policies subject to the FEHA.

355. CARB's new GHG Housing Measures actually and predictably have a disparate negative impact on minority communities and are discriminatory against minority communities and their members, including but not limited to Petitioners RODRIGUEZ, MURILLO, and PEREZ.

356. CARB's new GHG Housing Measures and their discriminatory effect have no legally sufficient justification. They are not necessary to achieve (nor do they actually tend to achieve) any substantial, legitimate, nondiscriminatory interest of the State, and in any event such interests can be served by other, properly-enacted standards and regulations having a less discriminatory effect.

357. Because of their unjustified disparate negative impact on members of minority communities, including Petitioners, CARB's new GHG Housing Measures violate the FEHA, and should be declared unlawful and enjoined.

SECOND CAUSE OF ACTION

(Federal Housing Act and HUD Regulations, 42 U.S.C. § 3601 *et seq.*; 24 C.F.R. Part 100)

358. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-357 above, as well as paragraphs 368-458.

359. The Federal Housing Act (42 U.S.C. § 3601 *et seq.*) ("FHA") was enacted in 1968 to combat and prevent segregation and discrimination in housing. The FHA's language prohibiting discrimination in housing is broad and inclusive, and the purpose of its reach is to replace segregated neighborhoods with truly integrated and balanced living patterns.

360. In formal adjudications of charges of discrimination under the FHA over the past 20-25 years, the U.S. Department of Housing and Urban Development ("HUD") has consistently

concluded that the FHA is violated by facially neutral practices that have an unjustified discriminatory effect on the basis of a protected characteristic, regardless of intent.

361. Pursuant to its authority under the FHA, HUD has duly promulgated and published nationally-applicable federal regulations implementing the FHA's Discriminatory Effects Standard at 24 C.F.R. Part 100 (*see* 78 Fed.Reg. 11460-01 (February 15, 2013)) ("HUD Regulations"). These HUD Regulations continue to apply, and have the force and effect of law.

362. HUD Regulations provide, *inter alia*, that liability under the FHA may be established "based on a practice's discriminatory effect . . . even if the practice was not motivated by a discriminatory intent." 24 C.F.R. § 100.500.

363. HUD Regulations further provide that: "A practice has a discriminatory effect where it actually or predictably results in a disparate impact on a group of persons or perpetuates segregated housing patterns because of race, color, . . . or national origin."

364. CARB's GHG Housing Measures actually and predictably result in a disparate impact on members of minority communities, including but not limited to Petitioners, and perpetuates segregated housing patterns because of race, color, and/or national origin within the meaning of the FHA and HUD Regulations.

365. Because of the discriminatory effect of CARB's GHG Housing Measures, CARB has the burden of proving that these GHG Housing Measures do not violate the FHA as interpreted and implemented through the HUD Regulations.

366. CARB has not met, and cannot meet, its burden of trying to justify the discriminatory effect of its challenged GHG Housing Measures, which are not necessary to achieve the stated goals, which could and should be pursued through other measures having a less discriminatory effect.

367. Because CARB's GHG Housing Measures have an unjustified discriminatory effect on members of minority communities, including Petitioners, they violate the FHA as implemented though HUD Regulations. Consequently, CARB's GHG Housing Measures should be declared unlawful and enjoined, and Petitioners are entitled to other and further relief pursuant to 42 U.S.C. § 1983.

THIRD CAUSE OF ACTION

(Denial of Due Process, Cal. Const. Art. I, § 7; U.S. Const. Amd. 14, § 1)

368. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-367 above, as well as paragraphs 373-448.

369. Petitioners have a right to be free of arbitrary State regulations that are imposed without having first been presented to the public through duly-authorized rulemaking processes by Legislatively-authorized State agencies.

370. CARB's new GHG Housing Measures, individually and collectively, will inevitably cause serious harm to the ability of Petitioners and other members of disadvantaged minority communities to gain access to affordable housing, and have a disproportionate adverse impact on them.

371. CARB's new GHG Housing Measures are not rationally calculated to further the State's legitimate interest in reducing GHG emissions, on their face or as applied to housing projects in California. Instead, CARB's new GHG Housing Measures are both arbitrary and counterproductive in terms of actually achieving their purported goals of GHG emission reductions.

372. For these reasons, CARB's GHG Housing Measures have been issued in violation of, and constitute substantive violations of, the Due Process Clauses of the California and United States Constitutions. (Cal. Const. Art. 1, § 7; U.S. Const. Amd. 14, § 1,)

FOURTH CAUSE OF ACTION

(Denial of Equal Protection, Cal. Const. Art. I, § 7, Art. IV § 16; U.S. Const. Amd. 14, § 1)

373. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-372 above, as well as 382-458.

374. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

375. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

376. CARB's GHG Housing Measures disproportionately affect members of minority communities, including Petitioners RODRIGUEZ, MURILLO and PEREZ, by making affordable housing unavailable to them, as compared with non-minority homeowners unaffected by the new GHG regulations, while imposing arbitrary, counter-productive State regulations and standards.

377. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

378. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

379. Petitioners warned CARB about the racially discriminatory aspects of the Scoping Plan prior to CARB's finalizing and issuing the Scoping Plan. Despite Petitioners' warning, CARB disregarded these impacts and issued the Scoping Plan without changes. On information and belief, CARB did so with the intent to disproportionately cause harm to racial minorities, including minority communities of which Petitioners are members.

380. CARB's GHG Housing Measures violate the equal protection provisions of the California Constitution because they make access to new, affordable housing a function of race.

381. CARB's GHG Housing Measures violate the equal protection clause of the United States Constitution because they make access to new, affordable housing a function of race.

FIFTH CAUSE OF ACTION

(Violations of CEQA, Pub. Res. Code § 21000 *et seq.* and CEQA Guidelines, 14 C.C.R. § 15000 *et seq.*)

382. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-381 above, as well as paragraphs 395-458.

383. CARB violated CEQA by approving the 2017 Scoping Plan in violation of the Act's requirements and by certifying a legally deficient environmental analysis.

384. CARB did not write its Final EA in plain language so that members of the public could readily understand the document.

385. CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan and thus the "project" for CEQA purposes should have included potential direct and indirect impacts on the environment from the four GHG Housing Measures. CARB did not include an analysis of the four GHG Housing Measures in the EA.

386. CARB did not base its Final EA on an accurate, stable, and finite project description. The EA did not include the four GHG Housing Measures in its project description. For this reason CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes. The project description was misleading, incomplete, and impermissibly vague.

387. CARB did not properly identify the Project objectives in its EA.

388. CARB's unlawful use of the "cumulative gap" methodology created multiple legal deficiencies in the EA, including in the project description, project objectives, and impact analysis. Had CARB used the appropriate project objective—reducing GHG 40% below the 1990 California GHG inventory by 2030—the estimated 1% of GHG reductions (1.79 tons per year) achieved by the GHG Housing Measures would have been entirely unnecessary, and all disparate and unlawful adverse civil rights, environmental, housing, homelessness, poverty, and transportation consequences of the GHG Housing Measures could have been avoided.

389. At most, CARB could have clearly identified its "cumulative gap" methodology as an alternative to the project that would have further reduced GHG emissions beyond the SB 32 statutory mandate, to further inform the public and decisionmakers of the comparative impacts and consequences of SB 32's legislated GHG reduction mandate, and the more substantial GHG reductions sought by CARB staff. CARB's failure to use the SB 32 statutory mandate of achieving 40% GHG reduction from 1990 levels as of 2030 is a fatal legal flaw.

390. CARB also failed to adequately evaluate the direct, indirect, and cumulative environmental impacts of the 2017 Scoping Plan in its Final EA, even after commenters identified

numerous review gaps in their comments on the Draft EA. As discussed above, CARB was fully on notice of the scale and nature of the impacts associated with the GHG Housing Measures based on CARB's review and approval of more than a dozen regional plans to intensify housing densities near transit, and improve public transit, from all of California's most significant population centers; each of these regional plans identified multiple unavoidable significant adverse environmental impacts from implementation of current plans. The deficiencies in the Final EA include but are not limited to the following:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

391. As stated above, although the Scoping Plan's CEQA threshold is not binding on a lead agency, it nevertheless has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. Thus, the Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

392. As a result of these defects in the Final EA, CARB prejudicially abused its discretion by certifying an EIR that does not comply with CEQA and by failing to proceed in the manner required by law.

393. Petitioners objected to CARB's approvals of the GHG Housing Measures prior to the close of the final public hearings on CARB's 2017 Scoping Plan and raised each of the legal deficiencies asserted in this Petition.

394. Petitioners have performed all conditions precedent to the filing of this Petition, including complying with the requirements of Pub. Res. Code section 21167.5 by serving notice of the commencement of this action prior to filing it with this Court.

SIXTH CAUSE OF ACTION

(Violations of APA, Gov. Code § 11346 *et seq.*)

395. Petitioners hereby re-allege and re-incorporate herein by reference the allegations of paragraphs 1-394 above, as well as paragraphs 405-458.

396. Under the APA and other applicable law, CARB is required to comply with regulations issued by the Department of Finance ("DOF") before issuing a "major regulation." Specifically, the APA (Gov. Code § 11346.3(c)) requires that CARB prepare a standardized regulatory impact assessment ("SRIA") in a form, and with content, that meets requirements set by the DOF in its separate regulations (1 C.C.R. § 2000 *et seq.*).

397. CARB's GHG Housing Measures constitute a major regulation subject to the APA's requirement that such regulations be promulgated in compliance with DOF regulations.

398. Section 2003 of DOF regulations (1 C.C.R. § 2003(a)) ("Methodology for Making Estimates") provides that, "[i]n conducting the SRIA required by Section 11346.3", CARB "shall use an economic impact method and approach that has all of the following capabilities:

(1) Can estimate the total economic effects of changes due to regulatory policies over a multi-year time period.

(2) Can generate California economic variable estimates such as personal income, employment by economic sector, exports and imports, and gross state product, based on inter-

industry relationships that are equivalent in structure to the Regional Industry Modeling System published by the Bureau of Economic Analysis.

(3) Can produce (to the extent possible) quantitative estimates of economic variables that address or facilitate the quantitative or qualitative estimation of the following.

(A) The creation or elimination of jobs within the state;

(B) The creation of new businesses or the elimination of existing businesses within the state;

(C) The competitive advantages or disadvantages for businesses currently doing business within the state;

(D) The increase or decrease of investment in the state;

(E) The incentives for innovation in products, materials, or processes; and

(F) The benefits of the regulations, including but not limited to benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency."

399. DOF regulations require that DOF's "most current publicly available economic and demographic projections, which may be found on the department's website, shall be used unless the department approves the agency's written request to use a different projection for a specific proposed major regulation." 1 C.C.R. § 2003(b).

400. DOF regulations also provide that: "An analysis of estimated changes in behavior by businesses and/or individuals in response to the proposed major regulation shall be conducted and, if feasible, an estimate made of the extent to which costs or benefits are retained within the business and/or by individuals or passed on to others, including customers, employees, suppliers and owners." 1 C.C.R. § 2003(f).

401. In grafting its new GHG Housing Measures onto the 2017 Scoping Plan, CARB has failed to comply with the APA, including DOF regulations applicable to CARB.

402. More significantly, and consistent with the LAO's repeated findings that the CARB analysis methodology fails to provide sufficiently detailed information about impacts to individuals, households and businesses, CARB's 2017 Scoping Plan completely ignores the fact

that California has the greatest inequality in the United States, and that energy costs, loss of energy-intensive jobs and housing costs related to Scoping Plan policies play a major role in that unwanted outcome. To fulfill its statutory mandates, CARB must start by recognizing that, as meticulously documented in a United Way Study, more than 30% of all California households lack sufficient means to meet the real cost of living in the state.

403. In addition, as described above, by using the unlawful "cumulative gap" methodology to calculate the GHG reductions it claims are needed in the 2017 Scoping Plan, CARB improperly created inputs for the FA that render the entire document invalid.

404. In its present form, the Scoping Plan embodies multiple violations of the APA and should be set aside as unlawful and void.

SEVENTH CAUSE OF ACTION

(Violations of the California Global Warming Solutions Act, Health & Safety Code § 38500 *et seq.*)

405. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-404 above, as well as paragraphs 413-458.

406. The GWSA provides in pertinent part that, in promulgating GHG regulations, CARB "shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health."

407. In responses to Petitioners' comments on the 2017 Scoping Plan, CARB has acknowledged that Chapter 5 of the Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[143] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

408. CARB's assertion that the new GHG Housing Measures set out in Chapter 5 of the Scoping Plan do not constitute "major regulations" is belied by their content and the legal and regulatory setting in which they were issued, as described above.

409. Each scoping plan update must also identify for each emissions reduction measure, the range of projected GHG emission reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

410. The 2017 Scoping Plan contains no such analysis for CARB's new GHG Housing Measures. The Plan lists potential emission reductions from the "Mobile Source Strategy" which includes the VMT reduction requirements, but does not analyze proposed emission reductions, projected air pollution reductions, or cost-effectiveness of the other measures.

411. CARB's new GHG Housing Measures, as set out in its 2017 Scoping Plan, were issued in violation of some or all of the specific statutory requirements set out in the GWSA, as described above.

[143] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

412. As a consequence, CARB's new GHG Housing Measures were adopted in a manner that is contrary to law, and should be set aside.

EIGHTH CAUSE OF ACTION

(Violations of the Health & Safety Code, § 39000 *et seq.*, including the California Clean Air Act, Stats. 1988, ch. 1568 (AB 2595))

413. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-412 above, as well as paragraphs 437-458.

414. California has ambient air quality standards ("CAAQS") which set the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment.

415. CAAQS are established for particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2"), sulfate, carbon monoxide ("CO"), sulfur dioxide ("SO_2"), visibility-reducing particles, lead, hydrogen sulfide ("H_2S"), and vinyl chloride.

416. In California, local and regional authorities have the primary responsibility for control of air pollution from all sources other than motor vehicles. H&S Code § 39002.

417. Under the California Clean Air Act ("CCAA"), air districts must endeavor to achieve and maintain the CAAQS for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practicable date. H&S Code § 40910. Air districts must develop attainment plans and regulations to achieve this objective. *Id.*; H&S Code § 40911.

418. Each plan must be designed to achieve a reduction in districtwide emissions of five percent or more per year for each nonattainment pollutant or its precursors. H&S Code § 40914(a). CARB reviews and approves district plans to attain the CAAQS (H&S Code § 40923; 41503) and must ensure that every reasonable action is taken to achieve the CAAQS at the earliest practicable date (H&S Code § 41503.5).

419. If a local district is not effectively working to achieve the CAAQS, CARB may establish a program or rules or regulations to enable the district to achieve and maintain the CAAQS. H&S Code § 41504. CARB may also exercise all the powers of a district if it finds the

district is not taking reasonable efforts to achieve and maintain ambient air quality standards. H&S Code § 41505.

420. Fresno County is part of the San Joaquin Valley Air Pollution Control District ("SJVAPCD"). The SJVAPCD is currently nonattainment/severe for the CAAQS for ozone and nonattainment for PM.

421. The vast majority of California is designated nonattainment for the CAAQS for ozone and PM.

422. Nitrogen oxides, including NO_2, CO, and volatile organic compounds ("VOCs") are precursor pollutants for ozone, meaning they react in the atmosphere in the presence of sunlight to form ozone.

423. PM is a complex mixture of extremely small particles and liquid droplets found in the air which can cause serious health effects when inhaled, including asthma and other lung issues and heart problems. Some particles are large enough to see while others are so small that they can get into the bloodstream. PM is made up of PM_{10} (inhalable particles with diameters 10 micrometers and smaller) and $PM_{2.5}$ (fine inhalable particles with diameters 2.5 micrometers and smaller).

424. PM emissions in California and in the SJVAPCD increased in 2016 as compared to prior years.

425. As detailed above, the VMT reduction requirements in the 2017 Scoping Plan will result in increased congestion in California.

426. Increasing congestion increases emissions of multiple pollutants including NO_x, CO, and PM. This would increase ozone and inhibit California's ability to meet the CAAQS for ozone, NO_2, and PM, among others.

427. Because CARB intends to achieve the VMT reduction standard by intentionally increasing congestion, which will increase emissions of criteria pollutants such as NO_2 and PM, CARB is violating its statutory duty to ensure that every reasonable action is taken to expeditiously achieve attainment of the CAAQS.

428. In addition to a responsibility under the CCAA to meet the CAAQS, CARB has a statutory duty under the Health & Safety Code to ensure that California meets the National Ambient Air Quality Standards ("NAAQS") set by the EPA.

429. Like the CAAQS, the NAAQS are limits on criteria pollutant emissions which each air district must attain and maintain. EPA has set NAAQS for CO, lead, NO_2, ozone, PM, and SO_2.

430. CARB is designated the air pollution control agency for all purposes set forth in federal law. H&S Code § 39602. CARB is responsible for preparation of the state implementation plan ("SIP") required by the federal Clean Air Act ("CAA") to show how California will attain the NAAQS. CARB approves SIPs and sends them to EPA for approval under the CAA. H&S Code § 40923.

431. While the local air districts have primary authority over nonmobile sources of air emissions, adopt rules and regulations to achieve emissions reductions, and develop the SIPs to attain the NAAQS (H&S Code § 39602.5), CARB is charged with coordinating efforts to attain and maintain ambient air quality standards (H&S Code § 39003) and to comply with the CAA (H&S Code § 39602).

432. CARB also must adopt rules and regulations to achieve the NAAQS required by the CAA by the applicable attainment date and maintain the standards thereafter. H&S Code § 39602.5. CARB is thus responsible for ensuring that California meets the NAAQS.

433. SJVAPCD is nonattainment/extreme for the ozone NAAQS and nonattainment for $PM_{2.5.}$

434. The vast majority of California is nonattainment for the ozone NAAQS and much of California is nonattainment for PM_{10}.

435. It is unlawful for CARB to intentionally undermine California's efforts to attain and maintain the NAAQS by adopting measures in the 2017 Scoping Plan that will increase NOx and PM by intentionally increasing congestion in an attempt to lower VMT to purportedly achieve GHG emission reductions.

436. In adopting the VMT reduction requirements in the 2017 Scoping Plan, CARB is violating its statutorily mandated duty in the Health & Safety Code to attain and maintain the NAAQS, and preventing the local air districts from adequately discharging their duties under law to do everything possible to attain and maintain the NAAQS.

NINTH CAUSE OF ACTION

(Violations of the APA - Underground Regulations, Gov. Code § 11340 – 11365)

437. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-436 above, as well as paragraphs 442-458.

438. As explained above, the GHG Housing Measures are standards of general application for state agencies and standards to implement and interpret the 2017 Scoping Plan and the reductions in GHG emissions it is designed to achieve.

439. The four GHG Housing Measures in CARB's 2017 Scoping Plan are underground regulations in violation of APA standards requiring formal rulemaking.

440. As to the CEQA net zero GHG threshold specifically, the Legislature directed OPR to adopt CEQA guidelines as regulations and CEQA itself requires that public agencies that adopt thresholds of significance for general use must do so through ordinance, resolution, rule, or regulations developed through a public review process. CEQA Guidelines § 15064.7(b). Thus, any state agency that purports to adopt CEQA guidelines must do so via regulations, following the full formal rulemaking process in the APA.[144]

441. CARB has not adopted the GHG Housing Measures through a public review process and thus it violates the APA.

[144] *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App. 5th 1067 (stating that air district adoption of CEQA guidelines, including GHG thresholds of significance, must be adopted as regulations, including with public notice and comment, and are not mere advisory expert agency opinion).

TENTH CAUSE OF ACTION

(Ultra Vires Agency Action, Code of Civil Proc. §1085)

442. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-441 above.

443. In adopting the 2017 Scoping Plan, including the GHG Housing Measures, CARB has acted beyond its statutorily delegated authority and contrary to law.

CEQA Net Zero GHG Threshold

444. The 2017 Scoping Plan would apply a CEQA net zero GHG emissions threshold to all CEQA projects. CEQA applies to the "whole of a project", which includes construction activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities.

445. This threshold is unlawful under *Newhall, supra,* 62 Cal.4th 204, and other current California precedent affirming that compliance with law is generally an acceptable CEQA standard. This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts. *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708.

446. This threshold is also unlawful under OPR's GHG CEQA rulemaking package which stated that there was not a CEQA threshold requiring no net increase in GHG emissions (i.e., no one molecule rule). *See* "Final Statement of Reasons for Regulatory Action", Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97, Dec. 2009, p. 25 ([n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA. (CBE, *supra,* 103 Cal.App.4th 120)").

Regulating In An Attempt to Achieve the 2050 GHG Emission Reduction Goal

447. CARB also acted ultra vires by attempting to mandate GHG Housing Measures that purportedly would help California achieve the 2050 GHG reduction goal in Executive Order S-3-05.

448. CARB has no Legislative authority to regulate towards achieving the 2050 goal, a GHG emission reduction target which has not been codified and which the Legislature has repeatedly refused to adopt. Mandating actions in an attempt to reach the 2050 goal is outside CARB's statutory authority under the GWSA which only contains GHG emission reduction standards for 2020 and 2030.

449. The Legislative Analyst's Office has stated that, based on discussions with Legislative Counsel, it is unlikely that CARB has authority to adopt and enforce regulations to achieve more stringent GHG targets. LAO report, p. 7.

VMT Reduction Requirements

450. In addition, the VMT reduction standards mandated in the Scoping Plan are ultra vires and beyond CARB's statutory authority.

451. The Legislature rejected legislation as recently as 2017 requiring VMT reductions/standards.

452. The only agency authorized to consider VMT under CEQA is OPR under SB 743. OPR's proposed SB 743 regulations are going through a formal rulemaking process now and CARB cannot jump the gun and, with zero statutory authority, adopt VMT regulations in the 2017 Scoping Plan.

SB 97 and OPR Promulgation of CEQA Guidelines

453. Similarly, the only method by which the Legislature authorized OPR (with CARB's permissive but not mandatory cooperation) to adopt new CEQA significance thresholds is via updates to the CEQA Guidelines.

454. OPR has not included CARB's new GHG Housing Measures in its proposed new Guidelines, and CARB has no authority to make an "end run" around the rulemaking process established by the Legislature.

New Building Code Requirements

455. The Legislature has enacted new consumer protection requirements, including new building standards, designed to assure that new building code requirements are cost effective.

CARB's "net zero" new home building standard was not included in these new building standards.

456. CARB has no Legislative authority to impose new "net zero" building standards.

457. CARB's new "net zero" building standards are contrary to, and will substantially frustrate, the Legislature's purpose in adopting new building code requirements.

458. CARB's decision to adopt the 2017 Scoping Plan and the GHG Housing Measures within it was also fraught with procedural defects, including violations of the APA, CEQA, and GWSA, as explained above. These procedural defects are further actions that are *ultra vires* and were taken contrary to law.

PRAYER FOR RELIEF

WHEREFORE Petitioners THE TWO HUNDRED, including LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, request relief from this Court as follows:

A. For a declaration, pursuant to Code of Civil Procedure § 1060, that the following GHG regulations and standards, as set out in CARB's Scoping Plan, are unlawful, void, and of no force or effect:

- The Vehicle Miles Traveled ("VMT") mandate.
- The Net Zero CEQA threshold
- The CO2 per capita targets for local climate action plans for 2030 and 2050

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- The "Vibrant Communities" policies in Appendix C.

B. For a writ of mandate or peremptory writ issued under the seal of this Court pursuant to Code of Civil Procedure § 1094.5 or in the alternative § 1085, directing Respondents to set aside the foregoing provisions of the Scoping Plan and to refrain from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

C. For permanent injunctions restraining Respondents from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

D. For an award of their fees and costs, including reasonably attorneys' fees and expert costs, as authorized by Code of Civil Procedure § 1021.5, and 42 U.S. Code section 1988.

E. That this Court retain continuing jurisdiction over this matter until such time as the Court has determined that CARB has fully and properly complied with its Orders.

F. For such other and further relief as may be just and appropriate.

Dated November 21, 2018

Respectfully submitted,

HOLLAND & KNIGHT LLP

By: _____

Jennifer L. Hernandez
Charles L. Coleman III
Marne S. Sussman
David I. Holtzman

Attorneys for Plaintiffs/Petitioners
THE TWO HUNDRED, LETICIA RODRIGUEZ, TERESA MURILLO, GINA PEREZ, *et al.*

VERIFICATION

I, Jennifer L. Hernandez, am one of the attorneys for, and am a member of, THE TWO HUNDRED, an unincorporated association, Plaintiffs/Petitioners in this action. I am authorized to make this verification on behalf of THE TWO HUNDRED and its members named herein. I have read the foregoing FIRST AMENDED VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF and know the contents thereof. I am informed and believe and on that ground allege that the matters stated therein are true. I verify the foregoing Petition and Complaint for the reason that Plaintiffs/Petitioners named in the Petition/Complaint are not present in the county where my office is located.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 21st day of November, 2018, at San Francisco, California.

JENNIFER L. HERNANDEZ

EXHIBIT 1

XAVIER BECERRA
Attorney General of California
SALLY MAGNANI
Senior Assistant Attorney General
SARAH MORRISON
Supervising Deputy Attorney General
State Bar No. 143459
SHANNON CLARK
Deputy Attorney General
State Bar No. 316409
1515 Clay Street, 20th Floor
P.O. Box 70550
Oakland, CA 94612-0550
Telephone: (510) 879-1973
Fax: (510) 622-2270
E-mail: Shannon.Clark@doj.ca.gov
Attorneys for Amicus Curiae, People of the State of California, ex rel. Xavier Becerra, Attorney General

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN DIEGO

SIERRA CLUB, CENTER FOR BIOLOGICAL DIVERSITY, CLEVELAND NATIONAL FOREST FOUNDATION, CLIMATE ACTION CAMPAIGN, ENDANGERED HABITATS LEAGUE, ENVIRONMENTAL CENTER OF SAN DIEGO, and PRESERVE WILD SANTEE, Petitioners, v. COUNTY OF SAN DIEGO, Respondent.	Consolidated Lead Case No. 37-2018-00014081-CU-TT-CTL Related Cases: No. 37-2012-101054, Sierra Club v. COSD No. 37-2018-13324, Golden Door v. COSD No. 37-2016-037402, Golden Door v. COSD **EX PARTE APPLICATION OF PEOPLE OF THE STATE OF CALIFORNIA FOR LEAVE TO FILE AMICUS CURIAE BRIEF IN SUPPORT OF PETITIONERS AND MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF APPLICATION** **Telephone Appearance** Date: November 14, 2018 Time: 8:30 A.M. Judge: Hon. Timothy B. Taylor Dept: C-72 Action Filed: March 20, 2018 Trial Date: December 21, 2018

INTRODUCTION

The People of the State of California, *ex rel.* Attorney General Xavier Becerra, seek leave to file the attached Amicus Curiae Brief in support of Petitioners Sierra Club, Golden Door Properties and other organizations ("Petitioners") filed against the County of San Diego ("County"). The Attorney General seeks to participate as *amicus curiae* in this action to ensure compliance with the requirements of the California Environmental Quality Act ("CEQA") (Pub. Resources Code, §§ 21000, et seq.) and to protect the natural resources and public health and safety of the State.

This action challenges the County's approval of the revised Climate Action Plan ("revised CAP"), the environmental impact report ("EIR") for the revised CAP, and the Threshold of Significance for climate change impacts. The Attorney General's amicus brief will discuss the County's CEQA violations relating to the revised CAP approvals, including the EIR's failure to analyze the revised CAP's inconsistency with state and regional plans and policies to address climate change. The Attorney General's proposed amicus brief is attached hereto as Exhibit A. The Attorney General's participation as amicus curiae is appropriate in this action and will provide helpful expertise to the Court.

The Attorney General is applying ex parte for leave to file an amicus brief in order to avoid causing any delay in this litigation. Although not required, the Attorney General is also submitting its amicus brief as an exhibit to this application, to provide the court and the parties with the Attorney General's brief as early as possible. Moreover, the People have provided timely notice of this application. (See Declaration of Shannon Clark in Support of *Ex Parte* Application.) Counsel for the Petitioners have informed the People that the Petitioners' support the *ex parte* application of the Attorney General to file an *amicus curiae* brief in this matter. (*Ibid.*) Counsel for the County has informed the People that the County opposes the application. (*Ibid.*)

THE ATTORNEY GENERAL'S PARTICIPATION IS APPROPRIATE

The Attorney General's interest in this case stems both from his responsibility as the State's chief law enforcement officer to ensure that the State's laws are appropriately enforced and from

his duty under the Government Code to protect the environment and natural resources of California. (Cal. Const., art. V, § 13; Gov. Code, §§ 12600-12612; *D'Amico v. Board of Medical Examiners* (1974) 11 Cal.3d 1, 14-15.) As CEQA's enforcer, the Attorney General has a particular interest in ensuring the proper interpretation of CEQA and of the regulations implementing CEQA (Cal. Code Regs., tit. 14, § 15000 et seq.) ("CEQA Guidelines").

The Attorney General has a unique role with respect to actions concerning pollution and adverse environmental effects that could affect the public or the natural resources of the State. (Gov. Code, §§ 12600-12612.) Government Code section 12600 specifically provides that "[i]t is in the public interest to provide the people of the State of California *through the Attorney General* with adequate remedy to protect the natural resources of the State of California from pollution, impairment, or destruction." (Emphasis added.) The Attorney General further has express statutory authority to "intervene in any judicial or administrative proceeding in which facts are alleged concerning pollution or adverse environmental effects which could affect the public generally." (Gov. Code, § 12606.) These provisions are to be liberally construed and applied to promote their underlying purpose. (Gov. Code, § 12603.)

The Attorney General also has a special role in ensuring compliance with CEQA. The Attorney General receives copies of all CEQA notices sent to the State Clearinghouse, must be served with all CEQA complaints (Pub. Resources Code, § 21167.7), and is excused from the Act's exhaustion requirements (Pub. Resources Code, § 21177(d).) "The service of pleadings on the Attorney General has the effect of informing that office of the action and permits the Attorney General to lend its power, prestige, and resources to secure compliance with CEQA and other environmental laws . . . ." (*Schwartz v. City of Rosemead* (1984) 155 Cal.App.3d 547, 561; see Pub. Resources Code, § 21167.7; Code Civ. Proc., § 388.)

For a number of years, the California Attorney General has actively participated in CEQA matters raising issues of greenhouse gas ("GHG") emissions and climate change. In 2006, the Attorney General's Office submitted its first comment letter noting that climate change is an environmental impact that must be addressed under CEQA. Ultimately, the Attorney General's position was codified in 2007 with the passage of Senate Bill 97 (Pub. Resources Code, §

21083.05) and is reflected in CEQA's implementing regulations (Cal. Code Regs., tit. 14, § 15064.4.) Where information, transparency, and effective mitigation have been lacking, the Attorney General has taken action, consistent with the office's longstanding interest in protecting the public welfare and ensuring compliance with CEQA. For example, the Attorney General challenged the adequacy of the EIR certified for the San Diego Association of Governments' 2050 Regional Transportation Plan and Sustainable Communities Strategy because it failed to adequately mitigate its GHG impacts, or consider mitigation that would reduce vehicle miles traveled. (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 17 Cal.App.5th 413.) The Attorney General also commented on the County's 2011 General Plan Update EIR, recommending that it's mitigation measure requiring the implementation of a CAP contain as much specificity as possible, so as not to be deferred mitigation. (California Attorney General, *Comments on the Draft EIR for the San Diego General Plan Update* (Aug. 31, 2009) p.7.)

Here, the Attorney General's involvement in this action is appropriate, because the revised CAP may result in adverse environmental effects affecting the public health and safety and natural resources. The EIR acknowledges that the revised CAP will have significant impacts on the state's natural resources. (AR 16:13535.) The revised CAP will increase vehicle use in the County, creating inconsistencies with state laws and policies to address climate change, including Senate Bill 375. (AR 22:18417, 18432-18433; 29:13550.) This increase in vehicle use will also lead to increases in air pollutants such as particulate matter, which is harmful to human and environmental health. (AR 22:19483.) The EIR fails to evaluate or mitigate these significant impacts as required by CEQA. Accordingly, the Attorney General requests permission to file an amicus curiae brief to ensure that the County addresses the harms the revised CAP will cause to the public and the natural resources of the state.

THIS COURT HAS DISCRETION TO ALLOW THE FILING OF THE PEOPLE'S AMICUS CURIAE BRIEF

A trial court has discretion to accept *amicus curiae* briefs. (See *In re Marriage Cases* (2008) 43 Cal.4th 757, 791, fn. 10 ["[T]he superior court, in exercising its traditional broad

discretion over the conduct of pending litigation, retained the authority to determine the manner and extent of [dismissed parties'] participation as amici curiae that would be of most assistance to the court."].) As Witkin's *California Procedure* observes about participation in trial court proceedings, "[a]ttorneys as *amici curiae* ('friends of the court') are occasionally permitted in the complete discretion of the court to be heard orally or by briefs on a legal question in which they are interested." (4 Witkin, Cal. Proc. (5th ed. 2008) Plead, § 216.) Reported cases have mentioned, without objecting to, the practice of trial courts accepting *amicus curiae* briefs from the Attorney General. (See, e.g., *California Attorneys, etc. v. Schwarzenegger* (2009) 174 Cal.App.4th 424, 431 ["Attorney General Edmund G. Brown, Jr. filed an amicus brief in the trial court."]; *People v. Murtha* (1993) 14 Cal.App.4th 1112, 1126, fn. 2 [noting that a deputy attorney general filed an amicus brief in the superior court].) Similarly, trial courts have routinely admitted amicus briefs from other amicus curiae as well. (See, e.g., *Uhler v. City of Encinitas* (1991) 227 Cal.App.3d 795, 799, fn. 1 [noting that, in writ action under CEQA, homeowners "association appeared . . . as amicus curiae before the San Diego County Superior Court"]; *Union Bank of California v. Superior Court* (2005) 130 Cal.App.4th 378, 386 ("The [federal agency] subsequently filed an amicus curiae brief in the trial court"]; *Southwest Diversified, Inc. v. City of Brisbane* (1991) 229 Cal.App.3d 1548, 1550 ["San Mateo County has filed amicus curiae briefs both in the trial court and in this appeal"].) Thus, it is appropriate for the Court to allow the Attorney General to file an amicus curiae brief in this case.

IDENTIFICATION OF ATTORNEYS PURSUANT TO RULE 3.1202 OF THE CALIFORNIA RULES OF COURT

Pursuant to Rule 3.1202 of the California Rules of Court, the People identify the following attorneys who represent the parties in this matter:

Jan Chatten-Brown
Josh Chatten-Brown
Chatten-Brown & Carstens LLP
302 Washington Street, #710
San Diego, CA 92103
(619) 940-4522
jcb@cbcearthlaw.com
jrcb@cbcearthlaw.com
Attorneys for Petitioner Sierra Club

Christopher W. Garrett
Taiga Takahashi
Latham & Watkins LLP
12670 High Bluff Drive
San Diego, CA 92130
(858)523-3987
Christopher.Garrett@lw.com
Taiga.Takahashi@lw.com
Attorneys for Petitioner Golden Door Properties, LLC

Joshua M. Heinlein
Senior Deputy
Claudia G. Silva
Assistant County Counsel
1600 Pacific Highway, Room 355
San Diego, CA 92101-2469
(619) 531-5850
Claudia.Silva@sdcounty.ca.gov
Joshua.Heinlein@sdcounty.ca.gov
Attorneys for San Diego County

CONCLUSION

To promote the fair adjudication of the important issues raised in this action and to protect the interests of the People of the State of California, the Attorney General respectfully requests that this Court grant its application for leave to file an *amicus curiae* brief in support of the Petitioners.

Dated: November 8, 2018

Respectfully Submitted,

XAVIER BECERRA
Attorney General of California
SALLY MAGNANI
Senior Assistant Attorney General
SARAH MORRISON
Supervising Deputy Attorney General

/s/ Shannon Clark
SHANNON CLARK
Deputy Attorney General

Attorneys for Amicus Curiae
People of the State of California ex rel.
Attorney General Xavier Becerra

Exhibit A

XAVIER BECERRA
Attorney General of California
SALLY MAGNANI
Senior Assistant Attorney General
SARAH E. MORRISON
Supervising Deputy Attorney General
State Bar No. 143459
SHANNON CLARK
Deputy Attorney General
State Bar No. 316409
1515 Clay Street, 20th Floor
Oakland, CA 94612-0550
Telephone: (510) 879-1973
Fax: (510) 622-2270
E-mail: Shannon.Clark@doj.ca.gov

Attorneys for Amicus Curiae, People of the State of California ex rel. Attorney General Xavier Becerra

SUPERIOR COURT OF THE STATE OF CALIFORNIA

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SIERRA CLUB, CENTER FOR BIOLOGICAL DIVERSITY, CLEVELAND NATIONAL FOREST FOUNDATION, CLIMATE ACTION CAMPAIGN, ENDANGERED HABITATS LEAGUE, ENVIRONMENTAL CENTER OF SAN DIEGO, and PRESERVE WILD SANTEE, Petitioners, v. COUNTY OF SAN DIEGO, Respondent.	Consolidated Lead Case No. 37-2018-00014081-CU-TT-CTL Related Cases: No. 37-2012-101054, Sierra Club v. COSD No. 37-2018-13324, Golden Door v. COSD No. 37-2016-037402, Golden Door v. COSD **[PROPOSED] AMICUS CURIAE BRIEF OF THE PEOPLE OF THE STATE OF CALIFORNIA** **[CALIFORNIA ENVIRONMENTAL QUALITY ACT]** Judge: Hon. Timothy B. Taylor Dept: C-72 Time: 1:30 PM Action Filed: March 20, 2018 Trial Date: December 21, 2018

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INTRODUCTION AND STATEMENT OF INTEREST

Amicus Curiae, the People of the State of California, ex rel. Attorney General Xavier Becerra ("Attorney General"), file this brief in support of the actions filed by the Sierra Club and Golden Door Properties ("Petitioners") against the County of San Diego ("County"). The Attorney General submits this brief to assist the Court in evaluating the adequacy of the County's revised climate action plan ("revised CAP") and its supplemental environmental impact report ("EIR").

In its 2011 General Plan—the "constitution" for San Diego's future development[1]—the County committed to adopting a countywide greenhouse gas ("GHG") emissions reduction plan or climate action plan as its key climate mitigation measure. The Attorney General has long advocated the use of climate action plans to address GHG emissions at the local level by analyzing impacts and identifying mitigation opportunities that may be lost on project-by-project review.[2] The County's decision to prepare a climate action plan was an important step in the right direction from a legal, policy, and environmental standpoint. Still, the County's initial effort in 2012 fell short of complying with the California Environmental Quality Act ("CEQA"). The County failed to ensure that its initial climate action plan included comprehensive and enforceable GHG reduction measures that would keep the County on track to meet its 2020 target and stay on track for continuing emissions reductions over the longer term. In addition, the initial climate action plan lacked its own supplemental environmental analysis. In *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, the Court of Appeal affirmed the judgment of this court, laying out these shortcomings with the expectation that the County would fix them, continuing its forward progress.

[1] *DeVita v. County of Napa* (1995) 9 Cal.4th 763, 773.

[2] See, e.g., Attorney General's Comment Letter on San Diego County General Plan Update Draft Environmental Impact Report (August 31, 2009); Attorney General's Comment Letter on Tulare County General Plan and Recirculated Draft Environmental Impact Report (May 27, 2010); Attorney General's Comment Letter on City of Pleasanton's Proposed General Plan Update and Final Environmental Impact Report (May 8, 2009), available at https://oag.ca.gov/environment/ceqa/letters.

Rather than meeting its CEQA responsibilities, however, the County ignored the Court's requirement that the climate action plan include enforceable measures and instead retained provisions that do not appear to actually result in GHG emissions reductions. Further, the County substantially backtracked by implementing mitigation measure GHG-1, referred to in this brief as the Offset Provision. The Offset Provision allows future developments, including those located far from urban centers, to mitigate their GHG emissions largely through the purchase of offsets. (Administrative Record ("AR") 16:13350.) Positively, the County did take a more environmentally-protective approach in seeking to achieve net zero GHG emissions; however, the Offset Provision in reality is likely to lead to an increase in vehicle travel on the County's roads, conflicting with regional transportation planning and state climate laws that call for reductions in vehicle use.

Despite failing to comply with the Court's order, the County now asserts, wrongly, that the revised CAP and EIR can serve as streamlining documents. If they were to be treated as streamlining documents, future projects consistent with the revised CAP could comply with CEQA by incorporating the GHG analysis and mitigation measures developed in the EIR into project-level environmental review documents. (CEQA Guidelines [Cal. Code Regs., tit. 14, § 15000 et seq.], § 15183.5, 15125.) The County's revised CAP and EIR fall short of CEQA's requirements for streamlining documents, however. Under the CEQA Guidelines, an adequate plan must: (1) quantify GHG emissions within the relevant area, (2) establish GHG emissions targets, (3) identify GHG emissions from anticipated activities in the area, (4) specify GHG reduction measures to achieve the earlier emissions targets, (5) establish a method to monitor the plan's progress, and (6) adopt the plan in a public process that includes environmental review. (*Id*. at § 15183.5, subd. (b).) Here, the revised CAP does not identify the foreseeable GHG emissions from future development projects in its GHG emissions projections. (AR 29:21639.) The revised CAP also does not contain GHG reduction measures that will adequately reduce GHG emissions to meet the revised CAP's targets. Finally, the EIR fails to analyze the revised CAP's inconsistency with state or regional climate plans and policies, and fails to consider feasible mitigation measures that would comply with such laws. Therefore, the revised CAP and

EIR cannot serve as streamlining documents for future project-level environmental review under CEQA Guidelines sections 15183.5. The revised CAP and the EIR's failures violate CEQA and may negatively effect the County's residents, future developers, and the state's efforts to address climate change.

ARGUMENT

I. WELL DESIGNED LOCAL CLIMATE ACTION PLANS SERVE IMPORTANT LEGAL AND ENVIRONMENTAL OBJECTIVES

General plans are "projects" under CEQA and therefore subject to the requirements of CEQA. (*DeVita, supra*, 9 Cal.4th at p. 794; CEQA Guidelines, § 15166.) GHG emissions cause climate change, a serious environmental impact, and therefore must be analyzed and mitigated under CEQA. (CEQA Guidelines, § 15064.4; see generally *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497.)[3] A well designed climate action plan—one that is enforceable and linked to the general plan—recognizes the important role that local governments must play in helping the state continuously and dramatically reduce emissions, and the risk of dangerous climate change, by mid-century. (See Governor's Office of Planning and Research, General Plan Guidelines (2017) p. 223-224, hereafter "General Plan Guidelines," available at http://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf.)

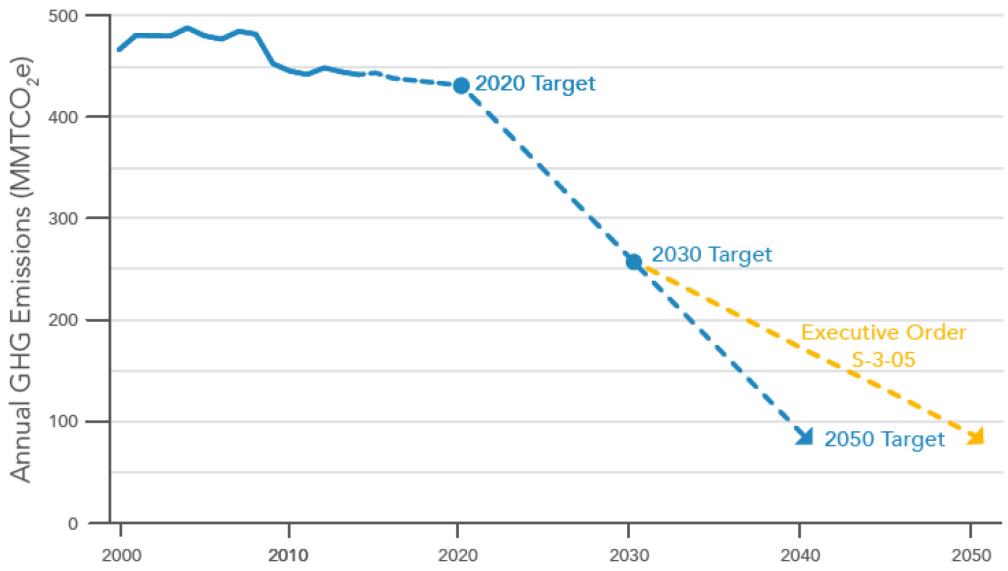
A. Local Governments Have an Essential Role to Play in Meeting the State's Climate Objectives, Including Reducing Vehicle Miles Traveled

California is experiencing first-hand the impacts of climate change, including more severe droughts and wildfires, coastal erosion, and the spread of insect-borne diseases. (AR 1026:55037 [California Air Resources Board, 2017 Scoping Plan (2017) at p. ES 2, hereafter "Scoping Plan"].)[4] In response to the threats of climate change, and consistent with climate science, California took the lead in reducing GHG emissions by enacting the Global Warming Solutions

[3] See also "The *SANDAG* Decision: How Lead Agencies Can 'Stay in Step' with Law and Science in Addressing the Climate Impacts of Large-Scale Planning and Infrastructure Projects" available at http://legal-planet.org/wp-content/uploads/2018/09/environmental-law-news_2017_vol-26-no-2_fall_the-sandag-decision.pdf.

[4] The 2017 Scoping Plan is available at https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

Act of 2006, also known as AB 32, which set the state's original target of reducing GHG emissions to 1990 levels by 2020. (Health & Saf. Code, §§ 38500 et. seq.) As required by AB 32, the Air Resources Board developed the Scoping Plan, which outlined a framework of GHG reduction strategies and a path for the state to meet AB 32's GHG reduction targets. (Health & Saf. Code, § 38561; AR1026:55038 [Scoping Plan at ES 3].) In 2016, California passed Senate Bill 32 ("SB 32"), which strengthens the goals of AB 32 by setting a goal of reducing GHG emissions 40 percent below 1990 levels by 2030. (Health & Saf. Code, § 38566.) In 2017, the Scoping Plan was updated to include the 2030 targets from SB 32. These "targets have not been set in isolation. They represent benchmarks, consistent with prevailing climate science, charting an appropriate trajectory forward that is in line with California's role in stabilizing global warming below dangerous thresholds. As we consider efforts to reduce emissions to meet the State's near-term requirements, we must do so with an eye toward reductions needed beyond 2030." (AR1026:55038 [Scoping Plan at ES 3].) Represented graphically, our climate challenge is significant:[5]



(AR1026:55071 [Scoping Plan, p. 18, fig. 5, "Plotting California's Path Forward"].)

[5] The chart also depicts the targets established by Executive Order S-3-05, which sets a goal of reducing GHG emissions to 2000 levels by 2010, 1990 levels by 2020 and 80 percent below 1990 levels by 1990. (Governor's Exec. Order No. S-3-05 (June 1, 2005).) In addition to the targets depicted in the chart, recent Executive Order B-55-18 establishes the goal of achieving carbon neutrality by 2045. (Governor's Exec. Order No. B-55-18 (Sept. 10, 2018).)

The Scoping Plan emphasizes that local governments are critical players in achieving the state's climate stabilization goals. (AR1026:55150 [Scoping Plan at p. 97]; see also *id*. at 55072, 55115, 55125, 55140, 55144, 55150-55155 [pp. 19, 62, 72, 87, 91, 97-102].) In particular, local governments are necessary partners in reducing GHG emissions from land use and transportation. The California Supreme Court has recognized that "[l]ocal governments … bear the primary burden of evaluating a land use project's impact on greenhouse gas emissions." (*Center for Biological Diversity v. California Dept. of Fish and Wildlife* (2016) 62 Cal.4th 204, 230.) Further, the Scoping Plan relies on local governments, among other things,[6] to achieve reductions from land use planning and transportation, and states that local governments "can develop land use plans with more efficient development patterns that bring people and destinations closer together in more mixed-use, compact communities that facilitate walking, biking, and use of transit." (AR 1026:55150 [Scoping Plan at 97].)

Transportation is the largest source of GHG emissions in the state, totaling approximately half of statewide GHG emissions. (AR 1026:55063 [Scoping Plan at p. 10].) Accordingly, the development of communities that are compact, have easy access to transit, and are walkable and bikeable is integral to California's low-carbon future. (*Id.* at 55117, 55126-130 [pp. 64, 73-77].) In order to address this massive source of emissions, California has adopted environmental policies and laws intended to accomplish GHG reductions in part through reducing vehicle use. (See, e.g., Gov. Code, §§ 65080 et. seq. (referred to as Senate Bill 375, or SB 375); Pub. Resources Code, §§ 21099 et. seq. (referred to as Senate Bill 743 or SB 743).) These laws and policies not only reduce the GHG emissions that come from vehicles, but also shape land use so that it is conducive to other low-carbon forms of travel.

Reducing "vehicle miles traveled"[7]—a common measurement of vehicle usage—is necessary to achieve SB 32's 2030 emissions reduction goals. Specifically, the Scoping Plan

[6] As the Scoping Plan notes, "many cities and counties improve their municipal operations by upgrading vehicle fleets, retrofitting government buildings and streetlights, purchasing greener products, and implementing waste-reduction policies. In addition, they may adopt more sustainable codes, standards, and general plan improvements to reduce their community's footprints and emissions." (AR1026:55072 [Scoping Plan at p. 19].)

[7] For the purposes of analyzing GHG emissions, one vehicle mile traveled is the equivalent of one vehicle driving one mile.

calls for a 15-percent reduction in total light-duty vehicle miles traveled by 2050 as compared to projected "business as usual" 2050 levels. (AR 1026:55078, 55131 [Scoping Plan at pp. 25, 78].) Additionally, in 2008, California passed Senate Bill 375 ("SB 375"), which helps to achieve state GHG reduction goals specifically by reducing regional GHG emissions from light duty vehicles through coordinated land use transportation planning. (Gov. Code. § 65080 subd. (b)(2)(B)(vii).) Implementation of SB 375 is a primary strategy identified in the Scoping Plan to reduce GHG emissions from the transportation sector. (AR 1026:55154 [Scoping Plan at p. 101].) Under SB 375, regional planning organizations develop regional transportation plans to achieve the regional GHG reduction targets set by the Air Resources Board. (Gov. Code § 65080.) The final Air Resources Board staff report supporting the current SB 375 targets stated that in order to achieve the intent of SB 375, its emissions targets should be "achieved predominantly through strategies that reduce [vehicle miles traveled]." (AR 22:20413 [Air Resources Board, Final Staff Report on the Proposed Update to the SB 375 GHG Emissions Reduction Targets (Oct. 2017) at p. 19].) The regional planning body for the San Diego Region, the San Diego Association of Governments (SANDAG), specifies in its regional transportation plan that GHG reductions are to be achieved through land use planning methods that are designed to reduce vehicle miles traveled, including "using land in ways that make developments more compact, conserving open space, and investing in a transportation system that provides people with alternatives to driving alone." (AR 430:39941.)

Local governments are well positioned to address how best to manage their land use and growth in a sustainable way, consistent with local needs and values, and to solicit community participation in developing communities that are both better for residents and lessen the area's carbon footprint. (AR 1026:55150 [Scoping Plan at p. 97].) Local actions to combat climate change can in many cases be more effective, less costly and provide more environmental and economic co-benefits than regulating at the state level. (*Ibid.*) Beyond SB 375 compliance, the 2017 Scoping Plan also supports comprehensive local planning as an important method to coordinate GHG emissions reductions. (*Id.* at 55152-57 [pp. 99-104].) The Air Resources Board recognizes that "there is a gap between what SB 375 can provide and what is needed to meet the

State's 2030 and 2050 goals," and therefore the Scoping Plan recommends that "local governments consider policies to reduce vehicle miles traveled to help achieve these reductions" through their local planning decisions. (*Id.* at 55154 [p. 101].) In short, if California is to reach its climate objectives, local actions, in particular land use and transportation measures to reduce vehicle use, must be part of a multi-pronged approach to achieving statewide GHG reductions.

B. Climate Action Plans Are an Effective Way to Comprehensively Address Local GHG Emissions Trends and Other Local Impacts

Many local jurisdictions have developed program-level GHG emissions reduction plans, such as climate action plans.[8] These plans outline city-, county- or region-level frameworks that detail the specific actions a local agency will implement to reduce GHG emissions to a specified emissions level that is consistent with the state's long-term climate objectives (General Plan Guidelines at pp. 226-229.) Climate action plans, done correctly, provide a comprehensive approach to fighting climate change on the local level and allow the local government to address impacts that may not be sufficiently analyzed and mitigated if projects are only reviewed one at a time. (*Id.* at p. 223.) Because climate action plans look ahead to the future and can be integrated with other land use development plans, such as general plans, they allow jurisdictions to consider methods of GHG reduction that would not be available on a project-basis, such as zoning for compact development to decrease reliance on vehicles. (*Ibid.*) In addition, adopting a climate action plan can have important local co-benefits. Many local jurisdictions achieve improved local air quality, which can lead to fewer pollution-related health impacts, and fiscal savings through adopting energy-saving measures in a climate action plan.[9]

[8] See Air Resources Board, California Climate Action Portal Map, available at, https://webmaps.arb.ca.gov/capmap/; see also, Governor's Office of Planning and Research, 2016 California Jurisdictions Addressing Climate Change, available at http://www.opr.ca.gov/docs/2016_California_Jurisdictions_Addressing_Climate_Change_Summary.pdf.

[9] See Statewide Energy Efficiency Collaborative, State of Local Climate Action: California 2016, pp. 4, 41, available at http://californiaseec.org/2016/10/state-of-local-climate-action-california-2016-details-local-climate-leadership-in-the-state/.

C. Legally Adequate Climate Action Plans Can Streamline CEQA Review for Future Projects

Robust local GHG emissions reduction plans—those that will actually reduce local emissions over time—can also streamline CEQA review for projects that comply with the GHG reduction plan itself and the general plan. (CEQA Guidelines, § 15183.5.) Where there is an adequately detailed and enforceable climate action plan, the local government may appropriately determine that the GHG impacts for a project that is consistent with the climate action plan will be less than significant. (*Id.* at § 15183.5, subd. (b).) Additionally, through streamlining, an adequate EIR for climate action plan can provide for "tiering" of environmental review, which allows a project-level EIR to incorporate the analysis from a program-level EIR with respect to issues "adequately addressed"[10] in the program EIR. (*Id.* at § 15152, subd. (b), (f).)

A program-level EIR prepared for a climate action plan can: "[p]rovide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action"; "[e]nsure consideration of cumulative impacts that might be slighted in a case-by-case analysis"; "[a]void duplicative reconsideration of basic policy considerations"; "[a]llow the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts"; and "[a]llow reduction in paperwork." (CEQA Guidelines, § 15168(b).) CEQA streamlining made available by an adequate climate action plan and program level EIR can not only provide important benefits for the agency but also for the developer of the project: developers are provided with a reliable, predictable, more efficient method to address and mitigate a project's GHG emissions. In order for these benefits to be realized, however, a climate action plan must meet the criteria established in the CEQA Guidelines. (*Id.* at §15183.5, subd. (b).)

[10] An issue is "adequately addressed" when its significant impacts are fully mitigated, or when it is completely analyzed so that all foreseeable significant impacts are identified and ready to be mitigated at the project level. (*Id.* at 15152, subd. (f)(3).)

II. THE SAN DIEGO CLIMATE ACTION PLAN, IN ITS CURRENT FORM, FALLS SHORT FROM AN ENVIRONMENTAL AND LEGAL PERSPECTIVE

The County's revised CAP and EIR will foreseeably increase vehicle use in the County by allowing required GHG emission reductions to be accomplished mostly with offsets instead of land use and transportation measures to reduce vehicle miles traveled. This reliance on offsets contradicts the goals of state climate policies such as SB 375. The revised CAP and EIR also both fall short of CEQA's requirements for environmental review and criteria for streamlining documents. The revised CAP does not include the GHG emissions from foreseeable future general plan amendment projects in their GHG emissions projections, nor do they demonstrate that the revised CAP's GHG reduction measures will actually reduce to insignificant the GHG emissions from the County's General Plan Update. Further, the EIR fails to analyze the revised CAP's inconsistency with statewide GHG emissions reductions goals and regional GHG emissions reduction plans or consider feasible measures that would reduce GHG emissions in a manner consistent with these goals.

A. The Revised CAP Will Increase Vehicle Miles Traveled, in Conflict with State Climate Goals and the Revised CAP's Stated Purpose as Mitigation for the General Plan Update

Contrary to the state's climate objectives, as expressed in the Scoping Plan and SB 375, and contrary to the County's characterization of the revised CAP as a GHG mitigation measure for the General Plan Update, there is substantial evidence that the revised CAP will foreseeably *increase* vehicle miles traveled in San Diego County, thereby increasing GHG emissions. This increase in emissions arises from the Offset Provision in the EIR. (AR 16:13350.)

The County's decisions to require certain future general plan amendment projects to achieve net zero GHG emissions, as well as to design the Offset Provision with a hierarchy that favors feasible on-site mitigation before turning to offsets for GHG reduction, reflect positive, environmental policy.[11] The problem here, however, is that the County's Offset Provision actually creates a framework which allows future general plan amendment developments in the

[11] Verifiable, enforceable measures that prioritize on-site mitigation not only serve to implement the state's climate stabilization goals, they also allow local communities to realize the important co-benefits of GHG reduction, including a reduction in conventional air pollutants emitted from the transportation sector. (AR 1026:55155 [Scoping Plan at p. 102].)

County to mitigate the majority of their GHG emissions through the purchase of carbon offsets. (AR 16:13350.) While offsets can be an effective part of a successful overall mitigation strategy, a GHG reduction program that relies on offsets should only be turned to *after* on-site reduction and measures to reduce vehicle use are implemented. (General Plan Guidelines at p. 231.) Here, the County does not require any minimum amount of on-site reduction and does not implement other methods of reducing vehicle miles traveled, such as siting development projects close to urban centers and transit, as instructed by the State's climate stabilization policies (AR 16:13350) and as suggested by commenters on the draft EIR (AR 22:18452, 18470).[12] Because SB 375 instructs that GHG reductions are to result from land use development and transportation patterns, offsets cannot be used to achieve the regional goals under SB 375. (Gov. Code § 65080 (b)(2)(B).)

Additionally, because the Offset Provision applies to general plan amendment projects, it could allow the County to avoid mitigating vehicle emissions from the projects that are most likely to lead to increases in vehicle miles traveled. (AR 32:22068.) General plan amendment developments are generally large-scale projects that exceed density requirements outlined in the general plan and are often located in rural areas with more open space. (AR 22:18417, 18432-18433.) By their very nature, general plan amendment developments increase vehicle miles traveled because residents or visitors to these developments need to drive longer and farther distances to get to or from urban centers.[13] By allowing rural development to be mitigated largely with offsets, rather than requiring development to be sited closer to urban centers, the Offset

[12] In the Offset Provision "feasible" is not defined, and is to be determined entirely at the County planning director's sole discretion, in the absence of any objective criteria. (AR 16:13350.) As a result, the County has not developed a mechanism to ensure that onsite mitigation will actually occur. This is demonstrated by the fact that currently approved general plan amendment projects that rely on the Offset Provision in the EIR result in little on-site mitigation actually being required by the County. For example, the approved Newland Sierra project mitigates a full 82 percent of its emissions with offsets. (AR 22:18678.)

[13] For example, the Harmony Grove Village South project, which was recently approved by the County and required a general plan amendment, will increase vehicle miles traveled by 11.5 million miles annually. (ROA 89 in Case No. 37-2018-013324, at p. 76 [Harmony Grove Village South Draft Final Environmental Impact Report at p. 2.7-25].) Similarly, the Newland Sierra general plan amendment project will increase vehicle use by 294,804 miles *daily*. (*Id.* at p. 204 [Greenhouse Gas Emissions Technical Report for the Newland Sierra Project (June 2018), p. 2.7-38].)

Provision foreseeably generates increases in vehicle miles traveled, and a resulting inconsistency with state climate laws and policies, such as SB 375, that are designed to reduce GHG emissions through reducing vehicle use.

The Offset Provision also reflects a larger misunderstanding of the purpose behind state climate policy. California's climate policies and statutes, such as AB 32, SB 32, the Scoping Plan and SB 375, are designed to achieve long-term climate stabilization that continues far beyond the deadlines of the emissions targets they impose. ((AR1026:55038 [Scoping Plan at p. ES 3].) Creating more compact, sustainable land use patterns aimed at reducing vehicle use is consistent with this goal. Vehicle use can exacerbate GHG emissions beyond what is emitted from tailpipes by encouraging roadbuilding and land use development policies designed to accommodate drivers. (National Center for Sustainable Transportation, Cutting Greenhouse Gas Emissions Is Only the Beginning: A Literature Review of the Co-Benefits of Reducing Vehicle Miles Traveled (March 2017) p. 5 (hereafter "NCST Literature Review"), available at https://ncst.ucdavis.edu/wp-content/uploads/2017/03/NCST-VMT-Co-Benefits-White-Paper_Fang_March-2017.pdf.) Offsets, which achieve a one-time reduction in emissions, cannot address these structural, long-term harms. In contrast, policies that prioritize compact land use development can create healthy communities that perpetuate GHG reductions and other co-benefits well beyond the life of the project. (NCST Literature Review at pp. 2-5, 9, 11.) The County's reliance on offsets is fundamentally short sighted: it seeks to meet SB 32's 2030 emissions targets without considering how the Offset Provision will increase vehicle use and generate additional GHG emissions of the region long into the future.[14] Under the revised CAP, vehicle miles traveled in the County will foreseeably increase, an outcome inconsistent with the Scoping Plan and SB 375.

[14] The revised CAP and EIR also do very little to *reduce* vehicle miles traveled, even when adopting measures designed to do so. (AR 29:21658.) For example, Measures T-2.2 and T-2.3 of the revised CAP both purport to reduce vehicle miles traveled, but only from non-residential development and from County employee commutes, even though these sources are responsible for a very small amount of overall transportation emissions. (AR 29:21661-21664.)

B. The Revised CAP and EIR Cannot Serve as Streamlining Documents Under CEQA

The County states specifically that the revised CAP and EIR have complied with all the requirements needed to serve as adequate streamlining documents for future projects, including future general plan amendment projects. (AR 32:22068.) Additionally, the County allows future general plan amendment projects to streamline from the Offset Provision in the EIR, permitting them to reduce their GHG emissions below levels of significance if they comply with the Offset Provision. (AR 16:13552.) Because the Revised CAP and EIR fall short of the CEQA Guidelines requirements for streamlining, the County's assertion that they serve this purpose is incorrect. Program-level environmental documents must identify and analyze all foreseeable significant impacts before project-level documents can incorporate their analysis. (CEQA Guidelines, § 15152, subd. (b).) Here, the EIR does not identify or analyze the Offset Provision's inconsistency with the Scoping Plan and SB 375 that results from expected increases in vehicle miles traveled. (AR 16:13550-13553.) As a consequence, the public has not been adequately informed about how developing San Diego County's rural open space will impact SANDAG's ability to meet its regional targets under SB 375. Because achieving SB 375 targets is part of the state's strategy to meet state climate targets, and because SB 375 anticipates that regional plans, such as the strategy adopted by SANDAG, will result in coordinated and balanced transportation planning, it is important for local agencies to evaluate the consistency of their actions, including approval of individual land use development projects, with the ability of regional planning organizations to meet their assigned GHG emissions reduction targets under SB 375. The EIR fails to consider feasible measures that would reduce vehicle miles traveled, consistent with state policies. (Pub. Resources Code, § 21002; CEQA Guidelines, §. 15126.4.) Numerous commenters identified an array of feasible measures that would reduce vehicle miles traveled, including siting requirements that require general plan amendment projects to be located near urban centers or transit. (See, e.g. AR 22:18452, 18470.) Additional examples of policies that can reduce vehicle miles traveled can be found in both the Scoping Plan and the General Plan Guidelines, yet the EIR does not consider these measures. (See Scoping Plan, Appendix B;

General Plan Guidelines, Appendix A.) Absent this analysis and mitigation, the EIR's discussion is inadequate to streamline project-level environmental review, and the CEQA Guidelines prohibit incorporating the EIR's GHG analysis into later project-level EIRs. (See CEQA Guidelines, §§ 15152, subd. (b), 15183.5, subd. (b)(1)(F).)

The revised CAP does not meet the standards set out in the CEQA Guidelines for GHG reduction plans intended to streamline environmental review. (CEQA Guidelines, § 15183.5, subd. (b).) The CEQA Guidelines specify that, among other elements, a GHG reduction plan must "[q]uantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area." (*Id*. at § 15183.5, subd. (b)(1)(B).) However, the revised CAP does *not* include pending or future GHG emissions from general plan amendment developments – emissions that the County acknowledges as foreseeable – in its GHG emissions projections for 2020, 2030, or 2050. (AR 29:21639.) Streamlining GHG reduction plans must also "specify measures or a group of measures that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level." (CEQA Guidelines, § 15183.5, subd. (b)(1)(D).) The revised CAP similarly falls short of this standard. The EIR states that the revised CAP's GHG reduction measures are estimated to achieve exactly the amount of GHG reductions needed to reduce the County's GHG impacts below significance for 2030, meaning that *every one* of the measures must accomplish its stated GHG reductions or else the County will fall short of its 2030 target. (AR 16:13555.) However, many of the CAP measures are not enforceable. For example, Strategy T-4.1, Establish a Local Direct Investment Program, purports to reduce 174,460 metric tons of CO_2 by 2030 even though the approval, funding, and implementation of the investment projects are all deferred to a later time, and that approval is not guaranteed. (AR 29:21682.) Instead, the County could have proposed investment projects directly in the revised CAP, described how many GHG emissions each project would be required to produce and set a deadline for project completion. The County's failure to include such detail shows it cannot demonstrate with substantial evidence that the revised CAP is adequate mitigation for the GHG impacts of the General Plan Update. The CAP does not satisfy the requirements of CEQA

Guidelines section 15183.5, and ultimately the revised CAP cannot serve as a streamlining document under CEQA. [15]

CONCLUSION

In sum, the revised CAP and EIR are deficient as streamlining documents under CEQA. The revised CAP does not include the GHG emissions from foreseeable future general plan amendment projects in their GHG emissions projections, and does not include measures that will demonstrably reduce GHG emissions from the County's General Plan Update to levels of insignificance. In addition, the EIR violates CEQA because the EIR does not analyze the reasonably foreseeable indirect impacts caused by the revised CAP's mitigation measure, the Offset Provision. Specifically, the EIR fails to analyze the Offset Provision's inconsistency with statewide GHG emissions reductions goals and regional GHG emissions reduction plans, and the EIR does not consider feasible measures that would reduce GHG emissions in a manner consistent with these goals and plans. For these reasons, the Attorney General requests that the Court vacate and set aside the County's approval of the revised CAP and the EIR.

Dated: November 8, 2018

Respectfully Submitted,

XAVIER BECERRA
Attorney General of California
SARAH MORRISON
Supervising Deputy Attorney General

/s/ Shannon Clark
SHANNON CLARK
Deputy Attorney General
Attorneys for Amicus Curiae
State of California

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[15] In addition, because the revised CAP does not provide substantial evidence that its measures will achieve the claimed emission reductions, the County has not complied with CEQA because it fails to reduce the General Plan Update's impacts below levels of significance. (CEQA Guidelines, § 15064.7.)

EXHIBIT 2

Nunc Pro Tunc 3/16/2018
per 4/13/18 Court Order

CHATTEN-BROWN & CARSTENS LLP
Jan Chatten-Brown (SBN 050275)
Josh Chatten-Brown (SBN 243605)
302 Washington Street, #710
San Diego, CA 92103
619-940-4522; 310-798-2400
Fax: 310-798-2402

Attorneys for Petitioner Sierra Club

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF SAN DIEGO

SIERRA CLUB,

Petitioner,

v.

COUNTY OF SAN DIEGO,

Respondent.

CASE NO.: 37-2012-00101054-CU-TT-CTL

THIRD SUPPLEMENTAL PETITION FOR WRIT OF MANDATE

IMAGED FILE

(CALIFORNIA ENVIRONMENTAL QUALITY ACT)

Judge: Hon. Timothy B. Taylor
Dept: C-72
Original Petition Filed: July 20, 2012
Mandate Filed: February 18, 2014

INTRODUCTION

1. Petitioner Sierra Club ("Petitioner" or "Sierra Club") files this Third Supplemental Petition for Writ of Mandate seeking a Writ of Mandate to the County of San Diego to fully comply with the California Environmental Quality Act ("CEQA"), Health and Safety Code sections 21000, et seq., and the Writ of Mandate issued by this Court on May 4, 2015. This Court's Writ followed remand after the Court of Appeal's opinion in *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152 affirmed this Court's ruling that the County's previous CAP was not adopted in the manner required by law in that it "fail[ed] to incorporate mitigation measures into the CAP as required by Public Resources Code section 21081.6." (*Id.* at 1167-68.) The Writ commanded the County to set aside its Climate Action Plan adopted in June 2012, to prepare a new Climate Action Plan ("CAP") (hereinafter "Revised CAP"), and to comply fully with CEQA and any and all other applicable laws.

2. On February 14, 2018, the County adopted a Revised CAP. The County has failed to comply with this Court's Writ, in that the Revised CAP does not contain additional (in excess of what would happen absent the activity to create offsets) and fully enforceable measures to mitigate the significant adverse effects on the environment of the County's adoption of the 2011 General Plan Update ("GPU"), and has failed to carry out Mitigation Measure CC-1.2 set out in the Program Environmental Impact Report (PEIR) for the GPU. Mitigation Measure CC-1.2 required the adoption by the County of a CAP that would achieve specified reductions in the emissions of greenhouse gases ("GHGs") from County operations and community emissions in the County by the year 2020. The Revised CAP fails to satisfy Mitigation Measure CC-1.2 in that it contains almost no enforceable measures to reduce GHG emissions, and will not reduce such emissions by 2030 to levels specified in state law. (Health and Safety Code sections 38550, 38566.) The County adopted a CAP that relies, among other things, on "County initiatives" to reduce GHG emissions that are unenforceable and unfunded. Further, despite the requirement in the GPU that GHG emissions reductions be made within the County (Mitigation Measure CC-1.2), the County adopted a CAP that allows GHG emissions *within* the County to

rise, if they are purportedly compensated for ("offset") by GHG emissions reductions *outside* the County, outside the state of California, and even on other continents.

3. Although transportation is responsible for about 45% of the GHG emissions in the County, the CAP does not commit to use the County's plenary land use authority over approximately 82% of the land within San Diego County to restrain the expansion of urban sprawl into the unincorporated rural and "back-country" areas to reduce the growth in driving (called "vehicle miles traveled," or "VMT") and its attendant GHG emissions. This is inconsistent with the County's General Plan, including, for example, the Conservation and Open Space Element, which encourages and supports land use development patterns and transportation choices that reduce pollutants and greenhouse gases. The EIR fails to analyze this inconsistency. Nor is the CAP consistent with the GHG reduction provisions of the region-wide Regional Transportation Plan and Sustainable Communities Strategy prepared by the San Diego Association of Governments ("SANDAG"), which is designed to reduce GHG emissions associated with driving.

4. On February 14, 2018, the County also adopted a new Threshold ("New Threshold") for determining the significance under CEQA of the GHG emissions caused by new residential development projects that require General Plan Amendments ("GPAs"), i.e., new projects that exceed the land use designation and/or intensity allowed in the GPU, and thus require the GPU to be amended before such a new project may qualify for a permit. This Threshold requires such projects to incorporate onsite GHG reductions measures from a County-adopted Checklist, but then allows such projects to mitigate the climate impacts of their remaining GHG emissions by obtaining *offsite* GHG emissions offsets. These offsets need not be obtained in San Diego County, as the GPU provides, but may be obtained anywhere in the world. Verification of the amount and the efficacy of these offsets need be shown only "to the satisfaction" of the Director of Planning and Development.

5. Obtaining offsets outside of San Diego County not only violates Mitigation Measure CC-1.2, which requires in-County GHG reductions, but also has other environmental impacts. Local offset projects would reduce co-pollutants and improve local air quality.

Further, new residential GPA development projects in the unincorporated County, and especially in the rural and back country areas, would generate added emissions of conventional air pollutants from new driving to and from these relatively remote locations, and the new development may lead to additional development in these areas, causing increased transportation and air pollutant emissions. While the lifespan of such residential developments is presumed in the CAP to be 30 years, any roads built or expanded to service these developments could continue to encourage and accommodate driving, and its attendant GHG and conventional air pollutant emissions, far beyond that time. Burdens from the County's failure to reduce GHG emissions by its fair share will cause at least incremental increases in the impacts of climate destabilization, including but not limited to drought, incidence of wildfires, and increase in conventional air pollutants, and from the cost of additional imported or recycled potable water, will also fall most heavily on poor communities and ethnic minorities.

6. The New Threshold allows and accommodates new development that exceeds the designation and intensity of land use set out in the GPU. Such new development may cause a significant adverse effect on the environment, caused by added demand for urban services, including roadway capacity, added GHG and conventional air pollutant emissions, and added water use that could require GHG-intensive importation of potable water from outside San Diego County or the production of additional potable water inside the County. Despite CEQA's mandate that an environmental assessment be performed of any project carried out or approved by a public agency that may harm the environment, the County did not perform such an analysis prior to its adoption of the New Threshold and Checklist. This violated both the express provisions of CEQA, and also its core purposes of ensuring that governmental decisions are made with environmental consequences in mind, inviting and including the public in all such decisions, and ensuring that any significant environmental harm is mitigated. (Public Resources Code sections 21000(g), 21002.1, 21002, 21003.)

7. The Sierra Club and other environmental groups submitted comments to the County and appeared to testify at public hearings before the County to urge the County to adopt a Revised CAP and New Thresholds that would be consistent with the GPU and would comply

with CEQA, rather than the CAP and Threshold it did adopt, and to offer feasible measures to reduce GHG emissions. The comments were fruitless.

JURISDICTION

8. This Court has jurisdiction over the writ action under Code of Civil Procedure sections 1085 and 194.5, et seq., and under sections 21168 and 21168.5 of the Public Resources Code.

9. In addition, in its previous rulings in this case and its Writ issued on May 4, 2015, and pursuant to Public Resources Code section 21168.9(b), this Court retains jurisdiction over San Diego County until this Court determines that the County has fully complied with CEQA and all other applicable laws as to its CAP and Thresholds of Significance.

PARTIES

10. Petitioner Sierra Club is a national nonprofit organization with more than 600,000 members nationwide, including almost 150,000 members in California, and approximately 12,000 members in San Diego and Imperial Counties.

11. The Sierra Club is dedicated to: exploring, enjoying, protecting, and preserving for future generations the wild place of the earth; practicing and promoting the responsible use of the earth's ecosystems and resources; educating and enlisting humanity to protect and restore the quality of the natural and human environment; and using all lawful means to carry out these objectives. The Sierra Club's concerns encompass climate stabilization, coastal issues, land use, transportation, wildlife and habitat preservation, and use and protection of public parks and recreation. The interests that this Petitioner seeks to further in this action are within the purposes and goals of the organization. Petitioner and its members have a direct and beneficial interest in the County's compliance with CEQA, with the measures in its own General Plan Update, and with the Judgment and Writ of this Court. The maintenance and prosecution of this action will confer a substantial benefit on the public by protecting the public from the environmental and other harms alleged herein, including but not limited to requiring informed and publicly transparent decision-making by the County.

12. The County of San Diego is a public agency under Section 21063 of the Public Resources Code. The County is authorized and required by law to hold public hearings, to determine adequacy of and certify environmental documents prepared pursuant to CEQA, and to take other actions in connection with the approval of projects within its jurisdiction.

BACKGROUND AND STATEMENT OF FACTS

13. On August 3, 2011, the County adopted a General Plan Update ("GPU"), in which the County committed to preparing a climate change action plan with detailed greenhouse gas ("GHG") emissions reduction targets and deadlines and " 'comprehensive and enforceable GHG emissions reduction measures that will achieve' specified quantities of GHG reductions." (*Sierra Club*, *supra*, 231 Cal.App.4th at 1156. The GPU adopted by the County in 2011 committed to achieving a reduction in GHG emissions to the level that existed in 1990 by 2020, pursuant to the Legislature's command in Health and Safety Code section 38550 (often referred to as "AB 32"). Since that time, the Legislature has acted to require a reduction in GHG emissions to 30% below the 1990 level by 2030. (Health and Safety Code section 38566 [often referred to as "SB 32"].)

14. As mitigation for the harm to the climate from GHG emissions that would be caused by the GPU, the County adopted Mitigation Measure CC-1.2, which "requires the preparation of a County Climate Change Action Plan." (*Sierra Club*, *supra*, 231 Cal.App.4th at 1159.) On June 20, 2012, the County adopted a CAP and Thresholds for determining the significance for CEQA purposes of GHG emissions, as well as an Addendum to the General Plan Update EIR.

15. On July 20, 2012, the Sierra Club filed the original Petition for Writ of Mandate in this case, challenging the County's CAP and Thresholds, alleging that the County had not followed the procedures required by law, and had not conformed to Mitigation Measure CC-1.2 in the GPU.

16. On April 19, 2013, this Court ruled in favor of the Sierra Club, concluding that the CAP was not properly adopted and violated CEQA. It did not rule on the validity of the Thresholds of Significance, since that was unnecessary in view of its invalidation of the CAP.

This Court entered Judgment and issued a Writ of Mandate on April 24, 2013. The County promptly appealed.

17. In November of 2013, while the County's appeal of this Court's ruling was pending, the County Director of Planning and Development Services released Staff-developed Thresholds of Significance.

18. On February 18, 2014, the Sierra Club filed a Supplemental Petition for Writ of Mandate challenging the Staff-developed Thresholds of Significance, and asking this Court to set them aside until and unless the County complied with the Judgment and Writ. The parties later stipulated to the rescission of the Thresholds, and the County Board of Supervisors rescinded them on April 8, 2015.

19. On October 29, 2014, the Court of Appeal affirmed this Court's ruling. In its opinion, the Court of Appeal stated: "By failing to consider environmental impacts of the CAP and Thresholds project, the County effectively abdicated its responsibility to meaningfully consider public comments and incorporate mitigation conditions." (*Sierra Club*, *supra*, 231 Cal.App.4th at 1173.)

20. On May 4, 2015, this Court issued a Supplemental Writ of Mandate ordering the County to set aside the CAP, findings, and 2013 Thresholds. The County was also ordered to file in its initial Return to the Writ an estimated schedule for preparing a Revised CAP and New Thresholds, and for complying with CEQA with regard to those actions. The County filed an initial Return detailing the rescission of the 2013 CAP and Thresholds, and projecting adoption of the CAP and EIR in "Spring 2016-Winter 2017," without mention of the Thresholds. The County filed further Returns detailing its very dilatory progress.

21. On July 29, 2016, the Director of Planning and Develoment Services issued the "2016 Climate Change Analysis Guidance," over the written protest of the Sierra Club.

22. In August 2017, the County released a draft Environmental Impact Report (EIR) for a Revised CAP and opened a public comment period on the Revised CAP and the Draft Supplemental EIR. The Sierra Club submitted comment letters detailing the defects of the Revised CAP on September 25, 2017 (letter to the County's Planning and Development

Services), on January 16, 2018 (letter to the Planning Commission and the Board of Supervisors), and February 12, 2018 (letter to the Board of Supervisors), raising all issues complained on in this Petition.

23. On February 14, 2018, the County Board of Supervisors considered the Revised CAP and its Final Supplemental EIR, along with other documents related to the Revised CAP. These included Guidelines for Determining Significance – Climate Change ("Significance Guidelines") and its associated Threshold of Significance ("New Threshold"), which would allow a project's GHG emissions to be found insignificant for CEQA purposes if the project's land use designation and intensity were consistent with the GPU and CAP, without necessarily quantifying the project's GHG emissions and making their total public, and obviating any requirement by the County to mitigate those emissions.

24. The Guidelines also would allow a project that requested General Plan amendment ("GPA projects") to be found consistent with the CAP if it incorporated design features in a Checklist also included in those Guidelines. GHG emissions that were not prevented by incorporation of these design features could be deemed insignificant for CEQA purposes if the applicant obtained GHG offsets according to a geographic priority list. The priority list requires GHG offsets within the unincorporated County to be sought first, but if none were available, such offsets could be sought in the County as a whole, then anywhere in the State of California, then anywhere in the United States, then anywhere in the world. Further, the County Director of Planning and Development Services is empowered to deem GHG offsets to be unavailable in any geographic tier if they are not economically "feasible" to obtain, with such infeasibility to be shown "to the satisfaction" of the Director. No standards for determining such infeasibility are provided. The Director might be free to determine that offsets in California are economically infeasible if cheaper offsets could be obtained somewhere in Africa or Asia.

25. The Supplemental EIR states that virtually no GHG offsets are now available in San Diego County (FEIR, p. 8-53), thus ensuring that applicants for GPA projects will seek such offsets outside the County, and probably outside the United States, where Petitioner is informed and believes they are the least expensive, but are also very difficult to verify and enforce.

26. Notwithstanding the Sierra Club's comments and those of other environmental and community groups, on February 14, 2018, as set above, the Board of Supervisors adopted the Revised CAP and its Mitigation Measure M-GHG-1, together with associated documents, including the Mitigation Monitoring and Reporting Program. The Board of Supervisors also certified the final EIR on the Revised CAP and adopted the Significance Guidelines, New Threshold, the Climate Action Plan Consistency Review Checklist ("Checklist"), and amendments to the GPU that removed deadlines and made other changes to Mitigation Measure CC-1.2.

27. Petitioner has a beneficial right to, and a beneficial interest in, Respondent's fulfillment of all its legal duties, as alleged herein.

28. Petitioner has no plain, speedy, or adequate remedy at law. Unless this Court enjoins and sets aside its action, the County will approve projects with climate change impacts without an adequate, science-based environmental analysis of those impacts, and without adequate, science-based mitigation for those impacts. The climate-altering GHG emissions from these and future such projects, emissions that will remain in the atmosphere and destabilize the climate for decades or centuries, will have lasting and adverse effects on the climate, to the detriment of all residents of San Diego County and the State of California.

29. A valid, science-supported assessment under CEQA of the Guidelines, Threshold, and Checklist is necessary to ensure that the effects of GHG emissions are properly evaluated and mitigated, and to comply with the commitments the County made in the 2011 General Plan Update.

30. The County is currently processing projects that would requirement amendments to the GPU in order to allow large commercial or residential development on lands that are not currently designated for such intensive use. This includes, but is not limited to, lands designated as open space, semi-rural, agricultural, and village residential (hereafter referred to as "greenfields"). (A chart of such proposed GPA projects was attached as Exhibit B to the Second Supplemental Petition for Writ of Mandate in this case.)

31. Failing to enjoin the County actions complained of herein will result in the need for individual lawsuits challenging the approval of each such greenfield project, which would not be an efficient use of judicial resources, and would require a significantly larger commitment of resources by Petitioner Sierra Club and other parties who want to ensure that the County will meet its commitment to achieve the GHG emissions reductions required by AB 32 and SB 32, and will not contribute to further climate destabilization.

FIRST CAUSE OF ACTION
For Violation of Judgment
(Cal. Code of Civ.Pro. § 1085; Cal. Pub. Res. Code § 21168.5)

32. All prior paragraphs are fully incorporated by reference here.

33. The County has a mandatory and ministerial duty to comply with the terms of this Court's April 24, 2013, and May 4, 2015 judgments and writs in this case, including the directive that the County comply fully with CEQA.

34. Petitioner is entitled to a further supplemental writ of mandate requiring the County to set aside the offending portions of the Revised CAP, Supplemental EIR and associated documents of approval, to revoke and set aside the approval of the Guidelines, Threshold of Significance, and Checklist, and to revoke and set aside the General Plan Amendments, all as approved on February 14, 2018, unless and until the County has fully complied with the judgments of this Court and with CEQA. This compliance includes completing and adopting a legally adequate CAP, completing and certifying a legally adequate EIR and associated documents, and adopting legally adequate Guidelines and Threshold(s) of Significance.

35. The County has failed to prepare and adopt a legally adequate CAP in that it relies for a significant portion of its projected GHG emissions reductions on the obtaining of offsets, which will likely be chiefly obtained from outside the County. The CAP allows offsets to be bought. Private market entities, commonly called offset "registries," purport to record and list programs or projects to reduce GHG emissions, supposedly verified, and which are not required

by other laws or regulations, but are to be carried out for the purpose of creating offsets. The registries then facilitate the sale of such GHG emissions reductions to businesses, government agencies, environmental groups, or other entities who wish to use the offsets to meet permit or other legal requirements to reduce their own GHG emissions. The CAP allows offsets to be identified by these private market registries if they merely demonstrate their purported competence "to the satisfaction" of the County's Director of Planning and Development Services ("Director"). No criteria are specified for the Director's "satisfaction."

36. The use of such offsets as mitigation for increases in GHG emissions from projects or activities under the CAP violates CEQA's requirement that mitigation measures be additional to any other legal requirement or existing program, and be fully enforceable (CEQA Guidelines, §§ 15126.4(a) and (c), 15183.5(b)(1)(D)), in that there is no substantial evidence that the out-of-County offsets allowed by the CAP will meet those criteria, or that the private registries recognized by the Director will list offsets that meet these criteria.

37. The County has violated CEQA by failing to provide full and legally adequate mitigation for the GHG impacts of the GPU. Although they were purportedly prepared to mitigate the GHG emissions impacts of the GPU, pursuant to GPU Mitigation Measure CC-1.2, the Revised CAP and the Supplemental EIR expressly deny that the CAP is such mitigation. Master Response to Comments number 13 in the final EIR for the Revised CAP states that: "[T]he CAP's GHG reduction measures themselves are not specifically 'mitigation measures' as defined under CEQA, nor are they specifically identified as mitigation in either the 2011 GPU PEIR or the Draft SEIR for the CAP." (FSEIR, p. 8-53.) As a result, the GPU lacks mitigation for its GHG emissions impacts on climate destabilization, in violation of CEQA. (Pub. Res. Code §§ 21002, 21081; CEQA Guidelines § 15091.)

38. The County has violated CEQA in that Measure T-4.1 of the CAP, a County initiative to invest in programs and projects that will result in GHG reductions, does not conform to CEQA's requirement that mitigation measures be fully enforceable, and the County's claims for its enormous level of GHG emissions reductions are not supported by substantial evidence. The T-4.1 measure, which is denominated a "County initiative" and not a

regulation or ordinance, would require the County to identify programs and individual projects that have the potential to reduce GHG emissions, and to select and invest in a sufficient number of such programs and projects to achieve nearly half the total of GHG emissions reductions that the CAP states the County must achieve. The CAP gives as examples of such programs and projects the retrofitting of houses with solar panels, the stocking of the County's own vehicle fleet with non-carbon dioxide-emitting vehicles, and the application of soil enhancers to agricultural land to increase the growth and spread of carbon dioxide-sequestering vegetation. However, neither the Revised CAP nor the Supplemental EIR commits the County to the selection of any of these programs or projects, and contains no deadlines or milestones for funding or carrying out any of them. In fact, shortly before adoption of the CAP, County staff stated that they were still performing feasibility studies to determine the cost and cost-effectiveness of possible T-4.1 programs and projects, but gave no definite date for their completion. Such studies, which should have been completed before the CAP was proposed for adoption, show that the County is still uncertain as to what T-4.1 programs and/or projects will be selected, and what criteria will be used to select them. In short, T-4.1 is uncertain and unenforceable, in violation of CEQA Guidelines § 15126.4(a)(2).

39. Measure T-4 also violates CEQA in that it defers the selection by the County of any of the potential GHG-reducing programs and projects to an unspecified future time and provides no criteria or performance standards for their success, in derogation of CEQA Guidelines § 15126.4(a)(1)(B). Without deadlines for the implementation of projects, or criteria for their success, the County lacks substantial evidence that Measure T-4.1 will actually decrease GHG emissions, or to what degree. This violates CEQA's requirements for mitigation.

40. The EIR is a document of public accountability. (*Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376, 392.) This EIR fails that crucial role. The General Plan's Mitigation Measure CC-1.2 requires a CAP that reduces the

GHG emissions from *County* operations by 17% (totaling 23, 572 MTCO2e[1]) and from community activities *in the unincorporated County* by 9%, measuring from their 2006 levels to the 2020 levels expected to be achieved by the CAP. However, the EIR does not make clear whether such in-County reductions will actually occur. The combination of allowing the use of out-of-County GHG emissions offsets, together with the reliance on T-4 County investments whose identity, efficacy, and completion dates are not specified, makes it impossible to determine whether the CAP will achieve the amounts of GHG emissions reductions within the County that the GPU promised, or whether the bulk of those emissions reductions – assuming they occur at all – will occur outside the County. This is crucial information for both decision-makers and the public, both because the public needs to know whether the County has kept its commitments in the GPU, and because, as alleged above, in-County GHG reductions will often come with co-benefits such as reduced emissions of conventional health-damaging pollutants, or the creation of jobs to carry out GHG reduction programs, such as installing solar panels on rooftops. The public is entitled to know whether the County has chosen an approach to GHG reduction whose co-benefits will be felt in the County, or whether those co-benefits will be enjoyed by other areas.

41. Further, where mitigation measures may have significant environmental impacts of their own CEQA requires that those impacts must also be analyzed and disclosed. (CEQA Guidelines § 15126.4(a)(1)(D).) The County has violated CEQA by failing to make such an analysis and disclosure here.

[1] "MTCO2e," or "metric tons of carbon dioxide equivalent," is a commonly used measurement for GHG emissions. The climate-destabilizing strength of different GHGs differs widely. To simplify matters, their amounts are usually presented based on a comparison of their climate-destabilizing power to the climate-destabilizing power of carbon dioxide (CO2), the most prevalent GHG. One ton of carbon dioxide emissions is represented as 1 MTCO2e. However, since methane is about 20 times more powerful at climate destabilization as carbon dioxide, one ton of methane is represented as if it were an equivalent amount of carbon dioxide, or 20 MTCO2e, with the "e" standing for "equivalent." The metric scale is used to measure these amounts so that discussions of GHG emissions worldwide will all be in the same measurement unit.

42. CEQA requires that an EIR "shall discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and *regional plans*." (CEQA Guidelines § 15125(d); emphasis added.) The EIR violates CEQA by failing to analyze and discuss the consistency of the Revised CAP, and the Guidelines and New Threshold adopted with it, on the Regional Transportation Plan and Sustainable Communities Strategy ("RTP/SCS") prepared by SANDAG under Government Code §§ 65080, et seq. (commonly referred to as SB 375) for the purpose, inter alia, of using transportation funding and projects to support more compact land uses that reduce GHG emissions by reducing sprawl and the increased driving sprawl causes. (*Cleveland National Forest Foundation v. San Diego Assn of Governments* (2017) 17 Cal.App.5th 413, 430.) The County's approval of the Guidelines and the New Threshold may allow the approval of large residential developments in rural areas far from transit, thereby increasing driving and VMT over the amounts assumed by SANDAG in its RTP/SCS. The County's actions foster increases in VMT, but the EIR does not present an analysis of this growth, or its reasonably foreseeable impacts on the SANDAG plan.

43. SANDAG used a computer-based model to estimate the VMT to be expected in the future in the San Diego area. This model used assumptions as to whether growth would occur that were provided by local governments, including the County. However, the Guidelines and New Threshold may allow approval of large and significant projects that were not in the information contained in the SANDAG model. Yet, despite requests from SANDAG and others, the County did not re-run the SANDAG model using reasonable assumptions as to the new projects whose approval might be made possible by adoption of the Guidelines and New Threshold, to determine whether or not the County's action was consistent with the SANDAG RTP/SCS. This violated CEQA Guidelines § 15125(d).

44. In addition to its failure to analyze and discuss the impact on the RTP/SCS that the County's approval of the Guidelines and New Threshold may have, the EIR also fails as an informational document in that it does not analyze, disclose, or mitigate potential impacts of the Guidelines and New Threshold on potential increased VMT in the County, or on the resultant

increase in emissions, both of GHGs and of conventional pollutants, or on the increased use of energy resources in the form of fossil fuel combustion.

45. The California Supreme Court has called the mitigation and alternatives section "the core of an EIR." (*Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal. 3d 553, 564.) Here, the County did not adequately consider mitigation measures for inclusion in the CAP that were proposed by the Sierra Club and others. These included, for example, a shift in the use of parking to provide an incentive for reduced driving. The County's failure to adequately analyze such alternative measures and the County's rejection of such measures without substantial evidence violated CEQA's mandate that projects with significant impacts should not be approved where mitigation measures are available that would substantially lessen the significant environmental impacts of the projects. (Pub. Res. Code § 21002.)

45. In addition, the County violated CEQA by failing to adequately consider alternatives, such as the regional-plan-based alternative approach to the exercise of its land use powers proposed by Petitioner Endangered Habitats League to require that in newly planned projects, a "fair share" of VMT reduction occur, consistent with the regional VMT reductions anticipated by the SANDAG RTP/SCS (about 15%), requiring that newly planning development be focused within SANDAG Smart Growth Opportunity Areas, and requiring that a minimum percent of newly planned project GHG emission reductions occur on-site.

46. The EIR violates CEQA by making inadequate and dismissive responses to comments from the public and from other governmental agencies. An example is the County's response to comments questioning the analysis of the impact of the Revised CAP, the Guidelines, and the New Threshold of Significance on the SANDAG RTP/SCS. The EIR evasively responds that it is SANDAG's responsibility to ensure that the region complies with SB 375 through the RTP/SCS, "though it is acknowledged that the County is one of many agencies that comprise the region in helping SANDAG achieve this goal." (FEIR, p. 8-15.) The response ignores the fact that the RTP/SCS is based on land uses prescribed by local jurisdictions that establish the development patterns that are permitted, and SANDAG has no authority to alter these land uses. The County's response also ignores the elephant-in-the-room

fact that the County is such a jurisdiction, having plenary land use authority over *82% of the County's land* and, presumably, responsibility for "helping SANDAG" that is proportional to that degree of land use power and authority. An agency must provide "good faith, reasoned analysis" in response to comments on an EIR, per CEQA Guidelines § 15088(c). Here, the County has failed to make such a good faith, reasoned analysis of how its use of its land use power, and its adoption of the Revised CAP, the Guidelines, and the New Threshold of Significance, will "help" or harm SANDAG carry out the RTP/SCS. This violates CEQA.

47. Government Code § 65040.12 defines "environmental justice" as "the fair treatment of people of all races, cultures, and incomes with respect [as] to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." Here, the County has chosen not to accord such fair treatment to the many minority and low-income residents of the San Diego region. The failure of the County's Revised CAP, Guidelines, and New Threshold to contain enforceable strategies and measures to reduce GHG emissions can reasonably be expected to result in a failure of the Revised CAP to contribute San Diego's fair share of the GHG reductions required by AB 32 and SB 32. The consequences of this failure, such as increased wildfires, more severe and persistent droughts, and scarcer and more expensive water, will fall most heavily on environmental justice populations, just as the consequences of the County's permission for itself and developers to allow the purchase and use of GHG offsets to other geographic areas will deprive local environmental justice populations of the co-benefits (jobs, reduced conventional air pollutant emissions from driving) of those offsets. The EIR does not provide a full analysis and disclosure of these impacts on particularly vulnerable populations, in violation of CEQA's mandate of full public disclosure.

48. In each of the respects enumerated above, Respondent County of San Diego has violated its duties under the law, abused its discretion, failed to proceed in the manner required by law, and decided the matters complained of without the support of substantial evidence, all in violation of CEQA. It is imperative that the County have a legally valid CAP and Threshold in place as soon as possible to guide new development and ensure the County is able to meet its GHG emission reduction targets.

PRAYER

WHEREFORE, Petitioner prays for relief as follows:

1. For an alternative and peremptory writ of mandate commanding Respondent County to immediately vacate and set aside its approvals of the Guidelines, Threshold, Checklist, and Mitigation Measure M-GHG-1 as identified in this Petition, and to refrain from relying upon them in any form in the processing of permits for development projects on unincorporated County lands;

2. For an alternative and peremptory writ of mandate commanding the County to revise its Climate Action Plan within one year of the date of writ issuance so that the Climate Action Plan and its supporting CEQA analysis fully comply with CEQA and all other applicable laws, including, but not limited to, the inclusion in the Climate Action Plan of verifiable and fully enforceable requirements for reductions in GHG emissions to all state-mandated levels, and deadlines and milestones for achieving the same;

3. For an alternative and peremptory writ of mandate commanding the County to file returns to the writ every 90 days detailing the progress being made to comply with CEQA; requiring that the County provide a list within the first 90-day period of all the mitigation measures recommended by members of the public or by County staff that were not incorporated into the Revised CAP, along with the County's evidence that those measures were either infeasible or would fail to achieve required emissions reductions; and within 120 days of issuance of the Writ, meet with Petitioners and other stakeholders to discuss adoption of additional mitigation measures that would achieve the emissions reduction goals set forth by the State;

4. For costs of this suit;

5. For reasonable attorneys' fees; and

6. For such other relief as this Court deems just and proper.

DATE: March 16, 2018

Respectfully Submitted,

CHATTEN-BROWN & CARSTENS

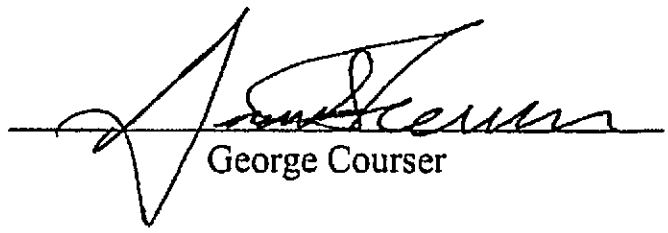
By: /s Josh Chatten-Brown
Josh Chatten-Brown
Jan Chatten-Brown
Susan L. Durbin
Attorneys for Petitioner

VERIFICATION

I, George Courser, declare as follows:

I am an officer of the Sierra Club. I have read the foregoing THIRD SUPPLEMENTAL PETITION FOR WRIT OF MANDATE and know the contents thereof, and the same is true of my own knowledge.

I declare under penalty of perjury that the foregoing is true and correct and that this verification was executed on the 16th day of March, 2018 at San Diego, California.



George Courser

EXHIBIT A

Hermosa Beach Office
Phone: (310) 798-2400
Fax: (310) 798-2402

San Diego Office
Phone: (858) 999-0070
Phone: (619) 940-4522

Chatten-Brown & Carstens LLP
2200 Pacific Coast Highway, Suite 318
Hermosa Beach, CA 90254
www.cbcearthlaw.com

Josh Chatten-Brown
Email Address:
jrcb@cbcearthlaw.com

Direct Dial:
619-940-4522

March 16, 2018

By U.S. Mail
California Attorney General
600 W. Broadway 1800
San Diego, CA 92101

Re: Challenge to the County of San Diego's Approval of Revised Climate Action Plan and Supplemental Environmental Impact Report

Honorable Attorney General:

Please find enclosed a copy of the Petition for Writ of Mandate filed to request the San Diego Superior Court order the County of San Diego to set aside the portions of the Revised Climate Action Plan and Supplemental Environmental Impact Report that that violate the California Environmental Quality Act

This Petition is being provided pursuant to the notice provisions of the Public Resources Code. Please contact me if you have any questions.

Sincerely,

Josh Chatten-Brown

Enclosure

PROOF OF SERVICE

I am employed by Chatten-Brown & Carstens LLP in the County of Los Angeles, State of California. I am over the age of 18 and not a party to the within action. My business address is 2200 Pacific Coast Highway, Ste. 318, Hermosa Beach, CA 90254 . On March 16, 2018, I served the within documents:

LETTER TO THE CALIFORNIA ATTORNEY GENERAL REGARDING PETITION FOR WRIT OF MANDATE

[X] **VIA UNITED STATES MAIL.** I am readily familiar with this business' practice for collection and processing of correspondence for mailing with the United States Postal Service. On the same day that correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service in a sealed envelope with postage fully prepaid. I enclosed the above-referenced document(s) in a sealed envelope or package addressed to the person(s) at the address(es) as set forth below, and following ordinary business practices I placed the package for collection and mailing on the date and at the place of business set forth above.

I declare that I am employed in the office of a member of the bar of this court whose direction the service was made. I declare under penalty of perjury under the laws of the State of California that the above is true and correct. Executed on March 16, 2018, at Hermosa Beach, California 90254.

Cynthia Kellman

SERVICE LIST

California Attorney General
600 W. Broadway, #1800
San Diego, CA 92101

EXHIBIT B

Hermosa Beach Office
Phone: (310) 798-2400
Fax: (310) 798-2402

San Diego Office
Phone: (858) 999-0070
Phone: (619) 940-4522

CBC
Chatten-Brown & Carstens LLP
2200 Pacific Coast Highway, Suite 318
Hermosa Beach, CA 90254
www.cbcearthlaw.com

Josh Chatten-Brown
Email Address:
jrcb@cbcearthlaw.com

Direct Dial:
619-940-4522

March 15, 2018

By U.S. Mail
Ernest J. Dronenburg, Jr.
County Clerk
1600 Pacific Highway, Suite 260
San Diego, CA 92101

Re: Challenge to the County of San Diego's Approval of Revised Climate Action Plan and Supplemental Environmental Impact Report
Sierra Club v. County Of San Diego

Dear Mr. Dronenburg:

Pursuant to Public Resources Code section 21167.5, please take notice Sierra Club plans to file a petition for writ of mandate requesting the Superior Court order the County of San Diego to set aside the portions of the Revised Climate Action Plan and Supplemental Environmental Impact Report that violate the California Environmental Quality Act. This petition will be filed against the County of San Diego in San Diego Superior Court, 330 West Broadway, San Diego, CA 92101

Sincerely,

Josh Chatten-Brown

PROOF OF SERVICE

I am employed by Chatten-Brown & Carstens LLP in the County of Los Angeles, State of California. I am over the age of 18 and not a party to the within action. My business address is 2200 Pacific Coast Highway, Ste. 318, Hermosa Beach, CA 90254 . On March 15, 2018, I served the within documents:

LETTER TO THE CLERK OF THE COUNTY OF SAN DIEGO

[X] **VIA UNITED STATES MAIL.** I am readily familiar with this business' practice for collection and processing of correspondence for mailing with the United States Postal Service. On the same day that correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service in a sealed envelope with postage fully prepaid. I enclosed the above-referenced document(s) in a sealed envelope or package addressed to the person(s) at the address(es) as set forth below, and following ordinary business practices I placed the package for collection and mailing on the date and at the place of business set forth above.

I declare that I am employed in the office of a member of the bar of this court whose direction the service was made. I declare under penalty of perjury under the laws of the State of California that the above is true and correct. Executed on March 15, 2018, at Hermosa Beach, California 90254.

Cynthia Kellman

SERVICE LIST

Ernest J. Dronenburg, Jr.
County Clerk
1600 Pacific Highway, Ste. 260
San Diego, CA 92101

EXHIBIT C

CHATTEN-BROWN & CARSTENS LLP
Jan Chatten-Brown (SBN 050275)
Josh Chatten-Brown (SBN 243605)
Susan Durbin (SBN 81750)
302 Washington Street, #710
San Diego, CA 92103
619-940-4522; 310-798-2400
Fax: 310-798-2402

Attorneys for Petitioner Sierra Club

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF SAN DIEGO

SIERRA CLUB,

Petitioner,

v.

COUNTY OF SAN DIEGO,

Respondent.

CASE NO.: 37-2012-00101054-CU-TT-CTL

NOTICE OF ELECTION TO PREPARE THE ADMINISTRATIVE RECORD

IMAGED FILE

(CALIFORNIA ENVIRONMENTAL QUALITY ACT)

Judge: Hon. Timothy B. Taylor
Dept: C-72
Original Petition Filed: July 20, 2012
Mandate Filed: February 18, 2014

Petitioner Sierra Club hereby gives notice pursuant to Public Resource Code section 21167.6 that Petitioner elect to prepare the administrative record in the above-entitled action.

DATE: March 16, 2018

Respectfully Submitted,

CHATTEN-BROWN & CARSTENS

By: _____

Josh Chatten-Brown
Jan Chatten-Brown
Attorneys for Petitioner

PROOF OF SERVICE

I am employed by Chatten-Brown & Carstens LLP in the County of Los Angeles, State of California. I am over the age of 18 and not a party to the within action. My business address is 2200 Pacific Coast Highway, Ste. 318, Hermosa Beach, CA 90254. On March 20, 2018, I served the within documents:

THIRD SUPPLEMENTAL PETITION FOR WRIT OF MANDATE

☐ **VIA UNITED STATES MAIL.** I am readily familiar with this business' practice for collection and processing of correspondence for mailing with the United States Postal Service. On the same day that correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service in a sealed envelope with postage fully prepaid. I enclosed the above-referenced document(s) in a sealed envelope or package addressed to the person(s) at the address(es) as set forth below, and following ordinary business practices I placed the package for collection and mailing on the date and at the place of business set forth above.

☐ **VIA OVERNIGHT DELIVERY.** I enclosed the above-referenced document(s) in an envelope or package designated by an overnight delivery carrier with delivery fees paid or provided for and addressed to the person(s) at the address(es) listed below. I placed the envelope or package for collection and overnight delivery at an office or a regularly utilized drop box of the overnight delivery carrier.

☒ **VIA ONE LEGAL E-SERVICE.** By submitting an electronic version of the document(s) to One Legal, LLC, through the user interface at www.onelegal.com.

I declare that I am employed in the office of a member of the bar of this court whose direction the service was made. I declare under penalty of perjury under the laws of the State of California that the above is true and correct. Executed on March 20, 2018, at Hermosa Beach, California.

Cynthia Kellman

SERVICE LIST

Thomas E. Montgomery, County Counsel County of San Diego
Claudia G. Silva, Assistant County Counsel
1600 Pacific Highway, Room 355
San Diego, California 92101-2469
claudia.silva@sdcounty.ca.gov

Christopher W. Garrett
Andrew D. Yancey
Samantha Seikkula
LATHAM & WATKINS LLP
12670 High Bluff Drive
San Diego, California 92130
Christopher.Garrett@lw.com
andrew.yancey@lw.com
Samantha.Seikkula@lw.com

EXHIBIT 3

Summary
11/21/2018 1:04:25 PM

Differences exist between documents.

New Document:	Old Document:
First Amended Complaint v6	Complaint
186 pages (2.61 MB)	102 pages (874 KB)
11/21/2018 1:03:38 PM	11/21/2018 1:03:37 PM
Used to display results.	

Get started: first change is on page 1.

No pages were deleted

How to read this report

Highlight indicates a change.
~~**Deleted**~~ indicates deleted content.
 indicates pages were changed.
 indicates pages were moved.

Jennifer L. Hernandez (State Bar No. 114951)
Charles L. Coleman III (State Bar No. 65496)
Marne S. Sussman (State Bar No. 273712)
David I. Holtzman (State Bar No. 299287)
HOLLAND & KNIGHT LLP
50 California Street, 28th Floor
San Francisco, California 94111
Tel: (415) 743-6900 Fax: (415) 743-6910
Email: jennifer.hernandez@hklaw.com
charles.coleman@hklaw.com

Attorneys for Plaintiffs/Petitioners
THE TWO HUNDRED, *et al.*

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF FRESNO

UNLIMITED CIVIL JURISDICTION

THE TWO HUNDRED, an unincorporated association of civil rights leaders, including LETICIA RODRIGUEZ, TERESA MURILLO, and EUGENIA PEREZ, Plaintiffs/Petitioners, v. CALIFORNIA AIR RESOURCES BOARD, RICHARD COREY, in his Official Capacity, and DOES 1-50, Respondents/Defendants.	Case No. 18CECG01494 **FIRST AMENDED[1] VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF** **[Code Civ. Proc. §§ 1085, 1094.5, 1060, 526; Gov. Code § 12955 *et seq.* (FEHA); 42 U.S.C. § 3601 *et seq.* (FHA); Cal. Const. Art. I, § 7; Art. IV, § 16; U.S. Const. Amd. 14, § 1; 42 U.S.C. § 1983; Pub. Res. Code § 12000 *et seq.* (CEQA); Gov. Code § 11346 *et seq.* (APA); H&S Code § 38500 *et seq.* (GWSA); H&S Code § 39000 *et seq.* (CCAA); Gov. Code § 65088 *et seq.* (Congestion Management Plan)]**

[1] Principal added allegations are set out in **bold** font. A full "redline" comparing this First Amended Petition/Complaint with the original Petition/Complaint and showing all changes is attached as Exhibit 3. Principal substantive additions to the Petition/Complaint appear starting at paragraph 262.

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I. INTRODUCTION AND SUMMARY OF REQUESTED RELIEF

A. California's Greenhouse Gas Policies and Housing-Induced Poverty Crisis

1. California's reputation as a global climate leader is built on the state's dual claims of substantially reducing greenhouse gas ("GHG") emissions while simultaneously enjoying a thriving economy. Neither claim is true.

2. California has made far less progress in reducing GHG emissions than other states. Since the effective date of California's landmark GHG reduction law, the Global Warming Solutions Act,[2] 41 states have reduced per capita GHG emissions by more than California

3. California's lead climate agency, the California Air Resources Board ("CARB"), has ignored California's modest scale of GHG reductions, as well as the highly regressive costs imposed on current state residents by CARB's climate programs.

4. Others have been more forthcoming. Governor Jerry Brown acknowledged in 2017 that the state's lauded cap-and-trade program, which the non-partisan state Legislative Analysist's Office ("LAO") concluded would cost consumers between 24 cents and 73 cents more per gallon of gasoline by 2031,[3] actually "is not that important [for greenhouse gas reduction]. I know that. I'm Mr. 'It Ain't That Much.' It isn't that much. Everybody here [in a European climate change conference] is hype, hype to the skies."[4]

5. Governor Brown's acknowledgement was prompted by a report from Mother Jones—not CARB—that high rainfall had resulted in more hydroelectric power generation from

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[2] The Global Warming Solutions Act of 2006 ("GWSA") is codified at Health and Safety Code ("H&S Code") § 38500 *et seq.* and became effective in 2007. The Act is often referred to as "AB 32", the assembly bill number assigned to the legislation. AB 32 required California to reduce GHG emissions from a "business as usual" scenario in 2020 to the state's 1990 GHG emission level. AB 32 was amended in 2017 by Senate Bill 32 by the same author. SB 32 established a new GHG reduction mandate of 40% below California's 1990 GHG levels by 2030.

[3] LAO, Letter to Assembly Member Fong (Mar. 29, 2017), www.lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

[4] Julie Cart, *Weather Helped California's Greenhouse Gas Emissions Drop 5% Last Year*, CALMatters (Dec. 2, 2017), https://timesofsandiego.com/tech/2017/12/02/weather-helped-californias-greenhouse-gas-emissions-drop-5-last-year/.

existing dams than had occurred during the drought, and that this weather pattern resulted in a 5% decrease in California's GHG emissions.[5]

6. GHG emissions data from California's wildfires are also telling. As reported by the *San Francisco Chronicle* (again not CARB), GHG emissions from all California regulatory efforts "inched down" statewide by 1.5 million metric tons (from total estimated emissions of 440 million metric tons),[6] while just one wildfire near Fresno County (the Rough Fire) produced 6.8 million metric tons of GHGs, and other fires on just federally managed forest lands in California emitted 16 million metric tons of GHGs.[7]

7. Reliance on statewide economic data for the false idea that California's economy is thriving conflates the remarkable stock market profits of San Francisco Bay Area technology companies with disparate economic harms and losses suffered by Latino and African American Californians statewide, and by white and Asian American Californians outside the Bay Area.

8. Since 2007, which included both the global recession and current sustained period of economic recovery, California has had the highest poverty rate in the country—over 8 million people living below the U.S. Census Bureau poverty line when housing costs are taken into account.[8] By another authoritative poverty methodology developed by the United Way of California, which counts housing as well as other basic necessities like transportation and medical costs (and then offsets these with state welfare and related poverty assistance programs), about 40% of Californians "do not have sufficient income to meet their basic cost of living."[9] The

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[5] *Ibid.*

[6] California Air Resources Board, 2017 Edition California Greenhouse Gas Inventory for 2000-2015 (June 2017), https://www.arb.ca.gov/cc/inventory/data/data.htm.

[7] David R Baker, *Huge wildfires can wipe out California's greenhouse gas gains,* SF Chronicle, (Nov. 21, 2017), https://www.sfchronicle.com/bayarea/article/Huge-wildfires-can-wipe-out-California-s-12376324.php.

[8] Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; Dan Walters, *Why does California have the nation's highest poverty level?*, CALMatters (Aug. 13, 2017), https://calmatters.org/articles/california-nations-highest-poverty-level/.

[9] Betsy Block et al., Struggling to Get By: The Real Cost Measure in California 2015, United Ways of California (2016), https://www.unitedwaysca.org/realcost.

Public Policy Institute of California used a methodology that also accounts for the cost of living and independently concluded that about 40% of Californians live in poverty.[10]

9. Poverty is just one of several indicators of the deep economic distress affecting California. California also has the highest homeless population, and the highest homelessness rate, in the nation. According to the U.S. Department of Housing and Urban Development, about 25% of the nation's homeless, or about 135,000 individuals, are in California.[11]

10. National homeownership rates have been recovering since the recession levels, but California's rate has plunged to the second lowest in the country—with homeownership losses steepest and most sustained for California's Latinos and African Americans.[12]

11. As shown in Figure 1, with the exception of white and Asian populations in the five-county Bay Area, elsewhere in California—and for Latino and African American residents statewide—incomes are comparable to national averages.

Figure 1

Median Income in 2007 and 2017, White, Asian, Latino and Black Populations

Bay Area, California excluding the Bay Area, and U.S. excluding California

(nominal current dollars)[13]

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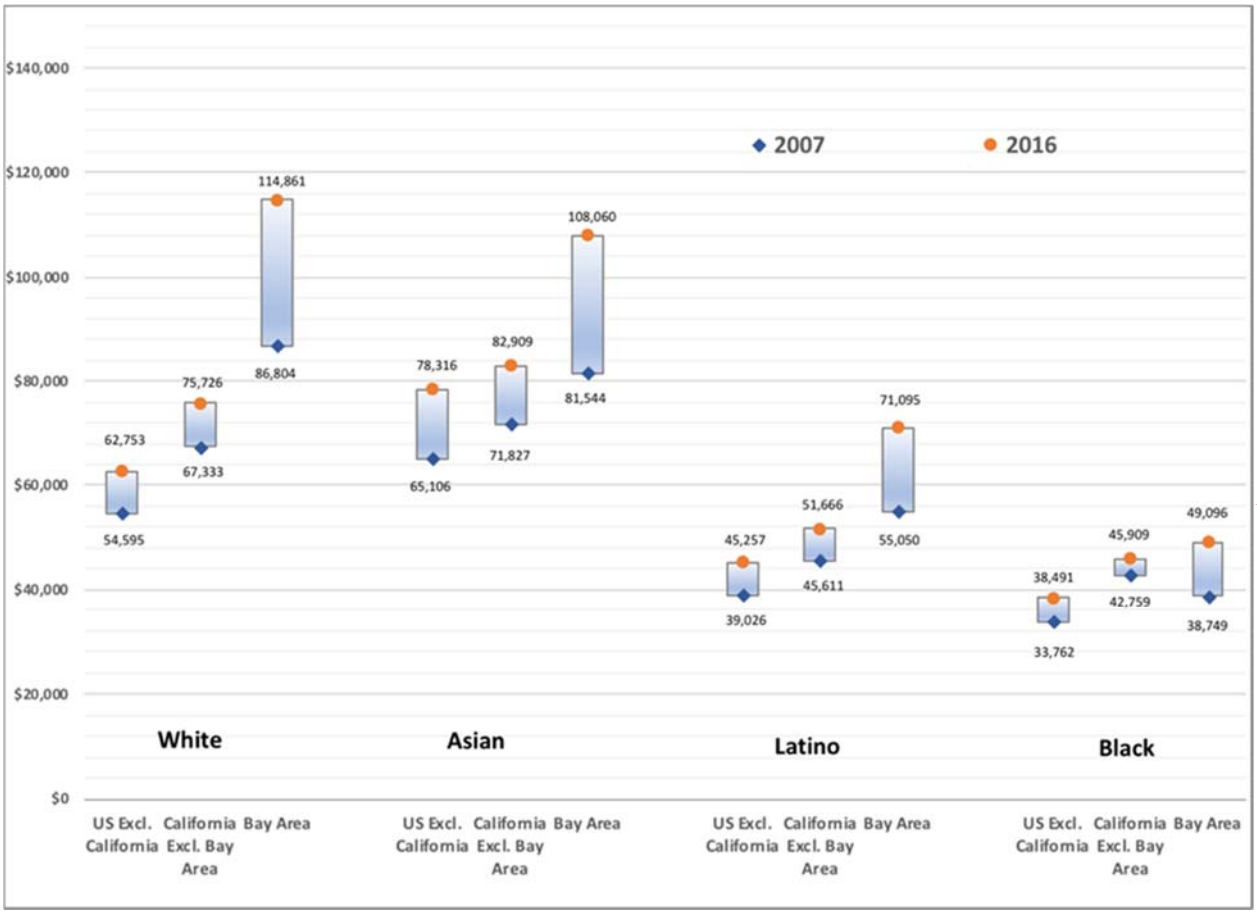
[10] Public Policy Institute of California, Poverty in California (Oct. 2017), http://www.ppic.org/publication/poverty-in-california/.

[11] U.S. Department of Housing and Urban Development, 2017 Annual Homeless Assessment Report to Congress, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf; Kevin Fagan et al., *California's homelessness crisis expands to country*, SF Chronicle (Sept. 8, 2017), https://www.sfchronicle.com/news/article/California-s-homelessness-crisis-moves-to-the-12182026.php.

[12] U.S. Census Bureau, Housing Vacancies and Homeownership (CPS/HVS), Table 16. Homeownership Rates for the 75 Largest Metropolitan Statistical Areas: 2015 to 2017, https://www.census.gov/housing/hvs/data/ann17ind.html. See also 2007 and 2016 American Community Survey 1-Year Estimates, Table B25003 series (Tenure in Occupied housing units), California, https://factfinder.census.gov/.

[13] Median income estimated from household income distributions for 2007 and 2016 American Community Survey 1-Year Estimates, Table B19001 series, https://factfinder.census.gov/ (using the estimation methodology described by the California Department of Finance at http://www.dof.ca.gov/Forecasting/Demographics/Census_Data_Center_Network/documents/How_to_Recalculate_a_Median.pdf).



12. However, Californians pay far higher costs for basic necessities. A national survey of housing, food, medical and other costs conducted by the Council for Community & Economic Research showed that in 2017, California was the second most expensive state in the nation (after Hawaii), and had a cost of living index that was 41% higher than the national average.[14] The LAO reported that "California's home prices and rents are higher than just about anywhere else," with average home prices 2.5 times more than the national average and rents 50% higher than the national average.[15] Californians also pay 58% more in average electricity cost per KWh hour (2016 annual average)[16] and about $0.80 cents more per gallon of gas than the national average.[17]

[14] The 2017 survey by the Council for Community & Economic Research was published by the Missouri Economic Research and Information Center, https://www.missourieconomy.org/indicators/cost_of_living/index.stm.

[15] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[16] U.S. Energy Information Agency, Electric Power Annual, Table 2.10 (Dec. 2, 2017), https://www.eia.gov/electricity/annual/ (showing average annual 2016 prices).

[17] American Automobile Association, Regular Gas Prices, http://gasprices.aaa.com/state-gas-price-averages/, last visited April 25, 2018.

13. These high costs for two basic living expenses—electricity and transportation—are highest for those who live in the state's inland areas (and need more heating and cooling than the temperate coast), and drive farthest to jobs due to the acute housing crisis the LAO has concluded is worst in the coastal urban job centers like the San Francisco Bay Area and Los Angeles.[18]

14. An estimated 138,000 commuters enter and exit the nine-county Bay Area megaregion each day.[19] These are workers who are forced to "drive until they qualify" for housing they can afford to buy or rent.

15. San Joaquin County housing prices in cities nearest the Bay Area, such as Stockton, are about one-third lower, even though commute times to San Jose are 77 minutes each direction (80 miles and 2.5 hour daily commutes), and to San Francisco are 80 minutes (82 miles and 3 hour daily commutes).[20] The median housing price in Stockton is about $286,000—still double the national average of $140,000—while the median housing price in San Jose is over $1,076,000 and in San Francisco is over $1,341,000.[21]

16. California's poverty, housing, transportation and homeless crisis have created a perfect storm of economic hardship that has, in the words of the civil rights group Urban Habitat, resulted in the "resegregation" of the Bay Area.[22] Between 2000 and 2014, substantial African American and Latino populations shifted from central cities on and near the Bay, like San Francisco, Oakland, Richmond and San Jose, to eastern outer suburbs like Antioch, and Central Valley communities like Stockton and Suisun City.[23] As reported:

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[18] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[19] Bay Area Council, Another Inconvenient Truth (Aug. 16, 2016), www.bayareaeconomy.org/report/another-inconvenient-truth/.

[20] Commute times from Google navigation, calculated April 25, 2018.

[21] Zillow, Stockton CA Home Prices & Home Values, https://www.zillow.com/stockton-ca/home-values/; San Jose CA Home Prices and Home Values, https://www.zillow.com/san-jose-ca/home-values/; San Francisco CA Home Prices and Home Values, https://www.zillow.com/san-francisco-ca/home-values/.

[22] Urban Habitat League, Race, Inequality, and the Resegregation of the Bay Area (Nov. 2016), http://urbanhabitat.org/new-report-urban-habitat-reveals-growing-inequality-and-resegregation-bay-area-reflecting-divided; see also LAO, Lower Income Households Moving to Inland California from Coast (Sept. 2015), http://www.lao.ca.gov/LAOEconTax/Article/Detail/133.

[23] *Id.* p. 10-11, Maps 5 and 6.

> Low income communities of color are increasingly living at the expanding edges of our region. . . . Those who do live closer to the regional core find themselves unable to afford skyrocketing rents and other necessities; many families are doubling or tripling up in homes, or facing housing instability and homelessness.[24]

17. Los Angeles (#1) and the Bay Area (#3) are already ranked the worst in the nation for traffic congestion, flanking Washington DC (#2).[25] Yet California's climate leaders have decided to intentionally increase traffic congestion—to lengthen commute times and encourage gridlock—to try to get more people to ride buses or take other form of public transit.[26] This climate strategy has already failed, with public transit ridership—particularly by bus—continuing to fall even as California has invested billions in public transit systems.[27]

18. Vehicle miles travelled ("VMT") by Californians forced to drive ever-greater distances to homes they can afford have also increased by 15% between 2000 and 2015.[28] Serious

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[24] *Id.* p. 2.

[25] INRIX Global Traffic Scorecard (2017), http://inrix.com/scorecard/.

[26] Governor's Office of Planning and Research ("OPR"), Updating Transportation Analysis in the CEQA Guidelines, Preliminary Discussion Draft (Aug. 6, 2014), http://www.opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf, p. 9 (stating that "research indicates that adding new traffic lanes in areas subject to congestion tends to lead to more people driving further distances. (Handy and Boarnet, "DRAFT Policy Brief on Highway Capacity and Induced Travel," (April 2014).) This is because the new roadway capacity may allow increased speeds on the roadway, which then allows people to access more distant locations in a shorter amount of time. Thus, the new roadway capacity may cause people to make trips that they would otherwise avoid because of congestion, or may make driving a more attractive mode of travel"). In subsequent CEQA regulatory proposals, and in pertinent parts of the 2017 Scoping Plan, text supportive of traffic congestion was deleted but the substantive policy direction remains unchanged. Further, the gas tax approved by the Legislature in 2017 was structured to limit money for addressing congestion to $250 million (less than 1% of the $2.88 billion anticipated to be generated by the new taxes). See Jim Miller, *California's gas tax increase is now law. What it costs you and what it fixes.* Sacramento Bee (April 28, 2017), http://www.sacbee.com/news/politics-government/capitol-alert/article147437054.html.

[27] See, e.g., Bay Area Metropolitan Planning Commission, Transit Ridership Report (Sept. 2017), http://www.vitalsigns.mtc.ca.gov/transit-ridership (showing transit ridership decline on a per capita basis by 11% since 1990 with per capita bus boardings declining by 33%); see also University of California Institute for Transportation Studies, Falling Transit Ridership: California and Southern California (Jan. 2018), https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf (showing Los Angeles regional public transit decline).

[28] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf.

adverse health impacts to individual commuters,[29] as well as adverse economic impacts to drivers and the California economy,[30] from excessive commutes have also worsened.

19. In 2016 and 2017, the combination of increased congestion and more VMT reversed decades of air quality improvements in California, and caused increased emissions of both GHG and other traditional air pollutants that cause smog and other adverse health effects,[31] for which reductions have long been mandated under federal and state clean air laws.

20. In short, in the vast majority of California, and for the whole of its Latino and African American populations, the story of California's "thriving" economy is built on CARB's reliance on misleading statewide averages, which are distorted by the unprecedented concentration of stock market wealth created by the Bay Area technology industry.

21. For most Californians, especially those who lost their home in the Great Recession (with foreclosures disproportionately affecting minority homeowners),[32] or who never owned a home and are struggling with college loans or struggling to find a steady job that pays enough to cover California's extraordinary living costs, CARB's assertion that California is a booming, "clean and green" economy is a distant fiction.

B. California's Historical Use of Environmental and Zoning Laws and Regulations to Oppress and Marginalize Minority Communities

22. The current plight of minority communities in California is the product of many decades of institutional racism, perpetuated by school bureaucrats of the 1940's who defended the "separate but equal" system, highway bureaucrats of the 1950's who targeted minority neighborhoods for demolition to make way for freeway routes, urban planning bureaucrats in the

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[29] Carolyn Kylstra, *10 Things Your Commute Does to Your Body*, Time Magazine (Feb. 2014), http://time.com/9912/10-things-your-commute-does-to-your-body/.

[30] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf (stating that traffic congestion is estimated to cost California $28 billion, including lost time for drivers and businesses, and wasted fuels).

[31] Next 10, 2017 CA Green Innovation Index (Aug. 22, 2017), http://next10.org/sites/default/files/2017-CA-Green-Innovation-Index-2.pdf.

[32] Gillian White, *The Recession's Racial Slant,* Atlantic Magazine (June 24, 2015), https://www.theatlantic.com/business/archive/2015/06/black-recession-housing-race/396725/.

1960's who destroyed minority communities in pursuit of redevelopment, and those who enabled decades of "redlining" practices by insurance and banking bureaucrats aimed at denying minorities equal access to mortgages and home insurance.[33]

23. Environmental regulators are no less susceptible to racism and bias than other regulators. Members of The Two Hundred had to intervene when environmental regulators threatened to block construction of the UC Merced campus, which is the only UC campus in the Central Valley and serves the highest percentage of Latino students of any UC campus.[34]

24. Members of The Two Hundred also had to intervene to require environmental regulators to establish clear standards for the cleanup of contaminated property that blighted many minority neighborhoods, where cleanup and redevelopment could not be financed without the standards that virtually all other states had already adopted.[35]

25. Racial bias in environmental advocacy organizations, including those that heavily lobbied CARB in 2017 Scoping Plan proceedings, was also confirmed in an influential study funded by major foundations that contribute to such organizations.[36]

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[33] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017).

[34] UC Merced's Latino undergraduates comprise 53% of the student population, compared to the 21% rate of Latino undergraduate enrollment for the UC system as a whole. University of California System Enrollment (2017), https://www.universityofcalifornia.edu/infocenter/fall-enrollment-glance; UC Merced Fast Facts 2017-2018, https://www.ucmerced.edu/fast-facts; see also John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (March 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[35] John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (Mar. 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[36] Dorceta E. Taylor, Ph.D., The State of Diversity in Environmental Organizations: Mainstream NOGs, Foundations & Government Agencies (July 2014), http://vaipl.org/wp-content/uploads/2014/10/ExecutiveSummary-Diverse-Green.pdf.

26. Additional studies have confirmed racial bias in environmental organizations, and in media reports on environmental issues.[37] As the newest President of the Sierra Club Board of Directors, African American Aaron Mair recently confirmed: "White privilege and racism within the broader environmental movement is existent and pervasive."[38]

27. The simple fact is that vast areas of California, and disproportionately high numbers of Latino and African American Californians, have fallen into poverty or out of homeownership, and California's climate policies guarantee that housing, transportation and electricity prices will continue to rise while "gateway" jobs to the middle class for those without college degrees, such as manufacturing and logistics, will continue to locate in other states.

C. Four New GHG Housing Measures in CARB's 2017 Scoping Plan Are Unlawful, Unconstitutional, and Would Exacerbate the Housing-Induced Poverty Crisis

28. Defendant/Respondent CARB is the state agency directed by the Legislature to implement SB 32, which requires the State to set a target to reduce its GHG emissions to forty percent below 1990 levels by 2030 ("2030 Target").

29. CARB adopts a "Scoping Plan" every five years, as described in the GWSA. The most recent Scoping Plan sets out the GHG reduction measures that CARB finds will be required to achieve the 2030 Target ("2017 Scoping Plan"). The 2017 Scoping Plan was approved in December 2017.

30. The most staggering, unlawful, and racist components of the 2017 Scoping Plan target new housing. The Plan includes four measures, challenged in this action, that increase the cost and litigation risks of building housing, intentionally worsen congestion (including commute

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[37] See, e.g., Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/; Jedidiah Purdy, *Environmentalism's Racist History*, The New Yorker (Aug. 13, 2015), https://www.newyorker.com/news/news-desk/environmentalisms-racist-history; Brentin Mock, *The Green Movement Is Talking About Racism? It's About Time*, Outside Magazine (Feb. 27, 2017), https://www.outsideonline.com/2142326/environmentalism-must-confront-its-social-justice-sins.

[38] Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/

times and vehicular emissions) for workers who already spend more than two hours on the road instead of with their families, and further increase the cost of transportation fuels and electricity.

31. These newly-adopted measures (herein the "GHG Housing Measures") are: (A) The new VMT mandate; (B) The new "net zero" CEQA threshold; (C) The new CO2 per capita targets for local climate action plans for 2030 and 2050; and (D) The "Vibrant Communities" policies in Appendix C to the 2017 Scoping Plan, to the extent they incorporate the VMT, net zero and new CO2 per capita targets.[39]

32. The presumptive "net zero" GHG threshold requires offsetting GHG emissions for all new projects including housing under CEQA, the "Vibrant Communities" measures include limiting new housing to the boundaries of existing developed communities, and a mandate to substantially reduce VMT even for electric vehicles by (among other means) intentionally increasing congestion to induce greater reliance on buses and other transit modes.

33. The development of, and the measures included in, the 2017 Scoping Plan was required to be informed by an environmental analysis ("EA") pursuant to the California Environmental Quality Act (Pub. Res. Code § 21000 *et seq.*) ("CEQA"), and an economic fiscal analysis ("FA") as mandated by both the GWSA and the Administrative Procedure Act, Gov. Code § 11346 *et seq.* ("APA").

34. However, in one of many examples of the lack of analysis in the 2017 Scoping Plan and related documents, CARB does not disclose the GHG emission reductions it expects from the GHG Housing Measures. The Scoping Plan also omits any economic analysis that accounts for the cost of these measures on today's Californians, and omits any environmental analysis of the Plan's effects on existing California communities and infrastructure.

35. CARB concluded that in 2017 California's entire economy will emit 440 million metric tons of GHGs per year, and that California will need to reduce emissions by 181.8 million

[39] While CARB styled the GHG Housing Measures as "guidelines", they are self-implementing and unlawful underground regulations. All other components of the 2017 Scoping Plan will be implemented as regulations, such as the Cap and Trade program and low carbon fuel standard, and thus will undergo a formal rulemaking process. However, CARB refused to undertake the same legislatively-mandated public process for the four GHG Housing Measures.

metric tons to meet the 2030 Target. Notwithstanding widespread reports, and public and agency concern about the housing crisis, the homelessness crisis, the housing-induced poverty crisis, and the transportation crisis (collectively referred to herein as the "housing crisis"), neither the 2017 Scoping Plan, nor the environmental or economic analyses, disclose how much of this 181.8 million metric ton GHG reduction must or even may be achieved by constructing the at least three million new homes that experts,[40] and all candidates for Governor,[41] agree California must produce to resolve the current housing shortfall.

36. The core elements of the Scoping Plan related to housing call for new housing in California's existing communities (which comprise 4% of California's lands), with smaller multi-family units instead of single family homes located near public transit to reduce VMT. The 2017 Scoping Plan does not contemplate the need for any new regulations to implement this housing regime. Instead, it includes expert agency conclusions about how CEQA, a 1970 environmental law, must be implemented to achieve California's statutory climate change mandates as well as the unlegislated 2050 GHG reduction goal (80% reduction from 1990 GHG emissions by 2050) included in various Executive Orders from California Governors.

37. The best available data on the actual GHG reductions that will be achieved by the Scoping Plan's GHG Housing Measures is the "Right Type, Right Place" report, prepared by a multi-disciplinary team of housing and environmental law experts at the University of California, Berkeley, that examined some of the consequences from the housing crisis solution embedded in the 2017 Scoping Plan's GHG Housing Measures ("UCB Study").[42]

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[40] Jonathan Woetzel et al., Closing California's Housing Gap, McKinsey Global Institute (Oct. 2016), https://www.mckinsey.com/global-themes/urbanization/closing-californias-housing-gap.

[41] Liam Dillon, *We asked the candidates how they planned to meet housing production goals. Here's how they responded*, LA Times (March 6, 2018), http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-we-asked-the-candidates-how-they-planned-1520382029-htmlstory.html.

[42] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

38. The UCB Study anticipates constructing only 1.9 million new homes, less than two-thirds of California's 3.5 million shortfall identified by other experts. The Study examines the continuation of existing housing production, which is dominated by single family homes with fewer than 1% of Californians living in high rise structures, and compares this with a changed housing pattern that would confine new housing to the boundaries of existing cities and towns and replace traditional single family homes with smaller apartments or condos (thereby equating 2,000 square foot homes with 800 square foot apartments).

39. The UCB Study concludes that high rise and even mid-rise (e.g., six story) buildings are far more costly to build on a per unit basis than single family homes—three to five time higher—and are thus infeasible in most markets for most Californians. The Study thus recommends focusing on less costly housing units such as quadplexes (four units in two-story buildings) and stacked flats (one or two units per floor, generally limited to four stories)—which are still approximately 30% more costly than single family homes on a per unit basis.

40. The UCB Study then concludes that it would be possible for California to build all 1.9 million new homes in existing communities with these small multi-family structures, but to confine all new units to the 4% of California that is already urbanized would require the demolition of "tens, if not hundreds of thousands, of single family homes." The Study does not quantify the GHG emissions from such massive demolition activities, nor does it identify any funding source or assess any non-GHG environmental, public service, infrastructure, historic structure, school, traffic, or other impact associated with this new housing vision.

41. Unlike CARB's 2017 Scoping Plan, the UCB Study does quantify the GHG reductions to be achieved by remaking California's existing communities and housing all Californians harmed by the current housing crisis in small apartments. With this new housing future, California will reduce annual GHG emissions by 1.79 million metric tons per year, less than 1% of the 181.8 million metric tons required to meet the 2030 Target in SB 32.

42. The Scoping Plan's new CEQA provisions, which have already been cited as CEQA legal mandates by opponents to a Los Angeles County housing project called

"Northlake,"[43] would increase still further the cost of new housing (and thereby make it even less affordable to California's minority and other families). Since new housing—especially infill housing—is already the top target of CEQA lawsuits statewide,[44] the GHG Housing Measures will encourage even more anti-housing lawsuits, with attendant increases in project litigation costs and construction delays, as well as vehement opposition from existing residents.

43. CEQA lawsuits also disproportionately target multi-family housing such as apartments in existing urbanized "infill" locations. In a recent 3-year study of all CEQA lawsuits filed statewide, the approximately 14,000 housing units challenged in the six county region comprising the Southern California Association of Governments ("SCAG"), which includes Los Angeles, Orange, San Bernadino, Ventura, Imperial, and Riverside counties and all cities within those counties, SCAG determined that 98% of the challenged housing units were located in existing urbanized areas, 70% were within areas designated for transit-oriented high density development, and 78% were located in the whiter, wealthier and healthier areas of the region (outside the portions of the regions with higher minority populations, poverty rates, pollution, and health problems associated with adverse environmental conditions such as asthma).[45]

44. CEQA lawsuit petitioners also have an unusually high success rate against the cities and other government agencies responsible for CEQA compliance. A metastudy of administrative agency challenges nationally showed that agencies win approximately 70% of such cases. In contrast, three different law firm studies of CEQA reported appellate court opinions showed that CEQA petitioners prevailed in almost 50% of such cases.[46]

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[43] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

[44] Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf.

[45] Jennifer Hernandez, David Friedman, Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), p. 31-34, https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf.

[46] Jennifer Hernandez, Spencer Potter, Dan Golub, Joanna Meldrum, CEQA Judicial Outcomes: Fifteen Years of Reported California Appellate and Supreme Court Decisions (2015), p. 3-4, 10, https://www.hklaw.com/files/Uploads/Documents/Articles/0504FINALCEQA.pdf.

45. As noted by senior CEQA practitioner William Fulton, "CEQA provides a way for anybody who wants anything out of a public agency to get some leverage over the situation – whether that's unions, environmentalists, businesses, developers, and even local governments themselves."[47]

46. As the founder of California's first law firm focused on filing CEQA lawsuit petitions, E. Clement Shute, recently reported when accepting a lifetime environmental law firm award from the California State Bar Environmental Section:

> Moving to the bad and ugly side of CEQA, projects with merit that serve valid public purposes and not be harmful to the environment can be killed just by the passage of the time it takes to litigate a CEQA case.
>
> In the same vein, often just filing a CEQA lawsuit is the equivalent of an injunction because lenders will not provide funding where there is pending litigation. This is fundamentally unfair. There is no need to show a high probability of success to secure an injunction and no application of a bond requirement to offset damage to the developer should he or she prevail.
>
> CEQA has also been misused by people whose move is not environmental protection but using the law as leverage for other purposes. I have seen this happen where a party argues directly to argue lack of CEQA compliance or where a party funds an unrelated group to carry the fight. These, in my opinion, go to the bad or ugly side of CEQA's impact.[48]

47. African American radio host and MBA, Eric L. Frazier, called this climate-based CEQA housing regime "environmental apartheid" since whiter, wealthier and older homeowners were less likely to be affected, while aspiring minority homeowners were likely to be denied housing even longer based on community opposition to widespread density increases and destruction of single family homes, bear even higher housing costs given the absence of funding

[47] William Fulton, Insight: Everyone wants to keep leverage under CEQA, California Planning & Development Report (Sept. 30, 2014), http://www.cp-dr.com/node/3585.

[48] E. Clement Shute, Jr., Reprise of Fireside Chat, Yosemite Environmental Law Conference, 25 Envtl Law News, 3 (2016).

sources to expand and replace undersized infrastructure and public services, and never be within reach of purchasing a family home.[49]

48. CARB's 2017 Scoping Plan, and its required CEQA analysis, also provide no assessment of alternatives for achieving the only 1% reduction in GHG emissions that the new housing future will accomplish from other sectors or sources, which could avoid adverse impacts to California's minority communities, avoid increased housing costs and CEQA litigation risks, and avoid impacting existing California communities by—for example—allowing urbanization of even 1% more of California's land.

49. CARB also ignores a history of success in reducing traditional pollutants from cars, as required by the federal and state Clean Air Acts, while preserving the transportation mobility of people and goods. U.S. Environmental Protection Agency ("EPA") reported in 2016 that most auto tailpipe pollutants had declined by 98-99% in comparison to 1960's cars, gasoline got cleaner with the elimination of lead and reduction in sulfur, and even though it had not been directly regulated, the primary GHG from cars (carbon dioxide) has risen nationally by less than 20% even as VMT nationally more than doubled as a co-benefit of mandatory reductions of traditional pollutants.[50]

50. In contrast to this success, CARB's VMT reduction scheme and its ongoing efforts to intentionally increase congestion are an assault on the transportation mobility of people, which disparately harm minority workers who have been forced by the housing crisis to drive ever greater distances to work.

51. CARB staff's response to The Two Hundred's December 2017 comment letter on the 2017 Scoping Plan is plain evidence of the intentional concealment and willful omission of the true impacts of the 2017 Scoping Plan and the GHG Housing Measures on California. CARB

[49] Eric L. Frazier, The Power is Now, Facebook Live Broadcast (Feb. 28, 2018), https://thepowerisnow.com/events/event/jennifer-hernandez/.

[50] U.S. EPA, Historic Success of the Clean Air Act (2016), https://www.epa.gov/air-pollution-transportation/accomplishments-and-success-air-pollution-transportation.

staff said that GHG Housing Measures were in a separate chapter and thus not part of the 2017 Scoping Plan after all.[51]

52. California's climate change policies, and specifically those policies that increase the cost and delay or reduce the availability of housing, that increase the cost of transportation fuels and intentionally worsen highway congestion to lengthen commute times, and further increase electricity costs, have caused and will cause unconstitutional and unlawful disparate impacts to California's minority populations, which now comprise a plurality of the state's population. These impacts also disproportionately affect younger Californians including millennials (the majority of whom are minorities), as well as workers without college degrees.

53. In short, in the midst of California's unprecedented housing, homeless, poverty and transportation crisis, CARB adopted a 2017 Scoping Plan which imposes still higher housing, transportation and electricity costs on Californians. CARB did so without disclosing or assessing the economic consequences or the significant adverse environmental consequences of its GHG Housing Measures on California residents.

54. In doing so, CARB again affirmed its now-wanton and flagrant pattern of violating CEQA—a pattern consistent with what an appellate court termed "ARB's lack of good faith" in correcting earlier CEQA violations as ordered by the courts.

55. The GHG Housing Measures have a demonstrably disproportionate adverse impact on already-marginalized minority communities and individuals, including but not limited to Petitioners LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, who are Latina residents of Fresno County that are personally, directly and disproportionately adversely affected by the affordable housing shortage and the future exacerbation of that shortage if the GHG Housing Measures are allowed to remain in effect.

56. The Legislature has recognized the equal right to access to housing, *inter alia*, in the California Fair Employment and Housing Act (Gov. Code § 12900 *et seq.*) ("FEHA"). FEHA

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[51] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

§ 12921(b) provides that: "The opportunity to seek, obtain, and hold housing without discrimination because of race, color, . . . source of income . . . or any other basis prohibited by Section 51 of the Civil Code is hereby recognized and declared to be a civil right."

57. California's housing crisis is particularly acute, and has long-lasting adverse impacts. As the Director of the California Department of Housing and Community Development, Ben Metcalf, recently reported: "Research has been unequivocal in supporting two undeniable conclusions: Low-income households paying more than half their income in rent have profoundly reduced expenditures on food, retirement, health care, and education compared with non–rent-burdened households. And children growing up in neighborhoods of concentrated poverty are more likely to have psychological distress and health problems."[52]

58. The 2017 Scoping Plan is also violative of the due process and equal protection clauses of the California and U.S. Constitutions (Cal. Const. Art. I, § 7, U.S. Const., Amd. 14, § 1). Accordingly, Petitioners in this action seek declaratory and injunctive relief from these violations pursuant to 42 U.S.C. § 1983. The GHG Housing Measures are thus unconstitutional on their face and as applied to Petitioners.

59. While the unlawful and unconstitutional disparate impact of the GHG Housing Measures on minority communities, including Petitioners, is the most egregious feature of the regulations, there are numerous other flaws, *each* of which is fatal to the 2017 Scoping Plan and the GHG Housing Measures. As detailed herein, these include violations of CEQA, the APA, the GWSA, the California Health and Safety Code, including the California Clean Air Act (H&S Code § 39607 *et seq.*) ("CCAA"), and the California Congestion Management Act (Gov. Code § 65088 *et seq.*). Moreover, CARB has acted in excess of its statutory authority (ultra vires).

60. The GHG Housing Measures are unlawful both procedurally (because they were adopted in violation of numerous statutory requirements, including but not limited to CEQA) and substantively (because they frustrate and violate a wide range of state and federal laws and regulations prohibiting housing regulations that have an unjustified discriminatory effect).

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[52] Donna Kimura, Pop Quiz with Ben Metcalf, Affordable Housing Finance (July 8, 2016), http://www.housingfinance.com/news/pop-quiz-with-ben-metcalf_o.

61. California's commitment to climate leadership does not require or allow CARB to violate the civil rights of California's minority communities, or constitutional and statutory mandates for clean air, fair housing, historic preservation, consumer protection, transportation mobility, CEQA, or administrative rulemaking.

62. With climate change repeatedly described as a "catastrophe" that could destroy civilizations, perhaps it is necessary for CARB to plunge more of California's minority residents into poverty and homelessness. If so—if climate change requires that the state ignore civil rights, federal and state clean air, fair housing, transportation and consumer protection mandates, and ignore the administrative law checks and balances that require a thorough environmental and economic assessment of regulatory proposals—then this is a conclusion that may only be implemented by the Legislature, to the extent it can do so consistent with the California and federal Constitutions.

63. For this reason, this action seeks declaratory and injunctive relief setting aside the four GHG Housing Measures, each of which places a disproportionate burden on California's minority community members, including Petitioners, and for the court to direct CARB to complete a thorough economic and environmental analysis prior to adopting any new regulations or taking other actions to implement the 2017 Scoping Plan, and to return to this court with a revised Scoping Plan that complies with state and federal law.

II. JURISDICTION AND VENUE

64. This Court has jurisdiction over this proceeding pursuant to California Code of Civil Procedure ("CCP") §§ 410.10, 1085, 1094.5, 526, *et seq.* and 1060. Defendants are subject to personal jurisdiction because their new GHG Housing Measures would, if allowed to remain in effect, pertain to Petitioners and others located within the County of Fresno. Defendants may be properly be served here, and jurisdiction and venue are proper here under CCP § 401, because Defendants are being sued in their official capacities as members of an agency of the State of California, and the Attorney General maintains an office in Fresno, California and the GHG regulations complained of herein have an effect in, and apply in, the County of Fresno, California.

III. PARTIES

65. Petitioners/Plaintiffs THE TWO HUNDRED are a California-based unincorporated association of community leaders, opinion makers and advocates working in California (including in Fresno County) and elsewhere on behalf of low income minorities who are, and have been, affected by California's housing crisis and increasing wealth gap.[53]

66. The Two Hundred is committed to increasing the supply of housing, to reducing the cost of housing to levels that are affordable to California's hard working families, and to restoring and enhancing home ownership by minorities so that minority communities can also benefit from the family stability, enhanced educational attainment over multiple generations, and improved family and individual health outcomes, that white homeowners have long taken for granted. The Two Hundred includes civil rights advocates who each have four or more decades of experience in protecting the civil rights of our communities against unlawful conduct by government agencies as well as businesses.

67. The Two Hundred supports the quality of the California environment, and the need to protect and improve public health in our communities.

68. The Two Hundred have for many decades watched with dismay decisions by government bureaucrats that discriminate against and disproportionately harm minority communities. The Two Hundred have battled against this discrimination for entire careers, which for some members means working to combat discrimination for more than 50 years. In litigation and political action, The Two Hundred have worked to force two government bureaucrats to reform policies and programs that included blatant racial discrimination—by for example denying minority veterans college and home loans and benefits that were available to white veterans, and promoting housing segregation as well as preferentially demolishing homes in minority communities.

69. The Two Hundred sued and lobbied and legislated to force federal and state agencies to end redlining practices that denied loans and insurance to aspiring minority home

[53] See www.the200leaders.org.

buyers and small businesses. The Two Hundred sued and lobbied to force regulators and private companies to recognize their own civil rights violations, and end discriminatory services and practices, in the banking, telecommunication, electricity, and insurance industries.

70. The Two Hundred have learned, the hard way, that California's purportedly liberal, progressive environmental regulators and environmental advocacy group lobbyists are as oblivious to the needs of minority communities, and are as supportive of ongoing racial discrimination in their policies and practices, as many of their banking, utility and insurance bureaucratic peers.

71. Several years ago, The Two Hundred waged a three year battle in Sacramento to successfully overcome state environmental agency and environmental advocacy group opposition to establishing clear rules for the cleanup of the polluted properties in communities of The Two Hundred, and experienced first-hand the harm caused to those communities by the relationships between regulators and environmentalists who financially benefited from cleanup delays and disputes instead of creating the clear, understandable, financeable, insurable, and equitable rules for the cleanup and redevelopment of the polluted properties that blighted these communities.

72. THE TWO HUNDRED's members include, but are not limited to, members of and advocates for minority communities in California, including the following:

- Joe Coto- Joe Coto is Chair of THE TWO HUNDRED. Mr. Coto is an American educator, city council member, and Democratic politician. From 2004-2010, he was a member of the California State Assembly, representing the 23rd Assembly District. He served as Chair of the Assembly's Insurance committee, and held positions on the Elections and Redistricting, Governmental Organization, and Revenue and Taxation committees. He also served on the Special committee on Urban Education. Coto served as Chair of the 26 member Latino Legislative Caucus for a 2-year term, and as Vice Chair for a 2-year term..
- John Gamboa – John Gamboa is Vice-Chair of THE TWO HUNDRED. Mr. Gamboa is the former Executive Director of the Greenlining Institute and has experience in academia, the private sector and the non-profit sector. Prior to the

Greenlining Institute, he was Executive Director of Latino Issues Forum, Communications Manager at U.C. Berkeley, Executive Director of Project Participar, a citizenship program, and Marketing and Advertising Manager at Pacific Bell. At the Greenlining Institute, Mr. Gamboa focuses on public policy issues that promote economic development in urban and low-income areas, and in developing future leaders within the country's minority youth. He has been active in combating redlining and in providing a voice for the poor and underserved in insurance, philanthropy, banking, housing, energy, higher education and telecommunications. He has served on numerous boards and commissions.

- Cruz Reynoso – Cruz Reynoso, now retired, formerly served as Legal Counsel for THE TWO HUNDRED. Mr. Reynoso has dedicated his life to public service championing civil rights, immigration and refugee policy, government reform, and legal services for the poor. Mr. Reynoso began his career in private practice then moved to public service as the assistant director of the California Fair Employment Practices Commission, the associate general counsel of the Equal Employment Opportunity Commission, and head of the California Rural Legal Assistance (CRLA). Mr. Reynoso was a faculty member at the University of New Mexico School of Law and in 1976, he was appointed associate justice of the California Courts of Appeal. In 1982, he became the first Latino to be appointed an associate justice of the California Supreme Court. Mr. Reynoso later returned to private practice, and resumed his teaching career by joining the UCLA School of Law and then the UC Davis School of Law. Mr. Reynoso has served as Vice Chair of the U.S. Commission on Civil Rights, was a member of the Select Commission on Immigration and Human Rights, and received the Presidential Medal of Freedom.
- José Antonio Ramirez – José Antonio Ramirez is a Council Member of THE TWO HUNDRED. He has dedicated his life to public service, especially for the residents

of the Central Valley, seeking to improve economic vitality, strengthen community life, and increase educational opportunities and housing affordability for all Californians, including disadvantaged members of the Latino community. He currently serves as President of Community Development Inc. and as City Manager for the City of Livingston. He was previously Program Manager, International Affairs Coordinator and Security Engineer and Emergency Management Coordinator for the U.S. Bureau of Reclamation. He served on the San Joaquin River Resource Management board, the Valley Water Alliance Board and as Chairman of the Technical Review Boards for Merced and Fresno County.

- Herman Gallegos – Herman Gallegos is a Council Member of THE TWO HUNDRED. He has provided active leadership in a wide variety of community, corporate and philanthropic affairs spanning local, national and international interests. As a pioneer civil rights activist in the early 1950s, Gallegos was a leader in the formation of the Community Service Organization, a civil rights-advocacy group organized to promote the empowerment and well-being of Latinos in California. In 1965, while serving as a Consultant to the Ford Foundation's National Affairs Program, Gallegos, with Dr. Julian Samora and Dr. Ernesto Galarza, made an assessment with recommendations on how the foundation might initiate support to address the critical needs of the rapidly growing Latino population in the U.S.. As a result, he was asked to organize a new conduit for such funds—the Southwest Council of La Raza, now the National Council of La Raza. Gallegos went on to become the council's founding executive director. Gallegos also served as CEO of several business firms, including the U. S. Human Resources Corporation and Gallegos Institutional Investors Corporation. He became one of the first Latinos elected to the boards of publicly traded corporations and the boards of preeminent private and publicly supported philanthropic organizations, such as the Rockefeller Foundation, The San Francisco Foundation, The Poverello Fund and the California Endowment.

- Hyepin Im – Hyepin Im is a Council Member of THE TWO HUNDRED. She currently serves as the Founder and President of Korean Churches for Community Development (KCCD) whose mission is to help churches build capacity to do economic development work. Under Ms. Im's leadership, KCCD has implemented a historic homeownership fair in the Korean community, a Home Buyer Center Initiative with Freddie Mac, a national database and research study on Korean American churches, and ongoing training programs. Previously, Ms. Im was a venture capitalist for Renaissance Capital Partners, Sponsorship and Community Gifts Manager for California Science Center, a Vice President with GTA Consulting Company, and a Consultant and Auditor with Ernst & Young LLP. Ms. Im serves on the Steering Committee of Churches United for Economic Development, as Chair for the Asian Faith Commission for Assemblymember Herb Wesson, and has served as the President of the Korean American Coalition, is a member of the Pacific Council, was selected to be a German Marshall Fund American Memorial Marshall Fellow, and most recently, was selected to take part in the Harvard Divinity School Summer Leadership Institute.
- Don Perata – Don Perata is a Council Member of THE TWO HUNDRED. Mr. Perata began his career in public service as a schoolteacher. He went on to serve on the Alameda County Board of Supervisors (1986-1994) and the California State Assembly (1996-1998). In 1998, he was elected to the California State Senate and served as president pro tem of the Senate from 2004-2008. As president pro tem, Mr. Perata oversaw the passage of AB 32, California's cap and trade regulatory scheme to reduce greenhouse gases. Mr. Perata has guided major legislation in health care, in-home services, water development and conservation and cancer, biomedical and renewable energy. Mr. Perata has broad experience in water, infrastructure, energy, and environmental policies, both as an elected official and a consultant. He is versed in the State Water Project, Bay Delta restoration,

renewable energy, imported water and water transfers, recycling, conservation, groundwater regulation, local initiative, storage and desalination.

- Steven Figueroa – Steven Figueroa is a Council Member of THE TWO HUNDRED. He was born in East L. A., with a long history in California. Working on his first political campaign at age nine he learned that if you want change you have to be involved. As an adult he was involved in the labor movement through the California School Employees Association and later as a union shop steward at the U.S.P.S. A father of three, Steven has been advocating for children with disabilities for 30 years, beginning in 1985, for his own son, who is autistic. He took the Hesperia School District to court for violating his disabled son's rights and prevailed. He advocates for disabled children throughout the United States, focusing on California. Currently, he serves as president of the Inland Empire Latino Coalition and sits on the advisory boards of California Hispanic Chambers of Commerce, the National Latina Business Women Association Inland Empire the Disability Rights and Legal Center Inland Empire, and as Executive Director for Latin PBS. He previously served as the vice president of the Mexican American Political Association Voter Registration & Education Corp.
- Sunne Wright McPeak – Sunne McPeak is a Council Member of THE TWO HUNDRED. She is the President and CEO of the California Emerging Technology Fund, a statewide non-profit whose mission is to close the Digital Divide by accelerating the deployment and adoption of broadband. She previously served for three years as Secretary of the California Business, Transportation and Housing Agency where she oversaw the largest state Agency and was responsible for more than 42,000 employees and a budget in excess of $11 billion. Prior to that she served for seven years as President and CEO of the Bay Area Council, as the President and CEO of the Bay Area Economic Forum, and for fifteen years as a member of the Contra Costa County Board of Supervisors. She has led numerous statewide initiatives on a variety of issues ranging from water, to housing, to child

care, and served as President of the California State Association of Counties in 1984. She was named by the San Francisco League of Women Voters as "A Woman Who Could Be President." She also served on the Boards of Directors of First Nationwide Bank and Simpson Manufacturing Company.

- George Dean – George Dean is a Council Member of THE TWO HUNDRED. Mr. Dean has been President and Chief Executive Officer of the Greater Phoenix Urban League since 1992. As such, he has brought a troubled affiliate back to community visibility, responsiveness and sound fiscal accountability. Mr. Dean, a former CEO of the Sacramento, California and Omaha, Nebraska affiliates boasts more than 25 years as an Urban League staff member. His leadership focuses on advocacy toward issues affecting the African-American and minority community, education, training, job placement and economic development. Mr. Dean annually raises more than 3 million dollars from major corporations, local municipalities and state agencies for the advancement of minority enterprises, individuals, families and non-profits. Mr. Dean is nationally recognized in the field of minority issues and advancement, and affordable housing.
- Joey Quinto – Joey Quinto is a Council Member of THE TWO HUNDRED. Mr. Quinto's has made many contributions to the advancement of the API community. He began his professional career as a mortgage banker. As a publisher, his weekly newspaper advances the interests of the API community and addresses local, consumer and business news, and community events. He is a member of several organizations including the Los Angeles Minority Business Opportunity Committee and The Greenlining Coalition. Mr. Quinto is the recipient of the Award for Excellence in Journalism during the Fourth Annual Asian Pacific Islander Heritage Awards in celebration of the Asian Pacific Islander American Heritage Month. He was also listed among the Star Suppliers of the Year of the Southern California Regional Purchasing Council, received the Minority Media

Award from the U.S. Small Business Administration, and earned a leadership award from the Filipino American Chamber of Commerce based in Los Angeles.

- Bruce Quan, Jr. – Bruce Quan is a Council Member of THE TWO HUNDRED. Mr. Quan is a fifth generation Californian whose great grandfather, Lew Hing founded the Pacific Coast Canning Company in West Oakland in 1905, then one of the largest employers in Oakland. Bruce attended Oakland schools, UC Berkeley, and Boalt Hall School of Law. At Berkeley, he was a community activist for social justice, participated in the Free Speech Movement and the Vietnam Day Committee and was elected student body president. In 1973, he was chosen as one of three students to clerk for the Senate Watergate Committee and later returned to Washington to draft the "Cover-up" and "Break-in" sections of the committee's final report. He worked in the Alameda's City Attorney office, his own law practice advising Oakland's Mayor Lionel Wilson on economic development issues in Chinatown and serving Mayor Art Agnos as General Counsel for the San Francisco-Shanghai Sister City Committee and the San Francisco-Taipei Sister City Committee. In 2000, he moved to Beijing, continued his law practice, worked as a professor with Peking Law School, and became senior of counsel with Allbright Law Offices. Now in Oakland, he has reengaged in issues affecting the Chinese community and on issues of social justice, public safety and economic development in Oakland.
- Robert J. Apodaca – Robert Apodaca is a Council Member of THE TWO HUNDRED. He is a Founder of ZeZeN Advisors, Inc., a boutique financial services firm that connects institutional capital with developers and real estate owners. He has a 45-year career that spans private and public sectors. He was Chairman and Trustee of Alameda County Retirement Board (pension fund) and then joined Kennedy Associates, an institutional investor for pension funds as Senior Vice President & Partner. He represented Kennedy Companies on Barings Private Equity's "Mexico Fund" board of directors. He later joined McLarand

Vasquez Emsiek & Partners, a leading international architectural and planning firm, as Senior Vice President of Business Development. He currently serves on numerous board of directors including Jobs and Housing Coalition, Greenlining Institute, California Community Builders and California Infill Federation.

- Ortensia Lopez – Ortensia Lopez is a Council Member of THE TWO HUNDRED. She is a nationally recognized leader in creating coalitions, collaboratives and partnerships, resulting in innovative initiatives that ensure participation for low-income communities. Ms. Lopez has worked in the non-profit sector for over forty-one years in executive management positions. She is the second of 11 children born to parents from Mexico and the first to graduate from college. She currently serves on the California Public Utilities Commission's Low-Income Oversight Board, as Co-Chairperson and founding member of the Greenlining Institute, as Vice-President Chicana/Latina Foundation, as Director of Comerica Advisory Board, and on PG&E's Community Renewables Program Advisory Group. Ms. Lopez has earned numerous awards, including Hispanic Magazine's "Hispanic Achievement Award", San Francisco's "ADELITA Award", the prestigious "Simon Bolivar Leadership Award", the League of Women Voters of San Francisco "Woman Who Could Be President" award, California Latino Civil Rights Network award, and the Greenlining Lifetime Achievement.
- Frank Williams – Frank Williams is a Council Member of THE TWO HUNDRED. He is an established leader in the mortgage banking industry, with over 25 years of experience, and is an unwavering advocate for creating wealth through homeownership for underrepresented communities. Frank began his real estate finance career in 1990, emphasizing Wholesale Mortgage Banking. He founded Capital Direct Funding, Inc. in 2009. Today, as Co-founder and Divisional Manager, Mr. Williams has made Capital Direct Funding into California's premier private lending firm. Capital Direct Funding's foundations are built on giving back to the community by supporting several non-profits. He

currently serves as President of East LA Classic Theater, a non-profit that works with underserved school districts in California. Frank was also Past President for Los Angeles' National Association of Hispanic Real Estate Professionals.

- Leticia Rodriguez - Leticia Rodriguez is a resident of Fresno County, California. She is a low-income single mother and Latina who suffers ongoing personal harm from the severe shortage of housing that is affordable to working-class families. Within the last three years, she has spent more than 30% of her income on rent. She has been forced to move into her parents' home because she cannot afford a decent apartment for herself and her family.
- Teresa Murillo – Teresa Murillo is a resident of the City of Parlier in Fresno County, California. She is a young Latina with a low income. In recent years, she has spent approximately 30% of her income on housing. She currently is unable to afford a decent apartment and has been forced to move back in with her parents.
- Eugenia Perez – Eugenia Perez is a resident of Fresno County, California. She is a Latina grandmother. The majority of her income goes to pay rent. She currently is renting a room on E. Fremont Avenue in Fresno. She struggles to pay rent and lives in fear of becoming homeless if housing prices and rent continue to increase.

73. Defendant CALIFORNIA AIR RESOURCES BOARD is an agency of the State of California. On information and belief, current members of the CALIFORNIA AIR RESOURCES BOARD are: Mary D. Nichols, Sandra Berg, John R. Balmes, Hector De La Torre, John Eisenhut, Dean Flores, Eduardo Garcia, John Gioia, Ricardo Lara, Judy Mitchell, Barbara Riordan, Ron Roberts, Phil Serna, Alexander Sherriffs, Daniel Sperling, and Diane Takvorian.

74. Defendant RICHARD COREY, sued herein in his official capacity, is Executive Officer of the CALIFORNIA AIR RESOURCES BOARD.

75. Petitioners are ignorant of the true names or capacities of the defendants sued herein under the fictitious names DOES 1 through 20 inclusive. When their true names and capacities are ascertained, Petitioners will amend this Petition/Complaint to show such true names and capacities. Petitioners are informed and believe, and thereon allege, that DOES 1 through 20,

inclusive, and each of them, are agents or employees of one or more of the named Defendants responsible, in one way or another, for the promulgation and prospective enforcement of the GHG Housing Measures sought to be invalidated and set aside herein.

IV. GENERAL ALLEGATIONS

A. California's Statutory Scheme To Reduce Greenhouse Gas Emissions and Avoid Disparate Impacts

76. As part of developing solutions to global warming, the California Legislature adopted the California Global Warming Solutions Act of 2006 (otherwise known as "AB 32" or the "GWSA") and established the first comprehensive greenhouse gas regulatory program in the United States. H&S Code § 38500 *et seq.*

77. Under AB 32, CARB is the state agency charged with regulating and reducing the sources of emissions of GHGs that cause global warming. H&S Code § 38510.

78. AB 32 required CARB to set a statewide GHG emissions limit equivalent to California's 1990 GHG emissions to be achieved by 2020. H&S Code § 38550.

79. AB 32 also required CARB to prepare, approve, and periodically update a scoping plan detailing how it would achieve the maximum technologically feasible and cost-effective GHG emissions reductions by 2020. H&S Code § 38561(a). The scoping plan is required to identify and make recommendations on direct emissions reductions measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources to achieve reductions of GHGs by 2020. H&S Code § 38561(b). The scoping plan must be updated at least every five years. H&S Code § 38561(h).

80. In adopting a scoping plan, CARB must evaluate the total potential costs and total potential benefits of the plan to California's economy, environment, and public health. H&S Code § 38561(d).

81. Each scoping plan update also must identify, for each emissions reduction measure, the range of projected GHG emissions reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

82. The initial scoping plan[54] was discussed in public hearings on or about December 11, 2008. The initial scoping plan was adopted by CARB on or about May 7, 2009.

83. On or about December 23, 2009, the initial scoping plan was challenged in the Superior Court for the City and County of San Francisco for failing to meet the statutory requirements of AB 32, the APA, and CEQA. The superior court accepted the challenge in part and the appeal was thereafter resolved after a further environmental document was filed.[55]

84. The Low Carbon Fuel Standard ("LCFS") was an early action item under AB 32. The LCFS was adopted on or about November 25, 2009 by CARB's executive officer. CARB's action to adopt the LCFS also was challenged for CEQA and APA violations. On or about November 2011, the Superior Court of Fresno County found that CARB had not violated the APA or CEQA. On or about July 15, 2013 the Fifth District Court of Appeal reversed the superior court's judgment and ordered it to issue a preemptory writ of mandate ordering CARB to revise and recertify its environmental assessment to meet CEQA's standards.[56]

85. The first update to the scoping plan[57] was adopted on or about May 22, 2014.

86. Thereafter, on or about May 30, 2017, the Fifth District Court of Appeal again found that CARB had violated CEQA and the APA, and that it had not acted in good faith in responding to certain of the Court's prior orders.[58] Specifically, the court found that CARB violated CEQA in deferring its analysis and mitigation of potential increases in nitrogen oxide emissions resulting from impacts of the LCFS regulations.

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[54] California Air Resources Board, Climate Change Scoping Plan (Dec. 2008), https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

[55] *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.*, 2011 WL 8897315 (Cal. Super. May 20, 2011) (approving challenges to alternatives analysis and improper "pre-approval" under CEQA) and *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.* (2012) 206 Cal.App.4th 1487.

[56] *POET, LLC v. California Air Resources Board* (2013) 217 Cal.App.4th 1214 (holding that CARB prematurely approved the LCFS and improperly deferred analysis and mitigation of potential NOx emissions increased by the rule).

[57] California Air Resources Board, First Update to the Climate Change Scoping Plan (May 2014), https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

[58] *POET, LLC v. State Air Resources Board* (2017) 12 Cal.App. 5th 52.

87. In 2016, the California Legislature adopted SB 32, which required CARB to ensure that rules and regulations adopted pursuant to the GWSA would target California's GHG emissions for reductions of 40% below 1990 levels by 2030. H&S Code § 38566.

88. AB 32 requires CARB to update the scoping plan at least every five years. CARB superseded its 2014 Scoping Plan with the current 2017 Scoping Plan adopted on December 14, 2017. The 2017 Scoping Plan contains the new GHG Housing Measures complained of herein.[59]

89. Between December, 2017 and mid-April, 2018, Petitioners, through counsel, sought to persuade CARB to eliminate or materially modify the four new GHG Housing Measures complained of herein, without success. During this time, the parties entered into a series of written tolling agreements that were continuously operative until April 30, 2018.

B. The 2017 Scoping Plan

90. Throughout 2016 and 2017, CARB prepared the 2017 Scoping Plan. CARB held meetings on or about January 27, 2017, February 16-17, 2017 and December 14, 2017 to accept public comment on the proposed 2017 Scoping Plan.

91. Because the Scoping Plan is both sweeping and vague, and because it was not preceded by a notice of proposed rulemaking, Petitioners THE TWO HUNDRED, *et al.* did not initially appreciate the significance of the new GHG regulations and standards embedded in the 2017 Scoping Plan by CARB staff.

92. Petitioners submitted a detailed letter commenting on the 2017 Scoping Plan on December 11, 2017, in advance of CARB's meeting to vote on the 2017 Scoping Plan.[60] The letter included extensive citations to documents and publications analyzing California's ongoing housing crisis and the disproportionate impact of the worsening housing shortage on marginalized minority communities.

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[59] California Air Resources Board, The 2017 Climate Change Scoping Plan Update (Jan. 20, 2017), https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

[60] The Two Hundred Comment Letter dated Dec. 11, 2017, can be found in the Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 74, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf

93. On December 14, 2017, CARB adopted the 2017 Scoping Plan.

94. While the 2017 Scoping Plan is replete with protestations to the effect that it is only providing "guidance" rather than a "directive or mandate to local governments" (see, e.g., Scoping Plan, p. 99), it is plain that CARB's pronouncements on the GHG Housing Measures, by their nature, will be given the force and effect of law. Numerous courts have stated that when an agency has specific expertise in an area and/or acts as lead or responsible agency under CEQA, and publishes guidance, that guidance must be taken into consideration and will be given heavy weight.

95. In *California Building Industry Assn. v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App.5th 1067, 1088, the court rejected the notion that the District's CEQA guidelines were a nonbinding, advisory document. The court stated that the guidelines suggested a routine analysis of air quality in CEQA review and were promulgated by an air district that acts as either lead or responsible agency on projects within its jurisdictional boundaries.

96. In addition, in *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 229, the court recognized the value of "performance based standards" as CEQA thresholds, as outlined in the Scoping Plan or other authoritative body of regulations.

97. Further, in *Cleveland Nat. Forest Foundation, et al v. San Diego Assoc. of Governments* (2017) 3 Cal.5th 497, 515, the court held that even though the 2050 Executive Order was not an adopted GHG reduction plan and there was no legal requirement to use it as a threshold of significance, that was not dispositive of the issue. Although lead agencies have discretion in designing an Environmental Impact Report ("EIR") under CEQA, the court stated that the exercise of that discretion must be "based to the extent possible on scientific and factual data" and thus the scientific basis for the Executive Order's and CARB's emission reduction goals must be considered in a CEQA analysis.

98. Thus, because CEQA documents must take a long term view of GHG compliance and because of the deference and weight other agencies are required to give to CARB guidance, the measures alleged to be "guidance" are in reality self-implementing regulations having an immediate "as applied" effect.

99. The LAO also has recognized that CARB's Scoping Plans include "a wide variety of regulations intended to help the state meet its GHG goal…"[61]

C. CARB's Improper "Cumulative Gap" Reduction Requirement

100. In AB 32, the Legislature directed CARB to reduce statewide GHG emissions to 1990 levels by 2020 via measures in the first Scoping Plan. This legislative mandate is simple and uncontested. CARB concluded that California's GHG emissions were 431 million metric tons of carbon dioxide equivalent ("$MMTCO_2e$") in 1990.

101. SB 32 established the more stringent mandate of reducing GHG emissions to 40% below 1990 levels by 2030, even though California's population and economic activities are expected to continue to increase during this period. The 2030 Target is simple math: 40% below 431 $MMTCO_2e$ equals 258.6 $MMTCO_2e$.[62] Thus, the 2017 Scoping Plan created measures to reduce statewide emissions to 260 MMTCO2e by 2030.

102. The 2017 Scoping Plan first evaluates the "Reference Scenario", which is the emissions expected in 2030 by continuing "Business as Usual" and considering existing legal mandates to reduce GHG emissions that have been implemented, but without adopting any new GHG reduction measures. The Scoping Plan concludes that in this scenario California's GHG .emissions will fall to 389 MMTCO2e by 2030.

103. Because numerous GHG reduction mandates are being phased in over time, CARB also evaluated a "Known Commitments Scenario" (which CARB confusingly named the "Scoping Plan Scenario") which estimates GHG emissions in 2030 based on compliance with all legally required GHG reduction measures, including those that have not yet been fully implemented. Under the "Known Commitments Scenario" the 2017 Scoping Plan concludes that California's GHG emissions will fall to 320 MMTCO2e by 2030.

[61] LAO, Cap-and-Trade Revenues: Strategies to Promote Legislative Priorities (Jan. 21, 2016), http://www.lao.ca.gov/reports/2016/3328/cap-trade-revenues-012116.pdf, at p. 5-6.

[62] CARB generally rounds this to 260 MMTCO2e.

104. Given that SB 32 required a reduction to 260 MMTCO2e, this left a gap of 60 MMTCO2e for which CARB was required to identify measures in the 2017 Scoping Plan in the "Known Commitments Scenario" and 129 MMTCO2e in the "Reference Scenario".

105. CARB declined to comply with this legislated mandate, and instead invented a different "cumulative gap" reduction requirement which requires far more GHG emission reductions.

106. Neither the Scoping Plan nor any of its appendices explain how this "cumulative gap" reduction requirement was derived, and the methodology and assumptions CARB used can only be located in one of several modeling spreadsheets generally referenced in the plan.

107. CARB's unlegislated "cumulative gap" requirement is based on the unsupportable assumption that state emissions must decline in a fixed trajectory from 431 $MMTCO_2e$ in 2020 to 258.6 MMTCO2e in 2030 despite the fact that SB 32 does not require that the state reach the 2030 Target in any specific way. CARB arbitrarily created the "cumulative gap" requirement by summing the annual emissions that would occur from 2021-2030 if emissions declined in a straight line trajectory, which totaled 3,362 MMTCO2e, as follows:

	Annual emissions based on a straight line trajectory from 2020 to 2030 ($MMTCO_2e$)
2020	431.0
2021	413.8
2022	396.5
2023	379.3
2024	362.0
2025	344.8
2026	327.6
2027	310.3
2028	293.1
2029	275.8
2030	258.6
2021-2030 Cumulative Emissions	3,362

108. CARB then summed the annual emissions projected to occur from 2021-2030 under the "Reference Scenario" without the implementation of the measures included in the "Known Commitments Scenario," as 3,982 MMTCO2e.

109. CARB then subtracted the cumulative "Reference Scenario" emissions (3,982 $MMTCO_2e$) from the cumulative emissions based on the straight line trajectory (3,362 $MMTCO_2e$) and illegally used the difference, 621 $MMTCO_2e$, as a new, unlegislated GHG "cumulative gap" reduction requirement.

Year	"Reference Scenario" Annual Emissions ($MMTCO_2e$)
2020	415.8
2021	411.0
2022	405.5
2023	400.3
2024	397.6
2025	398.7
2026	396.8
2027	395.5
2028	394.4
2029	393.9
2030	388.9
2021-2030 Cumulative Emissions	3,982
Difference from Straight Line Cumulative Emissions Total	621

110. Scoping Plan Figure 7, for example, is titled "Scoping Plan Scenario – Estimated Cumulative GHG Reductions by Measure (2021–2030)." The identified measures show the amount of reductions required to "close" the 621 $MMTCO_2e$ GHG "cumulative gap" CARB invented from the difference in cumulative emissions from 2021-2030 between a hypothetical straight line trajectory to the 2030 Target and the "Reference Scenario" projections.

111. Figure 8 of the Scoping Plan and associated text provide an "uncertainty analysis to examine the range of outcomes that could occur under the Scoping Plan policies and measures" which is entirely based on the 621 $MMTCO_2e$ GHG "cumulative gap" metric.[63]

112. CARB also calculated that the cumulative annual emissions projected to occur under the "Known Commitments Scenario" from 2021-2030 would be 3,586 MMTCO2e and subtracted this amount from the cumulative emissions generated by the straight line trajectory (3,362 $MMTCO_2e$). The difference is 224 $MMTCO_2e$, which is incorrectly shown as 236 $MMTCO_2e$ in Table 3 of the Scoping Plan and in the text following Table 3. CARB illegally characterized the 224 $MMTCO_2$ difference as the "cumulative emissions reduction gap" in the "Known Commitments Scenario" in the Scoping Plan and evaluated the need for additional measures on the basis of "closing" this unlegislated and unlawful "cumulative gap".

Year	"Known Commitments Scenario" Annual Emissions ($MMTCO_2e$)
2020	405.5
2021	396.8
2022	387.1
2023	377.6
2024	367.4
2025	362.7
2026	354.4
2027	347.1
2028	340.4
2029	331.8
2030	320.4
2021-2030 Cumulative Annual Emissions	3,586
Difference from Straight Line Cumulative Emissions Total	224

[63] The analysis discussion references Scoping Plan Appendix E for more details.

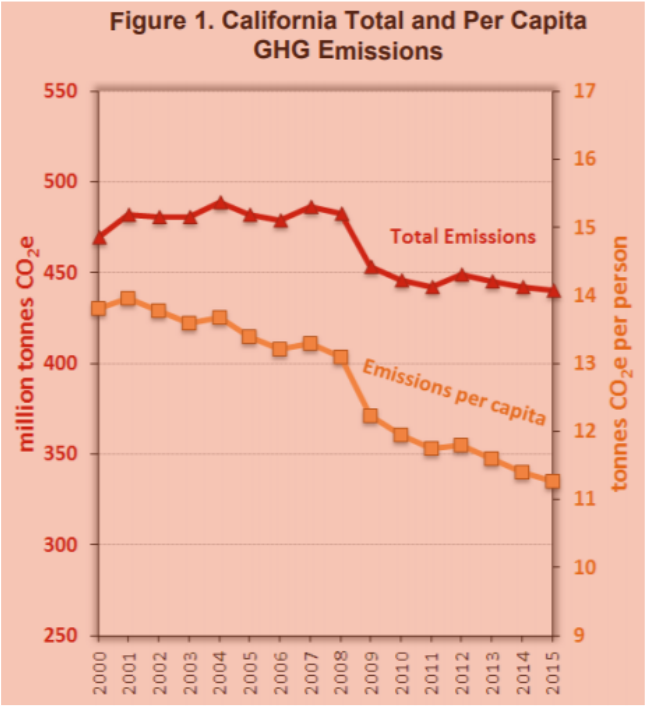
113. The California legislature in no way authorized CARB to invent a "cumulative gap" methodology based on an unreasonable and arbitrary straight line trajectory from 2020 to the 2030 Target, which counted each year's shortfall against the 2030 Target and then added all such shortfalls to inflate reduction needed from the 129 and 60 $MMTCO_2e$ (depending on scenario) required by the 2030 Target to the 621 and 224 $MMTCO_2e$ "cumulative gap" requirements.

114. SB 32 does not regulate cumulative emissions and only requires that the 2030 Target of 260 MMTCO2e be achieved by 2030. CARB's own analysis shows that existing legal requirements will reduce emissions to 320 $MMTCO_2e$ in 2030. At most, CARB was authorized to identify measures in the Scoping Plan that would further reduce emissions by 60 $MMTCO_2e$ in 2030 under the "Known Commitments Scenario". CARB instead illegally created new, and much larger "cumulative gap" reduction requirements of 224 $MMTCO_2e$ and 621 $MMTCO_2e$.

115. CARB arbitrarily determined that the straight line trajectory to the 2030 Target was the only way to reach the mandate of 260 MMTCO2e by 2030 when there are numerous potential paths that California's GHG emission reductions could take between 2021 and 2030.

116. For example, as shown in Figure 1 below, in reaching the 2020 Target, California's GHG emissions reductions have not followed a straight line trajectory, but have gone up and down based on the economy and other factors.[64]

[64] Figure 1 is from the California Air Resources Board's 2017 Edition of California's GHG Emission Inventory (June 6, 2017), p. 2, https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2015/ghg_inventory_trends_00-15.pdf.



117. CARB's arbitrary and capricious requirement that reductions must meet a cumulative GHG reduction total, rather than take any path feasible that gets the state to the 2030 Target is unlawful.

118. Both AB 32 (and earlier Scoping Plans) and SB 32 contemplated a "step down" of GHG emissions to the quantity established for the target year, with the "step down" increments occurring as new technologies, regulations, and other measures took effect. This step down approach has been part of air pollution control law for decades.

119. Under the federal Clean Air Act ("CAA"), the EPA sets National Ambient Air Quality Standards ("NAAQS") that set air quality levels in certain years for specific pollutants (*e.g.*, the 2015 NAAQS for ozone is 70 ppb and it must be achieved as expeditiously as possible). States then create and adopt State Implementation Plans ("SIPs") which include control measures to indicate how the state will meet the NAAQS standard. The reductions that the SIPs must achieve via their control measures to reach the NAAQS are always interpreted as being applicable to the target year, *i.e.*, how much reduction will need to occur in one year to reduce emissions from business as usual to the NAAQS level? The SIPs do not plan for emission reduction measures that must reduce emissions cumulatively over time (from the time of adoption of the

2015 ozone NAAQS until the year it is reached), such that not meeting the NAAQS in earlier years means that those excess emissions must be added to future years to create the required emissions reductions to balloon over time as the NAAQS goes unmet.

120. In addition, criteria air pollutants regulated by EPA, CARB, and California's local air districts are always regulated under a cost/ton disclosure metric in which the expected cost to reduce emissions must be not only explained in rulemaking documents, but taken into consideration in deciding whether to adopt any rule controlling emissions. This system has worked to reduce tailpipe emissions of criteria pollutants from passenger cars by 99% over time.

121. Given this clear and consistent pattern of EPA and CARB interpretation of the legal status of air quality levels to be achieved by a certain time, it was arbitrary and capricious for CARB to create this "deficit accounting" metric in the cumulative gap analysis rather than merely creating measures which would meet the 2030 Target by 2030.

122. CARB also used the unlawful "cumulative gap" reduction metric to identify the nature and extent of Scoping Plan reduction measures, including the GHG Housing Measures, address uncertainties in achieving these reductions, and to complete the legally mandated FA and EA for the 2017 Scoping Plan.

123. CARB's unilateral creation and use of the "cumulative gap" reduction requirement instead of the statutory SB 32 2030 Target is unlawful, and imposes new cost burdens, including on housing, that will further exacerbate the housing-induced poverty crisis.

D. The Four New, Unlawful GHG Housing Measures the 2017 Scoping Plan Authorizes

1. Unlawful VMT Reduction Requirement

124. Among the new regulations and standards added to CARB's 2017 Scoping Plan—which were not in any of its earlier scoping plans—is a requirement to reduce VMT. This requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy."[65]

[65] See Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

125. The "Mobile Source Strategy" includes a requirement to reduce VMT. This allegedly would be achieved by continued implementation of SB 375, regional Sustainable Communities Strategies, statewide implementation of SB 743, and potential additional VMT reduction strategies included in Appendix C ("Potential VMT Reduction Strategies for Discussion"). Scoping Plan, p. 25.

126. The 2017 Scoping Plan states that "VMT reductions will be needed to achieve the 2030 target" and to meet the 2050 GHG emission reduction goal set in Executive Order S-3-05. Scoping Plan, p. 75.

127. CARB states that VMT reductions of 7 percent below projected VMT are necessary by 2030 and 15 percent below projected VMT by 2050. Scoping Plan, p. 101.

128. The "Mobile Source Strategy" measure requires a 15 percent reduction in total light-duty VMT from the business as usual scenario by 2050. Scoping Plan, p. 78. It also requires CARB to work with regions to update SB 375 targets to reduce VMT to reach the 2050 goal and to implement VMT as the CEQA metric for assessing transportation impacts. *Id.*

129. The "Mobile Source Strategy" as a whole is estimated to result in cumulative GHG emission reductions of 64 $MMTCO_2e$ per year. Scoping Plan, p. 28.

130. These VMT reduction requirements are included in the 2017 Scoping Plan without appropriate recognition of the counterproductive effects of such a fixation on reducing VMT in the context of affordable housing proximate to job centers.

131. The 2017 Scoping Plan notes that promoting stronger boundaries to suburban growth, such as urban growth boundaries, will reduce VMT. Scoping Plan, p. 78. This also raises housing prices within the urban growth boundary and pushes low-income Californians, including minorities, to unacceptable housing locations with long drive times to job centers.

132. Other VMT reduction measures in the 2017 Scoping Plan, such as road user and/or VMT-based pricing mechanisms, congestion pricing, and parking pricing, further disadvantage low-income and minority residents who must drive farther through more congested roads.

133. The VMT reductions called for in Chapters 2 and 5 of the Scoping Plan make no distinction for miles driven by electric vehicles with zero GHG emissions or for miles driven by

hybrid vehicles when using only electric power. Instead, they would advance a suite of new burdens, including charging individual drivers for each vehicle mile travelled, and intentionally increasing overall roadway congestion to induce more workers to use public transit.

134. CARB's new VMT requirements, which purport to encourage public transit, essentially ignore the fact that far fewer than 10% of Californians can get from their home to their jobs in less than one hour on public transit, and that public transit ridership has fallen nationally and in California.[66] CARB's new VMT requirements fail to rationally address the reality that VMT continues to increase rather than decrease in California due to increasing population and employment levels.[67]

135. CARB's answer to reducing VMT by increasing bicycling, walking, and transit use is a laughable solution for low-income Californians, such as those living in the San Joaquin Valley and commuting to jobs in the San Francisco Bay Area.[68]

136. The burden of CARB's VMT reduction measures falls disproportionately on minority workers already forced by the housing crisis to endure long and even "mega" commutes lasting more than three hours per day.[69] The vast majority of middle and lower-income jobs (disproportionately performed by minority workers) require those workers to be physically present at their job sites to be paid. Affected job categories include teachers, nurses, emergency

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[66] Laura J. Nelson, *L.A. Bus Ridership Continues to Fall: Officials Now Looking to Overhaul the System*, L.A. Times (May 23, 2017) http://www.latimes.com/local/lanow/la-me-ln-bus-ridership-study-20170518-story.html; Center for Transportation Studies, Access Across America, University of Minnesota (2017) http://www.cts.umn.edu/research/featured/access.

[67] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, Feb. 2018, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf, p. 19.

[68] Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[69] 2007 and 2016 American Community Survey 1-Year Estimates, Table B08303 series (Travel Time To Work, Workers 16 years and over who did not work at home), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing increase in commute time from 2007 to 2016 in California and Bay Area); 2007 and 2016 American Community Survey 1-Year Estimates, Table S802 series (Means of transportation to work by selected characteristics), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing more Latino and noncitizen workers commuting to work by driving alone).

responders, courtroom and municipal service workers, construction workers, day care and home health care workers, retail clerks, and food service workers.[70]

137. In addition to being ill-conceived, CARB's new VMT measures are not statutorily authorized. The Legislature has repeatedly rejected proposed legislation to mandate that Californians reduce their use of cars and light duty trucks (e.g., personal pickup trucks), including most recently in 2017 (Senate Bill 150, Allen).

138. Only a different agency, the Office of Planning and Research ("OPR"), has legislative authority to regulate VMT. It has not done so. In Senate Bill 743 (2013), the Legislature authorized OPR to consider adopting VMT as a new threshold for assessing the significance of transportation impacts under CEQA, but only after OPR completed a rulemaking process and amended the regulatory requirements implementing CEQA, *i.e.*, the CEQA Guidelines (14 C.C.R. § 15000 *et seq.*) ("CEQA Guidelines"). OPR has commenced but not completed the process for amending the CEQA Guidelines as authorized by SB 743.

139. Instead of regulating VMT, CARB's role under SB 375 is to encourage higher density housing and public transit and thereby reduce GHGs. In this context, CARB has included VMT reduction metrics for helping achieve GHG reduction goals in current SB 375 targets.

140. In the past, when CARB proposed to establish standalone VMT reduction targets (independent of GHG emission reduction targets) it has been swamped with objections and concerns, including challenges to its legal authority to attempt to impose fees and restrictions on driving as a standalone mandate independent of regional GHG reduction targets.

141. Until its adoption of the 2017 Scoping Plan, CARB had rightly stopped short of purporting to set out standalone VMT reduction targets and methods. At the same meeting that CARB approved the 2017 Scoping Plan, CARB agreed to indefinitely postpone establishing regional VMT reduction targets for a variety of reasons (including but not limited to the fact that notwithstanding current efforts, VMT is actually increasing).

[70] Adam Nagourney and Conor Dougherty, *The Cost of a Hot Economy in California: A Severe Housing Crisis*, N.Y. Times (July 17, 2017), https://www.nytimes.com/2017/07/17/us/california-housing-crisis.html.

142. Immediately following its determination to indefinitely postpone its proposal to adopt standalone VMT reduction targets, CARB nevertheless voted to approve the 2017 Scoping Plan's VMT reduction mandate, which includes in pertinent part a GHG measure requiring additional VMT reductions beyond the reductions achieved via SB 743 and SB 375. See Scoping Plan p. 25, Table 1, p. 101.

143. The inherent contradiction between the morning CARB agenda discussion indefinitely postponing establishing SB 375 VMT reduction targets, and CARB's afternoon agenda item approving the 2017 Scoping Plan, going above and beyond the VMT reductions CARB elected not to set a few hours earlier, caused widespread confusion. Even the CARB Board chair reported that she was "confused" – but CARB's unlawful action to mandate reduced driving by individual Californians was nevertheless unanimously approved in the 2017 Scoping Plan that CARB has now adopted.

144. In order to achieve these newly-mandated reductions in VMT, CARB intends to intentionally increase congestion to induce transit use. OPR's proposal for updating the CEQA Guidelines to include VMT as a metric for analyzing transportation impacts states that adding new roadway capacity increases VMT.[71] The OPR proposal further states that "[r]educing roadway capacity (i.e. a "road diet") will generally reduce VMT and therefore is presumed to cause a less than significant impact on transportation. Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel." *Id.* at p. III:32.

145. Attempting to reduce VMT by purposefully increasing congestion by reducing roadway capacity will not lead to GHG emission reductions. Instead, increasing congestion will cause greater GHG emissions due to idling, not to mention increased criteria air pollutant[72] and

[71] OPR, Revised Proposal on Updates to the CEQA Guidelines Evaluating Transportation Impacts in CEQA (Jan. 20, 2016), p. I:4, http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf.

[72] The six criteria air pollutants designated by the Environmental Protection Agency ("EPA") are particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2" or "NOx"), carbon monoxide ("CO"), sulfur dioxide ("SO_2"), and lead.

toxic air contaminant[73] emissions. CARB has no authority to impose a VMT limit and any VMT limit imposed by an agency must be approved in a formal rulemaking process.

146. As implemented, CARB's VMT reduction measure will not achieve the GHG reductions ascribed to it in the 2017 Scoping Plan and has no rational basis. In fact, it will increase air quality and climate related environmental impacts, something not analyzed in the EA for the 2017 Scoping Plan.

147. In addition, CARB has recently undergone an update of regional GHG emission reduction targets under SB 375 in which CARB stated that: "In terms of tons, CARB staff's proposed [SB 375] targets would result in an estimated additional reduction of approximately 8 million metric tons of CO2 per year in 2035 compared to the existing targets. The estimated remaining GHG emissions reductions needed would be approximately 10 million metric tons CO2 per year in 2035 based on the Scoping Plan Update scenario. These remaining GHG emissions reductions are attributed to new State-initiated VMT reduction strategies described in the Scoping Plan Update."[74]

148. Thus, CARB's only stated support for needing the VMT reduction mandates in the 2017 Scoping Plan is to close a gap to the Scoping Plan Update Scenario that the SB 375 targets will not meet. However, all of the allegedly "necessary" reductions in the Scoping Plan Update Scenario are based on CARB's unlawful "cumulative gap" reduction requirement, which, as described above, improperly ballooned the GHG reductions required from 60 to 224 $MMTCO_2e$ based on the "Known Commitments Scenario" and from 129 to 621 $MMTCO_2e$ based on the "Reference Case Scenario."

149. Because of CARB's unlawful "cumulative gap" calculation, CARB now argues that the VMT reduction mandates are necessary, but the only reason they are necessary is to meet the unlawful "cumulative gap" reduction requirements.

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[73] Toxic air contaminants, or TACs, include benzene, hexavalent chrome, cadmium, chloroform, vinyl chloride, formaldehyde, and numerous other chemicals.

[74] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 35, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

150. There is also no evidence that CARB's estimated 10 MMTCO2e per year reductions based on the VMT reduction mandate is in any way achievable. The Right Type, Right Place report[75] estimates only 1.79 MMTCO2e per year will be reduced from both lower VMT and smaller unit size houses using less energy and thus creating lower operational emissions.

151. The Staff Report for SB 375 acknowledges that VMT has increased, that the results of new technologies are at best mixed in early reports as to VMT reductions, and that the correlation between VMT and GHG is declining.[76] There is no evidence that the 10 MMTCO2e per year reductions based on the VMT reduction mandate in the 2017 Scoping Plan is in any way something other than a number created solely based on the fundamental miscalculation about the 2030 target demonstrated by the "cumulative gap" methodology in the 2017 Scoping Plan.

2. Unlawful CEQA Net Zero GHG Threshold

152. The 2017 Scoping Plan also sets a net zero GHG threshold for all projects subject to CEQA review, asserting that "[a]chieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development". Scoping Plan, p. 101-102.

153. The Scoping Plan directs that this new CEQA "zero molecule" GHG threshold be presumptively imposed by all public agencies when making all new discretionary decisions to approve or fund projects in all of California, where under CEQA "project" is an exceptionally broad legal term encompassing everything from transit projects to recycled water plants, from the renovation of school playgrounds to building six units of affordable housing, from the adoption of General Plans applicable to entire cities and counties to the adoption of a single rule or regulation.

154. This is an unauthorized, unworkable and counterproductive standard as applied to new housing projects. CEQA applies to the "whole of a project", which includes construction

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[75] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

[76] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 19, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities. Meeting a net zero threshold for these activities is not possible. While there have been examples of "net zero" buildings—which are more expensive than other housing[77]—none of these examples included the other components of a "project" as required by CEQA.

155. The Scoping Plan's "net zero" CEQA provisions also would raise housing and homeowner transportation costs and further delay completion of critically needed housing by increasing CEQA litigation risks—thereby exacerbating California's acute housing and poverty crisis.[78]

156. Despite CARB's claim that this "net zero" threshold is "guidance", CARB's status as the expert state agency on GHG emissions means that all lead agencies or project proponents will have to accept this standard in CEQA review unless they can prove by substantial evidence that a project cannot meet the standard.

157. The threshold has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. An agency's failure to use the 2017 Scoping Plan's CEQA threshold has already been cited as legal error in the comment letter preceding the expected lawsuit against the Northlake housing project in Los Angeles.[79]

158. A "net zero" GHG threshold is inconsistent with current California precedent affirming that compliance with law is generally an acceptable CEQA standard. See, e.g., *Center for Biological Diversity v. Dept. of Fish and Wildlife* (2016) 62 Cal.4th 204, 229 ("*Newhall*") (a lead agency can assess consistency with AB 32 goal by looking to compliance with regulatory programs). This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts.

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[77] LAO, Evaluating California's Pursuit of Zero Net Energy State Buildings (Nov. 14, 2017), http://www.lao.ca.gov/Publications/Report/3711.

[78] Chang-Tai Hsieh and Enrico Moretti, *How Local Housing Regulations Smother the U.S. Economy*, N.Y. Times (Sept. 6, 2017), https://www.nytimes.com/2017/09/06/opinion/housing-regulations-us-economy.html.

[79] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

159. The Scoping Plan's expansive new "net zero" GHG CEQA threshold is directly at odds with, and is dramatically more stringent than, the existing CEQA regulatory threshold for GHG emissions. This existing threshold was adopted by OPR pursuant to specific authorization and direction from the Legislature in SB 97. In the SB 97 rulemaking context, OPR, in its Statement of Reasons, expressly rejected a "zero molecule" or "no net increase" GHG threshold (now adopted by CARB without Legislative authority) as being inconsistent with, and not supported by, CEQA's statutory provisions or applicable judicial precedent. OPR stated that "[n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA."[80]

160. In January of 2017, OPR commenced a formal rulemaking process for what it describes as a "comprehensive" set of regulatory amendments to the CEQA Guidelines. After adoption of the 2017 Scoping Plan, OPR has not proposed to change the existing GHG thresholds in the Guidelines to conform with CARB's unauthorized new "net zero" GHG threshold. Instead, OPR has expressly criticized reliance on a numerical project-specific assessment of GHGs.

161. In short, CARB's "net zero" GHG threshold is inconsistent with OPR's legal conclusion that CEQA cannot be interpreted to impose a "net zero" standard.[81]

162. In addition to being Legislatively unauthorized and unlawful, the "net zero" GHG threshold would operate unconstitutionally so as to disproportionately disadvantage low income minorities in need of affordable housing relative to wealthier, whiter homeowners who currently occupy the limited existing housing stock.[82] This disadvantage arises because of the use of CEQA

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[80] OPR, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (Dec. 2009), p. 25, http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf.

[81] See OPR, Proposed Updates to the CEQA Guidelines (Nov. 2017), p. 81-85, http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf.

[82] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017) for a historical review of how zoning and land use laws were designed to promote discrimination against African Americans and other communities of color, patterns that, in many instances, have been maintained to this day; see also Housing Development Toolkit, The White House (Sept. 2016), https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Housing_Development_Toolkit%20f.2.pdf.

litigation by current homeowners to block new housing for others, including especially low income housing for minorities.[83]

163. Under CEQA, once an impact is considered "significant", it must be "mitigated" by avoidance or reduction measures "to the extent feasible." Pub. Res. Code §§ 21002, 21002.1; 14 C.C.R. § 15020(a)(2). By imposing a presumptive "net zero" GHG threshold on all new projects pursuant to CEQA, CARB has instantly and unilaterally increased the GHG CEQA mitigation mandate to "net zero" unless a later agency applying CEQA can affirmatively demonstrate, through "substantial evidence", that this threshold is not "feasible" as that term is defined in the CEQA Guidelines.

164. Under CEQA, any party—even an anonymous litigant—can file a CEQA lawsuit challenging the sufficiency of a project's analysis and mitigation for scores of "impacts," including GHG emissions. *See Save the Plastic Bag Coalition v. City of Manhattan Beach* (2011) 52 Cal.4th 155.

165. Anonymous use of CEQA lawsuits, as well as reliance on CEQA lawsuits to advance economic objectives such as fast cash settlements, union wage agreements, and competitive advantage, has been repeatedly documented—but Governor Brown has been unable

[83] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/.

to secure the Legislature's support for CEQA because, as he explains, unions use CEQA to leverage labor agreements.[84]

166. Using CEQA to advance economic rather than environmental objectives, and allowing anonymous lawsuits to mask more nefarious motives including racism and extortion, has established CEQA litigation (and litigation threats) as among the top reasons why adequate housing supplies have not been built near coastal jobs centers.[85]

167. The "net zero" threshold, as applied to new housing projects in California, adds significantly to the risk and CEQA litigation outcome uncertainty faced by persons who wish to build such housing.[86] Not even the California Supreme Court, in *Newhall, supra,* 62 Cal.4th 204, could decide how CEQA should apply to a global condition like climate change in the context of considering the GHG impacts of any particular project. Instead, the Supreme Court identified four "potential pathways" for CEQA compliance. Notably, none of these was the "net zero" threshold adopted by CARB in its 2017 Scoping Plan.

168. The California Supreme Court has declined to mandate, under CEQA, a non-statutory GHG threshold. Instead, the California Supreme Court has recognized that this area remains in the province of the Legislature, which has acted through directives such as SB 375. *Cleveland National Forest Foundation v. San Diego Assn. of Gov't*s (2017) 3 Cal.5th 497 ("*SANDAG*").

169. As explained in The Two Hundred's comment letter, and referenced academic and other studies in that letter, the top litigation targets of CEQA lawsuits statewide are projects that

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[84] See Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf, p. 10-12 (stating Governor Brown's 2016 conclusion that CEQA litigation reform was politically impossible because labor unions use litigation threats to "hammer" project sponsors into agreeing to enter into union labor agreements, and Building Trades Council lobbyist Caesar Diaz testimony in "strong opposition" to legislative proposal to require disclosure of the identity and interests of those filing CEQA lawsuits at the time CEQA lawsuits are filed, rather than at the end of the litigation process when seeking attorneys' fees, wherein Mr. Diaz concluded that requiring such disclosure would "dismantle" CEQA).

[85] Legislative Analyst's Office, California's High Housing Costs: Causes and Consequences, May 17, 2015, http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[86] See *Id.*

include housing.[87] Over a three year period in the SCAG region, nearly 14,000 housing units were challenged in CEQA lawsuits, even though 98% of these units were located in already developed existing communities and 70% were located within a short distance of frequent transit and other existing infrastructure and public services. This and a referenced prior study also showed that the vast majority of CEQA lawsuits filed statewide are against projects providing housing, infrastructure and other public services and employment uses within existing communities.[88]

170. Thus, the same minority families victimized by the housing-induced poverty crisis, and forced to drive ever longer distances to qualify for housing they can afford to rent or buy are disproportionately affected by CEQA lawsuits attacking housing projects that are proximate to jobs.

171. Expanding CEQA to require only future occupants of acutely needed housing units to double- and triple-pay to get to and from work with a CEQA mitigation obligation to purchase GHG offsets to satisfy a "net zero" threshold unlawfully and unfairly discriminates against new occupants in violation of equal protection and due process.

172. Finally, CARB's "net zero" threshold fails to address the likelihood that it will actually be counterproductive because of "leakage" of California residents driven out to other states because of unaffordable housing prices.[89] Including this measure in the 2017 Scoping Plan bypasses statutory requirements to discourage and minimize "leakage"—movement of

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[87] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/

[88] *Ibid.*

[89] California experienced a net loss of 556,710 former residents to other states during 2010 to 2017. U.S. Census Bureau, Table 4. Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017 (NST-EST2017-04) (Dec. 2017), https://www.census.gov/data/datasets/2017/demo/popest/nation-total.html.

economically productive activities to other states or countries that have much higher GHG emissions on a per capita basis than California. Imposing "net zero" standards that end up shutting down or blocking economic activities in California results in a global increase in GHGs when those activities move to other states or countries with higher per capita GHG emissions.[90]

173. It is noteworthy that the GWSA and SB 32 "count" only GHG emissions produced within the state, and from the generation of out-of-state electricity consumed in the state. When a family moves from California to states such as Texas (nearly three times higher per capita GHG emissions) or Nevada (more than double California's per capita GHG emissions), *global* GHG emissions increase even though California's GHG emissions decrease.

174. The housing crisis has resulted in a significant emigration of families that cannot afford California housing prices, and this emigration increases global GHG emissions—precisely the type of "cumulative" contribution to GHGs that OPR explains should be evaluated under CEQA, rather than CARB's net zero GHG threshold which numerically-focuses on project-level GHG emissions and mitigation.[91]

175. The Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

3. Unlawful Per Capita GHG Targets for Local Climate Action Plans

176. California's per capita GHG emissions are already far lower than all but two states. The only state with low per capita GHG emissions that is comparable to California is New York, which has a lower per capita GHG emission level but also six nuclear power plants

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[90] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[91] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

(compared to California's one) as well as more reliable hydropower from large dams that are less affected by the cyclical drought cycles affecting West Coast rivers.[92]

177. California's current very low per capita GHG emissions are approximately 11 MMTCO2e.

178. The existing CEQA Guidelines include a provision that allows projects that comply with locally-adopted "climate action plans" ("CAPs") to conclude that project-related GHG emissions are less than significant, and thus require no further mitigation that would add to the cost of new housing projects.

179. In *Newhall*, *supra,* 62 Cal.4th at 230, the California Supreme Court endorsed CAPs, and wrote that a project's compliance with an approved CAP could be an appropriate "pathway" for CEQA compliance. No local jurisdiction is required by law to adopt a CAP, but if a CAP is adopted, then the Supreme Court has held that it must have enforceable measures to actually achieve the CAP's GHG reduction target. *SANDAG, supra,* 3 Cal.5th 497.

180. The CAP compliance pathway through CEQA was upheld in *Mission Bay Alliance v. Office of Community Invest. & Infrastructure* (2016) 6 Cal.App.5th 160. This compliance pathway provides a more streamlined, predictable, and generally cost-effective pathway for housing and other projects covered by the local CAP.

181. In stark contrast, CARB's unlawful new per capita GHG requirements effectively direct local governments—cities and counties—to adopt CAPs that reduce per capita GHG emissions from eleven to six MMTCO2e per capita by 2030, and to two MMTCO2e per capita by 2050. This mandate is unlawful.

182. First, CARB has no statutory authority to impose any 2050 GHG reduction measure in CAPs or otherwise since the Legislature has repeatedly declined to adopt a 2050 GHG target (including by rejecting earlier versions of SB 32 that included such a 2050 target), and the California Supreme Court has declined to interpret CEQA to mandate a 2050 target based on an Executive Order. *SANDAG, supra,* 3 Cal.5th at 509; *Newhall, supra,* 62 Cal.4th at 223.

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[92] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

183. Second, the Scoping Plan attributes the vast majority of state GHG emissions to transportation, energy, and stationary source sectors over which local governments have little or no legal jurisdiction or control. A local government cannot prohibit the sale or use of gasoline or diesel-powered private vehicles, for example—nor can a local government regulate and redesign the state's power grid, or invent and mandate battery storage technology to capture intermittent electricity produced from solar and wind farms for use during evening hours and cloudy days.

184. The limited types of GHG measures that local governments can mandate (such as installation of rooftop solar, water conservation, and public transit investments) have very small—or no—measurable quantitative effect on GHG emission reductions. The 2017 Scoping Plan Appendix recommending local government action does not identify any measure that would contribute more than a tiny fraction toward reducing a community's per capita GHG emissions to six metric tons or two metric tons, respectively.

185. Additionally, under state law, local governments' authority to require more aggressive GHG reductions in buildings is subject to a cost-effectiveness test decided by the California Building Standards Commission ("CBSC")—the same CBSC that has already determined that "net zero", even for single family homes and even for just the electricity used in such homes, is *not* yet feasible or cost-effective to impose.[93]

186. Third, it is important to consider the per capita metrics that the 2017 Scoping Plan wants local governments to achieve in their localized climate action plans in a real world context. Since most of the world's energy is still produced from fossil fuels, energy consumption is still highly correlated to economic productivity and per capita incomes and other wealth-related metrics such as educational attainment and public health.[94] The suggested very low per capita

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[93] California Energy Commission, 2019 Building Energy Efficiency Standards PreRulemaking Presentation - Proposed 2019 Building Energy Efficiency Standards ZNE Strategy (Aug. 24, 2017), http://docketpublic.energy.ca.gov/PublicDocuments/17-BSTD-01/TN220876_20170824T105443_82217_ZNE_Strategy_Presentation.pdf.

[94] See Mengpin Ge, Johannes Friedrich, and Thomas Damassa, 6 Graphs Explain the World's Top 10 Emitters, World Resources Institute (Nov. 25, 2014), https://wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters (see tables entitled "Per Capita Emissions for Top 10 Emitters" and "Emissions Intensity of Top 10 Emitters" showing that emissions are generally linked to GDP).

metrics in the 2017 Scoping Plan are currently only achieved by countries with struggling economies, minimal manufacturing and other higher wage middle income jobs, and extremely high global poverty rates.

187. Growing economies such as China and India bargained for, and received, permission to substantially increase their GHG emissions under the Paris Accord precisely because economic prosperity remains linked to energy use.[95] This is not news: even in the 1940's, the then-Sierra Club President confirmed that inexpensive energy was critical to economic prosperity AND environmental protection.

188. Nor has CARB provided the required economic or environmental analysis that would be required to try to justify its irrational and impractical new per capita GHG target requirements. As with CARB's project-level "net zero" CEQA threshold, the per capita CEQA expansion for CAPs does not quantify the GHG emission reductions to be achieved by this measure.

189. Finally, these targets effectively create CEQA thresholds as compliance with a CAP is recognized by the California Supreme Court as a presumptively valid CEQA compliance pathway. *Newhall, supra*, 62 Cal.4th at 230 (stating that local governments can use climate action plans as a basis to tier or streamline project-level CEQA analysis). The targets clearly establish CARB's position on what would (or would not) be consistent with the 2017 Scoping Plan and the State's long-term goals. Courts have stated that GHG determinations under CEQA must be consistent with the statewide CARB Scoping Plan goals, and that CEQA documents taking a goal-consistency approach to significance need to consider a project's effects on meeting the State's longer term post-2020 goals. Thus, these per capita targets are essentially self-implementing CEQA requirements that lead and responsible agencies will be required to use.

190. The CAP measure thus effectively eliminates the one predictable CEQA GHG compliance pathway that has been upheld by the courts, compliance with an adopted CAP. The

[95] Marianne Lavelle, *China, India to Reach Climate Goals Years Early, as U.S. Likely to Fall Far Short*, Inside Climate News (May 16, 2017), https://insideclimatenews.org/news/15052017/china-india-paris-climate-goals-emissions-coal-renewable-energy.

pathway that CARB's per capita GHG targets would unlawfully displace is fully consistent with the existing CEQA Guidelines adopted pursuant to full rulemaking procedures based on express Legislative direction.

191. In short, the 2017 Scoping Plan directs local governments to adopt CAPs—which the Supreme Court has explained must then be enforced—with per capita numeric GHG reduction mandates in sectors that local governments have no legal or practical capacity to meet, without any regard for the consequential losses to middle income jobs in manufacturing and other business enterprises, or to the loss of tax revenues and services from such lost jobs and businesses,[96] or to the highly disparate impact that such anti-jobs measures would have on minority populations already struggling to get out of poverty and afford housing.

192. While the 2017 Scoping Plan acknowledges that some local governments may have difficulty achieving the per capita targets if their communities have inherently higher GHG economic activities, such as agriculture or manufacturing, such communities are required to explain why they cannot meet the numeric targets—and withstand potential CEQA lawsuit challenges from anyone who can file a CEQA lawsuit.

193. As with CARB's project-level "net zero" CEQA threshold, CARB's new per capita GHG targets are entirely infeasible, unlawful, and disparately affect those in most need of homes they can afford with jobs that continue to exist in manufacturing, transportation, and other sectors having GHG emissions that are outside the jurisdiction and control of local governments.

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[96] Just four states—Ohio, Pennsylvania, Georgia and Indiana—collectively have a population and economy comparable with California. With a combined gross product of $2.25 trillion in 2016, these four states would be the 8th largest economy in the world if considered a nation. Yet despite achieving five times more GHG emission reductions than California since 2007, in 2016 these four states had 560,000 fewer people in poverty and 871,000 more manufacturing jobs (including 200,000 new jobs from 2009 to 2017 compared with just 53,000 in California). U.S. Bureau of Labor Statistics, Monthly Total Nonfarm Employment, Seasonally Adjusted, https://www.bls.gov/data/; U.S. Bureau of Economic Analysis, Table 3. Current-Dollar Gross Domestic Product (GDP) by State, 2016:Q1-2017:Q3, https://www.bea.gov/newsreleases/regional/gdp_state/qgdpstate_newsrelease.htm; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; U.S. Census Bureau, 2016 American Community Survey 1-Year Estimates, Table B15001, Sex by age by educational attainment for the population 18 years and over, https://factfinder.census.gov/.

They are also inconsistent with current standards and common sense and result in unjustifiable disproportionate adverse impacts on California minorities, including Petitioners.

4. Appendix C "Vibrant Communities" Policies Incorporating Unlawful VMT, "Net Zero" and CO2 Per Capita Standards

194. Chapter 5 of CARB's 2017 Scoping Plan explains that notwithstanding the other GHG Housing Measures (*e.g.*, the VMT reduction mandated in Chapter 2), California must do "more" to achieve the 2030 Target. With this in mind, CARB purports to empower eight new state agencies—including itself—with a new, non-legislated role in the plan and project approval process for local cities and counties. This hodgepodge of unlegislated, and in many cases Legislatively-rejected, new "climate" measures is included in what the Scoping Plan calls a "Vibrant Communities" appendix.

195. Cities and counties have constitutional and statutory authority to plan and regulate land use, and related community-scale health and welfare ordinances. Cities and counties are also expressly required to plan for adequate housing supplies, and in response to the housing crisis and resulting poverty and homeless crisis, in 2017 the Legislature enacted 15 new bills designed to produce more housing of all types more quickly. These include: Senate Bills ("SB") 2, SB 3, SB 35, SB 166, SB 167, SB 540, SB 897, and Assembly Bills ("AB") 72, AB 73, AB 571, AB 678, AB 1397, AB 1505, AB 1515, and AB 1521.

196. The Legislature has periodically, and expressly, imposed new statutory obligations on how local agencies plan for and approve land use projects. For example, in recent years, the Legislature required a greater level of certainty regarding the adequacy of water supplies as well as expressly required new updates to General Plans, which serve as the "constitution" of local land use authority, to expressly address environmental justice issues such as the extent to which poor minority neighborhoods are exposed to disproportionately higher pollution than wealthier and whiter neighborhoods.

197. Local government's role in regulating land uses, starting with the Constitution and then shaped by scores of statutes, is where the "rubber hits the road" on housing: without local

government approval of housing, along with the public services and infrastructure required to support new residents and homes, new housing simply cannot get built.

198. The Legislature has repeatedly authorized and/or directed specific agencies to have specific roles in land use decisionmaking.

199. The Legislature also is routinely asked to impose limits on local land use controls that have been rejected during the legislative process, such as the VMT reduction mandates described above. The Vibrant Communities Scoping Plan appendix is a litany of new policies, many of which were previously considered and rejected by the Legislature, directing eight state agencies to become enmeshed in directing the local land use decisions that under current law remain within the control of cities and counties (and their voting residents) and not within any role or authority delegated by the Legislature.

200. Just a few examples of Vibrant Community Scoping Plan measures adopted by CARB that have been expressly considered and rejected by the Legislature or are not legal include:

(A) **Establishing mandatory development area boundaries (urban growth boundaries) around existing cities,** that cannot be changed even if approved by local voters as well as the city and county, to encourage higher density development (*e.g.*, multi-story apartments and condominiums) and to promote greater transit use and reduce VMT. An authoritative study that CARB funded, as well as other peer reviewed academic studies, show that there is no substantial VMT reduction from these high density urban housing patterns—although there is ample confirmation of "gentrification" (displacement of lower income, disproportionately minority) occupants from higher density transit neighborhoods to distant suburbs and exurbs where workers are forced to drive greater distances to their jobs.[97] Mandatory urban growth boundaries have been routinely rejected in the Legislature. See AB 721 (Matthews, 2003)

[97] UCLA Department of Urban and Regional Planning, Oriented For Whom? The Impacts of TOD on Six Los Angeles Neighborhoods (June 2, 2015), http://www.urbandisplacement.org/sites/default/files/images/spring_2015_tod.pdf.

(proposing the addition of mandatory urban growth boundaries in the land use element of municipalities' general plans).

(B) **Charging new fees for cities and counties to pay for "eco-system services"** such as carbon sequestration from preserved vegetation on open space forests, deserts, agricultural and rangelands. Taxes or fees could not be imposed on residents of Fresno or Los Angeles to pay for preservation of forests in Mendocino or watersheds around Mount Lassen unless authorized by votes of the people or the Legislature—*except* that payment of fees has become a widespread "mitigation measure" for various "impacts" under CEQA. The 2017 Scoping Plan's express approval of the "Vibrant Communities" Appendix creates a massive CEQA mitigation measure work-around that can be imposed in tandem with agency approvals of local land use plans and policies that entirely bypasses the normal constitutional and statutory requirements applicable to new fees and taxes. Since CEQA applies only to new agency approvals, this unlawful and unauthorized framework effectively guarantees that residents of newly-approved homes will be required to shoulder the economic costs of the additional "mitigation" measures. This idea of taxation has been rejected by voter initiatives such as Proposition 13 (which limits ad valorem tax on real property to 1 percent and requires a 2/3 vote in both houses to increase state tax rates or impose local special taxes) and Proposition 218 (requiring that all taxes and most charges on property owners are subject to voter approval).

(C) **Intentionally worsening roadway congestion**, even for voter-funded and CARB-approved highway and roadway projects, to "induce" people to rely more on walking, biking, and public transit, and reduce VMT. Efficient goods movement, and avoidance of congestion, on California's highways and roads is required under both federal and state transportation and air quality laws. This component of "Vibrant Communities" is another example of a VMT reduction mandate, but is even more flatly inconsistent with applicable laws and common sense. Voters have routinely approved funding for new carpool lanes and other congestion relief projects. The goods movement industry—which is linked to almost 40% of all economic activity in Southern California and is critical to agricultural and other product-based business sectors throughout

California—cannot function under policies that intentionally increase congestion.[98] CARB has itself approved hundreds of highway improvement projects pursuant to the Legislative mandates in SB 375—yet the "Vibrant Communities" appendix unilaterally rejects this by telling Californians not to expect any relief from gridlock, ever again. The Legislature and state agencies have also consistently rejected VMT reduction mandates. See SB 150 (Allen, 2017) (initially requiring regional transportation plans to meet VMT reductions but modified before passage); SB 375 (Steinberg, 2008) (early version stating bill would require regional transportation plan to include preferred growth scenario designed to achieve reductions in VMT but modified before passage).

(D) **Mileage-based road pricing strategies which charge a fee per miles driven.** These types of "pay as you drive" fees are barred by current California law, which prohibits local agencies from "imposing a tax, permit fee or other charge" in ways that would create congestion pricing programs. Vehicle Code § 9400.8. Yet CARB attempts to override a Legislative mandate via the 2017 Scoping Plan and its "Vibrant Communities" strategies.

201. Through the Vibrant Communities strategies, CARB attempts to give state agencies expansive authority and involvement in city and county decisionmaking. The 2017 Scoping Plan asserts that the Vibrant Communities strategies will reduce GHG emissions by an amount that is "necessary" to achieving California's 2030 Target. However, no effort is made by CARB to quantify the reductions it anticipates would result from injecting these agencies into local decisionmaking processes. Instead, CARB merely states that the "Vibrant Communities" appendix is a supposedly-necessary step to meet the 2030 Target.

202. The eight named state agencies CARB attempts to give unauthorized authority over local actions are:[99]

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[98] Edward Humes, *Four Easy Fixes for L.A. Traffic*, L.A. Times (Apr. 10, 2016), http://www.latimes.com/opinion/livable-city/la-oe-humes-why-cant-trucks-and-cars-just-get-along-20160410-story.html; Eleanor Lamb, *California Eyes Future Projects to Relieve Freight Congestion*, Transport Topics (Mar. 26, 2018), http://www.ttnews.com/articles/california-eyes-future-projects-relieve-freight-congestion.

[99] Several of the eight named agencies are parent agencies, each of which has several subordinate agencies and departments. If these are counted, they collectively elevate the number of state agencies being coopted to join in CARB's local land use power grab to nearly twenty.

(1) **Business, Consumer Services and Housing Agency**, which among other subordinate agencies includes the Department of Housing and Community Development (HCD), which alone among these agencies has direct statutory responsibility for designating housing production and corresponding land use planning requirements for cities and counties;

(2) **California Environmental Protection Agency**, which is the parent agency for CARB as well as several other agencies and departments;

(3) **California Natural Resources Agency**, another parent agency of subordinate agencies and departments;

(4) **California State Transportation Agency**, most notably **Caltrans** – which the Scoping Plan would redirect from implementing their statutory responsibilities to reduce congestion and facilitate transportation on the state's highways to instead advancing CARB's "road diet" policy of intentionally increasing congestion to satisfy CARB's desire to induce more public transit ridership;

(5) **California Health and Human Services Agency**, which among other duties administers health and welfare assistance programs;

(6) **California Department of Food and Agriculture**, which among other duties regulates food cultivation and production activities;

(7) **Strategic Growth Council**, formed in 2008 by SB 732, which is tasked with "coordinating" activities of state agencies to achieve a broad range of goals but has no independent statutory authority to regulate housing or local land use plans and projects; and

(8) **Governor's Office of Planning and Research**, which has statutory responsibility to issue the CEQA Guidelines as well as "advisory" guidelines for local agency preparation of General Plans pursuant to Gov. Code § 65040.

203. The "Vibrant Communities" Appendix includes provisions that conflict with applicable law and/or have been rejected by the Legislature and cannot now be imposed by CARB through the 2017 Scoping Plan given California's comprehensive scheme of agency-allocated land use obligations (certain agencies—such as California Department of Fish and

Game, the Regional Water Quality Control Boards, and the Coastal Commission—already possess land use authority or obligations based on statutory or voter-approved schemes).

204. If CARB intends that other agencies be imbued with similar land use authority, it should ask the Legislature for such authority for those agencies, not its own Board. The "Vibrant Communities" Appendix should be struck from the 2017 Scoping Plan for this reason.

205. Less housing that is more expensive (urban growth boundary)[100], increased housing cost (CEQA mitigation measure fees), and ever-worsening gridlock resulting in ever-lengthier commutes with ever-increasing vehicular emissions and ever-reduced time at home with children, is the dystopian "necessity" built into the "Vibrant Communities" appendix.

206. Bureaucrats and tech workers in the "keyboard" economy who can work remotely, with better wages, benefits and job security that remove the economic insecurity of lifetime renter status, should be just fine. They can live in small apartments in dense cities filled with coffee shops and restaurants, rely on home delivery of internet-acquired meals and other goods, and enjoy "flextime" jobs that avoid the drudgery of the five-day work week model.

207. But for the rest of the California populace—including particularly the people (disproportionately minorities) staffing those restaurants and coffee shops, delivering those goods, providing home healthcare and building and repairing our buildings and infrastructure, and those Californians that are actually producing food and manufacturing products that are consumed in California and around the world—"Vibrant Communities" is where they can't afford to live, where they sleep in their cars during the week, where they fall into homelessness for missing rental payments because of an illness or injury to themselves or a family member.[101] For these folks, "Vibrant Communities" amounts to an increase in poverty, homelessness, and premature "despair deaths" as well as permanent drop outs from the work force.

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[100] Shishir Mathur, Impact of Urban Growth Boundary on Housing and Land Prices: Evidence from King County, Washington, Journal of Housing Studies Vol. 29 – Issue 1 (2014), https://tandfonline.com/doi/abs/10.1080/02673037.2013.825695.

[101] Alastair Gee, *Low-income workers who live in RVs are being 'chased out' of Silicon Valley streets,* The Guardian (June 29 2017), https://www.theguardian.com/us-news/2017/jun/29/low-income-workers-rvs-palo-alto-california-homeless.

208. For the foregoing reasons, the "Vibrant Communities" appendix is an unlawful and unconstitutional attempt by CARB to supplant existing local land use law and policy processes with a top-down regime that is both counterproductive and discriminatory against already-disadvantaged minority Californians, including but not limited to Petitioners.

E. CARB's Inadequate Environmental Analysis and Adverse Environmental Effects of the 2017 Scoping Plan

209. Along with the 2017 Scoping Plan, CARB prepared an EA purporting to comply with CEQA requirements.[102]

210. Under its certified regulatory program, CARB need not comply with requirements for preparing initial studies, negative declarations, or environmental impact reports. CARB's actions, however, remain subject to other provisions of CEQA. CEQA Guidelines § 15250.

211. CARB's regulatory program is contained in 17 C.C.R. §§ 60005, 60006, and 60007. These provisions require the preparation of a staff report at least 45 days before the public hearing on a proposed regulation, which report is required to be available for public review and comment. It is also CARB's policy "to prepare staff reports in a manner consistent with the environmental protection purposes of [ARB's] regulatory program and with the goals and policies of [CEQA]." The provisions of the regulatory program also address environmental alternatives and responses to comments on the EA.

212. For purposes of its CEQA review, CARB defined the project as the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Scoping Plan) and the recommended measures in the 2017 Plan (Chapter 2).

213. The Draft EA was released on or about January 20, 2017 for an 80-day public review period that concluded on or about April 10, 2017.

214. On or about November 17, 2017, CARB released the Final EA. CARB did not modify the Draft EA to bring it into compliance with CEQA's requirements.

[102] CARB has a regulatory program certified under Pub. Res. Code § 21080.5 and pursuant to this program CARB conducts environmental analyses to meet the requirements of CEQA.

215. The Final EA provides a programmatic analysis of the potential for adverse environmental impacts associated with implementation of the 2017 Scoping Plan. It also describes feasible mitigation measures for identified significant impacts.

216. The Final EA states that, although the 2017 Scoping Plan is a State-level planning document that recommends measures to reduce GHG emissions to achieve the 2030 target, and its approval does not directly lead to any adverse impacts on the environment, implementation of the measures in the Plan may indirectly lead to adverse environmental impacts as a result of reasonably foreseeable compliance responses.

217. The Final EA also states that CARB expects that many of the identified potentially significant impacts can be feasibly avoided or mitigated to a less-than-significant level either when the specific measures are designed and evaluated (e.g., during the rulemaking process) or through any project-specific approval or entitlement process related to compliance responses, which typically requires a project-specific environmental review.

218. The EA violated CEQA by failing to comply with its requirements in numerous ways, as described below.

1. Deficient Project Description

219. The EA's Project description was deficient because CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan (in Chapters 2 and 5) and thus the "project" for CEQA purposes should have been defined to include potential direct and indirect impacts on the environment from the four GHG Housing Measures. Instead, CARB described the Project for CEQA purposes as the measures only in Chapter 2 of the 2017 Scoping Plan.

220. CARB has acknowledged that Chapter 5 of the 2017 Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the

Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[103] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

221. The VMT reduction requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy".[104] Chapter 2 is included in the description of the Project in the EA but Chapter 5 is not, despite the fact that the VMT reduction mandate is found in both chapters.

222. For this reason, CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes.

2. Improper Project Objectives

223. The Project objectives in the EA are also improperly defined in relation to the 2017 Scoping Plan, the unlawful GHG Housing Measures, and the goals explained in the 2017 Scoping Plan.[105] The EA states that the primary objectives of the 2017 Scoping Plan are:

- Update the Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions to reflect the 2030 target;
- Pursue measures that implement reduction strategies covering the State's GHG emissions in furtherance of executive and statutory direction to reduce GHG emissions to at least 40 percent below 1990 levels by 2030;
- Increase electricity derived from renewable sources from one-third to 50 percent;
- Double efficiency savings achieved at existing buildings and make heating fuels cleaner;
- Reduce the release of methane and other short-lived climate pollutants;

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[103] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

[104] Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

[105] Appendix F to 2017 Scoping Plan, Final Environmental Analysis for the Strategy for Achieving California's 2030 Greenhouse Gas Target, p. 10-11, https://www.arb.ca.gov/cc/scopingplan/2030sp_appf_finalea.pdf.

- Pursue emission reductions that are real, permanent, quantifiable, verifiable and enforceable;
- Achieve the maximum technologically feasible and cost-effective reductions in GHG emissions, in furtherance of reaching the statewide GHG emissions limit;
- Minimize, to the extent feasible, leakage of emissions outside of the State;
- Ensure, to the extent feasible, that activities undertaken to comply with the measures do not disproportionately impact low-income communities;
- Ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, efforts to achieve and maintain the NAAQS and CAAQS and reduce toxic air contaminant ("TAC") emissions;
- Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health;
- Minimize, to the extent feasible, the administrative burden of implementing and complying with the measure;
- Consider, to the extent feasible, the contribution of each source or category of sources to statewide emissions of GHGs;
- Maximize, to the extent feasible, additional environmental and economic benefits for California, as appropriate;
- Ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

224. Because CARB used the unlawful "cumulative gap" methodology to calculate the emission reductions that it was required to achieve by 2030, the 2017 Scoping Plan does not meet the project objectives as described in the EA, *i.e.*, to meet the 2030 Target.

225. As explained throughout this Petition, CARB's 2017 Scoping Plan and the unlawful GHG Housing Measures are not cost-effective, are contrary to law, are not equitable to all Californians, and will increase criteria and TAC emissions preventing attainment of the NAAQS and CAAQS

226. For this reason, other alternatives to the 2017 Scoping Plan, including an alternative without the GHG Housing Measures, should have been assessed in the EA.

3. Illegal Piecemealing

227. CEQA requires an environmental analysis to consider the whole of the project and not divide a project into two or more pieces to improperly downplay the potential environmental impacts of the project on the environment.

228. CARB improperly piecemealed its 2017 Scoping Plan and the GHG Housing Measures within it from its similar and contemporaneous SB 375 GHG target update.[106] Both projects address mandated GHG reductions based on VMT and thus should have been addressed as one project for CEQA purposes.

229. In separately issuing the 2017 Scoping Plan and the SB 375 GHG target update, CARB improperly piecemealed a project under CEQA and thus the EA is inadequate as a matter of law.

4. Inadequate Impact Analysis

230. The analysis in the EA also was deficient because the EA did not analyze impacts from implementing the four GHG Housing Measures in Chapter 5, including, but not limited to, the CEQA net zero threshold, the VMT limits, and per capita GHG CAP targets, and the suite of Vibrant Communities measures.

231. Potential environmental impacts from these GHG Housing Measures overlap substantially with similar high density, transit-oriented, automobile use reduction measures included in regional plans to reduce GHGs from the land use and transportation sectors under SB 375. CARB has reviewed and approved more than a dozen SB 375 regional plans, each of which is informed by its own "programmatic environmental impact report ("PEIR").

232. Each PEIR for each regional plan has identified multiple significant adverse environmental impacts which cannot be avoided or further reduced with feasible mitigation

[106] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), https://www.arb.ca.gov/cc/sb375/sb375.htm.

measures or alternatives.[107] In the first regional plan adopted for the SCAG region, California's most-populous region, the PEIR compared the impacts of developing all new housing within previously-developed areas in relation to developing half of such new housing in such areas, and the other half in previously-undeveloped areas near existing major infrastructure like freeways.

233. The SCAG 2012 PEIR concluded that the all-infill plan caused substantially more unavoidable significant adverse environmental impacts in relation to the preferred plan which divided new development equally between infill and greenfield locations.[108]

234. Following public comments and refinement of the PEIR (inclusive of the addition and modification of various mitigation measures to further reduce significant adverse environmental impacts), SCAG approved the mixed infill/greenfield plan instead of the all-infill alternative. CARB then approved SCAG's plan—first in 2012 and then again in 2016—as meeting California's applicable statutory GHG reduction mandates.[109]

235. The Scoping Plan's GHG Housing Measures now direct an infill only (or mostly infill) outcome, which SCAG's 2012 PEIR assessed and concluded caused far worse environmental impacts, even though it would result in fewer GHG emissions. In other words, SCAG's PEIR—and the other regional land use and transportation plan PEIRs prepared under SB 375—all disclosed a panoply of adverse non-GHG environmental impacts of changing California's land use patterns, and shaped both their respective housing plans and a broad suite of mitigation measures to achieve California's GHG reduction mandates while minimizing other adverse environmental impacts to California.

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[107] See SB 375 "Sustainable Communities Strategies" review page at https://www.arb.ca.gov/cc/sb375/sb375.htm, which includes links to the regional land use and transportation plans for multiple areas (which then further link to the PEIRs).

[108] SCAG, Final PEIR for the 2012-2035 RTP/SCS (April 2012), http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx.

[109] CARB Executive Order accepted the SCAG determination that its regional plan that balanced infill and greenfield housing development, and increased transit investments to encourage greater transit use without any VMT reduction mandate, would meet the GHG reduction targets mandated by law. See generally https://www.arb.ca.gov/cc/sb375/sb375.htm.

236. CARB's willful refusal to acknowledge, let alone analyze, the numerous non-GHG environmental impacts of its GHG Housing Measures in the 2017 Scoping Plan EA is an egregious CEQA violation.

237. Based on the greater specificity and the significant unavoidable adverse non-GHG environmental impacts identified in regional SB 375 plan PEIRs, the EA here clearly did not fully analyze the potential adverse environmental impacts from creating high-density, transit-oriented development that will result from the measures in the 2017 Scoping Plan, such as:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

238. CARB failed to complete a comprehensive CEQA evaluation of these and related reasonably foreseeable impacts from forcing all or most development into higher densities within existing urban area footprints, intentionally increasing congestions and prohibiting driving, and implementing each of the many measures described in the "Vibrant Communities" appendix. The

EA failed to identify, assess, and prescribe feasible mitigation measures for each of the significant unavoidable impacts identified above.

F. CARB's Insufficient Fiscal Analysis and Failure To Comply with the APA's Cost-Benefit Analysis Requirements

239. The APA sets out detailed requirements applicable to state agencies proposing to "adopt, amend or repeal any administrative regulation." Gov. Code § 11346.3.

240. CARB is a state agency with a statutory duty to comply with the rulemaking laws and procedures set out in the APA.

241. The APA requires that CARB, "prior to submitting a proposal to adopt, amend, or repeal a regulation to the office [of Administrative Law], shall consider the proposal's impact on business, with consideration of industries affected including the ability of California businesses to compete with businesses in other states. For purposes of evaluating the impact on the ability of California businesses to compete with businesses in other states, an agency shall consider, but not be limited to, information supplied by interested parties." Gov. Code § 11346.3(a) (2).

242. The APA further requires that "[a]n economic assessment prepared pursuant to this subdivision for a major regulation proposed on or after November 1, 2013, shall be prepared in accordance with subdivision (c), and shall be included in the initial statement of reasons as required by Section 11346.2." Gov. Code § 11346.3(a)(3).

243. CARB's new GHG Housing Measures will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000) and therefore constitute a "major regulation" within the meaning of the APA and the California Department of Finance regulations incorporated therein. Gov. Code § 11346.3(c); 1 C.C.R. § 2000(g).

244. In adopting its 2017 Scoping Plan, CARB has failed to comply with these and other economic impact analysis requirements of the APA.

245. The 2017 Scoping Plan continues CARB's use of highly aggregated macroeconomic models that provide almost no useful information about potential costs and

impacts in industries and households. The LAO, an independent state agency, has consistently pointed out the flaws in CARB's approach since the first Scoping Plan was developed in 2008.

246. CARB's disregard of the APA's economic impact analysis requirements in issuing the 2017 Scoping Plan is only the latest example of a repeated flouting of the APA's requirements in pursuit of its pre-determined regulatory goals. The inadequacy of CARB's compliance with APA requirements has been documented in multiple LAO documents, including the following:

- In a November 17, 2008 letter to Assembly Member Roger Niello,[110] the LAO found that "ARB's economic analysis raises a number of questions relating to (1) how implementation of AB 32 was compared to doing BAU, (2) the incompleteness of the ARB analysis, (3) how specific GHG reduction measures are deemed to be cost-effective, (4) weak assumptions relating to the low-carbon fuel standard, (5) a lack of analytical rigor in the macroeconomic modeling, (6) the failure of the plan to lay out an investment pathway, and (7) the failure by ARB to use economic analysis to shape the choice of and reliance on GHG reduction measures."
- In a March 4, 2010 letter to State Senator Dave Cogdill,[111] the LAO stated that while large macroeconomic models used by CARB in updated Scoping Plan assessments can "capture some interactions among broad economic sectors, industries, consumer groupings, and labor markets," the ability of these models to "adequately capture behavioral responses of households and firms to policy changes is more limited. Additionally, because the data in such models are highly aggregated, they capture at best the behavioral responses of hypothetical "average" households and firms and do not score well in capturing and predicting the range of behavioral responses to policy changes that can occur for individual or subgroupings of households or firms. As a result, for example, the adverse jobs impacts—including job losses associated with those firms that are especially negatively impacted by the Scoping Plan—can

[110] LAO, http://www.lao.ca.gov/2008/rsrc/ab32/AB32_scoping_plan_112108.pdf.

[111] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_impact/ab32_impact_030410.aspx.

be hard to identify since they are obscured within the average outcome." The letter further noted multiple ways that the SP could affect jobs.

- Similarly, in a June 16, 2010 letter to Assembly Member Dan Logue,[112] the LAO found that CARB's revision to CARB's 2008 Scoping Plan analysis "still exhibits a number of significant problems and deficiencies that limit its reliability. These include shortcomings in a variety of areas including modeling techniques, identification of the relative marginal costs of different SP measures, sensitivity and scenario analyses, treatment of economic and emissions leakages, identification of the market failures used to justify the need for the regulations selected, analysis of specific individual regulations to implement certain Scoping Plan measures, and various data limitations." As a result, the LAO concluded that, contrary to CARB's statutory mandates, "The SP May Not Be Cost-Efficient." Given these and other issues, it is unclear whether the current mix and relative importance of different measures in the Scoping Plan will achieve AB 32's targeted emissions reductions in a cost-efficient manner as required."
- In a June 2017 presentation to the Joint Committee on Climate Change Policies, *Overview of California Climate Goals and Policies*,[113] and after the draft 2017 Scoping Plan had been released for public review, the LAO concluded that "To date, there have been no robust evaluations of the overall statewide effects—including on GHG reductions, costs, and co-pollutants—of most of the state's major climate policies and spending programs that have been implemented."

247. CARB's persistent failure to address the APA's economic analysis requirements, and its penchant for "jumping the gun" by taking actions without first complying with CEQA and other rulemaking requirements, also has drawn criticism from the courts.

[112] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_logue_061610/ab32_logue_061610.pdf.

[113] LAO, http://lao.ca.gov/handouts/resources/2017/Overview-California-Climate-Goals-Policies-061417.pdf.

248. In *Lawson v. State Air Resources Board* (2018) 20 Cal.App.5th 77, 98, 110-116 ("*Lawson*"), the Fifth District Court of Appeal, in upholding Judge Snauffer's judgment, found both that CARB "violated CEQA by approving a project too early" and that it also violated the APA. The Court explained the economic impact assessment requirements of the APA "granularly" to provide guidance to CARB for future actions and underscored that "an agency's decision to include non-APA compliant interpretations of legal principles in its regulations will not result in additional deference to the agency", because to give weight or deference to an improperly-adopted regulation "would permit an agency to flout the APA by penalizing those who were entitled to notice and opportunity to be heard but received neither." *Id.* at 113. Despite these recent warnings, CARB has chosen to proceed without complying with CEQA or the APA.

249. CARB's use of the improper "cumulative gap" methodology to determine the GHG reductions it claims are necessary for the 2017 Scoping Plan to meet the 2030 Target means that the inputs for the CARB FA were improper. The FA, which is supposed to inform policymakers and the public about the cost-effectiveness and equity of the Scoping Plan measures, is based on meeting the 621 $MMTCO_2e$ GHG "cumulative gap" reduction requirement invented by CARB.

250. In fact, the final FA adopted by CARB indicates that an earlier version was based on the asserted "need" to fill an even larger "cumulative gap" of 680 $MMTCO_2e$. This improper analysis renders the FA and the cost analysis required under the APA invalid.

G. The Blatantly Discriminatory Impacts of CARB's 2017 Scoping Plan

251. CARB has recognized that "[i]t is critical that communities of color, low-income communities, or both, receive the benefits of the cleaner economy growing in California, including its environmental and economic benefits." Scoping Plan, p. 15.

252. The GWSA specifically provides, at H&S Code § 38565, that: "The state board shall ensure that the greenhouse gas emission reduction rules, regulations, programs, mechanisms, and incentives under its jurisdiction, where applicable and to the extent feasible, direct public and private investment toward the most disadvantaged communities in California and provide an opportunity for small businesses, schools, affordable housing associations, and other community

institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions."

253. CARB's standards, rules, and regulations also must, by statute, be consistent with the state goal of providing a decent home and suitable living environment for every Californian. H&S Code § 39601(c). This includes affordable housing near jobs for hard working, low-income minority families.

254. California produces less than one percent of global GHG emissions, and has lower per capita GHG emissions than any other large state except New York, which unlike California still has multiple operating nuclear power plants to reduce its GHG emissions.[114]

255. As Governor Brown and many others have recognized, California's climate change leadership depends not on further mass reductions of the one percent of global GHG emissions generated within California, but instead on having other states and nations persuaded to follow the example already set by California.

256. In any event, as recently demonstrated in a joint study completed by scholars from the University of California at Berkeley and regulators at the Bay Area Air Quality Management District ("BAAQMD")[115], high wealth households cause far more global GHG emissions than middle-class and poor households. The Scoping Plan ignores this undisputed scientific fact and unfairly, and unlawfully, seeks to burden California's minority and middle-class households in need of affordable housing with new regulatory costs and burdens that do not affect existing, wealthier homeowners who "already have theirs".

257. California has the nation's highest poverty rate, highest housing prices, greatest housing shortage, highest homeless population—and highest number of billionaires.[116] While it is

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[114] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[115] BAAQMD and Cool Climate Network at UC Berkeley, Consumption Based GHG Emissions Inventory (2016), http://www.baaqmd.gov/research-and-data/emission-inventory/consumption-based-ghg-emissions-inventory.

[116] David Friedman, Jennifer Hernandez, California's Social Priorities, Holland & Knight, Chapman University Press (2015), https://perma.cc/XKB7-4YK4; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html.

not the function of the courts to address economic inequalities, the federal and state Constitutions prohibit the State from enacting regulatory provisions that have the inevitable effect of unnecessarily and disproportionately disadvantaging minority groups by depriving them of access to affordable housing that would be available in greater quantity but for CARB's new GHG Housing Measures.

258. Members of hard working minority families, in contrast to wealthier white elites, currently are forced to "drive until they qualify" for housing they can afford to own, or even rent.[117] As a result, long-commute minority workers and their families then suffer a cascading series of adverse health, educational and financial consequences.[118]

259. It is well-documented and undisputed, in the record that the current housing shortage—which CARB's regulations would unnecessarily exacerbate—falls disproportionately on minorities. As stated in a United Way Study, "Struggling to Get By: The Real Cost Measure in California 2015"[119]: "Households led by people of color, particularly Latinos, disproportionately are likely to have inadequate incomes. Half (51%) of Latino households have incomes below the Real Cost Measure,[120] the highest among all racial groups. Two in five (40%) of African American households have insufficient incomes, followed by other races/ethnicities (35%), Asian Americans (28%) and white households (20%)." Put simply, approximately 80% of the poorest households in the State are non-white families.

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[117] Mike McPhate, *California Today: The Rise of the Super Commuter,* N.Y. Times (Aug. 21, 2017), https://www.nytimes.com/2017/08/21/us/california-today-super-commutes-stockon.html; Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[118] Rebecca Smith, Here's the impact long commutes have on your health and productivity, *Business Insider* (May 22, 2017), http://www.businessinsider.com/long-commutes-have-an-impact-on-health-and-productivity-2017-5.

[119] Betsy Block et al, Struggling to Get By: The Real Cost Measure in California 2015 (2016), p. 10, https://www.norcalunitedway.org/sites/norcalunitedway.org/files/Struggling_to_Get_By_3.pdf.

[120] The United Way study uses the "Real Cost Measure" to take account of a family budget to meet basic needs, composed of "costs all families must address such as food, housing, transportation, child care, out-of-pocket health expenses, and taxes." *Id.*, p. 8.

260. As noted in the same report: "Housing costs can consume almost all of a struggling household's income. According to Census Bureau data, housing (rent, mortgage, gas/electric) makes up 41% of household expenses in California. . . . Households living above the Federal Poverty Level but below the Real Cost Measure spend almost half of their income on rent (and more in many areas), and households below the Federal Poverty Level, however, report spending 80% of their income on housing, a staggering amount that leaves precious little room for food, clothing and other basics of life." *Id.*, p. 65.[121]

261. As further documented in the United Way report presented to CARB: "Recognizing that households of all kinds throughout the state are struggling should not obscure one basic fact: race matters. Throughout Struggling to Get By, we observe that people of Latino or African American backgrounds (and to a lesser extent Asian American ones) are less likely to meet the Real Cost Measure than are white households, even when the families compared share levels of education, employment backgrounds, or family structures. While all families face challenges in making ends meet, these numbers indicate that families of color face more obstacles in attempting to achieve economic security."[122]

262. Against this background, CARB's new GHG Housing Measures, which disproportionately harm housing-deprived minorities while not materially advancing the cause of GHG reductions, cannot be justified. CARB's new GHG Housing Measures, facially and as applied to the housing sector in particular, are not supported by sound scientific analysis and are in fact counterproductive. CARB's new GHG Housing Measures establish presumptive legal standards under CEQA that currently impose, as a matter of law, costly new mitigation obligations that apply only to housing projects proposed now and in the future to meet

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[121] In addition, family wealth of homeowners has increased in relation to family wealth of renters over time and a homeowners' net worth is 36 times greater than a renters' net worth. Jesse Bricker, et al., Changes in US Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances, 100 Fed. Reg. Bull. 4 (Sept. 2014), https://www.federalreserve.gov/pubs/bulletin/2014/articles/scf/scf.htm.

[122] *Id.* p. 75. Studies predict that the 2014-2016 dataset will show a wealth differential between homeowners and renters of 45 times. Lawrence Yun, *How Do Homeowners Accumulate Weath?*, Forbes (Oct. 14, 2015), https://www.forbes.com/sites/lawrenceyun/2015/10/14/how-do-homeowners-accumulate-wealth/#7eabbecd1e4b.

California's current shortfall of more than three million homes that experts and the Governor-elect agree are needed to meet current housing needs. Two specific examples are provided below.

263. By establishing a new "net zero" GHG CEQA significance threshold for all new projects, CARB has created a new legal obligation for such new projects to "mitigate" to a "less than significant" level all such GHG impacts. The California Air Pollution Control Officers Association ("CAPCOA"), which consists of the top executives of all of the local and regional air districts in California, has developed a well-established model for calculating GHG emissions from such new projects called The California Emissions Estimator Model ("CalEEMod").[123] This model is in widespread use throughout the state, and has been determined by the California Supreme Court to be a valid basis for estimating GHG emissions from residential projects for purposes of CEQA. *Newhall*, supra, 62 Cal.4th at 217-218.

264. CalEEMod calculates GHG emissions for 63 different types of development projects, including multiple types of residential projects. The scientific and legal framework of CalEEMod is the foundational assumption that all GHG project emissions are "new" and would not occur if the proposed project was not approved or built.

265. Within this overall framework, CalEEMod identifies GHG emissions that occur during construction (e.g., from construction vehicles and construction worker vehicular trips to and from the project site), and during ongoing project occupancy by new residents. GHG occupancy or "operational" emissions include GHG emissions from offsite electricity produced to serve the project, from onsite emissions of GHG from natural gas appliances, from on- and off-site GHG emissions associated with providing drinking water and sewage treatment services to the project, from vegetation removal and planting, and from vehicular use by project occupants on an ongoing basis. *See, e.g.*, Appendix A of CalEEMod[124]; South Coast Air Quality Management District User's Guide to CalEEMod[125].

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[123] Available at: http://www.caleemod.com/.

[124] CalEEMod Appendix A: Calculation Details for CalEEMOd, available at: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf.

[125] CalEEMod User's Guide, available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

266. Under the CalEEMod CEQA compliance framework, if the project does not occur then the GHG emissions do not occur—notwithstanding the practical and obvious fact that people who cannot live in new housing they can afford must still live somewhere, where they will still engage in basic activities like consuming electricity, drinking water, and driving cars.

267. Under CEQA, a "significant" environmental impact is required to be "mitigated" by measures that avoid or reduce the significance of that impact by all "feasible" means. Pub. Res. Code § 21102. The CEQA Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal , social and technological factors." 14 C.C.R. § 15364.

268. The first of two examples of immediate and ongoing harm relates to the increased cost of housing caused by the "net zero" threshold. Before the 2017 Scoping Plan was approved, no agency or court had ever required a "net zero" GHG threshold. The only example of a residential project that met this target involved a voluntary commitment by the project applicant to a "net zero" project, in which 49% of the project's GHG emissions were "offset" by GHG reductions to be achieved elsewhere (e.g., funding the purchase of cleaner cook stoves in Africa) and paid for by higher project costs.

269. There is no dispute that funding these types of GHG reduction measures somewhere on Earth is "feasible" taking into account three of CEQA's five "feasibility" factors (environmental, social and technological). With housing costs already nearly three times higher in California than other states, home ownership rates far lower, and housing-induced poverty rates the highest in the nation, it remains possible – in theory – to demonstrate that in the context of a given housing project, adding $15,000-$30,000 more to the price of a home to fund the purchase of cleaner cook stoves in Africa, for example, would not be "legally" or "economically" feasible.

270. This theoretical possibility of demonstrating that any particular mitigation cost results in "economic infeasibility" has not succeeded, however, for any housing project in the nearly-50 year history of CEQA. A lead agency decision that a mitigation measure is infeasible must be supported by substantial evidence in the record—effectively the burden is placed on the project applicant to prove this latest "net zero" increment of mitigation costs is simply too

expensive and will make the project "infeasible." No court has found that a housing project has met this burden. *See, e.g., Uphold our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587. Further, this infeasibility evaluation applies to the applicant for the housing project, not prospective future residents—simply raising housing prices affordable only to wealthier buyers.

271. The CEQA mitigation criterion of legal infeasibility is likewise illusory when applied to the GHG mitigation measures required to achieve a "net zero" significance threshold. Although there is some judicial precedent recognizing that lead agencies cannot impose CEQA mitigation obligations outside their jurisdictional boundaries (e.g, in adjacent local jurisdictions), this precedent—like OPR's definitive regulatory conclusion that CEQA cannot be used to impose a "net zero" threshold even and specifically within the context of GHG—is directly challenged by the 2017 Scoping Plan, which cited with approval the one "net zero" GHG residential project that relied in part on offsite (off-continent) GHG reduction measures.

272. This "legal infeasibility" burden of proof also is extremely high under CEQA. For example, the California Supreme Court considered in *City of San Diego, et al. v. Board of Trustees of California State University* (2015) 61 Cal.4th 945, the University's "economic infeasibility" argument in relation to making very substantial transfer payments to local government to help fund local highway and transit infrastructure, which would be used in part by the growing student, faculty and staff for the San Diego campus. Although the Court acknowledged that the Trustees had expressly requested, and been denied, funding by the Legislature to help pay for these local transportation projects, the Court did not agree this was adequate to establish economic infeasibility under CEQA since the Trustees could have sought alumni donations or funding from other sources, or elected to stop accommodating new students in San Diego and instead grown other campuses with potentially lower costs. When CARB's "net zero" GHG measures are coupled with the "legal infeasibility" burden of proof, the result is a legal morass that frustrates the efforts of local governments to implement the Legislature's pro-housing laws and policies, to the detriment of under-housed minorities, including Petitioners.

273. The second example of immediate and ongoing harm is CARB's direct intervention in projects already in CEQA litigation by opining on the acceptable CEQA

mitigation for GHG emissions from fuel use, which typically create the majority of GHG emissions from new housing projects. In a long series of evolving regulations including most recently the 2018 adoption of new residential Building Code standards[126], and in compliance with the consumer protection and cost-effectiveness standards required for imposing new residential Building Code requirements established by the Legislature (Pub. Resources Code §§ 25402(b)(3), (c)(1); 25943(c)(5)(B)), California law requires new residences to be better insulated, use less electricity, install the most efficient appliances, use far less water (especially for outdoor irrigation), generate electricity (from rooftop solar or an acceptable alternative), and transition to future electric vehicles. These and similar measures have substantially reduced the GHG emissions from ongoing occupancy of new housing.

274. Under the CalEEMod methodology, however, gasoline and hybrid cars used by new residents are also counted as "new" GHG emissions attributed to that housing project – and these vehicular GHG emissions now account for the vast majority of a typical housing project's GHG emissions.[127]

275. In 2017, the Legislature expanded its landmark "Cap and Trade" program establishing a comprehensive approach for transitioning from fossil fuels to electric or other zero GHG emission technologies, which already includes a "wells to wheels" program for taxing oil and natural gas extraction, refinement, and ultimate consumer use.[128] CARB has explained that the Cap and Trade Program requires fuel suppliers to reduce GHG emissions by supplying low

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[126] See California Building Standards Commission, 2018 Triennial Code Adoption Cycle, available at: http://www.bsc.ca.gov/Rulemaking/adoptcycle/2018TriennialCodeAdoptionCycle.aspx. *See also* California Energy Code, California Code of Regulations, Title 24, Part 6; Building Energy Efficiency Standards (2019 update).

[127] In the Northlake project challenged in a comment letter citing noncompliance with the 2017 Scoping Plan discussed *supra* ¶ 42, for example, total project GHG emissions after mitigation were 56,722 metric tons, of which mobile sources from vehicles comprised 53,863 metric tons. Los Angeles County, Draft Supplemental EIR (May 2017), Table 5.7-3 (p. 5.7-26), available at https://scvhistory.com/scvhistory/files/northlakehills_deir_0517/northlakehills_deir_0517.pdf

[128] A.B. 398, 2017 (California Global Warming Solutions Act of 2006: market-based compliance mechanisms: fire prevention fees: sales and use tax manufacturing exemption).

carbon fuels or purchasing allowances to cover the GHG emissions produced when the conventional petroleum-based fuels they supply are burned.

276. Specifically, as part of the formal rulemaking process for the Cap and Trade Legislation, CARB staff explained in its *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap and Trade Program*, that:

> To cover the emissions from transportation fuel combustion and that of other fuels by residential, commercial, and small industrial sources, staff proposes to regulate fuel suppliers based on the quantities of fuel consumed by their customers. … Fuel suppliers are responsible for the emissions resulting from the fuel they supply. In this way, a fuel supplier is acting on behalf of its customers who are emitting the GHGs … Suppliers of transportation fuels will have a compliance obligation for the combustion of emissions from fuel that they sell, distribute, or otherwise transfer for consumption in California. … [B]ecause transportation fuels and use of natural gas by residential and commercial users is a significant portion of California's overall GHG emissions, ***the emissions from these sources are covered indirectly through the inclusion of fuel distributers [in the Cap and Trade program]***."(emphasis added).[129]

277. CARB's express recognition of the fact that the Cap and Trade program "covers" emissions from the consumption of fossil fuels in the Cap and Trade regulatory approval process, in marked contrast with the challenged Housing Measures in the 2017 Scoping Plan, was subject to its own comprehensive environmental and economic analysis – which in no way disclosed, analyzed, or assessed the impacts of forcing residents of new housing to pay for GHG emission reductions from their fossil fuel uses at the pump (and in electricity bills) like their already-housed neighbors, and then paying *again – double-paying* – in the form extra GHG mitigation measures for the *same emissions*, resulting in higher housing costs.

278. The 2017 Scoping Plan likewise entirely omitted any analysis of the double-charging of residents of new homes for GHG emissions from the three million new homes the state needs to build to solve the housing crisis. Simply put, CARB should not now be permitted to use what purports to be only an "advisory" 2017 Scoping Plan to disavow and undermine its

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[129] CARB. October 2011. California's Cap-And-Trade Program Final Statement of Reasons, p. 2: https://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf; (incorporating by reference CARB. October 28, 2010. Staff Report: *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap-and-Trade Program Part 1, Vol. 1,* pp. II-10, II-20, II-21, 11-53: https://www.arb.ca.gov/regact/2010/capandtrade10/capisor.pdf)

formal rulemaking statement for the Cap and Trade regulations, nor can CARB use this asserted "advisory" document to invent the new CEQA GHG mitigation mandates (and preclude use of Cap and Trade as CEQA mitigation) without going through a new regulatory process to amend its Cap and Trade program.

279. Whether compliance with Cap and Trade for fossil fuels used to generate electricity or power cars used by a particular project is an adequate mitigation measure for GHG under CEQA has been hotly contested in past and pending CEQA lawsuits. In *Newhall*, *supra*, 62 Cal.4th 204, one of the approved GHG compliance pathways for CEQA identified by the Court was compliance with applicable laws and regulations. That case was extensively briefed by numerous advocates (*see* Opening Brief on the Merits, *Center for Biological Diversity v. California Department of Fish and Game* (2015) 62 Cal.4th 204 (No. 5-S217763), and Consolidated Reply Brief, *Center for Biological Diversity v. California Department of Fish and Game*, (2015) 62 Cal.4th 204 (No. 9-S217763), which urged the Court to conclude as a matter of law that CEQA requires "additive" mitigation beyond what is otherwise required to comply with applicable environmental, health and safety laws.

280. Neither the appellate courts nor Supreme Court have imposed this novel interpretation of the GHG mandates imposed by CEQA as a newly discovered legal requirement lurking within this 1970 statute. As noted above, the Supreme Court declined to do so by expressly recognizing that compliance with law was one of several compliance "pathways" for addressing GHG impacts under CEQA. (*Newhall, supra,* 62 Cal.4th at 229). (*See also, Center for Biological Diversity et al. v. Department of Fish and Game* (2014) 224 Cal.App.4th 1105.)[130]

281. Consistent with this Supreme Court directive, and informed by both the Legislative history of the Cap and Trade program and by CARB's contemporaneous explanation that compliance with Cap and Trade is indeed the sole GHG mitigation required for fossil fuel use, several projects have mitigated GHG emissions from fossil fuel by relying on the legislated,

[130] This appellate court decision, which was reversed and remanded by the Supreme Court decision in the same case, is cited as evidence for the proposition that what constitutes adequate mitigation for GHG impacts under CEQA has been hotly contested in the courts.

and regulated, Cap and Trade program and similar legislative as well as regulatory mandates to reduce GHG emissions from fossil fuel. This has been accomplished through measures such as the Low Carbon Fuel Standards, which collectively and comprehensively mandate prescribed reductions in GHG emissions from fossil fuel use.

282. This approach has been expressly upheld by the Fifth District Court of Appeal in *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708 ("*AIR*"). Although the project at issue was a refinery source that was itself clearly included within the category of industrial operations directly regulated by the Cap and Trade Program, opponents challenged that project's reliance on the Cap and Trade program for non-refining GHG emissions such as GHG emissions produced offsite by the electricity producers that provided power to the consumer power grid, and by vehicles used by contractors and employees engaged in refinery construction and operational activities. *See, e.g.*, Appellants' Opening Brief, *AIR*, *5th Dist. Case No. F073892 (December 9, 2016) at 29 (arguing that "[c]ap-and-trade does not apply to greenhouse gas emissions from trains, trucks, and building construction . . . .") and at 34-35 (arguing that participation in the cap and trade program is inadequate mitigation for project emissions). The CEQA lead agency and respondent project applicant argued that reliance on Cap and Trade as CEQA mitigation was lawful and sufficient under CEQA. *See* Joint Respondents' Brief, *AIR*, 5th Dist. Case No. F073892 (March 10, 2017), at 52-56 (arguing that "The EIR Properly Incorporated GHG Emission Reductions Resulting From Cap-and-Trade In The Environmental Analysis").

283. The Fifth District concluded that compliance with the Cap and Trade program for the challenged project were adequate CEQA GHG mitigation. That case was then unsuccessfully challenged, and unsuccessfully petitioned for depublication, by numerous advocates that continued to assert that CEQA imposes an "additive" GHG mitigation obligation that could not be met by paying the higher fuel costs imposed by the Cap and Trade program.[131]

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[131] *See* Letter from CARB to City of Moreno Valley regarding Final Environmental Impact Report for World Logistics Center, available at: https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf.

284. California already has the highest gasoline prices of any state other than Hawaii. CARB has consistently declined to disclose how much gasoline and diesel prices would increase under the 2017 Cap and Trade legislation. The non-partisan LAO completed an independent analysis of this question, and in 2017 concluded that under some scenarios, gasoline would increase by about 15¢ per gallon – and in others by about 73¢ per gallon. The LAO also noted that these estimated increases in gasoline prices "are an intentional design feature of the program."[132]

285. By using CEQA mitigation mandates created by the Scoping Plan to require only the disproportionately minority occupants of critically needed future housing to double-pay (both at the pump and in the form of higher housing costs imposed as a result of CEQA mitigation for the same fuel consumption), CARB has established a disparate new financial burden that is entirely avoided by those generally whiter, wealthier, and older Californians who have the good fortune of already occupying a home.

286. Both CARB and the Attorney General have acted in bad faith, and unlawfully, in their public description of and subsequent conduct regarding the immediate effectiveness and enforcement of the 2017 Scoping Plan.

287. First, in a written staff report distributed at the December 17, 2017 hearing at which the CARB Board approved the Scoping Plan, CARB staff misled the public and its Board by pretending that the challenged Housing Measures are simply not part of the Scoping Plan at all, and thus need not be considered as part of the environmental or economic study CARB was required to complete as part of the Scoping Plan approval process. This assertion flatly contradicted an earlier description of the immediately-implementing status of these Housing Measures made in a public presentation by a senior CARB executive.

288. Next, the Attorney General repeatedly advised this Court that the challenged Housing Measures were merely "advisory" and explained "the expectation that new measures proposed in the [Scoping] plan would be implemented through subsequent legislation or

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[132] LAO, https://lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

regulations." (Memorandum of Points and Authorities in Support of Demurrer to Plaintiff's Verified Petition for Writ of Mandate, Case No. 18-CECG-01494 (August 31, 2018), p. 8:18-19 ("AG Memo")). The AG Memo argued that the disparate harms caused by such measures are not ripe because such subsequent implementing legislative or regulatory actions "have yet to be taken" (Reply Memorandum in Support of Defendants California Air Resources Board and Richard Corey's Demurrer to Plaintiffs' Verified Petition for Writ of Mandate *etc.*, Case No. 18-CECG-01494(October 16, 2018), p. 2:6-7 ("AG Reply Memo"), and that Petitioners' assertions that the challenged Housing Measures would result in litigation disputes aimed at stopping or increasing the cost of housing was "wildly speculative" (AG Memo, p. 10:7). Further the Attorney General argued that the 2017 Scoping Plan "cannot be reasonably viewed as providing a valid basis for filing suit under CEQA." (AG Memo, p. 14:15) The same arguments were advanced in this Court's hearing on October 26, 2018.

289. Meanwhile, however, and virtually simultaneously with making contrary assertions to this Court, both the Attorney General and CARB were filing comment letters (precedent to CEQA lawsuits), and the Attorney General filed an amicus brief in a CEQA lawsuit, to challenge the legality of a CEQA lead agency's mitigation measure (in one case) and proposed General Plan element approval (in another case) *based on alleged failure to comply with applicable Housing Measures in the Scoping Plan.*

290. CARB's (and the Attorney General's) claims that the 2017 Scoping Plan is merely "advisory" and that its future effects are merely "speculative" (as well as its express denial at the December 2017 hearing on the 2017 Scoping Plan that the four challenged GHG Housing Measures are even part of the Plan), have been belied by the actual use of the 2017 Scoping Plan by CARB and the Attorney General themselves, as well as by third party agencies and anti-housing project CEQA litigants. Among the recent examples of the use of the Scoping Plan are the following:

A. **CARB September 7, 2018 Comment Letter:** Before even completing its Demurrer briefing to this Court, on September 7, 2018, CARB filed a comment letter criticizing the revised Final Environmental Impact Report for the World

Logistics Center project. A copy of this letter can be found at https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf. CARB's comment letter opines that as an absolute and unambiguous matter of law, compliance with the Cap and Trade program is not a permissible mitigation under CEQA. CARB's comment dismisses as "novel" the contention that compliance with laws and regulations requiring reductions in GHG can be, and is in fact, a permissible and legally sufficient mitigation measure under CEQA. Strikingly, CARB's letter simply ignores the *Newhall* decision. As for the Fifth District's on-point decision in *AIR*, CARB's letter states (at p. 11, note 23) that, "*[i]n CARB's view this case was wrongly decided as to the Cap-and-Trade issue . . .*" Thus, CARB in its public comments is urging permitting agencies to *disregard* court decisions on GHG issues and instead to follow CARB's supposedly "advisory" Scoping Plan policies, which it cites extensively . This type of CEQA "expert agency" letter can be used by the agency itself, if it chooses to file a lawsuit against an agency approving a project in alleged noncompliance with CEQA, or it can be used for its evidentiary value (and expert agency opinions are presumptively entitled to greater deference) by any other third party filing a CEQA lawsuit against that project, or even in another lawsuit raising similar issues provided that the CARB comment letter is submitted in the agency proceeding that is targeted by such second and subsequent lawsuits.

B. **Attorney General's September 7, 2018 Comment Letter:** Also on September 7, 2018, the Attorney General ("AG") joined CARB in criticizing the World Logistics Project's GHG analysis in a comment letter that prominently featured the 2017 Scoping Plan. A copy of this letter can be found at https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/comments-revised-sections-feir.pdf. Like CARB, the AG relied on the Scoping Plan to measure the adequacy of GHG measures under CEQA. Also like CARB, the AG sought to sidestep the Fifth District's *AIR* decision, but did so "[w]ithout commenting on

whether or not that case was rightly decided" in the AG's opinion (p. 6). The Attorney General's comment letter relies on the 2017 Scoping Plan in opining that "CEQA requires" the CEQA lead agency to "evaluate the consistency of the Project's substantial increases in GHG emissions with state and regional plans and policies calling for a dramatic reduction in GHG emissions" The AG goes on to conclude that the lead agency engaged in a "failure to properly mitigate" impacts as required by CEQA because the project's "increase in GHG emissions conflicts with the downward trajectory for GHG emissions necessary to achieve state climate goals." The AG again cites the 2017 Scoping Plan text in explaining that, unless they mandate CEQA GHG mitigation measures that go beyond compliance with applicable GHG reduction laws and regulations, "local governments would . . . not be doing their part to help the State reach its ambitious, yet necessary, climate goals." [AG letter at p. 7-11]

C. **Attorney General's November 8, 2018 Amicus Filing:** A third example is provided by the AG's November 8, 2018 filing of an "Ex Parte Application of People of the State of California for Leave to File Amicus Curiae Brief in Support of Petitioners" in *Sierra Club, et al. v. County of San Diego* (Nov. 8, 2018) No. 37-2018-00014081-CU-TT-CTL (San Diego Superior Court). A true copy of this Ex Parte Application and accompanying AG memorandum is attached hereto as **Exhibit 1**. A copy of the underlying Sierra Club petition, into which the AG has sought to inject the Scoping Plan, is attached hereto as **Exhibit 2**. In the amicus filing (Exhibit 1), the Attorney General asserts that he "has a special role in ensuring compliance with CEQA", and that he "has actively participated in CEQA matters raising issues of greenhouse gas ("GHG") emissions and climate change." (Application at 3:16, 24-25.) The challenged San Diego County Climate Action Plan actually includes and requires implementation of the 2017 Scoping Plan's "recommended" Net Zero GHG CEQA threshold for new projects, but was nevertheless challenged in this lawsuit the grounds that it did not also mandate a

reduction in Vehicle Miles Traveled because it allowed the County to approve new housing projects that fully mitigated ("Net Zero GHG") all GHG emissions but still resulted in an increase in VMT from residents living in this critically needed new housing. Petitioners in the consolidated proceedings in this case have claimed that based on the state's climate laws including the 2017 Scoping Plan, the County could not lawfully approve any amendment to its General Plan to accommodate any of the state's three million home shortfall unless such housing was higher density (e.g., apartments) and located inside or immediately adjacent to existing urban areas served by transit, because only that type of housing and location could result in the required reduction in VMT. Petitioners in these cases further identified the pending housing projects they believed could not be approved by the County. Petitioners sought (and obtained) injunctive relief to prevent such housing projects from relying on this "Net Zero" GHG Climate Action Plan as allowed by one of the CEQA compliance pathways identified by the Supreme Court in its *Newhall* decision, and identified by the Legislature itself in CEQA compliance provisions set forth in SB 375. In his amicus brief, the Attorney General repeatedly cites CARB's 2017 Scoping Plan as the legal basis for a new mandate that allegedly prohibits San Diego County (and all other counties) from meeting any part of the housing shortfall with more traditional homes (e.g., small "starter" homes and duplexes, which cost less than a third to build than higher density apartment units), or from locating these new homes anywhere other than an existing developed city or unincorporated community. The Attorney General also falsely argues that VMT reductions are mandated by other state laws; however, no law enacted by the California Legislature mandates any VMT reduction, and the Legislature has repeatedly rejected enacting such a mandate.[133]

[133] The Attorney General further argues that VMT reductions are required by SB 375, which is designed to reduce GHG (not VMT) with land use and transportation plans, even though SB 375 specifically directs CARB to develop compliance metrics and CARB has

291. CARB cannot have it both ways: it cannot coyly claim that the 2017 Scoping Plan is merely "advisory" and then fire into the end of a second round of CEQA documentation for a single project a new legal conclusion that upends the published judicial precedents of our courts. The AG similarly cannot assure this Court that it is "wildly speculative" for a CEQA lawsuit to be filed in reliance on the challenged measures in the 2017 Scoping Plan, and then six days later file an amicus in a CEQA lawsuit that does just that. If CARB wants to change Cap and Trade laws and regulations, and other GHG reduction laws and regulations applicable to fossil fuels, to make those not already fortunate enough to have housing pay both at the pump, and in their down-payment/mortgage and rent check, for "additive" GHG reductions above and beyond what their more fortunate, generally whiter, wealthier and older well-housed residents have to pay, then that is first and foremost a new mandate that can only be imposed by the Legislature given direct court precedent on this issue.

292. If such a mandate were proposed by the Legislature, a full and transparent debate about the disparate harms such a proposal would confirm that those most affected by the housing crisis, including disproportionately our minority communities, would suffer the equivalent of yet another gasoline tax on those least able to pay, and most in need of new housing. Petitioners are confident that the Legislature would not approve such a proposal.

293. Even these few examples of direct CARB and Attorney General implementation actions of the 2017 Scoping Plan to require more mitigation or block new housing demonstrate the immediate and ongoing harm of the 2017 Scoping Plan's challenged Housing Measures, which CARB and the Attorney General have opined impose higher CEQA "mitigation" costs on housing under a "net zero" GHG mitigation framework, and block otherwise lawful new housing altogether under the Scoping Plan's "VMT reduction" framework. The harms caused by these Housing Measures is not "wildly speculative"— they are already underway. They already disproportionately affect California minority communities not already blessed with wealth and

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itself repeatedly declined to require VMT reduction compliance metrics under SB 37 as late as December of 2017 and March of 2018.

homeownership, and they are already the subject of both administrative and judicial proceedings. They are properly and timely before this Court. The following paragraphs provide additional evidence of ripeness in the context of the three other challenged Housing Measures, beyond the "Net Zero" GHG threshold and corresponding mitigation mandates described above.

294. The 2017 Scoping Plan's new numeric thresholds for local climate action plans present similarly immediate and ongoing harms to Petitioner/Plaintiffs. In its *Newhall* decision, the California Supreme Court concluded that one of the "pathways" for CEQA compliance was designing projects that complied with a local Climate Action Plan ("CAP") having the then-applicable GHG statutory reduction mandate of reducing GHG emissions to 1990 levels by 2020.

295. Housing projects that complied with a local CAP had been duly approved by the same local governments responsible for planning and approving adequate housing for our minority communities. This provided a judicially streamlined pathway for GHG CEQA compliance for housing. Local CAPs include community-scale GHG reduction strategies such as pedestrian, bicycle and transit improvements that are beyond the ability of any single housing project to invent or fully fund, and thus CAP compliance is a known and legally-defensible CEQA GHG compliance pathway. The Scoping Plan destroyed that pathway, and accordingly caused and is causing immediate harm to new housing projects that could otherwise rely on the CAP compliance pathway for CEQA.

296. There is no statutory obligation for a city or county to adopt a CAP, nor are there any regulations prescribing the required contents of a CAP; instead, a CAP's primary legal relevance to proposed new housing projects occurs within the CEQA compliance context.

297. There has been a flurry of unresolved and ongoing CEQA interpretative issues with respect to CAPs that have been and remain pending in courtrooms throughout California. For example, in the City of San Diego and the County of Sonoma, multi-year lawsuits have resulted in two judicial decisions that make clear that any jurisdiction electing to voluntarily approve a CAP must assure that the CAP has clear, adequate and enforceable measures to achieve the GHG reduction metric included in the CAP. *See Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152; *California Riverwatch v. County of Sonoma* (July 20, 2017) Case No.

SCV-259242 (Superior Court for the County of Sonoma)[134]; *see also Mission Bay Alliance, et. al. v. Office of Community Investment and Infrastructure, et. al.* (2016) 6 Cal.App.5th 160 (upholding the adequacy of a CAP as CEQA compliance for a new professional sports facility).

298. The new numeric GHG per capita metric that the 2017 Scoping Plan prescribes as the presumptively correct GHG reduction target for CAPs places the entire burden of achieving the state's legislated 40% reduction target by 2030, and the unlegislated 80% reduction target by 2050, on local governments, with for example a numeric GHG reduction target of 2 tons per person per year by 2050. However, as the 2017 Scoping Plan itself makes clear, the vast majority of GHG emissions derive from electric power generation, transportation, manufacturing, and other sectors governed by legal standards, technologies, and economic drivers that fall well beyond the land use jurisdiction and control of any local government. The Scoping Plan does not even quantify the GHG reductions to be achieved by local governments, in their voluntary caps or otherwise: it seeks to define and achieve the state's GHG reduction mandates with measures aimed at specific GHG emission sectors.

299. The 2018 San Diego County CAP, adopted after the County lost its first CEQA lawsuit, adopts both CARB's numeric GHG targets—and the mandate that new housing projects entirely absorb the additional cost of fully offsetting GHG emissions in compliance with the "net zero" standard by paying money to fund GHG reduction projects somewhere on earth. The San Diego CAP both proves the immediacy of the disparate mitigation cost harms of the Scoping Plan's imposition of even higher costs to housing critically needed by California's minority communities, and provides a case study in the anti-housing legal morass created by the 2017 Scoping Plan's ambiguous—and unexamined from an equity, environmental, economic disclosure or public review process—new CEQA "net zero" threshold and CAP per capita numeric standards.

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[134] The trial court order in *California Riverwatch v. County of Sonoma* is cited herein as evidence for the existence of CEQA litigation challenges to local climate action plans and not as legal precedent. The order is available at: http://transitionsonomavalley.org/wp-content/uploads/2017/07/Order-Granting-Writ-7-20-17.pdf.

300. San Diego County faces its third round of CAP litigation (with the prior two rounds still ongoing in various stages of judicial remand and review) in a lawsuit filed in 2018, in which the same group of petitioners allege that the County again failed to include sufficient mandatory measures to achieve the 2017 Scoping Plan per capita GHG reduction metric because it continued to allow new housing to be built if offsetting GHG reductions were funded by the housing project in or outside the County. A copy of one such lawsuit (consolidated with others) is attached for reference as Exhibit 2. This lawsuit seeks a blanket, County-wide writ of mandate that would block "processing of permits for development projects on unincorporated County lands" unless these new housing-blocking measures are included. (See Exhibit 2 at p. 17:3-7.) The petitioners in these consolidated cases against San Diego County have further made clear that their ongoing objections to the County's CAP were so severe that they had also been compelled to file CEQA lawsuits *against individual housing projects*, and in their lawsuit, they have included a list of nearly a dozen pending housing projects that in their judgment should not be allowed to proceed. As described above, the Attorney General filed a request for leave to file an amicus brief in this case, accompanied by an amicus brief. See Exhibit 1. Based on CARB's 2017 Scoping Plan, the AG has sought to bolster to the petitioners' anti-housing CEQA lawsuits, including their claims that designated housing projects in unincorporated San Diego County cannot lawfully be approved or built based on VMT impacts, even if all GHG impacts are mitigated to "net zero."

301. This CEQA morass of extraordinary GHG reduction costs imposed only on residents of newly constructed housing, with still pending and unresolved CEQA lawsuit challenges against the CAP and specific housing projects, for GHG reductions that are not even quantified, let alone critical to California's climate leadership, is itself an ample demonstration of the disparate harms of CARB's poorly-conceived and discriminatory GHG Housing Measures.

302. The Scoping Plan's VMT reduction measure is likewise causing immediate, ongoing, and disparate harm to California's minority communities who are forced to drive ever-greater distances to find housing they can afford to buy or rent. As in the case of local climate action plans, there is no statewide statutory or regulatory mandate for reducing VMT. The

Legislature considered and rejected imposing a VMT reduction mandate, and CARB considered and rejected imposing a VMT reduction mandate as part of the regional land use and transportation planning mandated under SB 375 (first postponing its decision in December of 2017, at the same hearing CARB approved the Scoping Plan – and then definitively rejecting it in March of 2018).

303. At these hearings, CARB was informed that VMT had increased in California while transit utilization had fallen dramatically notwithstanding billions of dollars in new transit system investments. VMT reduction thus could not appropriately be included as SB 375 compliance metrics and with increases in electric and high efficiency hybrid vehicles, the correlation between VMT and GHG emissions is increasingly weak.

304. Even more than CARB's other GHG Housing Measures, the VMT reduction mandate is uniquely targeted to discriminate against minority workers. The American Community Survey ("ACS") is a project of the U.S. Census Bureau and tracks a wide range of data over time—including the ethnicity, transportation mode, and times of California commuters. The ACS data demonstrate that in the 10 year period between 2007 and 2016, 1,117,273 *more* Latino workers drove to their jobs, 377,615 *more* Asian workers drove to their jobs, and 18,590 *more* African American workers drove to their jobs.[135] During the same period, 447,063 *fewer* white workers drove to their jobs. Transit utilization increased for white and Asian workers, but fell for Latino and African American workers. During the same period, commute times lengthened substantially as more people—again disproportionately minorities—were forced to commute longer distances to housing they could afford.

305. By 2016, about 445,000 people in the Bay Area were commuting more than an hour each direction—an increase of 75% over the 2006 count of long distance Bay Area commuters. Anyone driving between the Bay Area and Central Valley during commute times vividly experiences the gridlock conditions, adverse personal health (e.g., stress, high blood

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[135] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2018), Table 3.7, p. 84, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

pressure, back pain), and adverse family welfare (e.g., missed dinners, homework assistance, and exhaustion) consequences of these commutes.

306. CARB (and the Attorney General) also have no support for their argument disputing the fact that the challenged Housing Measures disproportionately affect minority community members. As early as 2014, CARB received a comprehensive report from NextGen, a firm closely aligned with the strongest supporters of California's climate leadership, urging CARB to restructure its electric car subsidy program, which was found to be disproportionately benefitting those in Marin County and other wealthier and whiter areas that could afford to purchase costly new electric vehicles. In "No Californian Left Behind," Next Gen noted the obvious: "the overwhelming majority of Californians still use cars to get to work," including 77% who commute alone and 12% who carpool. Further, "[i]n less densely developed and rural areas like California's San Joaquin Valley, commuters often have long distances to drive between home, school, work and shopping; as a result, car ownership is often not a choice, but a necessity." Even more specifically, the report found that in Fresno County, even for workers earning less than $25,000, fewer than 3 percent of commuters take public transportation to work; in Madera County, only 0.3% of low-income workers took transit, and the results were comparable in in the rest of the San Joaquin Valley. Next Generation, *No Californian Left Behind: Clean and Affordable Transportation Options for all through Vehicle Replacement*, *http://www.thenextgeneration.org/files/No_Californian_Left_Behind_1.pdf (February 27, 2014) at p. 9. NextGen advocated a restructured vehicle program designed to equitably retire and replace the oldest most polluting cars, and to shift subsidy and incentive programs to help those who are either low income or need rural transport to obtain cleaner, lower-GHG emitting cars. (*Id.* p. 5) NextGext noted:

> "California is already a leader in advanced and high tech transportation and transit solutions. It is time we also became a leader in pragmatic solutions for a population that is sometimes left behind in these discussions: non-urban, low-income, car-dependent households."

The VMT reduction mandate in the 2017 Scoping Plan was specifically identified as CARB was fully on notice of the disparate harms caused to minority communities by its approach. In a report submitted to CARB by the climate advocacy group NextGen in February 2014, CARB was informed that Central Valley Latinos drive longer distances than any other ethnic group in any other part of California—and live in communities and households with the highest poverty rates.

307. Notwithstanding CARB's express acknowledgement in March of 2018 (and preview in December of 2017) that even the regional transportation and housing plans required by SB 375 cannot attain a VMT reduction target, CARB and its fellow "Vibrant Communities Appendix" agencies, remain committed to using CEQA to require new projects—including housing that is affordable and critically needed for California's minority communities—to pay higher costs to fund VMT reductions through CEQA.

308. As with the "net zero" GHG mitigation mandate, the immediate and ongoing effect of this VMT reduction measure is to increase housing costs to even less affordable and attainable levels for California's minority communities.

309. Even before enactment of the 2017 Scoping Plan, OPR (the Vibrant Communities agency that has the responsibility for adopting regulatory updates to CEQA) had been proposing to regulate the act of driving a car (even an electric vehicle or carpool) one mile (one VMT) as a new CEQA "impact" requiring "mitigation"— independent of whether the mile that was driven actually caused any air quality, noise, GHG, safety, or other impacts to the physical environment.

310. This expansion of CEQA was prompted in 2013, when OPR was directed by the Legislature in SB 743 to adopt a metric other than congestion-related traffic delay in transit-served "infill" areas as the appropriate transportation impact required to be evaluated and mitigated under CEQA, since these neighborhoods were intentionally being planned for higher density, transit/bike/pedestrian rather than automobile-dependent, neighborhoods. Pub. Res. Code § 21099(b).

311. In SB 743, the Legislature authorized but did not require the state Office of Planning and Research (OPR) to use VMT as the replacement metric for transit-served areas, and authorized but did not require OPR to apply an alternate transportation impact metric outside

designated urban infill transit neighborhoods. OPR responded with three separate rounds of regulatory proposals, each of which proposed expanding CEQA by making VMT a new CEQA impact, and requiring new mitigation to the extent a VMT impact was "significant." OPR further proposed a series of VMT significance thresholds, analytical methodologies, and potential mitigation measures, which varied over time but included a "road diet" and measures to discourage reducing congestion, on the theory that such congestion could somehow "induce" transit use and VMT reductions.

312. Under all three sets of OPR proposals, projects would be required to do more mitigation to reduce significant VMT impacts—by reducing VMT (i.e., reducing GHG or other air pollutants is not a valid CEQA mitigation approach for a new VMT impact). OPR received scores of comments objecting to expanding CEQA by making driving a mile a new "impact" requiring "mitigation," particularly given the disparate impact such a metric has on minority communities and the many adverse impacts to the environment, and public health and welfare, caused by the housing crisis and the state's worst-in-the-nation commutes.

313. OPR, again and repeatedly citing to the asserted need to reduce VMT to meet California's GHG reduction and climate leadership commitments, held a recent round of workshops on VMT mitigation strategies, working in close coordination with CARB's earlier and since-abandoned proposal to include VMT reductions as a required SB 375 regional transportation plan compliance measures.

314. At these workshops, OPR and its outside experts from an Oregon university conceded that VMT could likely not be "mitigated" by reducing miles driven by the future residents of any particular housing project (e.g., by adding secure bike racks or charging extra for parking), since whether people drive a mile or call an Uber—or hop on a bike or bus—is a function of available, cost- and time-effective transportation modes as well as the incomes and planned destinations of future residents. Agency workshop participants expressly acknowledged that VMT had increased 6% over 2011 levels, even though California's primary climate statutes (including many programs designed to promote transit and higher density development, and many

billions of dollars in completed transit systems improvements) were in effect during this same period.

315. These experts also conceded that with the success of on-demand ride services like Uber and Lyft, including the increasing cost-effectiveness and popularity of voucher-based on-demand rides by transit agencies in lieu of operating fixed route buses with low and still-declining utilization levels, there was *no evidence* that VMT could be substantially reduced by a particular project in a particular location as part of the CEQA review process for that project.

316. Instead, the VMT mitigation proposals shared during the workshops required that new housing pay others to operate school buses, bikeshare, and make improvements to bike and pedestrian pathways to the extent these measures could be demonstrated to reduce VMT. The suggested VMT mitigation measures had in common the payment of substantial fees (with some options suggested requiring annual payments, in perpetuity, of $5000 per apartment or home).

317. A recent academic study of VMT mitigation under CEQA likewise concedes the difficulty of a particular project achieving VMT reductions, and endorses the concept of adding to housing and other project costs payments to VMT "banks" or "exchanges" to fund third party VMT reductions – VMT reductions that occur somewhere, by someone.

318. This OPR VMT saga, like CARB's ultimate decision not to require a VMT compliance metric under SB 375, further demonstrates that the 2017 Scoping Plan's VMT reduction mandate measure – which CARB's senior executive expressly acknowledged was intended to be "self-executing" - is a fundamentally flawed "throw-away" measure that was neither acknowledged nor given an equity, environmental, or economic evaluation before being included in CARB's 2017 Scoping Plan.

319. The last of the challenged GHG Housing Measures is the Vibrant Communities Appendix, in which eight state agencies (including OPR) join with CARB in committing to undertake a series of actions to implement the approved Scoping Plan. Some of these agencies already have begun implementing the Scoping Plan, to the immediate and ongoing harm of California minority communities who are already disproportionately suffering from the housing crisis.

320. The Vibrant Communities appendix is an "interagency vision for land use, **and** for discussion" (emphasis added) of "State-Level Strategies to Advance Sustainable, Equitable Communities and Reduce Vehicles Miles of Travel (VMT)." 2017 Scoping Plan Appendix C, p. 1.

321. **First,** all of disparate and unlawful current and ongoing harms described in connection with the Scoping Plan's VMT Reduction measure apply equally to the actions of other State agencies based on the Vibrant Communities appendix measures. None have a rational basis for claiming any actual success in reducing VMT through their respective direct regulatory activities.

322. **Second,** there is no constraint in the "Vibrant Communities Appendix" preventing any of the eight state agency signatories from taking immediate steps to directly enforce these "land use" policies, while claiming to "work together to achieve this shared vision and to encourage land use and transportation decisions that minimize GHG emissions." 2017 Scoping Plan Appendix C, p. 2.

323. OPR's VMT expansion of CEQA, discussed above, is an example of an agency action to reduce VMT and GHG that is at least subject to formal rulemaking procedures and is thus not yet being "implemented."

324. In contrast, in June of 2018, a combination of four Vibrant Communities Appendix implementing agencies joined by one other agency[136] announced that they would henceforth implement – without benefit of any further Legislative or regulatory action –the "December 2017 Scoping Plan directive". This announcement was made at the San Francisco Bay Area Regional Meeting announcing the "California's 2030 Natural and Working Lands Climate Change Implementation Plan." Consistent with the anti-housing bias built into CARB's GHG Housing Measures, these agencies collectively promised to avoid "conversion of land for development."

[136] The five agencies are: the California Environmental Protection Agency, the California Natural Resources Agency, CARB, the California Department of Food and Agriculture, and the Coastal Conservancy.

325. These five agencies made no exception for developing housing, even for housing that CARB has already concluded as part of the SB 375 regional plan process meets California's legislated GHG emission reduction requirements. These agencies likewise made no exception for transportation or other critical infrastructure, even if consistent with local and regional plans, even if approved by federal or state agencies other than this five-agency consortium, even if within an approved city limit, and even if approved by voters. *Simply put, these agencies – which have combinations of funding, permitting, planning and enforcement obligations – have signaled that they are not going to approve new development on land that is not already developed.*

326. The sole reed upon which this vast new legal prohibition rests is the 2017 Scoping Plan, and more specifically the Vibrant Communities Appendix. See SF Bay Area Regional Meeting, *California's 2020 Natural and Working Lands Climate Change Implementation Plan*, available at http://resources.ca.gov/wp-content/uploads/2018/08/SF-Bay-Area-NWL-meeting-presentation-6.18.pdf.

327. Less than 6% of California is urbanized, and each city and county is charged by state law with adopting a General Plan that must accommodate the housing, transportation, and infrastructure needs of its existing and planned future residents. Under SB 375, these local land use plans are effectively consolidated into regional transportation and land use plans that must accommodate future population and economic growth as well as meet CARB targets for reducing GHG from the land use sector. Every regional Sustainable Communities Strategy ("SCS") plan includes some combination of housing, infrastructure (including transportation improvements), schools and other land uses that are carefully and deliberatively sited within each jurisdiction's boundaries – and adopted only after each local government first complies with CEQA and completes an extensive public notice, comment, and hearing process before appointed and elected officials.

328. The decision of the California Department of Fish & Wildlife ("CDFW") to simply stop issuing permits for housing and related infrastructure projects that have already been approved by local elected officials, after community input, in compliance with all applicable laws—and have further already been approved by CARB, as part of the SB 375 regional plan

approval process—is a blatant example an announced harm being committed against housing by a state agency in furtherance of CARB's 2017 Scoping Plan.

329. **Third**, consistent with normal practice for lawsuits that include a claim that the respondent agency has failed to comply with CEQA, Petitioners elected to prepare the administrative record that is relevant to the disposition of this CEQA cause of action. The Legislature has specifically prescribed the content of the CEQA administrative record, which includes in part: "Any other written materials relevant to the respondent public agency's compliance with this division or to its decision on the merits of the project" and "all . . . internal agency communications, including staff notes and memoranda relating to the project." Pub. Res. Code § 21167.6(c)(10).

330. Petitioners timely sought the administrative record from CARB, and in another normal practice for CEQA lawsuits submitted requests filed under the California Public Records Act ("CPRA") to each of the Vibrant Communities Appendix agencies in relation to each agency's Scoping Plan and Vibrant Communities Appendix, and VMT or other Scoping Plan documents.

331. Many months later, only incomplete responses have been provided by CARB (which sought to limit the administrative record in this case to select excerpts from its Scoping Plan docket).

332. Several of the Vibrant Communities Appendix agencies, including CDFW, OPR, parent and affiliated agencies of each (Natural Resources Agency and Strategic Growth Council), and CalSTA, responded with minimal documents and instead asserted that the requested documents were exempt from disclosure under the CPRA because they could result in public "controversy."

333. One of these partially-responsive agencies admitted that the withheld documents involved the highest level of state government, and included legislative proposals. All of these partially-responsive agencies declined a second letter request to disclose the withheld documents, or provide a privilege log describing each withheld document and the reason for its concealment.

334. There is no centralized or otherwise public repository of Vibrant Communities Appendix agency documents that disclose to the public their current, planned, or future activities with respect to implementing the Scoping Plan. There is likewise no centralized or otherwise public repository of which implementing activities are being (or will be) directly undertaken, and which will not be undertaken without future rulemaking or authorizing legislation.

335. From just the "direct" implementation activities noted above—and in particular CARB's intervention in an ongoing CEQA project-level review to opine on GHG mitigation requirements in a manner that is contrary to published judicial opinions, and CDFW's announced intention to cease authorizing activities that would convert land to development with no exception for new housing or related infrastructure that is already included in approved General Plans, infrastructure plans, voter-approved bonds, or CARB-approved Sustainable Communities Strategies implementing SB 375, is ample evidence of the immediate and ongoing new costs and regulatory obstacles already being imposed by these agency Scoping Plan implementing actions.

336. CARB's GHG reduction compliance metric is arbitrary, not supported by science, has no rational basis, and is racially discriminatory. In California's GHG and climate leadership laws, the Legislature did not prescribe any specific measurement methodology or compliance metric for meeting California's GHG reduction goals. The methodology and metrics that CARB has chosen completely ignore massive GHG emissions that occur when California's forests burn, as has tragically occurred at a large scale for several of the past years, notwithstanding estimates that just one major forest fire wipes out an entire year of GHG reductions achieved by CARB's regulatory actions.[137]

337. Similarly, CARB does not count—or require reductions of—GHG emissions associated with imported foods or other goods, or with a multitude of other activities such as airplane trips. However, every time a California resident (or job) leaves California, CARB counts that as a GHG reduction—even though the top destinations for the hundreds of thousands of

[137] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2017), p. 60-61, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

Californians who have migrated to lower cost states in recent years, notably including Texas, Arizona and Nevada—have per capita GHG emissions that are more than double the emissions those same individuals would have if they remained in California.

338. Climate change and GHG emissions are a global challenge, and nearly tripling the GHG emissions of a California family that needs to move to Texas or Nevada to find housing they can afford to rent or buy, increases global GHG.

339. It may be that there are other environmental priorities favored by CARB and its allies that justify policies that are in fact resulting in the displacement and relocation of California's minority communities, that reduce the state's population, and that eliminate higher energy production jobs like manufacturing that traditionally provided a middle class income (and home ownership) to a hard worker without a college degree. These discriminatory anti-minority policies cannot, however, be scientifically, politically, or legally justified in the name of global reductions of GHG.

340. CARB's International Policy Director on climate, former Obama administration senior climate team Lauren Sanchez, admitted that the GHG reduction metrics used by CARB – that simply and completely ignores the increased global GHG emissions from forcing Californians to live in high GHG states to find housing they can afford to buy with commute times that did not damage driver health, family welfare, and the environment - were "flawed" at the recent (October 2018) Environmental Law Conference in Yosemite. This admission rebuts the politically shocking and legally invalid assertion that it is constitutional for CARB to implement racially discriminatory measures (because CARB's discriminatory objective is merely to force minority Californians to either try to live in housing they cannot afford located nowhere near their job, or migrate to another state).

341. The 2017 Scoping Plan is required to reduce California's share of *global* GHG emissions, but it completely ignores massive emission sources that are controversial within the environmental community (e.g. managing California's massive wildfire risks which result in GHG emissions that dwarf CARB's regulatory GHG reductions, based on what the non-partisan

Little Hoover Commission reported in February 2018 as a century of forest mismanagement including clashes between environmental agencies). [138]

342. The 2017 Scoping Plan also completely ignores other massive GHG emissions attributed to the behavior of wealthier Californians (e.g., airplane rides, and consumption of costly imported consumer products).[139] Instead, as summarized a Chapman University Research Brief, CARB has administered California's climate laws with actions such as the 2017 Scoping Plan that drive up the fundamental costs of living for ordinary Californians—housing, electricity, transportation—and thereby drive more people (and disproportionately minorities) into poverty, and out of the state.[140]

343. The 2017 Scoping Plan fails even the most rudimentary "rational basis" constitutional test, and it is being implemented today by organizations and agencies including CARB that are driving up housing costs and blocking housing projects today. To cause this much pain and hardship to this many people, and to place the greatest burdens on those already disparately harmed by the housing crisis, is unconscionable. It is also ongoing, illegal, and unambiguously intentional, for CARB to impose these "flawed" GHG reduction metrics that cause disparate harms to racial minorities living in California.

344. The foregoing paragraphs describe agency actions that are exacerbating the State's extreme poverty, homelessness and housing crisis while *increasing* global GHG emissions by driving Californians to higher per capita GHG states.[141]

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[138] Little Hoover Commission, *Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada* (February 2018), available at https://lhc.ca.gov/report/fire-mountain-rethinking-forest-management-sierra-nevada.

[139] Bay Area Air Quality Management District and Cool Climate Network at UC Berkeley, *Consumption-Based GHG Emissions Inventory: Prioritizing Climate Action for Different Locations* (December 15, 2015), available at https://escholarship.org/uc/item/2sn7m83z

[140] Friedman, Id., Summary at p. 7-9.

[141] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), available at http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), available at https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-

345. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, deprive Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, of the fundamental right to live in communities that are free from arbitrary, government-imposed standards whose inevitable effect is to perpetuate their exclusion from participation in the housing markets in or near the communities in which they work. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, have a disparate adverse impact on Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, as compared to similarly-situated non-minorities who currently enjoy affordable access to housing near their workplaces.

346. CARB's new GHG Housing Measures, on their face and as applied to the sorely-needed development of new, affordable housing, are arbitrary and not rationally related to the furtherance of their purported regulatory goal of reducing overall GHG emissions.

H. CARB'S GHG Housing Measures Are "Underground Regulations" and Ultra Vires

347. A regulation is defined as "every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure." Gov. Code § 11342.600.

348. State agencies are required to adopt regulations following the procedures established in the APA and are prohibited from issuing and enforcing underground regulations. Gov. Code § 11340.5. Under the APA, an underground regulation is void.

349. Each of CARB's new GHG Housing Measures are being implemented by CARB, and other state and local agencies, without further rulemaking or compliance with the APA. The GHG Housing Measures are underground regulations requiring APA compliance, and cannot be

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housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, available at https://www.eia.gov/environment/emissions/state/.

lawfully implemented absent authorizing Legislation or formal rulemaking (inclusive of environmental and economic review as required by the APA).

350. CARB's new GHG Housing Measures infringe on areas reserved for other State agencies in two ways:

A. Senate Bill ("SB") 97 directs OPR to develop CEQA significance thresholds via the CEQA Guidelines. OPR's update does not include the Scoping Plan's presumptive CEQA GHG threshold. CARB was expressly allowed by the Legislature in SB 97 to adopt a CEQA significance threshold only in the context of updates to the CEQA Guidelines, which must undergo a rigorous rulemaking process. CARB has acted *ultra vires* and contrary to the express command of the Legislature in adopting its recommended CEQA significance threshold in the Scoping Plan.

B. California has adopted new building standards, which are designed to assure that new building code requirements are cost effective (with payback to the consumer). "Net zero" new home building standards were not included. CARB has no Legislative authority to bypass and frustrate this consumer protection law by using CEQA as a workaround to require "net zero".[142]

351. In articulating and publishing its new GHG Housing Measures, CARB has not complied with the APA's rulemaking procedures and requirements. As a consequence, CARB's new GHG Housing Measures are unlawful underground regulations, and should be held to be void and of no effect.

FIRST CAUSE OF ACTION

(Fair Employment and Housing Act, Gov. Code § 12955 *et seq.*)

352. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-351 above, as well as in paragraphs 358-458.

[142] See generally California Department of Housing and Community Development, State Housing Law Program Laws and Regulations, http://www.hcd.ca.gov/building-standards/state-housing-law/state-housing-laws-regulations.shtml.

353. The Fair Employment and Housing Act (Gov. Code , § 12955 *et seq.*) ("FEHA") provides, *inter alia*, that: "It shall be unlawful . . . (l) To discriminate through public or private land use practices, decisions, and authorizations, because of race, color, . . . national origin, source of income or ancestry."

354. CARB's new GHG Housing Measures, on their face and as applied, constitute public land use practices decisions and/or policies subject to the FEHA.

355. CARB's new GHG Housing Measures actually and predictably have a disparate negative impact on minority communities and are discriminatory against minority communities and their members, including but not limited to Petitioners RODRIGUEZ, MURILLO, and PEREZ.

356. CARB's new GHG Housing Measures and their discriminatory effect have no legally sufficient justification. They are not necessary to achieve (nor do they actually tend to achieve) any substantial, legitimate, nondiscriminatory interest of the State, and in any event such interests can be served by other, properly-enacted standards and regulations having a less discriminatory effect.

357. Because of their unjustified disparate negative impact on members of minority communities, including Petitioners, CARB's new GHG Housing Measures violate the FEHA, and should be declared unlawful and enjoined.

SECOND CAUSE OF ACTION

(Federal Housing Act and HUD Regulations, 42 U.S.C. § 3601 *et seq.*; 24 C.F.R. Part 100)

358. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-357 above, as well as paragraphs 368-458.

359. The Federal Housing Act (42 U.S.C. § 3601 *et seq.*) ("FHA") was enacted in 1968 to combat and prevent segregation and discrimination in housing. The FHA's language prohibiting discrimination in housing is broad and inclusive, and the purpose of its reach is to replace segregated neighborhoods with truly integrated and balanced living patterns.

360. In formal adjudications of charges of discrimination under the FHA over the past 20-25 years, the U.S. Department of Housing and Urban Development ("HUD") has consistently

concluded that the FHA is violated by facially neutral practices that have an unjustified discriminatory effect on the basis of a protected characteristic, regardless of intent.

361. Pursuant to its authority under the FHA, HUD has duly promulgated and published nationally-applicable federal regulations implementing the FHA's Discriminatory Effects Standard at 24 C.F.R. Part 100 (*see* 78 Fed.Reg. 11460-01 (February 15, 2013)) ("HUD Regulations"). These HUD Regulations continue to apply, and have the force and effect of law.

362. HUD Regulations provide, *inter alia*, that liability under the FHA may be established "based on a practice's discriminatory effect . . . even if the practice was not motivated by a discriminatory intent." 24 C.F.R. § 100.500.

363. HUD Regulations further provide that: "A practice has a discriminatory effect where it actually or predictably results in a disparate impact on a group of persons or perpetuates segregated housing patterns because of race, color, . . . or national origin."

364. CARB's GHG Housing Measures actually and predictably result in a disparate impact on members of minority communities, including but not limited to Petitioners, and perpetuates segregated housing patterns because of race, color, and/or national origin within the meaning of the FHA and HUD Regulations.

365. Because of the discriminatory effect of CARB's GHG Housing Measures, CARB has the burden of proving that these GHG Housing Measures do not violate the FHA as interpreted and implemented through the HUD Regulations.

366. CARB has not met, and cannot meet, its burden of trying to justify the discriminatory effect of its challenged GHG Housing Measures, which are not necessary to achieve the stated goals, which could and should be pursued through other measures having a less discriminatory effect.

367. Because CARB's GHG Housing Measures have an unjustified discriminatory effect on members of minority communities, including Petitioners, they violate the FHA as implemented though HUD Regulations. Consequently, CARB's GHG Housing Measures should be declared unlawful and enjoined, and Petitioners are entitled to other and further relief pursuant to 42 U.S.C. § 1983.

THIRD CAUSE OF ACTION

(Denial of Due Process, Cal. Const. Art. I, § 7; U.S. Const. Amd. 14, § 1)

368. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-367 above, as well as paragraphs 373-448.

369. Petitioners have a right to be free of arbitrary State regulations that are imposed without having first been presented to the public through duly-authorized rulemaking processes by Legislatively-authorized State agencies.

370. CARB's new GHG Housing Measures, individually and collectively, will inevitably cause serious harm to the ability of Petitioners and other members of disadvantaged minority communities to gain access to affordable housing, and have a disproportionate adverse impact on them.

371. CARB's new GHG Housing Measures are not rationally calculated to further the State's legitimate interest in reducing GHG emissions, on their face or as applied to housing projects in California. Instead, CARB's new GHG Housing Measures are both arbitrary and counterproductive in terms of actually achieving their purported goals of GHG emission reductions.

372. For these reasons, CARB's GHG Housing Measures have been issued in violation of, and constitute substantive violations of, the Due Process Clauses of the California and United States Constitutions. (Cal. Const. Art. 1, § 7; U.S. Const. Amd. 14, § 1,)

FOURTH CAUSE OF ACTION

(Denial of Equal Protection, Cal. Const. Art. I, § 7, Art. IV § 16; U.S. Const. Amd. 14, § 1)

373. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-372 above, as well as 382-458.

374. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

375. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

376. CARB's GHG Housing Measures disproportionately affect members of minority communities, including Petitioners RODRIGUEZ, MURILLO and PEREZ, by making affordable housing unavailable to them, as compared with non-minority homeowners unaffected by the new GHG regulations, while imposing arbitrary, counter-productive State regulations and standards.

377. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

378. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

379. Petitioners warned CARB about the racially discriminatory aspects of the Scoping Plan prior to CARB's finalizing and issuing the Scoping Plan. Despite Petitioners' warning, CARB disregarded these impacts and issued the Scoping Plan without changes. On information and belief, CARB did so with the intent to disproportionately cause harm to racial minorities, including minority communities of which Petitioners are members.

380. CARB's GHG Housing Measures violate the equal protection provisions of the California Constitution because they make access to new, affordable housing a function of race.

381. CARB's GHG Housing Measures violate the equal protection clause of the United States Constitution because they make access to new, affordable housing a function of race.

FIFTH CAUSE OF ACTION

(Violations of CEQA, Pub. Res. Code § 21000 *et seq.* and CEQA Guidelines, 14 C.C.R. § 15000 *et seq.*)

382. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-381 above, as well as paragraphs 395-458.

383. CARB violated CEQA by approving the 2017 Scoping Plan in violation of the Act's requirements and by certifying a legally deficient environmental analysis.

384. CARB did not write its Final EA in plain language so that members of the public could readily understand the document.

385. CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan and thus the "project" for CEQA purposes should have included potential direct and indirect impacts on the environment from the four GHG Housing Measures. CARB did not include an analysis of the four GHG Housing Measures in the EA.

386. CARB did not base its Final EA on an accurate, stable, and finite project description. The EA did not include the four GHG Housing Measures in its project description. For this reason CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes. The project description was misleading, incomplete, and impermissibly vague.

387. CARB did not properly identify the Project objectives in its EA.

388. CARB's unlawful use of the "cumulative gap" methodology created multiple legal deficiencies in the EA, including in the project description, project objectives, and impact analysis. Had CARB used the appropriate project objective—reducing GHG 40% below the 1990 California GHG inventory by 2030—the estimated 1% of GHG reductions (1.79 tons per year) achieved by the GHG Housing Measures would have been entirely unnecessary, and all disparate and unlawful adverse civil rights, environmental, housing, homelessness, poverty, and transportation consequences of the GHG Housing Measures could have been avoided.

389. At most, CARB could have clearly identified its "cumulative gap" methodology as an alternative to the project that would have further reduced GHG emissions beyond the SB 32 statutory mandate, to further inform the public and decisionmakers of the comparative impacts and consequences of SB 32's legislated GHG reduction mandate, and the more substantial GHG reductions sought by CARB staff. CARB's failure to use the SB 32 statutory mandate of achieving 40% GHG reduction from 1990 levels as of 2030 is a fatal legal flaw.

390. CARB also failed to adequately evaluate the direct, indirect, and cumulative environmental impacts of the 2017 Scoping Plan in its Final EA, even after commenters identified

numerous review gaps in their comments on the Draft EA. As discussed above, CARB was fully on notice of the scale and nature of the impacts associated with the GHG Housing Measures based on CARB's review and approval of more than a dozen regional plans to intensify housing densities near transit, and improve public transit, from all of California's most significant population centers; each of these regional plans identified multiple unavoidable significant adverse environmental impacts from implementation of current plans. The deficiencies in the Final EA include but are not limited to the following:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

391. As stated above, although the Scoping Plan's CEQA threshold is not binding on a lead agency, it nevertheless has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. Thus, the Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

392. As a result of these defects in the Final EA, CARB prejudicially abused its discretion by certifying an EIR that does not comply with CEQA and by failing to proceed in the manner required by law.

393. Petitioners objected to CARB's approvals of the GHG Housing Measures prior to the close of the final public hearings on CARB's 2017 Scoping Plan and raised each of the legal deficiencies asserted in this Petition.

394. Petitioners have performed all conditions precedent to the filing of this Petition, including complying with the requirements of Pub. Res. Code section 21167.5 by serving notice of the commencement of this action prior to filing it with this Court.

SIXTH CAUSE OF ACTION

(Violations of APA, Gov. Code § 11346 *et seq.*)

395. Petitioners hereby re-allege and re-incorporate herein by reference the allegations of paragraphs 1-394 above, as well as paragraphs 405-458.

396. Under the APA and other applicable law, CARB is required to comply with regulations issued by the Department of Finance ("DOF") before issuing a "major regulation." Specifically, the APA (Gov. Code § 11346.3(c)) requires that CARB prepare a standardized regulatory impact assessment ("SRIA") in a form, and with content, that meets requirements set by the DOF in its separate regulations (1 C.C.R. § 2000 *et seq.*).

397. CARB's GHG Housing Measures constitute a major regulation subject to the APA's requirement that such regulations be promulgated in compliance with DOF regulations.

398. Section 2003 of DOF regulations (1 C.C.R. § 2003(a)) ("Methodology for Making Estimates") provides that, "[i]n conducting the SRIA required by Section 11346.3", CARB "shall use an economic impact method and approach that has all of the following capabilities:

(1) Can estimate the total economic effects of changes due to regulatory policies over a multi-year time period.

(2) Can generate California economic variable estimates such as personal income, employment by economic sector, exports and imports, and gross state product, based on inter-

industry relationships that are equivalent in structure to the Regional Industry Modeling System published by the Bureau of Economic Analysis.

(3) Can produce (to the extent possible) quantitative estimates of economic variables that address or facilitate the quantitative or qualitative estimation of the following.

(A) The creation or elimination of jobs within the state;

(B) The creation of new businesses or the elimination of existing businesses within the state;

(C) The competitive advantages or disadvantages for businesses currently doing business within the state;

(D) The increase or decrease of investment in the state;

(E) The incentives for innovation in products, materials, or processes; and

(F) The benefits of the regulations, including but not limited to benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency."

399. DOF regulations require that DOF's "most current publicly available economic and demographic projections, which may be found on the department's website, shall be used unless the department approves the agency's written request to use a different projection for a specific proposed major regulation." 1 C.C.R. § 2003(b).

400. DOF regulations also provide that: "An analysis of estimated changes in behavior by businesses and/or individuals in response to the proposed major regulation shall be conducted and, if feasible, an estimate made of the extent to which costs or benefits are retained within the business and/or by individuals or passed on to others, including customers, employees, suppliers and owners." 1 C.C.R. § 2003(f).

401. In grafting its new GHG Housing Measures onto the 2017 Scoping Plan, CARB has failed to comply with the APA, including DOF regulations applicable to CARB.

402. More significantly, and consistent with the LAO's repeated findings that the CARB analysis methodology fails to provide sufficiently detailed information about impacts to individuals, households and businesses, CARB's 2017 Scoping Plan completely ignores the fact

that California has the greatest inequality in the United States, and that energy costs, loss of energy-intensive jobs and housing costs related to Scoping Plan policies play a major role in that unwanted outcome. To fulfill its statutory mandates, CARB must start by recognizing that, as meticulously documented in a United Way Study, more than 30% of all California households lack sufficient means to meet the real cost of living in the state.

403. In addition, as described above, by using the unlawful "cumulative gap" methodology to calculate the GHG reductions it claims are needed in the 2017 Scoping Plan, CARB improperly created inputs for the FA that render the entire document invalid.

404. In its present form, the Scoping Plan embodies multiple violations of the APA and should be set aside as unlawful and void.

SEVENTH CAUSE OF ACTION

(Violations of the California Global Warming Solutions Act, Health & Safety Code § 38500 *et seq.*)

405. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-404 above, as well as paragraphs 413-458.

406. The GWSA provides in pertinent part that, in promulgating GHG regulations, CARB "shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health."

407. In responses to Petitioners' comments on the 2017 Scoping Plan, CARB has acknowledged that Chapter 5 of the Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[143] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

408. CARB's assertion that the new GHG Housing Measures set out in Chapter 5 of the Scoping Plan do not constitute "major regulations" is belied by their content and the legal and regulatory setting in which they were issued, as described above.

409. Each scoping plan update must also identify for each emissions reduction measure, the range of projected GHG emission reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

410. The 2017 Scoping Plan contains no such analysis for CARB's new GHG Housing Measures. The Plan lists potential emission reductions from the "Mobile Source Strategy" which includes the VMT reduction requirements, but does not analyze proposed emission reductions, projected air pollution reductions, or cost-effectiveness of the other measures.

411. CARB's new GHG Housing Measures, as set out in its 2017 Scoping Plan, were issued in violation of some or all of the specific statutory requirements set out in the GWSA, as described above.

[143] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

412. As a consequence, CARB's new GHG Housing Measures were adopted in a manner that is contrary to law, and should be set aside.

EIGHTH CAUSE OF ACTION

(Violations of the Health & Safety Code, § 39000 *et seq.*, including the California Clean Air Act, Stats. 1988, ch. 1568 (AB 2595))

413. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-412 above, as well as paragraphs 437-458.

414. California has ambient air quality standards ("CAAQS") which set the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment.

415. CAAQS are established for particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2"), sulfate, carbon monoxide ("CO"), sulfur dioxide ("SO_2"), visibility-reducing particles, lead, hydrogen sulfide ("H_2S"), and vinyl chloride.

416. In California, local and regional authorities have the primary responsibility for control of air pollution from all sources other than motor vehicles. H&S Code § 39002.

417. Under the California Clean Air Act ("CCAA"), air districts must endeavor to achieve and maintain the CAAQS for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practicable date. H&S Code § 40910. Air districts must develop attainment plans and regulations to achieve this objective. *Id.*; H&S Code § 40911.

418. Each plan must be designed to achieve a reduction in districtwide emissions of five percent or more per year for each nonattainment pollutant or its precursors. H&S Code § 40914(a). CARB reviews and approves district plans to attain the CAAQS (H&S Code § 40923; 41503) and must ensure that every reasonable action is taken to achieve the CAAQS at the earliest practicable date (H&S Code § 41503.5).

419. If a local district is not effectively working to achieve the CAAQS, CARB may establish a program or rules or regulations to enable the district to achieve and maintain the CAAQS. H&S Code § 41504. CARB may also exercise all the powers of a district if it finds the

district is not taking reasonable efforts to achieve and maintain ambient air quality standards. H&S Code § 41505.

420. Fresno County is part of the San Joaquin Valley Air Pollution Control District ("SJVAPCD"). The SJVAPCD is currently nonattainment/severe for the CAAQS for ozone and nonattainment for PM.

421. The vast majority of California is designated nonattainment for the CAAQS for ozone and PM.

422. Nitrogen oxides, including NO_2, CO, and volatile organic compounds ("VOCs") are precursor pollutants for ozone, meaning they react in the atmosphere in the presence of sunlight to form ozone.

423. PM is a complex mixture of extremely small particles and liquid droplets found in the air which can cause serious health effects when inhaled, including asthma and other lung issues and heart problems. Some particles are large enough to see while others are so small that they can get into the bloodstream. PM is made up of PM_{10} (inhalable particles with diameters 10 micrometers and smaller) and $PM_{2.5}$ (fine inhalable particles with diameters 2.5 micrometers and smaller).

424. PM emissions in California and in the SJVAPCD increased in 2016 as compared to prior years.

425. As detailed above, the VMT reduction requirements in the 2017 Scoping Plan will result in increased congestion in California.

426. Increasing congestion increases emissions of multiple pollutants including NO_x, CO, and PM. This would increase ozone and inhibit California's ability to meet the CAAQS for ozone, NO_2, and PM, among others.

427. Because CARB intends to achieve the VMT reduction standard by intentionally increasing congestion, which will increase emissions of criteria pollutants such as NO_2 and PM, CARB is violating its statutory duty to ensure that every reasonable action is taken to expeditiously achieve attainment of the CAAQS.

428. In addition to a responsibility under the CCAA to meet the CAAQS, CARB has a statutory duty under the Health & Safety Code to ensure that California meets the National Ambient Air Quality Standards ("NAAQS") set by the EPA.

429. Like the CAAQS, the NAAQS are limits on criteria pollutant emissions which each air district must attain and maintain. EPA has set NAAQS for CO, lead, NO_2, ozone, PM, and SO_2.

430. CARB is designated the air pollution control agency for all purposes set forth in federal law. H&S Code § 39602. CARB is responsible for preparation of the state implementation plan ("SIP") required by the federal Clean Air Act ("CAA") to show how California will attain the NAAQS. CARB approves SIPs and sends them to EPA for approval under the CAA. H&S Code § 40923.

431. While the local air districts have primary authority over nonmobile sources of air emissions, adopt rules and regulations to achieve emissions reductions, and develop the SIPs to attain the NAAQS (H&S Code § 39602.5), CARB is charged with coordinating efforts to attain and maintain ambient air quality standards (H&S Code § 39003) and to comply with the CAA (H&S Code § 39602).

432. CARB also must adopt rules and regulations to achieve the NAAQS required by the CAA by the applicable attainment date and maintain the standards thereafter. H&S Code § 39602.5. CARB is thus responsible for ensuring that California meets the NAAQS.

433. SJVAPCD is nonattainment/extreme for the ozone NAAQS and nonattainment for $PM_{2.5}$.

434. The vast majority of California is nonattainment for the ozone NAAQS and much of California is nonattainment for PM_{10}.

435. It is unlawful for CARB to intentionally undermine California's efforts to attain and maintain the NAAQS by adopting measures in the 2017 Scoping Plan that will increase NOx and PM by intentionally increasing congestion in an attempt to lower VMT to purportedly achieve GHG emission reductions.

436. In adopting the VMT reduction requirements in the 2017 Scoping Plan, CARB is violating its statutorily mandated duty in the Health & Safety Code to attain and maintain the NAAQS, and preventing the local air districts from adequately discharging their duties under law to do everything possible to attain and maintain the NAAQS.

NINTH CAUSE OF ACTION

(Violations of the APA - Underground Regulations, Gov. Code § 11340 – 11365)

437. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-436 above, as well as paragraphs 442-458.

438. As explained above, the GHG Housing Measures are standards of general application for state agencies and standards to implement and interpret the 2017 Scoping Plan and the reductions in GHG emissions it is designed to achieve.

439. The four GHG Housing Measures in CARB's 2017 Scoping Plan are underground regulations in violation of APA standards requiring formal rulemaking.

440. As to the CEQA net zero GHG threshold specifically, the Legislature directed OPR to adopt CEQA guidelines as regulations and CEQA itself requires that public agencies that adopt thresholds of significance for general use must do so through ordinance, resolution, rule, or regulations developed through a public review process. CEQA Guidelines § 15064.7(b). Thus, any state agency that purports to adopt CEQA guidelines must do so via regulations, following the full formal rulemaking process in the APA.[144]

441. CARB has not adopted the GHG Housing Measures through a public review process and thus it violates the APA.

[144] *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App. 5th 1067 (stating that air district adoption of CEQA guidelines, including GHG thresholds of significance, must be adopted as regulations, including with public notice and comment, and are not mere advisory expert agency opinion).

TENTH CAUSE OF ACTION

(Ultra Vires Agency Action, Code of Civil Proc. §1085)

442. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-441 above.

443. In adopting the 2017 Scoping Plan, including the GHG Housing Measures, CARB has acted beyond its statutorily delegated authority and contrary to law.

CEQA Net Zero GHG Threshold

444. The 2017 Scoping Plan would apply a CEQA net zero GHG emissions threshold to all CEQA projects. CEQA applies to the "whole of a project", which includes construction activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities.

445. This threshold is unlawful under *Newhall, supra,* 62 Cal.4th 204, and other current California precedent affirming that compliance with law is generally an acceptable CEQA standard. This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts. *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708.

446. This threshold is also unlawful under OPR's GHG CEQA rulemaking package which stated that there was not a CEQA threshold requiring no net increase in GHG emissions (i.e., no one molecule rule). *See* "Final Statement of Reasons for Regulatory Action", Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97, Dec. 2009, p. 25 ([n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA. (CBE, *supra,* 103 Cal.App.4th 120)").

Regulating In An Attempt to Achieve the 2050 GHG Emission Reduction Goal

447. CARB also acted ultra vires by attempting to mandate GHG Housing Measures that purportedly would help California achieve the 2050 GHG reduction goal in Executive Order S-3-05.

448. CARB has no Legislative authority to regulate towards achieving the 2050 goal, a GHG emission reduction target which has not been codified and which the Legislature has repeatedly refused to adopt. Mandating actions in an attempt to reach the 2050 goal is outside CARB's statutory authority under the GWSA which only contains GHG emission reduction standards for 2020 and 2030.

449. The Legislative Analyst's Office has stated that, based on discussions with Legislative Counsel, it is unlikely that CARB has authority to adopt and enforce regulations to achieve more stringent GHG targets. LAO report, p. 7.

VMT Reduction Requirements

450. In addition, the VMT reduction standards mandated in the Scoping Plan are ultra vires and beyond CARB's statutory authority.

451. The Legislature rejected legislation as recently as 2017 requiring VMT reductions/standards.

452. The only agency authorized to consider VMT under CEQA is OPR under SB 743. OPR's proposed SB 743 regulations are going through a formal rulemaking process now and CARB cannot jump the gun and, with zero statutory authority, adopt VMT regulations in the 2017 Scoping Plan.

SB 97 and OPR Promulgation of CEQA Guidelines

453. Similarly, the only method by which the Legislature authorized OPR (with CARB's permissive but not mandatory cooperation) to adopt new CEQA significance thresholds is via updates to the CEQA Guidelines.

454. OPR has not included CARB's new GHG Housing Measures in its proposed new Guidelines, and CARB has no authority to make an "end run" around the rulemaking process established by the Legislature.

New Building Code Requirements

455. The Legislature has enacted new consumer protection requirements, including new building standards, designed to assure that new building code requirements are cost effective.

CARB's "net zero" new home building standard was not included in these new building standards.

456. CARB has no Legislative authority to impose new "net zero" building standards.

457. CARB's new "net zero" building standards are contrary to, and will substantially frustrate, the Legislature's purpose in adopting new building code requirements.

458. CARB's decision to adopt the 2017 Scoping Plan and the GHG Housing Measures within it was also fraught with procedural defects, including violations of the APA, CEQA, and GWSA, as explained above. These procedural defects are further actions that are *ultra vires* and were taken contrary to law.

PRAYER FOR RELIEF

WHEREFORE Petitioners THE TWO HUNDRED, including LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, request relief from this Court as follows:

A. For a declaration, pursuant to Code of Civil Procedure § 1060, that the following GHG regulations and standards, as set out in CARB's Scoping Plan, are unlawful, void, and of no force or effect:

- The Vehicle Miles Traveled ("VMT") mandate.
- The Net Zero CEQA threshold
- The CO2 per capita targets for local climate action plans for 2030 and 2050

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- The "Vibrant Communities" policies in Appendix C.

B. For a writ of mandate or peremptory writ issued under the seal of this Court pursuant to Code of Civil Procedure § 1094.5 or in the alternative § 1085, directing Respondents to set aside the foregoing provisions of the Scoping Plan and to refrain from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

C. For permanent injunctions restraining Respondents from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

D. For an award of their fees and costs, including reasonably attorneys' fees and expert costs, as authorized by Code of Civil Procedure § 1021.5, and 42 U.S. Code section 1988.

E. That this Court retain continuing jurisdiction over this matter until such time as the Court has determined that CARB has fully and properly complied with its Orders.

F. For such other and further relief as may be just and appropriate.

Dated November 21, 2018

Respectfully submitted,

HOLLAND & KNIGHT LLP

By: _____

Jennifer L. Hernandez
Charles L. Coleman III
Marne S. Sussman
David I. Holtzman

Attorneys for Plaintiffs/Petitioners
THE TWO HUNDRED, LETICIA RODRIGUEZ, TERESA MURILLO, GINA PEREZ, *et al.*

VERIFICATION

I, Jennifer L. Hernandez, am one of the attorneys for, and am a member of, THE TWO HUNDRED, an unincorporated association, Plaintiffs/Petitioners in this action. I am authorized to make this verification on behalf of THE TWO HUNDRED and its members named herein. I have read the foregoing FIRST AMENDED VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF and know the contents thereof. I am informed and believe and on that ground allege that the matters stated therein are true. I verify the foregoing Petition and Complaint for the reason that Plaintiffs/Petitioners named in the Petition/Complaint are not present in the county where my office is located.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 21st day of November, 2018, at San Francisco, California.

JENNIFER L. HERNANDEZ

Holland & Knight LLP
50 California Street, 28th Floor
San Francisco, CA 94111
Tel: (415) 743-6900
Fax: (415) 743-6910

PROOF OF SERVICE

THE TWO HUNDRED, et al. v. CALIFORNIA AIR RESOURCES BOARD, et al.
County of Fresno Superior Court, Case No. 18CECG01494

I, the undersigned, hereby declare that I am over the age of 18 years and not a party to the above-captioned action. My business address at Holland & Knight is 50 California Street, 28th Floor, San Francisco, California 94111-4624. On November 21, 2018, the following documents were served:

FIRST AMENDED VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF (WITH EXHIBIT NOS. 1-3)

on all parties to this action at the following addresses in the following manner:

John S. Sasaki
California Department of Justice
Office of the Attorney General
300 S. Spring Street
Los Angeles, CA 90013-1230
Telephone: (213) 269-6336
Email: john.sasaki@doj.ca.gov

☒ **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via the electronic mail transfer system in place at Holland & Knight, LLP, originating from the undersigned at 50 California Street, Suite 2800, San Francisco, California, to the addresses indicated above.

☒ **(BY MAIL)** I caused a true copy of each document(s) to be placed in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United States Postal Service collection box for pickup and delivery that same day.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct of my own personal knowledge, and that I executed this document on November 21, 2018 at San Francisco, California.

Myrna M. Yee

Jennifer L. Hernandez (State Bar No. 114951)
HOLLAND & KNIGHT LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: (213) 896-2400
Fax: (213) 896-2450
Email: jennifer.hernandez@hklaw.com

Attorneys for Petitioners/Plaintiffs
THE TWO HUNDRED, et al.

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN BERNARDINO

THE TWO HUNDRED, an unincorporated association of civil rights leaders, and individuals JASON CORDOVA and LYNN BROWN-SUMMERS,

Petitioners/Plaintiffs,

vs.

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, CALIFORNIA NATURAL RESOURCES AGENCY, OFFICE OF ADMINISTRATIVE LAW, and DOES 1-50,

Respondents/Defendants.

Case No.: _____

VERIFIED PETITION FOR WRIT OF MANDATE AND COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

[Cal. Code Civ. Proc. §§ 1085, 1094.5, 1060, 526; Gov. Code § 12955 *et seq.* (FEHA); 42 U.S.C. § 3601 *et seq.*, 24 C.F.R. Part 100 (FHA); Cal. Const. Art. I, § 7; Art. IV, § 16; U.S. Const. Amd. 14, § 1; 42 U.S.C. § 1983; Cal. Const. Art. III, § 3; Pub. Res. Code § 21000 *et seq.* (CEQA); Gov. Code § 11340 *et seq.* (APA); H&S Code § 38500 *et seq.* (GWSA); H&S Code § 39000 *et seq.* (CCAA); Gov. Code § 65088 *et seq.* (Congestion Management Plan); Gov. Code §§ 65300 *et seq.* and § 65584 (General Plan Laws and Regional Housing Needs Assessment Law)]

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

I. INTRODUCTION AND SUMMARY OF REQUESTED RELIEF

1. This is a civil rights lawsuit. Petitioner The Two Hundred includes many of California's longstanding civil rights advocates, joined by former leaders in the Legislature and a former Cabinet member responsible for housing (members of the Democratic Party), as well as environmental and housing leaders. The Two Hundred is focused on increasing home ownership for California's minority residents to overcome more than a century of an ever-evolving suite of racially discriminatory "redlining" housing practices implemented by public agencies and private institutions. Homeowners have forty-four times more wealth than renters and homeownership is by far the most successful pathway for American families to create wealth. Homeownership provides multi-generational advantages to families beyond stable housing, such as home equity that can be tapped to support college costs, provide down payment assistance to future generations, and fund households during the income downturns caused by medical conditions, job transitions, and old age.

2. The Two Hundred supports protection of the environment, and California's commitment to be a global leader in the war on climate change. However, California's power in this war must be made clear: greenhouse gas ("GHG") emissions in California comprise less than 1% of anthropogenic global GHG emissions, and former Governor Jerry Brown recognized that California's own efforts to reduce GHG would be "futile" unless other states and nations were persuaded to follow our lead.

3. The Two Hundred rejects the necessity and legality of Respondents' decision to make California's minority communities the collateral damage in their war on climate change through the promulgation of unlawful regulations adopted in December of 2018 that purport to implement the California Environmental Quality Act (Pub. Res. Code § 21000 *et seq.*, "CEQA"), which have and will continue to worsen the housing crisis and cause disparate harm to California's minority communities.

4. Petitioners challenge five new CEQA regulations, one regulatory appendix, and two "underground" regulations, which collectively create more CEQA delays and litigation

obstacles to approved housing, and impose tens to hundreds of thousands of new CEQA "mitigation" costs on the remaining fraction of new housing that can still be purchased by California's median income earners (a majority of whom are now racial minorities). These unlawful revisions to CEQA, which are collectively referred to herein as "Redlining Revisions," violate the federal and state Constitutions, federal and state fair housing laws, and several state environmental and administrative law statutes, as described in the fifteen causes of action set forth herein.

5. ***California's housing crisis is real, is racially discriminatory – and it worsens climate change.*** In legislation approved and signed by the Governor in 2019,[1] the state's elected leaders concluded that California has an "unmet housing backlog of nearly 2,000,000 units" and "at least 180,000 new housing units annually" is needed through 2025. California is achieving barely over half of this production goal, and housing production has actually declined rather than increased: less housing was permitted in 2018 than 2017, and less housing was permitted in 2019 than 2018. The housing crisis is getting worse, not better.

6. ***The housing crisis is not simply a shelter problem.*** Our elected leaders concluded that housing "is a critical problem that threatens the economic, environmental and social quality of life in California," that "California housing has become the most expensive in the nation," and that California "has a housing supply and affordability crisis of historic proportions." Further, "[w]hen Californians have access to safe and affordable housing, they have more money for food and health care; they are less likely to become homeless and in need of government-subsidized services; their children do better in school; and businesses have an easier time recruiting and retaining employees."[2]

7. ***The housing crisis is not color blind: minority Californians are the most harmed***. Our elected leaders concluded that the housing crisis has resulted in "discrimination

[1] Stats. 2019, ch. 654 (S.B. 330).

[2] *Id.*

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

against low-income and minority households."[3] The housing crisis has virtually eviscerated the housing equity progress made by landmark civil rights laws of the 1960s: California's overall homeownership rate is at its lowest level since the 1940s, and the majority of California renters pay too much in rent – nearly one-third pay more than half of their income on rent. The housing crisis has also led to California having the nation's highest poverty and homelessness rates in the nation, and minorities are disproportionately included in the ranks of the state's poor and homeless.

8. ***Our own laws, regulations and other policy choices are a major cause of the housing crisis***. Our elected leaders acknowledged that policy choices are partly to blame for this historic and discriminatory housing crisis: "While the causes of this crisis are multiple and complex, the absence of meaningful and effective policy reforms to significantly enhance the approval and supply of housing affordable to Californians of all income levels is a key factor."[4]

9. ***The housing crisis actually worsens climate change, undermining California's role as a global climate leader***. Our elected leaders agreed that our ongoing failure to solve the housing crisis was increasing global GHG emissions instead of reducing them, as required by California's climate laws and desired role as a global climate leader:

> An additional consequence of the state's cumulative housing shortage is a significant increase in greenhouse gas emissions caused by the displacement and redirection of populations to states with greater housing opportunities, particularly working- and middle-class households. California's cumulative housing shortfall therefore has not only national but international environmental consequences.[5]

10. ***Entrenched special interest groups, including environmentalists, block meaningful housing policy reforms.*** While SB 330 and other enacted legislative housing policy findings present the legal and political truth, in the judgment of our elected representatives and their experts, of the causes, discriminatory consequences, and negative environmental and climate outcomes of the California housing crisis, fierce political battles are continuously waged among

[3] *Id.*
[4] *Id.*
[5] *Id.*

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

California's powerful special interest groups over any reforms to state policies that would actually allow for the more timely construction of less costly housing – the housing that is actually and urgently needed by California's voters and residents. Among the most entrenched, "third rail" housing reform battlegrounds is CEQA, which is used by anonymous groups, business competitors, labor unions, anti-development environmentalists, only-the-most-costly-housing-allowed climate advocates, and residents who have concluded that adding more housing will further worsen stressed public services and aging infrastructure and cause traffic gridlock. Any of these parties can threaten, or file, a CEQA lawsuit against housing – and campaign against any local or state politician that seeks to approve housing over their objections. The fact is that housing remains the top statewide target of all CEQA lawsuits filed over the past decade, and in 2018 60% of all statewide CEQA lawsuits challenging any form of development project targeted new housing.[6]

11. ***Amending CEQA regulations to make housing more expensive and easier to challenge in CEQA lawsuits, is not required for any authorized "environmental" purpose – it is just another of a long list of discriminatory anti-housing "redlining" practices with the intended and actual consequence of depriving minority Californians of homeownership***. CEQA was enacted in 1970, before federal and state environmental laws to protect the coast, endangered species, water, and air quality; to conserve energy and water; and to protect public lands and parks. Environmental laws work – before the federal and state clean air laws were enacted in the early 1970s, smog was so bad that for weeks on end people could see, smell, and taste – and a nasty taste it was – the air in the Los Angeles air basin. Over the next forty years, sweeping new legal mandates to improve the air were implemented, and as of the last year of President Obama's administration the United States Environmental Protection Agency ("U.S. EPA") proudly announced that smog-forming tailpipe emissions from the nation's fleet of cars and pickup trucks had been reduced by 99%. Regulatory action dramatically improved air quality with mandates for

[6] Hernandez, *California Getting In Its Own Way: In 2018, Housing Targeted in 60% of Anti-Development CEQA Lawsuits*, Chapman University (Dec. 2019), https://www.chapman.edu/communication/_files/ca-getting-in-its-own-way.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

cleaner engine technologies and fuels – even as the nation's population, vehicle fleet, and vehicle miles traveled ("VMT") all increased, as did the size of the economy. Progress to end smog-creating tailpipe emissions was made via formal rulemaking procedures that were required to transparently rank different potential regulations based on pollution reduction effectiveness and costs to consumers and other stakeholders. The most effective and least costly measures were undertaken first, and those which were ineffective or more costly were rejected or put on hold. Tailpipe smog reductions also reduced by about 20%, as a non-planned outcome, tailpipe emissions of carbon dioxide ("CO_2") that we now are intent on reducing as a GHG. Now prioritized GHG reductions, including electric and hybrid cars, are well underway. What was never approved as a state statute or regulation, even as we reduced 99% of targeted emissions from cars, were radical "environmental" proposals such as the forced reduction of populations, and mandatory prohibitions on the use of cars. When openly debated and compared with other pollution reduction measures in a transparent rulemaking or legislative context, these proposals never made the cut.

12. ***Reducing GHG emissions by increasing housing costs and litigation obstacles under CEQA is not an effective GHG emission reduction measure.*** Even at the height of the war against emissions that produced smog, neither the Legislature nor any state agency mandated that buyers and renters pay tens of thousands of dollars in CEQA "mitigation" fees to have someone else, somewhere else, reduce smog to "net zero" and thereby offset the smog caused by the construction and future occupancy of a new house. Similarly, the last war did not suggest that buyers and renters must pay hundreds of thousands of dollars in CEQA "mitigation" fees to have someone else, somewhere else, reduce "vehicle miles traveled" and offset the VMT produced from the construction and occupancy of houses by people who depend on a car for their transportation needs. With our new war on GHG emissions and climate change, but without any authorizing legislation or regulations, the Redlining Revisions have done just this and simply ignored the fact that neither the Legislature, nor any court interpretation of CEQA, allows any agency during today's housing crisis to impose hundreds of thousands of dollars of new cost

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

burdens and litigation obstacles on new housing. In contrast, the Redlining Revisions repeatedly rely on an unlegislated non-regulation "Scoping Plan" approved by the California Air Resources Board ("CARB") in 2017 to stridently and repeatedly assert that significant but unknown quantities of GHG emission reductions and VMT reductions must be extracted from new housing under CEQA – and sternly exhort the hundreds of cities and counties responsible for approving housing to figure the specifics out for themselves, for each project, to avoid approving housing that causes significant impacts to global climate change. Reducing the most potent "black carbon" emissions with serious efforts to prevent catastrophic forest fires, imposing GHG costs on luxury imports or plane flights of the wealthy, and retrofitting older buildings with energy efficient features, will all result in substantial and quantified GHG reductions that do not place yet another racially disparate burden on housing crisis victims. In contrast, no Respondent has agreed to quantify either the effectiveness or the cost of climate change benefits of the Redlining Revisions. Respondents do proudly proclaim their conclusion that the Redlining Revisions will enhance "wellness" by "encouraging walking and biking" – none of which is a statutorily authorized objective of CEQA.

13. ***Redlining Revisions intended to end attainable homeownership, and force new million dollar apartments with residents who work at home or ride the bus.*** Respondents' avowed policy objective is that California's new housing must be built in 6-20+ story buildings at commuter bus stops and metro stations, where extraordinarily complex buildings and the high land costs required to displace existing neighborhood uses mean that even small two bedroom family units already cost $1 million or more. Because small starter homes, duplexes and townhomes can be built and sold to aspiring homeowners at less than half that price, Respondents have weaponized CEQA to impose over $400,000 per unit in new VMT and GHG mitigation fees to discourage what they deride (but likely grew up in, and occupy now) as suburban "sprawl" – even though California's new housing must comply with solar rooftop and green building requirements, even though California's elected leaders have already mandated clean energy and clean vehicles, and even though billions of transit dollars have not stemmed transit ridership losses, especially among

Latino and other minority workers who need to get to their job, on time, to be paid – and must drive to do so. Respondents simply refuse to acknowledge the housing crisis, or any duty to help solve it – because fewer people means less GHG generated in California, and thus advances their laser focus on meeting California's unlegislated 80% GHG reduction target by 2050, even if the state's future population is limited to the wealthy and what CARB calls "service population." In Respondents' hardened climate silo, increasing all future housing prices to $1 million or more and driving "those people" (browner, younger, poorer) to Texas is a dream come true, and cows rather than people can occupy the 94.7 percent of non-urbanized California.

14. ***The Redlining Revisions are racially biased, and Respondents had actual knowledge that they would worsen the housing, poverty, and homeless crisis – and cause disparate harm to minorities.*** It is no coincidence that the GHG and VMT Redlining Revisions place zero new cost burdens on California's majority-white existing homeowners, even though far more GHGs are emitted in heating and cooling drafty mansions (and other existing buildings) than the small fraction of GHGs from energy-conserving new homes which must be built with solar roofs and other costly GHG-reducing green building features. It is simply much easier, given this inherent racial bias, for environmentalists (including those leading Respondent agencies during the time the Redlining Revisions were adopted) to enforce redlining policies that cause disparate harm to minorities. As reported by the immediate past president of the Sierra Club Board of Directors, as well as numerous other sources, racism is pervasive in the environmental movement and the Redlining Revisions represent the apex of the climate activism of the Brown Administration.[7]

15. ***Radical anti-housing CEQA expansions conflict with enacted pro-housing priorities.*** Any honest or transparent rulemaking process which ranks GHG reduction measures on factors such as effectiveness, fairness, and avoiding racially disparate and economically regressive impacts would confirm the Legislature's own conclusion that imposing more costs on housing, and

[7] Mair, *A Deeper Shade of Green*, Sierra Club (Mar. 9, 2017), https://www.sierraclub.org/change/2017/03/deeper-shade-green.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

further exacerbating the weaponization of CEQA, is discriminatory, worsens climate change, and undermines California's climate leadership. The Redlining Revisions underwent no such transparent rulemaking process, nor did CARB's unlegislated, non-regulation Scoping Plan, which requires VMT reductions and "net zero" GHG housing projects. Respondents' purported economic assessment of the Redlining Revisions promised non-existent, fanciful cost reductions over the objections and observations of scores of experts and interested stakeholders including Petitioners. Just under one year after the effective date of the Redlining Revisions, promised CEQA cost increases have occurred, anti-housing CEQA lawsuits continue to proliferate, new housing production is down, and the cost of housing has increased.

16. ***Litigation enforcing civil rights laws is Petitioners' only viable remedy to rescind the Redlining Revisions.*** Although Governor Brown called CEQA reform "the Lord's work," by the end of his two terms he acknowledged it was politically impossible.[8] Governor Newsom has made no progress with CEQA in his first year, and housing production has continued to decline. Implementing even one of Respondents' new CEQA expansions - requiring new housing to actually reduce total (not per capita or per household) VMT in the area of the project - would add hundreds of thousands of dollars to the cost of a new home, and disqualify 2,620,616 California households from purchasing a median priced home. Those priced out are the same majority-minority households that are already disproportionately victimized by California's housing crisis. Respondents' Redlining Revisions have converted our housing crisis into a housing conflagration.

17. ***Judicial protection of civil rights against politically powerful extremists is urgently needed to address California's ongoing housing crisis.*** During the closing hours of the Brown administration, Respondents transformed CEQA from a quirky 1970 environmental statute into a racist, anti-housing, anti-homeownership, civil rights abomination. This complaint provides detailed factual and legal background on Respondents' unlawful hijacking of CEQA, and concludes

[8] Dillon, *Which California Megaprojects Get Breaks from Complying with Environmental Law? Sometimes, It Depends on the Project*, L.A. Times (Sept. 27, 2017), https://www.latimes.com/politics/la-pol-ca-enviromental-law-breaks-20170925-story.html.

with fifteen causes of action pursuant to which the Redlining Revisions are unlawful, and should be set aside by this court. Judicial enforcement of civil rights protections, as explained herein, is a critical and ongoing need of California's minority communities notwithstanding the proclaimed "progressive" values of state leaders.

A. The California Environmental Quality Act Has Been Hijacked to Block Housing and Cause Disproportionate Harm to California's Minority Communities: CEQA Is "Redlining"

18. Even before September's enactment of SB 330, Governor Newsom concluded California had a shortfall of 3.5 million homes, and California's acute housing crisis was an "existential" threat to the state.[9] As described in a series of non-partisan reports prepared by the California Legislative Analyst's Office ("LAO"), this severe housing shortage has driven up housing prices, forced departures of long-term residents, prompted the relocation of businesses to other states where housing for employees is more affordable, and caused millions of Californians to move to states with less costly housing led by Texas, Nevada and Arizona.[10]

19. Based on United States Census Bureau data, the housing crisis has also caused California to have the highest poverty rate (and highest number of poor people) in the nation.[11] In 2019, the Public Policy Institute of California and the Stanford Center on Poverty and Inequality concluded that almost four in ten (36.4 percent) Californians live at or below the poverty

[9] Office of the Governor, In the Face of Unprecedented Housing Crisis, California Takes Action to Hold Cities Accountable for Standing in the Way of New Housing (Jan. 25, 2019), https://www.gov.ca.gov/2019/01/25/housing-accountability/.

[10] *See, e.g.*, LAO, California Losing Residents via Domestic Migration (Feb. 21, 2018), https://lao.ca.gov/LAOEconTax/Article/Detail/265. ("For many years, more people have been leaving California for other states than have been moving here. According to data from the American Community Survey, from 2007 to 2016, about 5 million people moved to California from other states, while about 6 million left California. On net, the state lost 1 million residents to domestic migration—about 2.5 percent of its total population…..[T]p destinations for those leaving California were Texas, Arizona, Nevada, and Oregon." *See also* LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), https://lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.pdf (hereinafter "California's High Housing Costs").

[11] *See* Downs, *Census Bureau: California has the highest poverty rate in the U.S.* (Sept. 13, 2018), https://www.upi.com/Top_News/US/2018/09/13/Census-Bureau-California-has-highest-poverty-rate-in-US/1611536887413/.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

line and are unable to pay for routine monthly expenses, even after taking into account social safety net programs to help pay for food, housing and medical care; the same study again confirmed that California's poor were disproportionately likely to be racial minorities, children, and seniors.[12]

20. Notwithstanding commitments of billions of dollars to combat homelessness, California also has the nation's highest homelessness rate, and the highest number of homeless people, who live on streets and in parks, in shelters, or in their vehicles. Homelessness increased substantially, again, in 2019.[13]

21. Our housing crisis has also made homeownership a nearly unattainable objective for most Californians.[14] For example, even experienced union construction workers earning $90,000 – classified as "moderate" or middle income earners because they earn well above California's $71,805 median income level[15] – cannot afford to purchase a median priced home in any Southern California county touching the ocean, or any Bay Area county touching the San Francisco Bay. These same counties collectively have far more jobs – and higher paying jobs – than the rest of the state ("Coastal Job Centers").[16] Homeownership remains generally attainable for even above-median income families like union construction workers only in inland California.[17] Aspiring homeowners who can afford to purchase homes only in these inland locations then face

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[12] *See* Bohn et al., Just the Facts, Poverty in California, Public Policy Institute of California and Stanford Center and Poverty and Inequality (July 2019), https://www.ppic.org/publication/poverty-in-california/.

[13] Stepman, *California's Homelessness Crisis Is Reaching Epic Proportions*, National Interest (July 15, 2019), https://nationalinterest.org/blog/buzz/california%E2%80%99s-homelessness-crisis-reaching-epic-proportions-67067.

[14] Husing, Impact of California's Housing Prices on Construction Workers, Chapman University (Feb. 22, 2019), at 5-9, https://www.newgeography.com/files/HousingConstructionWorkers_FINAL_WEB%20(1).pdf.

[15] U.S. Census Bureau, 2017 American Community Survey (ACS) 1- Year Estimates, Median Income in the Past 12 Months (in 2017 Inflation-Adjusted Dollars), Table S1903, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "S1903" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 12, 2019).

[16] Stepman, *supra* note 13.

[17] *Id.*

"supercommutes" of more than three hours, with even funded transportation improvements such as commuter rail and carpool lanes bogged down for decades. California has four of the top 10 metropolitan areas with the largest percentage of "supercommuters" in the nation: Riverside-San Bernardino in Southern California, and Modesto, Stockton and Merced adjacent to the Bay Area.[18]

22. While the state's housing crisis has caused widespread harm, this harm has disproportionately burdened California's minority communities: workers, families, children and seniors. For example, just under 70 percent of construction workers in Southern California are Latinos,[19] who – like other hard working middle income Californians such as teachers, nurses and firefighters – are priced out of housing in Coastal Jobs Centers and must drive ever greater distances to get to homes they can afford to buy. As shown in Figure 1.A, the median home price in Santa Monica is $1.7 million and the median monthly rent for a two bedroom apartment is over $4,000. Affordability increases with distance, but racial diversity follows the inverse pattern: only 20 percent of Santa Monica residents are Latino or African American, while 76 percent of San Bernardino residents are Latino or African American.[20] Hard working families, disproportionately members of minority communities, can and do still buy homes in California – but mostly outside Coastal Job Centers.

23. Most non-partisan housing experts agree that California needs an "all-of-the-above" strategy for solving the housing crisis: getting to 3.5 million new homes will require cooperation from multiple stakeholders, and will require a mix of housing types in different

[18] Cox, *Increase in Long Commutes Indicates More Residential Dispersion*, New Geography (Aug. 1, 2017), http://www.newgeography.com/content/005704-increase-long-commutes-indicates-more-residential-dispersion (cited in McPhate, *California Today: The Rise of the Super Commuter*, New York Times (Aug. 21, 2017), https://www.nytimes.com/2017/08/21/us/california-today-super-commutes-stockon.html).

[19] Kitroeff, *Immigrants flooded California construction. Worker pay sank. Here's why*, Los Angeles Times (Apr. 22, 2017), https://www.latimes.com/projects/la-fi-construction-trump/.

[20] Zillow, Median home purchase price data for each city, https://www.zillow.com (last visited Mar. 2019); Rent Jungle median apartment price data for each city, https://www.rentjungle.com (last visited Apr. 2019); Statistical Atlas, https://statisticalatlas.com/place/California/Santa-Monica/Race-and-Ethnicity and https://statisticalatlas.com/county/California/San-Bernardino-County/Race-and-Ethnicity.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

locations with different prices to serve the needs of all. Similarly, most non-partisan housing experts – as well as the Governor and the California legislature ("Legislature") – have rejected the concept that there is a "one-size-fits-all" housing solution that works everywhere, for everyone.

24. As shown in Figure I.A, however, the stark housing pricing and racial differences that exist today between Coastal Job Centers and inland communities like San Bernardino include unacceptable (and unlawful) patterns of racial residential segregation, and are undermining decades of civil rights progress against historic government discriminatory practices such as redlining, exclusionary zoning, and mortgage financing programs.[21] What is not acceptable is any housing "solution" that perpetuates racial segregation and further erodes minority homeownership.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[21] This introductory Figure I.A, with reference citations is included as Figure 5 in the General Allegations, *infra*, and included here for ease of reference. Although the data provided is for Southern California, it is noteworthy that a similar residential racial segregation pattern holds true for the San Francisco Bay Area "superregion" which now includes Central Valley communities such as Stockton, Modesto and Sacramento. *See, e.g.*, Verma et al, Rising Housing Costs and Re-Segregation in the San Francisco Bay Area, U.C. Berkeley Terner Center Urban Displacement Project (Sept. 2018), https://www.urbandisplacement.org/sites/default/files/images/sf_final.pdf. Because Asian and Pacific Islander population data, and mixed race data, is less readily available, and less uniformly reported in data compilations, this Complaint focuses on statistical information about California's Latino and African-American data.

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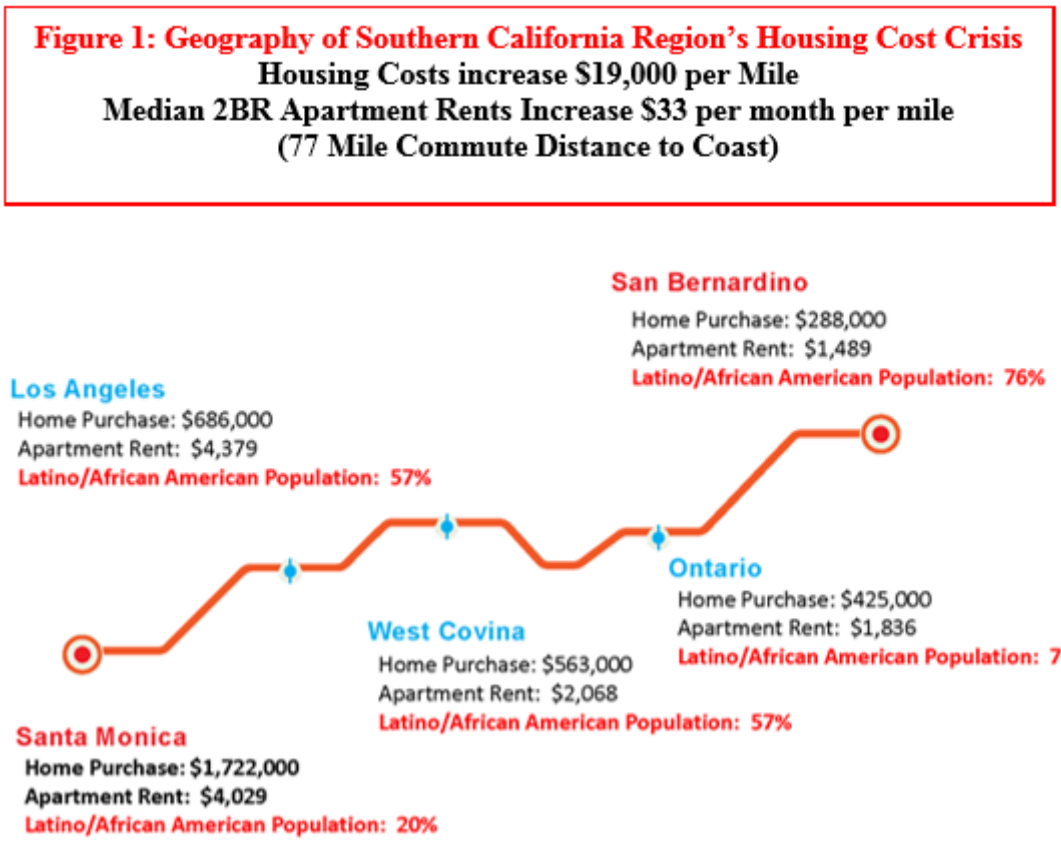
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Figure I.A: Percent For-Sale Housing with Monthly Payments Affordable to Median Income Households



25. The Two Hundred supports increasing the state's housing supply, decreasing the cost of housing, and decreasing the time required to complete housing, in response to the housing emergency. The Two Hundred also supports building new homes in existing communities, at higher densities, near transit services – but opposes this housing strategy to the extent it continues the shameful redlining practices of promoting the demolition and displacement of minority communities, excluding minority families from homeownership, and driving already exorbitant housing costs ever higher which disproportionately harms minority residents.

26. More specifically, The Two Hundred does not support undermining federal, state and local civil rights, housing and transportation laws, and does support preserving and enhancing access by California's minorities to attainable homeownership; depriving our families of homes they own does not just harm today's minority workers – it hurts our children, our

grandchildren, and their descendants. As explained by the LAO in its report, "California's High Housing Costs: Causes and Consequences,"

> Homeownership helps households build wealth, requiring them to amass assets over time. Among homeowners, saving is automatic: every month, part of the mortgage payment reduces the total amount owed and thus becomes the homeowner's equity. For renters, savings requires voluntarily foregoing near–term spending. Due to this and other economic factors, renter median net worth totaled $5,400 in 2013, a small fraction of the $195,400 median homeowner's net worth. For many households in high housing cost areas, though, homeownership's benefits remain out of reach, as higher home prices (relative to area incomes) mean fewer and fewer households can afford to become homeowners.[22]

27. California's minority communities have fought civil rights battles for decades to gain equal access to homeownership, and the pathway homeownership creates to achieving better health, educational attainment, income, voter participation, and multi-generational family wealth outcomes to help bridge inevitable income gaps, illnesses, and inter-generational family costs like college tuition and down payment help for kids, and long term health care for seniors.[23]

28. The California housing crisis is getting worse, not better. Notwithstanding congratulatory press conferences for a "Housing Package" of legislation adopted in 2017, the number of single family home permits actually fell by 12 percent and multi-family residential permits fell by 20.1 percent through July 2019 even compared with the historically lackluster number of permits issued in 2018 – the year after the 2017 housing reform laws took effect.[24] Homelessness has also substantially increased throughout California, with Orange County and Alameda County alone experiencing a more than 40 percent increase in homelessness over the last

[22] California's High Housing Costs, *supra* note 10, at 28. Habitat for Humanity, the nation's largest non-profit organization building affordable housing that is owned rather than rented, has compiled a comprehensive description of the scores of health, education, civic participation, and other benefits of homeownership, a true and correct copy of which is attached as Exhibit A.

[23] *Redlined, A Legacy of Housing Discrimination*, The Two Hundred, https://www.thetwohundred.org/redlined/ (last visited Nov. 7, 2019).

[24] California Department of Finance, California Construction Authorized by Building Permits, Seasonally Adjusted Residential Units to July 2019, http://www.dof.ca.gov/Forecasting/Economics/Indicators/Construction_Permits/documents/Construction%20Residential%20Nonresidential%20SAAR.xlsx (last visited Nov. 2019).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

two years, a 17 percent two-year increase in San Francisco, a 50 percent annual increase in Kern County, and a 12 percent annual increase in Los Angeles County.[25]

29. As dozens of scholars, elected leaders, and non-partisan experts have explained, California's political leaders have been and remain paralyzed by powerful special interests and contradictory environmental, climate, housing, poverty, and transportation policies that have collectively created the current housing supply, housing cost, and housing-induced poverty and homelessness crisis.[26] Even when voters fund bonds to produce housing for the homeless – a humanitarian, health and environmental emergency in many of our communities – the outcome is years of delay, and policy decisions that balloon the cost of producing each "affordable" new rental apartment for a homeless or low income Californian to more than $500,000 per apartment in both Los Angeles and San Francisco.[27]

30. California's housing crisis disproportionately harms younger families and non-homeowners, the majority of whom are racial minorities including Latinos, African Americans and Asians/Pacific Islanders.[28] Apart from the disproportionately high number of homeless

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[25] Cowan, *Homeless Populations Are Surging in Los Angeles. Here's Why*, New York Times (June 5, 2019), https://www.nytimes.com/2019/06/05/us/los-angeles-homeless-population.html.

[26] *See, e.g.*, Editorial Board, *Amid Political Paralysis, Housing Shortage Poised to Get Worse* (Aug. 2, 2019), https://www.sfchronicle.com/opinion/editorials/article/Editorial-Amid-political-paralysis-housing-14277448.php.

[27] *See, e.g*, Letter and report from Ron Galperin, Los Angeles Controller, to Eric Garcetti, Mayor, Michael Feuer, City Attorney, and Members of the Los Angeles City Council, Re: *The High Cost of Homeless Housing: Review of Proposition HHH*, dated Oct. 8, 2019, at 1-2, https://lacontroller.org/wp-content/uploads/2019/10/The-High-Cost-of-Homeless-Housing_Review-of-Prop-HHH_10.8.19.pdf ("Building cost estimates [for homeless housing] skyrocketed from $350,000 for a small studio or one-bedroom unit and $414,000 for a larger unit, as projected in 2016, to a median cost of $531,000 per unit today. More than 1,000 [Los Angeles Measure] HHH units are projected to exceed $600,000, with one project topping $700,000 per unit. The cost of building many of these units exceeds the median sale price of a market-rate condominium in the City of Los Angeles and a single-family home in Los Angeles County"); Daniels, *It would cost $12.7 Billion to End Homelessness in the San Francisco Bay Region, a New Report Says*, CNBC (Apr. 20, 2019), https://www.cnbc.com/2019/04/10/cost-to-end-san-francisco-bay-area-homelessness-would-be-12point7-billion-report.html ("It estimated the average per unit cost of housing each homeless person in the Bay Area region at $450,000 but also noted that housing costs in San Francisco are more than $700,000 per unit when land is factored in").

[28] In accordance with the data classifications used in the U.S. Census Bureau American Community Survey, "white" means "white alone, not Hispanic or Latino" and "Latino" means "Hispanic or

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Tel: 213.896.2400
Fax: 213.896.2450

minorities, approximately one in four adult Californians aged 24 to 35 live at home with one or both parents – and these young adults are much more likely to be minorities. In fact, nearly half of California Latinos between 18 and 34 live with a parent. As summarized by a recent news report in CalMatters:

> Stereotypes of unemployed, shiftless man-children playing X-Box in their parents' basement aren't really borne out by the data. More than 40% of California stay-at-homers are enrolled in school of some sort, often community college. The vast majority who aren't in school are working at least part time.[29]

31. The bottom line is that California's housing crisis is real and disproportionately affects minority communities. We don't have enough housing, and the housing we do have costs too much. California's minority communities suffer disparate harms as victims of the housing crisis, losing homes and access to homeownership, as well as being driven into poverty and homelessness by high housing costs.

32. As described in greater detail below, racially discriminatory conduct by California agencies remains persistent, and harms minority communities. CEQA was enacted 50 years ago to protect California's natural environment and to protect people from environmental hazards like pollution. In practice, and in the context of the housing crisis, CEQA's important purpose has been distorted beyond recognition into an anti-housing "redlining" law to continue historic, racially exclusionary housing policies and practices. Housing is the top target of all CEQA

Latino" in this complaint. The median age of California's Latino residents is 29.4 years, 36.5 years for African-Americans, 39.5 years for Asians and 46.1 years for the state's white population. U.S. Census Bureau, 2017 American Community Survey (ACS) 1- Year Estimates, Sex by Age, Table B01001 series, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B01001" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 2019). Because the "Asian" Census Bureau category is reported in some of the sources cited in this complaint, the minority data used herein focuses on the Latino and African American minority communities.

[29] Levin, *Nearly 40 Percent of Young Adult Californians Live with Their Parents. Here's Everything to Know About Them*, CalMatters (Aug. 25, 2019), https://calmatters.org/housing/2019/08/young-adults-californians-living-with-parents-millennials-ddata/.

lawsuits filed statewide, and in 2018 alone 60 percent of all CEQA lawsuits challenging construction projects targeted new housing.[30] In the region that houses nearly half of California - the five counties and 191 cities comprising the Southern California Association of Governments ("SCAG"), 14,000 housing units were targeted in CEQA lawsuits over three consecutive years (2013-2015).[31] With assistance from the research staff at SCAG, here is what we know about these challenged 14,000 housing units:

33. Virtually none of the anti-housing CEQA lawsuits sought to protect the natural environment. Almost all – 98 percent – of the challenged housing units were in existing urbanized "infill" areas like incorporated cities, or developed unincorporated county areas surrounded by cities, on previously-developed and other infill properties.[32] These infill locations have long been planned and approved for development in city and county General Plans.[33] It is noteworthy that these anti-housing "environmental" lawsuits sought to stop new housing in existing communities, just at the time in the state's history when racial minorities have become the demographic majority of the state's population – and minority communities are the population that is most harmed by California's housing crisis, and housing-induced poverty and homelessness crises. As the California Supreme Court has recognized, CEQA is not a population control statute[34]

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
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Fax: 213.896.2450

[30] Hernandez, *California Getting In Its Own Way: In 2018, Housing Targeted in 60% of Anti-Development CEQA Lawsuits*, Chapman University (Dec. 2019), https://www.chapman.edu/communication/_files/ca-getting-in-its-own-way.pdf.

[31] Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. 21, 30-31 (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf (hereinafter "Hernandez – Hastings").

[32] *Id.*

[33] The California Supreme Court has held that local general plans are the "constitution for all future development." *Lesher Communications, Inc. v. City of Walnut Creek* (1990) 5 Cal.4d 531, 540. State laws require general plans to accommodate anticipated population growth, and prescribe specific mandates such as a housing element that must designate lands for low income and other housing, and a circulation and transportation element that must provide for transportation infrastructure and policies to match housing and other elements. *See generally* Barclay & Gray, California Land Use & Planning Law (2018) at 9-15.

[34] *Center for Biological Diversity v. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 220, as modified on denial of reh'g (Feb. 17, 2016) ("*Newhall*").

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

– but in practice, CEQA litigation is most commonly used to block local agency approvals of new housing that would add to the population of existing communities.

34. Most of the anti-housing CEQA lawsuits targeted midrise and high-rise housing in locations served by public transit. California's environmental and climate agencies, including but not limited to Respondents California Governor's Office of Planning and Research ("OPR") and the Natural Resources Agency ("NRA"), as well as CARB and other state agencies, have repeatedly insisted that local communities accept much higher–density housing in existing neighborhoods located within one-half mile of frequent commuter public transit service like commuter rail stations and bus stops. The environmental policy presumption of this high-density, transit-oriented housing is that residents will use transit more, and drive less, and thereby reduce VMT by personal automobiles and light duty trucks. The Respondents and other state agencies also presume that lower VMT from high-density housing will meaningfully reduce vehicular air emissions including traditional air pollutants as well as CO_2, the principal form of GHG from cars and light duty trucks fueled by gasoline or other fossil fuels.[35]

35. Notwithstanding the environmental policy presumption favoring these high–density, primarily rental apartment projects, most of the anti-housing CEQA lawsuits have sought to block precisely this type of housing. The most frequently challenged type of housing project in CEQA lawsuits was higher density apartment and condominium projects (e.g., midrise buildings of up to six stories, or high–rise buildings of eight stories or more) in neighborhoods served by frequent transit. Approximately 70 percent of the challenged housing units were located in "Transit

[35] *See generally* CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (Jan. 2019), at 6, https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf; Taylor, Assessing California's Climate Policies – Transportation, LAO (Dec. 2018), at 8, https://lao.ca.gov/reports/2018/3912/climate-policies-transportation-122118.pdf ("CARB estimates that 70 percent of GHG emissions from California's transportation sector—and 28 percent of all GHG emissions in California—come from light-duty vehicles (specifically, cars and trucks that weigh 8,500 pounds or less)").

Priority Areas" and "High Quality Transit Corridor" neighborhoods (collectively, "TPAs") surrounding commuter rail stations and high frequency commuter bus stops.[36]

36. Anti-housing CEQA lawsuits promote racial segregation. The vast majority – 78 percent – of lawsuits to block new housing have been located in the region's whiter, wealthier and healthier areas. These lawsuits use CEQA as a modern tool for racial discrimination that reduces or eliminates the ability of the state's poorer, non-white residents to live in higher-quality, higher-opportunity neighborhoods. CEQA is almost never used, however, to block new housing in the "environmental justice" communities identified by the California Environmental Protection Agency as having disparately high levels of poverty and pollution, as well as a higher percentage of minority residents.[37] As a result, when wealthier residents desire additional housing in the state, it is far easier to develop new high-cost units in economically fragile and racially segregated environmental justice communities and displace poorer residents by driving up housing costs. This process of urban displacement, often call "gentrification," is resegregating the state by forcing lower income and minority residents to move to ever-more distant and less costly communities to find housing they can afford to rent or buy, then enduring longer commutes to get to jobs for which they must be physically present to get paid.[38]

37. In practice, residents and other CEQA litigants in wealthy communities file CEQA to oppose housing – population growth – which is more likely to be occupied by the

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[36] Hernandez – Hastings, *supra* note 31, at 31-32; Hernandez, Friedman, & DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (July 2016), at 4, https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf.

[37] Hernandez – Hastings, *supra* note 31, at 32.

[38] *See, e.g.*, Bay City News, *Waves of Displacement, Resegregation Affect Bay Area Communities of Color* (July 10, 2019), https://sfbay.ca/2019/07/10/waves-of-displacement-resegregation-affect-bay-area-communities-of-color/; Samara et al., Race, Inequality, and the Resegregation of the Bay Area, Urban Habitat (Nov. 2016), at 3-5, 13, https://urbanhabitat.org/sites/default/files/UH%20Policy%20Brief2016.pdf; Verma, *supra* note 21, at 7-8; UCLA Department of Urban and Regional Planning, Oriented For Whom? The Impacts of TOD on Six Los Angeles Neighborhoods (June 2, 2015), at 24, http://www.urbandisplacement.org/sites/default/files/images/spring_2015_tod.pdf.

minority Californians most in need of housing. It is important to recognize that anti-housing CEQA lawsuits can only be filed against approved new housing, i.e., the 3.5 million new homes mostly needed by younger, and middle and lower income, majority-minority Californians. Although there are many other challenges to obtaining approvals for housing, and to reducing the cost of housing so that it is affordable to California's hard working minority (and majority) families, CEQA is unique in the nation in empowering anyone to sue to block housing, for any reason, anonymously, under the purported banner of protecting "the environment."

38. Also alone among the nation's environmental protection statutes, CEQA allows those filing environmental impact lawsuits to conceal both their actual identity and their economic, racist, or other non-environmental interests in filing CEQA lawsuits.[39] CEQA requires no evidence that the party seeking the lawsuit is actually motivated by protecting the environment: the California Supreme Court concluded a national industry trade association organized to protect the economic interests of its members was allowed to file a CEQA lawsuit against cities adopting restrictions on plastic bags. Labor unions also use CEQA litigation tactics for economic gain: former Governor Jerry Brown explained that labor unions use CEQA litigation (and litigation threats) to "leverage" wage agreements on behalf of their members against housing and other project applicants[40] are routine CEQA tactics deployed "in the name of the environment" against housing. Individual neighbors or anonymous neighborhood groups, as well as contingency fee lawyers representing unincorporated new associations with no known members or history of community involvement, are also frequent CEQA litigants. Actual environmental groups with a

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[39] Hernandez – Hastings, *supra* note 31, at 22, 24, 41.

[40] Dillon, *Labor Unions, Environmentalists Are Biggest Opponents of Gov. Brown's Affordable Housing Plan*, L.A. Times (May 24, 2016), https://www.latimes.com/politics/la-pol-sac-labor-enviro-housing-20160524-snap-story.html; Britschgi, *How California Environmental Law Makes It Easy for Labor Unions to Shake Down Developers*, Reason (Aug. 21, 2019), https://reason.com/2019/08/21/how-california-environmental-law-makes-it-easy-for-labor-unions-to-shake-down-developers/; Hernandez – Hastings, supra note 31, at 58-67. Efforts to end economic abuse of CEQA have to date been futile legislatively and judicially, although two recent federal lawsuits alleging unlawful racketeering practices by labor unions using CEQA remain pending. True and correct copies of these RICO lawsuits are included as Exhibits B and C.

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Fax: 213.896.2450

past history of environmental advocacy file fewer than 15 percent of CEQA lawsuits.[41]

39. Although courts are generally deferential to agencies in administrative litigation challenges nationally (and uphold the legality of agency decisions in nearly 80 percent of such cases),[42] CEQA litigation outcomes follow a remarkably different path: several studies analyzing CEQA reported appellate court decisions have confirmed that agencies lose in nearly 50 percent of these CEQA lawsuits.[43] Additionally, the most common judicial remedy in CEQA lawsuits is a writ requiring rescission of the challenged agency project approval pending completion of some further prescribed CEQA process, even though the most common legal deficiency in a CEQA lawsuit involves a judicial determination that an agency did not sufficiently consider a detail about a particular environmental impact issue like explanations about why a particular issue was analyzed qualitatively rather than quantitatively.[44] Although what is required may appear to a court to be a "minor" correction, the rescission of the approval requires a project (which was already unpopular enough to be sued by someone) to re-run the political gauntlet of re-study and re-approval, often over a period of years.

40. There is no enforceable deadline for completing the CEQA process, so politically unpopular housing can simply be delayed indefinitely at the staff level with ever-more costly studies. In San Francisco, for example, scholars at University of California, Berkeley ("U.C. Berkeley") surveyed city staff and developers and found that the "only one factor on which all interviewees and focus group participants agreed [was that] the most significant and pointless factor driving up construction costs was the length of time it takes for a project to get through the city

[41] Hernandez, Friedman, and DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (Aug. 2015), at 24, https://issuu.com/hollandknight/docs/ceqa_litigation_abuseissuu?e=16627326/14197714.

[42] Hernandez – Hastings, *supra* note 31, at 42.

[43] *Id.*

[44] *Id.* at 41-42.

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Fax: 213.896.2450

permitting and development processes."[45] If, during this extended period of technical studies, multiple public notice and comment/hearing procedures, and political controversy, local political leadership shifts and, for example, is persuaded to oppose new housing, then the challenged project can simply be rejected outright, or "approved" at smaller densities or with more costly CEQA "mitigation measures" that render the housing project economically infeasible – and thus the housing is never built. Housing applicants who lack the financial resources to run this indefinitely lengthy application gauntlet, during which time they are expected to fund all CEQA studies, consultant, attorney and other agency staff costs that can add anywhere from hundreds of thousands to millions of dollars to the housing application process, and several more years for CEQA litigation, also drop out – and so even otherwise lawfully zoned housing that is approved by local government does not get built, or gets built only at substantially higher costs which exclude middle income households. CEQA's indefinite and thus uncertain processing times, unknown CEQA mitigation costs and other regulatory exactions, alongside uncertain CEQA litigation risks, costs and durations, raises housing costs and decreases housing affordability and homeownership opportunities to the vast majority of Californians earning at and near the median income (the majority of whom are minorities). As explained by the non-partisan LAO in its report *California's High Housing Costs: Causes and Consequences*:

> **Environmental Reviews Can Be Used To Stop or Limit Housing Development**. The California Environmental Quality Act (CEQA) requires local governments to conduct a detailed review of the potential environmental effects of new housing construction (and most other types of development) prior to approving it. The information in these reports sometimes results in the city or county denying proposals to develop housing or approving fewer housing units than the developer proposed. In addition, CEQA's complicated procedural requirements give development opponents significant opportunities to continue challenging housing projects after local governments approve them.[46]

[45] Reid and Raetz, Perspectives: Practitioners Weigh in on Drivers of Rising Housing Construction Costs in San Francisco, U.C. Berkeley Terner Center (Jan. 2018), at 2-3, https://ternercenter.berkeley.edu/uploads/San_Francisco_Construction_Cost_Brief_-_Terner_Center_January_2018.pdf.

[46] California's High Housing Costs, *supra* note 10, at 15 (emphasis in original); *see also, e.g.*, Kim, *The Rising Price of Downtown Living,* Los Angeles Downtown News (Apr. 20, 2015), http://www.ladowntownnews.com/news/the-rising-price-of-downtown-living/article_916184de-

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Fax: 213.896.2450

41. Judicial rescission of the housing approval may also result in cascading consequences to third parties. One CEQA lawsuit filed against an approved apartment project on a transit corridor in Los Angeles resulted in a judicial rescission that took effect during the Great Recession: the original applicant was economically unable to proceed and lost the project to a new developer. The new developer completed the second round of CEQA documentation, obtained a new approval, and constructed the apartment tower, but impassioned housing opponents objected to the city's interpretation of a CEQA "mitigation measure" that required "preservation" of a non-historic stucco building façade to allow removal and reconstruction of the façade on the newly-constructed apartment building. Housing opponents did not seek or obtain any injunction, and the apartment building was completed and occupied. The superior court judge later agreed with plaintiffs that the mitigation measure should have been interpreted as requiring the non-historic stucco façade to be "preserved in place" and somehow attached to the new high-rise apartment building, and therefore that the city had violated CEQA in allowing removal and reconstruction of the façade. The judge ordered the city to rescind approvals of the completed, occupied apartment building pending further CEQA processing. Apartment tenants were escorted out, multiple third party lawsuits erupted as insurance and financing conditions, covenants and obligations could not be met for an unpermitted apartment tower, and during the apex of a housing crisis almost three hundred apartments remained vacant for nearly five years before finally opening its doors back to tenants in 2019.[47]

42. Even after a second round of CEQA compliance and project approvals, further CEQA lawsuits can be filed. Two major housing projects in the SCAG region – one an infill

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e54c-11e4-be4e-a766501fbe40.html; Gamboa, Hernandez, & Shellenberger, *Newsom Must Prioritize Affordable Middle-Class Housing,* San Francisco Chronicle (Jan. 7, 2019), https://www.sfchronicle.com/opinion/openforum/article/Newsom-must-prioritize-affordable-middle-class-13515693.php.

[47] California News Wire Services, *Vacant Sunset Gordon Tower Approved for Apartments,* Patch Hollywood, https://patch.com/california/hollywood/vacant-sunset-gordon-tower-approved-apartments; *see also* Hernandez – Hastings, *supra* note 31, at 42-43.

redevelopment site, and the other on the edge of an existing community – had the dubious distinction of being sued under CEQA more than 20 times over more than 20 years, resulting in prolonged delays, increased costs (which are passed along to future residents in the form of higher housing prices), and unavailable housing.

43. Given near 50/50 litigation loss rates, and the likelihood that a judicial loss for even a minor study deficiency of even a completed and occupied housing project will result in rescission of project approvals,[48] even those who traditionally defend the CEQA status quo agree that the mere existence of a pending CEQA lawsuit instantaneously stops housing construction by ending the housing applicant's access to project financing (e.g., construction bank loans or government grants) because of the litigation outcome uncertainty that will cloud the project pending resolution of the multi-year superior and appellate court CEQA litigation process.[49]

44. Nor is CEQA's anti-housing consequence limited to litigation: as recently acknowledged by legal and planning scholars from UC Davis, UC Berkeley and UCLA, a local agency's "discretionary" review and approval process for housing, pursuant to which cities and counties can require modifications to the size, configuration, and required conditions of approval for new housing, triggers CEQA, which "allows local governments to delay projects indefinitely and impose costly, unexpected conditions."[50]

45. The practical consequence of the existence of a CEQA lawsuit halting a

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[48] *See* Hernandez – Hastings, *supra* note 31, at 42 ("When a judge decides that an agency should have conducted its CEQA preapproval review process differently, even if the error is confined to whether the traffic flow at a single intersection was appropriately counted, the most common CEQA judicial remedy is to "vacate" the project approval until more environmental analyses is completed") citing McAfree, *Cali. Appeals Court Affirms SF Win in Waterfront Project Row,* Law 360 (Aug. 27, 2013), https://www.law360.com/appellate/articles/468162/calif-appeals-court-affirms-sf-win-in-waterfront-project-row.

[49] Shute, Jr., Reprise of Fireside Chat, Yosemite Environmental Law Conference, 25 Envtl Law News 3 (2016).

[50] Elmendorf et al., Issue Brief: Making It Work: Legal Foundations for Administrative Reform of California's Housing Framework, U.C. Davis California Environmental Law and Policy Center (Dec. 2019), https://law.ucdavis.edu/centers/environmental/files/Elmendorf-et-al.,-ISSUE-BRIEF-Administering-Californias-Housing-Framework-1.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

project is well-recognized in California, as the Legislature has created "fast track" CEQA litigation durations of 270-days in total for resolving both superior and appellate court CEQA challenges – but has dispensed these fast-track Legislative solutions only to politically favored projects such as professional sports stadiums and the Legislature's own renovation of its own office building.[51]

46. The act of filing a CEQA lawsuit – regardless of the legal merits, regardless of the potential for irreparable or significant harm to the environment or public safety, and with zero judicial oversight or review – immediately stops completion of an approved housing project pending resolution of a four to five year judicial proceedings. Some projects are held up far longer: one replacement single family home on an existing single family lot, which received unanimous neighbor, Planning Commission, and City Council approvals and complied with all applicable laws and regulations including local General Plan and zoning requirements, was held up for 11 years including Supreme Court review, and was ultimately abandoned by the homeowner who moved his family to a different city.[52]

47. If even a single minor deficiency is found in a city's CEQA analysis or mitigation of more than one hundred ambiguously and inconsistently defined "environmental impacts," the anti-housing plaintiff is eligible to collect attorneys' fees and the equivalent of a bonus from the agency approving the housing, which typically requires the housing applicant to pay all agency costs as well as indemnify the agency against the risk of being required to pay attorneys' fees. A housing applicant must pay for the CEQA review process, must pay the legal fees for itself

[51] Hernandez – Hastings, *supra* note 31, at 30-31; *compare* Stats. 2018, ch. 959 (A.B. 734) (approving CEQA fast-tracking for Oakland Athletics baseball stadium); Stats. 2018, ch. 961 (A.B. 987) (approving CEQA fast-tracking for Los Angeles Clippers basketball stadium); Stats. 2018, ch. 40 (A.B. 1826) (approving CEQA fast-tracking for State Capitol Building Annex) *with* Sen. Bill 25 (2019-2020) (proposal for CEQA fast-tracking for housing projects using union labor in "Economic Opportunity Zones" passed the Senate only to be held in the Assembly Natural Resources Committee); Sen. Bill 621 (2019-2020) (proposal for CEQA fast-tracking for affordable housing projects passed the Senate only to be held in the Assembly Natural Resources Committee).

[52] *Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086; *Berkeley Hillside Preservation v. City of Berkeley* (2015) 241 Cal.App.4th 943, rehearing denied (Oct 15, 2015), review denied (Feb 03, 2016).

and the approving city, and must pay attorneys' fees and a bonus to an anti-housing CEQA litigant. If the applicant still wants to seek project approvals, the applicant then pays for a second round of CEQA compliance costs, and if challenged again must pay for a second round of its own, the city's, and potentially another round of attorneys' fees. In contrast, an unsuccessful anti-housing litigant is never obligated to pay the attorney fees, delay costs, or other damages incurred by the city that approved the housing, the housing applicant, or the future residents of the housing.

48. All of those costs – compliance processing costs including the cost of studying and "mitigating" or avoiding "environmental impacts" not otherwise regulated by federal, state and local environmental, land use, public health, and labor laws, and then CEQA litigation fees, delays and damages – are aggregated into the cost of the housing project, and must be paid for by future residents in the form of higher housing costs.

49. When housing costs become too high above what market conditions predict that future residents can afford to pay, the housing doesn't get built at all. When housing costs become too high for lower and middle income residents, the housing is occupied by higher income workers, high net worth part-time owners, or real estate investors.

50. Filing CEQA lawsuits against housing for non-environmental reasons has become so widespread that it is routinely recognized by elected leaders such as Governors Brown and Newsom, and has its own infamous name: "greenmail."

51. Anti-housing CEQA greenmail lawsuits are unconstitutional, unlawful, and inherently racist given California's demographics. Greenmail CEQA lawsuits place California as the ongoing leader in our nation's shameful history of de jure housing discrimination: using tools created by the government to achieve racially discriminatory "redlining" outcomes to avoid having "those people" – and the housing "they" can afford to rent or buy – in desirable locations and neighborhoods.

52. Petitioners, The Two Hundred, are "those people" – a coalition of veteran civil rights and community leaders and advocates who have for decades battled housing

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

discrimination caused or exacerbated by government agencies. Civil rights litigation to protect California's hard working minority families has re-emerged as a necessary legal response to decades of policy and political decisions that have resulted in the housing crisis, which have in turn reversed decades of progress by minority families in attaining homeownership. California leaders' callous disregard for homeownership and the rights of minority families to buy a home has been repeatedly demonstrated: two successive governors, and the Legislature's leaders over three separate two-year sessions, fought a bitter and ultimately unsuccessful battle – inclusive of two unsuccessful appeals to the California Supreme Court – against civil rights advocates seeking to require the State to comply with its own settlement agreement establishing a $390 million assistance fund for homeowners victimized by the unlawful predatory lending and foreclosure practices during the Great Recession.[53] Just a few weeks ago, Governor Newsom finally agreed to comply with California's legal obligation to assist victimized homeowners, who unlawfully lost their home – and their home equity, and opportunity to create family wealth for college tuition and other family needs – nearly a decade ago.

53. Civil rights progress in the United States ("U.S.") has always relied on the courts to enforce the law, and the victory lap taken by members of The Two Hundred and other civil rights leaders following enactment of comprehensive civil rights laws and policies in the 1970s was premature. In the intervening years, residential segregation by race in America and California is worse than it was in 1970 – a phenomenon civil rights scholars are calling the "resegregation" of America. Housing policy – what's built where, how much it costs, and what are the barriers to homeownership – is fundamental to desegregation, but California's infamous and byzantine suite of laws and government practices have created the "existential" crisis of 3.5 million too few homes, new home prices that are nearly three times the national average, and litigation delays extending to

[53] Bollag, *California Misspent $330 Million that Should Have Helped Homeowners, Court Holds*, The Sacramento Bee (July 18, 2019), https://www.sacbee.com/news/politics-government/capitol-alert/article232847737.html.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

20 years and beyond to the completion of approved new housing.[54] As poverty scholar Richard Rothstein noted in a *Los Angeles Times* Op-Ed, "Our entrenched residential segregation exacerbates serious political, social and economic problems… To achieve [integration], politically and legally, we first have to acknowledge that *our government, to a substantial degree, created our racial inequality*. Letting bygones be bygones is not a valid, just or defensible policy" (emphasis added).[55]

54. The Two Hundred supports California's environmental and climate leadership goals. Members of The Two Hundred also want to breathe clean air, drink clean water, protect natural resources, and address global climate change. The Two Hundred does not believe that expanding CEQA regulations to increase CEQA compliance costs and litigation obstacles for housing projects, or to exacerbate already deeply discriminatory obstacles to attainable homeownership for California's minority families, interferes with any of these environmental or climate goals. The Two Hundred also supports rental housing and government-financed affordable housing (which is overwhelmingly rental housing), but rental housing does not create the multi-generational wealth and social equity benefits of home ownership. For over 100 years, beginning with the Great Depression and the rise of global communism, both the U.S. and California have supported homeownership as a cornerstone of upward mobility – an integral component of the American (and California) Dream.

55. CEQA is California's most venerated environmental statute, and – when not abused – CEQA continues to be important to protecting the environment. However, both CEQA and other important state environmental goals are undermined when our homeless population and poverty rates are the worst in the nation, and when 40 percent of Californians – disproportionately minorities – are at risk of losing their housing because we do not have enough housing, the housing we do have costs too much, and even starter homes are unaffordable to hard-working minority

[54] *See, e.g.*, Samara, *supra* note 38, at 6-12.

[55] Rothstein, *Op-Ed: Why Los Angeles Is Still a Segregated City After All These Years*, Los Angeles Times (Aug. 20, 2017), https://www.latimes.com/opinion/op-ed/la-oe-rothstein-segregated-housing-20170820-story.html.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

families earning median or even above-median (e.g., union) wages.

56. The Two Hundred does not agree that costly environmental and climate policies targeting housing that incentivize our adult children and grandchildren to leave California to live in higher greenhouse gas emitting states like Texas and Nevada where they can afford to buy a home is a lawful or effective climate policy, or that CEQA's implementing regulations should be expanded to exacerbate historic and existing residential housing discrimination by increasing the cost of new housing most needed by our minority residents. The Two Hundred opposes the economic equivalent of a "CEQA tax" to make new residents pay steep, unauthorized, and unlawful new "mitigation" costs for the same ability to drive to and from work or school as existing residents, or by making it even easier to win CEQA lawsuits aimed at delaying and derailing new housing based on ambiguous, infeasible, contradictory, un-enacted, ineffective, and fundamentally discriminatory and unlawful climate policies.

B. Five Regulations, Portions of One Regulatory Appendix, and Two Unlawful "Underground Regulations," All Finalized Concurrently in December of 2018 to Implement CEQA, Are Unconstitutional and Unlawful, and Exacerbate the Housing Crisis, and Housing-Induced Poverty and Homelessness Crises

57. In section 21083(a) of the Public Resources Code, the Legislature directed that Respondent OPR shall prepare and develop regulations for the implementation of CEQA "by public agencies."[56] The Legislature further directed that these regulations "shall specifically include criteria for public agencies to follow in determining whether or not a proposed project may have a 'significant effect on the environment.'" Pub. Res. Code § 21083(b). CEQA regulations are required to be "certified and adopted" by the Respondent NRA in compliance with the California Administrative Procedures Act ("APA"). Pub. Res. Code §21083(e); Gov. Code Chapter 3.5 commencing with section 11340 of Part 1 of Division 3 of Title 2. Government Code sections

[56] As recognized in numerous court decisions, and summarized by OPR itself: "The CEQA Guidelines are administrative regulations governing implementation of the California Environmental Quality Act." *See*, OPR, "What are the CEQA Guidelines," Current CEQA Guidelines (2018), http://opr.ca.gov/ceqa/updates/guidelines/. To avoid confusion between promulgated regulatory "guidelines" and unpromulgated agency guidance documents, the CEQA Guidelines are referred to herein as Regulations.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

11349 and 11349.1 prescribe mandatory criteria for state regulations, which Respondent OAL must enforce in its role of reviewing the lawfulness of agency-adopted regulations prior to publication in the California Code of Regulations. Among the mandatory criteria that CEQA regulations must meet to become lawful regulations are:

a. "Necessity," pursuant to which "the rulemaking proceeding demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute, court decision, or other provision of law that the regulation implements, interprets, or makes specific." Gov. Code § 11349(a);

b. "Authority" means the provision of law which permits the agency to adopt, amend, or repeal a regulation. Gov. Code § 11349(b);

c. "Clarity" means written or displayed so that the meaning of the regulations will be easily understood by those persons affected by them. Gov. Code § 11349(c); and

d. "Consistency" means being in harmony with, and not in conflict with or contradictory to, existing statues, court decisions, or other provisions of law. Gov. Code § 11349(d).

58. Given California's "existential" housing and homelessness crisis, its deep and increasing racial achievement and equity gaps, the global climate change benefits of keeping our families in California instead of migrating to states like Texas where per capita GHG emissions are nearly three times higher than California, The Two Hundred reasonably expected Respondents to amend regulations implementing CEQA to end or at least substantially curtail litigation abuse of CEQA against new housing. Unlike existing housing, new housing must comply with California's many stringent environmental and climate laws and regulations, such as energy and water conservation standards, and a myriad of other "CalGreen Building Code" standards to improve conservation features and reduce energy consumption in new homes, as well as dozens of other laws and regulations to protect endangered species, air quality, water quality, water supplies, historic and archeological resources, public health and safety, and the California coast and other

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

special places.[57] The Two Hundred also reasonably expected Respondents to resolve legal ambiguities and comply with the Legislature's express direction that regulations implementing CEQA must provide clear criteria for determining when an environmental impact of a project is "significant" and thus warrants imposition of all feasible "mitigation measures" to avoid or lessen the severity of such an impact. Pub. Res. Code § 21083(b).

59. Respondents failed to meet The Two Hundred's reasonable expectations, and in fact failed to even acknowledge or respond to the scores of pages of detailed comments submitted by The Two Hundred on Respondent OPR's proposed amendments to CEQA regulations, or the hundreds of pages of other comments. Instead, in the closing days of the Brown administration on December 28, 2018, the NRA, OPR, and the Office of Administrative Law ("OAL"), each completed actions that resulted in expansions and amendments to regulations implementing CEQA[58] that exacerbate CEQA's racially disparate impacts and harms to minority communities, further weaponize CEQA to block housing needed by "those people," and further worsen California's housing, homeless and poverty crises.

60. The Two Hundred hereby challenge five of Respondents' 30 revisions to Title 14, Chapter 3 of the California Code of Regulations, Guidelines for the Implementation of the California Environmental Quality Act ("CEQA Guidelines");[59] specifically, revisions to CEQA Guidelines sections 15064, 15064.3, 15064.4, 15064.7, and 15126.4.[60] In addition, The Two

[57] 2019 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11, available at: https://codes.iccsafe.org/content/CAGBSC2019/cover (last visited Nov. 11, 2019).

[58] These regulations are referred to in CEQA as "Guidelines" but have the same legal status as regulations and are required by CEQA to be adopted in compliance with the California Administrative Procedure Act, Gov. Code §§ 11340 *et seq*.

[59] As recognized in numerous court decisions, and summarized by OPR itself: "The CEQA Guidelines are administrative regulations governing implementation of the California Environmental Quality Act." *See*, OPR, "What are the CEQA Guidelines," Current CEQA Guidelines (2018), http://opr.ca.gov/ceqa/updates/guidelines/.

[60] The five challenged sections of the CEQA Guidelines are sometimes individually referred to herein as "Section 15064", "Section 15064.3", "Section 15064.4", "Section 15064.7", and "Section 15126.4".

Hundred hereby challenge five of Respondents' revisions to Appendix G of the CEQA Guidelines ("Appendix G"); specifically, revisions to Appendix G sections I(c), VIII(a), VIII(b), XII(c), and XVII(b) (collectively, the "Appendix G Revisions"). In addition, The Two Hundred hereby challenge two unpromulgated regulatory documents issued by Respondent OPR, which are titled, respectively, *Technical Advisory on Evaluating Transportation Impacts In CEQA*[61] (the "Underground VMT Regulation") and *Discussion Draft: CEQA and Climate Change Advisory*[62] (the "Underground GHG Regulation"), and which constitute unlawful "underground regulations" that were required, in pertinent part, to have been adopted as regulations. The challenged revisions to Section 15064, Section 15064.3, Section 15064.4, Section 15064.7, and Section 15126.4, along with the Appendix G Revisions and the Underground VMT and GHG Regulations, are collectively referred to herein as the "Redlining Revisions."

61. Unlawful Omission of Specific Criteria for Evaluating the Significance of an Environmental Impact. The five challenged regulations, along with corresponding provisions in Appendix G, violate section 20183(b) of CEQA in unlawfully identifying, failing to identify, or providing ambiguous or inconsistent direction regarding the extent to which, a physical impact to the environment caused by a project is a "significant impact to the environment" under CEQA. As will be described in greater detail below, these challenged regulations violate CEQA in failing to provide the required mandatory regulatory content that "specifically include criteria" for determining the significance of impacts, and further violate APA requirements of necessity, authority, clarity and/or consistency, as set forth in Gov. Code sections 11349 and 11349.1. The challenged Significance Criteria regulations include:

62. Subsection (b)(2) of Section 15064, which requires lead agencies that use a significance threshold to "briefly explain how compliance with the threshold means that the

[61] OPR, Technical Advisory on Evaluating Transportation Impacts in CEQA (Dec. 2018), http://www.opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

[62] OPR, Discussion Draft: CEQA and Climate Change Advisory (Dec. 2018), http://opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Adivsory.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

project's impacts are less than significant" as well as cautioning lead agencies that "[c]ompliance with the threshold does not relieve the lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant."

63. Section 15064.3, which expands CEQA to make driving a car one mile – even an electric car – a new VMT impact, providing that a project such as housing that fails to cause an actual reduction VMT in the project area presumptively causes a significant VMT impact, and declining to prescribe a significance threshold for transportation improvement projects such as voter-, city-, transportation agency-, and air quality agency-approved congestion relief projects on existing highways and roadways.

64. Section 15064.4, which prescribes contradictory and ambiguous significance criteria for GHG emissions relevant to global climate change.

65. Subsection (b) of Section 15064.7, which endorses the use of ad hoc "case-by-case" significance criteria for different projects, and then requires that each agency using compliance with environmental laws or regulations as a significance threshold explain how the laws or regulations reduce project and cumulative impacts to a less than significant level, and recognizes only laws and regulations adopted for "environmental protection" but not protection of "public health and safety" notwithstanding the fact that CEQA encompasses physical impacts that could harm either the environment or public health and safety.

66. Section 15126.4, which imposes unlawful new constraints on judicially-upheld CEQA mitigation measures that avoid or reduce significant impacts by establishing a clear performance standard that must be achieved to avoid a significant adverse impact, while allowing for deployment of a flexible menu of feasible mitigation actions to attain that performance standard – such as complying with storm water quality regulatory standards prohibiting harmful construction runoff by installing a combination of erosion control and other common methods that, like detailed engineering drawings, have not and need not be precisely designed during the CEQA process. Section 15126.4 increases CEQA compliance costs for housing projects, in violation of the

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

mandatory APA criteria of necessity and authority.

67. The Appendix G Revisions, which include recommended "thresholds" (which serve the same functional role as significance criteria) for evaluating the significance of project impacts in the topical areas of Aesthetics, Transportation and Greenhouse Gas.

68. The Underground VMT Regulation issued by Respondent OPR concurrently with the above-referenced Redlining Revisions, which sets forth unlawful unpromulgated "underground" regulations for assessing the significance of VMT impacts.

69. The Underground GHG Regulation issued by Respondent OPR concurrently with the above-referenced challenged Redlining Revisions, which sets forth unlawful unpromulgated "underground" regulations for assessing the significance of GHG impacts.

70. The challenged Redlining Revisions impose greater costs on housing and create more barriers and legal ambiguity about CEQA compliance obligations for new housing projects that have further strengthened the use of CEQA litigation as an anti-housing redlining tool.

71. Purportedly racially neutral government conduct becomes unlawful when it has a disparate impact on housing for minority communities.[63] A cluster of government activities that caused California to have an unprecedented housing shortage has already caused disparate impacts on minority communities, and Respondents' expansion of CEQA to increase housing costs and CEQA litigation obstacles unlawfully exacerbates the harms caused by the housing crisis on California's minority communities.

72. To highlight just one example of Respondents' unlawful discrimination in promulgating the Redlining Revisions, expanding CEQA to reduce VMT by occupants of new housing violates the Federal and California constitutions. The practical necessity of having access to a car has been recognized as so fundamental that both the U.S. and California Supreme Courts have held that constitutional due process protections apply to any government attempt to summarily

[63] *Texas Dept. of Housing and Comm. Affairs v. Inclusive Communities Project, Inc.* (2015) 576 U.S. __, 135 S.Ct. 2507, 2524–25.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

deprive someone of a drivers' license or automobile.[64] The right to travel is also fundamental to the constitutional protection of liberty, and government actions to impose discriminatory restrictions on travel are unconstitutional. As the United States Supreme Court has affirmed:

> [T]he right to remove from one place to another according to inclination…is an attribute of personal liberty, and the right, ordinarily of free transit from or through any territory of any State is a right secured by the Fourteenth Amendment and by other provisions of the Constitution.[65]
>
> [Freedom of movement] may be as close to the heart of the individual as the choice of what he eats, or wears, or reads. Freedom of movement is basic in our scheme of values.[66]
>
> [A]ll citizens [shall] be free to travel throughout the length and breadth of our land uninhibited by statutes, rules or regulations which unreasonably burden or restrict this movement.[67]

73. California courts have likewise affirmed that the right to travel is protected under both the federal and state constitutions:

> [T]he right to intrastate travel (which includes the intra-municipal travel) is a basic human right protected by the United States and California Constitutions as a whole. Such a right is implicit in the concept of a democratic society and is one of the attributes of personal liberty under common law.[68]
>
> The right of intrastate travel has been recognized as a basic human right protected by Article I, Sections 7 and 24 of the California Constitution.[69]

74. Imposing discriminatory new restraints on travel through CEQA imposes unreasonable new cost burdens and litigation obstacles only on the new housing needed to meet the state's 3.5 million housing shortfall, and on majority-minority residents already harmed by the shortfall who are most in need of prompt completion of new housing supplies. Decades of peer reviewed studies by poverty and equity scholars continue to confirm that car ownership and access

[64] *Berlinghieri v. Dep't of Motor Vehicles* (1983) 33 Cal.3d 392, 398-99; *Bell v. Burson* (1971) 402 U.S. 535, 539.

[65] *Williams v. Fears* (1900) 179 U.S. 270, 274.

[66] *Kent v. Dulles* (1958) 357 U.S. 116, 126.

[67] *Shapirio v. Thompson* (1969) 394 U.S. 618, 629.

[68] *In re White* (1979) 97 Cal.App.3d 141, 148.

[69] *Tobe v. City of Santa Ana* (1995) 9 Cal.4th 1069, 1100.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

is critical to getting and keeping a job, getting and keeping kids in school, and achieving better personal and family health, welfare, and other benefits. As most recently confirmed in a 2019 report by researchers at the University of California in Los Angeles, Rutgers University, and Arizona State University entitled "The Poverty of the Carless," these studies consistently demonstrate that automobile use is essential for lower-income workers and households to achieve upward mobility and escape poverty and near-poverty conditions – and that public transit, which is costly to build, time-consuming to utilize, and generally inaccessible to most lower income workers, cannot realistically meet the needs of disadvantaged populations for the foreseeable future.[70]

75. Bus ridership on Metro, the nation's largest transportation agency, has dropped by more than 25 percent since 2009.[71] New rail lines have not met ridership projections either, and since securing the necessary approvals, funding and actually constructing passenger commuter service on even existing rail lines requires about 20 years – and usually gets challenged in more than one CEQA lawsuit – there is no foreseeable public transit solution to meet the needs of current drivers in the SCAG region. In short, adding more high density housing to very densely populated communities in the SCAG region has not produced, nor is it reasonably foreseeable that it will produce, substantial reductions in per capita VMT for newly constructed housing units.

76. The transportation crisis most severely affects the same minority communities harmed by California's housing crisis. As researchers from the University of California, Los Angeles confirmed in 2018, lower and middle income workers – including disproportionately Latino and African American workers – have significantly reduced transit use

[70] King et al., The Poverty of the Carless: Toward Universal Auto Access, Journal of Planning Education and Research (Feb. 2019), https://www.researchgate.net/profile/Michael_Manville/publication/330813946_The_Poverty_of_the_Carless_Toward_Universal_Auto_Access/links/5c58fe8792851c22a3aa4ea4/The-Poverty-of-the-Carless-Toward-Universal-Auto-Access.pdf?origin=publication_detail.

[71] Nelson, *L.A. Is Hemorrhaging Bus Riders — Worsening Traffic and Hurting Climate Goals*, Los Angeles Times (June 27, 2019), https://www.latimes.com/local/lanow/la-me-ln-bus-ridership-falling-los-angeles-la-metro-20190627-story.html.

over the past decade and now rely to a much greater extent on personal automobiles.[72] In the SCAG region, transit takes approximately twice as long as point-to-point automobile commutes even when transit is available for the routes and at the times required. The highest VMT households are those forced, by the housing crisis, to live ever-longer distances from homes they can afford to buy or rent. Four of the nation's 10 metropolitan areas with the largest percentage of "supercommuters", where people drive three hours or more to and from work each day, are in California and include Riverside-San Bernardino in the SCAG region as well as the Central Valley communities of Stockton, Merced and Modesto east of the Bay Area.[73]

77. For decades, VMT has been used in CEQA to measure actual environmental impacts – like air pollution from cars, and safe and effective transportation on roads. Elevating VMT to the status of itself being an environmental impact in order to achieve the state's GHG reduction goals (and achieve co-benefits like reducing vehicular air pollutants) obfuscates the purported actual environmental impacts. The Legislature authorized OPR to consider a CEQA transportation impact other than congestion-related vehicular delay, such as VMT, in the minute portions of California that are within one-half mile of a ferry terminal, a commuter rail station, or a high–frequency commuter bus stop. The Legislature also made clear that vehicular air emissions and safety impacts affected by traffic congestion would remain environmental impacts that must be considered under CEQA, including in the vast majority of the state not located within one-half mile of higher quality transit. OPR could have identified other transportation metrics that would have achieved the Legislature's goals with much less adverse housing effects and that avoid disparate

[72] Manville et al., Falling Transit Ridership, California and Southern California, SCAG (Jan. 2018), at 26, https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

[73] The percentage of supercommuters is 6.7 percent in Riverside-San Bernardino, ninth highest in the nation, 8 percent in Stockton, second highest in the nation, 7.9 percent in Modesto and 6.4 percent in Merced, tenth highest in the nation. Among 381 communities in the nation, the average number of supercommuters is 2.8 percent based on 2015 Census data. *See* McPhate, *California Today: The Rise of the Super Commuter*, New York Times (Aug. 21, 2017), https://www.nytimes.com/2017/08/21/us/california-today-super-commutes-stockon.html; Cox, 90 and Over Commute Shares by Metropolitan Area, http://demographia.com/db-90+commute.pdf (last visited Nov. 7, 2019).

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

racial impacts, such as impacts based on the time efficiency of various transportation modes since shorter drive times mean lower emissions (and healthier drivers who can spend more time at home with the kids), occupancy per automobile trip to encourage carpooling and ridesharing, trips avoided by working at home, or economic equity metrics like prioritizing home-to-work trip assistance for people forced by the housing crisis to live greater distances from employment. Instead, the Respondents opted to implement a VMT-based impact threshold for the entire state without demonstrating in any manner that reducing VMT alone, including from zero emission vehicles, can meaningfully reduce GHGs and the risks of climate change.

78. Available evidence indicates that forcing all new state housing into expensive TPA locations, and causing severe and disproportionate impacts to California minority communities, will have, at most, insignificant potential GHG emission benefits. None of the Respondents and state agencies, including CARB, which oversees California's climate change policies, have ever specifically quantified the net GHG emission and associated global temperature reductions that VMT cutbacks would achieve. The most comprehensive analysis currently published of building 1.92 million new units solely in urban infill locations estimated that this construction, which the study conceded would require the demolition of tens to hundreds of thousands of existing, less expensive housing and displace existing residents, could cut state emissions by about 1.79 million tons.[74] This reduction amounts to about 0.4 percent of the state's current GHG emissions and, if realized, would account for approximately 1 percent of the overall reduction required to meet legislatively-enacted goals for 2030.

79. As discussed in more detail below, these estimates are consistent with possible GHG emission reductions that could occur in the SCAG region, which has half of the state's population, from building new housing subject to the Redlining Revisions over the next

[74] Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), at 5, http://ternercenter.berkeley.edu/uploads/right_type_right_place.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

decade. According to the California Department of Housing and Community Development ("HCD"), which oversees planning and enforcement of California state housing laws, by 2029 the SCAG region will need to construct 1,344,740 new homes.[75] One potential but by no means clear interpretation of the unlawful Underground VMT Regulation is that all homes located outside of a TPA must have per-capita VMT rates that are 15 percent below the regional average to avoid a significant impact under CEQA. Assuming that all of the new homes identified by the HCD are built in the SCAG region outside of TPAs, and that current levels of per-capita VMT and GHG emissions per mile remain at current levels, forcing each new unit to achieve a 15 percent reduction in per capita VMT could reduce GHG emissions by 1.9 million tons, very close to the levels estimated by U.C. Berkeley researchers for roughly comparable infill development.[76] If the percentage of conventional internal combustion vehicles in the SCAG region remain unchanged by the end of the decade, however, and GHG emission per mile are reduced at the same rate that has occurred in the U.S. since 2005, total emissions would be reduced by 8.8 million tons without any decrease in VMT, or by more than four times the hypothetical reduction that might occur from VMT cutbacks related to the Redlining Revisions.

80. The trivial and practically unmeasurable GHG reductions that might occur

[75] Letter from HCD to Kome Ajise, Executive Director of SCAG, Re: Regional Housing Need Determination SCAG: June 30, 2021 – October 15, 2029, dated Aug. 22, 2019, https://www.scag.ca.gov/Documents/6thCycleRHNA_SCAGDetermination_08222019.pdf. In September 2019, SCAG submitted a formal objection to the HCD determination and contended that the correct housing needs would be in the range of 823,000-920,000. *See* Letter from Kome Ajise, Executive Director of SCAG to Doug McCauley, Acting Director of HCD, dated Sept. 18, 2019, https://www.scag.ca.gov/programs/Documents/RHNA/SCAG-Objection-Letter-RHNA-Regional-Determination.pdf. A lower level of housing growth would result in lower potential GHG reductions from burdening new housing with new VMT mitigation requirements under the Redlining Revisions.

[76] Calculated from SCAG, Transportation Safety Regional Existing Conditions (2017), http://www.scag.ca.gov/programs/Documents/SafetyFactSheet_scagIMP.pdf; SCAG, Profile of the City of Los Angeles (2019), at 4, https://www.scag.ca.gov/Documents/LosAngeles.pdf; U.S. EPA, Office of Transportation and Air Quality, 2018 Automotive Trends Report, Section 3, Table T.3.1, https://www.epa.gov/sites/production/files/2019-03/420r19002-report-tables.xlsx (last visited Oct. 2019) (2017 estimate of 357 grams of CO_2 per mile); *see also* Table 9 and related General Allegations below.

from massively disrupting California housing markets in a racially disparate manner under the Redlining Revisions are not required to meet any legislatively-mandated climate change goal for the state. The 2017 Scoping Plan adopted by CARB for reducing GHG from all sectors of the California economy has identified ample GHG reduction measures to achieve Senate Bill No. 32's ("SB 32") legislated mandate of reducing GHG 40 percent below 1990 levels by 2030.[77] The Scoping Plan does not quantify, nor does it or the public rulemaking record for the Redlining Revisions provide any evidence that, any VMT reductions are required to meet the legislated SB 32 target for 2030. Instead both CARB and Respondents justify the imposition of unprecedented VMT restrictions, including the Redlining Revisions, with reference to potential future targets, such as an 80 percent reduction from 1990 levels by 2050. No reduction goal beyond 2030 has ever been adopted by the Legislature and an 80 percent statewide emissions reduction from 1990 levels by 2050 has been repeatedly considered and rejected by the Legislature, most recently during the approval of SB 32.

81. Another important contextual fact is racial equity. If there is a feasible means of achieving a racially neutral objective without causing or exacerbating disparate impacts to racial minorities, then civil rights law requires agencies to avoid policies that cause disparate impacts. As discussed above, for example, simply ensuring that conventional internal combustion vehicles continue to reduce GHG emissions at the same rate of improvement that occurred since 2005 would reduce GHG emissions by more than four times the amount that could result from implementing the Redlining Revisions in the SCAG region (even with highly favorable, unlikely assumptions) or from building 1.92 million new homes solely in urban infill locations. Even more compelling, household emissions data provided by CARB in an online "Calculator for Households and Individuals," which is explicitly cited in the Underground GHG Regulation, shows that higher wealth households generate far more GHG emissions than even average, let alone lower income

[77] CARB, California's 2017 Climate Change Scoping Plan (Dec. 2017), https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

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400 South Hope Street, 8th Floor
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Tel: 213.896.2400
Fax: 213.896.2450

households. Approximately 4,280,000, or 33 percent of all California households earn $100,000 or more per year. Rather than increasing housing costs and regressively harming lower income, disproportionately minority households, the CARB calculator demonstrates that implementing far more progressive policies to reduce emissions by the wealthiest California households would cut state GHG emissions by much larger amounts. Merely reducing wealthier household emissions to average state household levels from clothing would cause emissions to fall by 2.7 million tons per year, by 3.9 million tons from furniture, and by over 10 million tons from motor fuel consumption, levels far greater than any estimated reduction ever attributed to housing densification around urban transit and limiting VMT for new homes.[78]

82. Instead of requiring GHG reductions from existing, wealthier and disproportionately white homeowners in California, the Respondents unlawfully elected to use CEQA, which only applies to new housing, to impose regressive and discriminatory GHG reduction obligations on the far greater number of minorities who are not currently homeowners, as well as middle and lower income households, and the homeless, who need new housing that will be adversely affected by the Redlining Revisions.

83. The Redlining Revisions also must be viewed in a global context, because GHG emissions that cause climate change are a global problem. Reducing in-state emissions would have no effect if global emissions did not also fall. At present, the California economy produces less than 1 percent of global anthropogenic GHG emissions. Former Governor Brown acknowledged that state GHG reductions will be "futile" unless others are inspired to follow

[78] Estimates from CARB, Calculator for Households & Individuals, https://coolcalifornia.arb.ca.gov/calculator-households-individuals (last visited Nov. 10, 2019) and U.S. Census Bureau, 2013-2017 American Community Survey (ACS) 5-Year Estimates, Median Income in the Past 12 Months (in Inflation-Adjusted Dollars), Table Series S1903, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search for "S1903" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 10, 2019); *see also* Table 12 and accompanying General allegations below.

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Tel: 213.896.2400
Fax: 213.896.2450

California's lead.[79] With record high income inequality, and a housing and homelessness crisis that routinely makes national news above and beyond the daily suffering it causes to California residents (and disproportionately to California's minority residents, especially women, children and seniors), there is no known state or country currently seeking to adopt and then weaponize environmental laws like the Redlining Revisions and thus subject needed housing developments within their jurisdictions to potentially years of processing delay, cost increases, and the risk of lawsuits filed for tactical, non-environmental purposes, including thinly disguised efforts to limit opportunities for minority populations in existing, wealthier, non- minority communities. There is substantial evidence, however, that California's regressive housing and VMT policies are driving a large number of former state residents to other, higher GHG emission locations. The Redlining Revisions unlawfully fail to take account of potentially adverse effects, including the likelihood that by encouraging massive out-of-state population relocation, regressively raising housing costs and limiting VMT will increase, not decrease, net GHG emissions.

84. Reducing VMT is also not the necessary or exclusive method for reducing GHG from vehicular use. For decades, California and the U.S. have achieved astonishing net total emission reductions from cars and light trucks even though VMT increased significantly over the same period. President Obama's U.S. EPA reported that traditional air emissions from cars decreased 98 percent from pre-Clean Air Act car fleets. Although GHG emissions have only recently become a regulatory focus, there has been a 20 percent decrease in California's fleet-wide GHG emissions in just the past decade. VMT, as promulgated by Respondents, is simply one transportation mode choice among several (e.g., walking, biking, bus or rail transit), but it is by far the dominant transportation mode for California's workforce, especially for the disparately large number of minority workers earning lower and middle income wages. Parents with childcare and/or senior care responsibilities, shift workers who commute at off-peak hours, and workers who must

[79] Marinucci, *Top Democrats Plan: Divest in Coal to Fight Global Warming*, S.F. Gate (Dec. 16, 2014), http://www.sfgate.com/news/article/Top-state-Democrat-pushes-coal-divestment-to5959147.php.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

be physically present at their jobsite, such as construction workers, must and do drive. In contrast, the VMT from existing homeowners – who are far more likely to be older, wealthier, and white – is unaffected by expanding CEQA to include VMT, because CEQA applies only to discretionary agency approvals of new housing that existing homeowners don't need – and in fact desire to limit so that property values remain high in their communities.

85. In considering whether VMT is an unlawful and racially discriminatory CEQA regulatory overreach by Respondents, imagine that Respondents decided to adopt a less camouflaged population reduction regime aimed at expelling median income minority families from California, and expressly acknowledged that the policy of the Redlining Revisions was to impose new VMT mitigation costs on housing in non-coastal California's remaining affordable homeownership locations with majority-minority populations like San Bernardino County. Imagine that Respondents had actually acknowledged that defining VMT as an "impact" would add either $45,100 or $403,800 (who knows?) of new CEQA mitigation costs to $350,000 homes.[80]

86. Imagine that Respondents had actually admitted their intent to more than double housing costs – and ignite a new firestorm of legal uncertainty and CEQA lawsuit risks and obstacles – within 30 days of the Governor's declaration of the state's "existential" housing crisis and emergency. Imagine that Respondents openly admitted that its Redlining Revisions were intended to use CEQA as a bureaucratic workaround to effectively ban (by making it financially infeasible for prospective homeowners to purchase) housing which the state's climate agency, CARB, had expressly agreed – in the precise process and on the precise schedule expressly prescribed by the Legislature – was appropriate to build while achieving California's GHG reduction targets for land uses in the SCAG region.[81] Imagine further that Respondents actually

[80] *See infra*, paragraphs 313-315.

[81] State of California Air Resources Board, Executive Order G-16-066 (June 28, 2016), https://ww3.arb.ca.gov/cc/sb375/scag_executive_order_g_16_066.pdf ("NOW, THEREFORE, BE IT RESOLVED that under California Government Code section 65080, subsection (b)(2)(J)(ii), the Executive Officer hereby accepts SCAG's determination that the SCS [Sustainable Communities Strategy, which identifies locations appropriate for housing and other land uses, and corresponding

acknowledged that increasing the cost of a $350,000 home with a VMT mitigation cost that more than doubled the home cost to $753,800 priced out every single overwhelmingly minority home buyer who could afford the $350,000 home.

87. Stripped of regulatory acronyms like VMT, imagine that Respondents actually announced their policy decision that with extremely rare exceptions, today's non-homeowners and those without inherited family wealth would need to either leave California or accept that they would be lifetime renters, and, as renters, would need to accept the reality of having household wealth that is 44 times lower than homeowner households.[82] Then imagine that Respondents actually acknowledged that CARB measures as a GHG "reduction" the loss of population to other states, since CARB counts GHG from only a very limited slice of in-state activities like fuel and electricity consumption, so fewer Californians means less in-state GHG from fuel and electricity consumption – even though the direct consequence of anti-housing policies force hard working minority families to states where they can still buy a home (primarily Texas, Arizona and Nevada) where their per capita GHG emissions more than double.

88. Imagine that Respondents actually "showed their math" and disclosed that CEQA's contribution to global climate leadership was to effectively expel hard working families and increase global GHG. In fact no imagination is required: the Redlining Revisions were intended to, and do, attempt to increase homeownership costs to unattainable levels in minority-dominated inland counties closest to coastal job centers. The fact that Respondents failed to disclose any of

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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transportation system features] adopted by SCAG's Regional Council on April 7, 2016, would, if implemented, achieve the 2020 and 2035 GHG emission reduction targets established by ARB").

[82] The U.S. Census Bureau reported in 2019 that the median net worth of homeowners is 80 times higher than renters. U.S. Census Bureau, Gaps in the Wealth of Americans by Household Type (Aug. 27, 2019), https://www.census.gov/library/stories/2019/08/gaps-in-wealth-americans-by-household-type.html?utm_campaign=20190827msacos1ccstors&utm_medium=email&utm_source=govdelivery%20https://www.census.gov/library/stories/2019/08/gaps-in-wealth-americans-by-household-type.html?utm_campaign=20190827msacos1ccstors&utm_medium=email&utm_source=govdelivery.

these facts and consequences, or their anti-housing and population reduction policy objectives, and instead hid behind "environmental" rhetoric and acronyms, is another chapter in the shameful racially discriminatory redlining history of California.

89. Respondents' weaponization of CEQA against lawful housing and the state's own population is a particularly shameful example of shielding racism behind "environmental" rhetoric when we know full well how to reduce (and nearly eliminate) harmful air emissions from cars. When the federal Clean Air Act was adopted in 1972 and the SCAG region was choking with pollution, complex and transparent air quality regulations were proposed at the federal, state and regional air quality protection agencies. These regulations were then compared, analyzed, and adopted – and among other remarkable outcomes resulted in a fleet of cars with tailpipe emissions of smog-forming pollutants that as of 2016 were 99 percent cleaner than the nation's 1969 car fleet: vehicular emissions plummeted even as the nation's VMT increased dramatically as would be expected for a mobility metric resulting from population and economic activity, as shown by U.S. EPA in Figure I.B.[83]

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[83] US EPA, Clean Air Act Overview, Progress Cleaning the Air and Improving People's Health - New Cars, Trucks, and Nonroad Engines Use State-of-the-Art Emission Control Technologies, https://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health (accessed Nov. 16, 2019).

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Los Angeles, CA 90071
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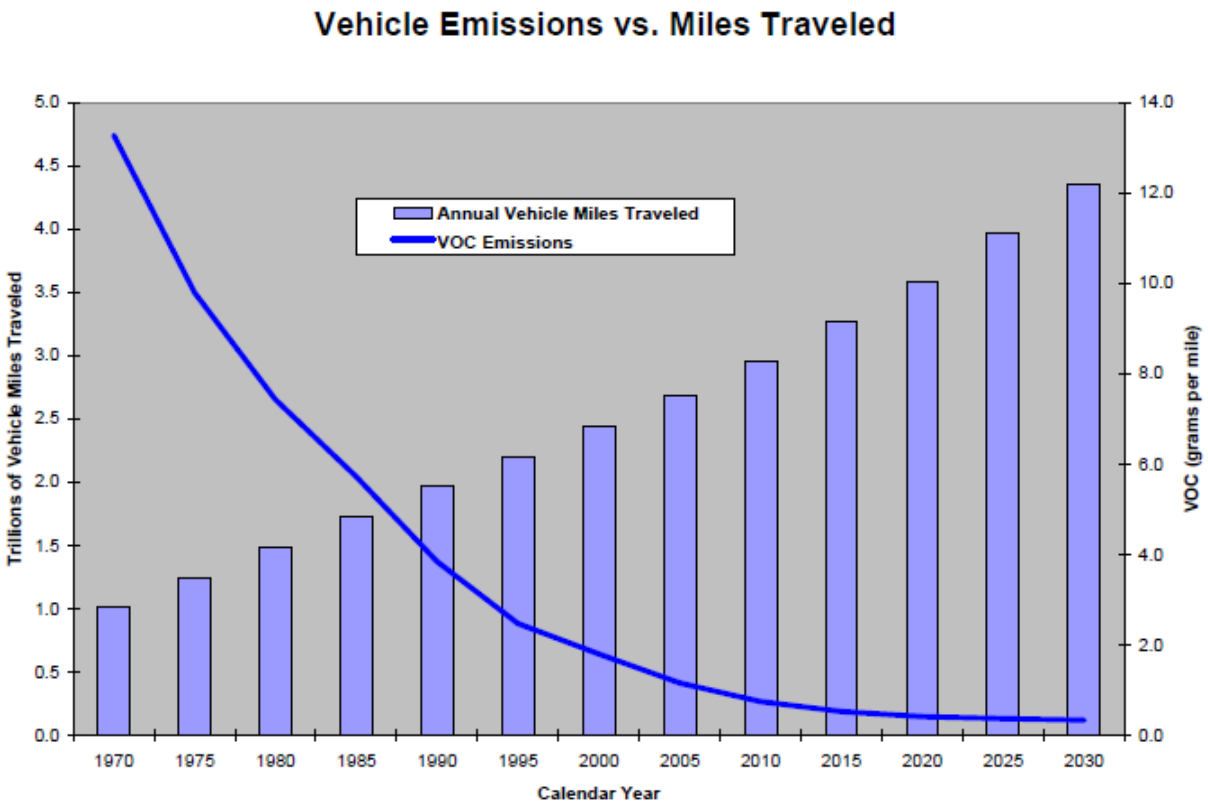
Fax: 213.896.2450

Figure I.B



90. Emissions from cars and pickup trucks were reduced by implementing regulations requiring technology improvements, such as more efficient engine and pollutant removal systems, reformulations of gasoline, such as removal of lead, and incentives for retiring older dirtier cars and increasing utilization of cleaner new cars, including electric cars. What was not proposed, let alone authorized by any elected body or adopted by any regulatory agency, was a regulatory scheme that penalized occupants of new homes – in the form of increasing home costs – for the fact that they, like their neighbors, needed to drive. What was not authorized by any elected body or adopted by any regulatory agency was a regulatory scheme that attempted to prevent construction of homes entirely unless even residents who drove electric cars could be shown to not drive at all, or some substantial but uncertain amount less than their neighbors, or pay unrelated people in distant locations to not drive. Through an *ad hoc* implementation scheme that could differ

for each project and each jurisdiction in the state, governed by ambiguous and contradictory CEQA regulations, the Redlining Revisions define a basic human trait in California – mobility – as a *per se* new environmental "impact."

91. If allowed to stand, there is literally no aspect of fundamental human behavior that is not cognizable (and litigable) under CEQA – or susceptible to the racist bias that allowed Respondents to make homeownership unattainable to Californians in the name of climate change. For example, a family's decision to have an elderly relative or child live in their home could easily be characterized as a new "environmental" impact. Families could be required to "mitigate" for the basic "physical impacts" of caring for an elderly relative (more doctor trips), raising a child (more school trips), and more energy consumption for simple chores that increase based on household size such as cooking, cleaning, lighting, washing, and drying.

92. CEQA "impacts" and "mitigation" burdens would be calibrated based on the "substantial evidence" of readily available data showing that minorities are likely to have more kids (non-Hispanic whites now account for a minority of births in the U.S.),[84] and minorities are more likely to have households that include grandparents or other relatives.[85] "Racial profiling" by burdening identical new three bedroom homes with different "impact" and "mitigation" requirements depending on the race of the future occupant is not (yet) used in CEQA, but – as is the case with VMT – could rationally be related to real environmental impacts like air pollution, so why shouldn't minority family households pay more for their house as CEQA mitigation? The answer:

[84] Passel et al, Explaining Why Minority Births Now Outnumber Whites, Pew Research Center (May 17, 2012), https://www.pewsocialtrends.org/2012/05/17/explaining-why-minority-births-now-outnumber-white-births/.

[85] Numerous studies have confirmed that African American, Latino and Asian households are all far more likely than white households to live in extended family households. *See*, *e.g.*, Kamo, Racial and Ethnic Differences in Extended Family Households, Socialogical Perspectives Vol. 42, No. 2 (Summer 2000), at 211-229 (concluding in pertinent part that "[e]ven after racial/ethnic differences in demographic and economic variables are accounted for, preferences for downward extension [e.g., adult children of parents in household] among African Americans, upward extension among Asians [e.g., grandparents of parents in household], and horizontal extension among Hispanics [e.g., siblings or cousins of parents in household], suggesting an independent effect of racial/ethnic culture regarding household extension").

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

imposing higher costs on housing that creates or exacerbate disparate harms to racial minorities – which is precisely what the Redlining Revisions do – is unconstitutional, and unlawful.

93. Likewise, imposing via CEQA a legal regime to reduce or prohibit – as a condition to buying or renting a new home – the transportation mobility of future occupants (who are far more likely to be the minority community members most harmed by the housing crisis) is racially discriminatory given California's overwhelmingly automobile-dependent transportation system. Imposing through CEQA racially discriminatory anti-mobility VMT "mitigation" costs is itself a racially discriminatory unconstitutional and unlawful anti-housing redlining regulation, particularly for new housing in locations in which CARB has already agreed housing can be built in compliance with the region's assigned GHG reduction goals.

94. Access to California's most fundamental means of transportation and mobility, featuring the cleanest car fleet in the nation, is so important that families struggling with poverty convert even small income increases into automobile purchases.[86] Making driving a car a CEQA "impact" for all housing not located in the infinitesimally small (less than three percent of the SCAG region) areas of California not located within one-half mile of four commuter buses operating at 15 minute intervals in the morning/evening commutes (and on weekends) is nothing less than an assault on all victims of California's housing crisis – the majority of whom are minorities. As confirmed by numerous experts, including HCD, the "[h]ousing cost burden is experienced disproportionately by people of color."[87]

95. Further, there is no evidence that GHG reductions from VMT are necessary or even quantified as being necessary to achieve California's legislated 2030 GHG reduction target, and the Legislature expressly declined to adopt a more aggressive 2050 GHG reduction target in SB

[86] Manville, *supra* note 72, at 65.

[87] HCD, California's Housing Future: Challenges and Opportunities, Final Statewide Housing Assessment 2025 (Feb. 2018), at 38-40, https://www.hcd.ca.gov/policy-research/plans-reports/docs/SHA_Final_Combined.pdf (hereinafter "California's Housing Future").

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

32.[88] As CARB calculates it, California is the fifth largest economy in the world but emits less than one percent of global GHG – Respondents' have fallen far short of demonstrating why, given the racially discriminatory harms the Redlining Revisions cause, depriving minority Californians of homeownership is required as part of California's commitment to "lead the world" on climate change. The constitutional, equitable, policy and economic consequences of such a radical redlining expansion of the 1970 "environmental" CEQA law, would be enormous, and certainly not left to the discretion of any government agency in the absence of any express or lawful Legislative authorization.

96. Given these racially disparate impacts, it is not surprising that the Legislature has repeatedly declined over nearly 15 years to mandate any reduction in VMT – in CEQA, in climate laws, or in any other environmental law.[89] Instead, California is on track with the same successful vehicular emission reduction strategy it has deployed for nearly 50 years – with methodical, feasible, and duly enacted laws to reduce vehicular GHG emissions through cleaner cars and cleaner fuels – not by further distorting CEQA to increase housing costs and anti-housing CEQA lawsuits to get to a future with fewer people living in fewer homes with fewer jobs and fewer children.

97. The Redlining Revisions unlawfully hijack CEQA from an environmental protection statute to a tool for increasing housing costs, and continuing to reduce housing supply, by placing major new cost and litigation obstacles on all housing except the most costly high–rise housing in TPAs that are the most likely to continue to cause displacement and destruction of historic minority communities. The challenged regulations exacerbate the housing, homelessness,

[88] *Compare* Sen. Bill 32 (2015-2016 Reg. Sess.) as introduced on Dec. 1, 2014 *with* Stats. 2016, ch. 249 (S.B. 32).

[89] *Compare* Sen. Bill 150 (2017-2018 Reg. Sess.) as introduced on Jan. 18, 2017 *with* Stats. 2017, ch. 646 (S.B. 150) (initially requiring regional transportation plans to meet VMT reductions but modified before passage); *compare* Sen. Bill 375 (2007-2008 Reg. Sess.) as amended on Apr. 17, 2017 *with* Stats. 2008, ch. 728 (S.B. 375) (early version stating bill would require regional transportation plan to include preferred growth scenario designed to achieve reductions in VMT but modified before passage).

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

and poverty crisis – and have an unlawful and disparate impact on California's minority communities – by unlawfully increasing housing costs, making it even easier to derail or delay housing in CEQA lawsuits by failing to provide the requisite level of specificity and clarity regarding CEQA compliance obligations, and by exacerbating the legal uncertainties in CEQA and thereby expand the risk that CEQA lawsuits will be filed and won by anti-housing plaintiffs.

98. Respondents OPR and NRA were expressly advised by multiple commenters that these proposed regulations would cause disparate harm to racial minorities, and worsen California's housing and poverty crisis. OPR and NRA either ignored or summarily dismissed these comments, and accordingly engaged in intentionally discriminatory and unlawful conduct. Respondent OAL, which is charged with reviewing regulations for compliance with the APA, expedited and rubber-stamped the challenged regulations notwithstanding direct knowledge of their racially discriminatory and unlawful content and consequences, and their noncompliance with APA rulemaking requirements.

99. The Redlining Revisions also violate state housing laws, which apportion responsibility for accommodating new housing at prescribed income levels to cities and counties throughout California, without regard to the existence of effective transit services or TPAs in each city or county. State housing laws further recognize and allow for a broad range of housing types, cognizant of both differences in affordability and differences in community and resident preferences. The Redlining Revisions place new cost burdens and litigation obstacles on housing that has lawfully been planned for by both cities and counties, and recognized as being acceptable for meeting regional GHG reduction goals from the land use sector by CARB following a comprehensive CEQA compliance process completed under Senate Bill 375 (2008) ("SB 375").

100. The Redlining Revisions unlawfully create barriers to interstate commerce and personal mobility. As one prominent former cabinet member and current member of the

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

California Transportation Commission has explained, "housing is where jobs go home to sleep."[90] Federal and state commerce and transportation laws, as well as air pollution protection laws, have long required regions to plan and build transportation systems that actually work for existing and planned population and economic growth. Respondents have no constitutional, statutory, or regulatory authority to interfere with or otherwise limit population growth, transportation mobility, or interstate commerce.

101. Petitioners are suffering significant and ongoing harm as a result of Respondents' intentional civil rights and other violations in promulgating the anti-housing and anti-homeownership Redlining Revisions, which increase housing costs through direct new mitigation costs for VMT and GHG impacts, add additional CEQA compliance burdens (and thus result in increased housing application costs and processing delays) for cities and counties that approve new housing who must now justify the appropriateness of each significance threshold for each project.

102. As a direct result of the Redlining Revisions, housing that is critically needed by minority communities is at greater risk of being targeted by CEQA lawsuits, and at greater risk of losing such lawsuits as a result of Respondents' (a) arbitrary, capricious, discriminatory, and unlawful characterization of VMT as an adverse impact to the physical environment; (b) failure to promulgate express significance criteria required by section 210893(b) of the Public Resources Code, (c) uncertain and contradictory significance standards for VMT, (d) uncertain and unreliable assessment methodologies for VMT, (e) infeasible and uncertain mitigation requirements and mitigation measures for VMT, (f) uncertain significance standards for GHG, (g) infeasible and uncertain mitigation requirements and mitigation measures for GHG, (h) arbitrary and discriminatory aesthetic significance criteria for cities with fewer than 50,000 residents, (i) express endorsement of arbitrary and capricious significance standards to be differentially invented and applied to each new project by any representative of a lead agency without any public process and

[90] Dunn, *Brian Calle & Lucy Dunn: Wish List for Jerry Brown's Last Term*, The Orange County Register (Nov. 9, 2014), https://www.ocregister.com/2014/11/09/brian-calle-lucy-dunn-wish-list-for-jerry-browns-last-term/.

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Fax: 213.896.2450

without the knowledge or endorsement of elected or appointed representatives of that lead agency, (h) express imposition of a new obligation that each lead agency explain and thereby justify the use of each significance criteria for each new project, and (i) unauthorized and costly new limitation on performance standard mitigation measures.

103. Mandamus relief is appropriate to require immediate rescission of the challenged Redlining Revisions, and compel Respondents to return to this court in 90 days with lawful alternative amendments to the CEQA Guidelines, which alternative amendments shall (a) eliminate traffic delay as a CEQA impact in TPAs (or transit-served and transit planned equivalents thereto as designated by a city or county) as directed by the Legislature in section 21099 of the Public Resources Code; (b) incorporate judicial decisions inclusive of decisions endorsing the CEQA compliance pathways for GHG as identified by the California Supreme Court, upholding the authority of a city through its General Plan to eliminate traffic delay as a CEQA impact, and determinations that design review and approval of housing projects is not independently a discretionary project under CEQA; (c) avoid expanding CEQA to increase housing, transportation, or infrastructure costs for projects that are consistent with housing, transportation or infrastructure plans that have been approved following CEQA review by local, regional, and/or state agencies; and (d) take all such measures as are necessary or appropriate to eliminate ambiguous CEQA Guidelines, and CEQA Guidelines that conflict with, impede implementation of, or fail to acknowledge the mitigation value in complying with, laws, regulations, guidance and judicial decisions relating to housing, transportation, the environment and climate, and health and safety.

104. Injunctive relief is also sought, and appropriate, to preclude implementation of, and CEQA lawsuit claims based on, the Redlining Revisions for housing projects and housing project applications (and the transportation and infrastructure improvements for such housing) pending compliance with the writ. This injunctive relief would not preclude any lead agency from determining that traffic delay, as measured by Level of Service ("LOS"), is not itself an environmental impact under CEQA but instead could, in some circumstances, impede emergency

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

vehicle access or emergency evacuation routes and thus potentially create a public safety impact under CEQA, and would lengthen trip durations and accordingly result in greater emissions of air pollutants which is an impact under CEQA.

II. JURISDICTION AND VENUE

105. This Court has jurisdiction over this proceeding pursuant to California Code of Civil Procedure ("CCP") section 1085. Respondents are subject to personal jurisdiction because the challenged CEQA regulations would, if allowed to remain in effect, pertain to Petitioners/Plaintiffs, in addition to local agencies and project proponents located within the County of San Bernardino. Respondents may be properly served here, and jurisdiction and venue are proper here under CCP section 401, because the regulations challenged herein have an effect in, and apply in, the County of San Bernardino, California.

III. PARTIES

106. Petitioners/Plaintiffs THE TWO HUNDRED are a California-based unincorporated association of civil rights leaders, community leaders, opinion makers and advocates working in California (including in San Bernardino County) and elsewhere on behalf of low income minorities who are, and have been, affected by California's housing crisis and increasing wealth gap.[91]

107. The Two Hundred is committed to increasing the supply of housing, to reducing the cost of housing to levels that are affordable to California's hard working families, and to restoring and enhancing home ownership by minorities so that minority communities can also benefit from the family stability, enhanced educational attainment over multiple generations, and improved family and individual health outcomes, that white homeowners have long taken for granted. The Two Hundred includes civil rights advocates who each have four or more decades of experience in protecting the civil rights of our communities against unlawful discrimination by government agencies as well as businesses.

[91] *See* https://www.thetwohundred.org/.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

108. The Two Hundred supports the quality of the California environment, and the need to protect and improve public health in our communities.

109. The Two Hundred have for many decades watched with dismay decisions by government bureaucrats that discriminate against and disproportionately harm minority communities. The Two Hundred have battled against this discrimination for entire careers, which for some members means working to combat discrimination for more than 50 years. In litigation and political action, The Two Hundred have worked to force two government bureaucrats to reform policies and programs that included blatant racial discrimination – by for example denying minority veterans college and home loans and benefits that were available to white veterans, and promoting housing segregation as well as preferentially demolishing homes in minority communities.

110. The Two Hundred sued and lobbied and legislated to force federal and state agencies to end redlining practices that denied loans and insurance to aspiring minority home buyers and small businesses. The Two Hundred sued and lobbied to force regulators and private companies to recognize their own civil rights violations, and end discriminatory services and practices, in the banking, telecommunication, electricity, and insurance industries.

111. The Two Hundred have learned, the hard way, that California's purportedly liberal, progressive environmental regulators and environmental advocacy group lobbyists are as oblivious to the needs of minority communities, and are as supportive of ongoing racial discrimination in their policies and practices, as many of their banking, utility and insurance bureaucratic peers.

112. Several years ago, The Two Hundred waged a three year battle in Sacramento to successfully overcome state environmental agency and environmental advocacy group opposition to establishing clear rules for the cleanup of the polluted properties in communities of The Two Hundred, and experienced first-hand the harm caused to those communities by the relationships between regulators and environmentalists who financially benefited from cleanup delays and disputes instead of creating the clear, understandable,

financeable, insurable, and equitable rules for the cleanup and redevelopment of the polluted properties that blighted these communities.

113. The Two Hundred submitted comment letters to Respondents objecting to the discriminatory anti-housing content of the Redlining Revisions. The Two Hundred included with its comments to Respondent OPR its first civil rights lawsuit, filed against CARB in 2018, which remains pending and challenges four anti-housing discriminatory measures included in CARB's 2017 "Scoping Plan" for reducing GHG emissions, including but not limited to VMT reduction mandates and "net zero" GHG CEQA thresholds.[92] CARB Scoping Plans have been determined to not be regulations. *Newhall,* 62 Cal.4th at 222-23. Noteworthy for evidentiary purposes such as the intentional racial discrimination alleged in this complaint, CARB, represented by Attorney General Becerra, unsuccessfully demurred to The Two Hundred's constitutional due process claim by arguing that there is no constitutionally protected right to housing free of discrimination.[93]

114. The Two Hundred's members include, but are not limited to, members of and advocates for minority communities in California, including the following:

115. Joe Coto. Joe Coto is Chair of The Two Hundred. Mr. Coto is an American educator, city council member, and Democratic Party politician. From 2004 to 2010, he was a member of the California State Assembly, representing the 23rd Assembly District. He served as Chair of the Assembly's Insurance committee, and held positions on the Elections and Redistricting, Governmental Organization, and Revenue and Taxation committees. He also served on the Special committee on Urban Education. Coto served as Chair of the 26 member Latino Legislative Caucus for a 2-year term, and as Vice Chair for a two-year term.

116. John Gamboa. John Gamboa is Vice-Chair of The Two Hundred. Mr.

[92] Verified Petition for Writ of Mandate; Complaint for Declaratory and Injunctive Relief, *The Two Hundred et al. v. California Air Resources Board et al.*, No. 18CECG01494 (Fresno Cty. Super. Ct. Apr. 27, 2018).

[93] Order After Hearing on Respondents/Defendants' Demurrer to Complaint/Petition at 12, *The Two Hundred et al. v. California Air Resources Board et al.*, No. 18CECG01494 (Fresno Cty. Super. Ct. Oct. 26, 2018).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Gamboa is the former Executive Director of the Greenlining Institute and has experience in academia, the private sector and the non-profit sector. Prior to the Greenlining Institute, he was Executive Director of Latino Issues Forum, Communications Manager at U.C. Berkeley, Executive Director of Project Participar, a citizenship program, and Marketing and Advertising Manager at Pacific Bell. At the Greenlining Institute, Mr. Gamboa focuses on public policy issues that promote economic development in urban and low–income areas, and in developing future leaders within the country's minority youth. He has been active in combating redlining and in providing a voice for the poor and underserved in insurance, philanthropy, banking, housing, energy, higher education and telecommunications. He has served on numerous boards and commissions.

117. Robert J. Apodaca. Robert Apodaca is the Vice President and Policy Director of The Two Hundred. He is a Founder of ZeZeN Advisors, Inc., a boutique financial services firm that connects institutional capital with developers and real estate owners. He has a 45-year career in private and public sectors. He was Chairman and Trustee of the Alameda County Retirement Board (pension fund) and then joined Kennedy Associates, an institutional investor for pension funds as Senior Vice President and Partner. He represented Kennedy Companies on Barings Private Equity's "Mexico Fund" Board of Directors. He later joined McLarand Vasquez Emsiek & Partners, a leading international architectural and planning firm, as Senior Vice President of Business Development. He currently serves on numerous board of directors including Jobs and Housing Coalition, Greenlining Institute, California Community Builders and California Infill Federation.

118. Herman Gallegos. Herman Gallegos is a Leadership Council Member of The Two Hundred. He has provided active leadership in a wide variety of community, corporate and philanthropic affairs spanning local, national and international interests. As a pioneer civil rights activist in the early 1950's, Gallegos was a leader in the formation of the Community Service Organization, a civil rights-advocacy group organized to promote the empowerment and well-being of Latinos in California. In 1965, while serving as a Consultant to the Ford Foundation's National Affairs Program, Gallegos, with Dr. Julian Samora and Dr. Ernesto Galarza, made an assessment

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

with recommendations on how the foundation might initiate support to address the critical needs of the rapidly growing Latino population in the U.S. As a result, he was asked to organize a new conduit for such funds – the Southwest Council of La Raza, now the National Council of La Raza. Gallegos went on to become the council's founding Executive Director. Gallegos also served as CEO of several business firms, including the U.S. Human Resources Corporation and Gallegos Institutional Investors Corporation. He became one of the first Latinos elected to the boards of publicly traded corporations and the boards of preeminent private and publicly supported philanthropic organizations, such as the Rockefeller Foundation, The San Francisco Foundation, The Poverello Fund and the California Endowment.

119. Hyepin Im. Hyepin Im is a Leadership Council Member of The Two Hundred. She currently serves as the Founder and President of Korean Churches for Community Development ("KCCD") whose mission is to help churches build capacity to do economic development work. Under Ms. Im's leadership, KCCD has implemented a historic homeownership fair in the Korean community, a Home Buyer Center Initiative with Freddie Mac, a national database and research study on Korean American churches, and ongoing training programs. Previously, Ms. Im was a venture capitalist for Renaissance Capital Partners, Sponsorship and Community Gifts Manager for California Science Center, a Vice President with GTA Consulting Company, and a Consultant and Auditor with Ernst & Young LLP. Ms. Im serves on the Steering Committee of Churches United for Economic Development, as Chair for the Asian Faith Commission for Assemblymember Herb Wesson, and has served as the President of the Korean American Coalition, is a member of the Pacific Council, was selected to be a German Marshall Fund American Memorial Marshall Fellow, and most recently, was selected to take part in the Harvard Divinity School Summer Leadership Institute.

120. Don Perata. Don Perata is a Leadership Council Member of The Two Hundred. Mr. Perata began his career in public service as a schoolteacher. He went on to serve on the Alameda County Board of Supervisors (1986-1994) and the California State Assembly (1996-

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

1998). In 1998, he was elected to the California State Senate and served as president pro tem of the Senate from 2004 to 2008. As president pro tem, Mr. Perata oversaw the passage of Assembly Bill 32,[94] which established California's statewide greenhouse gas reduction target as well as authorized cap-and-trade regulations to reduce greenhouse gases from the extraction, processing, and business and consumer use of fossil fuels. Mr. Perata has guided major legislation in health care, in-home services, water development and conservation and cancer, biomedical and renewable energy. Mr. Perata has broad experience in water, infrastructure, energy, and environmental policies, both as an elected official and a consultant. He is versed in the State Water Project, Bay Delta restoration, renewable energy, imported water and water transfers, recycling, conservation, groundwater regulation, local initiative, storage and desalination.

121. Steven Figueroa. Steven Figueroa is a Leadership Council Member of The Two Hundred. He was born in East L. A., with a long history in California. Working on his first political campaign at age nine he learned that if you want change you have to be involved. As an adult he was involved in the labor movement through the California School Employees Association and later as a union shop steward at the United States Postal Service. A father of three, Steven has been advocating for children with disabilities for 30 years, beginning in 1985, for his own son, who is autistic. He took the Hesperia School District to court for violating his disabled son's rights and prevailed. He advocates for disabled children throughout the U.S., focusing on California. Currently, he serves as president of the Inland Empire Latino Coalition and sits on the advisory boards of California Hispanic Chambers of Commerce, the National Latina Business Women Association Inland Empire, the Disability Rights and Legal Center Inland Empire, and as Executive Director for Latin PBS. He previously served as the Vice President of the Mexican American Political Association Voter Registration & Education Corp.

122. Sunne Wright McPeak. Sunne McPeak is a Leadership Council Member of The Two Hundred. She is the President and CEO of the California Emerging Technology Fund, a

[94] Stats. 2006, ch. 488 (A.B. 32) (hereinafter "AB 32").

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

statewide non-profit whose mission is to close the Digital Divide by accelerating the deployment and adoption of broadband. She previously served for three years on the Governor's cabinet as the Secretary of the California Business, Transportation and Housing Agency, where she oversaw the state's largest agency and was responsible for more than 42,000 employees and a budget in excess of $11 billion. Ms. McPeak's duties as Secretary included management of the state's housing agencies, and during her tenure she co-chaired with the Natural Resources Agency the most recent comprehensive regulatory updates to the CEQA Guidelines. Ms. McPeak served as a Democratic Party member during a Republican Governor's administration. Prior to service on the Governor's cabinet, she served for seven years as President and CEO of the Bay Area Council, as the President and CEO of the Bay Area Economic Forum, and for fifteen years as a member of the Contra Costa County Board of Supervisors. She has led numerous statewide initiatives on a variety of issues ranging from water, to housing, to child care, and served as President of the California State Association of Counties in 1984. She was named by the San Francisco League of Women Voters as "A Woman Who Could Be President." She also served on the Boards of Directors of First Nationwide Bank and Simpson Manufacturing Company.

123. George Dean. George Dean is a Leadership Council Member of The Two Hundred. Mr. Dean has been President and Chief Executive Officer of the Greater Phoenix Urban League since 1992. Mr. Dean, a former CEO of the Sacramento, California and Omaha, Nebraska affiliates boasts more than 25 years as an Urban League staff member. His leadership focuses on advocacy on issues affecting the African-American and minority community, education, training, job placement and economic development. Mr. Dean annually raises more than three million dollars from major corporations, local municipalities and state agencies for the advancement of minority enterprises, individuals, families and non-profits. Mr. Dean is nationally recognized in the field of minority issues and advancement, and affordable housing.

124. Joey Quinto. Joey Quinto is a Leadership Council Member of The Two Hundred. Mr. Quinto's has made many contributions to the advancement of the Asian and Pacific

Islander ("API") community. He began his professional career as a mortgage banker. As a publisher, his weekly newspaper advances the interests of the API community and addresses local, consumer and business news, and community events. He is a member of several organizations including the Los Angeles Minority Business Opportunity Committee and The Greenlining Coalition. Mr. Quinto is the recipient of the Award for Excellence in Journalism during the Fourth Annual Asian Pacific Islander Heritage Awards in celebration of the Asian Pacific Islander American Heritage Month. He was also listed among the Star Suppliers of the Year of the Southern California Regional Purchasing Council, received the Minority Media Award from the U.S. Small Business Administration, and earned a leadership award from the Filipino American Chamber of Commerce based in Los Angeles.

125. Bruce Quan, Jr. Bruce Quan is a Leadership Council Member of The Two Hundred. Mr. Quan is a fifth generation Californian whose great grandfather, Lew Hing founded the Pacific Coast Canning Company in West Oakland in 1905, then one of the largest employers in Oakland. Bruce attended Oakland schools, U.C. Berkeley, and Boalt Hall School of Law. At U.C. Berkeley, he was a community activist for social justice, participated in the Free Speech Movement and the Vietnam Day Committee and was elected student body president. In 1973, he was chosen as one of three students to clerk for the Senate Watergate Committee and later returned to Washington to draft the "Cover-up" and "Break-in" sections of the committee's final report. He worked in the Alameda's City Attorney office, his own law practice advising Oakland's Mayor Lionel Wilson on economic development issues in Chinatown and serving Mayor Art Agnos as General Counsel for the San Francisco-Shanghai Sister City Committee and the San Francisco-Taipei Sister City Committee. In 2000, he moved to Beijing, continued his law practice, worked as a professor with Peking Law School, and became senior of counsel with Allbright Law Offices. Now in Oakland, he has reengaged in issues affecting the Chinese community and on issues of social justice, public safety and economic development in Oakland.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

126. Ortensia Lopez. Ortensia Lopez is a Leadership Council Member of The Two Hundred. She is a nationally recognized leader in creating coalitions, collaboratives and partnerships, resulting in innovative initiatives that ensure participation for low-income communities. Ms. Lopez has worked in the non-profit sector for over forty-one years in executive management positions. She is the second of 11 children born to parents from Mexico and the first to graduate from college. She currently serves on the California Public Utilities Commission's Low-Income Oversight Board, as Co-Chairperson and founding member of the Greenlining Institute, as Vice-President Chicana/Latina Foundation, as Director of Comerica Advisory Board, and on PG&E's Community Renewables Program Advisory Group. Ms. Lopez has earned numerous awards, including Hispanic Magazine's "Hispanic Achievement Award," San Francisco's "ADELITA Award", the prestigious "Simon Bolivar Leadership Award," the League of Women Voters of San Francisco "Woman Who Could Be President" award, California Latino Civil Rights Network award, and the Greenlining Lifetime Achievement.

127. Frank Williams. Frank Williams is a Leadership Council Member of The Two Hundred. He is an established leader in the mortgage banking industry, with over 25 years of experience, and is an unwavering advocate for creating wealth through homeownership for underrepresented communities. Frank began his real estate finance career in 1990, emphasizing Wholesale Mortgage Banking. He founded Capital Direct Funding, Inc. in 2009. Today, as Co-founder and Divisional Manager, Mr. Williams has made Capital Direct Funding into California's premier private lending firm. Capital Direct Funding's foundations are built on giving back to the community by supporting several non-profits. He currently serves as President of East LA Classic Theater, a non-profit that works with underserved school districts in California. Frank was also Past President for Los Angeles' National Association of Hispanic Real Estate Professionals.

128. Michael Shellenberger. Michael Shellenberger is a Leadership Council member of The 200, and was hailed by Time Magazine as a "Hero of the Environment," as well as Green Book Award winner for Break Through: From the Death of Environmentalism to the Politics

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

of Possibility, which faults environmental advocates who argue that climate change can only be addressed by limiting human progress and prosperity, and who fail to recognize the potential to overcome environmental challenges through economic development and technological innovations. Mr. Shellenberger is the founder and president of Environmental Progress, an independent research and policy center located in Berkeley, California.

129. Pete Carrillo. Pete Carillo is a Leadership Council member of The Two Hundred. Mr. Carrillo is the founding President/CEO of the Mexican Heritage Corporation of San Jose, and former Executive Policy Advisor for San Jose City Councilmember Blanca Alvarado. Mr. Carrillo currently serves as the Principal and Co-Founder of Silicon Valley Advisor, LLC.

130. Jason Cordova. Jason Cordova is an individual and aspiring homeowner residing in San Bernardino County who is harmed by the increased housing costs and CEQA litigation obstacles created by the Redlining Revisions. Mr. Cordova recently served as the Program Director for the Southern California College Access Network, which is tasked with increasing the college completion rates and career readiness of students in greater Los Angeles County.

131. Lynn Brown-Summers. Lynn Brown-Summers is a retired union organizer, lifetime resident of San Bernardino County, and mother of eight adult children. Because of high housing costs, two of her adult children have already moved to another state with less costly housing, and two others are planning to do so. Only one of her eight children has been able to afford to become a homeowner. Ms. Summers will suffer from grief and other harms as her children and grandchildren move to other states so they can afford housing. Before retiring, Ms. Summers also often drove 150 miles per day to different work places as part of her union organizing duties. Ms. Summers worked directly on successfully lobbying against legislative proposals to mandate reductions in VMT, given the direct harm she and others in her community would suffer from being unable to get to work, being charged VMT fees, and/or suffering from even higher housing costs, if a VMT reduction mandate was to be imposed by the Legislature. The VMT reduction legislation opposed by Ms. Summers was never adopted.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

132. Respondent/Defendant OFFICE OF PLANNING AND RESEARCH is a state administrative agency responsible for updating and proposing regulations implementing CEQA.

133. Respondent/Defendant CALIFORNIA NATURAL RESOURCES AGENCY is a state administrative agency of the State of California responsible for adopting regulations implementing CEQA.

134. Respondent/Defendant OFFICE OF ADMINISTRATIVE LAW is a state administrative agency responsible for reviewing state regulations for compliance with the APA.

135. DOES X THROUGH Y are additional state agencies, and employees of state agencies, who violated the civil rights of minority Californians in ignoring or intentionally causing the unlawful and disparate impacts caused by the challenged regulations.

IV. GENERAL ALLEGATIONS

A. California's Housing Crisis Disproportionately Impacts the State's Growing and Aspiring Minority Population, Is Resegregating the State, and Is Deepening an Already Severe Civil Rights Crisis

136. California has an unprecedented housing supply and affordability crisis, which Governor Gavin Newsome has called an "existential" threat to the state.[95] Increasingly costly and burdensome regulation, development fees, and political and legal opposition to housing that is affordable to California's middle and lower income families – anti-housing hostility that is far more likely to occur in wealthier coastal communities that disproportionately benefit from the state's economy – have led to a currently-estimated 3.5 million housing unit shortfall, as well as dramatically rising purchase prices and rents, and homelessness.

137. As shown in Figure 1, research by the Harvard Joint Center for Housing Studies shows that no other state has produced housing that aspiring minority, working and middle class residents cannot afford to buy on a scale comparable with California. In every coastal county

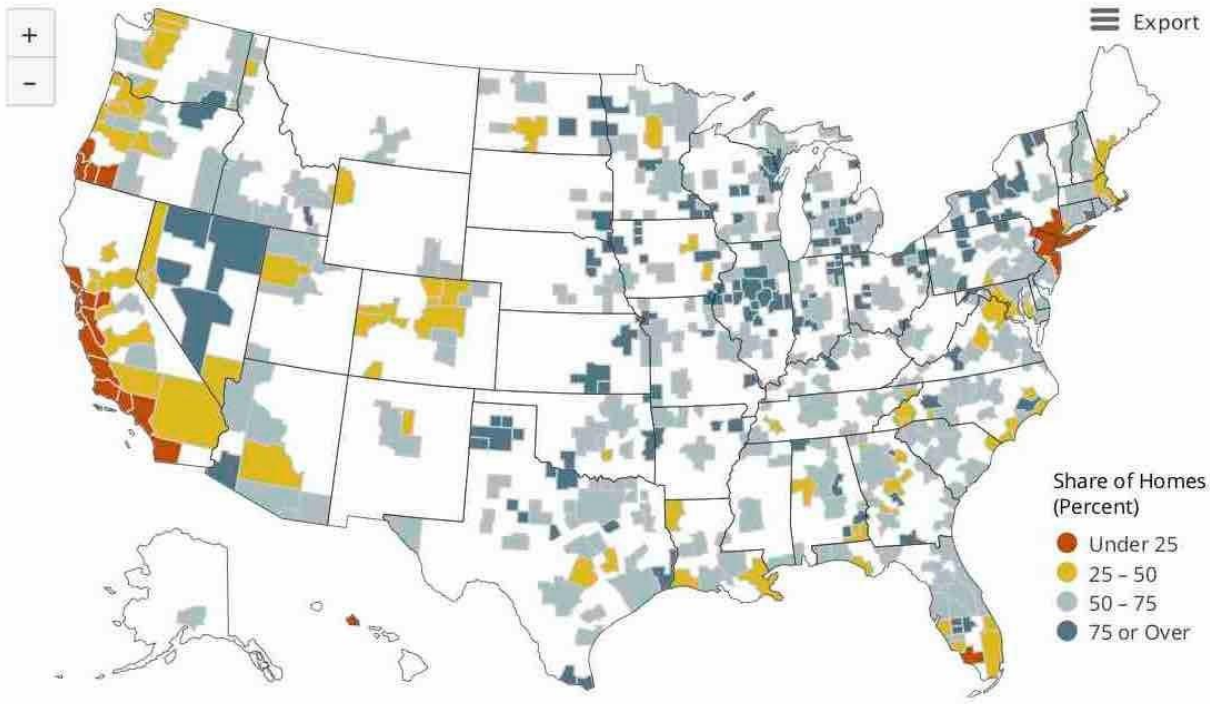
[95] Office of the Governor, In the Face of Unprecedented Housing Crisis, California Takes Action to Hold Cities Accountable for Standing in the Way of New Housing (Jan. 25, 2019), https://www.gov.ca.gov/2019/01/25/housing-accountability/.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

extending in an unbroken line from the Mexican border to well north of the San Francisco Bay Area, only 25 percent of all housing is affordable for a median-income household. Less than half of median-income Californians can afford a home in much of the rest of the state.

Figure 1: Percent For-Sale Housing with Monthly Payments Affordable to Median Income Households[96]



138. As shown in Figure 2, the Harvard researchers also found that 25 percent or less of all rental housing in all of the counties analyzed in California is unaffordable to a median income renter. California's rental housing market failure is also off the charts: no other large state has zero counties in which a median-income renter could afford fewer than 50 percent of rental units.

[96] Harvard University, Joint Center for Housing Studies, Share of Homes Affordable to Potential Buyers Vary Widely, https://www.jchs.harvard.edu/share-homes-affordable-potential-buyers-varies-widely (choose "median-income household")(last visited Oct. 2019).

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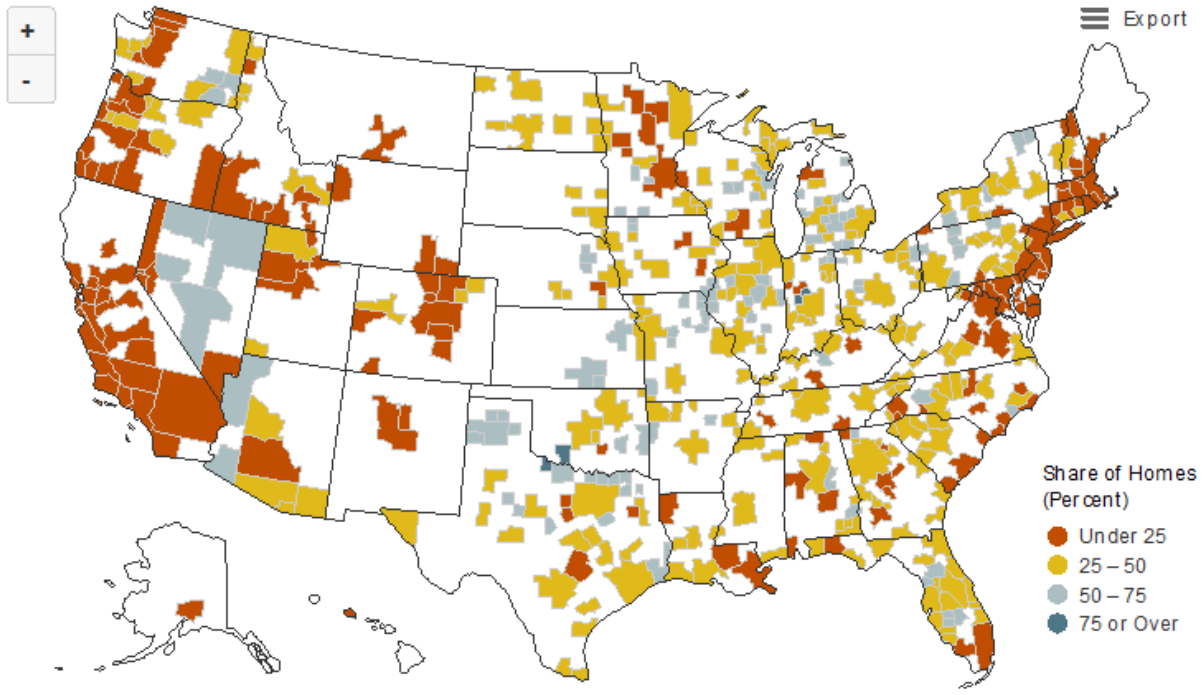
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Figure 2: Percent Rental Housing with Monthly Payments Affordable to a Median Income Household Renter[97]



139. California's housing supply and affordability crisis has intensified since the end of the Great Recession. Detached existing housing sale prices since 2010 rose from less than $200,000 to between $300,000 and $400,000 in the interior locations of the state, from $400,000 to nearly $600,000 in the Los Angeles Metro area, and from $400,000 to about $1 million in the Bay Area (see Figure 3). Housing prices increased rapidly throughout the state, but have reached historically high levels in coastal California.

[97] *Id.* (choose "median-income renter").

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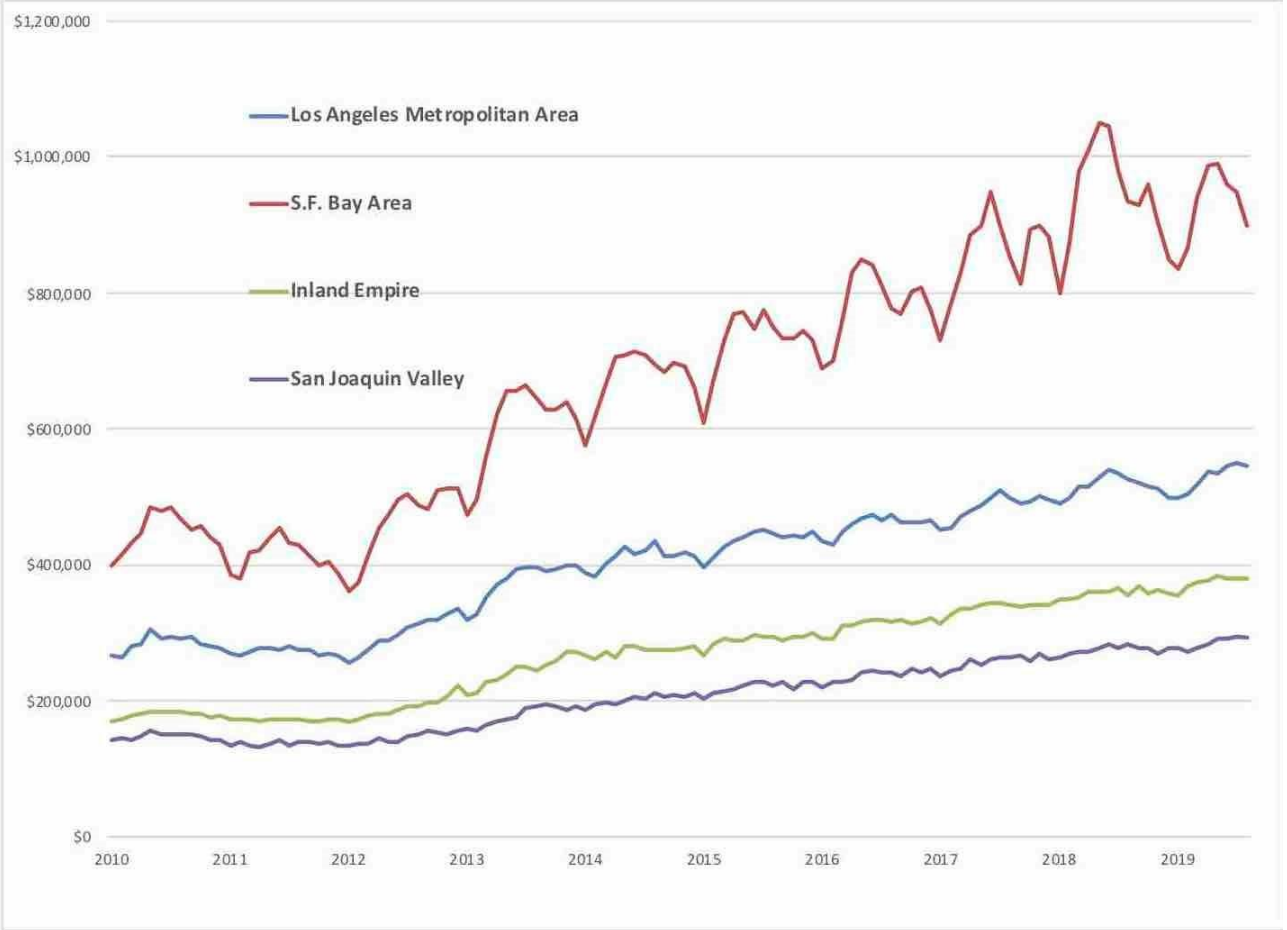
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Figure 3: Existing Detached Housing Prices, 2010-2019 (second quarter) By Region in California[98]



140. California's housing crisis is occurring just as the state is undergoing unprecedented demographic changes. From 2010 to 2017, the state's white[99] population fell by over 300,000, while the Latino population rose by nearly 1.4 million (by far the largest population

[98] Data from California Association of Realtors, Historical Housing Data, Median Prices of Existing Single Family Homes, https://car.sharefile.com/share/view/s0c02663a5c54e23a (last visited Oct. 2019). Data is seasonally adjusted and annualized; the "LA Metro" includes Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County; the "Inland Empire" includes Riverside County and San Bernardino County; the "S.F. Bay Area" incudes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties; and "San Joaquin Valley" is the average of the prices reported to Kern, Kings, San Joaquin, Merced and Fresno Counties.

[99] In accordance with the data classifications used in the U.S. Census Bureau American Community Survey, "white" means "white alone, not Hispanic or Latino" and "Latino" means "Hispanic or Latino" in this complaint.

increase of any group). For the first time in decades, the state's Latino residents accounted for 39 percent of the total state population, a greater share than the white population which declined to just over one-third of all state residents. The number of African American, Asian and other non-white groups also increased.

Table 1: California's Demographic Change, 2010-2017[100]

	2017 California Population	Net Population change, 2010-2017	Percent of total California Population
State	39,536,653	2,187,290	100%
Latino	15,477,306	1,387,895	39%
White	14,616,636	-332,178	37%
Asian	5,765,305	864,342	15%
African American	2,271,917	25,564	6%
Other groups	1,405,489	241,667	4%

141. Unlike the conditions facing the new, aspiring, and minority California population, residents in prior years, particularly white households, were able to rent reasonably priced apartments, save enough money to buy affordable starter homes, and eventually locate in the state's most temperate, jobs-rich coastal communities. As the older generations transitioned from renters to homeowners, they significantly enhanced their financial assets and wealth. The State LAO recently estimated that the median net worth of California renters was a minuscule $5,400 in 2013 compared with a median net worth of $195,400 for a homeowner in the state.[101]

142. Now, due to high housing costs, California's emerging Latino, African American, Asian and other growing populations are increasingly denied the economic opportunities that homeownership afforded the state's earlier, majority-white generations. While California's

[100] U.S. Census Bureau, 2010 and 2017 American Community Survey (ACS) 1-Year Estimates, Sex by Age, Table B01001, and Total Population, Table B01003, , https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B01001" and "B01003" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 2019).

[101] California's High Housing Costs, *supra* note 10, at 28.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

overall homeownership rate is among the lowest in the nation as fewer people can afford to buy housing, it is shockingly low for the state's growing Latino, African American, and other new residents, even including relatively more affluent Asian households. In 2017, about 55 percent of all Californians lived in owner-occupied housing, including 64 percent of all white residents. Just 44 percent of all Latinos and 34 percent of all African Americans lived in owner occupied housing, far less than the statewide average, and far below the white resident homeownership rate.[102]

143. California's aspiring Latino, African-American and other growing populations also own a disproportionately low share of all owner-occupied housing. As shown in Figure 4, although Latinos comprise nearly 40 percent of the entire state, and accounted for 63 percent of California's total population growth from 2010 to 2017, they own barely 20 percent of all owner-occupied housing. Latinos and African-Americans collectively comprise 45 percent of the California population, but own just 27 percent of the state's owner occupied housing. In contrast, the state's declining white population, which has fallen to just over one-third of all residents, owns a remarkable 55 percent of California's entire stock of owner-occupied housing.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[102] U.S. Census Bureau, 2017 American Community Survey (ACS) 1-Year Estimates, Occupied Housing Units, Table B25003, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B25003" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 12, 2019) .

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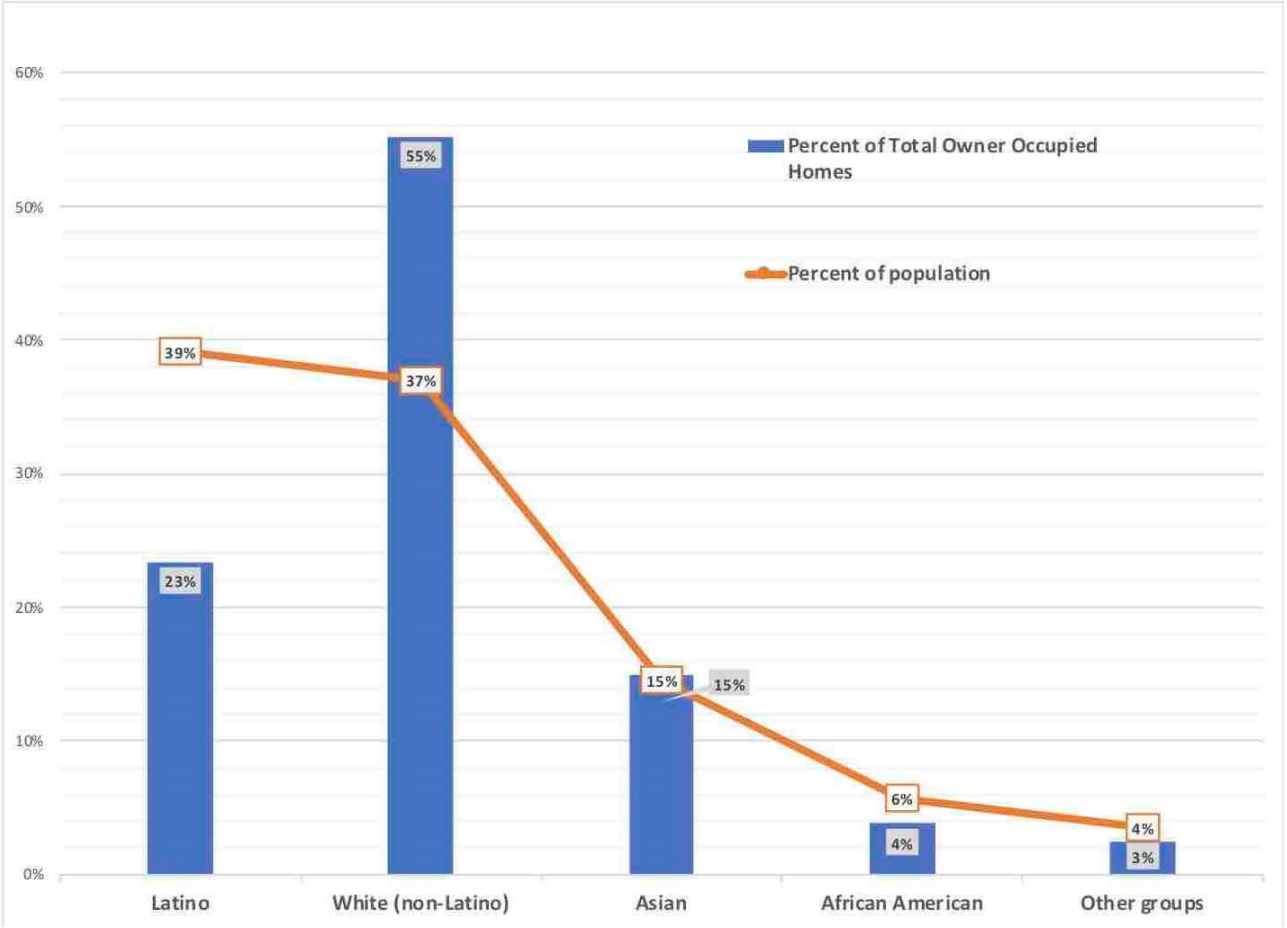
Tel: 213.896.2400
Fax: 213.896.2450

Figure 4: Share of Total State Population and Owner Occupied Housing by Group, 2017[103]



144. California's demographics are dramatically changing, but the state's housing crisis increasingly denies new, aspiring, majority-minority residents the housing opportunities that drove upward mobility and multi-generational wealth for earlier majority-white generations. Today, aspiring Californians are literally forced to live in the geographic margins of the state's employment centers, drive for hours to reach work, and spend a disproportionately large amount of the limited incomes they are able to earn on housing.

[103] Derived from U.S. Census Bureau, 2017 American Community Survey (ACS) 1-Year Estimates, Sex by Age, Table B01001, Totally Population, Table B01003 and Occupied Housing Units, Table B25003, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B01001", "B01003", and "B25003" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 12, 2019).

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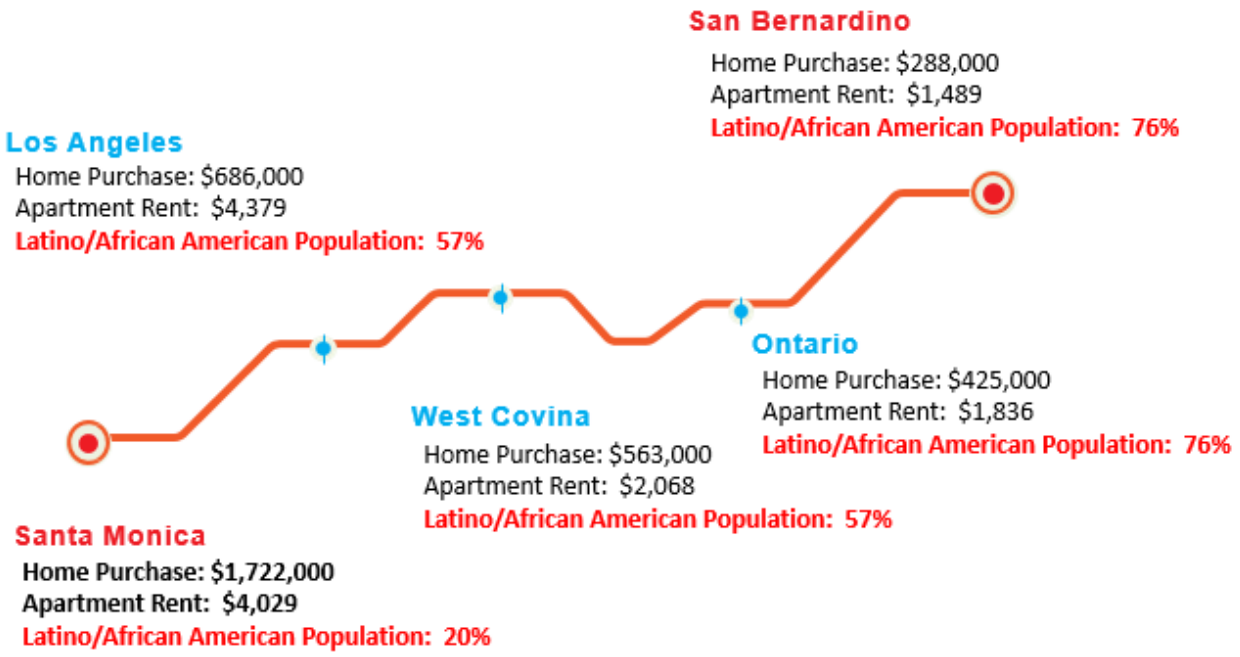
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

145. Figure 5 shows how housing costs exclude minority groups from California's coastal employment centers, such as Santa Monica, and push the state's aspiring, hardworking minority families eastward to less expensive locations in the Inland Empire such as San Bernardino. The average home price in Santa Monica has risen to over $1.7 million, and an average two-bedroom family apartment rents for over $4,000 per month. These housing costs are unaffordable to most of the state's growing and younger Latino and African American population, and these groups account for only 20 percent of Santa Monica's population.

Figure 5: The Social and Economic Geography of California's Housing Crisis[104]



146. In San Bernardino, 77 miles east of Santa Monica, the average home price has risen to about $296,000, six times lower than Santa Monica. Average two-bedroom apartment

[104] Zillow, Median home purchase price data for each city, https://www.zillow.com/san-bernardino-ca/home-values/ and https://www.zillow.com/santa-monica-ca/home-values/ (last visited Nov. 2019); Rent Jungle, Median rent price data for each city, https://www.rentjungle.com/average-rent-in-san-bernardino-rent-trends/ and https://www.rentjungle.com/average-rent-in-santa-monica-rent-trends (last visited Nov. 2019). Figure 5 was also included as Figure 1.1 in the Introduction, and is reprinted here for ease of reference.

rents are about $1,376 per month, 2.7 times lower than Santa Monica. Average housing prices fall by $19,000, and average rents fall by $33 per month, for each mile that residents relocate eastward from high income Coastal Job Centers like Santa Monica to San Bernardino. Severe housing shortfalls and correspondingly high housing costs are excluding the state's growing and younger Latino and African American populations away from coastal communities, and forcing California's minorities to move eastward to either find a home at a price they can qualify to buy or a monthly rent they can afford. Latino and African American residents account for 76 percent of the San Bernardino population, nearly four times their share of the total population in Santa Monica.

147. The disparate impacts on aspiring minority populations detailed in Figure 5 are duplicated throughout California. The San Francisco Bay Area has generated a disproportionately large share of the state's new jobs since the Great Recession, and average and median incomes in that region are far higher than elsewhere in California (and higher than in all but the most exclusive U.S. and global communities). Access to the Bay Area employment center provides enormous opportunities for upward mobility. Yet, only 29 percent of Bay Area residents in the five counties surrounding San Francisco Bay are Latino or African American, and these groups are increasingly being forced out of the region by the staggeringly expensive cost of living. The forced relocation of younger, aspiring minority groups from the Bay Area has become so pronounced that this process of "resegregation" has been documented in a detailed 2018 study by U.C. Berkeley and by researchers and journalists in the region.[105]

[105] Verma, *supra* note 21; *see also* PhysOrg, Rising Housing Costs Are Re-Segregating the Bay Area, Study Shows (Sept. 20, 2018), https://phys.org/news/2018-09-housing-re-segregating-bay-area.html ("Increases in housing prices have intensified racial disparities in access to neighborhoods with better environmental quality, educational resources and economic opportunities, increasingly placing these neighborhoods out of reach for low-income people of color in San Francisco, Alameda and Contra Costa counties. 'Our research provides quantitative evidence of what activists have been saying for years: The housing crisis is contributing to the re-segregation of the Bay Area,' says Miriam Zuk, director of the Urban Displacement Project. For example, the reports found that low-income black households became increasingly likely to live in high-poverty, segregated neighborhoods between 2000 and 2015. In 2015, 65 percent of San Francisco's low-income black households lived in high-poverty, segregated neighborhoods—a substantially higher rate than low-income groups of other races.' … 'As these reports highlight, the housing crisis

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

148. The adverse effects of high housing costs and the increasing exclusion of the state's younger, aspiring and growing minority groups from opportunity-rich coastal locations have been further amplified by California's massive income inequality. The Economic Policy Institute, a progressive pro-labor research institution, found that between 2009 and 2015, the average real income for the top 1 percent of the California population grew by 53.5 percent, the highest rate in the U.S., and 60 percent faster than the U.S. average of 33.9 percent. The top 1 percent of all Californians also captured an astonishing 53.1 percent of the total average real income growth in the state during that period, more than in New York and much higher than the national average.[106]

149. Like the concentration of homeownership among the state's declining number of white residents, the benefits of California's economic growth have largely bypassed the state's aspiring minority population. As shown in Figure 6, while per capita incomes for white and Asian residents have risen to well above the state average, per capita incomes for Latino, African-American and other groups are much lower. In 2017, white resident per capita incomes were over $51,000 compared with a statewide average of $35,000. Latino per capita income was the lowest of all groups in the state at $19,730, barely half of the statewide average and close to three times less than white residents.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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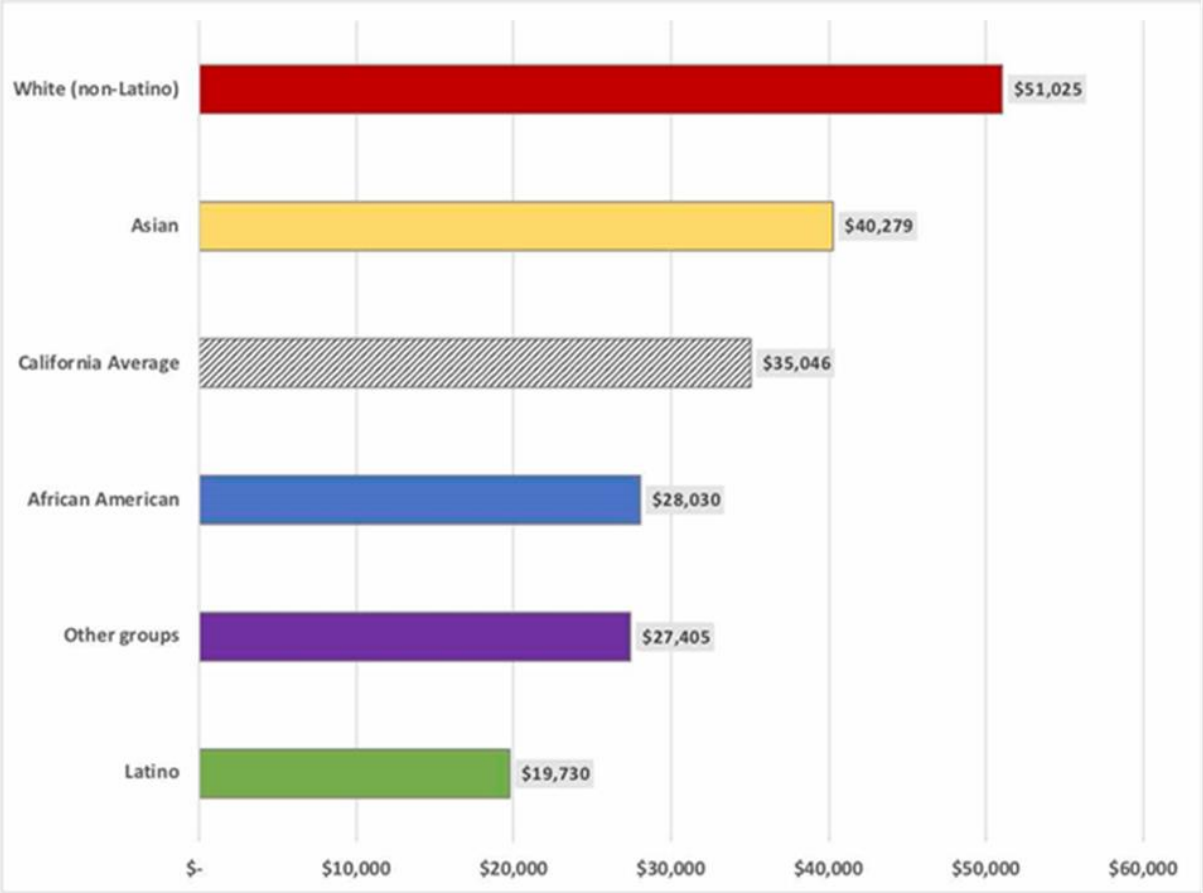
continues to hit low-income residents of color particularly hard, forcing residents out of their homes and contributing to the resegregation of the Bay Area,' said Fred Blackwell, CEO of the San Francisco Foundation. 'We cannot make meaningful progress toward inclusive prosperity in the region without addressing the housing crisis.' … Between 2000 and 2015, as housing prices rose, the City of Richmond, the Bayview in San Francisco and flatlands areas of Oakland and Berkeley lost thousands of low-income black households. Meanwhile, increases in low-income black households during the same period were concentrated in cities and neighborhoods with lower housing prices—such as Antioch and Pittsburg in eastern Contra Costa County….").

[106] Sommeiller and Price, *The New Gilded Age: Income Inequality in the U.S. By State, Metropolitan Area, And County* at 4 (July 19 2018), https://www.epi.org/files/pdf/147963.pdf.

Figure 6: California Per Capita Income by Group, 2017[107]



150. The housing crisis has disproportionately burdened workers, families, children, students and seniors in California's minority communities. In 2018, the HCD concluded that the lack of housing supply and rising costs are compounding growing inequality and limiting advancement opportunities for younger Californians. Notwithstanding the relocation of the minority population to less expensive inland parts of the state, the HCD found that the percentage of renters paying more than 30 percent of their income toward rent is greater for households that identify as Black or African-American, Latino or Hispanic, American Indian or Alaska Native, or Pacific

[107] U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates, Per Capita Income in the Past 12 Months (in 2017 Inflation-Adjusted Dollars), Table B19301, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B19301" in topic or table name search field)(last visited Nov. 2019).

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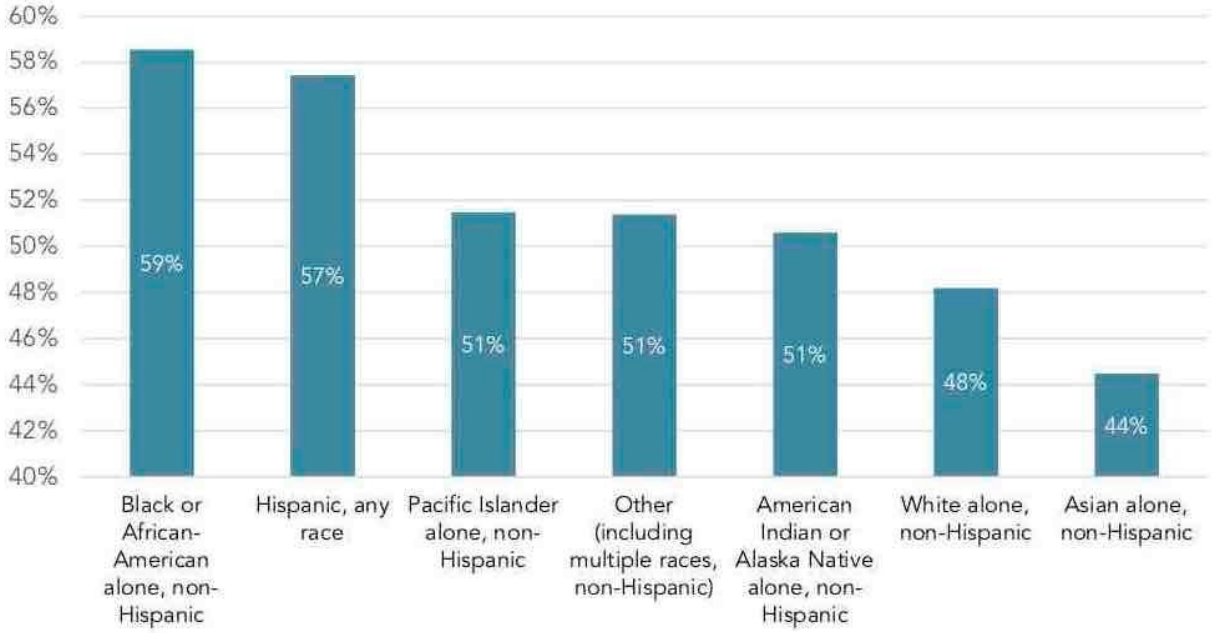
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Islander, compared to renter households that identify as white (see Figure 7). The HCD concluded that in California the "[h]ousing cost burden is experienced disproportionately by people of color."[108]

Figure 7: Percentage of California Renters Paying 30 Percent or More of Income on Rent by Ethnicity and Race[109]



151. Rent burden statistics for Santa Monica compared with San Bernardino are consistent with the disproportionate impact documented by HCD. On average, Santa Monica renters allocate just 27.7 percent of their incomes for housing, or about $4,000 of a monthly income of $14,400. In San Bernardino, renters on average must pay 35.9 of their incomes on housing, or about $1,489 of a monthly income of just $4,147. After paying for housing, the average Santa Monica renter has over $10,000 per month of income to spend on necessities such as energy, education, food, childcare and health – with ample additional discretionary income left to pay for options such as restaurants, entertainment and travel. The average San Bernardino renter has just over $2,600 per month of income after paying for housing, which is not enough to pay for necessary expenses. Only

[108] California's Housing Future, *supra* note 87, at 28.

[109] *Id.*

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Los Angeles, CA 90071
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Fax: 213.896.2450

20 percent of the vastly more privileged Santa Monica population is Latino or African American compared with 76 percent in San Bernardino.

152. The housing crisis is excluding the state's growing, aspiring minority communities from high opportunity communities that have life-long positive impacts on health, well-being and upward mobility. According to HCD, California's coastal communities are where the state's best job opportunities, services, high-performing schools, and transit are located. The long-term earning potential of each Californian living in higher-income, high-opportunity neighborhoods increases substantially for each year of residence in such neighborhoods.[110]

153. Living in high-opportunity California coastal areas, however, is a nearly unattainable objective even for comparatively well-compensated, aspiring minority workers. In 2019, John Husing, an economic expert for numerous agencies including the Southern California Association of Governments, completed an exhaustive analysis of housing affordability for construction workers in the state's two largest regions, the six-county SCAG area and the San Francisco Bay Area.[111] The study evaluated the incomes of both union and non-union construction workers across 50 different construction job categories in relation to both the median, and smaller starter home (25 percent below median), housing prices of 2018 for each county in the region.

154. Approximately 71 percent of all construction workers in Southern California are Latinos. Experienced union construction workers earn approximately $90,000 per year in California, compared with the state's $71,805 median household income.[112] Despite earning nearly $20,000 more than the state's median income, the research showed that none of these union construction workers could afford to purchase a median priced home in any Southern California county touching the ocean.[113]

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[110] *See id.* at 26-33.

[111] Husing, *supra* note 14, at 5-9.

[112] *Id.* at 19-23; Department of Numbers, California Household Income, https://www.deptofnumbers.com/income/california/ (last visited Nov. 7, 2019).

[113] Husing, *supra* note 14, at 14-15.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

155. Similarly, in the Bay Area, the research showed that although union construction wages are higher, no union construction worker could afford a median or a below-median cost starter home in San Francisco, San Mateo, Marin and Santa Clara counties; in contrast, about 96.3 percent of Bay Area construction workers could afford to buy a below-median cost starter home in the Central Valley.[114] In contemporary California, even union construction workers who do not already own homes (most of whom are minorities), are welcome to build homes and other buildings in the thriving jobs centers in coastal communities, but California's discriminatory housing policies have assured that none are able to live where they work.

156. When even $90,000 households – the households of our (mostly union member) teachers, nurses, first responders, municipal employees, and scores of other workers – cannot afford to buy a median priced home in regional Coastal Job Centers comprising hundreds of square miles, the housing and homeownership prospects for median and lower income Californians are even more dismal – as is the predictable, and growing, homeless crisis.

157. California's high housing costs and geographic resegregation are profoundly harming the state's growing minority population. In 2019, the Public Policy Institute of California and the Stanford Center on Poverty and Inequality concluded that almost four in ten (36.4 percent) Californians live at or below the poverty line and are unable to pay for routine monthly expenses, even after taking into account public subsidies to help these families pay for food, housing and medical care. The study found that the most severely affected Californians were disproportionately racial minorities, children, and seniors.[115]

158. Other recent studies show that more than half of Latinos in California struggle to pay for basic expenses like food, housing, and electricity– a larger percentage of struggling Latinos than existed in 2014 as these communities continued to be victimized by the

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[114] *Id.*

[115] *See* Bohn et al., Just the Facts, Poverty in California, Public Policy Institute of California and Stanford Center and Poverty and Inequality (July 2019), https://www.ppic.org/publication/poverty-in-california/.

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400 South Hope Street, 8th Floor
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Tel: 213.896.2400
Fax: 213.896.2450

housing shortage and resulting ever-higher housing prices. The median annual wage for the ten most commonly held jobs for Latinos – farming, construction, food preparation, transportation, sales, production, management, office and administrative work, personal care and grounds maintenance, was $37,000, compared to $72,000 for the ten most commonly held jobs for white and Asian workers. Latinos working in management make $70,255 on average compared to $123,051 for white managers. The California Latino Economic Institute found that educational attainment and home ownership for Latinos were both below the rates for the general population in the state. Latinos are overrepresented in low-income groups, underrepresented in high-income groups, and 60 percent live in inadequate housing.[116]

159. California's housing costs are a major reason why the state has the highest poverty rate. Notwithstanding the enormous wealth that has accrued to a relative few residents in the Bay Area and coastal Southern California, especially by workers in the so-called "keyboard" economy focused on internet services and content, millions of Californians remain impoverished.[117]

160. California has the nation's highest homelessness rate, and highest number of homeless people, who live on streets and in parks, in shelters, or in their vehicles. Despite billions of dollars allocated to address this human tragedy, the state's homelessness rate is increasing, not declining.[118] Minority groups account for a disproportionately high number of the homeless population. In 2018 and 2019, point-in-time surveys reported that 67 percent of the homeless population in Los Angeles County, the largest in California and in the U.S., identified as African-American or Latino.[119]

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[116] *See* Hellerstein, *More Than Half of Latinos in California Struggle to Stay Afloat, Report Finds*, CalMatters (Oct. 10, 2019), https://calmatters.org/california-divide/2019/10/more-than-half-of-latinos-in-california-struggle-to-stay-afloat-report-finds/.

[117] *See* Downs, *Census Bureau: California Has Highest Poverty Rate in U.S.*, UPI (Sept. 13, 2018), https://www.upi.com/Top_News/US/2018/09/13/Census-Bureau-California-has-highest-poverty-rate-in-US/1611536887413/.

[118] Stepman, *supra* note 13.

[119] Los Angeles Almanac, *Homelessness in Los Angeles County 2019*, http://www.laalmanac.com/social/so14.php (last visited Oct. 2019).

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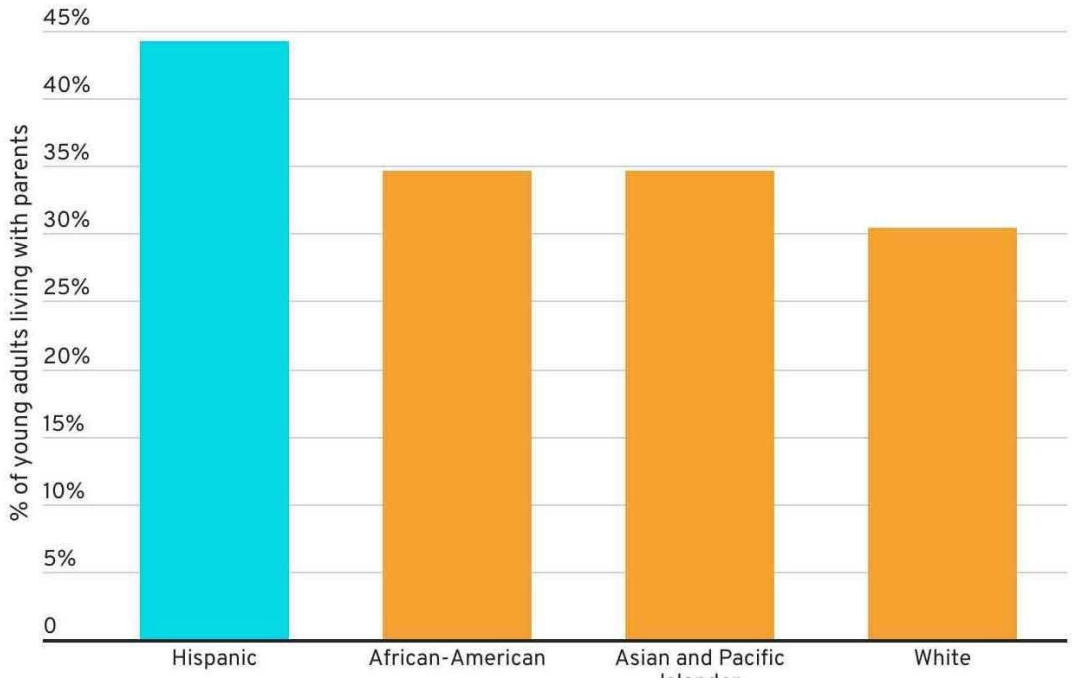
Fax: 213.896.2450

161. California's housing crisis forces younger minorities to disproportionately live with their parents. As shown in Figure 8, the percentage of people 18 to 34 who live at home is significantly higher for Latinos, African-Americans and Asian/Pacific Islanders than whites.

Figure 8: Percentage of Californians Aged 18-34 Living With Parents[120]



162. State and local governments have proposed or passed several purportedly pro-housing measures annually beginning in 2017, and Governor Newsom has set a target of completing 3.5 million new housing units by 2025 in California.[121] The most recent data published by the California Department of Finance, however, shows that single family home permits fell by 12 percent and multi-family residential permits fell by 20.1 percent through July 2019 as compared to the 2018 rates. The annualized rate of residential permits in 2019 is only about 106,000 units. Assuming all permitted units were actually built, California would need 33 years to increase its

[120] Levin, *Nearly 40 Percent of Young Adult Californians Live With Their Parents*, CalMatters (Aug. 25, 2019), https://calmatters.org/housing/2019/08/young-adults-californians-living-with-parents-millennials-ddata/.

[121] Newsom, *The California Dream Starts at Home,* Medium (Oct. 20, 2017), https://medium.com/@GavinNewsom/the-california-dream-starts-at-home-9dbb38c51cae.

housing stock by 3.5 million units, 27 years later than the Governor's target.[122]

163. Even when state voters expressly agree to be taxed to provide housing for the neediest residents, actual construction of new units has been delayed by years – and the price of units has risen to astronomical and unsustainable heights. In 2016, Los Angeles County approved Proposition HHH, a new $1.2 billion tax to provide 10,000 homeless housing units. In October 2019, an independent audit of program expenditures showed that the cost of each unit would be $600,000 – higher than the sale price of a market-rate condominium in the County. Far less than the promised 10,000 units could be built with the new funding. The audit also found that due to regulatory barriers, a limited pool of developers, labor costs, a cumbersome multi-year permitting processes, and anti-housing lawsuits filed by neighbors under CEQA and other laws, not a single housing unit had been built in the three years since voters approved Proposition HHH funds.[123]

164. The best available data provides substantial evidence that California's growing and aspiring minority communities have been severely and disproportionately harmed by the state's housing shortage and exorbitant housing costs. This harm is inflicted on current residents as well as their children and grandchildren, all of whom suffer from the exclusion from the homeownership opportunities that so greatly enriched earlier generations. These adverse impacts are particularly severe for Latino residents, the state's largest and growing ethnic group, and other Californians of color. While younger white residents are also harmed, minority residents are disproportionately harmed. And, notwithstanding a myriad of plans, proposals and promises, California's housing crisis continues to grow more severe with no apparent solution in sight.

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Fax: 213.896.2450

[122] California Department of Finance, Construction Permits, Monthly Data, from 2000: Seasonally Adjusted, Residential (units and valuation), http://www.dof.ca.gov/Forecasting/Economics/Indicators/Construction_Permits/ (last visited Nov. 2019).

[123] Smith, *$600,000 for Homeless Housing? Audit Suggests Spending Money on Shelters Instead*, Los Angeles Times, (Oct. 7, 2019), https://www.latimes.com/california/story/2019-10-07/homeless-housing-bond-measure-audit-shelters-galperin.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

B. The State's Housing Crisis Has Led to a Mobility Crisis that Disproportionately Harms Aspiring Minorities for Whom Vehicle Use Is a Fundamental Civil Right and a Basic Necessity

165. California's housing crisis and the inability of aspiring minority groups to live near coastal employment centers has triggered a mobility crisis. Contrary to policies of the state and environmental advocacy groups that seek to discourage or eliminate automobile use, California's growing workforce has been, and continues to be, significantly dependent on a personal vehicle to get to work and other necessary destinations. However, the state's housing crisis and Respondents' ideological aversion to maintaining and improving an aging roadway system forces minority workers to travel longer distances to earn a living. California policies also divert billions of dollars of public funding to purported transit improvement projects, such as rail lines and electric car subsidies, that cannot meet the needs of its aspiring minority communities and further enrich the state's already wealthier (and whiter) residents in coastal employment centers.

166. Due to the residential exclusion of aspiring minority workers from coastal employment centers, work commutes of those workers have become increasingly lengthy.[124]

167. California leads the nation in the growth of so-called "supercommuters," people who are forced to travel at least 90 minutes each way, or more than three hours total every day for work. Riverside-San Bernardino, Modesto and Stockton – all locations where lower housing prices attract minority workers who must commute for miles to coastal employment centers – have the largest percentage of supercommuters in the nation. According to U.S. Census Bureau data, these three locations, as well as Vallejo and Merced, account for five of the nine metropolitan areas

[124] The percentage of workers commuting at least an hour each way to work is 16.9 percent in Riverside-San Bernardino, fifth highest in the nation, 1.4 percent in Stockton, second highest in the nation, 12.9 percent in Modesto, twelfth highest in the nation, 16.7 percent in Vallejo, sixth highest in the nation, 17 percent in San Francisco-Oakland, fourth highest in the nation, and 12.5 percent in Los Angeles, fourteenth highest in the nation. Several of these areas, such as Los Angeles and San Francisco-Oakland extend over large geographies and longer commutes are located at the fringes, such as Palmdale and Lancaster in LA, and eastern Contra Costa County in SF. Among 132 communities in the nation, the average number of commuters traveling at least one hour each way to work is 9 percent based on 2015 Census data. *See* Wendell Cox, 60 and Over Commute Shares by Metropolitan Area, http://demographia.com/db-60+bymode.pdf (last visited Oct. 2019).

with the highest percentage of supercommuters in the U.S.[125]

168. As shown in Table 2, the number of workers aged 16 or older who commuted to work rose by 2.13 million between 2010 and 2017. Commuters traveling 45 minutes or more to work, or at least 1.5 hours per day, accounted for more than half of this increase. Commutes of longer than 30 minutes each way, or more than one hour per day, accounted for 82 percent of the net number of new commutes between 2010 and 2017. Although the total number of commuters rose by 14 percent, shorter trips of less than 20 minutes to work actually decreased by over 120,000. Californians are commuting in greater numbers and for longer periods than ever before.

Table 2: Total Number of California Commuters by Trip Length, 2010-2017[126]

	2017	2010	Net Change
Total Commute Trips	17,227,742	15,097,170	2,130,572
Less than 20 minutes	3,659,052	3,779,798	-120,746
20-30 minutes	3,480,112	3,106,667	373,445
30-45 minutes	3,838,879	3,199,688	639,191
More than 45 minutes	3,764,335	2,660,961	1,103,374

169. Despite billions of dollars spent on public transit, the highest gasoline costs in the nation, and a decaying roadway infrastructure built decades ago for a far smaller population, California workers are becoming more, not less, reliant on driving to work, especially in single

[125] The percentage of supercommuters is 6.7 percent in Riverside-San Bernardino, ninth in the nation, 8 percent in Stockton, second in the nation, 7.9 percent in Modesto, third in the nation, 6.4 percent in Vallejo, twelfth in the nation, and 6.4 percent in Merced, tenth in the nation. Among 381 communities in the nation, the average number of supercommuters is 2.8 percent based on 2015 Census data. *See* McPhate, *California Today: The Rise of the Super Commuter*, New York Times (Aug. 21, 2017), https://www.nytimes.com/2017/08/21/us/california-today-super-commutes-stockon.html; Cox, 90 and Over Commute Shares by Metropolitan Area, http://demographia.com/db-90+commute.pdf (last visited Oct. 2019).

[126] U.S. Census Bureau, 2010 and 2017 American Community Survey (ACS) 1-Year Estimates, Means of Transportation to Work by Travel Time to Work, Table B08134, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B08134" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 12, 2019).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

occupancy vehicles. As shown in Table 3, the total California workforce over age 16, including workers at home, rose by approximately 2.4 million from 2010 to 2017. Workers commuting alone in cars, trucks or vans accounted for 1.89 million new commutes, or nearly 80 percent of this increase. Only 4 percent of the state's new commuters chose to use public transit for commuting, which is nearly three times less than the 268,000 new workers who worked at home. Excluding people working at home, the percentage of California work commutes by driving alone rose from 77.2 percent to 78.6 percent from 2010 to 2017. The percentage of commuters using public transit fell from 5.4 percent to 5.3 percent. Vehicular use, including carpools, accounted for close to 90 percent of all work commutes in the state. California workers are almost completely reliant on automobiles to access employment, and the number of vehicular work commutes and VMT has steadily increased over time.

Table 3: Total Number of California Workers by Commute Type, 2010-2017[127]

	2017	2010	Net Change
Total Workers over age 16	18,320,629	15,921,475	2,399,154
Car, truck, or van - drove alone	13,541,563	11,650,145	1,891,418
Car, truck, or van - carpooled	1,837,270	1,831,538	5,732
Public transportation (excluding taxicab)	919,579	820,349	99,230
Walked	473,375	429,786	43,589
Taxicab, motorcycle, bicycle, or other means	455,955	365,352	90,603
Worked at home	1,092,887	824,305	268,582

170. Decades of urban development and transportation studies have confirmed that using a car is an absolute necessity for aspiring middle- and low-income households determined to find and keep jobs, keep their kids in school, access healthy food, and obtain quality medical care. Due to the much longer time required to complete public transit commutes,

[127] U.S. Census Bureau, 2010 and 2017 American Community Survey 1-Year Estimate, Means of Transportation to Work by Age, Table B08101, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B08101" in topic or table name search field)(last visited Nov. 2019).

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automobile access has been repeatedly identified as a key factor in improving the employment opportunities for minority populations[128] and represents the only option that reduces transportation hardships and increases employment access for low income mothers receiving public assistance.[129] Despite Respondents' fervently-held beliefs, researchers have consistently concluded that, due to long trip times and the inability to access workplaces, transit "is not a reasonable substitute for the private vehicle" and "private vehicle access is the key to improved mobility for the poor as well as the non-poor."[130]

171. As shown in Figure 9, consistent with transportation research, from 2010 to 2017, notwithstanding billions of dollars in public transit investment, public transit commuters took even longer to get to work. The percentage of all public transit commute trips in California that were 45 minutes or longer increased from 50.8 percent to 56.5 percent, which is worse than any other commuting option in the state. In contrast, only 19.8 percent of state commuters driving alone in 2017 traveled 45 minutes to commute, a smaller increase from the 15.2 percent in 2010. Consistent with published research, automobile use provides a clear and unambiguous advantage for accessing employment compared with public transit in California. If all of the 13,541,563 California workers who commuted by driving alone in 2017 instead used public transit facilities, the number of workers suffering daily commutes of over 1.5 hours in length would increase from 3,764,335 (21.9 percent of all commuters) to approximately 8,727,555 (50.6 of all commuters).

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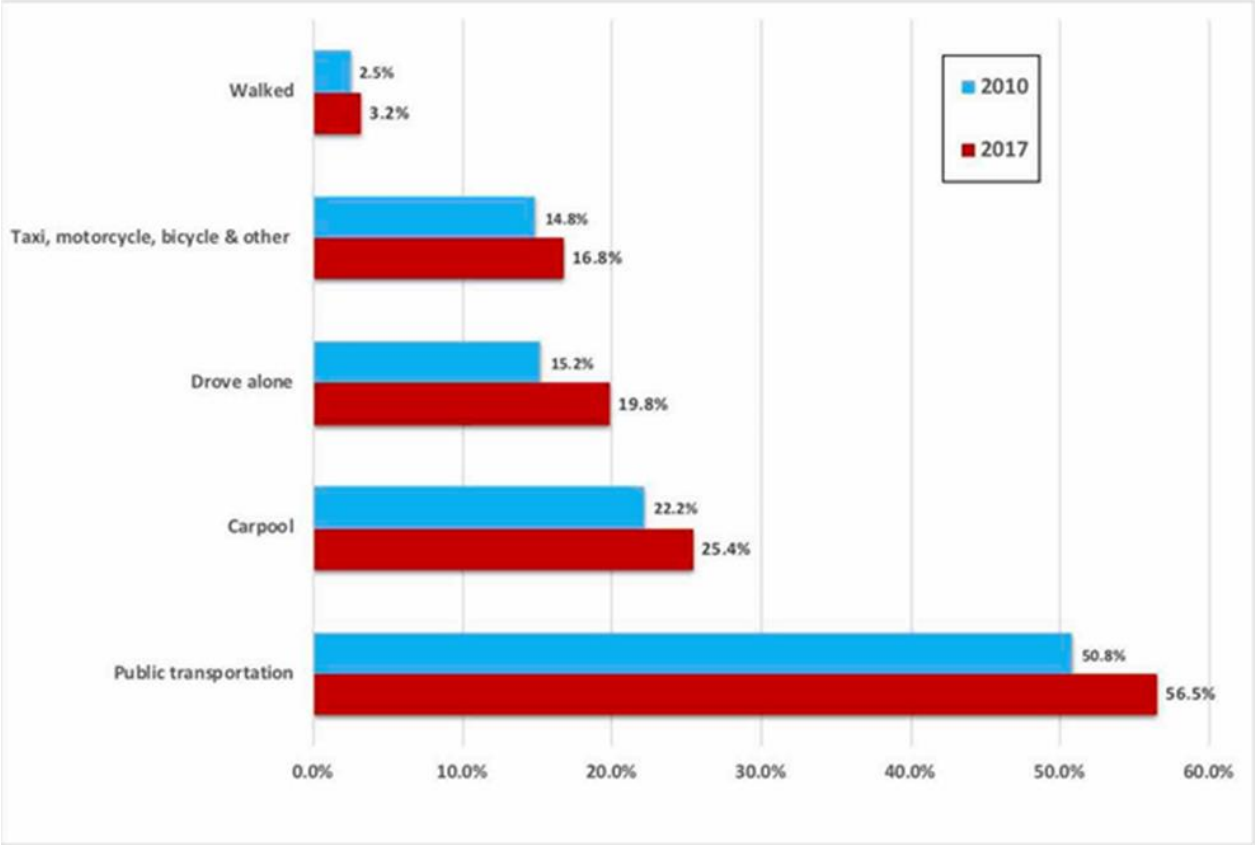
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[128] Gautier and Zenou, Car Ownership and the Labor Market of Ethnic Minorities, Journal of Urban Economics (Nov. 2010), at 17-19, http://ftp.iza.org/dp3814.pdf.

[129] Sandoval et al., *The Transition from Welfare-to-Work: How Cars and Human Capital Facilitate Employment for Welfare Recipients*, 31 Applied Geography 352, 361 (2011) https://www.pacific-gateway.org/the%20transition%20from%20welfare-to-work%20how%20cars%20and%20human%20capital%20facilitate%20employment%20for%20welfare%20recipients.pdf.

[130] Giuliano, The Role of Public Transit in the Mobility of Low Income Households: Final Report, School of Policy, Planning, and Development University of Southern California (May 2001), at ii, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.410.1185&rep=rep1&type=pdf.

Figure 9: Percentage of Commuting Trips 45 Minutes or Longer, 2010 and 2017[131]



172. Multiple studies on how to improve upward mobility for working class and welfare recipients show that access to and use of a private car is the single most substantial contributor to finding and retaining employment. Automobile access strongly and positively correlates with the success of aspiring workers, especially working parents, to find and retain jobs, improve their educational attainment, and increase incomes in both urban and suburban neighborhoods. Car ownership has been identified as the primary driver for finding and retaining work and for upward mobility for former welfare recipients.[132]

[131] U.S. Census Bureau, 2010 and 2017 American Community Survey 1-Year Estimates, Means of Transportation to Work by Travel Time to Work, Table B08134, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B08134" in topic or table name search field)(last visited Nov. 2019).

[132] Gurley et al., *The Effects of Car Access on Employment Outcomes for Welfare Recipients*, 58 Journal of Urban Economics 250, 268-69 (2005), http://web.utk.edu/~dbruce/jue05.pdf.

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Fax: 213.896.2450

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

173. More recent transportation studies have focused on the increasingly sharp conflict between the purported climate and land conservation objectives of government agency planners versus the real-world needs of aspiring minority homeowners and other middle- and lower-income workers. In 2014, the Urban Institute published an influential study showing that public transit could not provide sufficient, timely access to employment, and relying on transit to the exclusion of automobiles was incompatible with the mobility needs of the poor in American communities.[133] According to the study's lead author, "Even as highly educated millennials and baby boomers fantasize about car-free cities, car access is still indispensable for many families seeking safety and economic security"[134] Subsequent research has found that "[t]ransportation policy for low-income households, therefore, needs to overcome the 'cars versus transit' mentality that dominates discourse and move toward complementary and integrated solutions that take a pragmatic approach to cars while reducing the costs of cars on low-income people, the environment, and society."[135]

174. A 2015 study by the Brookings Institution, a prestigious research center with a multi-decade commitment to civil rights and poverty research, showed that between 2000 and 2012, the number of jobs within the typical commute distance for residents in major metropolitan areas fell by 7 percent. Proximity to employment dropped to the greatest extent for minority

[133] Pendall et al., Driving to Opportunity: Understanding the Links among Transportation Access, Residential Outcomes, and Economic Opportunity for Housing Voucher Recipients, Urban Institute (Mar. 2014), at i-iii, https://www.urban.org/sites/default/files/publication/22461/413078-Driving-to-Opportunity-Understanding-the-Links-among-Transportation-Access-Residential-Outcomes-and-Economic-Opportunity-for-Housing-Voucher-Recipients.PDF.

[134] Pendall, *How Access to Cars Could Help the Poor*, CityLab (Apr. 1, 2014), https://www.citylab.com/transportation/2014/04/why-poor-still-need-cars/8769/.

[135] Pendall et al., What If Cities Combined Car-Based Solutions with Transit to Improve Access to Opportunity?, Urban Institute at 2 (June 2016), https://www.urban.org/sites/default/files/publication/81571/2000818-What-if-Cities-Combined-Car-Based-Solutions-with-Transit-to-Improve-Access-to-Opportunity.pdf: *see also* Smart and Klein, A Longitudinal Analysis of Cars, Transit, and Employment Outcomes, Mineta Transportation Institute Publications (Sept. 2015), at 1-2. https://scholarworks.sjsu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1198&context=mti_publications.

communities, including Latinos (-17 percent) and African-American workers (-14 percent) compared with white (-6 percent) residents. Employment proximity for poorer workers (-17 percent) also fell much faster than for wealthier (-6 percent) residents.[136] The Brookings data show that minority workers throughout the country, including California, are increasingly dependent on automobiles to efficiently and reliably get to work.

175. In 2018, SCAG sponsored a study by several prominent poverty and transportation experts to identify the reasons why, despite billions of investment in expanded transit facilities, transit ridership in the SCAG region and throughout California steadily fell from 2007 levels. The study considered multiple explanations, including for example California's 2015 decision to allow unauthorized immigrants to obtain worker driver's licenses. None of these factors, except the clear need and preference for car ownership by aspiring minority communities, was found to explain declining public transit use. Given the diverse and changing locations of working and middle class jobs in the contemporary economy, and the absence of housing that is affordable to middle and lower income workers near coastal employment centers, the study found that "poorer people tend to convert even small increases in income into vehicle purchases – a testament to how valuable vehicle access can be."[137] The study found that working and middle class employee car use in lieu of public transit makes "life easier along multiple dimensions, dramatically increasing access to jobs, educational institutions and other opportunities."[138]

176. As shown in Table 4, Latinos accounted for more than 1.33 million new workers in California from 2010 to 2017, far more than any other group. Approximately 1.26 million, or 94 percent, of these new Latino workers commuted by driving alone. Driving alone also accounted for the type of commute utilized by 82 percent of the state's new African American

[136] Kneebone and Holmes, The Growing Distance Between People and Jobs in Metropolitan America, Brookings Metropolitan Policy Program at 1 (Mar. 2015), https://www.brookings.edu/wp-content/uploads/2016/07/Srvy_JobsProximity.pdf.

[137] Manville, *supra* note 72, at 65.

[138] *Id.* at 15.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

workers, 63 percent of all new Asian workers, and 72 percent of the total new commutes by other groups in the state. White workers in California increased by only 3 percent from 2010 to 2017, a much lower growth rate than for any other group, and represent the only major ethnic community for which driving alone was not the predominant form of all new commutes.

Table 4: Percentage of California Commuters by Type, 2010-2017[139]

	Number of New Workers	New Workers Driving Alone	Percent driving alone
Latino	1,339,771	1,258,853	94%
African American	133,257	109,652	82%
Other Groups	152,757	110,394	72%
Asian	559,135	350,627	63%
White	214,234	61,892	29%

177. The fact that anti-automotive climate change policies have regressive social and economic impacts has become increasingly well documented. Researchers have found that forcing "zero-car" mandates would be "unreasonable" and would be regressive because public transit is only feasible for most workers in a handful of larger urban areas where housing and other costs are the highest in the country.[140] Less affluent workers also cannot afford to replace conventional cars with electric vehicles, which reduce vehicular tailpipe emissions but still result in more vehicular miles being driven and thus directly conflict with anti-VMT policies. The "anti-car lobby," transit researchers have found, "don't deal with the equity problem" of anti-car climate policies that disproportionately affect communities of color, low- to moderate-income communities,

[139] U.S. Census Bureau, 2010 and 2017 American Community Survey (ACS) 1-Year Estimates, Means of Transportation to Work, Table B08105, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B08105" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 2019).

[140] Vock, *More Poorer Residents Are Driving Cars, Presenting New Issues for Transit Agencies*, Governing (Apr. 9 2018), https://www.governing.com/topics/transportation-infrastructure/gov-car-ownership-poverty.html.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

and women, especially with children.[141]

178. In February 2019, yet another major study was completed which again concluded that anti-car policies such as California's VMT reduction mandates and related climate policies directly conflict with the car use that is essential for the upward mobility of poorer workers. Auto access, the study found, remains the "starkest transportation disparity" in most of the U.S.[142] People without automobiles cannot access employment, complete errands, or generally live their lives in the same manner as the vast majority of their fellow residents. Yet, based on the externalities associated with driving, including climate change, Respondents' increasingly attempt to reduce auto use. Aspiring poor communities are particularly harmed by these policies because they cannot afford to purchase electric vehicles or pay the fuel taxes imposed by anti-car advocates. Unlike other necessities, such as food, electricity or heating, the study found that American communities do not provide the needy with basic car access, but heavily subsidize auto use for affluent residents who can afford to overcome the cost of achieving the ability to drive. "As a result," the researchers concluded, "we have a small group of people who need vehicles and lack them and a large group who have vehicles and use them needlessly. A just and sustainable society would help the first group drive more while encouraging the latter group to drive less. Our status quo instead suppresses driving only by denying it to some of the people who need it most, even as it tacitly encourages low-value trips by the affluent."[143]

179. Based on these findings, prominent climate change and planning publications have been forced to concede that poor workers who cannot afford a vehicle are "eco-friendly, by force." Climate change policies that make automobile access more difficult are inherently regressive. As stated in CityLab, a widely read pro-climate and urban planning policy newsletter,

[141] Marshall, *The Green New Deal's Trains and EVs Won't Work for Everyone*, Wired (Feb. 8, 2019), https://www.wired.com/story/green-new-deal-electric-cars/.

[142] King, *supra*, note 70.

[143] *Id.* at 14.

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"We don't want to try to balance our carbon emissions and budgets on the backs of the poor."[144]

180. As demonstrated by transportation and social equity research, California's aspiring minority communities have significantly increased their use of automobiles to access more employment opportunities and travel to work once they are employed. The flexibility and rapidity of commuting by automobile is essential for working and middle class employees who, unlike "keyboard" economy employees who can work remotely, must be physically present at job locations to be paid, work at multiple or changing job locations, commute at non-peak hours when transit services are at their lowest, and work in widely dispersed locations.

181. Farming, construction, transportation, sales, personal care, and grounds maintenance workers, which represent six of the top ten employment sectors for Latinos in California, cannot use fixed route transit to access employment in a timely manner. As shown in Table 5, the percentage or workers driving alone rose in these and related sectors, and fell primarily in the white collar, "keyboard" and more affluent professions that employ higher percentages of white workers.

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[144] Bliss, *As the Planet Warms, Who Should Get to Drive?*, CityLab (Feb. 8, 2019), https://www.citylab.com/transportation/2019/02/car-ownership-climate-change-driving-poverty-economic/582091/.

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Table 5: Percentage of Commuters Driving Alone by Sector, 2010-2017[145]

	2017	2010	Percent change
Agriculture, forestry, fishing and hunting, and mining	66.10%	57.70%	14.38%
Construction	75.90%	72.30%	4.98%
Arts, entertainment, and recreation, and accommodation and food services	71.30%	68.00%	4.71%
Other services (except public administration)	72.20%	70.30%	2.70%
Manufacturing	78.10%	76.50%	2.09%
Wholesale trade	77.50%	76.50%	1.31%
Educational services, and health care and social assistance	76.40%	75.90%	0.79%
Transportation and warehousing, and utilities	81.00%	80.50%	0.62%
Retail trade	75.40%	75.50%	-0.13%
Public administration	76.80%	77.10%	-0.39%
Professional, scientific, management, admin and waste management services	66.90%	67.20%	-0.45%
Finance and insurance, and real estate and rental and leasing	72.10%	74.40%	-2.96%
Information	70.00%	75.40%	-7.16%

182. As shown in Table 6, the percentage of California workers using public transit fell in most sectors that disproportionately employ aspiring minority lower and middle class workers. Public transit use rates rose in mainly higher paying occupations with disproportionately lower minority workers, such as the information sector, the core of the "keyboard" economy, and in the financial, business, professional and scientific service sectors.

[145] U.S. Census Bureau, 2010 and 2017 American Community Survey 1-Year Estimates, Means of Transportation to Work by Industry, Table B08126, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B08126" in topic or table name search field)(last visited Nov. 12, 2019).

Table 6: Percentage of Commuters Using Public Transit by Sector, 2010-2017[146]

	2017	2010	Percent change
Information	7.90%	5.10%	54.90%
Public administration	6.20%	5.50%	12.73%
Professional, scientific, management, admin and waste management services	7.50%	6.60%	12.12%
Finance and insurance, and real estate and rental and leasing	5.70%	5.10%	9.80%
Educational services, and health care and social assistance	4.00%	4.10%	-2.44%
Transportation and warehousing, and utilities	3.40%	3.50%	-2.86%
Retail trade	5.20%	5.40%	-5.56%
Wholesale trade	2.80%	3.00%	-6.67%
Manufacturing	3.80%	4.30%	-9.30%
Construction	2.60%	3.00%	-13.33%
Arts, entertainment, and recreation, and accommodation and food services	7.00%	8.70%	-20.69%
Other services (except public administration)	4.80%	6.90%	-30.43%
Agriculture, forestry, fishing and hunting, and mining	1.10%	1.90%	-47.37%

183. Lower paid workers are increasingly utilizing automobiles, drive alone, and are decreasing use of public transit and carpooling. As shown in Table 7, between 2010 and 2017, workers earning less than $75,000 rose by 948,000. Workers earning less than $75,000 who commuted by driving alone rose by 895,000, which represents 94 percent of the total increase in the state. Due to significant declines in transit ridership and carpooling, the number of workers earning less than $75,000 who commuted by transit, carpooling, or worked at home, rose by only 1,500, or 0.2 percent, of the total increase.

[146] *Id.*

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Table 7: Commuters Transportation Mode Choice by Income, 2010-2017[147]

	Less than $75,000	$75,000 or more
Net Increase in Commuters(2010-2017)	948,581	1,449,406
Drive Alone	895,278	995,631
Carpool	-89,375	94,915
Public Transit	-25,940	125,180
Walked	7,632	35,956
Taxicab, motorcycle, bicycle, or other means:	44,105	46,420
Worked at home	116,881	151,304
Public transit, carpool or worked at home	*1,566*	*371,399*

184. Mobility, and the right to drive, have been recognized as protected civil rights by state and federal courts. The practical necessity of having access to and use of a car has been recognized as so fundamental that both the United States and California Supreme Courts have held that constitutional due process protections apply to any government attempt to summarily deprive someone of a drivers' license or automobile.[148] The right to travel has also been found to be fundamental to the constitutional protection of liberty, and government actions to impose discriminatory restrictions on travel have been struck down as unconstitutional.[149]

[147] U.S. Census Bureau, 2010 and 2017 American Community Survey 1-Year Estimates, Means of Transportation to Work by Industry, Table B08126, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B08126" in topic or table name search field)(last visited Nov. 12, 2019) .

[148] *Berlinghieri v. Dep't of Motor Vehicles* (1983) 33 Cal.3d 392, 398-99; *Bell v. Burson* (1971) 402 U.S. 535, 539.

[149] *See, e.g., Williams v. Fears* (1900) 179 U.S. 270, 274 ("[T]he right to remove from one place to another according to inclination . . . is an attribute of personal liberty, and the right, ordinarily of free transit from or through any territory of any State is a right secured by the Fourteenth Amendment and by other provisions of the Constitution"); *Kent v. Dulles* (1958) 357 U.S. 116, 126 ("[Freedom of movement] may be as close to the heart of the individual as the choice of what he eats, or wears, or reads. Freedom of movement is basic in our scheme of values"); *Shapirio v. Thompson* (1969) 394 U.S. 618, 629 ("[A]ll citizens [shall] be free to travel throughout the length and breadth of our land uninhibited by statutes, rules or regulations which unreasonably burden or restrict this movement"); *In re White* (1979) 97 Cal.App.3d 141, 148 ("[T]he right to intrastate travel (which includes the intra-municipal travel) is a basic human right protected by the United States and California Constitutions as a whole. Such a right is implicit in the concept of a democratic society and is one of the attributes of personal liberty under common law"); and *Tobe v. City of Santa Ana* (1995) 9 Cal.4th 1069, 1100.

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185. Automobile mobility is particularly essential for California's growing minority community members who have been excluded from coastal employment centers due to housing costs, are not and will not for a decade or more be served with cost-effective and time-effective fixed route public transit options, and cannot afford the hours they would lose from their lives and families from using public transit even when potentially available. Consequently, the economic well-being and upward mobility for these groups depends on using vehicles, not reducing VMT as a condition of building new housing, as Respondents now demand.

186. As shown in Table 8, since 2010 the state's Latino, African-American and Asian workers have significantly increased the proportion of commute trips they make by driving alone. The growth in the percentage and number of work commutes by driving alone, and the reduction in commuting by public transit, was especially large for Latinos and vividly demonstrates the exclusion of what is now the state's largest minority group from housing and homeownership in coastal employment centers, and the failure of investments in traditional fixed route public transit systems to meet the transportation needs of minority workers who have or aspire to become homeowners in more affordable inland California communities such as San Bernardino.

Table 8: Percentage of Workers by Commute Type and Ethnic Group, 2010-2017[150]

	2017	2010	Percentage point change
Drove Alone			
Latino	74.20%	69.40%	4.80%
Black	73.80%	72.50%	1.30%
Asian	73.80%	72.50%	1.30%
White	75.00%	76.50%	-1.50%
Other Groups	72.28%	72.29%	-0.01%
Carpool			

[150] U.S. Census Bureau, 2010 and 2017 American Community Survey (ACS) 1-Year Estimates, Means of Transportation to Work by Age, Table B08101, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "B08101" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 12, 2019) .

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Latino	12.80%	15.50%	-2.70%
Black	8.00%	9.30%	-1.30%
Asian	12.10%	12.80%	-0.70%
White	6.70%	8.20%	-1.50%
Other Groups	10.70%	11.30%	-0.60%
Public Transit			
Latino	5.00%	6.50%	-1.50%
Black	3.80%	3.30%	0.50%
Asian	7.10%	6.10%	1.00%
White	8.90%	7.10%	1.80%
Other Groups	5.20%	5.10%	0.10%
Worked at Home			
Latino	3.30%	3.10%	0.20%
Black	4.90%	5.00%	-0.10%
Asian	5.30%	4.30%	1.00%
White	8.90%	7.10%	1.80%
Other Groups	5.90%	5.70%	0.20%

187. Finally, Figure 10 shows that driving alone remains far more important to all Californians, but particularly for aspiring minority working and middle class workers, than any other commute type, including working at home. Between 2010 and 2017, the percentage of workers commuting by driving alone rose to a particularly large extent for Latinos and converged towards 75 percent of all workers for all groups in the state. Carpooling, the next largest commuting type for California workers, fell for all groups during this period. Public transit use fell substantially for Latinos, and fewer than 9 percent of all Latino and African American workers used transit or were able to work at home. Car commuting fell slightly and the rate of public transit use and working at home rose significantly for only white workers in California, the most affluent, slowest growing ethnic workforce and the only numerically declining ethnic group in the state. Yet despite their disproportionate wealth and homeownership, and their access to more transit services in high

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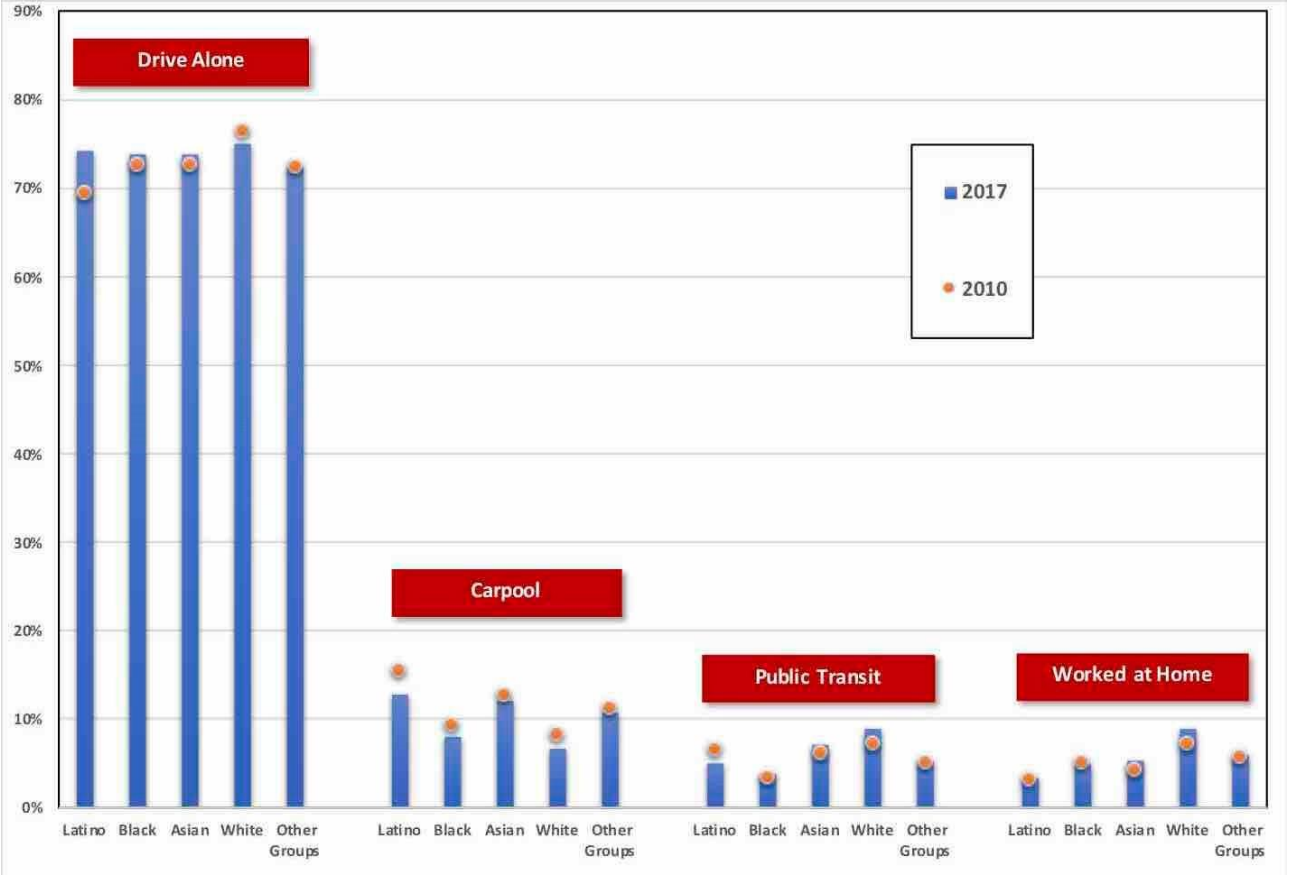
cost urban areas as well as the luxury of having jobs which provide greater flexibility to work at home, 75 percent of all white workers still commuted by driving alone in 2017, which is the highest single-occupancy commute rate of any group.

Figure 10: Percentage of Commuting Trips 45 Minutes or Longer, 2010 and 2017[151]



188. The state's housing crisis has led to an increasingly severe mobility crisis for aspiring minority, working and middle class families who must travel long distances to access employment. Consistent with years of research, California commuting data demonstrates that automobile use is an indispensable, fundamental requirement for improving the quality life for state residents. But not only are minority, working and middle class workers driving farther and longer in contemporary California, they now face intentional expansions of CEQA by Respondents NRA and

[151] *Id.*

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OPR to further increase housing costs with regressive new obligations to reduce VMT, along with other programs and policies making their commutes more difficult, expensive and time consuming. The state's housing and mobility failings are deepening California's existing civil rights crisis.

C. California's Housing, Mobility and Civil Rights Crises Were Caused by Overt Racism, Including Racially Exclusionary Land Use Laws and Regulations, the Racist Underpinnings of the Environmental Movement, and Decades of Public Policies that Disparately Impact People of Color and the Poor

189. The current plight of aspiring minority communities in California is the product of many decades of institutional racism and the rise of public policies, often stylized as environmental protection measures, which were intentionally racist or disproportionately harmed people of color.

190. As recounted in a detailed interactive presentation by public television station KQED, over 80 years ago the federal government under progressive icon President Franklin Delano Roosevelt launched a massive effort to rescue indebted homeowners from foreclosure by refinancing mortgages at the height of the Great Depression. To encourage lending, the federal Home Owners' Loan Corporation created community maps of the country, including in California, which ranked neighborhoods according to perceived loan default risks. The worst locations were shown in red, and were shunned by the bailout effort. The communities subject to this so-called "redlining" were overwhelmingly populated by minority communities. This "redlining" racial discrimination buried in administrative agency practices cemented decades of poverty and displacement from what are now among the nation's most prosperous employment centers in coastal California, and helped create the racial disparities that persist in California's contemporary current housing and mobility crises.[152]

191. The state's legacy of racism was also fostered by racially restrictive land use covenants that excluded non-white households, particularly during 1920 to 1948, from huge swaths

[152] *See* Green, *How Government Redlining Maps Pushed Segregation in California Cities*, KQED (Apr. 27, 2016), https://www.kqed.org/lowdown/18486/redlining.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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Tel: 213.896.2400
Fax: 213.896.2450

of the residential neighborhoods that are now near Coastal Job Centers. Together with federal redlining, the state then experienced what California's HCD characterizes as "a new era of racially segregated zoning," which disproportionately concentrated people of color in lower-opportunity, poorer, and segregated neighborhoods. According to HCD, the patterns of segregation and disparate impacts that occurred in prior decades explains much of the current land use patterns – areas of relative wealth and areas of poverty – in California. While the poor population in the state's 10 largest metro areas grew by an overall average of 28 percent since 2000, most of this increase was concentrated in existing high-poverty census tracts in metro areas, which grew by 53 percent. Consequently, the 2018 state housing assessment published by HCD concluded that the "burden of being both poor and living in an area of concentrated poverty" is "disproportionately shouldered by racial minorities."[153] Two-thirds of all impoverished African-American and Hispanic households live in the high-poverty, low-opportunity neighborhoods that have been created by years of racially exclusive housing and land use policies.[154]

192. Discriminatory agency housing practices continued into this century (and this decade) with predatory and discriminatory lending practices which charged minority homeowners much higher fees and mortgage interests, induced minority homeowners to enter into high interest second mortgages that could not be repaid, and culminated with illegal foreclosure practices that disproportionately victimized minority homeowners and resulted in the greatest drop in minority homeownership in the history of the country during and immediately after the Great Recession of 2008. As reported by Stanford University scholars:

> The Great Recession's economic impact on minorities and immigrants has been especially devastating. Between 2005 and 2009, Hispanic households lost 66 percent of their wealth and black households lost 53 percent, while white households lost only 16 percent.[155]

[153] California's Housing Future, *supra* note 87, at 41.

[154] *Id.* at 38-40.

[155] Sanchez et al, The Great Recession: Implications for Minority and Immigrant Communities, https://web.stanford.edu/group/recessiontrends-dev/cgi-bin/web/resources/research-project/great-recession-implications-minority-and-immigrant-communities (last visited Nov. 2019).

> Reductions in homeownership rates following the housing crash have been more extreme for minority groups. While all racial and ethnic groups have experienced a decline in homeownership in recent years, the fall has been sharpest for Blacks and Latinos.[156]

193. California helped lead the nation in suing financial institutions that engaged in predatory lending and unlawful foreclosure practices, and in 2012 secured an $18 billion settlement – from which it expressly agreed to set aside $330 million to assist the primarily minority homeowner victims of financial misconduct. California's leaders then spent 7 years in court (including two unsuccessful appeals to the state Supreme Court) refusing to spend the $330 million on housing victims before finally agreeing to comply with its own settlement agreement and assist homeowners in July of 2019.[157] Minority family victims who waited for year, in vain, for California to use the $330 million to assist them lost not just their homes, not just the family wealth they would have created by making seven to ten years of mortgage payments instead of paying rent, but also the opportunity to tap into that accumulated wealth to assist their children with college or avoid homelessness or bankruptcy based on injuries, illness, or old age. California's leaders, up to and through 2019, continued to engage in racially discriminatory anti-homeowner practices in direct violation of trial and appellate court decisions enforcing the $330 settlement agreement.[158]

194. The growth and persistence of racially disparate communities was further enhanced by school bureaucrats of the 1940's who defended a "separate but equal" public school system,[159] highway bureaucrats in the 1950's who targeted minority neighborhoods for demolition

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[156] Ellen and Dastrup, Housing and the Great Recession, The Russell Sage Foundation and The Stanford Center on Poverty and Inequality (Oct. 2012), at 4, https://web.stanford.edu/group/recessiontrends-dev/cgi-bin/web/sites/all/themes/barron/pdf/Housing_fact_sheet.pdf.

[157] Bollag, *California Misspent $330 Million That Should Have Helped Homeowners, Court Holds*, The Sacramento Bee, (July 18, 2019), https://www.sacbee.com/news/politics-government/capitol-alert/article232847737.html.

[158] *Id.*

[159] *See, e.g.,* "Separate is Not Equal: Brown v. Board of Education", *The Defenders of Segregation*, Smithsonian National Museum of American History, https://americanhistory.si.edu/brown/history/5-decision/defenders.html (last visited Nov. 11, 2019).

for freeway construction primarily benefitting other wealthier, communities,[160] and by urban planning bureaucrats in the 1960's who displaced and destroyed communities of color in pursuit of "urban renewal" projects.[161] As described by University of California Los Angeles ("UCLA") scholar Jacqueline Leavitt when recounting a Boyle Heights project to demolish 557 apartment units and build only 401 replacement units, urban renewal was actually "Negro and Hispanic Removal" which created "overcrowding and homelessness," and relied in part on "[t]urning urban planners and service providers into collaborators" to displace residents and "wipe out" jobs in existing small businesses in the community.[162]

195. Racial discrimination in housing is just one of several ongoing forms of racial discrimination in California that are targeted by several pending civil rights lawsuits. For example, after a multi-day civil rights trial in which the judge concluded that dismal and discriminatory teacher staffing practices in schools with large minority populations "shocked the conscience," and subsequent appellate court proceedings, a settlement agreement mandated that proven and effective methods for teaching reading be implemented in these underperforming minority-majority schools.[163] In another pending civil rights lawsuit, ten students from three different California public schools and advocacy organizations have sued the State over its violations of the state Equal Protection Clause by failing to provide for basic literacy for socioeconomically disadvantaged, African American, and Hispanic students.[164] Another pending

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Fax: 213.896.2450

[160] *See, e.g.,* Princeton scholar Kevin Kruse's explanation of urban freeway siting policies designed to demolish minority neighborhoods, and create physical barriers between white and minority neighborhoods. Kruse, *What Does a Traffic Jam in Atlanta Have to Do With Segregation? Quite a Lot*, New York Times (Aug. 14, 2019), https://www.nytimes.com/interactive/2019/08/14/magazine/traffic-atlanta-segregation.html.

[161] *See* Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017).

[162] Leavitt, *Urban Renewal Is Minority Renewal*, Los Angeles Times (Oct. 11, 1996), https://www.latimes.com/archives/la-xpm-1996-10-11-me-52672-story.html.

[163] Tentative Decision at 8, *Vergara v. California*, No. BC484642 (Los Angeles Cty. Super. Ct. June 10, 2014).

[164] Complaint at 1, *Ella T. v. California*, No. BC685730 (Los Angeles Cty. Super. Ct. Dec. 5, 2017).

civil rights lawsuit challenges California's longstanding, systematic, and knowingly discriminatory underfunding of medical care for the state's most vulnerable and poorest people (again majority minority), which the California Attorney General has spent two years shamefully, but as yet unsuccessfully, attempting to dismiss rather than helping improve the poor's access to adequate healthcare.[165]

196. In recent years, racially discriminatory environmental policies have proliferated in the form of environmental laws and regulations, particularly CEQA, which are designed to protect the status quo (itself formed by intentionally discriminatory housing and land use practices) from an ever-evolving concept of what constitutes the "adverse environmental impacts" of proposed neighborhood changes. Strengthening and exacerbating racially exclusionary housing patterns to continue to exclude minority residents and less costly housing product types such as apartments "in the name of the environment" is consistent with the increasingly well-documented lack of diversity and biases in mainstream and highly influential environmental organizations, regulatory agencies and grant making institutions.[166]

197. In 2015, for example, the highly progressive New Yorker published a lengthy review of the environmental movement's racist roots, concluding that "many environmentalist priorities and patterns of thought came from an argument among white people, some of them bigots and racial engineers, about the character and future of a country that they were sure was theirs and expected to keep." It is unsurprising that, when polled by the Sierra Club, only 15 percent of the group's overwhelmingly white membership believed the group should "concern itself with the

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[165] *See* SEIU-UHW Press Release, Judge Gives Green Light to Civil Rights Lawsuit Affecting 1 in 3 Californians (June 25, 2019), https://www.seiu-uhw.org/press/judge-gives-green-light-to-civil-rights-lawsuit-affecting-1-in-3-californians/.

[166] *See, e.g.*, Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/; Mock, *The Green Movement Is Talking About Racism? It's About Time*, Outside Magazine (Feb. 27, 2017), https://www.outsideonline.com/2142326/environmentalism-must-confront-its-social-justice-sins; Taylor, The State of Diversity in Environmental Organizations: Mainstream NGOs, Foundations & Government Agencies (July 2014), http://vaipl.org/wp-content/uploads/2014/10/ExecutiveSummary-Diverse-Green.pdf.

conservation problems of such special groups as the urban poor and ethnic minorities" while 40 percent opposed such a policy.[167]

198. The racial animus of the environmental movement remains a well-documented and continuing problem. The immediate past President of the Sierra Club Board of Directors, African-American Aaron Mair, recently stated that "white privilege and racism within the broader environmental movement is existent and pervasive."[168] In 2018, the nation's leading periodical for the philanthropic community found that, despite decades of concern, boards of directors and leaders of major environmental organizations were becoming less rather than more racially diverse.[169]

199. Racially discriminatory conduct is not limited to areas with predominantly conservative politics but is endemic in many of California's most progressive centers of environmental advocacy. There are 41 percent more Democrats than Republicans in Marin County, and its congressional representative is a former attorney for the National Resources Defense Council. Few, if any, communities in the U.S. are more sympathetic to the environmental movement. Yet, Marin County was subject to a federally-enforced Fair Housing Act compliance agreement prompted by its systematic housing discrimination practices as documented by the U.S. Housing and Urban Development Department ("HUD") in 2009.[170] In 2017, the Advancement

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[167] Purdy, *Environmentalism's Racist History,* The New Yorker (Aug. 13, 2015), https://www.newyorker.com/news/news-desk/environmentalisms-racist-history.

[168] Swaminathan, *supra* note 166.

[169] Wyllie, *Environmental Groups Get Poor Marks for Diversity Efforts*, The Chronicle of Philanthropy (Jan. 10, 2019), https://www.philanthropy.com/article/Incredibly-Bad-Actors-/245445.

[170] HUD: Office of Fair Housing and Equal Opportunity, *Final Investigative Report, Section 109, Title VI and Section 504 Compliance Review*, County of Marin, California CDBG Program (July 2009), at 24-29, 80-81, http://marinhousingsolutions.org/images/pdf/Final-Investigative-Report-HUD-2009.pdf; *see also*, "Agreement for Voluntary Compliance with Section 109 of the Housing and Community Development Act of 1974, As Amended, and Title VI of the Civil Rights Act of 1964, As Amended, and Section 504 of the Rehabilitation Act of 1973, As Amended, Between the U.S. Department of Housing and Urban Development Office of Fair Housing and Equal Opportunity and the County of Marin (December 21, 2010), https://www.hud.gov/sites/documents/MARINCOUNTYCAVCA.PDF.

Project California named Marin as the "most racially unequal county in California."[171] In 2019, a state court found that Marin County education officials "knowingly and intentionally maintained and exacerbated" racial segregation, established an intentionally segregated school, and pursued a deliberate scheme to keep low-income children of color out of a white-populated enclave.[172]

200. The Bay Area has managed to preserve over 40 percent of its lands as open space (primarily used to graze cattle)[173] while Marin County has outlawed new housing on a whopping 84% of its land.[174] Decades of the region's "smart growth" policies supporting high density housing, most of which is too expensive and controversial to ever get built, has resulted in a "megaregion" spanning 21 counties as Bay Area workers move to ever-more distant locations in the Central Valley and even Sierra Foothills to find housing they can afford.[175]

201. The Redlining Revisions further weaponize CEQA to impose racially exclusionary housing policy statewide. Latino and African American residents have increasingly fled the five core counties that touch the Bay, residential racial segregation continues to worsen, the Latino population has dropped to nearly half of the state's average, and the Bay Area is more racially segregated now than it was in 1970.[176]

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[171] Halsted, *Report: Marin Tops State in Racial Inequity,* Marin Independent Journal (Nov. 20, 2017), https://www.marinij.com/2017/11/20/report-marin-tops-state-in-racial-inequity/ referencing Advancement Project California, Race Counts: Advancing Opportunity for All Californians (Winter 2017), at 25, https://www.racecounts.org/wp-content/uploads/2017/11/Race-Counts-Launch-Report-digital.pdf.

[172] Goldstein and Hartocollis, '*Separate Programs for Separate Communities': California School District Agrees to Desegregate*, New York Times (Aug. 9, 2019), https://www.nytimes.com/2019/08/09/us/sausalito-school-segregation.html.

[173] American Farmland Trust, Greenbelt Alliance & Sustainable Agriculture Education, Sustaining Our Agricultural Bounty (Mar. 2011), at 7, https://www.sagecenter.org/wp-content/uploads/2015/11/Sustaining-Our-Agricultural-Bounty-An-Assessment-of-Agriculture-in-the-San-Francisco-Bay-Area.pdf.

[174] Marin Convention & Visitors Bureau, *The Bay and Protected Open Space,* https://www.visitmarin.org/things-to-do/outdoor-activities/the-bay-and-protected-open-space/ (last visited Nov. 11, 2019).

[175] Kukura, *Is the Bay Area Becoming a 21-County 'Megaregion'?,* SFist (Feb. 19, 2019), https://sfist.com/2019/02/19/is-the-bay-area-becoming-a-21-county-megaregion/.

[176] Haas Institute For a Fair and Inclusive Society, Measuring Segregation, https://belonging.berkeley.edu/bay-segregation-map (last visited Nov. 11, 2019).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

202. Communities of color, whose members include several of the Petitioners/Plaintiffs in this lawsuit, have been forced to advocate against racially discriminatory actions undertaken by advocates and regulatory agencies in the name of the environment. Environmental regulators and major advocacy groups unsuccessfully attempted to block the construction of the University of California Merced campus, the only portion of the university system located in the Central Valley and the campus with by far the highest percentage of Latino students. Beset by racists attitudes, including comments by the mainstream environmental community asking why people of color, would "want a university if your children are not even going to attend," a group of largely Latino activists were finally able to obtain the necessary state and federal permits –ironically, with far more support from Republicans than Democrats – to build the campus.[177]

203. California environmental regulators and advocacy groups also had to be compelled to finally establish clear cleanup standards to allow for the remediation and redevelopment of blighted, contaminated property, or "brownfields" in minority neighborhoods– since the absence of clear remediation standards meant that only the most well-funded redevelopment projects (overwhelmingly located in higher wealth communities) could afford to spend years running environmental regulatory agency gauntlets to negotiate, on a project-by-project basis, remediation standards acceptable to such agencies.[178]

204. The willingness of high-ranking state officials to facilitate racial discrimination in support of environmental policies continues to this day. A pending lawsuit

[177] UC Merced's Latino undergraduates comprise 55.5 percent of the student population, compared to the 24 percent rate of Latino undergraduate enrollment for the UC system as a whole. University of California, System Enrollment (2018), https://www.universityofcalifornia.edu/infocenter/fall-enrollment-glance (last visited Nov. 12, 2019); UC Merced, Fast Facts 2018-2019, https://www.ucmerced.edu/fast-facts (last visited Nov. 11, 2019); *see also* Gamboa, *Brownfields, UC Merced, and Fighting for Environmental Equity,* Greenlining Institute (Mar. 14, 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[178] Gamboa, *Brownfields, UC Merced, and Fighting for Environmental Equity,* Greenlining Institute (Mar. 14, 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

challenging California's newly adopted discriminatory and ineffective anti-housing climate change policies was recently opposed by the California Attorney General's office with the astonishing claim that nothing in the California constitution prohibits CARB from adopting racially discriminatory housing climate measures. Unsurprisingly, the court rejected the argument that climate change environmental imperatives provides a safe harbor for the government to act in a racially discriminatory manner.[179]

205. In 2017, Richard Rothstein, a Distinguished Fellow at the Economic Policy Institute, and an emeritus Senior Fellow of the Thurgood Marshall Institute and the Haas Institute at U.C. Berkeley, published a comprehensive account of the "forgotten" history of how explicit government policy, not just unscrupulous real estate agents or mortgage lenders, led to housing segregation in the U.S.[180] As Rothstein later noted, "Our entrenched residential segregation exacerbates serious political, social and economic problems. . . . To achieve [integration], politically and legally, we first have to acknowledge that our government, to a substantial degree, created our racial inequality. Letting bygones be bygones is not a valid, just or defensible policy."[181] The Respondents' blatantly discriminatory Redlining Revisions represent just such an instance of invalid, unjust and indefensible government policy in the name of the environment.

206. When CEQA was enacted in 1970, old growth redwood forests were being razed, new freeways were demolishing homes and businesses, and new factories were being built on the ocean to expedite disposal of polluted wastewaters. Modern environmental laws such as the Endangered Species Act, the Clean Air Act, the Clean Water Act, the Coastal Act, and scores of other environmental and public health laws and regulations, had not yet been enacted. CEQA was never authorized or intended to be used to protect or promote racially segregated housing, or create

[179] Order After Hearing on Respondents/Defendants' Demurrer to Complaint/Petition, *supra* note 94, at 11-14.

[180] *See* Rothstein, *supra* note 161.

[181] Rothstein, *Op-Ed: Why Los Angeles Is Still a Segregated City After All These Years*, Los Angeles Times (Aug. 20, 2017), https://www.latimes.com/opinion/op-ed/la-oe-rothstein-segregated-housing-20170820-story.html.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

racially disparate barriers and costs to using personal vehicles to get to work, earn an income, and complete other essential chores.

207. Under CEQA, the environmental "impacts" of adding more housing (and more people) are measured against the "existing setting." CEQA then requires that "significant adverse" impacts must, to the extent feasible, be "mitigated" to a "less than significant" impact. This fundamental feature of CEQA, however, is being perverted by the Redlining Revisions, which exacerbate a decidedly non-"environmental" feature of the "existing setting", i.e., racially exclusionary housing patterns – both those that existed during the era of racially exclusionary land use covenants and lending practices, and those that were created at the end of the last century through "redevelopment" agency practices that razed historically minority neighborhoods. As summarized by one commenter:

> California's redevelopment agencies got their start in 1945, when the state legislature authorized their creation to combat urban decay. At the time, politicians nationwide touted urban-renewal projects as a way to jump-start development in impoverished inner cities. Today, many urbanists recall these projects as a national travesty, a failed experiment in top-heavy government and liberal social engineering that obliterated neighborhoods, eroded property rights, gave developers downtown land on the cheap, uprooted city dwellers, and exacerbated urban problems.[182]

208. As with racist covenants, once the historically minority neighborhoods were razed by the brute politics and power of redevelopment, CEQA then protected the new *status quo* post-redevelopment "setting" by empowering private lawsuits to challenge the addition of housing needed by the next generation on the basis that it causes significant adverse impacts to the environment. In 1970 and continuing to the present day, racist housing practices were also deeply embedded in the racially exclusionary zoning decisions of cities and counties, which outlawed apartments and other less costly housing types such as duplexes.[183]

209. The United States Supreme Court upheld exclusionary residential zoning for

[182] Greenhut, *California's Secret Government,* City Journal (Spring 2011), https://www.city-journal.org/html/california%E2%80%99s-secret-government-13378.html.

[183] *See, e.g.*, Rothstein, *supra* note 161; *see also* Gibbons, City of Segregation: 100 Years of Struggle for Housing in Los Angeles (2018).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

decades, even after enactment of the landmark civil rights protection laws in the 1960's. In *James v. Valtierra* (1971) 402 U.S. 137, for example, the Court upheld Article 34 of the California State Constitution (which prohibits construction or acquisition by the state of a low income housing project absent a majority vote of local citizens) because it was based on income rather than race, notwithstanding its racist intent and consequences. Article 34 remains in full force in the California Constitution as it exists today.

210. In *Village of Belle Terre v. Boraas* (1974) *416 U.S. 1,* the Court upheld an ordinance in a 220-home village on Long Island that prohibited more than two unrelated persons from occupying a single family home, thereby preventing lower income renters from pooling resources to live even in an existing structure. Endorsing the validity of "environmental" claims made in anti-housing CEQA lawsuits, the Court concluded that the village had within its "police powers" the authority to adopt zoning laws that "promote values" like "family life, clean air, and peaceful seclusion" and accordingly limit the "number of people and cars in the area."

211. In *Arlington Heights v. Metropolitan Housing Corporation* (1977) 429 U.S. 252 the Court upheld the refusal of a village to rezone a single-family area to allow construction of a planned racially-integrated low income housing apartment project. The record was replete with commenters who either supported or opposed, based on race, construction of a racially integrated housing project. The district court concluded that the village's zoning decision was not motivated by racial discrimination but by a desire to "protect property values and maintain the Village's zoning plan." The appellate court reversed, concluding that the "ultimate effect" of the rezoning was racially discriminatory in that it would disproportionately affect African Americans. Although the Supreme Court admitted that the zoning decision would have a racially disparate impact, it concluded that racially discriminatory housing zoning decisions were lawful absent evidence of the city's racially discriminatory intent. *Arlington Heights* authorized nearly 40 more years of exclusionary land use zoning practices that created the "setting" of California communities today, where CEQA empowers individuals to file "environmental" lawsuits to delay, increase costs, or

block the addition of new housing and people.

212. It was not until 2015 that the United States Supreme Court finally agreed, nearly 30 years after 1988 amendments to the Fair Housing Act and other developments, that government conduct which results in racially discriminatory effects, even without evidence of racist intent, is unlawful. In *Texas Department of Housing and Community Affairs v. The Inclusive Communities Project* (2015) 576 U.S. __, 135 S.Ct. 2507, the Court decided against a state agency that allocated most low-income housing tax credits to affordable housing projects located "in predominantly black inner-city areas and too few in predominantly white suburban neighborhoods." One year later, in *Avenue 6E Investments, LLC v. City of Yuma Arizona* (9th Cir. 2016) 217 F.Supp.3d 1040, the Ninth Circuit finally applied that precedent to invalidate an exclusionary zoning decision – again aimed at blocking an apartment - that had a disparate impact on future Latino minority residents who would likely occupy apartments proposed to be constructed in a majority white, single family home neighborhood.

213. This civil rights lawsuit against Respondents' Redlining Revisions to CEQA asks this Court to look behind the false flag "environmental" standards that anti-housing proponents hide behind, and apply the same civil rights scrutiny to CEQA and the Redlining Revisions as our state and federal courts have finally applied – after more than a century of *de jure* anti-minority housing discrimination – to other discriminatory state housing regulations.

214. Specifically, Respondents' Redlining Revisions, if not enjoined, will establish an unlawful and unconstitutional new *de jure* redlining framework that significantly and unnecessarily exacerbates the racially exclusionary housing patterns that have existed since before 1970. The Redlining Revisions will allow private lawsuits to delay, make more costly, and/or block the addition of new housing (and new people) in existing neighborhoods – neighborhoods that were created with racist covenants and exclusionary zoning to promote and protect the racial housing

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

segregation which remains pervasive and in fact has grown worse in Coastal Job Centers today.[184]

D. The Redlining Revisions Are Illegally Intended to Constrain Housing and Mobility in California Without Legislative Authorization or Substantial Evidence that Significant GHG Reductions Will Be Achieved, and They Cause Disparate Impacts to the State's Aspiring Minority Population that Can Be Avoided by Other Feasible and More Practical GHG Reduction Measures

215. CEQA requires that, prior to approving a project that requires a discretionary permit or approval, local, regional and state decision makers – i.e., CEQA "lead agencies" - must consider the project's potential for causing adverse impacts to the existing physical environment, disclose impacts that would be "significant" under applicable CEQA significance thresholds, and avoid or reduce all significant impacts to less than significant levels by identifying and requiring the implementation of all feasible mitigation measures.

216. A project with significant impacts that cannot be feasibly reduced below applicable significance thresholds can still be approved under CEQA provided the lead agency demonstrates the infeasibility of additional mitigation measures or project alternatives, and identifies "overriding considerations" justifying project approval notwithstanding significant and unavoidable impacts.

217. Since the late 1980's, CEQA has been implemented less to protect major environmental resources and more often as an inexpensive but highly effective legal weapon for delaying and blocking development, particularly housing in urban infill locations such as TPAs – i.e., developed urbanized areas within one-half mile of major public transit services such as commuter rail stations and high frequency commuter bus stops. For example, a recent study informed by data from the SCAG confirmed that approximately 14,000 housing units were challenged in the five counties comprising the SCAG region in CEQA lawsuits filed during 2013-2015. Of the challenged housing units, 98 percent were in existing "infill" communities and 70 percent were located in TPAs. CEQA lawsuits are also a potent redlining tool: 78 percent of the

[184] Samara, *supra* note 38, at 3; *see also* Bader, *Op-Ed: L.A. Is Resegregating – and Whites Are a Major Reason Why*, Los Angeles Times (Apr. 1, 2016), https://www.latimes.com/opinion/op-ed/la-oe-bader-resegregation-los-angeles-20160401-story.html??dssReturn=true.

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Tel: 213.896.2400
Fax: 213.896.2450

CEQA lawsuits filed in the SCAG region targeted housing projects in the region's whiter, wealthier and healthier communities.[185]

218. Public Resources Code section 21087 requires that the CEQA Guidelines be reviewed at least every two years to identify revisions or amendments required to ensure that the CEQA review of potential project impacts is consistent with and reflects new legislation and judicial decisions interpreting CEQA. The Respondents failed to comprehensively update the CEQA Guidelines for 15 years prior to December 2018.

219. The 2018 CEQA Guidelines amendments were largely spurred by recent legislation that required updates to streamline the CEQA process to reduce compliance costs and litigation risks for housing development in TPAs. Among other requirements, the Legislature directed the Respondents to eliminate traffic congestion as a CEQA impact threshold applicable to TPAs because potential CEQA congestion impacts had become one of the primary means for constraining housing and other development in high-transit frequency TPA neighborhoods. The Legislature allowed for, but did not mandate, the use of VMT metrics in lieu of congestion metrics as a CEQA impact significance threshold in TPAs. The Legislature also allowed, but did not mandate, changes to transportation metrics outside TPAs, since minimizing excess traffic congestion and allowing for efficient vehicular movement continues to be required by many existing federal, state and local laws, regulations and policies to facilitate goods movement and interstate commerce, minimize commute times and excess emissions from gridlocked conditions, and avoid adverse safety and health impacts from inadequate highways and roadways.

220. Nearly one year after the Redlining Revisions were finalized, recent survey data confirm that more than half of the 77 cities surveyed intend to use both VMT and traditional traffic congestion compliance metrics like Level of Service ("LOS) under CEQA,[186]

[185] Hernandez – Hastings, *supra* note 31, at 30-34.

[186] McCahill, LOS to Play More Limited Role in California Planning, According to Survey, State Smart Transportation Initiative (Dec. 2, 2018), https://www.ssti.us/2019/12/los-to-play-more-limited-role-in-california-planning-according-to-survey/.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

notwithstanding Respondents' false claims in rulemaking responses to comments raised by Petitioners and others that only VMT would be assessed under the Redlining Revisions.

221. The Legislature's focus on revising the CEQA Guidelines to streamline TPA development was motivated by its desire to further state climate change policies by increasing the amount of infill development near higher-quality transit centers. The Legislature has never adopted any laws, including any climate change laws, which preclude or are intended to eliminate housing development outside of TPAs. The Legislature has never adopted any climate change or other laws that preclude or are intended to reduce or eliminate housing development that provides the state's aspiring minority and working and middle class residents with the same homeownership opportunities that so richly benefitted prior generations in California.

222. The Legislature has also considered, but has declined to adopt, any climate change or other laws that preclude or that are intended to forcibly reduce automobile use, which remains the primary form of mobility utilized by all of the state's population, and is increasingly a critical necessity for the state's aspiring minority and working and middle class communities.

223. To the contrary, the Legislature has enacted multiple transportation improvement, congestion reduction, and general planning laws that explicitly require the implementation of roadway and other mobility enhancements in California. As recently as the November 2018 election, state voters approved and the Legislature adopted, conforming measures to generate new taxes and fund roadway improvements specifically intended to improve automotive mobility by, among other measures, adding roadway capacity to reduce congestion.

224. The Legislature's overarching mandate for reducing GHG emissions is to reduce the state's GHG emissions total 40 percent below 1990 levels by 2030. Health & Safety Code § 38566. This overarching target is to be achieved by GHG reductions from numerous economic sectors and activities, as generally set forth in more than a dozen other GHG reduction laws governing specific sectors or activities, as well as a regulatory "Scoping Plan" required to be adopted, periodically updated, and implemented by CARB and other agencies. More electricity is to

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Tel: 213.896.2400
Fax: 213.896.2450

be generated by "renewable" resources and less by fossil fuels. New housing must meet stringent energy and water conservation requirements to reduce GHG emissions from the generation and use of electricity and natural gas in homes. New vehicles must meet stringent fuel efficiency standards and a combination of mandates and incentives have been established to convert more of the vehicle fleet into electric and other lower-GHG technologies.

225. The Legislature also enacted SB 375, which requires the completion of regional plans called "Sustainable Communities Strategies" ("SCS") to achieve GHG reductions from future land uses, such as housing, transportation, and other development activities. Gov. Code § 65080(b)(2)(B) requires that an SCS must, in part:

> [I]dentify areas within the region sufficient to house all of the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth;
>
> [I]dentify areas within the region sufficient to house an eight-year projection of the regional housing need for the region [as identified by the Regional Housing Needs Assessment ("RHNA") process required by other state laws]; and
>
> [I]dentify a transportation network to service the transportation needs of the region."

226. SB 375 serves as the Legislature's sole specific statutory requirement for achieving GHG reductions from the siting of future land uses such as housing.

227. SB 375 also expressly acknowledges and amends the statutory requirements for the RHNA process, which requires in pertinent part that regional and local jurisdictions adopt "Housing Elements" in General Plans that designate locations for future housing development for an eight-year planning period. Among other mandates, RHNA laws require that such Housing Elements must identify locations to accommodate housing that takes into account "all economic segments of the community." Gov. Code § 65583.

228. On October 15, 2019, HCD made its final RHNA determination for the SCAG region for the forthcoming planning period beginning in January 2021. HCD determined that the SCAG region must accommodate a "minimum" of 1,341,827 new housing units, taking into

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

account the existing housing shortfall and projected future needs. HCD determined that 41.6 percent of the new housing units (558,603 units) must be affordable for lower income households.[187]

229. Traditional financing for low income housing has relied on public (and to a much lesser extent private) funding. The largest jurisdiction in the SCAG region, the City of Los Angeles, has determined that if it accommodates even 35 percent of the required regional share of low income housing units (254,000 units), assuming an average per unit construction cost of $500,000 per unit and assuming the city continues to cap its own financial contribution to each unit at $120,000, it will cost the city $30.5 billion per year (with the remaining $120 billion per year to come from other federal, state and private sources). The city currently allocates only $30 million, or about one percent, of what would be needed under its proposed RHNA allocation, to affordable housing.[188] The annual budget for the entire City of Los Angeles is just under $10 billion.

230. It is patently infeasible to require the City of Los Angeles, or any of the other 193 cities and 5 counties in the SCAG region, to spend three times more than their total annual budget solely to subsidize less than 25 percent of each of the hundreds of thousands of low income unit mandated by RHNA.

231. This broken math formula for subsidizing low income housing prompted the non-partisan LAO, as well as the current and former Governor, to conclude that the state cannot spend its way out of the housing crisis. Producing housing for median income earners is equally challenging given the total disconnect between what median- and above-median households can afford to pay (typically 30 percent of earnings) and what housing actually costs. As described above, since even a union worker household earning $90,000 per year cannot afford to buy a

[187] Letter from HCD to Kome Ajise, Executive Director of SCAG, Re: Regional Housing Need Determination SCAG: June 30, 2021 – October 15, 2029, dated Aug. 22, 2019, https://www.scag.ca.gov/Documents/6thCycleRHNA_SCAGDetermination_08222019.pdf.

[188] City of Los Angeles, Inter-Departmental Correspondence from Rushmore Cervantes, General Manager, Housing and Community Investment Department, Vincent Bertoni, AICP, Director of Planning, and Sharon Tso, Chief Legislative Analyst to Honorable Members of the Planning and Land Use Management Committee, dated Oct. 24, 2019, http://clkrep.lacity.org/onlinedocs/2019/19-0773_misc_10-25-2019.pdf.

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Tel: 213.896.2400
Fax: 213.896.2450

median priced home in any SCAG county touching the ocean, there is no evidence whatsoever that one million new homes can be built in Los Angeles and Orange County at costs that are affordable to median and above-median income households like construction union households.[189]

232. Updates to the CEQA Guidelines are required by law to be consistent with state legislation and judicial decisions, including but not limited to civil rights and housing laws. Instead, the Redlining Revisions illegally attempt to implement extraordinarily costly, restrictive and unprecedented housing, mobility and GHG measures in a regulatory fiat that state legislators have never authorized, and have in many instances considered but repeatedly declined to adopt.

233. Specifically, the Redlining Revisions add "mitigation" costs to housing to reduce GHG emissions and impose unprecedented new costs for VMT on new housing occupants (but not on their neighbors living in existing housing), and impose regulatory inconsistencies and ambiguities that create and exacerbate CEQA litigation uncertainties which have been and will continue to be used to oppose new housing. In the regulatory equivalent of shouting fire in a crowded theater, the Redlining Revisions weaponize CEQA in an attempt to confine new housing to the most costly form of housing we can build: (a) high density steel-framed structures with the highest construction costs, (b) on high value/high cost land that already has homes and businesses that would need to be demolished and in some cases relocated, (c) in communities with older undersized sewage, water supply, and other infrastructure and public services that was never designed to handle high density housing, and (d) within one-half mile of an existing bus stop or metro station in a region where public transit is not a viable option, especially for minorities.

234. The Redlining Revisions will wipe out home ownership and even attainable rentals for those – predominantly minority, but also young families starting out, as well as displaced senior renters – not privileged enough to own their own home. Specifically, the unlawful Redlining

[189] Dillon, *Coastal Cities Give In To Growth. Southern California Favors Less Housing in Inland Empire*, Los Angeles Times (Nov. 7, 2019), https://www.latimes.com/california/story/2019-11-07/housing-building-density-zoning-coastal-inland-empire-southern-california-scag (SCAG elects to require 1 million of 1.34 million new homes required by RHNA allocation to be accommodated in Los Angeles and Orange counties).

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Tel: 213.896.2400
Fax: 213.896.2450

Revisions include or result in:

235. The requirement that VMT - irrespective of vehicle emissions, including zero emissions - be treated as a presumptively significant CEQA impact requiring all feasible mitigation except within the small fraction (three percent) of the SCAG region located within one-half mile of a metro station or frequent bus stops, as provided in Section 15064.3 and in the illegal Underground VMT Regulation;

236. The requirement that roadway improvements in the state that reduce congestion and increase capacity be treated by CEQA lead agencies as presumptively significant CEQA impacts requiring all feasible mitigation (irrespective of any such improvement's ability to improve transportation safety, reduce air pollution, and enhance mobility, and irrespective of the improvement's ability to reduce adverse health, family welfare, and economic impacts), thereby intentionally promoting and worsening traffic gridlock, as provided in Section 15064.3 and in the illegal Underground VMT Regulation;

237. The incorporation of per-capita VMT reduction levels that have been identified by state regulators as a potential component for achieving unlegislated and unadopted state GHG reduction requirements, including a "80 percent GHG reduction below 1990 levels" target for 2050 which the Legislature has specifically declined to enact, as CEQA significance thresholds;

238. The Respondents' willful and illegal failure to provide clear VMT impact thresholds in the CEQA Guidelines, instead providing deliberately vague, indeterminate and contradictory language in the relevant portions of Section 15064.3 and in the illegal Underground VMT Regulation;

239. The Respondents' willful and illegal failure to conform the CEQA Guidelines with GHG impact analysis approaches specifically approved by the California courts, including considering compliance with the state's cap-and-trade program as sufficient mitigation for a project's potential construction and operational period fossil fuel use impacts, and acknowledging

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

that because the vast majority of the global GHG emissions sources that affect the global climate are outside of any lead agency's jurisdiction and control, a project's cumulative contribution to global GHG impacts cannot be determined to be less than significant in the relevant portions of Section 15064.4 and the illegal Underground GHG Regulation;[190]

240. The Respondents' willful and illegal failure to provide clear GHG impact thresholds, instead providing deliberately vague, indeterminate and contradictory language in Section 15064.4 and the illegal Underground GHG Regulation, such as (i) the absurd and deliberately unworkable notion that each lead agency, no matter how small and lacking in technical resources, should identify and provide substantial evidence in support of its own GHG impact threshold that could vary on a "case by case" basis and (ii) failing to provide the legally required specificity to lead agencies for what constitutes a significant adverse impact to the environment, and instead unlawfully imposing this obligation on lead agencies under Section 15064, which newly requires lead agencies to explain the adequacy of each threshold used for each project; and

241. The Respondents' willful and illegal imposition of ad-hoc revisions to CEQA Guidelines Appendix G that lack any rational basis and have a clear discriminatory disparate impact, such as permitting smaller, generally wealthier and less diverse communities to review and potentially block housing and other project by applying far more stringent aesthetic impact thresholds than are applicable in larger, poorer and more diverse communities, and declining to integrate legally mandated water quality, air quality, health and safety protections, and other environmental and public health compliance mandates into Appendix G.

242. The Respondents' willful and illegal expansion of the Redlining Revisions beyond the scope and effect of applicable legislation and judicial decisions is based on an intentional reliance on false and misleading information concerning the level of VMT in the U.S. and California, and the effectiveness of the VMT reduction measures cited by the Respondents.

[190] *See, e.g., Assoc. of Irritated Residents v. Kern County Board of Supervisors* (2017) 17 Cal.App.5th 708.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Other critically important information, including the amount of GHG emissions that the Respondents estimate will be reduced by constraining state housing and mobility in violation of civil rights and housing laws, as well as impacts to housing and mobility costs, has been deliberately and illegally ignored by Respondents.

243. There is no substantial evidence that the Redlining Revisions are required to achieve any of California's legislated climate change requirements. There is substantial evidence that the enhanced legal and CEQA compliance risks created by the Redlining Revisions will increase the already outsized role CEQA compliance and litigation costs play in preventing the construction of sufficient housing in the form and at prices that meet the needs of the state's aspiring minority, working, and middle class populations.

244. There is no substantial evidence that the Respondents' new housing and mobility constraints will meaningfully reduce global GHG emissions, even if implemented as the Respondents' desire, and considerable evidence that they will instead continue to shift low-emission California households and economic activity to higher per capita GHG emission locations including the top three destinations for departing Californians (Texas, Nevada and Arizona).

245. The housing and mobility constraints that will be generated by the Redlining Revisions will unambiguously and disproportionately burden and cause disparate impacts to the state's aspiring minority population, which is younger, growing much more rapidly, and has far more significant need for new housing and automotive mobility than the state's older, declining, and largely white population.

246. Constructing new, dense urban housing, as contemplated by the Redlining Revisions, will displace existing largely minority populations and replace them with extremely high-cost multifamily units that most minority, working and middle class Californians will be unable to purchase or rent. Lower cost and more suitable housing, such as small "starter homes" like duplexes and small single family homes for households with children, will require more costly CEQA mitigation and be easier to sue and block in a CEQA lawsuit.

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Tel: 213.896.2400
Fax: 213.896.2450

247. The supply of such housing will continue to fall, and prices will increase. Minority, working and middle class Californians will be forced to live even farther from Coastal Job Centers, and become more reliant on automotive transportation, but roadway congestion and mobility costs will greatly increase. There are several alternative measures for achieving comparable or greater GHG emission reductions than could be generated by the Redlining Revisions without disproportionately burdening and causing disparate impacts to the state's aspiring minority population.

(1) The Redlining Revisions were Illegally Adopted on the Basis of False, Misleading and Deliberately Withheld Information.

248. The Redlining Revisions embody the ideological opposition of state environmental regulators and their close environmental advocacy group allies to traditional homeownership opportunities, which they deride as sprawl (notwithstanding the fact that only about five percent of California is in an urbanized area, as shown in Table 10), and to individual mobility and automobile use, which they deem an unnecessary luxury that should be abandoned for public transit.

249. The Redlining Revisions are intended to restrict future housing to the tiny sliver of California that can meet the TPA criteria while forcing state residents out of their cars, and onto buses or commuter rail. In this view, homeownership must be sacrificed for a lifetime of renting small apartments in dense, multifamily housing.

250. The California legislature never authorized the Respondents to use the CEQA Guidelines for this purpose. Nor have the state's residents endorsed this agenda. As a recent summary of the state's VMT and dense housing policies concluded, "dense residential uses, including affordable housing, in compact mixed-use centers associated with access to public transportation remains a future still under consideration by Californians," that has thus far resisted efforts by state environmental regulators and environmental advocacy groups to "change the minds

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Tel: 213.896.2400
Fax: 213.896.2450

and preferences of Californians about where they want to live and how they want to travel."[191]

251. Although cloaked in the language of GHG reduction measures, the Redlining Revisions are not necessary to meet any legislatively approved California climate change requirements. Both the VMT and Underground GHG Regulations discuss potential VMT reductions in the range of 14 percent, 15 percent and 16.8 percent solely in the context of meeting a hypothetical and unlegislated objective for 2050.

252. The Underground VMT Regulation in fact concedes that California's legislated GHG reduction goals can be achieved without VMT reductions, but speculates that "without early VMT mitigation, the state ***may follow*** a path that meets GHG targets in the early years, but finds itself poorly positioned to meet more stringent targets later" (emphasis added).[192]

253. The state may also follow a path in which legislatively mandated targets are met without destroying housing and mobility for the state's aspiring minority communities and meeting any subsequent requirements elected legislators may choose to enact into law with new and more effective technologies than currently exist. Respondents' belief that they must use the CEQA Guidelines to proactively impose their restrictive dense housing and transit mobility agenda to meet potential future objectives that they think "may" be constrained by behavior they find distasteful, such as home ownership and driving, is nowhere supported by California law.

254. It is clear that the Redlining Revisions are intended to constrain housing and mobility irrespective of whether GHG emissions – the focus of applicable legislation – are reduced. Section 15064.3 requires that any form of VMT, including from zero-emission electric cars powered by zero-emission solar energy, be treated as a presumptive significant project impact that must be mitigated to the full extent feasible under CEQA. The only exceptions to this presumption are for land development within "one-half mile of either an existing major transit stop or a stop

[191] Glancy, Vehicle Miles Traveled and Sustainable Communities, 46 McGeorge L. Rev. 23, 65 (2014), https://www.mcgeorge.edu/Documents/Publications/4_Glancy46_1.pdf.

[192] OPR, Technical Advisory on Evaluating Transportation Impacts In CEQA (Dec. 2018), at 2, http://www.opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

along an existing high quality transit corridor" (e.g., a TPA) or that "decrease vehicle miles traveled in the project area compared to existing conditions."

255. Hundreds of thousands of housing units and commercial development can be crammed into a TPA but are nevertheless treated as having no VMT impacts whatsoever under the Redlining Revisions. Meanwhile, even a single housing unit located just outside a one-half mile TPA boundary – unless it somehow reduces VMT in an unspecified "project area" – must be identified as a significant CEQA impact and mitigated by all feasible measures. Further, notwithstanding the purported climate change/GHG reduction imperative of requiring VMT reductions through CEQA, in opposing a San Diego General Plan that allowed GHG emissions caused by VMT to be mitigated by verifiable GHG reductions, the California Attorney General's office has explicitly opined that VMT impacts cannot be sufficiently mitigated with GHG reductions.

256. Thus, rather than focus on GHG emission reductions, the Redlining Revisions mandate VMT cutbacks even if the challenged VMT have no effect on GHG emissions. Respondents' non-GHG rationale for requiring VMT reductions are either unlawful, or absurd. For example, Respondents' laud the "wellness" benefits of "active transportation" modes such as biking or walking instead of driving, but CEQA does not authorize Respondents to promote "wellness." Respondents also attempt to coyly bypass the legal scope of CEQA altogether in referring to VMT as a "transportation" impact independent of any impact to the physical environment – which is the sole purview of CEQA. In the final stage of rulemaking, Respondents grasped at straws – or raindrops – by claiming that VMT also impacted stormwater quality from tire use on roadways, ignoring entirely the effectiveness of stormwater quality controls required by other environmental laws for state highways[193] as well as local roadways.[194]

[193] Caltrans, Stormwater Management Program, https://dot.ca.gov/programs/environmental-analysis/stormwater-management-program (last visited Nov. 7, 2019).

[194] California State Water Resources Control Board, Municipal Stormwater Program, https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html (lasted visited Nov. 7, 2019).

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

257. Notwithstanding years of legislation and the passage of new roadway improvement taxes by the state's electorate as recently as November 2018, the Redlining Revisions require that lead agencies consider any future roadway capacity enhancement including "adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future" as a significant impact that requires the implementation of all feasible mitigation. In contrast, "[r]educing roadway capacity (for example, by removing or repurposing motor vehicle travel lanes) will generally reduce VMT and therefore is presumed to cause a less-than-significant impact on transportation."

258. While the Legislature authorized CEQA Guidelines amendments to streamline TPA development by eliminating congestion as a potential CEQA impact issue in these areas, the Redlining Revisions flatly state that "automobile congestion or delay does not constitute a significant environmental impact" anywhere in California. The Redlining Revisions even prohibit considering public safety needs as a basis for increasing road capacity.[195]

259. Contrary to legislative intent, the Respondents crafted the Redlining Revisions to make the state's roadways and driving, the overwhelmingly dominant form of mobility for all Californians, more congested, subject to greater delay, less safety, and more dysfunction. This unlawful objective will cause disparate harm to minority workers already forced to drive longer distances by high housing prices and the housing supply shortfall, and specifically will cause adverse health impacts to drivers forced to endure longer commutes, adverse family welfare impacts to drivers who are absent or exhausted when kids need homework assistance or emotional support, and adverse economic impacts to construction workers and others who charge by the hour and can safely work fewer hours because of three plus hour "supercommutes."

260. The Underground VMT Regulation suggests that actively constraining roadway improvements and the freedom to drive for a population that uses single occupancy

[195] OPR, Technical Advisory on Evaluating Transportation Impacts In CEQA (Dec. 2018), at 23-24, http://www.opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

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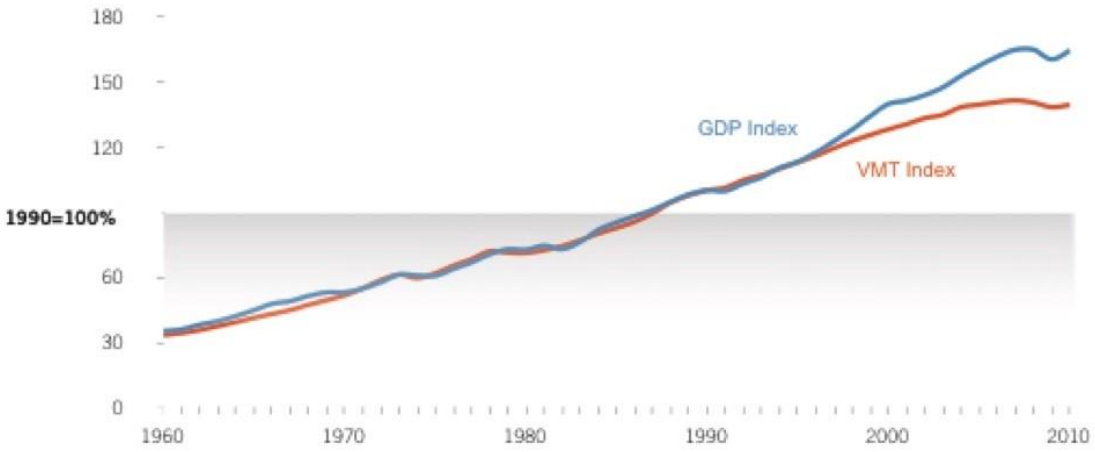
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

vehicles for 80 percent of all commutes to work represents a reasonable strategy because "data from the past two decades shows that economic growth is possible without a concomitant increase in VMT." In support of this claim, the Underground VMT Regulation relies on an index (with 1990 equal to 100) of U.S. gross domestic product ("GDP") plotted against national VMT changes from 1960 to 2010. As shown in Figure 11, particularly during the time of the Great Recession, the VMT growth index is lower than the nation's GDP index– which Respondents cite in support of their claim that VMT can drop even as the GDP index increases. As explained below, the Respondents' purported rationale is intentionally false and misleading, and evidence of Respondents' intent to discriminate against California's minority workers and families.

Figure 11: Chart of National VMT and GDP Index in 2018 Underground VMT Regulation[196]



261. The figure used in the Underground VMT Regulation was copied from a 2011 study by an environmental advocacy group, the Center for Clean Air Policy, widely recognized for its self-described "smart growth" advocacy, most notably advocacy for dense urban housing and public transit instead of automobile use.[197] The study was nearly a decade old at the

[196] *Id.* at 3-4.

[197] Kooshian and Winkelman, Growing Wealthier: Smart Growth, Climate Change and Prosperity, Center for Clear Air Policy (Jan. 2011), http://ccap.org/assets/Growing-Wealthier-Steve-Winkelman-Chuck-Kooshian_CCAP-January-2011.pdf.

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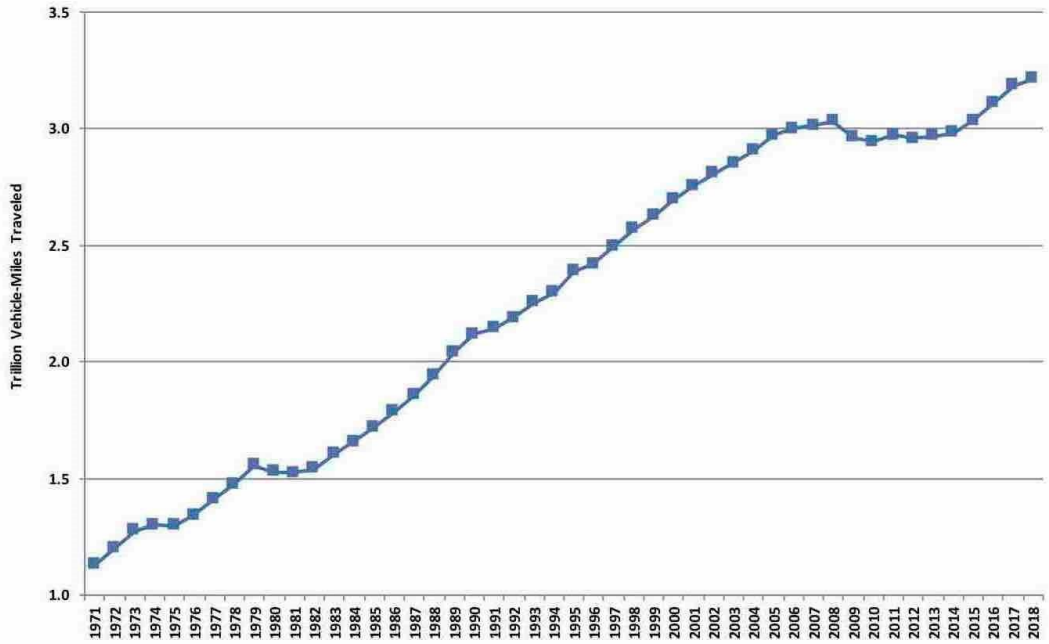
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

time the Redlining Revisions were finalized in 2018, and shows "facts" only as of 2010. The actual fact, which was brought to the Respondents' attention by numerous commenters, was that VMT growth increased after 2010 - the years omitted from the analysis. As shown in Figure 12, from 2013 to 2018 U.S. VMT rose at approximately the same rate as before the recession. In 2016 and 2017, national VMT rose more rapidly than GDP. Although the Underground VMT Regulation was published in December 2018, and national VMT data was readily available from multiple sources, the Respondents did not update or acknowledge the dramatic increases in VMT that occurred after 2010– an intentional, and intentionally misleading, omission.

Figure 12: US Total VMT, 1971-2018[198]



262. Respondents also ignored readily available data showing that, since 2011, as the state recovered from the recession, VMT also steadily increased within California. As noted by an influential climate change advocacy group, in 2011, California VMT was nearly five percent higher than in 2000, and rose to 11.2 percent above 2000 levels by 2017. From 2008 to 2017, state

[198] U.S. Department of Energy, Alternative Fuels Data Center, Annual Vehicle Miles Traveled in the United States, https://afdc.energy.gov/data/10315 (last visited Oct. 2019).

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

VMT increased by over five percent.[199]

263. The Redlining Revisions were based on false and misleading conclusions using data that was years out of date at the time they were adopted. Contrary to the Respondents' assertions, and consistent with the historical record, VMT and GDP both increased in California and in the nation as a whole following the disruptions caused by the Great Recession.

264. The Respondents further provided additional false and misleading information suggesting that VMT reductions could be feasibly achieved by individual housing projects, referring to a 2010 California Air Pollution Control Officers Association ("CAPCOA") publication concerning the quantification of potential GHG reduction mitigation measures under CEQA (the "CAPCOA Manual").[200]

265. The CAPCOA Manual was not prepared to support, and expressly states that it should not be used for, any regulatory purpose. The CAPCOA Manual also provides little to no support for the proposition that state regulators have identified effective and feasible VMT reduction measures of any kind. One potential measure, adding bike lanes, was estimated to reduce vehicular GHG emissions and VMT by a nearly unmeasurable 0.05 to 0.14 percent. The CAPCOA Manual also suggested that major, unfunded, and as yet unapproved regionalized transit system improvements might result in more substantial VMT reductions.[201]

266. In a 2018 report to the Legislature, the LAO reviewed empirical studies of VMT reduction measures as part of an assessment of California's climate policies. The studies reviewed by the LAO indicated that commonly proposed VMT reduction measures had, at best,

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[199] Next 10, California's Green Innovation Index 2019 (Oct. 2019), Figure 29 at 31, https://www.next10.org/sites/default/files/2019-10/2019-california-green-innovation-index-final.pdf.

[200] NRA, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines, OAL Notice File No. Z-2018-0116-12, at 79-80 (Nov. 2018), http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf; CAPCOA, Quantifying Greenhouse Gas Mitigation Measures (Aug. 2010), http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

[201] CAPCOA, *supra*, note 200.

variable and in some cases "nonexistent" effects on VMT. Increasing residential density, employment density, and land use mix by one percent was found to decrease VMT "up to 0.2 percent," a comparatively minor reduction. No evidence was found that increased transit service or bicycling infrastructure lowered VMT.[202]

267. The LAO report also observed that there was no available information about the effectiveness of transportation improvements funded by CARB through the cap-and trade program (pursuant to which consumers pay higher fuel costs to fund GHG reduction efforts) at either reducing VMT or providing meaningful transportation improvements. The Co-Chair and some members of the Joint Legislative Audit Committee ("Committee") responded by calling for a non-partisan audit by the State Auditor of CARB's cap-and-trade transportation expenditures which was fiercely opposed by CARB and others.[203] CARB did agree to provide further information to the Committee, but CARB's response failed to quantify either the GHG reductions or transportation improvements of its cap-and-trade expenditures and thus was not responsive to the LAO's findings.[204]

268. Further, the Redlining Revisions do not reflect the fact that, contrary to the Respondents' aversion to previous development "sprawl," California's historic land use patterns have in reality produced the most densely populated state in the country. As noted in a 2011 by the nonpartisan Public Policy Institute of California, "Despite popular conceptions that California – particularly Southern California – is the epitome of sprawl development, residential density in California is well above the national average. … Population density in California in 2000 was 49 percent higher than the national average" and increased from 1990 to 2000 while national

[202] Taylor, *supra* note 35, at 38.

[203] InsideEPA.com, *In Rare Move, Lawmakers Reject Audit Of CARB Transportation GHG Policies*, (Mar. 7, 2019), https://insideepa.com/daily-news/rare-move-lawmakers-reject-audit-carb-transportation-ghg-policies.

[204] Letter from Richard Corey, Executive Director, CARB to The Honorable Rudy Salas, Chair of Joint Legislative Audit Committee, California State Assembly, dated April 23, 2019, https://legaudit.assembly.ca.gov/sites/legaudit.assembly.ca.gov/files/CARB%20Response%20Letter_1.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

residential density did not change.[205]

269. From 2000 to 2010, the year of the last full national census, California's population increased by 3.4 million. All of this net growth occurred in urban areas as defined by the U.S. Census Bureau while the population in the state's rural lands remained virtually unchanged (approximately 1.88 million, or 5 percent of the total 2010 population). In 2010, the state's average urban area density was 4,304 residents per square mile, the highest in the nation, denser than New York (4,161 people per square mile) and nearly double the U.S. average urban area density of 2,343 people per square mile.[206] As shown in Figure 13, the state's total urban area increased by about 303 square miles from 2000 to 2010, approximately 0.195 percent of the state's total land area, and an average density of 11,155 new residents per square mile of new urban land created from 2000 to 2010.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[205] Kolko, Making the Most of Transit Density, Employment Growth, and Ridership around New Stations, Public Policy Institute of California (Feb. 2011), at 10, https://www.ppic.org/content/pubs/report/R_211JKR.pdf.

[206] U.S. Census Bureau, Population, Housing Units, Area, and Density: 2010 – United States – States and Puerto Rico and Population, Housing Units, Area, and Density: 2000 – United States – States and Puerto Rico, Table GCT-PH1, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "GCTPH1" in topic or table name search field and select 2010 and 2000 tables)(last visited Nov. 11, 2019); Cox, Built-Up Urban Areas in the United States & DC Totals: 2010, Demographia, http://demographia.com/db-stateuza2010.pdf (last visited Nov. 11, 2019).

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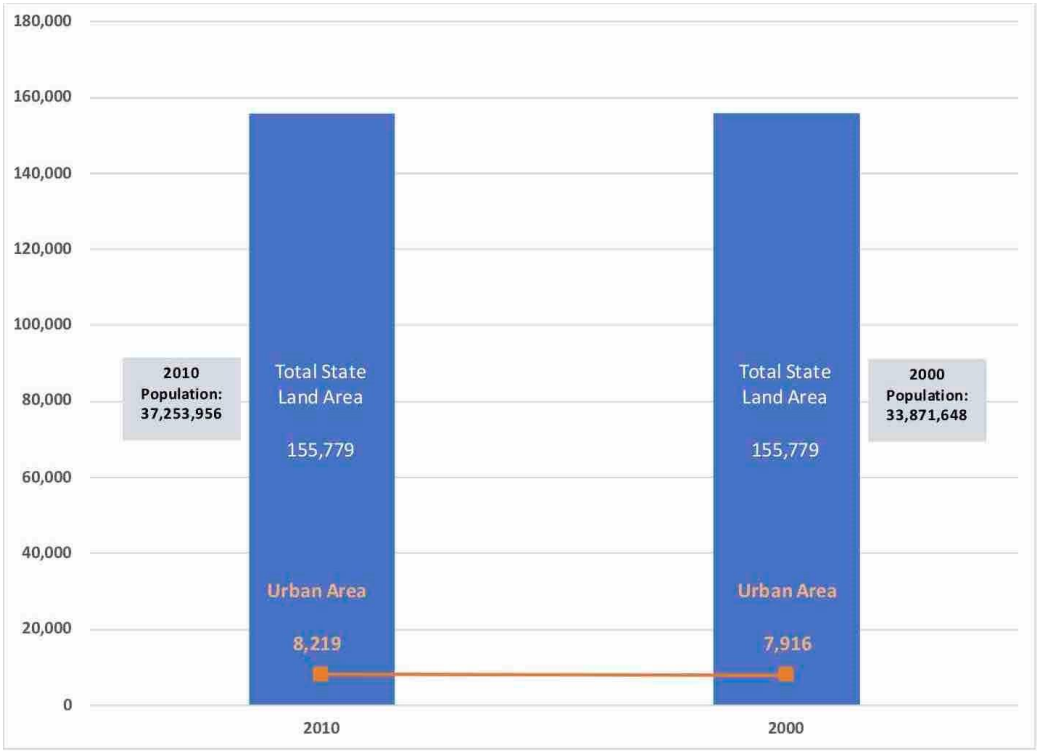
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Figure 13: California Land Area (excluded water area), and Urban Area (square miles) and total population, 2000 to 2010[207]



270. The Redlining Revisions misleadingly suggest that the prior pattern of California development is sprawling, when in fact the state's urban areas have the highest average population density in the country. From 2000 to 2010, the most recent decennial census data available for California, the state population rose by 10 percent, but the total state urban area only increased by 3.8 percent due to the far greater average density of new development. Approximately five percent of the state was urbanized in 2000, and as shown in Figure 13 almost exactly the same percentage of state land was urbanized in 2010 notwithstanding a full decade of growth and a population increase of 3.4 million new residents.

271. The fact that California urban areas have very high population densities has been widely acknowledged by state transportation and housing planners. Figure 14 is a list of California urban areas prepared by the Gateway Cities Council of Governments ("COG") in

[207] *Id.* All land areas are net of water area and total state land area is as reported in the 2010 Census.

Southern California based on the 2010 decennial Census. Figure 14 shows that the density of California's major urban areas, including in southern California and San Francisco, is significantly higher than the statewide average for all urban areas. High density is not confined to California's largest cities: in fact, numerous smaller cities in the Gateway Cities COG have far higher densities than the statewide urban area average of 4,304 people per square mile and the national average of 2,343 people per square mile.

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Tel: 213.896.2400
Fax: 213.896.2450

Figure 14: California Urban Population Density in 2010[208]

Gateway Cities Ranked by Population Density

http://www.energyatlas.ucla.edu/profiles/BTU

Footnotes:
(1) Cities include for comparison purposes (Population from 2010 Census)
(2) Values obtained from EnergyAtlas (Population from 2010 Census) - EnergyAtlas provides disaggregated energy data developed by the UCLA California Center for Sustainable Communities (CCSC) and funded by the SoCalREN and the County of Los Angeles' Office of Sustainability.

City Name	Population Density per Square Mile [2]
New York [1]	27,016
Maywood	23,257
Huntington Park	19,820
Cudahy	19,371
San Francisco [1]	17,116
Bell Gardens	17,066
Hawaiian Gardens	15,556
Lynwood	14,599
Bell	13,414
South Gate	12,839
Bellflower	12,393
Paramount	11,223
Norwalk	10,896
Artesia	10,190
Compton	9,604
Long Beach	8,995
Downey	8,894
Lakewood	8,325
Los Angeles [1]	8,008
Montebello	7,454
Los Angeles County	7,372
Pico Rivera	7,211
La Mirada	6,183
Whittier	5,866
Cerritos	5,540
Signal Hill	5,039
Santa Fe Springs	2,268
Commerce	2,008
Avalon	1,237
Industry	1,178
Vernon	22

272. The 2010 decennial U.S. Census tabulated the population densities of U.S. communities with total populations greater than 50,000. The data show that California communities

[208] Gateway Cities Council of Governments Offices, "Gateway Cities Ranked by Population Density," *Meeting of the Gateway Cities Planning Directors* (Mar. 13, 2019), at 62, http://www.gatewaycog.org/media/userfiles/subsite_9/files/rl/Planning/Agenda%2C%20March%2013%2C%202019%20Planning%20Directors%20Committee.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

such as Huntington Park, San Francisco, East Los Angeles CDP, Lynwood, Hawthorne city, Daly City and South Gate are more densely populated than Boston; Bellflower, Inglewood, Santa Ana, and El Monte are more densely populated than Chicago or Philadelphia; Los Angeles, Long Beach, Santa Monica, San Mateo and Berkeley are more densely populated than Baltimore, Seattle or Minneapolis; and the densities of Pasadena, San Jose, Orange, Anaheim, Burbank, Oakland, Alameda, Tustin and Santa Clara are higher than Cleveland, St. Louis or Detroit. Most remarkably, 70 California communities with 50,000 or more residents, including all of the communities listed above and Fresno, Stockton and Santa Barbara, are more densely populated than Portland, a city considered the epitome of "smart growth" and enlightened land planning.[209]

273. The Respondents have illegally concealed and refused to disclose critical information throughout the multi-year public review process for the 2018 CEQA Guidelines amendments, and up to the present day. Remarkably, despite years of requests by multiple parties, including the Petitioners, the Respondents have refused to provide their estimates of the amount of GHG emission reductions that will be achieved by the VMT reductions expected to be achieved from the absence of new CEQA VMT mitigation costs on small rental units in high density apartment buildings in existing urbanized TPAs.

274. The Respondents have also refused to disclose any information concerning the impacts these measures will have on the cost and availability of new housing and on statewide mobility costs, or the disparate impacts and harms that these housing and mobility costs will have on California's minority families.

275. The legislative authorization for amending the CEQA Guidelines to address VMT and GHG emissions is focused on reducing net global emissions so that by the end of the century the potential global average temperature increase caused by anthropogenic GHG emissions

[209] U.S. Census Bureau, Population, Housing Units, Area, and Density: 2010 - United States -- Places and (in selected states) County Subdivisions with 50,000 or More Population; and for Puerto Rico, Table GCT-PH1, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "GCTPH1" in topic or table name search field and select 2010 table)(last visited Nov. 2019).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

will be minimized. The Respondents continue to willfully conceal basic information about costs, or effectiveness, or equity, or civil rights - and have provided no evidence that the racially disparate impacts to housing and mobility caused by the Redlining Revisions will meaningfully affect global GHG emissions, or have any impact on potential end of the century global average temperature increases caused by anthropogenic GHG emissions.

276. Respondents' omission is particularly heinous given the myriad other strategies for reducing far more harmful forms of GHG, at far lower costs to California taxpayers let alone housing crisis victims struggled to buy or rent a home. For example, replacing cook stoves in Africa and Asia that burn dung or wood and create "black carbon" – a particularly potent form of GHG that is also produced from forests fires – with cleaner cooking fuels was accepted as an appropriate GHG reduction CEQA compliance pathway by CARB and the Attorney General for one large master planned community.

277. This cook stove conversion has also been subsequently lauded by Ken Alex, the Director of Respondent OPR at the time the Redlining Revisions were adopted, as an extremely low cost, highly effective GHG reduction strategy. As recently noted by Mr. Alex, now at UC Berkeley:

> Black carbon is 500 to 1500 times as potent a global warmer as CO_2.
> [B]y far the largest source of black carbon emissions – 58% - is from open flame heating and cooking by an estimated 3 billion people worldwide, primarily in developing jurisdictions.
>
> [R]educing the black carbon emissions from open flame cooking and heating is likely the cheapest and potentially quickest path to significant GHG reduction, with the additional benefit that, because black carbon's short life in the atmosphere, the reduction will immediately reduce climate forcing (and, of course, health impacts of indoor burning).
>
> The impact would be dramatic, and would give us a bit more time to make progress with other GHG emissions.[210]

278. Throughout his tenure at OPR, however, including in finalizing the Redlining

[210] Alex, *Black Carbon, 3 Billion Strong*, Legal Planet, (Sept. 16, 2019), https://legal-planet.org/2019/09/16/black-carbon-3-billion-strong/.

Revisions, Mr. Alex remained adamant that VMT reductions – regardless of whether or to what extent such reductions actually reduced GHG on any meaningful global scale or were required to comply with any adopted California GHG reduction mandate – would be required by regulatory fiat through the CEQA Guidelines, regardless of whether or to what extent VMT reductions resulted in GHG reductions.

279. The Respondents have further illegally refused to acknowledge or disclose material information and conclusions provided by representatives of Portland State University ("PSU"), hired by Respondent OPR in or before 2018 to conduct workshops for state agencies and metropolitan transportations organizations. Portland's reputed success in promoting "smart growth" strategies to increase housing and transit utilization, notwithstanding the fact that Portland is actually less dense than many California cities as noted above, was emphasized by Respondents in retaining the PSU representatives to help provide substantial evidence of the feasibility and effectiveness of VMT reduction measures for use in California.

280. During public workshops, the PSU experts refused to specifically endorse the effectiveness of any of the potential VMT reduction measures that could be implemented by a particular housing project as set forth in the CAPCOA Manual, such as providing secure bike parking with nearby showers for bike riders or separately pricing automobile parking for rental households. One of the PSU representatives apparently conceded that no form of housing on a project level could significantly reduce VMT by incorporating any such measures because VMT is generated by regional transportation infrastructure and the regional employment and housing base. There was no published final report or work product produced by PSU representatives.

281. The reported reluctance of the PSU representatives to opine on the effectiveness of any of the VMT reduction measures proposed by the Respondents or suggested in the Redlining Revisions is unsurprising given that substantial evidence exists that such measures have not in fact significantly reduced automotive use even in Portland. In 2014, the academic director of the Center for Real Estate at PSU published a report criticizing the Portland area's 2035

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

growth plan for assuming "large swings in transportation mode share" towards public transit would occur in the region that had "no basis in fact" notwithstanding widely-publicized smart growth policies and billions of dollars of urban transit investments.

282. From 1990 to 2009, census data show that "the mode choice of commuters in the Portland metropolitan area has been remarkably stable" with "roughly 80 percent" of Portland metro area workers continuing to commute by single occupancy or multiple occupancy automobiles, and about six percent by public transit.[211] U.S. Census data for 2017 confirms that automobile use continues to be the dominant commuting mode in the Portland metropolitan area, with 79.3 percent of all commuters using single or multiple occupancy vehicles, and 6.3 percent using public transit.[212]

283. Similar results were reported by UC Davis Transportation Institute researchers, who concluded both that there were no reliable or consistent methodologies for measuring VMT, and that "the differences in output between [VMT model] methods is notable", as shown in the replicated Figure 6 from their report, below. [213]

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[211] Mildner, Density at any Cost, Center for Real Estate Quarterly Report, vol. 8, no. 4. (Fall 2014), at 14, https://www.pdx.edu/realestate/sites/www.pdx.edu.realestate/files/01%20UGR%20-%20Mildner.pdf.

[212] U.S. Census Bureau, 2017 American Community Survey (ACS) 1-Year Estimates, Means of Transportation to Work by Selected Characteristics for the Portland-Vancouver-Hillsboro, OR-WA Metro Area, Table S0802, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search "GCTPH1" in topic or table name search field and search "Portland-Vancouver-Hillsboro, OR-WA Metro Area" in state, county or place search field and select 2017 table)(last visited Nov. 12, 2019).

[213] Lee et al., Evaluation of Sketch-Level VMT Quantification Tools: A Strategic Growth Council Grant Programs Evaluation Support Project, UC Davis Institute of Transportation Studies and National Center for Sustainable Transportation (Aug. 2017), Figure 6 at 29, https://escholarship.org/content/qt08k3q8m5/qt08k3q8m5.pdf.

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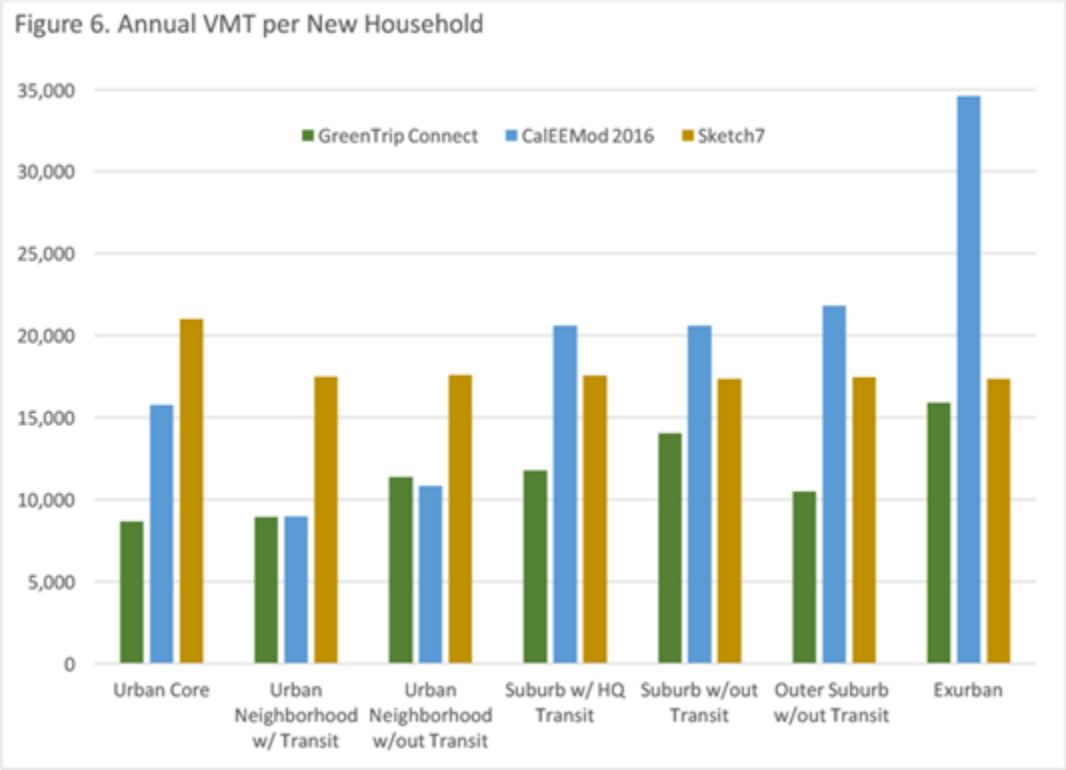
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450



284. Most importantly, as noted by UC Davis:

> The available VMT estimation methods have not been validated as to their accuracy, owing to a lack of data against which to validate them. Actual changes in VMT resulting from land use projects are best measured through before-and-after surveys of residents, employees, and/or customers, but such surveys are rarely done. Without such data, we cannot say which of these quantification methods is most accurate. ***The lack of validation and uncertainties around accuracy may pose challenges for CEQA practitioners when analyzing VMT impacts and their significance.***
>
> Even without validation, however, the existing VMT quantification tools are still useful. The internal consistency of each tool allows for insightful comparison between scenarios that differ with respect to project characteristics and/or location, ***even if their ability to accurately forecast VMT or GHG emissions for a given land use project in a given situation is uncertain***. (Emphasis added.)[214]

285. The UC Davis study was funded by the Strategic Growth Council, which was also led by Mr. Alex when he led OPR. Notwithstanding the "lack of validation and uncertainties around accuracy" and "uncertain" ability of VMT models to "accurately forecast" either VMT or

[214] *Id.* at 39.

GHGs, Respondents concluded with certainty in the required economic assessment of the Redlining Revisions that the revisions would actually reduce CEQA compliance costs based on a single consultant's estimate that an [unreliable] VMT model would cost less to prepare than a traditional traffic model that assessed congestion and not just miles traveled.

286. Respondents further failed to acknowledge any potential increased CEQA VMT mitigation cost, let alone enhanced litigation risk from the "lack of validation" and "uncertain" VMT assessment tools, to the housing projects that are actually subject to and required to comply with CEQA. Respondents wanted to use CEQA to promote high density housing and make driving more costly, without regard to compliance with housing, transportation, and civil rights laws – or California rulemaking requirements.

287. The UC Davis researchers' predictions about the challenges created by the Redlining Revisions were accurate. There is in fact widespread confusion, even by expert CEQA consultants and attorneys, as to how to address VMT and GHGs under the Redlining Revisions. As explained in a comment letter to Respondent OPR by the state's Transportation Corridor Agencies, "[t]he ambiguous language of proposed section 15064.3 will only confound further the material confusion and complexity of state law requirements applicable to [GHG] . . . . The Amendments should not be adding to the complexity and confusion surrounding the ever-evolving standards regarding GHG emissions. . . ."[215] Respondent OPR declined to make any changes based on these and similar comments, and widespread confusion as to both GHGs and VMT remains persistent.[216]

[215] NRA, Final Statement of Reasons for Regulatory Action Amendments to the State CEQA Guidelines, OAL Notice File No. Z-2019-0116-12, Exhibit A, at 188.

[216] *Id.* at 189. *See also* email correspondence among traffic experts, planners, environmental consultants, lawyers, and representatives from state and local agencies, to plan educational presentations for CEQA practitioners. As noted by one commenter: "The [Association of Environmental Planners] Climate Change Committee has been endeavoring through numerous white papers and conference presentations for about 10 years to promote best practices in this [GHG/Climate Change and CEQA] arena. Despite that, the practice remains unsettled on this matter, in particular because of aggressive plaintiffs using GHG as their latest legal cudgel, courts that are sometimes on point and sometimes clueless on the technical matters, and the unpreceded nature[] of the climate change challenge." Email from Rich Walter to Art Coon et al, Re: Recommendations: Topics for AEP Advanced CEQA Workshop (Sept. 27, 2019). A true and correct copy of this email correspondence is included as Exhibit D. *See also* Owen, Private

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

288. Local jurisdictions, for example, have responded to the Underground VMT Regulation's invitation to devise their own VMT significance thresholds with a wide variety of approaches, ranging from the recommended 15 percent, but only based on unique characteristics and assumptions that vary even within cities, to those who have declared any VMT reduction by a particular project to be infeasible, to those who have picked some other number – four percent, 10 percent - for a VMT reduction significance threshold without any explanation as to how any particular threshold actually reduces GHG, or by how much, or otherwise avoids or lessens any other physical impact to the environment.

289. Consultants and lawyers, paid by the hour to mull through options and litigate such issues for a decade or more, benefit from this uncertainty and confusion. People who need housing (disproportionately minorities), and agencies and other stakeholders attempting to comply with housing, public health, transportation, and other legal mandates are harmed by the CEQA miasma, instead of required regulatory clarity, created by the Redlining Revisions.

290. The use of false, misleading, concealed, and completely unreliable VMT and GHG information undermines any rational basis for the unlawful Redlining Revisions, and provides no excuse for violations of civil rights, housing, public health, and transportation laws.

(2) There Is No Substantial Evidence that the Redlining Revisions, and Increasing Housing and Mobility Burdens for the State's Aspiring Minority, Working and Middle Class Populations, Will Actually Reduce Global Greenhouse Gas Emissions.

291. As former Governor Brown, a committed climate activist, has repeatedly

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Facilitators of Public Regulation, A Study of the Environmental Consulting Industry, Regulation and Governance (2019), at 13 ("the story of CEQA and climate change illustrates how for-profit consultants can help build a regulatory system that seeks to advance environmental protection"). Note that the referenced CEQA climate change "regulatory system" referenced by Hastings Law Professor Owen was and continues to be invented, adjusted, and implemented on an ad hoc, project-by-project, consultant-by-consultant basis in the context of CEQA review of housing and other projects, and in the complete absence of public review and comment, approval by elected representatives, compliance with the APA, or any other procedural or substantive requirements for agency adoption of plans, policies, or ordinances governing the review and approval of housing applications.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

conceded, since California generates a relatively minute amount of global GHG emissions it cannot by itself significantly affect future climate conditions caused by anthropogenic emissions– and unless other states and countries follow our lead, California's GHG reduction efforts will be "futile".[217] There are no known states or countries that are tempted to "follow our lead" by weaponizing CEQA – a litigation tool that can anonymously be invoked at almost no cost by any party seeking any outcome to stop any project from changing the state's foundationally racist residential segregation pattern "in the name of the environment" – to end homeownership, worsen commutes, and further exacerbate the income inequality, poverty, and homelessness that California's leaders have disproportionately inflicted on the state's minority residents.

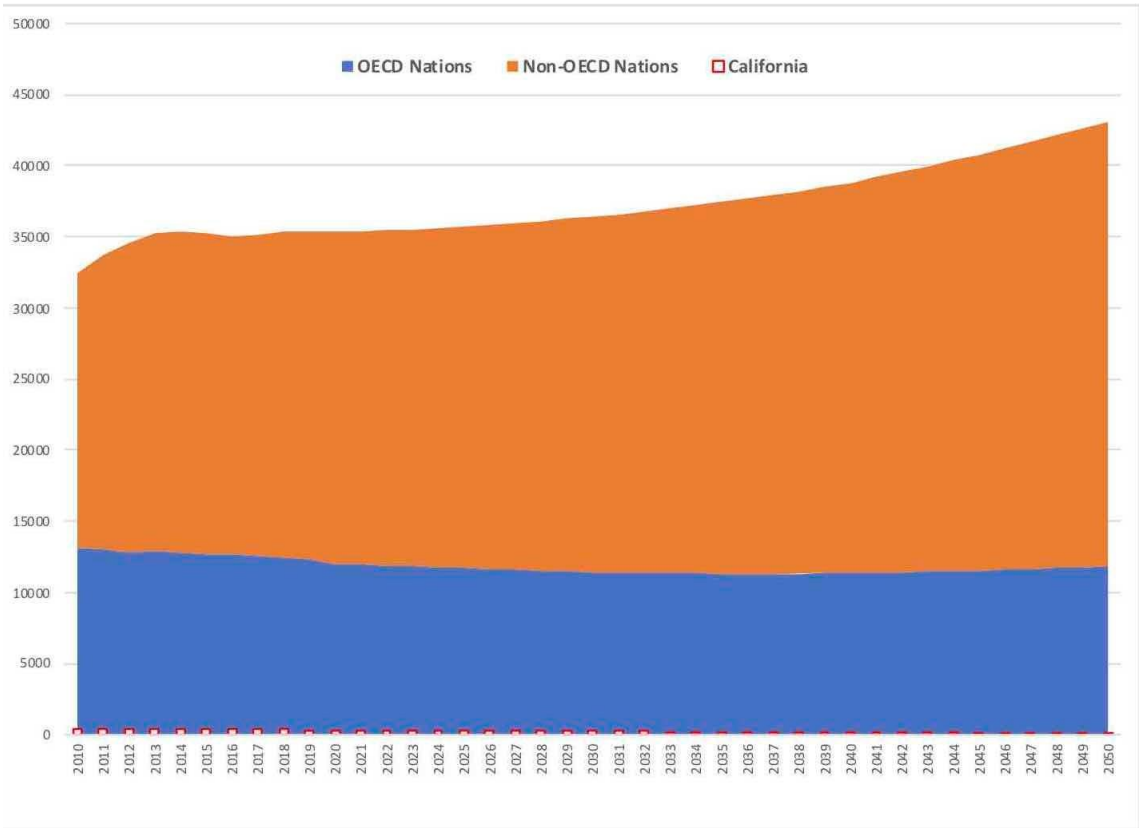
292. In September 2019, the U.S. Energy Information Agency ("EIA") published a projection of global CO_2 emissions from 2010 to 2050. As shown in Figure 15, GHG emissions generated by nations in the Organization of Economic Cooperation and Development ("OECD"), which include 36 of the world's most developed countries such as the U.S., France, the United Kingdom, and Germany, are projected to fall at an average of 0.2 percent per year. Emissions from non-OECD countries, including China, India, Russia, and almost all Southeast Asia, Middle East and African nations, are projected to increase by one percent per year.

293. Global emissions in 2050 will increase from 32.4 billion metric tons in 2010 to 43 billion tons in 2050, with all of the net increase projected to occur in non-OECD, developing countries. California accounted for about one percent or 363 tons of global CO_2 emissions in 2010, and would reduce global emissions by about 290 million tons, or by 0.67 percent of the projected levels by reducing statewide CO_2 output even by the 80 percent mandate rejected by the Legislature

[217] *See, e.g.*, Marinucci, *Top Democrat's Plan: Divest in Coal to Fight Global Warming*, San Francisco Gate (Dec. 16, 2014), http://www.sfgate.com/news/article/Top-state-Democrat-pushes-coal-divestment-to-5959147.php; Carroll, *California and Mexico Sign Pact to Fight Climate Change*, Reuters (July 28, 2014), https://www.reuters.com/article/us-climatechange-california-mexico/california-and-mexico-sign-pact-to-fight-climate-change-idUSKBN0FX1XO20140728; Lazo, *Jerry Brown Allies With China to Fight Climate Change*, Wall Street Journal (Sept. 23, 2019), https://www.wsj.com/articles/jerry-brown-allies-with-china-to-fight-climate-change-11569273903.

as compared with global GHG emissions in 2050. (California's GHG emissions are the almost invisible line of bubbles scraping along the bottom of Figure 15.)

Figure 15: U.S. EIA Global CO_2 Emissions Reference Case, 2010 to 2050, OECD Nations, Non-OECD Nations and California[218]



294. Given the global context of GHG emissions, California, like all progressive regions of the world that are committed to reducing future climate change risks, is focused on measures that: (a) have the greatest likelihood of actually reducing GHG emissions by a significant amount; and (b) do not simply shift in-state GHG emissions to other locations where offsetting or even greater emissions occur (e.g., by inducing Californians to move to higher per capita GHG states like Texas where housing and homeownership remain far more affordable). The housing and

[218] U.S. EIA, Table 1. State energy-related carbon dioxide emissions by year, unadjusted (2005-2016) (Feb. 27, 2019), https://www.eia.gov/environment/emissions/state/analysis/pdf/table1.pdf; U.S. EIA, International Energy Outlook 2019 with projections to 2050 (Sept. 2019), at 151, https://www.eia.gov/outlooks/ieo/pdf/ieo2019.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

mobility outcomes that Respondents are attempting to achieve through the illegal Redlining Revisions fail to satisfy these criteria.

295. There is substantial evidence that the additional CEQA ambiguities and litigation uncertainties and obstacles introduced by the Redlining Revisions significantly decrease the likelihood that California will build even a significant portion of the 3.5 new million housing promised by the state's Governor by 2025.

296. In 1987, a landmark CEQA lawsuit resulted in an appellate court decision that a city's ability to impose even the most common sense, site-specific conditions on approval of a project that otherwise complied with all applicable federal, state and local laws – including local General Plan, zoning, building, and other local codes – was required to undergo the CEQA compliance process. *Friends of Westwood, Inc. v City of Los Angeles* (1987) 191 Cal.App. 3d 259. If a city or county can require less than maximum height, or decide whether a driveway should be moved three feet to the left or right, then CEQA applies. Since then, approval and production of housing can be delayed, made more costly, or derailed entirely by determined opponents (or those seeking to use CEQA lawsuits for other objectives).

297. In an infamous example, a replacement home on an existing lot which received unanimous support from neighbors, the Planning Commission, and City Council – in Berkeley! – was tied up in court for 11 years, and ultimately abandoned without being constructed, in litigation over whether the home qualified for a fast-track categorical exemption compliance pathway under CEQA (it was exempt). [219]

298. The proportion of CEQA lawsuits filed against housing projects in California has relentlessly increased over the past decade, and in 2018 39 percent of CEQA lawsuits (and 60% of all CEQA lawsuits challenging construction projects) challenged new housing.[220]

[219] *See Berkeley Hillside Preservation,* 60 Cal.4th 1086; *Berkeley Hillside Preservation,* 241 Cal.App.4th 943.

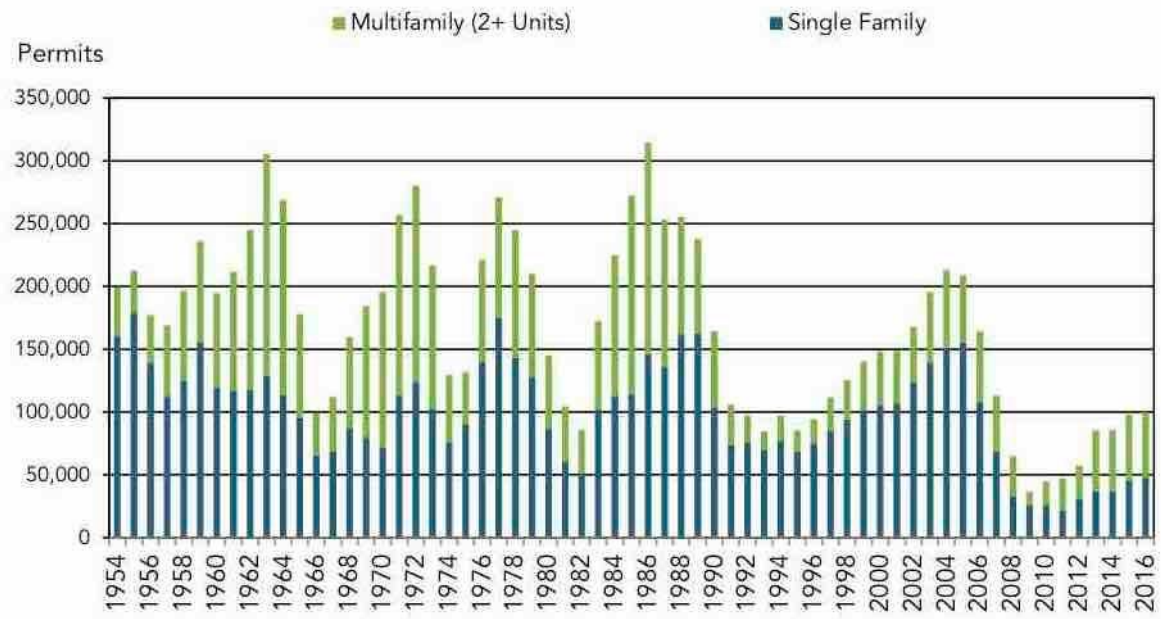
[220] Hernandez, *California Getting In Its Own Way: In 2018, Housing Targeted in 60% of Anti-Development CEQA Lawsuits*, Chapman University (Dec. 2019), https://www.chapman.edu/communication/_files/ca-getting-in-its-own-way.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

299. As shown in Figure 16, the annual number of new California housing permits issued statewide fell dramatically, and has remained much lower after 1987, than in previous periods. The annualized rate of residential building permits through July of 2017, 2018 and 2019 ranged from 127 in 2018 to 106 in 2019, rates that are consistent with the lowest annual levels excepting economic recessions, and 3 times less than peak permit issuance rates prior to 1987.[221]

Figure 16: California Annual Housing Permits 1954-2016[222]



300. While CEQA did not cause all of the decline in California housing development, the costs and legal risks introduced by new project-level review requirements in 1987 unquestionably played a large role. Governor Newsom, former Governor Brown, former state senate pro tem and current Sacramento mayor Daryl Steinberg, and San Jose mayor Sam Liccardo

[221] California Department of Finance, California Construction Authorized by Building Permits, Seasonally Adjusted at Annual Rate, Residential Units and Value, Nonresidential Value, to July 2019, http://www.dof.ca.gov/Forecasting/Economics/Indicators/Construction_Permits/documents/Construction%20Residential%20Nonresidential%20SAAR.xlsx (last visited Nov. 12, 2019).

[222] California's Housing Future, *supra* note 87, at 6.

have each publicly acknowledged the adverse effect of CEQA on state housing development. Mayor Liccardo has said that CEQA is "killing" efforts to address the housing crisis.[223]

301. Meanwhile, it is common practice for the Legislature to exempt or minimize the CEQA process for high-profile, politically significant projects, including the state capitol office remodeling project, the Sacramento Kings arena, hotel and high-rise apartment complexes, and the new Apple headquarters in Cupertino.[224] Very limited CEQA statutory exemptions have also been approved for housing – such as Senate Bill No. 1197 (2019), which exempts from CEQA homeless shelters, and affordable housing built with funding from local Measure HHH, but applies solely within the City of Los Angeles. The Legislature has declined to approve any broader CEQA streamlining for housing that complies with all local General Plan and zoning laws, and with Sustainable Communities Strategies, notwithstanding the fact that the adoption of General Plans, zoning, and Sustainable Communities Strategies, each had to complete its own CEQA compliance process.

302. The Redlining Revisions create deliberately new, legally untested and facially ambiguous CEQA analysis requirements for highly controversial impacts, including from automobile use and VMT, and GHG emissions. Section 15064.3 and the illegal Underground VMT Regulation can be read to require that lead agencies must presume that a project outside of a TPA has a significant VMT impact unless (a) it reduces VMT in the project area; (b) it has VMT 15 percent below the regional average; (c) it has VMT ranging from 14 to 16.8 percent below the regional average; or (d) it has VMT below a locally-adopted VMT threshold of significance supported by substantial evidence in the record and lawful for use in the context of that particular

[223] Remarks of Mayor Sam Liccardo on "Gimme Shelter", podcast of CALMatters, https://podcasts.apple.com/gb/podcast/mayors-only-panel-liam-libby-schaaf-sam-liccardo-darrell/id1280087136?i=1000438261365 (last visited Nov. 12, 2019).

[224] *See, e.g.*, SB 743 (Steinberg), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB743 (exempting Sacramento Kings arena from CEQA); AB 900 (Buchanan), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120AB900 (certifying Apple Campus as Environmental Leadership Development Project).

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

project. A lead agency must not only determine which of these potential thresholds applies to a project, it must then consider and require the implementation of all feasible mitigation if the project does not meet the selected threshold.

303. As discussed, above, however, there are no accepted methods for predictably reducing VMT. Consequently, the selection of a VMT impact threshold, the amount of mitigation required to achieve a less than significant impact, and the feasibility and effectiveness of potential VMT mitigation, all provide project opponents with significant new opportunities to contest and delay potential permitting during the CEQA analysis process, and to litigate and further impede development should the project be approved. The adequacy of VMT (with or without corresponding GHG) mitigation is also ripe for litigation challenges, as is the decision to approve any housing project outside a TPA (where "presumptions" attempt to provide a safe harbor). "All feasible" mitigation must be required, and there is no predictable upper boundary on how much more new housing can be forced to pay in additional mitigation costs.

304. Section 15064.4 and the illegal Underground GHG Regulation present even more challenges for CEQA lead agencies. Instead of providing clear thresholds for evaluating GHG impacts, the Redlining Revisions require that local city and county planning departments, city councils and boards of supervisors somehow invent, with substantial evidence, impact thresholds, evaluate, and then somehow identify and implement all feasible mitigation for project impacts that exceed the locally-developed threshold. In addition, Section 15064.4 and the illegal Underground GHG Regulation contemplate that local city and county planning departments, city councils and boards of supervisors will develop thresholds and identify and implement feasible mitigation for impacts which are a global problem that no nation, or even the United Nations, has as yet been able to fully characterize and solve – on a "case by case" basis. GHG impact thresholds and mitigation under CEQA are already significant litigation targets and the Redlining Revisions greatly expand opportunities to increase the costs and extend the time for completing a project's CEQA review and post-permitting litigation.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

305. Additional new requirements added to the CEQA Guidelines by the Redlining Revisions, including greater aesthetic impact criteria for smaller, richer, less diverse communities, reduced mitigation opportunities, and expanded lead agency threshold justification requirements, also greatly increase the probability that CEQA will be used to stop, or the threat of a protracted CEQA process and litigation will further chill, housing development in the state.

306. Grand Terrace is the wealthiest and second least diverse larger community in San Bernardino County. Beverly Hills and Manhattan Beach, which both have an approximately 80 percent white populations, are two of the wealthiest communities in the world. Each of these communities has less than 50,000 residents. The Redlining Revisions unaccountably allow any housing project opponent in these opportunity-rich locations to contest development if it "substantially degrades the visual character or quality of public views from a sidewalk."

307. For other, poorer, and less white communities that have more than 50,000 residents, such as Redlands, Chino, Fontana, Rancho Cucamonga and Chino Hills in San Bernardino, the Redlining Revisions prohibit any such CEQA analysis of aesthetic impacts, although there is no reason to believe sidewalk views in Grand Terrace, Beverly Hills or Manhattan Beach are any less affected by aesthetic sensibilities than sidewalk views in Redlands, Chino, Fontana, Rancho Cucamonga and Chino Hills.

308. The Legislature recently amended Section 21081.3 of the Public Resources Code to prevent the abuse of CEQA aesthetics impact claims for new housing projects located on properties with vacant buildings, subject to limited height and light and glare requirements. No laws or regulations of any kind authorize the Respondents to adopt racially disparate aesthetic impact thresholds in the CEQA Guidelines based on a wholly arbitrary 50,000 city population cap.

309. After 1987, CEQA mutated into one of the most significant factors adversely affecting state housing development, which has in fact been reduced far below pre-1987 levels. CEQA has greatly increased the costs, processing time, and litigation and permitting risks for all housing projects in the state. There is substantial evidence that the Redlining Revisions, adopted

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

just as a newly elected state governor promised that 3.5 million new housing units would be built by 2025 to ease an existential housing crisis, significantly increase CEQA risks, costs and delays. The Respondents have provided no evidence whatsoever that dramatically expanding CEQA permitting and litigation risks will allow for the construction of even a fraction of the housing California needs by 2025, if it is ever built at all.

310. There is no substantial evidence that California's housing needs can be met by focusing residential development into the minute portions of the state defined in Section 15064.3 as within "one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor" that would not be required to address VMT impacts during the permit approval and CEQA review process. In the SCAG region, which contains half of the state's population, approximately three percent of the region meets this criterion.[225]

311. Clustering future housing in existing urban areas has already increased land prices and requires large, multistory, multifamily structures that are five to seven times more expensive to construct than simple wood-framed one to three story homes in other locations.[226] High-rise multifamily residential housing has been documented, even by infill housing advocates, to cost at least 30 percent more per square foot to build than low- and mid-rise multifamily housing units.[227] In the midst of a housing crisis, the Redlining Revisions unlawfully limit new development to the minute slivers of California in which only the most expensive units can be built.

312. Recent studies conducted for local governments in the Bay Area and Los Angeles have shown that rents for new multifamily housing in urbanized coastal opportunity areas

[225] SCAG, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (Apr. 2016), Table 2.1 at 25, http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf.

[226] *See, e.g.*, California Center for Jobs & The Economy and California Business Roundtable, Regulation and Housing: Effects on Housing Supply, Costs and Poverty (May 2017), at 19, https://centerforjobs.org/wp-content/uploads/center_for_jobs_regulation_and_housing_study_may_2017.pdf (citing Hernandez, Friedman, and DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (Aug. 2015), Table B at 68, https://issuu.com/hollandknight/docs/ceqa_litigation_abuseissuu?e=16627326/14197714).

[227] Decker, *supra* note 74, at 48.

range from approximately $2,500 to about $4,000 per month for 850 to 1,100 square foot apartments in high density buildings like mid- and high-rise apartments.[228] These costly urban infill apartments do not meet the housing needs of California's younger, minority-majority population due to the fact that (i) a large proportion of the California population do not earn the required $100,000 to more than $150,000 annual incomes required to pay these rents, (ii) those needing housing are far more likely to be younger, minority families with lower household and personal incomes than older, primarily white residents, (iii) massive multifamily housing structures with small units and little or outdoor play areas do not meet the needs of many younger families, and (iv) spending $30,000 to nearly $60,000 in rent creates zero family wealth as compared to homeownership. Non-profit housing developers building near transit produce smaller, higher density units as part of the Los Angeles effort to house the homeless for $500,000 or more for each unit.[229] In 2017, the state began withholding housing assistance funds because urban development costs are so high that such funding had virtually no effect on housing supplies.[230]

313. In locations where costs are much lower, such as San Bernardino, but not within "one-half mile" of a qualifying transit facilities, all new housing proposals approved by local agencies must first make sense of, then consider and feasibly mitigate for, VMT impacts that the Redlining Revisions make "presumptively" significant. One possible approach suggested by the

[228] Hausrath Economics Group, Economic Feasibility Study For Oakland Impact Fee Program, Prepared for the City of Oakland (Apr. 8, 2016), at 9, http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak058107.pdf; bae urban economics et al., Los Angeles Affordable Housing Linkage Fee Nexus Study Prepared for City of Los Angeles (Sept. 21, 2016), https://planning.lacity.org/ordinances/docs/AHLF/LA_Linkage_Fee_Final_Report_9-21-16.pdf; bae urban economics, Draft City of Berkeley Affordable Housing Nexus Study (Mar. 25, 2015), http://www.berkeleyside.com/wp-content/uploads/2015/11/2015-07-14-WS-Item-01-Affordable-Housing.pdf.

[229] Letter from Ron Galperin, Los Angeles Controller, to Eric Garcetti, Mayor, Michael Feuer, City Attorney, and Members of the Los Angeles City Council, Re: The High Cost of Homeless Housing: Review of Proposition HHH, dated Oct. 8, 2019, https://lacontroller.org/wp-content/uploads/2019/10/The-High-Cost-of-Homeless-Housing_Review-of-Prop-HHH_10.8.19.pdf

[230] Cortright, *Why Is 'Affordable' Housing So Expensive to Build?*, CityLab (Oct. 19, 2017), https://www.citylab.com/equity/2017/10/why-is-affordable-housing-so-expensive-to-build/543399/.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Underground VMT Regulation is to reduce project VMT by 15 percent below the regional average. In 2019, Fehr & Peers, one of the most respected transportation consultants in California and often used by state agencies, provided the County of San Bernardino with a report concluding that "the 15 percent threshold would not be feasible throughout most majority [*sic*] of the unincorporated county." Feasible transportation and land use measures could, at most, reduce household VMT from 20.5 miles per capita per day to 19.7 miles per capita per day.[231]

314. Because CEQA lawsuits are so inexpensive to file and effective at delaying or blocking development, and VMT reductions are a major focus of environmental regulators and advocacy groups, it is reasonably likely, if not certain, that any project failing to meet the 15 percent criterion in the Underground VMT Regulation will be legally challenged. In an effort to reduce litigation risks, a housing project proponent in San Bernardino County could attempt to reduce household VMT to 17.4 miles per capita per day, 15 percent below the current level of 20.5 miles per capita per day and 2.3 miles per capita per day lower than the four percent reduction the County has determined is feasible to achieve. Based on an average of 3.3 people per household in unincorporated San Bernardino County, a project proponent seeking to meet the 15 percent reduction target in the Underground VMT Regulation would need to reduce per unit VMT by 2,770 miles per year.

315. Although the Redlining Revisions provide no meaningful guidance regarding feasible VMT mitigation that would satisfy CEQA requirements, one potential approach might be to purchase bus passes for existing automotive users and shift 2,770 miles per year per household of vehicular use to transit for the lifetime of the proposed project, typically 30 years. According to the L.A. Metro, which operates the largest bus transit fleet in the SCAG region, an annual Zone 1 bus pass costs $1,584 per year and an average bus trip is about four miles in length.[232] If the bus pass

[231] Pack, Fehr & Peers, Technical Memorandum on SB 743 Implementation Thresholds – Alternative Threshold Guidance (Mar. 26, 2019), at 1, 5, http://countywideplan.com/wp-content/uploads/2019/07/Alternative-Reduction-Target-TDM-Memo-03.26.2019.pdf.

[232] Los Angeles Metro, Interactive Estimated Ridership Stats, annual data for 2018 http://isotp.metro.net/MetroRidership/Index.aspx (last visited Oct. 2019); Los Angeles Metro, EZ

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

recipients make an average of two trips, or a total of eight miles, per day per year the project proponent would need to buy about $1,503 worth of bus passes per year for 30 years, or a total of $45,100 per unit assuming no inflation or changes in annual pass costs, to reduce VMT by 2,770 miles per year. Additional expenses would be required to monitor and verify that this bus pass mitigation actually reduced VMT. If actual VMT reductions could not be verified into some perpetuity or even only the 30 years calculated under this example, if for example VMT reductions did not occur because a bus pass recipient got a new job in a location without bus service, or if regional bus ridership continues to drop and fixed route bus service is replaced by door-to-door services like app-based electric vans with higher VMT than buses, or if the holder of the bus pass would have taken the bus anyway and paid either full or discounted fares available to seniors and students – then the validity of this VMT measure could be subsequently challenged, with unknown cost and legal consequences to the San Bernardino homeowner family.

316. It is simply inconceivable, and unlawful, to impose the reverse Robin Hood of robbing housing crisis victims (in the form of imposing gargantuan new housing VMT mitigation costs) to give to the poor (by subsidizing unrelated transit system services with a hoped-for VMT reduction somewhere, by someone). Transit agencies have ample authority to raise funds, and both the Legislature and voters have approved transit funds, but burdening new housing with unknowable VMT CEQA litigation risks and high VMT mitigation costs has zero legislative or regulatory approval, and cannot be wedged into CEQA based on SB 743's directive that traffic congestion be removed as a CEQA impact in the immediate vicinity of high frequency commuter bus stops.

317. In contrast with the Underground VMT Regulation, Section 15064.3 states that projects must be assumed to cause significant VMT impacts under CEQA unless they "decrease vehicle miles traveled in the project area compared to existing conditions." Because

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Transit Pass, https://www.metro.net/riding/fares/ez-transit-pass/ (last visited Oct. 2019) (annual cost based on $132 per month for 12 months).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

CEQA lawsuits are so inexpensive to file and effective at delaying or blocking development, and VMT reductions are a major focus of environmental regulators and advocacy groups, it is reasonably likely, if not certain, that lawsuits will assert that Section 15064.3 requires that VMT for each new housing unit must have net zero VMT plus reduce regional VMT. Under this potential interpretation, a new housing unit in San Bernardino County, would be required to reduce VMT by at least 20.6 miles per day, 0.1 mile per day less than the current county average of 20.5 miles per day, to both achieve net zero VMT for the project and additional regional VMT reductions. If this required mitigation was achieved by using bus passes, a project proponent would need to shift over 24,800 miles per year from vehicular to transit use. If the bus pass recipients make an average of two trips or a total of eight miles, per day per year the project proponent would need to buy about $13,460 worth of bus passes per year for 30 years, or a total of $403,800 per unit assuming no inflation or changes in annual pass costs, to reduce VMT by 24,800 miles per year.

318. When added to home purchase prices, monthly rents, or paid in annual taxes, the addition of VMT mitigation costs required to reduce per unit VMT by 15 percent would substantially increase housing and rental costs for the predominantly minority populations in San Bernardino County, and would keep 19,538 families who could otherwise afford to purchase a home from being able to do so.[233]

319. The potential VMT mitigation costs required to achieve net zero VMT for the project and additional regional VMT reductions would more than double housing costs for the predominantly minority populations in San Bernardino County, and would price out 109,181

[233] Letter from Devala Janardan, Senior Counsel, National Association of Homebuilders to Jennifer Hernandez, Holland & Knight (Dec. 2, 2019), a true and correct copy of which is included as Exhibit E. Ms. Janardan also calculated the number of households priced out of homeownership if just this one VMT fee is applied statewide, based on statewide median housing prices and mortgage applicant underwriting requirements. Consistent with the conclusion of California's elected leaders and housing experts that California housing costs far too much, Ms. Janardan calculated that even a small $1000 increase would price out 9,897 median income earners from purchasing a median priced home. A $45,100 VMT mitigation fee to subsidize transit and offset 15% of a new home's VMT would price out 400,049 households, and a $403,800 VMT fee to reduce VMT in the housing project area by the full amount of the new home's VMT would price out 2,620,616 California households.

households from being able to buy a home – virtually ending attainable homeownership in San Bernardino County. All housing costs in the region, and in any location in California that requires VMT mitigation, will dramatically rise, and today's housing crisis victims of aspiring minority buyers and renters are victimized yet again by Respondents' weaponization of CEQA into California's anti-minority housing agency redlining.

320. The number of new housing units will be reduced because it will be economically infeasible to develop additional housing supplies for an increasingly smaller pool of potential buyers and renters – but proving "economic infeasibility" for any specific housing project is itself a fertile target for anti-housing CEQA lawsuits.[234]

321. Section 15064.4 and the unlawful Underground GHG Regulation will also require projects to mitigate for potentially significant GHG impacts even though the state's cap-and-trade program has been judicially determined to mitigate for all fossil fuel GHG impacts in California and new buildings, which must have rooftop solar panels and meet the most stringent energy efficiency standards in the country, are achieving or very close to achieving net zero emissions. The Respondents unlawfully failed to conform the Redlining Revisions to existing law and to provide any clear guidance regarding GHG impact thresholds and acceptable mitigation. Instead, potential GHG impacts for all housing and land use projects, including those within "one-half mile" of qualifying transit facilities that presumptively have no significant VMT impacts under Section 15064.3, are to be analyzed using thresholds that local agencies must develop, potentially on a case by case basis. Merely completing the GHG impact analysis, including providing substantial evidence in support of the adopted threshold, and mitigating a project's impacts with respect to the thresholds, will add substantial cost and significantly delay housing projects.

322. Substantial evidence demonstrates that new housing development in the urban areas favored by the Respondents is extremely expensive and increasingly uneconomic to

[234] *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 602-03; *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 714-15; *Citizens for Open Government v. City of Lodi* (2012) 205 Cal.App.4th 296, 313.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

build even when fully permitted. GHG mitigation requirements will increase housing costs throughout the state, and VMT mitigation requirements will increase housing costs for all new development not within "one-half mile" of qualifying transit facilities. Consequently, the development of new housing in less expensive areas, like San Bernardino County, will also become less economically feasible. The Redlining Revisions thus reduce incentives for developing housing everywhere in the state. The Respondents have not provided, and continue to refuse to disclose, an explanation for how the Redlining Revisions can be implemented without increasing housing costs, reducing housing supply, and exacerbating California's existing, existential housing crisis.

323. Even at current housing and rent levels, the LAO has reported that trillions of dollars of new public funding would be required to reduce housing burdens for the 40 percent of Californians who already pay more than 30 percent of their incomes for housing to sustainable levels. The LAO also found that the cost of subsidizing housing for only the neediest Californians, the homeless, the ill, and special needs populations, would require massive tax increases.[235] The Respondents did not consider and continue to ignore the tax and equity effects of further increasing housing costs on what is already massively deficient housing assistance funding for less affluent Californians.

324. Even if a large number of new housing units can be feasibly built within "one-half mile" of qualifying transit facilities or in other urban infill locations, there is no substantial evidence that increasing the population density of already dense urban environments will result in significant, or even reasonably measurable GHG emission reductions. The Respondents have never provided, and continue to refuse to disclose, the annual amount of state, let alone net global GHG emission reductions, which further densifying already dense urban areas consistent with the Redlining Revisions are intended to achieve.

[235] Taylor, Perspectives on Helping Low-Income Californians Afford Housing, LAO (Feb. 9, 2016), at 4, https://lao.ca.gov/Reports/2016/3345/Low-Income-Housing-020816.pdf ("Extending housing assistance to low-income Californians who currently do not receive it—either through subsidies for affordable units or housing vouchers—would require an annual funding commitment in the low tens of billions of dollars").

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Tel: 213.896.2400
Fax: 213.896.2450

325. In 2017, U.C. Berkeley published a study advocating that 1.92 million new housing units over a 15 year period be built entirely within urban infill locations. According to the study, 100 percent infill development would reduce state GHG emissions by about 1.79 million tons per year.[236] Thus, the massive restructuring of California's historical housing development patterns was found to potentially avoid 0.4 percent of the state's current emissions, and might provide one percent of the reductions required to meet the legislated GHG reduction targets for 2030.

326. These results are consistent with the potential GHG reductions that could occur from implementing the 15 percent reduction in per capita VMT threshold suggested in the Underground VMT Regulation. In August 2019, HCD determined that the entire SCAG region, which accounts for half of the state's population, requires 1,344,740 million new homes to house a total household population of 20,079,000.[237] According to SCAG, per capita VMT is approximately 8,700 miles per year and the region has about 3.1 people per household. Table 9 shows how the SCAG regions' VMT and GHG emissions could change assuming that: (a) all of the new 1,344,740 units housing 4,170,000 people (about 21 percent of the HCD's projected 2029 population in the SCAG region) are built outside of one-half mile from qualifying transit facilities and each must meet 15 per cent per capita VMT reduction threshold; and (b) the most current 2017 rate of emissions per vehicle mile reported by the U.S. EPA does not improve from 2021-2029. Table 9 indicates that, with these assumptions, annual VMT in the SCAG region would be about 5.44 billion lower, and GHG emissions would be reduced by about 1.9 million metric tons.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[236] Decker, *supra* note 74, at 5.

[237] Letter from HCD to Kome Ajise, Executive Director of SCAG, Re: Regional Housing Need Determination SCAG: June 30, 2021 – October 15, 2029, dated Aug. 22, 2019, https://www.scag.ca.gov/Documents/6thCycleRHNA_SCAGDetermination_08222019.pdf. In September 2019, SCAG submitted a formal objection to the HCD determination and contended that the correct housing needs would be in the range of 823,000-920,000. *See* Letter from Kome Ajise, Executive Director of SCAG to Doug McCauley, Acting Director of the HCD, dated Sept. 18, 2019, https://www.scag.ca.gov/programs/Documents/RHNA/SCAG-Objection-Letter-RHNA-Regional-Determination.pdf. A lower level of housing growth would result in lower potential GHG reductions from burdening new housing with new VMT mitigation requirements under the Redlining Revisions.

Table 9: Potential CO_2 Emissions Reductions from Reducing Per Capita VMT by 15 Percent in the Entire SCAG Region for 1,344,740 New Housing Units 2021-2029[238]

	No VMT Reduction for 2029 Population of 20,079,930	15 percent VMT Reduction for 1,344,740 new Households and 4,170,000 of 2029 Population of 20,079,930	Net Change
VMT (total miles)	174,695,391,000	169,255,245,330	5,440,145,670
GHG Emissions (MT CO_2)	62,366,255	60,424,123	1,942,132

327. The potential VMT and emissions reductions shown in Table 9 are highly conservative and unrealistically high because many of the new housing units would be within one-half mile of qualifying transit facilities and not require VMT mitigation under Section 15064.3. GHG emissions per mile in the U.S. have also fallen by over 22 percent, and at an average rate of 1.7 percent per year from 2004 to 2017. [239] It is likely that the historical rate of reducing vehicular GHG emissions per mile reduction will be at least as high or exceed previous rates of improvement through new engine technology and, especially in California, the increased deployment of electric, hydrogen fuel cell and other low- to zero-emission vehicles. If vehicular GHG emission per mile fall by 14 percent, consistent with the reduction rate during 2004 to 2017, by 2029, CO_2 emissions for vehicular use would be 8,800,000 metric tons lower than in 2021 with no change in VMT. The

[238] Calculated from SCAG Transportation Safety Regional Existing Conditions (2017), http://www.scag.ca.gov/programs/Documents/SafetyFactSheet_scagIMP.pdf; SCAG, Profile of the City of Los Angeles (2019), at 4, https://www.scag.ca.gov/Documents/LosAngeles.pdf and U.S. EPA, Office of Transportation and Air Quality, 2018 Automotive Trends Report, Section 3, Table T.3.1, https://www.epa.gov/sites/production/files/2019-03/420r19002-report-tables.xlsx (last visited Oct. 2019) (2017 estimate of 357 grams of CO_2 per mile); *see also* related General Allegations below.

[239] U.S. EPA, Office of Transportation and Air Quality, 2018 Automotive Trends Report, Section 3, Table T.3.1, https://www.epa.gov/sites/production/files/2019-03/420r19002-report-tables.xlsx (last visited Nov. 13, 2019).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

drastic housing and mobility impacts that result from the Redlining Revisions do not generate commensurately large, or even reasonably likely, GHG emission reduction benefits.

328. Housing and transportation researchers have shown that residential densification is effective only when employment centers and employment density, not population are located near transit.[240] The uniquely high employment density in places like Manhattan, which developed decades ago under economic conditions that have dramatically changed, is why transit use is higher in the borough than in the rest of the U.S.. In California, as in the vast majority of the rest of the nation, employment density has been decentralized. The era of working for a single large company with a massive centralized location ended decades ago, and employment has since fragmented, with most people working in multiple locations, taking on different jobs and working for shorter periods or in multiple "gig" projects that end and renew on a frequent basis. This is particularly true for the state's aspiring minority, working and middle class population which accounts for the majority of construction, agriculture, personal service and similar low density employment that cannot be reached by using transit.

329. The fact that California's most heavily urbanized areas already have much higher population density than the rest of the country but do not use public transit for most trips, including 94 percent of all work commutes, demonstrates that the Redlining Revisions are unlikely to significantly reduce VMT or GHG emissions. Despite billions of dollars' worth of transit improvements, including hundreds of miles of new rail and subway lines throughout the state, transit use has been steadily declining[241] Bus ridership for L.A. Metro, the nation's largest transportation agency, has fallen by more than 25 percent since 2009.[242] As shown in Table 8, the

[240] *See, e.g.*, Kolko, Making the Most of Transit Density, Employment Growth, and Ridership around New Stations, Public Policy Institute of California (Feb. 2011), https://www.ppic.org/content/pubs/report/R_211JKR.pdf.

[241] Manville, *supra* note 72, at 26.

[242] Nelson, *L.A. Is Hemorrhaging Bus Riders – Worsening Traffic and Hurting Climate Goals*, Los Angeles Times (June 27, 2019), https://www.latimes.com/local/lanow/la-me-ln-bus-ridership-falling-los-angeles-la-metro-20190627-story.html.

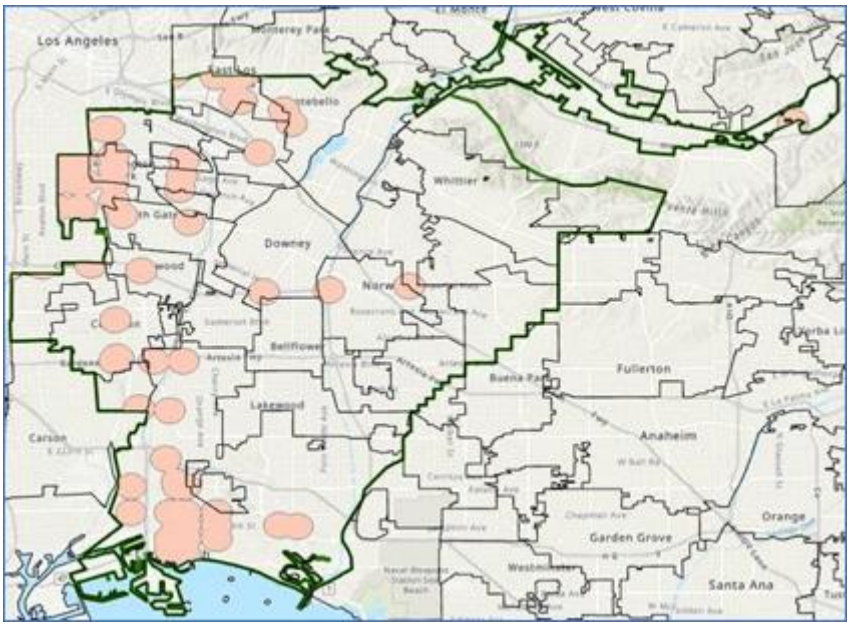
Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

state's Latino workforce in particular has dramatically shifted from transit to automobile commuting since 2010.

330. As shown in Figure 17, there are multiple locations extending from Long Beach to downtown Los Angeles that are already heavily developed and that have large populations in and near areas within one-half mile of existing transit facilities. These are the locations where the Respondents are attempting to shoehorn all of the state's new housing by means of the unlawful Redlining Revisons.

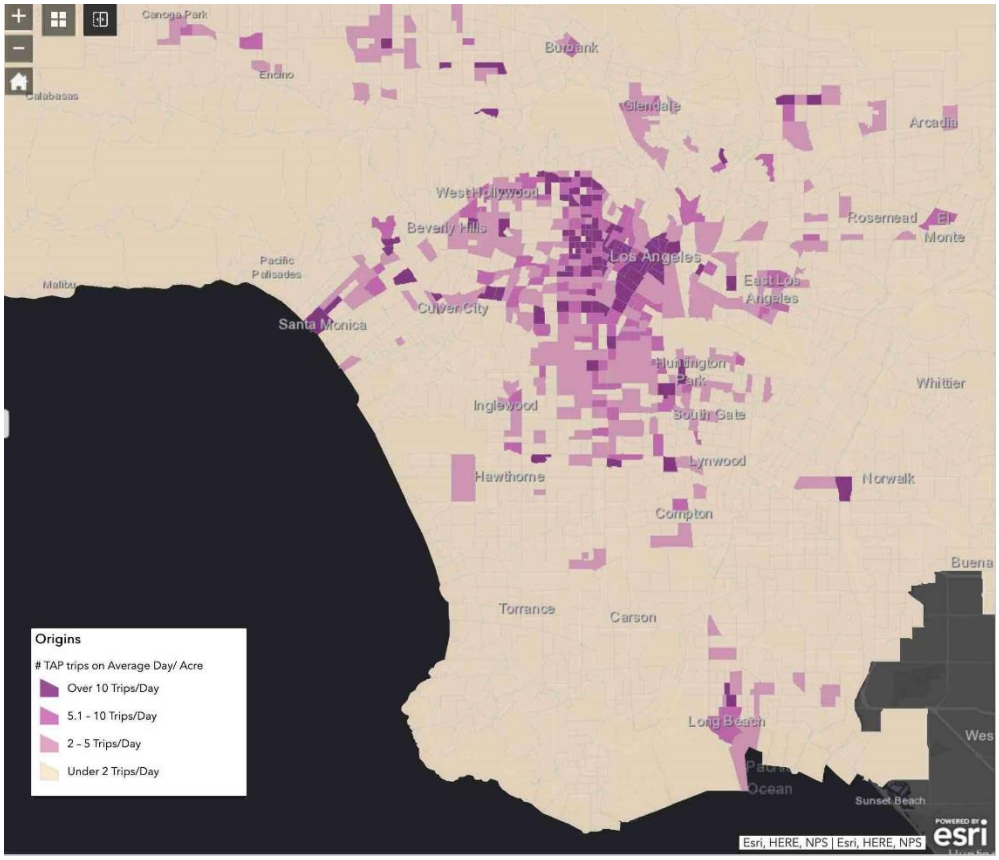
Figure 17: Designated Transit Priority Areas in the Los Angeles Region[243]



331. Yet, as shown in Figure 18, bus ridership is quite low, with the vast majority of the area having fewer than two bus trip origins per acre per day, and only a very small fraction of locations with over 10 trip origins per acre per day.

[243] Gateway Cities Council of Governments, personal communication, 2019.

Figure 18: Number of Transit Access Pass Bus Trip Origins per Acre per Day[244]



332. The high cost, small size and lack of open space of the dense multifamily apartments that can be built near transit in the state are likely to attract younger workers, generally without families, who are willing to work for a few years in higher paying "keyboard" economy jobs before relocating to less expensive, more livable areas later in life. As the LAO has noted, many of the future residents in dense urban housing may already have a preference for transit and no net VMT or GHG reductions would occur from locating such residents closer to transit facilities.[245] Wealthier residents also tend to use vehicular travel, including Uber and Lyft, to access work and for other purposes even if they live near transit. Studies of residential density and transit

[244] Metro, Origin-Destination Patterns, TAP trips on Average Day/Acre, NextGen Data Center, https://arellano.maps.arcgis.com/apps/webappviewer/index.html?id=4c7b5778da734b9b867c149ebb2492b3 (last visited Nov. 13, 2019).

[245] Taylor, *supra* note 35, at 38.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

have shown that residential densification alone has at most a minimal effect on vehicular use.[246] This is true even in the portions of New York City, such as Staten Island, that do not have the historically unique employment density of Manhattan and resemble the vast majority of the rest of the nation, including most of California.[247]

333. The fact that even temporary, younger workers in short-term internships cannot use transit to reliably access work was highlighted in 2018 testimony to CARB by a representative from the Sacramento Area Council of Governments ("SACOG"). SACOG's representative testified that that participants in summer internship jobs for disadvantaged teenagers were chronically unable to arrive at work on time despite efforts to do so using public transit. SACOG surveyed the interns and commented that irregular transit service, slow transit times from distant locations, and the need for multi-transfer transit commutes, prevented on-time arrivals. A vehicle-based microtransit solution was then implemented by the SACOG to solve the transit-related problems experienced by its interns.[248]

334. The Redlining Revisions do not consider the fact that creating expensive, small and undesirable housing that is not affordable for much of the state's population, including aspiring minority, working and middle class residents, will displace people, jobs, businesses, and the related VMT and GHG emissions, to other, high-emission locations. According to the U.S. EIA, in 2016 California per capita CO_2 emissions were about 9.2 tons per person per year compared with an average of 16 tons per person in the nation as a whole. Per-capita emissions in Texas were 23.4

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[246] *See, e.g.,* Brownstone et al., A Vehicle Ownership and Utilization Choice Model With Endogenous Residential Density, The Journal Of Transport And Land Use (2014), https://www.jtlu.org/index.php/jtlu/article/view/468/437.

[247] *See, e.g.*, King, *supra* note 70, at 11-14.

[248] Testimony of SACOG Representative James Corless at California Air Resources Board Meeting, Mar. 22, 2018, at 64-65, available at: https://ww3.arb.ca.gov/board/mt/2018/mt032218.pdf?_ga=2.242134466.1960866577.1573599596-803708540.1559343297; *see also* Sacramento Regional Transit, Microtransit Pilot in Sacramento (May 16, 2018), https://www.sacog.org/sites/main/files/file-attachments/smart_ride_tcc_051618.pdf; SACOG, SACOG Board Kicks Off 'Next Generation Transit' Initiative (Oct. 31, 2018), https://www.sacog.org/post/sacog-board-kicks-next-generation-transit-initiative.

tons per year.[249] Each person, vehicle trip, or business activity that leaves California for another U.S. destination is, on average, generating nearly twice the GHG emissions that would have occurred in the state.

335. Under California's flawed GHG accounting approach, people, economic activity and VMT that leaves the state count as GHG reductions and a "win" for economic regulators and advocates. In reality, the relocation of people, economic activity and VMT out of state does not eliminate, and in fact increases, global GHG emissions. One million people leaving California reduces the state's CO_2 emission by about 9.2 million metric tons per year but, on average, results in 16 million tons of GHG emissions in the rest of the country. While state emissions are reduced, net global GHG emissions, the cause of climate change, increase by 6.8 million tons per year. If one million Californians were to move to Texas they would generate about 23.4 million tons of CO_2 emissions, a net global GHG emissions increase of 14 million tons over California levels.

336. During 2010 to 2018 alone, California's net domestic migration, excluding international migration, was sharply negative. Over 710,000 more Californians left than moved to the state. Since 2000, California's net domestic migration loss has exceeded 2 million, a trend researchers have called the "Great California Exodus."[250] Due to this outflow of people and jobs, the state has shifted population, economic activity and VMT to higher emission locations. This has resulted in a net increase in global GHG emissions much larger than the potential reductions that could occur from the higher housing and mobility costs and unprecedented constraints produced by the Redlining Revisions.

[249] U.S. EIA, Table 6. Per capita energy-related carbon dioxide emissions by state (2005–2016) (Sept. 2019), https://www.eia.gov/environment/emissions/state/analysis/excel/table6.xlsx.

[250] U.S. Census Bureau, State Population Totals and Components of Change: 2010-2018, Population Estimates, Population Change, and Components of Change, Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2018 (NST-EST2018-04), https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-total.html (last visited Nov. 11, 2019); Gray and Scardamalia, The Great California Exodus: A Closer Look, Center For State and Local Leadership at the Manhattan Institute (Sept. 2012), https://media4.manhattan-institute.org/pdf/cr_71.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

337. There is substantial evidence that high housing costs and the nation's worst mobility conditions are increasing incentives for people and employers to leave the state, even among the highly paid and younger keyboard economy workforce. In October 2019, CNBC reported that 44 percent of the Bay Area's workforce plans to leave the region within five years, and six percent within 12 months. Nationally, 80 percent of the nation lives in larger urban areas, but only 12 percent want to be located in these areas. About seven of 10 U.S. freelance workers want to relocate from urban areas. While the "technology industry is often perceived as a massive wealth-generating engine, where 20-somethings lounge around, munch avocado toast and cash in stock options," surveys show that "more people today are discontent living and working in the traditional tech hubs" due to "skyrocketing housing costs, pricey child care, the crowds and relentless traffic."[251]

338. Other 2019 surveys have found that 53 percent of state residents are "considering fleeing" to other locations. 47 percent were planning to move within five years, including 55 percent of millennials and 57 percent of Californians with children under 18. The primary reason for relocating was high housing costs, limited housing availability and a declining quality of life.[252]

339. All state climate change policies must, by law, consider emissions "leakage" prior to adoption. At the time the Redlining Revisions were being developed and considered by the Respondents, there was substantial evidence that housing and mobility concerns were shifting an enormous amount of the state's population and other emissions-generating activities to other, higher-emission locations. There is substantial evidence that housing and mobility concerns are

[251] Kasriel, *Biggest US Cities Losing Hundreds of Workers Every Day, and Even More Should Be Fleeing*, CNBC (Oct. 16, 2019), https://www.cnbc.com/2019/10/16/biggest-cities-in-us-are-losing-hundreds-of-workers-every-day.html.

[252] Daniels, *More Californians Are Considering Fleeing the State as They Blame Sky-High Costs, Survey Finds*, CNBC (Feb. 13 2019), https://www.cnbc.com/2019/02/12/growing-number-of-californians-considering-moving-from-state-survey.html.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

causing half of the state's residents to consider leaving California within five years, including the younger, technology-based workforce that is most likely to live in densified, expensive, small rental apartments for at least a short period of time. The Legislature has never authorized Respondents to depopulate the state, create phantom "paper" GHG reductions in California, and increase net global GHG emissions by shifting people and jobs from low-emission California to high-emission Texas and other locations.

(3) The Redlining Revisions Will Dramatically Harm the State's Aspiring Minority, Working and Middle Class Populations by Further Reducing the Supply and Cost of Housing, Increasing Mobility Costs, and Requiring Longer Commutes and Travel Times.

340. As detailed above, California's aspiring minority population are currently being disproportionately harmed by the state's housing and mobility crises. The Redlining Revisions will increase and cause additional racially disparate impacts.

341. The Redlining Revisions modify the CEQA Guidelines in a manner that substantially decreases the likelihood that housing can and will be built in the state other than within existing urbanized areas near transit. Even infill housing advocates concede that limiting new housing to existing urban areas of the state will severely impact existing minority populations. U.C. Berkeley's study of building 1.92 million new homes only in dense infill areas also found that this development would require the "demolition and redevelopment of tens and perhaps hundreds of thousands of units….currently rent[ing] for below the median rents for their neighborhoods."[253] Consequently, the researchers recommended the adoption of major new housing subsidy programs – none of which were or are addressed in the Redlining Revisions – to compensate for the inability of displaced, lower income and disproportionately minority populations to purchase or rent newly constructed homes where they once lived.[254]

342. The state's misguided effort to address GHG emissions by further urban

[253] Decker, *supra* note 74, at 25.

[254] *Id.* at 9-10.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

population densification has already displaced existing, less affluent minority residents to less expensive peripheral locations in the eastern portions of coastal California counties, or farther to the east in the Central Valley, San Bernardino County, or Riverside County. This process has already transformed about 10 percent of formerly minority and working class neighborhoods in the Bay Area, and measurable displacement is occurring in another 48 percent of all Bay Area neighborhoods. Communities of color and renter neighborhoods, which consist of disproportionately minority residents, have been found to be most acutely at risk of displacement.[255]

343. Other studies show that the "resegregation" of the Bay Area due to high housing costs and the replacement of lower income minority populations by higher income, less diverse residents is driven by income inequality and "a racialized market economy organized around the needs of wealthier residents" that is "turning unprecedented prosperity into an engine for new forms of injustice for people of color, women, and immigrants."[256]

344. The same process of displacement is occurring and will be further stimulated by the Redlining Revisions in Southern California. A report commissioned by the Los Angeles County Board of Supervisors found that 89 percent of the housing units that are most at risk of steep escalations in rent are in transit-served neighborhoods with a disproportionate population of minority residents.[257] The state lacks, and the Redlining Revisions take no account of, the need for trillions of dollars of additional state programs that would be necessary for aspiring minority, working and middle class populations to live in new, densified urban housing.

345. For example, the City of Los Angeles recently estimated that if it were to build 35 percent of the low income housing units assigned to it under state RHNA laws, and if the

[255] Verma, *supra* note 21.

[256] Bay City News, *Waves of Displacement, Resegregation Affect Bay Area Communities of Color* (July 10, 2019), https://sfbay.ca/2019/07/10/waves-of-displacement-resegregation-affect-bay-area-communities-of-color/.

[257] California Housing Partnership, Los Angeles County Annual Affordable Housing Outcomes Report, (Apr. 30, 2019), at 4, http://chpc.net/wp-content/uploads/2019/06/LA-County-Affordable-Housing-Outcome-Report-V3_with-appendix.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

per unit cost was held at $500,000, and if the city maintained its practice of capping its contribution to $120,000 per unit, and if other as-yet unidentified or woefully underfunded federal, state and other funding sources were assumed to be available for the remaining $380,000 per unit, then the city's obligation would be $30 billion dollars (three times higher than its total annual budget).[258] There is zero evidence that the city (or anyone else) can and will pay for these housing units (none of which would even be available to median income families, who would continue to be priced out of coastal communities).

346. This is why the non-partisan LAO concluded that California's regulatory framework and policies – including CEQA – needed to be reformed to restore the housing market so it actually worked for Californians. The LAO further concluded that these regulatory reforms were critical since available public funding for housing would be fully absorbed to house the most economically distressed special needs populations.[259]

347. The Redlining Revisions will also greatly increase the transformation of California from a state that has historically afforded homeownership opportunities for the majority of its residents to a renter-dominated society. This shift will deprive the state's growing Latino, African American and other minority populations of the economic and social resources that owning a home provided prior generations, especially the state's declining number of white residents. Not only will the substantial majority of new housing contemplated by the Redlining Revisions be rental units, but the older, largely white population that was able to buy a home are not selling those homes when moving to a new property - thereby increasing the supply for younger buyers – but rather are putting them on the rental market as income properties.

348. As one U.C. Berkeley researcher observed, "Owning a home is the primary mechanism for building wealth and economic mobility…Without wealth, how do you pay for your

[258] City of Los Angeles, *supra* note 188.

[259] California's High Housing Costs, *supra* note 10, at 35.

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Tel: 213.896.2400
Fax: 213.896.2450

kids' college education or create a better life for your heirs?"[260] High housing costs have already led what researchers have called the "rise of the renter region" in California. Minority and households of color account for a disproportionate share of the California population that has no choice but to rent rather than own a home.[261] The Redlining Revisions will increase these racially disparate impacts by creating even larger and more severe "renter regions" throughout the state and depriving minority residents of the opportunity to build wealth through homeownership.

349. The state's aspiring minority communities currently account for a disproportionately large share of California households forced to pay 30 percent or more of total household income for housing. The Redlining Revisions will increase the racially disparate impact of the state's high housing costs by creating incentives through the CEQA process to build apartments in extremely expensive and limited urban areas near transit. Minority, working and middle class households will be unable to afford to rent or buy new housing in these areas. In addition, as minority populations are displaced, demand for housing in peripheral regions, such as San Bernardino or the San Joaquin Valley, will increase. In 2015, the LAO determined that high housing costs in coastal locations increased housing costs in adjacent inland communities due to population displacement.[262]

350. The CEQA Guidelines amendments adopted in the Redlining Revisions, however will constrain or preclude new housing construction in peripheral regions. Consequently, the number of potential home buyers and renters in areas that are now barely affordable for displaced minority populations will increase, but the housing supply will remain static or grow only incrementally over time. Housing prices will rise in these locations and the number of minority as well as working and middle class households burdened by excessive housing costs will increase.

351. The Redlining Revisions will cause racially disparate impacts on commuting

[260] Collins, *The New American Dream: Leasing Your House*, Orange County Register (June 29, 2018), https://www.ocregister.com/2018/06/29/the-new-american-dream-leasing-your-house/.

[261] Samara, *supra* note 38, at 7.

[262] California's High Housing Costs, *supra* note 10, at 35.

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Tel: 213.896.2400
Fax: 213.896.2450

and housing costs by further pricing minority communities out of Coastal Job Centers, and forcing the displaced population to pay excessive additional costs for new housing outside of urban transit locations. Displaced minority workers who work in coastal areas, will pay much higher fuel costs than in the rest of the country due to California's cap-and-trade program. New housing outside of urban transit areas will be required to mitigate for VMT impacts under the Redlining Revisions, including the Underground VMT Regulation. If these impacts are mitigated by buying bus passes for current vehicle users over a 30 year occupancy period of a new home, per unit costs, and the associated selling prices or rents, would increase by ten to hundreds of thousands of dollars.

352. Notwithstanding cap-and-trade and VMT mitigation, new housing will also be required to mitigate in some manner for GHG impacts under the Redlining Revisions, including the Underground GHG Regulation. Housing in urban transit centers is already unaffordable for most of the state's aspiring minority households. New housing subject to CEQA review in peripheral areas that are now barely affordable will be subject to multiple new and duplicative climate-related mitigation and fossil fuel cost increases imposed by fuel suppliers to offset the cost of cap-and-trade compliance.

353. The state's minority workforce increasingly depends on automotive mobility and cannot effectively utilize public transit. For the first time in state history, and in violation of several legislated and funded roadway improvement laws, the Redlining Revisions treat roadway capacity enhancements as a CEQA impact that must be mitigated, rather than as a mitigation requirement for new projects to reduce congestion and travel times for all Californians.

354. Minority and households of color are disproportionately displaced from Coastal Job Centers to peripheral locations and already suffer from "excruciatingly long commutes" on increasingly dysfunctional roadways. Long commutes have adverse effects on health and family stability. As the director of Land Use and Housing at Urban Habitat, a Bay Area non-profit recently noted, long commutes are "very challenging. … Your entire life becomes shaped by your work and

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

your commute to work. Your entire life becomes an appendage to your job."[263] The Redlining Revisions will further increase commute times and erode roadway capacity and cause racially disparate mobility impacts.

355. In a landmark study of American housing supply, Harvard University economist Edward Glaeser found that California's housing market was unaccountably limiting the number of new homes in high opportunity, low GHG emissions communities, and instead displacing people and jobs to lower opportunity, high GHG locations. "If the welfare and output gains from reducing regulation of housing construction are large, then why don't we see more policy interventions to permit more building in markets such as San Francisco?" Glaeser concluded that part of the problem was that existing homeowners, who are disproportionately white in California "do not want more affordable homes: they want the value of their asset to cost more, not less." In addition, they "may not like the idea that new housing will bring in more people, including those from different socio-economic groups."[264]

356. The Redlining Revisions have precisely the same adverse consequences identified in Glaeser's study. They keep home values high for older white Californians who are declining in number but own most of the state's housing stock. They make it even harder for aspiring minority, working and middle class residents to live in the highest opportunity, lowest GHG emission communities in the state. The Redlining Revisions unquestionably cause racially disparate housing and mobility impacts.

(4) The Redlining Revisions Illegally Fail to Consider Feasible Alternative Measures to Achieve Comparable or Greater Global GHG Reductions Without Causing Racially Disparate Impacts.

357. As discussed in the Causes of Action in more detail, for decades courts

[263] Bay City News, *Waves of Displacement, Resegregation Affect Bay Area Communities of Color* (July 10, 2019), https://sfbay.ca/2019/07/10/waves-of-displacement-resegregation-affect-bay-area-communities-of-color/.

[264] Glaesar and Gyourko., The Economic Implications Of Housing Supply, National Bureau Of Economic Research (Sept. 2017), at 20, https://www.nber.org/papers/w23833.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

declined to apply civil rights laws to housing regulations and land use practices that had a blatantly discriminatory effect if they were not facially racist. In 2015, the U. S. Supreme Court found that housing policies and programs with a clear racially disparate impact violate the civil rights of adversely affected minorities.[265] In 2016, the Ninth Circuit, building on the U.S. Supreme Court's decision, invalidated housing and land use policies that had a disparate impact on Latino residents.[266] Housing policies and practices that have a racially disparate impact may not be implemented under state and federal Fair Housing laws if there are feasible, less discriminatory alternatives that meet the legitimate objectives of the proposed agency action. There are far more feasible, non-discriminatory means of reducing GHG emissions than making California housing unaffordable by adding GHG and VMT mitigation costs to reduce emissions – and induce more Californians who cannot afford to live here to move to much higher per capita GHG states like our top out-migration destinations of Texas, Arizona and Nevada.

358. The Redlining Revisions were adopted by the Respondents with no meaningful consideration of less discriminatory alternatives. The Respondents deliberately and willfully attempted to avoid any such assessment by failing and continuing to refuse to disclose the amount of GHG emission reductions that the Redlining Revisions could achieve. This refusal is particularly remarkable given the blatantly discriminatory effects of increasing the cost and reducing the supply of housing in a market already in crisis, displacing aspiring minorities to peripheral areas, and forcing displaced minorities to commute longer on increasingly dysfunctional roadways that the Redlining Revisions will deliberately create. These massively discriminatory effects will have almost no measurable GHG reductions in California, and are highly likely to result in out of state population and economic activity displacement, among other unintended consequences, that will result in a net global GHG emission increase, not decrease.

[265] *Texas Dept. of Housing and Comm. Affairs v. Inclusive Communities Project, Inc.* (2015) 576 U.S. __, 135 S.Ct. 2507.

[266] *Avenue 6E Investments, LLC v. City of Yuma Arizona* (9th Cir. 2016) 818 F.3d 493, 512.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

359. There are multiple feasible and less discriminatory GHG emission reduction alternatives to the Redlining Revisions. Given the uncertainty that the Redlining Revisions will have any meaningful effect, or a negative effect on global GHG emissions, the most reasonable and practical alternative is to rescind them. None of the legally deficient VMT and GHG amendments to the CEQA Guidelines or any of the unlawful discussion of VMT and GHG thresholds in the Underground VMT Regulation and the Underground GHG Regulation, are required to meet California's most aggressive legislated climate change policy, which requires state emissions to fall by 40 percent from 1990 levels by 2030. Rather than quixotically attempt to reduce transportation-related GHG emissions by implementing racially discriminatory, massively disruptive housing policies, the state should focus on meeting the legislated 2030 objectives by developing and refining new technologies and programs that will have far more likely and significant GHG reduction benefits on a global scale.

360. The Redlining Revisions frequently assert that "early action" to promote densification near transit is necessary to meet potential future state objectives. There are sound reasons, however, for greater caution and careful review of GHG policy results before rushing to implement precipitous, racially discriminatory housing measures.

361. Despite its reputation as a climate leader, California has not contributed significantly to GHG reductions in the U.S., let alone on a global scale. From 2005-2016, the EIA estimated that U.S. CO_2 emissions fell by over 800 million metric tons per year. California accounted for just 22 million tons, or 2.8 percent of this reduction. California has the largest population of any state, but GHG emissions were reduced since 2005 by a greater net volume in 14 other, smaller states, including Pennsylvania, Alabama, Ohio, Kentucky and Missouri.[267] Most of these states have made substantially larger contributions to global GHG emission reductions by implementing practical policies, such as replacing coal fired power plants with natural gas, that

[267] U.S. EIA, Energy-Related Carbon Dioxide Emissions by State, 2005-2016 (Feb. 2019), Table 1, at 8-9, https://www.eia.gov/environment/emissions/state/analysis/pdf/stateanalysis.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

have clear and unambiguous benefits. California has focused on speculative and racially discriminatory efforts like the Redlining Revisions instead of, for example, converting the state's diesel trucking fleet to natural gas, which would have the dual benefits of reducing GHG emissions while reducing particulate pollution that disproportionately impacts the health of minority communities.

362. The state has also not addressed GHG emissions leakage, either from inducing population and economic activity to move to locations with higher emissions, or that is caused by state energy imports which purportedly are derived from "clean" generation but which many experts believe simply allow dirtier power to be "shuffled" and sold to other users.[268] According to the LAO, and contrary to state law, California environmental policymakers have developed almost no credible information about the magnitude of emissions leakage from the state.[269] Stanford University researchers have estimated that leakage and resource shuffling could currently be offsetting a substantial amount of the state's legislated GHG reduction objectives.[270] California climate policies must address these fundamental and major issues before undertaking housing and mobility experiments with clear racially discriminatory harms but no clear, or potentially any, global GHG emission benefits.

363. The state could also implement automotive GHG emission standards, which currently do not exist but have proven remarkably successful at virtually eliminating other vehicular pollutants without constraining housing or mobility. As shown in Figure 19, total U.S. emissions from highway vehicles were reduced by more than 90 percent for pollutants such as sulfur dioxide

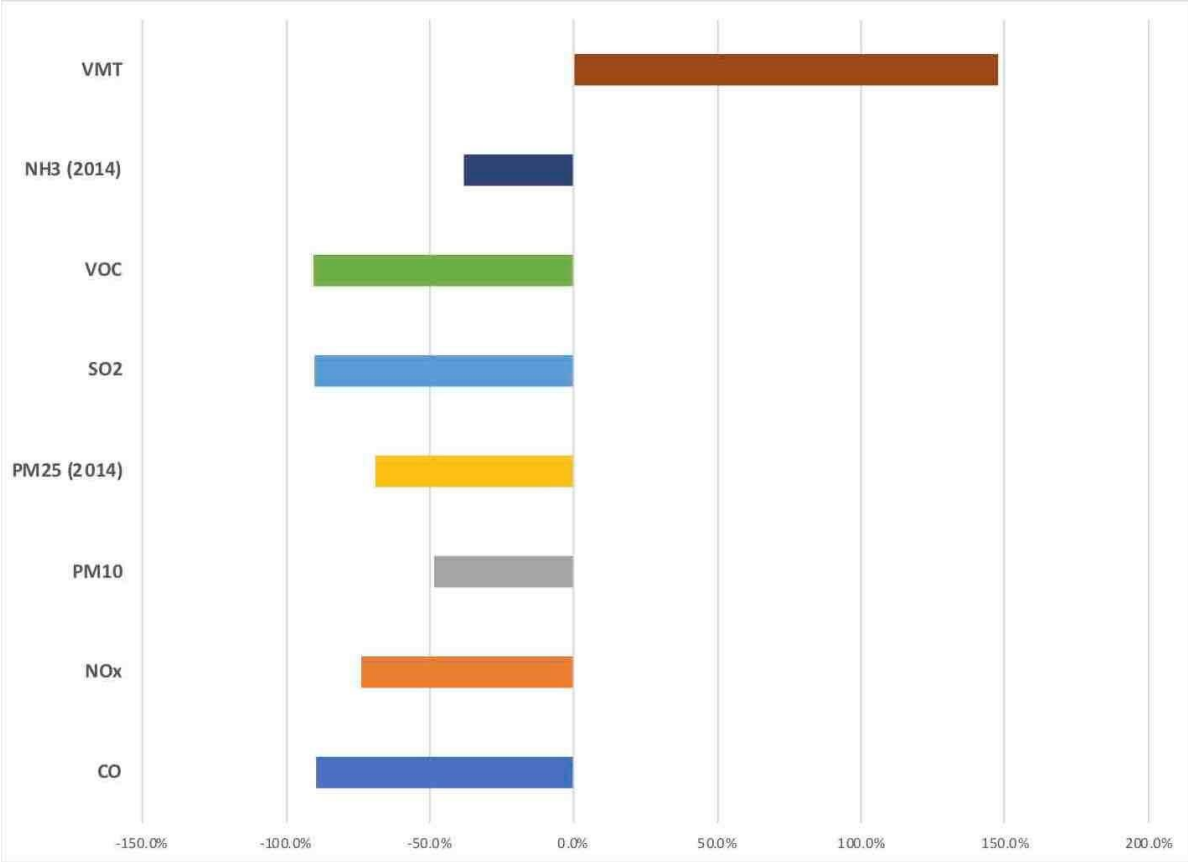
[268] Green, *Don't Link Carbon Markets*, Nature (Mar. 21, 2017), https://www.nature.com/news/don-t-link-carbon-markets-1.21663.

[269] Taylor, The 2017-18 Budget: Cap-and-Trade, LAO (Feb. 2017), at 15, https://lao.ca.gov/reports/2017/3553/cap-and-trade-021317.pdf.

[270] Cullenward and Weiskopf, Resource Shuffling and the California Carbon Market, Environmental and Natural Resources Law & Policy Program Working Paper, Stanford Law School (July 18, 2013), https://law.stanford.edu/wp-content/uploads/sites/default/files/publication/440262/doc/slspublic/Resource%20Shuffling%20-%20Cullenward%20and%20Weiskopf.pdf.

("SO_2"), carbon monoxide ("CO") and volatile organic compounds ("VOC"), and all pollutants discharged from highway vehicles have dramatically fallen since 1970 despite a massive 50 percent increase in total U.S. VMT.

Figure 19: Percent Change in Annual Tons of Pollution by Type from Highway Vehicles and Annual VMT, 1970-2018 (2014 where noted).[271]



364. California has significant and demonstrable expertise in reducing vehicular emissions, and there is substantial evidence that similar improvements can be made by strengthening the regulation of GHG emissions as well. As shown in Figure 20, average vehicular CO_2 emissions fell from 681 grams per mile in 1975 to 461 grams per mile in 2004. From 2004 to

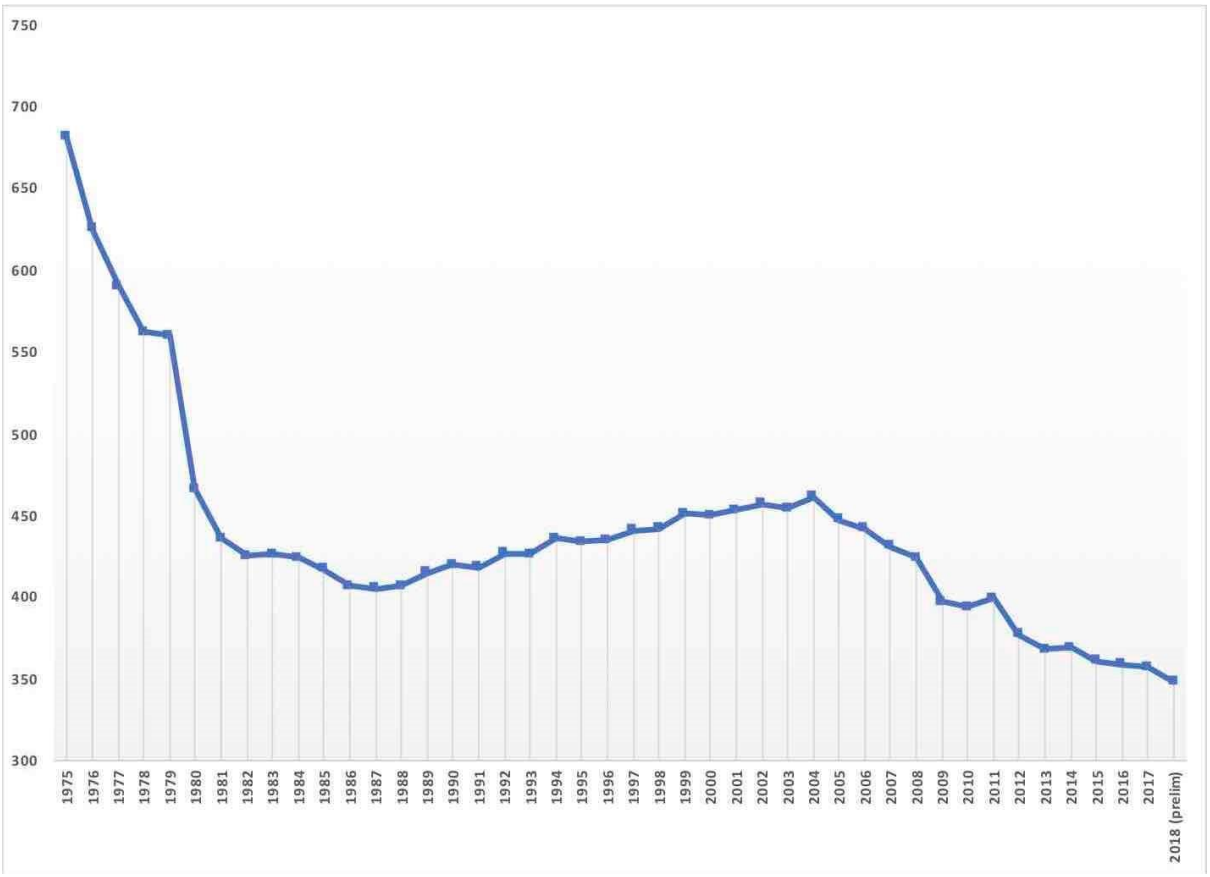
[271] Calculated from U.S. EPA, Air Pollutant Emissions Trends Data, National Annual Emissions Trend, Criteria pollutants National Tier 1 for 1970 – 2018, https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data (from Highway Vehicles)(last visited Nov. 13, 2019) and U.S. Department of Energy, Alternative Fuels Data Center, Annual Vehicle Miles Traveled in the United States, https://afdc.energy.gov/data/10315 (last visited Nov. 12, 2019).

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

2017, CO_2 emissions per mile were reduced by 22.6 percent and fell from 461 grams per mile to 357 grams per mile, which the U.S. EPA has stated is the "the lowest level ever measured."[272]

Figure 20: Real-World CO_2 Emissions per Mile, 1970-2018 (2018 preliminary)[273]



365. The Respondents have never disclosed, and continue to refuse to provide, any substantial evidence that continued reductions in GHG emissions from conventional vehicles, and the deployment of very low- or zero-emission hybrid, electric, hydrogen fuel cell and other vehicular technologies, will allow California to achieve its legislated and even reasonably likely future GHG reduction goals without implementing racially discriminatory housing policies and

[272] U.S. EPA, Office of Transportation and Air Quality, The 2018 Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975, Executive Summary, at ES3, https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100W3WO.pdf.

[273] U.S. EPA, Office of Transportation and Air Quality, 2018 Automotive Trends Report, Section 3, Table T.3.1, https://www.epa.gov/sites/production/files/2019-03/420r19002-report-tables.xlsx (last visited Nov. 13, 2019).

mobility constraints.

366. The Redlining Revisions fail to consider measures that would achieve comparable or greater net global GHG emission reductions by reducing emissions by the state's wealthiest households merely to the same level as average state household emissions. The Underground GHG Regulation provides a list of "climate change tools and resources that a lead agency can use to quantify greenhouse gas emissions and determine the significance of project impacts to climate change." One listed tool and resource is the "Cool California website" which is described as a "State of California supported online resource that hosts links to various tools and case studies."[274] The Cool California website, which is located on the CARB server system, includes an interactive "Calculator for Households & Individuals" that generates estimated annual household GHG emissions by household income level and size.

367. Although the calculator allows users to input state and regional locations, it is primarily configured to adjust household emissions at the level of individual zip codes. Table 10 lists the nine largest zip codes in California, which contain 286,000 households and have an average median income of $67,400, almost exactly the same as the statewide median household income of $64,200.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[274] OPR, Discussion Draft: CEQA and Climate Change Advisory (Dec. 2018), at 18, http://opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Adivsory.pdf.

Table 10: Number of Households and Median Incomes in 10 Largest California Zip Codes[275]

Zip Code	Location	Number of Households	Median Income
94109	San Francisco	33,173	$79,979
90250	Holly Park	32,242	$49,417
90046	West Hollywood	29,180	$65,990
94565	Pittsburg	27,966	$62,255
90044	Los Angeles	27,804	$32,278
94110	San Francisco	27,784	$109,747
92683	Westminister	27,700	$57,546
90650	Norwalk	27,238	$63,669
95630	Folsom	26,810	$106,843
90805	Long Beach	26,783	$47,981

368. Table 11 provides the household emission results for each zip code generated by the CARB calculator for the "average" household and households earning $100,000 options, both assuming three person households, as provided in the calculator. The results show that, in every zip code, households earning more than $100,000 per year generate significantly more GHG emissions than average households. The excess emissions from households earning more than $100,000 ranges from 17 percent to 20 percent higher than the average household in the 10 largest zip codes in California.

[275] U.S. Census Bureau, 2013-2017 American Community Survey (ACS) 5-Year Estimates, Median Income in the Past 12 Months (in Inflation-Adjusted Dollars), Table Series S1903, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (search for "S1903" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 10, 2019).

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Table 11: Average Household Emissions by Source, 10 Largest California Zip Codes, for Average Earning Households and Households Earning $100,000[276]

	94109	90250	90046	94565	90044	94110	92683	90650	95630	90805
Average Income Household, 3 People										
Construction and water	3.12	3.12	3.12	3.12	3.12	3.12	3.12	3.12	3.12	3.12
Clothing	1.94	2.3	1.83	2.78	2.26	2.73	2.87	2.99	3.14	2.49
Natural gas and electricity	3.47	4.5	3.91	5.92	4.91	4.82	5.51	5.01	6.79	4.72
Air Travel	1.96	1.21	1.7	1.74	0.58	2.1	1.79	1.52	2.9	1.03
Furniture	2.12	1.8	1.89	2.38	1.37	2.57	2.43	2.3	3.31	1.77
Car Fuel	5.44	11.28	8.28	16.52	9.15	8.34	15.04	15.55	16.8	11.74
Services	6.83	5.92	6.23	7.44	4.79	7.95	7.57	7.22	9.91	5.84
Total Emissions	**36**	**42**	**39**	**53**	**37**	**44**	**51**	**51**	**60**	**43**
$100,000 Income Household, 3 People										
Construction and water	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73
Clothing	2.35	2.78	2.21	3.36	2.73	3.3	4.55	3.61	3.79	3.01
Natural gas and electricity	3.93	5.13	4.43	6.68	5.59	5.49	6.05	6.46	7.74	5.35
Air Travel	2.99	1.87	2.59	2.68	0.89	3.17	2.72	2.28	4.46	1.61
Furniture	3	2.54	2.67	3.36	1.94	3.62	3.43	3.25	4.67	2.51
Car Fuel	6.61	13.77	10.16	20.08	11.18	10.16	18.35	18.91	20.53	14.33
Services	9.4	8.15	8.56	10.24	6.58	10.94	10.41	9.94	13.63	8.04
Total Emissions	**45**	**51**	**47**	**65**	**45**	**54**	**63**	**63**	**74**	**52**

369. Table 12 summarizes average emissions by household activity and income group for the 10 largest zip codes in California, the net difference between emissions generated by

[276] Based on emissions estimates for each household category generated by CARB, Calculator for Households & Individuals, https://coolcalifornia.arb.ca.gov/calculator-households-individuals (last visited Oct. 2019) for (1) "average" households with 3 persons; and (2) households with $100,000 of income with 3 persons.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

an average household and households earning $100,000 per year, and potential state GHG reductions that would be achieved by reducing excess emissions of higher income households to average household emissions levels.

Table 12: Average Household Emissions by Source, 10 Largest California Zip Codes, for Average Earning Households and Households Earning $100,000[277]

	Average Income Household, 3 People	$100,000 Income Household, 3 People	Net Emissions Difference Between Average and $100,000 Households	Excess State Emissions Generated by 4.28 Million Households Earning $100,000+
Construction and water	3.12	3.73	0.61	2,610,104
Clothing	2.53	3.17	0.64	2,738,469
Natural gas and electricity	4.96	5.69	0.73	3,123,567
Air Travel	1.65	2.53	0.87	3,722,607
Furniture	2.19	3.1	0.91	3,893,761
Car Fuel	11.81	14.41	2.59	11,082,244
Services	6.97	9.59	2.62	11,210,609
Total Emissions	45.6	55.9	10.3	44,072,243

370. Approximately 4,280,000, or 33 percent of all California households earn $100,000 or more. Table 12 shows that implementing policies to reduce emissions by the wealthiest California households, the most progressive approach, would reduce state GHG emissions by amounts that substantially exceed the 1,790,000 million ton reduction from 100 percent infill development estimated by U.C. Berkeley researchers and the 1,900,000 million ton potential reductions from reducing VMT in the SCAG area in accordance with the thresholds in the Underground VMT Regulation (see Table 9).

[277] Based on emissions from CARB, Calculator for Households & Individuals, https://coolcalifornia.arb.ca.gov/calculator-households-individuals (last visited Oct. 2019) and income estimates from U.S. Census Bureau, 2013-2017 American Community Survey (ACS) 5-Year Estimates, Income in the Past 12 Months (in Inflation-Adjusted Dollars) and Median Income in the Past 12 Months (in Inflation-Adjusted Dollars), Table Series S1901 and S1903 (search for "S1902" and "S1903" in topic or table name search field and "California" in state, county or place search field)(last visited Nov. 10, 2019).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

371. Merely taxing or regulating emissions from furniture to achieve average household levels would reduce state GHG emissions by approximately 3,900,000 tons, double the estimated reductions from the Redlining Revisions. Reducing excess clothing emissions to average household levels would achieve a 2,700,000 ton saving per year. Taxing or regulating air travel by the state's wealthiest households would reduce direct emissions by a similar amount and have additional global GHG emission benefits because high altitude emissions have a greater adverse effect on global climate.[278] The CARB calculator further demonstrates that reducing excess car fuel and household energy consumption by the state's wealthiest households to average household levels would each cut state emissions by over 10,000,000 tons per year, far more than any estimated reduction attributed to housing densification around urban transit, VMT, and deliberately making state roadways more dysfunctional.

372. Focusing state household emission reductions on higher income groups would be more effective and also avoid racially disparate impacts. Such a policy could be readily implemented by such means as taxing the consumption of air travel, furniture, clothing and services to reduce demand, and providing tax credits for lower income households. The state could also develop and implement emission reduction requirements for goods such as furniture and clothing that would not only reduce emissions by wealthy residents, but also spur improvements that would diffuse and reduce emissions nationally and internationally. California has already shown that it can spur such technological improvements by contributing to national and international vehicular pollution reduction standards.

373. Refocusing climate policies from the ineffective and racially disparate Redlining Revisions to reducing GHG emissions by the wealthiest state residents is not only more equitable and progressive, but it also avoids the discriminatory effects caused using the CEQA Guidelines to reduce VMT and GHG emissions. CEQA only applies to new projects. The Redlining

[278] Jardine, Calculating the Carbon Dioxide Emissions of Flight, Environmental Change Institute (Feb. 2009), https://www.eci.ox.ac.uk/research/energy/downloads/jardine09-carboninflights.pdf.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Revisions therefore entirely burden new housing in the state, which is most urgently needed by aspiring minority, working and middle class residents, and have no effect on the wealthier, largely white population living in existing owner occupied housing. There is no rational basis for seeking to achieve statewide GHG emission reductions by solely burdening new housing and ignoring the much greater VMT, household consumption, and GHG emissions generated by state residents living in existing housing.

374. State emissions would also be reduced to a much greater extent, and without racially disparate impacts, by policies that cut GHG output from in-state sources that cannot migrate or "leak" to other locations. The non-partisan state Little Hoover Commission has conclusively found that decades of mismanagement in California has caused state forests to become unnaturally over-vegetated and prone to hotter and larger wildfires that generate massive amounts of avoidable GHG emissions per year.[279] Properly managing state forests would reduce the magnitude of, and GHG emissions from, in-state wildfires without emissions leakage to other locations. Astonishingly, while the Redlining Revisions would implement racially disparate housing and mobility measures that are highly prone to leakage and have at best speculative net global GHG emission benefits, current California climate policy has no adopted plan or target for reducing emissions from wildfires.

375. As shown in Figure 15, GHG emissions from developing nations over the next several decades will account for all of the world's net emission increases as they increase energy capacity for what are in most cases the world's poorest populations. No meaningful globally significant GHG reductions can be achieved unless developed nations are able to improve living conditions with fewer GHG emissions in the future. A reasonable, socially just and progressive state climate policy would consider whether spending billions of dollars on housing and mobility programs that have racially disparate impacts and few if any globally-significant climate benefits –

[279] Little Hoover Commission, Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada, Report #242 (Feb. 2018), at 1-2, https://lhc.ca.gov/sites/lhc.ca.gov/files/Reports/242/Report242.pdf. E

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

none of which have been disclosed by the Respondents – would be more effectively spent on assisting cleaner energy and growth in developing nations.

376. Just after he spearheaded Respondents' efforts to adopt the unlawful Redlining Revisions, Mr. Alex left government to head "Project Climate" at UC Berkeley's Center for Law, Energy, & Environment. In September 2019, he wrote that "reducing the black carbon emissions from open flame cooking [by three billion of the world's poorest residents] immediately reduce climate forcing." As a result, he urged that "a multi-billion dollar effort to cut open flame burning in half in five to ten years" be implemented to achieve "dramatic" GHG emissions benefits.[280]

377. It is virtually certain that Respondents could have identified scores of similar measures that would cost-effectively reduce global GHG emissions and improve, rather than degrade, the quality of life for the world's less affluent populations. Instead, Respondents opted to pursue the enormously expensive and massively disruptive Redlining Revisions and cause racially disparate impacts to housing and mobility. Unlike the open flame cooking programs the former head of OPR now advocates, the Respondents have, to this very day, never disclosed precisely how Redlining Revisions will achieve any net global climate benefits, let alone benefits commensurate with their cost and racially disparate impacts. There is no substantial evidence of any kind that the Redlining Revisions are necessary to achieve any legislatively adopted climate objective, or that they have a reasonable likelihood of success. In contrast, there is overwhelming evidence that alternative measures could and should have been adopted in lieu of the Redlining Revisions that would have significant and predictable global climate benefits without generating racially disparate impacts.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[280] Alex, *Black Carbon, 3 Billion Strong*, Legal Planet, (Sept. 16, 2019), https://legal-planet.org/2019/09/16/black-carbon-3-billion-strong/.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

V. CAUSES OF ACTION

FIRST CAUSE OF ACTION

(Denial of Equal Protection, Cal. Const., Art. I, § 7, Art. IV, § 16; U.S. Const., Amd. 14, § 1)

378. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-377, above.

379. Non-discriminatory access to ownership and occupancy of housing is a fundamental interest for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Cal. Const., Art. I, § 7 and Art. IV, § 16.

380. Non-discriminatory access to ownership and occupancy of housing is a fundamental interest for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const., Amd. 14, § 1.

381. Non-discriminatory access to ownership and use of personal vehicles is a fundamental interest for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Cal. Const., Art. I, § 7 and Art. IV, § 16.

382. Non-discriminatory access to ownership and use of personal vehicles is a fundamental interest for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const., Amd. 14, § 1.

383. The Redlining Revisions cause unlawful disproportionate harm to members of minority communities, including Petitioners.

384. Public Resources Code section 15064.3 and the corresponding VMT significance criteria included in Appendix G, section XVII(b) cause disproportionate harm to members of minority communities, including Petitioners, by knowingly and intentionally exacerbating harms already caused by the housing shortage and affordability crisis. These provisions expand the scope of CEQA to define personal vehicular travel by future home occupants as an "environmental impact" requiring "mitigation" even though Respondents had actual knowledge, from their own experts and comments, that the only feasible form of "mitigation" that

would reduce VMT in compliance with the Section 15064.3 regulatory significance criteria of causing a net reduction in VMT for the project area would be massive cash payments to transit providers (estimated at $403,800 per housing unit, assuming as discussed in paragraphs 313-315, *infra)* to pay the transit costs for riders of distant transit systems.

385. In San Bernardino County, 98 percent of existing residents use personal vehicles, and are not otherwise required by law to make massive cash payments to fund the transportation of unrelated persons to and from unknown locations. Adding new VMT mitigation would more than double the price of a home in San Bernardino, where as noted in Figure 1.A, average home sale prices are only $288,000. Assuming a family has saved the approximately $65,000 required to purchase ($57,600 down payment, and $7,400 in closing costs), a family earning $50,000 (less than the average household income of $53,310 but above the median of $41,027), today can afford to become a homeowner of a median priced home in San Bernardino with a monthly mortgage of approximately $1,000.[281] New homes are more expensive (estimated at $350,000), requiring about $70,000 in closing costs and $1,419 in mortgage payments, yet still affordable for a household earning at least $60,000 (slightly above the average income).

386. When a VMT mitigation fee of $403,800 is added to the new home price, however, the cost of that new home more than doubles to $753,800. Given the housing shortage, new homes must be built to meet pent up and future demand. To pay the VMT-burdened home price, a family would need up front savings of $160,000 for a down payment and closing costs, and would then pay over $3,000 per month. The buyer of this VMT-burdened home would need to earn $131,000 per year, which is far out of reach for even above-median union worker households earning $90,000 per year. This VMT mitigation fee effectively eliminates the feasibility of home purchases by middle income families in one of the region's few counties where current housing

[281] Mortgage and required family income calculations are based on a 20% down payment, 4.5% interest, 30-year fixed rate mortgage per the DollarTimes online mortgage calculator. Closing costs are estimated. *See* DollarTimes, *Income to Afford a $240,000 House*, https://www.dollartimes.com/income-needed-for-house/240000 (last visited Nov. 12, 2019).

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

prices remain affordable and thereby also disproportionately eliminates homeownership opportunities for the 76 percent of the San Bernardino population comprised of Latinos and African Americans.

387. This is an intended, not accidental, result: Respondents have repeatedly made clear their policy decision that new housing units should be clustered in high density buildings near transit – the highest cost form and location for housing where even rents cost more than the VMT-burdened monthly mortgage payment of $3,000 – but where Respondents have decreed that VMT is presumptively less than significant under Section 15064.3 and thus no VMT mitigation is required. Respondents' technical-sounding, environmentally-cloaked "VMT" mitigation is nothing less than intentionally ending attainable home ownership for the disproportionately minority families harmed by the housing crisis, including middle income union member minority families in San Bernardino.

388. The Underground VMT Regulation likewise causes disproportionate harm to members of minority communities, including Petitioners, by knowingly and intentionally exacerbating harms already caused by the housing shortage and affordability crisis. These provisions expand the scope of CEQA to define personal vehicle travel by future home occupants as an "environmental impact" requiring "mitigation" even though Respondents had actual knowledge from their own experts and comments that the only feasible form of "mitigation" that would reduce VMT in compliance with the threshold requiring new projects to have VMT 15 percent lower than existing homes would be massive cash payments (estimated using the same methodology described in the preceding paragraph and in paragraphs 313-315, *infra*, as $45,100 per new home) to unrelated riders of distant transit systems.

389. In San Bernardino County, 98 percent of existing residents use personal vehicles and are not otherwise required by law to make massive cash payments to fund transportation by unrelated persons to and from unknown locations. Adding a $45,100 VMT mitigation fee to the cost of a new home pushes closing costs to $80,000, and increases the minimum required household income to just under $70,000 – about 40 percent more than average

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

household income, and thus likewise imposes a new disparate cost burden and harm on aspiring minority homeowners. Given the inconsistency between the regulatory presumption that VMT is less than significant only if the project results in a net decrease in VMT under Section 15064.3, and the 15 percent VMT reduction threshold included in the Underground VMT regulation, housing projects that rely on the 15 percent VMT reduction criteria are also at greater risk of losing a CEQA lawsuit based on the adequacy of VMT mitigation – particularly since Respondents provide no substantial evidence as to what environmental harms are significant if one more mile is traveled in the neighborhood where a new home is built, or why that harm is less than significant if VMT increases in that same neighborhood in an amount equivalent to 85 percent per capita of "either" the city or the "project area" VMT.

390. Respondent OPR's endorsement in its Underground VMT Regulation of measuring the required increment of VMT reduction for new housing against "either" the city or the "project area" is itself arbitrary and capricious, and provides yet another rationale for rejecting new housing in wealthy no growth cities. For example, a city such as Beverly Hills can select a 15 percent VMT threshold below its city average, where most residents – to the extent they need to commute at all during peak hours and are not retired, independently wealthy, or work remotely or during off-peak hours as part of the keyboard or entertainment economy – drive only short distances such as Santa Monica, Downtown Los Angeles, and Burbank. Because there is no possibility that new housing in Beverly Hills (except age-restricted and special needs non-working households) can reduce its VMT 15 percent below the in-city average, Beverly Hills can use CEQA to either deny project approvals based on the significant unavoidable adverse impact caused by excess VMT, or burden new housing units with tens or hundreds of thousands of dollars of VMT mitigation fees.

391. While Respondent OPR does not define the "project area" – itself an ambiguity that violates the APA's clarity requirements – a less anti-housing city such as Los Angeles can select a regional VMT average, and credit new housing in the city with having lower VMT than higher regional averages that take into account commuters from San Bernardino and

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

other inland cities and counties. Respondents' provide neither rhyme nor reason why "either" city or project area VMT is the appropriate benchmark for a percentage VMT reduction, and provide no limitations whatsoever on the use of the no-growth "city" VMT methodology to deny new housing by declining to adopt a "statement of overriding considerations" under CEQA as required to approve a project with a significant unavoidable new VMT impact, or impose extraordinarily high VMT costs to make such housing unaffordable, infeasible, or both.

392. Selecting which VMT percentage is appropriate or defensible – against an unknown and unspecified GHG reduction performance target or otherwise – and then further selecting the city or project area benchmark, and then estimating with unverified models regional, city, and project level VMT, and then inventing, and either imposing or rejecting VMT reduction mitigation measures, must all be determined by the city or county reviewing a new housing project – advised by costly technical experts, and attacked by anti-housing litigants and their experts. Actual housing approvals, and actual construction of approved housing, are stalled, derailed or abandoned while being held hostage to unknown and uncertain VMT CEQA compliance mandates and VMT CEQA lawsuit outcomes where judges are asked to referee politically charged land use disputes in a regulatory miasma of technical methodologies invented by CEQA consultants.

393. Further exacerbating this CEQA VMT litigation risk is the need for substantial evidence in support of the accuracy of VMT CEQA compliance, when the best available evidence, such as the UC Davis Transportation Institute study commissioned by state agencies, demonstrates both the inconsistency and unreliability of VMT measurement methodologies, as well as the unavailability of evidence demonstrating that various recommended VMT mitigation measures, such as those in the CAPCOA Manual, will result in actual VMT reductions, as further described in paragraphs 283-284.

394. When confronted with these inconsistent, contradictory, and infeasible demands for VMT reductions, San Bernardino County – like other jurisdictions – concluded that it was infeasible to require VMT reductions at all for the unincorporated county area, and adopted a

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

CEQA VMT significance threshold pursuant to which a new housing project would be deemed to create a significant VMT impact unless the project's VMT is 4% lower than current per capita VMT.[282] San Bernardino County concluded that it was infeasible to require projects to achieve VMT reductions outside the context of longstanding vehicle trip reduction measures such as encouraging carpooling and ridesharing, and did not attempt to impose transit subsidy fees such as those advocated by Respondent OPR and various VMT mitigation workshops.

395. The Redlining Revisions provide no clarity as to the adequacy of San Bernardino's approach, just as they provide no objective environmental impact avoidance outcome for either the no VMT increase in the project area, or the 15% below average VMT criteria. In the absence of substantial evidence as to any significant adverse environmental harm caused by simply traveling a mile in a car (including an electric car), the threshold for when a VMT impact is "significant" is unknown, unknowable, and accordingly ripe for costly study and debate, uncertain litigation outcomes, and prolonged exacerbation of the housing crisis and harms to minority housing crisis victims. A lawful regulation does not cloak its purpose or include internal contradictions: Respondents' VMT regulations do both.

[282] San Bernardino County, Transportation Impact Study Guidelines (July 9, 2019), at 21, https://cms.sbcounty.gov/Portals/50/transportation/Traffic-Study-Guidelines.pdf?ver=2019-10-03-155637-153 ("project should be considered to have a significant impact if the project VMT per person/employee is greater than 4% below the existing VMT per person for the unincorporated county"). This threshold was established as part of the General Plan update process, which remains underway. This process includes expert analysis concluding that even with implementation of all feasible VMT reduction measures included in the CAPCOA Manual (CAPCOA, *supra*, note 200) that for San Bernardino County "the **maximum** achievable" reductions for any given project consisted of Transportation Demand Measures such as encouraging carpooling, and the **maximum** feasible VMT reduction from such measures was 4%. San Bernardino County, Transportation Impact Study Guidelines at 21. Respondents' repeatedly cited the CAPCOA Manual as substantial evidence of the feasibility of requiring projects to mitigate to achieve 15% VMT reduction. Unlike the GHG/VMT/CEQA war zone in San Diego County, where even "net zero" GHG is insufficient and VMT/climate mandates require all new housing to be built at higher densities in transit served neighborhoods, the San Bernardino VMT threshold has not been litigated – but the updated San Bernardino General Plan has not yet been adopted. San Bernardino County's General Plan was the first California local agency action ever sued under CEQA for failing to adequately address GHG, and the lawsuit was settled before trial. *See, e.g.,* Walker, *Landmark Settlement in Global Warming Case*, Abbot & Kindermann, Inc. Land Use Law Blog (Aug. 27, 2007), https://blog.aklandlaw.com/2007/08/articles/ceqa/landmark-settlement-in-global-warming-case/.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

396. In addition to being internally inconsistent and contradictory, Section 15064.3, Appendix G section XVII(b), and the Underground VMT Regulation (collectively referred to as the "VMT Redlining Revisions"), are also contrary to judicial precedent confirming that payment by all Californians purchasing transportation fuels subject to CARB's cap-and-trade program is sufficient mitigation for GHG emissions from transportation fuel use under CEQA.[283]

397. The VMT Redlining Revisions also fail to comply with the California Supreme Court's directive that significance criteria for new projects cannot be based on an overall statewide GHG reduction goal for existing and new development absent substantial evidence of the appropriateness of applying the statewide goal to housing of different types and locations.[284]

398. The VMT Redlining Revisions intentionally conceal VMT data and falsely report that VMT can decrease even when population and economic activities such as jobs increase; they also intentionally decline to acknowledge or respond to factual information regarding the disparate increase in VMT by minority families forced to drive longer distances to get to houses they can afford to buy. The VMT Redlining Revisions fail to acknowledge or address CARB's November 2018 report confirming that VMT had increased steadily since the end of the Great Recession,[285] or CARB's resultant conclusion that VMT must be reduced by up to 16.8 percent instead of 15 percent to address increased VMT,[286] and fail to acknowledge the fact that VMT reductions are a proxy for GHG reductions and thus GHG reductions in lieu of VMT reductions as a CEQA mitigation strategy should be allowed.

399. Respondents have accordingly knowingly created legal uncertainty verging

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[283] *Assoc. of Irritated Residents*, 17 Cal.App.5th at 741-44.

[284] *Newhall*, 62 Cal.4th at 225-26.

[285] CARB, 2018 Progress Report: California's Sustainable Communities and Climate Protection Act (Nov. 2018), at 4, https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf.

[286] CARB, 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (Jan. 2019), Figure 3 at 10, https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf.

into chaos, which they acknowledge by taking the unprecedented CEQA regulatory step of delaying implementation of a portion of the challenged VMT regulations by 18 months. These unlawfully incomplete, contradictory, factually false, and knowingly racially discriminatory actions can and already are being exploited by opponents of housing in challenging housing projects in CEQA lawsuits, which then has the immediate effect of delaying completion of housing projects, and thereby causes and exacerbates abuse of CEQA to derail or delay approved housing, which further exacerbates the disparate impacts to minority communities harmed by the housing crisis.

400. Respondents offer a suite of other rationales for expanding CEQA to define the act of driving a mile an "environmental impact" that fall well outside the statutory boundaries of CEQA and thus outside Respondents' regulatory authority (e.g., increasing "wellness" by encouraging people to walk or bike to work); and thereby, intentionally ignore and dismiss overwhelming evidence that almost all (approximately 98 percent) of workers in San Bernardino County must and do drive to work, that the vast majority of such workers are Latinos or members of other minority communities, and that adding massive new transportation mitigation costs under CEQA to new housing causes regressive, racist harms to such workers.

401. Respondents further ignore facts, reports and comments regarding other GHG emission reductions that can be achieved without causing unconstitutionally racist harms, such as clearing dead and dying trees that emit methane gas (a more potent GHG than CO_2 emitted by vehicles) as the trees rot, or clearing dead and dying trees before they explode into catastrophic forest fires emitting black carbon (a far more harmful GHG than either methane or CO_2). Enhanced forest management would have the "co-benefit" not of forcing a parent to commute an hour each way on a bike with a child seat instead of driving 10 minutes, but of saving hundreds of lives and billions of dollars of property damage.

402. Respondents further ignore facts, reports, and comments including CARB's own data showing that even a modest curtailment in the GHG content of furniture bought by the state's highest income households would reduce more GHG than converting a 1970s-era law into a

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

mandate that the housing crisis be solved by overwhelming rental apartments near bus stops in existing communities.

403. Respondents further ignore facts, reports and comments that urbanized neighborhoods with the most extensive transit services (e.g., in Los Angeles and Santa Monica) are either Coastal Job Centers and thus destinations for far-flung residents of regional housing, or have resulted in displacement and gentrification of existing and most often minority neighborhoods with the development of the most costly housing typology (high rise) priced at $1 million or more for purchase or about $4,000 or more per month for rent – price points that are inherently unaffordable for median or lower income families, who are most likely to be minorities (and younger than existing homeowners). Intentionally modifying CEQA with regulations designed to promote inherently unaffordable housing products and further exacerbate displacement of minority communities likewise causes and exacerbates housing crisis harms to minority communities.

404. Respondents' exhortation in the Underground VMT Regulation that "affordable housing" should be built in lieu of other housing to reduce VMT is an express endorsement of the historically racist strategy of using public subsidies to create rental "projects" for "those people" (aka minority families). As the LAO and other experts have explained, the need for housing is so vast – and encompasses well over 100,000 homeless Californians, as well as individuals needing supportive housing based on disability or other special needs – that it is fully dependent on public subsidies. With even "affordable" rental units now costing in excess of $500,000 in Coastal Job Centers, both the LAO and former Governor Brown explained that the state wholly lacks the resources to "spend its way" out of the housing crisis. Instead, California must restore market conditions that create sufficient housing supplies and reduce sufficient "soft" costs (costs excluding land, building materials and labor) to allow Californians to again buy a home they can afford. Hard-working families – and in San Bernardino the average working household is Latino, and has two workers per household – want and are entitled to own a home, not wait for a handout lottery ticket win to a rental in an affordable housing "project." Respondents are not

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

charged with, and lack the statutory authority to impose, a regime that favors "affordable" subsidized rental housing to the detriment of housing in locations and at prices that middle income households can afford to buy.

405. The other Redlining Revisions also either impose additional costs on housing, or increase anti-housing CEQA litigation costs, delays and uncertainties, which cause and exacerbate housing crisis harms, including housing-induced poverty and homelessness, disproportionately affecting minority communities.

406. Appendix G, section I(c) facilitates racial discrimination by anti-housing CEQA litigants in cities with fewer than 50,000 residents by establishing arbitrary and unknowable significance criteria –such as those based on a change in the view from the sidewalk in front of the litigants' houses.

407. Section 15064.4, Appendix G, sections VIII(a) and (b), and the Underground GHG Regulation (collectively referred to as the "GHG Redlining Revisions"), elevate to CEQA significance criteria status the "State's long-term climate goals or strategies" notwithstanding the Legislature's express rejection of numerous "goals or strategies" included in CARB's 2017 Scoping Plan, including but not limited to reducing VMT as a GHG reduction mandate, mandating an 80 percent reduction of GHG by 2050, mandating the use of "net zero GHG" as a CEQA significance threshold, and mandating the urban growth boundaries, land conversion prohibitions, and eco-system service taxes and fees on urban residents included in the Scoping Plan's "Vibrant Communities" appendix.

408. The GHG Redlining Revisions are unlawful in failing to include non-discriminatory court precedent authorizing CEQA compliance pathways that do not impose additive and discriminatory costs and harms on minority residents most in need of new housing, such as the CEQA pathway of compliance with GHG reduction laws and regulations (e.g., requiring energy

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

efficient homes and solar rooftop energy generation),[287] as well as payment of GHG reduction fees for gasoline consumption by individuals in compliance with state cap-and-trade regulations.

409. The GHG Redlining Revisions are further unlawful in failing to include the CEQA compliance pathway of locating new homes consistent with the GHG reductions set forth in Sustainable Communities Strategies for achieving regional GHG reduction targets as required by SB 375, since SB 375 expressly requires such sustainable communities strategies to plan for and accommodate foreseeable increases in population and economic activity. The Redlining Revisions incentivize and reward population and employment declines in California, notwithstanding the disparate harms to minority communities caused by exacerbating the housing crisis and the adverse global GHG emissions and climate change harms caused when California's migrants move to their top destination states of Texas, Nevada and Arizona, where housing is far less costly but per capita GHG emissions are far higher.

410. Subsection (b)(2) of Section 15064 expands CEQA compliance costs and litigation obstacles for housing, and thereby causes disproportionate harms to Petitioners and minority communities, by requiring all agencies subject to CEQA to justify their use of all significance criteria for all projects – including housing – with "brief explanations" defending the adequacy of each criterion for each project. Section 15064(b)(2)'s new compliance burdens, costs and litigation obstacles encompass 88 new "brief explanation" litigation targets per project, assuming that each such agency, at minimum, includes the recommended 88 CEQA significance criteria set forth in Appendix G.

411. Subsection (b) of Section 15064.7 expands CEQA compliance costs and litigation obstacles for housing, and thereby causes disproportionate harms to Petitioners and minority communities, by expressly encouraging all agencies subject to CEQA to adopt "case by

[287] *See generally Newhall*, 62 Cal.4th 204; *Assoc. of Irritated Residents*, 17 Cal.App.5th 708; *see also* California Energy Commission, 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Dec. 2018) https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

case" significance thresholds for each project. Such thresholds would be tailored by each agency for each project, and thereby facilitate the further racially disparate abuse of CEQA to suppress new housing for Petitioners and other minority community members. "Case by case" significance criteria create unknown, and invite arbitrary new, analytical and mitigation obligations on housing without public notice, rulemaking, compliance with any due process, equal protection, or regulatory agency standard of authority, necessity or consistency with other applicable laws and regulations, and thereby create new compliance burdens, costs and litigation obstacles on housing.

412. Subsection (b) of Section 15064.7 expands CEQA compliance costs and litigation obstacles for housing, and thereby causes disproportionate harms to Petitioners and minority communities, by recognizing only "environmental" standards as appropriate significance thresholds under CEQA, and failing to acknowledge or include compliance with public health and safety standards as appropriate thresholds under CEQA, notwithstanding judicial precedent affirming reliance on public health and safety laws as appropriate thresholds under CEQA, including for example: *Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 912 (upholding lead agency's reliance on building code standards to mitigate potential seismic impacts); *Tracy First v. City of Tracy* (2009) 177 Cal.App.4th 912 (upholding lead agency's reliance on regulatory energy efficiency standards to mitigate potential energy impacts); *Leonoff v. Monterey County Bd. of Supervisors* (1990) 222 Cal.App.3d 1337, 1355 (upholding lead agency's reliance on regulatory hazardous material registration and monitoring standards to mitigate potential impacts associated with underground fuel tank leaks); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 306 (upholding lead agency's reliance on air district regulatory standards to mitigate potential air quality impacts).

413. Section 15126.4 expands CEQA compliance costs, and litigation costs and delays, as well as risks of housing project lawsuit derailments, and thereby causes disproportionate harms to Petitioners and minority communities, by imposing unlawful new limitations on the use of mitigation measures. These new limitations include a mandatory performance standard for reducing

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

or eliminating a significant impact.

414. Because CEQA is intended to apply as early as feasible to the project application process in order to make the public review and comment process meaningful, and because CEQA only applies to "discretionary" projects that a public agency has the legal authority to deny or condition, the CEQA analysis is generally completed based on application materials that do not include engineering and design details. Numerous cases have held that mitigation measures to minimize or avoid significant impacts may likewise defer final engineering and design details as long as the mitigation measure specifies the performance standard that must be achieved to avoid or reduce the significant impact, and a list of feasible measures is included that will comply with this performance standard.[288]

415. Contrary to this well-established CEQA case law, Section 15126.4 requires all definitive details to be included in the mitigation measure itself, and allows deferral of such engineering details only if it is "impractical or infeasible" to include those details in the proposed mitigation measure completed in the draft environmental studies circulated for public review and comment. There is zero – *zero* – statutory or judicial authority for the imposition of this "impracticable or infeasible" restriction on the use of performance standard mitigation measures, but developing site-specific landscaping design and other engineering details this early in the CEQA process will absolutely increase CEQA compliance costs in a way that disproportionately harms Petitioners and other minority community members in need of new, affordable housing.

416. Whether or when absorbing such compliance costs is "impracticable or infeasible" for a housing project that may be substantially revised as a result of the public review

[288] *See, e.g., Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275 (The Irvine Co., Real Party in Interest); *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794 (Rutter Development Co., Inc., Real Party in Interest); *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1028-1029. This very common CEQA "performance standard" form of mitigation measure applies, for example, to protecting stormwater quality from urban pollutants such as fertilizer and grease by specifying a water quality performance standard, and then identifying various types of landscaping and stormwater management options that will ultimately be included – if and as the project is fully approved – in an integrated and engineered landscaping design and stormwater management system.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

and comment process, and then further modified by conditions of approval imposed by the lead agency decision-maker such as city council, creates a ripe new anti-housing litigation target. Housing for the very wealthy will simply prepare sequentially revised landscaping designs and engineering details. Housing for median and lower income Californians, in contrast, just gets burdened with legally unnecessary and environmentally irrelevant cost burdens, since in all cases stormwater must comply with the designated performance standard, and in all cases a combination of landscaping and other stormwater management features can achieve the standard. This arbitrary and capricious expansion of CEQA increases compliance costs and litigation obstacles on housing, and thereby imposes a disparate harm on minorities most in need of housing.

417. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Cal. Const., Art. I, § 7 and Art. IV, § 16.

418. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const., Amd. 14, § 1.

419. Respondents' Redlining Revisions violate the equal protection provisions of the California Constitution because they make access to new, affordable housing a function of race and/or cause other racially disparate harms to minority communities urgently in need of housing they can afford to buy or rent, and affect their ability to use cars like their already-housed neighbors to get to work, school, the doctor, and the grocery store.

420. Petitioners warned Respondents about the racially discriminatory aspects of the Redlining Revisions prior to promulgation of the Redlining Revisions and issuance of the un-promulgated Underground VMT and GHG Regulations. Despite Petitioners' warning, Respondents disregarded these impacts and finalized the Redlining Revisions without any material changes. On information and belief, Respondents did so with the intent to disproportionately cause harm to racial minorities, including minority communities of which Petitioners are members.

421. Respondents knowingly and intentionally discriminated against California

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

minorities needing housing, who are already most harmed by the housing crisis, by falsely asserting in the Underground VMT Regulation that economic growth occurs even when VMT decreases based on three years of data that ended during the heart of the Great Recession in 2010, and ignoring earlier, as well as subsequent, data that demonstrated a sharp and ongoing increase in VMT even when gas prices increase and even when billions of dollars are spent to expand transit service investment.

422. Respondents also knowingly and intentionally engaged in unlawful discriminatory conduct by failing to disclose, analyze, or attempt to avoid exacerbating, the racial re-segregation of California caused by the housing shortage and high housing prices, and the gentrification and displacement of minority communities caused by more than a decade of promoting high cost, high density urbanized apartment development near transit in the San Francisco and Los Angeles region.

423. Respondents knowing and intentional discrimination also included promulgation of regulatory ambiguities and mandates that cause disparate harms to low and middle income minority workers forced into "supercommutes" caused by displacement from high cost high density urban housing to areas with affordable housing costs and housing supply by repeatedly asserting that individual housing projects could implement inexpensive measures to reduce VMT as part of the design of the project (e.g., providing secure bike parking areas in an apartment); notwithstanding having actual knowledge that such project-level design features are largely ineffective as transportation mode choices are overwhelmingly dependent on existing transportation modes.

424. Respondents therefore knowingly promoted VMT "exchange" and VMT mitigation "fee" approaches that would add tens and even hundreds of thousands of dollars to the cost of each housing unit and thereby render such units unaffordable to median and lower income minority families, especially those seeking to buy a home notwithstanding California's legacy of racist redlining anti-minority homeownership practices.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

425. Respondents further knowingly and intentionally engaged in unlawful racial discrimination in promulgating "road diet" redlining designed to intentionally increase traffic congestion and "induce" transit utilization notwithstanding steep and ongoing declines in the utilization of fixed-route public transit by minority and lower income riders, the increased reliance by former riders on cars, and the adverse environmental, health, family welfare, and economic consequences of extended duration commutes.

426. Respondents' Redlining Revisions violate the equal protection clause of the United States Constitution because they make access to new housing that California minorities can buy or rent a function of race and/or cause other racially disparate harms to minority communities urgently in need of housing they can afford to buy or rent, and affect these communities' ability to use cars like their already-housed neighbors to get to work, school, the doctor, and the grocery store.

SECOND CAUSE OF ACTION

(Denial of Due Process, Cal. Const., Art. I, § 7; U.S. Const., Amd. 14, § 1)

427. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-426, above.

428. Petitioners have a right to be free of arbitrary state agency regulations that are imposed without having first been presented to the public, and adopted as regulations in compliance with applicable due process standards.

429. Respondents' Underground VMT and GHG Regulations, individually and collectively, have caused and are exacerbating existing serious harms to the ability of Petitioners and other members of disadvantaged minority communities to gain access to housing they can afford to buy, and their ability to use cars just like their already-housed neighbors for transportation, and accordingly cause unlawful disproportionate harms to racial minorities.

430. Respondents' Underground VMT and GHG Regulations are not rationally related to or calculated to further the State's legitimate interest in addressing climate change by

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

reducing global GHG emissions, on their face or as applied to housing projects in California.

431. Respondents' Redlining Revisions, including the Underground VMT and GHG Regulations, ignore far more effective and far less costly non-discriminatory GHG reduction measures such as: ending more potent methane GHG emissions from what the Little Hoover Commission concluded were catastrophically mismanaged forests,[289] ending exponentially more potent black carbon GHG emissions from forest fires fueled by dead and dying trees (and thereby also saving hundreds of lives and avoiding hundreds of millions if not billions of dollars of damage), and regulating far less regressive GHG emissions attributable to the state's wealthiest households like excessive furniture purchases.

432. Respondents' Redlining Revisions are also counterproductive to global GHG emission reduction efforts because hundreds of thousands of families priced out of California's housing market have, or are planning to, move to states where housing is less costly but per capita GHG emissions are higher, such as Texas, Arizona and Nevada, the top three destinations for departing Californians.

433. For these reasons, Respondents' Redlining Revisions have been issued in violation of, and constitute substantive violations of, the Due Process Clauses of the California and United States Constitutions. Cal. Const., Art. 1, § 7; U.S. Const., Amd. 14, § 1).

434. Accordingly, Petitioners in this action seek declaratory and injunctive relief from these violations pursuant to Title 42 of the United States Code, section 1983, as well as other relief pursuant to Title 42 of the United States Code, section 1983, and *et seq*.

THIRD CAUSE OF ACTION

(Violation of the Non-Delegation Doctrine, Cal. Const., Art. III, § 3)

435. Petitioners hereby re-allege and incorporate paragraphs 1-434, above.

[289] Little Hoover Commission, Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada (Feb. 2018), at 1-2, https://lhc.ca.gov/sites/lhc.ca.gov/files/Reports/242/Report242.pdf .

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

436. Petitioners have a right and duty to ensure that the line between legislative and administrative agency authorities are not blurred. Under California law, the Legislature cannot improperly delegate the task of deciding "fundamental policy decisions" to administrative agencies. This is especially true when such policy determinations have detrimental and disparate impacts on minorities.

437. The California Constitution provides that the "powers of the state government are legislative, executive, and judicial. Persons charged with the exercise of one power may not exercise either of the others except as permitted by [the] Constitution." Cal. Const., Art. III, § 3. Only after the Legislature has established the law, may it delegate the authority to administer or apply it to administrative agencies. *Wilkinson v. Madera Community Hospital* (1983) 144 Cal.App.3d 436, 442.

438. California courts have held that an unconstitutional delegation of authority occurs when the Legislature (1) leaves the resolution of fundamental policy issues to others or (2) fails to provide adequate direction for the implementation of that policy. *Kugler v. Yocum* (1968) 69 Cal.2d 371, 376-377; *Carson Mobilehome Park Owners' Assn. v. City of Carson* (1983) 35 Cal.3d 184, 190. As Justice Tobriner noted in in *Kugler*: The Legislature may, after declaring a policy and fixing a primary standard, confer upon executive or administrative officers the "power to fill up the details" by prescribing administrative rules and regulations to promote the purposes of the legislation and to carry it into effect.[290]

439. The Federal triumvirate system shares these tenets of the nondelegation doctrine. *See, e.g., Panama Refining Co. v. Ryan* (1935) 293 U.S. 388 (finding section 9(c) of the National Industrial Recovery Act of 1933 unconstitutional as it did not state "whether or in what circumstances or under what conditions the President is to prohibit the transportation of the amount of petroleum or petroleum products produced in excess of the state's permission"); *A.L.A. Schechter*

[290] *Kugler*, 69 Cal.2d at 376-377, quoting *First Industrial Loan Co. v. Daugherty* (1945) 26 Cal.2d 545, 549.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Poultry Corporation v. U.S. (1935) 295 U.S. 495, 541-42 (invalidating Section 3 of the Recovery Act, as it "supplie[d] no standards …" for the President to evaluate codes of fair competition for slaughterhouses and other industrial activities, "aside from *the statement of the general aims* of rehabilitation, correction, and expansion ….") (emphasis added). These and subsequent decisions assumed that the vesting clauses of the U.S. Constitution would be deemed meaningless if Congress could pass legislative obligations off to executive agencies.[291]

440. Here, Respondents' GHG and VMT Redlining Revisions are the culmination of an unconstitutional delegation of legislative authority in violation of Petitioners' substantive due process rights. The revised Guidelines impose broad, fundamental GHG and GHG-related VMT cost and compliance mandates that add significant new CEQA mitigation costs to already-high housing prices in a broadly-recognized housing crisis that disparately affect California's minority residents, and in particular imposes such new costs only on those in need of new housing while leaving the white majority that owns most homes in California without such excessive new housing cost burdens and CEQA litigation obstacles.

441. Section 21099 of the Public Resources Code provides clear statutory authority directing Respondents to eliminate congestion-related traffic delay in TPAs (which comprise only about three percent of land in the SCAG region,[292] a percentage which drops as transit agencies eliminate the four bus per morning and evening commute hour, and weekend service, on the region's many underutilized bus routes routes) as a CEQA impact, which Petitioners do not challenge. That legislative delegation, however, is not a lawful delegation of authority for Respondents to impose a VMT mitigation scheme statewide outside of TPAs that effectively ends

[291] Lawson, Delegation and Original Meaning, 88 Va. L. Rev. 327, 340 (2002); *see also INS v. Chadha* (1983) 462 U.S. 919, 959 ("the principle that Congress cannot delegate away its vested powers exists to protect liberty. Our Constitution, by careful design, prescribes a process for making law, and within that process there are many accountability checkpoints. It would dash the whole scheme if Congress could give its power away to an entity that is not constrained by those checkpoints").

[292] SCOG, personal communication, Nov. 9, 2019 (based on most recent approved 2016 Regional Transportation Plan/Sustainable Communities Plan).

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

homeownership opportunities for middle income minority Californians, and exacerbates the housing and poverty crisis suffered by low income and homeless individuals, by imposing contradictory and infeasible VMT mitigation costs on non-TPA area housing that other state laws, including RHNA laws, require be planned for and made affordable to Californians in all counties and cities in the state.

442. Weaponizing CEQA, with its clear history and ongoing practice of being used by housing opponents to block higher density housing in urban areas, with internally inconsistent and contradictory directives in the VMT Redlining Revisions to impose massive changes to statewide housing policies by burdening all housing not located in a TPA with unprecedented, costly new mitigation requirements applicable only to new housing residents who, like their neighbors, drive and already pay gas taxes and cap-and-trade fees (and collectively pay the highest gas prices of any state in the continental U.S.), is also knowingly and intentionally discriminatory conduct aimed at minority Californians most in need of new housing and most harmed by the housing crisis.

443. If California's climate leadership commitment requires cramming 1.3 million new homes in the SCAG region, or 3.5 million statewide, into TPAs - less than 3 percent of the 5 percent of California that is developed into urbanized areas (i.e., cramming 3.5 million new homes into 0.02 percent of California's existing neighborhoods); that all new housing be so expensive it cannot be afforded by California's middle income and low income families for purchase or event rent; and the massive demolition of "hundreds of thousands of existing single family homes" to make way for these massive new apartment blocks, then this is a fundamental departure from existing housing laws and other existing legal mandates, and it affects fundamental rights of Petitioners. These actions must be enacted (if at all) by the Legislature and not inflicted on the non-TPA areas of the state via the bureaucratic acronyms and crevasses of CEQA's regulations and other underground regulations.

444. Similarly, since the VMT Redlining Revisions are built on the Legislature's

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

policy decision to encourage infill housing as one of the many strategies for reducing GHG, then the GHG Redlining Revisions (Pub. Res. Code § 21083.05 and the Underground GHG Regulation) are likewise not a lawful delegation of authority to Respondents. The Legislature directed Respondents to amend the CEQA Guidelines to address GHG emissions under CEQA; however, Respondents have unlawfully failed to update the Guidelines to include directly relevant judicial decisions (e.g., affirming CEQA GHG compliance pathways based on project compliance with GHG reduction laws and regulations including cap-and-trade), and further failed to update the CEQA Guidelines to reject, accept, or otherwise address when (if ever, for what projects where) the "net zero" GHG CEQA project significance threshold approved by CARB in its 2017 Scoping Plan must be used under CEQA.

445. Instead, California's hundreds of cities and counties are expected to invent, adjust, or otherwise create "substantial evidence" in support of whatever CEQA GHG significance threshold is required – which flatly contradicts Respondents' statutory mandate to provide express significance criteria and express GHG direction specifically, under Sections 15064 and 15064.4 respectively.

446. Further, since California produces less than one percent of the world's GHG emissions, and since even former Governor Brown concluded that California's GHG reductions would be "futile" unless other states and jurisdictions followed the state's lead, the issue of whether GHG emission reductions should be imposed in the most regressive system possible – i.e., by burdening the disproportionately minority Californians who live at the edge or in poverty, who are most harmed by the housing crisis, and who already pay the highest costs for fundamental needs such as electricity, gas, and housing in the continental U.S. – must be decided by the Legislature and cannot lawfully be delegated to, or assumed to have been conferred upon, Respondents to both decide and implement via CEQA.

447. Respondents' have also knowingly exacerbated this unlawfully delegated authority to a shadow army of "for-profit" CEQA consultants. As described by Hastings Law

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Professor David Owen: "the story of CEQA and climate change illustrates how for-profit consultants can help build a regulatory system that seeks to advance environmental protection." [293]

448. The referenced CEQA climate change "regulatory system" of assessing the global climate change "significance" of building new housing to meet the needs of California's housing crisis victims, and deciding when and to what extent to burden such housing with extraordinary new CEQA "mitigation" costs and constraints which are not found anywhere in any adopted law, regulation or ordinance, to a "less than significant" level to the greatest extent "feasible," is the quintessential unlawful delegation of the fundamental policy decision of whether to solve the California housing crisis and the climate crisis by keeping people in California (where per capita GHG emissions are among the lowest in the nation) or whether to increase housing costs and continue to de-populate California to much higher per capita GHG states where housing is still affordable to working families such as Texas, Arizona and Nevada.

449. Instead of updating the CEQA Guidelines to address these fundamental regulatory questions – when is the GHG impact of housing and other projects "significant", what "mitigation" is "feasible", and how does this GHG issue relate to state housing and land use laws – Respondents mandated the Redlining Revisions in the absence of public review and comment.

450. This fundamental policy decision – is it state policy to solve the housing crisis or is it state policy to increase CEQA costs and litigation obstacles to continue to force more out-migration of Californians to higher per capita GHG states – was teed up for Respondents OPR and NRA to decide as part of their statutory obligation to update the CEQA Guidelines to include significance criteria generally (Pub. Res. Code § 21083(b), and more specifically to, in the CEQA Guidelines GHG provisions, "incorporate new information or criteria established by the State Air Resources Board [aka CARB]" (Pub. Res. Code § 21083.05).

451. As was brought to Respondents' attention in comments filed by Petitioners, a year earlier CARB selected a CEQA GHG significance threshold in its 2017 Scoping Plan that

[293] Owen, *supra* note 216, at 13.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

increased both the cost and CEQA litigation obstacles and risks to housing by decreeing that projects subject to CEQA (including new housing) should use a "net zero" GHG threshold of significance: "Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development."[294] Under this CARB significance threshold, future occupants of housing would be forced to pay the increase in housing prices required to fully "mitigate" to "net zero" all GHG emissions from the electricity, energy and fuel consumption used during both the construction and occupancy of a new housing unit.[295]

452. Since all construction and human occupancy currently requires electricity, energy, and fuel consumption, this "net zero" threshold can only be achieved by paying GHG mitigation fees to have someone else, somewhere else, for some unknown cost, in some unknown or non-existent regulatory context, reduce GHG emissions by the amount required to get to "net zero" GHG emissions for each new housing unit. If that "mitigation" obligation drives up housing costs by $40,000 or more and thereby prices out tens of thousands of aspiring homeowners from the opportunity to own a home, and those most likely to be priced out are hard-working minority households who then continue the current out-migration pattern to states like Texas where owning a home is still affordable but per capita GHG is nearly three times higher than California, then global GHG will increase, the California housing crisis will continue to cause disparate harm to minorities – but California will continue to pursue the unlegislated policy objective of de-population so those wealthy enough to remain can rejoice in the absence of "those people."

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[294] CARB, California's 2017 Climate Change Scoping Plan, *supra* note 77, at 101.

[295] CARB also notes that net zero "may not be feasible or appropriate for every project" and [l]ead agencies have the discretion to develop evidence-based numeric thresholds" that are "consistent with this Scoping Plan" and other unlegislated criteria, but that "CARB is not endorsing" any alternate thresholds. *Id.* at 102. This is, and continues to be, a recipe for CEQA litigation disputes. *See, e.g.*, Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf, which resulted in a lawsuit challenging this Los Angeles County housing project based in part on the claim that the project was required to offset its GHG emissions to "net zero." https://www.biologicaldiversity.org/programs/urban/pdfs/2019-05-01-Verified-Petition-for-Writ-of-Mandate.pdf.

453. This unlegislated policy choice was selected by CARB in the name of protecting California's environmental and climate leadership, and while this and three other anti-housing provisions in the 2017 Scoping Plan are the subject of ongoing litigation by Petitioners against CARB, this CARB-decreed threshold was neither acknowledged nor "incorporated" by Respondents in their revision of Section 15064.4 (addressing GHG impacts under CEQA) in violation of Section 21083.05 of the Public Resources Code, and was instead left to the uncertain, unlegislated, and unregulated ad hoc decision-making of private for-profit CEQA consultants.

454. Respondents' similarly declined to provide any regulatory clarity whatsoever in response to the California Supreme Court's identification of "potential pathways" that may (or may not) be appropriate for addressing GHG emissions under CEQA in the context of a now superseded earlier CARB Scoping Plan.[296] Respondents' expressly declined to recognize, cite, or incorporate into its revised Redlining Revision (Section 15064.4) appellate court CEQA GHG decisions that upheld specific CEQA compliance pathways issued after the Supreme Court's decision in Newhall.[297]

455. Respondents' VMT Redlining Revisions likewise by regulatory decree use CEQA to achieve VMT reductions, thereby causing disparate interference and harm to the mobility of minority communities most harmed by the housing crisis and most dependent on automobiles to get to work and perform other basic needs. Intentionally interfering with or making more costly the dominant mobility choice of minority workers is a fundamental policy choice that cannot lawfully be delegated to an agency, nor can that agency in turn lawfully further delegate that authority to private sector CEQA consultants on an ad hoc, project-by-project, consultant-by-consultant basis in the context of CEQA review of housing and other projects, and in the complete absence of public review and comment, approval by elected representatives, compliance with the APA, or any other form of compliance with procedural or substantive requirements for agency adoption of plans,

[296] *Newhall*, 62 Cal.4th at 229.

[297] *See, e.g., Assoc. of Irritated Residents*, 17 Cal.App.5th at 708.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

policies, or ordinances governing the review and approval of housing applications.

456. By enacting bare-boned statutory mandates, the Legislature has escaped deciding crucial questions under CEQA, leaving Respondents with "unrestricted authority to make fundamental policy determinations" regarding new standards for evaluating GHG emissions and transportation impacts under CEQA. *Clean Air Constituency v. California State Air Resources Bd*. (1974) 11 Cal.3d 801, 816. This is exactly the type of misallocation of duties between the Legislative and Executive branches of state government that the nondelegation doctrine prohibits.[298]

457. Respondents' further delegation of these fundamental policy determinations, by willfully and expressly declining to provide legislatively mandated significance criteria, and clarity and content in the Redlining Revisions, to private sector CEQA technical consultants hired by city and county staff to determine "significance," mandate "mitigation," and assess "feasibility" of global GHG and related VMT CEQA impacts on an ad hoc, project-by-project basis, whereby similarly-situated persons and projects are differentially treated is an even more egregious delegation of fundamental housing and transportation mobility choices to the private sector.

FOURTH CAUSE OF ACTION

(Violation of Federal Fair Housing Act and Housing and Urban Development Regulations, 42 U.S.C., § 3601 *et seq.*; 24 C.F.R. Part 100)

458. Petitioners hereby re-allege and incorporate paragraphs 1-457, above.

459. The Federal Housing Act (42 U.S.C. § 3601 *et seq.*) ("FHA") was enacted in 1968 to combat and prevent segregation and discrimination in housing. The FHA's language prohibiting discrimination in housing is broad and inclusive, and the purpose of its reach is to replace segregated neighborhoods with truly integrated and balanced living patterns.

[298] *See, e.g., Gundy v. United States* (2019) 139 S.Ct. 2116 (Gorsuch, J., dissenting)("by directing that legislating be done only by elected representatives in a public process, the Constitution sought to ensure that the lines of accountability would be clear: The sovereign people would know, without ambiguity, whom to hold accountable for the laws they would have to follow."); *United States v. Horn* (6th Cir. 2012) 679 F.3d 397, 401 ("[A]n administrative agency cannot be granted the power to issue legislative rules … without having any political accountability and without having to follow any procedure whatsoever").

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

460. In formal adjudications of charges of discrimination under the FHA over the past 20 to 25 years, HUD has consistently concluded that the FHA is violated by facially neutral practices that have an unjustified discriminatory effect on the basis of a protected characteristic, regardless of intent.

461. Pursuant to its authority under the FHA, HUD has duly promulgated and published nationally-applicable federal regulations implementing the FHA's Discriminatory Effects Standard at 24 C.C.R. part 100 (*see* 78 Fed.Reg. 11460-01 (Feb. 15, 2013)), as well as proposed amendments to these regulations designed to strengthen and clarify anti-discrimination enforcement consistent with the United States Supreme Court decision in *Texas Dept. of Housing and Comm. Affairs*, 576 U.S. __, 135 S.Ct. 2507. Because the proposed regulations simply codify the Court's interpretation of existing law, the existing and proposed amendments are collectively referred to herein as "HUD Regulations". These HUD regulations continue to apply, and have the force and effect of law.

462. The HUD regulations provide, inter alia, that liability under the FHA may be established "based on a practice's discriminatory effect . . . even if the practice was not motivated by a discriminatory intent." 24 C.F.R., § 100.500.

463. The HUD regulations further provide that: "A practice has a discriminatory effect where it actually or predictably results in a disparate impact on a group of persons or perpetuates segregated housing patterns because of race, color, … or national origin." 24 C.F.R., § 100.500(a).

464. The Redlining Revisions actually and predictably result in a disparate impact on members of minority communities, including but not limited to Petitioners, and perpetuate the housing shortage, the housing affordability and homelessness crisis, and the shocking and increasing gap in homeownership rates between minority and non-minority households. The Redlining Revisions further provide arbitrary and capricious CEQA compliance exceptions for new housing located near certain transit facilities and other urban infill locations, notwithstanding

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

evidence of minority community displacement and evidence that this policy will require the demolition of "tens if not hundreds of thousands" of occupied single family homes.

465. The Redlining Revisions also increase transportation barriers and transportation costs to residents of new housing (who are disproportionally likely to be minorities) in relation to their already-housed (and less likely to be minority) neighbors, creating disparate transportation harms to minority communities. The Redlining Revisions also directly promote subsidized rental housing in lieu of creating adequate supplies of housing that can be purchased without government subsidies by minority families, and thereby promote racially segregated rental housing and perpetuate the wealth gap by depriving minority families of homeownership.

466. The Redlining Revisions' promotion of high cost, high rise housing nearest frequent transit ignores, and thus creates and further exacerbates, the displacement of existing (more likely to be minority) residents in these locations to more distant locations with less costly housing, where displaced residents and their families are likely to be harmed by lengthy commutes that cause adverse health impacts for drivers and result in a variety of harms to family welfare by depriving children and the community of the time workers are forced to spend behind the wheel.

467. Because of the discriminatory effect of the Redlining Revisions, Respondents have the burden of proving that these regulations do not violate the FHA as interpreted and implemented through HUD regulations.

468. Respondents have not met, and cannot meet, their burden of trying to justify the discriminatory effect of the Redlining Revisions, since imposing higher CEQA compliance costs and greater litigation obstacles on housing is not necessary to achieve the policy goal of addressing the environmental impact of climate change by reducing global GHG emissions, and which instead promotes the relocation of California residents and jobs to higher per capita GHG states and countries, thereby increasing global GHG emissions. Respondents likewise cannot meet their burden of justifying the discriminatory effects of the Redlining Revisions by goals falling outside the statutory scope of CEQA such as "promoting wellness and active transportation."

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Tel: 213.896.2400
Fax: 213.896.2450

Finally, Respondents have not met their burden of showing the necessity of such racially discriminatory Redlining Revisions since GHG emission reductions can and should be pursued through other measures having a less discriminatory effect, such as reducing GHG emissions from forest fires or pursuing less regressive GHG emission reduction measures such as reducing the GHG emissions associated with the manufacturing and shipping practices for the furniture purchased annually by the state's wealthier households.

469. Because Respondents' Redlining Revisions have an unjustified discriminatory effect on members of minority communities, including Petitioners, they violate the FHA as implemented though HUD regulations. Consequently, Respondents' Redlining Revisions should be declared unlawful and enjoined, and Petitioners are entitled to other and further relief pursuant to 42 U.S.C. § 1983.

FIFTH CAUSE OF ACTION

(Violation of the Fair Employment and Housing Act, Gov. Code, § 12955 *et seq.*)

470. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-469, above.

471. The Fair Employment and Housing Act (Gov. Code, §12955 *et seq.*) ("FEHA") provides, inter alia, that: "It shall be unlawful. . . (l) To discriminate through public or private land use practices, decisions, and authorizations, because of race, color, … national origin, source of income or ancestry."

472. Respondents' Redlining Revisions, on their face and as applied, constitute public land use practices decisions and/or policies subject to the FEHA.

473. Respondents' Redlining Revisions, on their face and as applied, actually and predictably have a disparate negative impact on minority communities and are discriminatory against minority communities and their members, including but not limited to Petitioners, because they increase the cost of housing and exacerbate anti-housing CEQA litigation obstacles, and litigation-related costs (including but not limited to attorney fees and the taxes, fees, and costs of

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

litigation delays, which increase the cost of the housing project and result in higher purchase price or rents for future occupants).

474. Respondents' Redlining Revisions and their discriminatory effect have no legally sufficient justification. They are not necessary to achieve (nor do they actually tend to achieve) any substantial, legitimate, nondiscriminatory interest of the state, and in any event such interests can be served by other, properly-enacted standards and regulations having a less discriminatory effect.

475. Because of their unjustified disparate negative impact on members of minority communities, including Petitioners, Respondents' Redlining Revisions violate the FEHA, and should be declared unlawful and enjoined.

SIXTH CAUSE OF ACTION

(Violation of General Plan Law, Gov. Code §§ 65300 *et seq.* including § 65584 (Regional Housing Needs Assessment Law))

476. Petitioners hereby re-allege and incorporate paragraphs 1-475, above.

477. The California Constitution establishes Home Rule doctrine for California cities and counties.[299]

478. The Legislature has enacted specific mandates requiring local governments to plan and zone for sufficient housing and circulation elements to meet, among other goals, the housing and transportation needs of existing and future residents, including, but not limited to, General Plan law, and laws requiring each city and county in California to plan for and approve its share of projected population growth including, but not limited to, the RHNA laws (first adopted in 1969, and substantially strengthened with numerous amendments in subsequent years, including 2019) (Gov. Code §§ 65580 *et seq.*), Density Bonus Laws (first adopted in 1979, and substantially strengthened with numerous amendments in subsequent years, including 2019) (Gov. Code §§ 65915 *et seq.*), and the Housing Accountability Act (first adopted in 1982, and substantially

[299] Cal. Const., Art. XI, §§ 5, 7, 9, 11.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

strengthened with numerous amendments in subsequent years, including 2019) (Gov. Code §§ 65589.5 *et seq.*).[300]

479. The Legislature enacted specific mandates requiring regional transportation agencies to work with local governments, as well as state and federal air quality and transportation agencies, to prepare regionally integrated land use and transportation plans that respect statutorily-mandated General Plans, comply with state and federal transportation laws, state and federal air quality laws, and state GHG reduction laws, while also accommodating a growing population and economy.[301]

480. Respondents' Redlining Revisions increase housing costs, and expand CEQA litigation obstacles that delay or derail new housing, notwithstanding a housing shortfall of 3.5 million units and housing costs that are already causing poverty, homelessness, and the relocation of Californians to states such as Texas, Arizona and Nevada with lower housing costs and higher per capita GHG emissions.

481. Respondents' Redlining Revisions are inconsistent with, and unlawfully impede, compliance with General Plan laws requiring cities and towns to plan for economically diverse housing that meets existing and projected future needs. As described above, Respondents' Redlining Revisions generally, and the Section 15064.3(b)(1) threshold in particular, provides that projects located even 10 feet outside the one-half mile boundary surrounding a transit stop are presumed to have a less than significant VMT impact only if that project results in an actual net decrease in VMT in the project area. Since new housing includes vehicles used during construction, as well as vehicles used during occupancy by future residents (along with their guests and repair

[300] Gov. Code §§ 65040.2, 65584, 65589.5.

[301] *See* Sen. Bill No. 375 (2007-2008 Reg. Sess.) §§ 2-15, amending Gov. Code §§ 65080, 65400, 65583, 65584.02, 65584.04, 65587, 65588; adding Gov. Code §§ 14522.1, 14522.2 and 65080.01; amending Pub. Res. Code § 21061.3, adding Pub. Res. Code § 21159.29, and adding Pub. Res Code Chapter 4.2 (commencing with § 21155). *See also* HCD, Memorandum for Planning Directors and Interested Parties, Re: Senate Bill 375 (SB 375) Chapter 728, Statutes of 2008, (Oct. 2, 2013), http://www.hcd.ca.gov/community-development/housing-element/housing-element-memos/docs/sb375_final100413.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

workers etc.), eligibility for this "less than significant" VMT determination requires occupants of new housing to pay vast and unknown sums to transit providers and others purporting to reduce VMT by an amount that offsets the new VMT from housing that cities and counties are required to plan for and approve.

482. The new housing must also meet affordability criteria for a range of household incomes including low and median income future residents for whom housing is already completely unaffordable. Adding tens if not hundreds of thousands of dollars to make housing even less affordable is directly contrary to state General Plan laws compelling affordable and median income housing. To the extent that Respondents' may argue that taxpayers – or ratepayers – or fuel purchasers – or post-capitalism governance structure – or any other "magic potion" will fund these added costs, today's housing obligations fall on local government and current housing victims who cannot conjure or wait for magic potion pots of money to appear.

483. To the extent that Respondents assert that exorbitant new VMT mitigation mandates that increase housing costs and cause disparate harms can be avoided only if all new housing is built in the three percent of the SCAG region that qualifies for a presumption of less than significant VMT impacts, another magic pollution solution must be conjured. We already know that the cost of building the most expensive type of housing unit (even small apartments in buildings of eight stories or more), on the most expensive type of land (already-developed neighborhoods with homes and businesses that must be bought out and demolished), with the most expensive and expansive retrofit needs (interconnected systems of aging and undersized water, sewer and other infrastructure designed to accommodate a fraction of the new density), is extraordinarily high and entirely unaffordable to median income workers. As recently reported by the City of Los Angeles' non-partisan City Controller, Ron Galperin, building even small apartments for the homeless cost about $530,000 per unit in urban neighborhoods even without transit proximity – most of these units exceed the median cost of an existing condominium in the City of Los Angeles or single family home in Los Angeles County, which are more appropriately sized for families and are not

affordable for aspiring median (or even 120% and 150% above median) income homeowners.[302]

484. Finally, to the extent Respondents' Redlining Revisions are intentionally designed to make housing so expensive that more people will depart California entirely, and thereby reduce GHG emissions in California based on CARB's flawed GHG metric, even though GHG emissions will actually increase based on the much higher per capita GHG emissions in the top three destination states for departing Californians (Texas, Arizona and Nevada), these Redlining Revisions are flatly in conflict with the Legislature's GHG emission reduction mandates in SB 375, which require California's region to achieve GHG emission reduction goals from the land use and transportation sectors while also accommodating population and economic growth. Respondents cannot hijack CEQA into a population reduction strategy under the guise of global climate change leadership by increasing housing costs and anti-housing litigation obstacles in order to expel all Californians except existing homeowners and high income earners, along with those too poor to move.

SEVENTH CAUSE OF ACTION

(Violation of the Congestion Management Plan Law, Gov. Code § 65088 *et seq.*)

485. Petitioners hereby re-allege and incorporate paragraphs 1-484, above.

486. California's transportation laws, including its Congestion Management Plan ("CMP") law (Gov. Code § 65088 *et seq.*), recognize the need for integrated regional transportation planning: "To keep our California moving, all methods and means of transport between major destinations must be coordinated to connect our vital economic and population centers." Gov. Code, § 65088. The Legislature has concurrently affirmed its commitment to "solving California's traffic congestion crisis," and its "intent to do everything within its power to remove regulatory barriers around the development of infill housing," and to assure that CMPs accommodate expanding

[302] Letter from Ron Galperin, Los Angeles Controller, to Eric Garcetti, Mayor, Michael Feuer, City Attorney, and Members of the Los Angeles City Council, Re: The High Cost of Homeless Housing: Review of Proposition HHH, dated Oct. 8, 2019, at 1-2, https://lacontroller.org/wp-content/uploads/2019/10/The-High-Cost-of-Homeless-Housing_Review-of-Prop-HHH_10.8.19.pdf.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

homeownership "because homeownership is only now available to most Californians who are on the fringes of metropolitan areas and far from employment centers." *Id.*

487. Proposed amendments to the CMP law that would have eliminated required compliance with traffic congestion standards, and eliminated required roadway improvements to achieve compliance with such standards in unacceptable traffic congestion areas, were considered and expressly rejected by the Legislature.[303] CMPs are used to satisfy federal transportation laws and regulations, including the federal Intermodal Surface Transportation Efficiency Act of 1991 and other federal laws governing the disbursement of federal funds to California for transportation projects.[304] Federal transportation funding is critical for California transportation infrastructure. CMPs must include performance metrics, including LOS measurements of traffic delay that were deleted as CEQA impacts by the challenged VMT regulations.[305]

488. In adopting the current version of section 65088 in the CMP law in 2003, traffic congestion was determined by the Legislature to cause hundreds of thousands of lost hours by commuters, hundreds of tons of air pollutants, and millions of added costs to "the motoring public." Senate Bill No. 743 (2013-2014 Reg. Sess.), which authorized, but did not require, Respondents to amend CEQA regulations to eliminate LOS congestion impacts as a transportation impact, expressly provided that no change to CEQA was authorized for assessing air impacts.

489. Respondents OPR and NRA repeatedly, and falsely in response to comments, asserted that the new VMT impact would reduce CEQA compliance costs by eliminating the need to evaluate LOS traffic delay impacts. In fact, traffic delay impacts and improvements to avoid or minimize traffic delay impacts are required by CMP law (and in many local jurisdictions are also required by the Circulation elements of local General Plans). Respondents failed to disclose that an

[303] *See, e.g.,* Assem. Bill No. 1098 (2015-2016 Reg. Sess.) as introduced Feb. 27, 2015 (AB 1098 ultimately died in committee pursuant to Cal. Const., Art IV, § 10(c) on Jan. 31, 2016).

[304] Gov. Code § 65089(e).

[305] *See, e.g.,* San Bernardino Associated Governments and Governments of SANBAG Working Together, San Bernardino County Congestion Management Plan: 2016 Update, (June 2016), at 1-3, https://www.gosbcta.com/wp-content/uploads/2019/10/2016-Congestion-Management-Plan-.pdf.

assessment of traffic delay continued to be required in project air emission analyses under CEQA, and in the required analyses of consistency with adopted plans to reduce environmental impacts, including CMPs, to reduce excess air and other impacts caused by excessive congestion-related traffic delays.

490. Respondents OPR and NRA repeatedly, and falsely in response to comments, asserted that the new VMT impact would result in less costly transportation mitigation measures because congestion-related mitigation measures would no longer be required; however, CMP law (and in many local jurisdictions the Circulation Elements of local General Plans) continue to have legal force and effect as adopted plans which avoid the environmental impacts caused by excessive congestion-related traffic delays.

491. Respondents' Section 15064.3 VMT regulation that only transportation projects that reduce VMT can be presumed to have a less than significant impact, and Respondents' Underground VMT Regulation, implement Respondent OPR's policy decision that reducing traffic gridlock will "induce" more VMT by shifting travelers toward auto use and away from other travel modes," i.e., that increasing traffic congestion will create an environmental benefit by inducing more people to take transit.[306] Unilaterally implementing, through CEQA, the promotion of gridlock on state and local roadways is in direct conflict with, and thereby specifically prohibited by, specific legal mandates requiring safe and sufficient highways and roadways, and pollution reduction from decreased congestion, such as the state's CMP laws as well as other federal and state highway and roadway transportation, safety, and air quality laws.

492. For example, CMP laws allow, pursuant to a very specific procedure, local jurisdictions to opt out of the CMP's planning and monitoring requirements *only if* opting out of this anti-gridlock state law is supported by a majority of jurisdictions within a county, representing

[306] OPR, Updating Transportation Impact Analysis in the CEQA Guidelines: Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing Senate Bill 743 (Steinberg, 2013) (Aug. 6, 2014) at 5, 9, 32-33, https://la.streetsblog.org/wp-content/uploads/sites/2/2014/08/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

a majority of the population within that county. Gov. Code § 65088.3. Los Angeles County, for example, did just that and opted out of the CMP process.[307] Transportation projects not approved in conformance with CMPs and related transportation laws are also not eligible for federal funding, including, but not limited to, transportation improvements approved by voters with sales tax and other funding mechanisms that assume ongoing compliance with law and access to federal transportation funding.

493. Apart from being flatly at odds with express federal and state legislated mandates to transportation efficiency and safety, and reductions of air emissions from longer gridlocked commute trips, Respondents' assertion that promoting gridlock will "induce" transit ridership is not supported by substantial evidence, and is in fact arbitrary and capricious. The longstanding consensus of transportation researchers is that in the absence of a recession or declining population (both of which result in fewer commuters): (a) on urban commuter expressways and major urban roads, traffic congestion increases to meet maximum capacity; (b) public transit does not alleviate congestion; and (c) congestion pricing – charging for the use of roads during peak commute hours – does alleviate congestion.[308]

494. Empirical evidence supporting public transit as an alternative to roadway use is scant, and certainly does not extend statewide. For example, one of the studies relied on by Respondents is an observed increase in roadway congestion along a transit route during a transit worker strike in Los Angeles in 2003.[309] This common sense temporary result - when a successful transit system is temporarily removed, more people will drive to get to their destination – does not

[307] Memorandum from Los Angeles County Metropolitan Transportation Authority to City of Los Angeles Department of Transportation, Re: Dissolution of the Congestion Management Program in Los Angeles County (Aug. 28, 2019), a true and correct copy of which is included as Exhibit F hereto.

[308] Transportation research summarized at Jaffe, *The Only Hope for Reducing Traffic*, CityLab, (Oct. 19, 2011), https://www.citylab.com/transportation/2011/10/only-hope-reducing-traffic/315/.

[309] *See, e.g.*, Jaffe, *Public Transportation Does Relieve Traffic Congestion, Just Not Everywhere*, CityLab, (Apr. 1, 2013), https://www.citylab.com/transportation/2013/04/public-transportation-does-relieve-traffic-congestion-just-not-everywhere/5149/.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

translate into any long-term or widespread conclusion that increasing congestion will induce transit use, since ***all*** data confirm that public transit use has declined even with expanded transit service and ever-increasing congestion.

495. Respondents' unlegislated policy decision expands CEQA to induce transit use by defining roadway safety increases that also increase roadway capacity and reduce gridlock-related air emissions as an adverse impact requiring mitigation, or to burden new housing occupants with VMT mitigation costs because they, like their more fortunate already-housed neighbors, must drive.

496. Far more minority residents, including homeowners, live in San Bernardino and other Inland Empire locations where housing costs are up to 80 percent lower than Santa Monica and other Coastal Job Centers. Minority residents of these areas are at higher risk of adverse health, safety and environmental harms caused by excessive traffic congestion. Fewer than two percent of San Bernardino residents use public transit, and transit ridership's most precipitous decline in the SCAG region has been for lower income minority commuters living throughout the region. The evidence presented to Respondents, and known to Respondents as of promulgation of the Redlining Revisions, unequivocally demonstrated that intentionally increasing congestion does not increase transit use even when transit system services have expanded. Increasing congestion – and the Los Angeles region now has the worst congestion conditions in the U.S. – extends commute times with consequent adverse air quality, GHG emission, and health consequences to minority drivers and the majority-minority population in the region.

497. Respondents' Redlining Revisions are accordingly inconsistent with, and unlawfully impede, compliance with the Transportation Congestion Management Plan law, in addition to General Plan laws requiring cities and towns to plan for economically diverse housing that meets existing and projected future needs.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

EIGHTH CAUSE OF ACTION

(Violations of the Health & Safety Code, § 39000 *et seq*., including the California Clean Air Act, Stats. 1988, Ch. 1568 (AB 2595))

498. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-497, above.

499. California has ambient air quality standards ("CAAQS") which set the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment.

500. CAAQS are established for particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2"), sulfate, CO, SO_2, visibility-reducing particles, lead, hydrogen sulfide ("H2S"), and vinyl chloride.

501. In California, local and regional authorities have the primary responsibility for control of air pollution from all sources other than motor vehicles. Health & Safety Code § 39002.

502. Under the California Clean Air Act ("CCAA"), air districts must endeavor to achieve and maintain the CAAQS for ozone, CO, SO_2, and NO_2 by the earliest practicable date. Health & Safety Code § 40910. Air districts must develop attainment plans and regulations to achieve this objective. *Id*.; Health & Safety Code § 40911.

503. Each plan must be designed to achieve a reduction in districtwide emissions of five percent or more per year for each nonattainment pollutant or its precursors. Health & Safety Code § 40914(a). CARB reviews and approves district plans to attain the CAAQS (Health & Safety Code §§ 40923 and 41503) and must ensure that every reasonable action is taken to achieve the CAAQS at the earliest practicable date (Health & Safety Code § 41503.5).

504. If a local air district is not effectively working to achieve the CAAQS, CARB may establish a program or rules or regulations to enable the district to achieve and maintain the CAAQS. Health & Safety Code § 41504. CARB may also exercise all the powers of a district if it

finds the district is not taking reasonable efforts to achieve and maintain ambient air quality standards. Health & Safety Code, § 41505.

505. The vast majority of California is designated nonattainment for the CAAQS for ozone and PM, including San Bernardino County.

506. Nitrogen oxides, including NO_2, CO, and VOCs are precursor pollutants for ozone, meaning they react in the atmosphere in the presence of sunlight to form ozone.

507. PM is a complex mixture of extremely small particles and liquid droplets found in the air which can cause serious health effects when inhaled, including asthma and other lung issues and heart problems. Some particles are large enough to see while others are so small that they can get into the bloodstream. PM is made up of PM_{10} (inhalable particles with diameters 10 micrometers and smaller) and $PM_{2.5}$ (fine inhalable particles with diameters 2.5 micrometers and smaller).

508. PM emissions in California and in San Bernardino County increased in 2016 as compared to prior years.

509. OPR's proposal for updating the CEQA Guidelines to include VMT as a metric for analyzing transportation impacts states that adding new roadway capacity increases VMT.[310] The OPR proposal further states that "[r]educing roadway capacity (i.e. a "road diet") will generally reduce VMT and therefore is presumed to cause a less than significant impact on transportation. Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel."[311]

510. Attempting to reduce VMT by purposefully increasing congestion by reducing roadway capacity will not lead to GHG emission reductions. Instead, increasing

[310] OPR, Revised Proposal on Updates to the CEQA Guidelines Evaluating Transportation Impacts in CEQA: Implementing Senate Bill 743 (Steinberg, 2013) (Jan. 20, 2016), at I:4, http://opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf.

[311] *Id*. at III:32.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

congestion will cause greater GHG emissions due to idling, not to mention increased criteria air pollutant[312] and toxic air contaminant[313] emissions. Increasing congestion increases emissions of multiple pollutants including NOx, CO, and PM. This would increase ozone and inhibit California's ability to meet the CAAQS for ozone, NO_2, and PM, among others.

511. Because Respondents rely on the unsupported assertion that substantial VMT reductions will occur if traffic congestion and gridlock conditions increase, and willfully ignored evidence that VMT increases with population and economic activity, and is particularly important for minority workers breaking out of poverty with entry level jobs as well as median income minority workers who have attained or aspire to attain affordable homeownership in communities like San Bernardino, and because longer-duration commutes increase emissions of smog-forming and health risk creating pollutants such as NO2 and PM, Respondents are violating their statutory duty to align CEQA with legislative and regulatory mandates to achieve the environmental and public health benefits of expeditiously achieving attainment of the CAAQS.

512. California law also creates a statutory duty under the Health & Safety Code to ensure that California meets the National Ambient Air Quality Standards ("NAAQS") set by the EPA.

513. Like the CAAQS, the NAAQS are limits on criteria pollutant emissions which each air district must attain and maintain. U.S. EPA has set NAAQS for CO, lead, NO_2, ozone, PM, and SO_2.

514. CARB is designated the air pollution control agency for all purposes set forth in federal law. Health & Safety Code § 39602. CARB is responsible for preparation of the state implementation plan ("SIP") required by the federal Clean Air Act ("CAA") to show how

[312] The six criteria air pollutants designated by the U.S. EPA are PM, ozone, nitrogen dioxide ("NO_2" or "NOx"), CO, SO_2, and lead. *See* Criteria Air Pollutants, US EPA https://www.epa.gov/criteria-air-pollutants (last updated Mar. 8, 2018).

[313] Toxic air contaminants, or TACs, include benzene, hexavalent chrome, cadmium, chloroform, vinyl chloride, formaldehyde, and numerous other chemicals.

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

California will attain the NAAQS. CARB approves SIPs and sends them to EPA for approval under the CAA. Health & Safety Code § 40923.

515. While the local air districts have primary authority to adopt rules and regulations to achieve emissions reductions from non-mobile sources of air emissions and to develop the SIPs to attain the NAAQS (Health & Safety Code § 39602.5), CARB is charged with coordinating efforts to attain and maintain ambient air quality standards (Health & Safety Code § 39003) and to comply with the CAA (Health & Safety Code § 39602).

516. San Bernardino County is within the region designated as nonattainment/extreme for the ozone NAAQS and nonattainment for $PM_{2.5}$.

517. The vast majority of California is nonattainment for the ozone NAAQS and much of California is nonattainment for PM_{10}.

518. It is unlawful for Respondents to adopt CEQA regulations to intentionally undermine California's efforts to attain and maintain the NAAQS by adopting measures that intentionally increase congestion in an attempt to lower VMT to purportedly achieve GHG emission reductions.

519. In modifying CEQA to ignore traffic congestion and thereby increase the duration of vehicular trips, reduce VMT by intentionally increasing traffic congestion, and failing to provide express significance criteria for transportation projects, thereby increasing CEQA regulatory burdens, direct and indirect project costs, and regulatory delays to the completion of transportation improvements approved by regional, state and federal air quality and transportation agencies as consistent with NAAQS, CAAQS, and GHG emission reduction legal mandates, Respondents have unlawfully induced higher quantities of air pollution in San Bernardino County in violation of the California Clean Air Act.

NINTH CAUSE OF ACTION

(Violations of the California Global Warming Solutions Act, Health & Safety Code § 38500 *et seq.*)

520. Petitioners hereby re-allege and incorporate herein by reference the

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

allegations contained in paragraphs 1-519, above.

521. When adopting amendments to CEQA regulations, Respondents are limited to making amendments that are authorized by statutes enacted by the Legislature, or making amendments to conform to judicial interpretations of statutes and regulations. All such regulatory amendments must also comply with the APA.

522. Respondents have repeatedly, and expressly, exceeded their authority and adopted regulatory amendments to comply with GHG emission reduction targets that were either expressly rejected by the Legislature, or never enacted by the Legislature.

523. SB 32 was originally proposed to require both a 40 percent GHG reduction target by 2030, and an 80 percent emission reduction target by 2050. The Legislature expressly rejected the 80 percent emission reduction target by 2050 in the final enacted version of SB 32, [314] yet Respondents have unlawfully incorporated this unlegislated 2050 GHG target with its oblique and unlawful new GHG regulatory criteria of "consistency with the State's long-term climate goals or strategies" in subsection (b)(3) of Section 15064.4.

524. SB 375 was originally proposed to mandate VMT reductions, but VMT reduction mandates were expressly rejected in the final enacted version of SB 375.[315] Even more recently, Senate Bill No. 150 (2017) ("SB 150") was originally proposed to mandate VMT reductions, but VMT reduction mandates were again expressly rejected in the final enacted version of SB 150.[316] Directly thwarting the Legislature's refusal to mandate VMT reductions, Respondents' have imposed a "zero-minus-one" VMT reduction significance criteria for otherwise lawful housing projects located ten feet outside TPAs in subsection (b)(1) of Section 15064.3. This

[314] *Compare* Sen. Bill 32 (2015-2016 Reg. Sess.) as introduced on Dec. 1, 2014 *with* Stats. 2016, ch. 249 (S.B. 32).

[315] *Compare* Sen. Bill 375 (2007-2008 Reg. Sess.) as amended on Apr. 17, 2017 *with* Stats. 2008, ch. 728 (S.B. 375) (early version stating bill would require regional transportation plan to include preferred growth scenario designed to achieve reductions in VMT but modified before passage)

[316] *Compare* Sen. Bill 150 (2017-2018 Reg. Sess.) as introduced on Jan. 18, 2017 *with* Stats. 2017, ch. 646 (S.B. 150).

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

policy thereby imposes CEQA mitigation costs of hundreds of thousands of dollars on each new housing unit in furtherance of the State's "long-term climate goals or strategies" (aka the 2017 CARB Scoping Plan), even if such housing is fully compliant with all applicable GHG emission reduction laws and regulations, and even if such housing is fully consistent with the future housing development planned for in regional GHG emission reduction plans adopted and approved by CARB itself pursuant to SB 375.

525. Respondents refer to Executive Orders and an agreement made by the prior administration as their authority to mandate VMT reductions as a GHG emission reduction under CEQA, and to rely on Executive Orders to require GHG emission reductions to housing projects more generally.[317] Respondents further identify their intention to use regulatory amendments to promote an evolving set of policy preferences. For example, in their original (and least camouflaged through unlawful feints like the Underground VMT Regulation) version of the proposed VMT regulation in 2014, Respondent OPR explained its policy reasons for wanting to define VMT as an "impact" under CEQA:

- Improving or increasing access to transit
- Increasing access to common goods and services such as groceries, school and daycare
- Incorporating affordable housing into the project
- Improving the jobs/housing fit of a community
- Incorporating neighborhood electric vehicle network.[318]

526. These may or may not be feasible, appropriate, attainable, or lawful policy directives as applied to any particular county, city or project – but without question, none falls

[317] *See, e.g.*, OPR, Revised Proposal on Updates to the CEQA Guidelines Evaluating Transportation Impacts in CEQA: Implementing Senate Bill 743 (Steinberg, 2013) (Jan. 20, 2016), http://opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf.

[318] Hernandez and MacLean, *OPR Proposes to Increase CEQA's Costs, Complexity and Litigation obstacles with SB 743 Implementation*, JDSUPRA (Aug. 25, 2014), https://www.jdsupra.com/legalnews/opr-proposes-to-increase-ceqas-costs-c-48743/.

within Respondents' lawful authority in promulgating regulations under CEQA.

527. Over time, Respondents have softened their pro-traffic congestion rhetoric and settled on promoting "infill housing" and "transit" as policy directives already established by the Legislature, but the Legislature's directives on these issues have been surgical and rely much more on the "carrot approach" of exempting certain kinds of infill projects from certain types of CEQA processing or analytical requirements (e.g., aesthetics and parking, as described above). The Legislature has not, however, authorized any "stick approach" of charging new housing residents steep VMT mitigation fees, or requiring residents to pay for someone else's transit somewhere else. The Legislature has also not authorized any additional tax or fee aimed at reducing GHG emission for the consumption of gasoline by new housing occupants, or given CARB statutory authority to ignore the "wells-to-wheels" comprehensive cap-and-trade fee to impose differentially higher GHG transportation costs on new housing residents.

528. In fact, Respondents have provided zero evidence of their statutory authority to require VMT reductions under CEQA, or to require any GHG emission reduction beyond those already required by other laws and regulations applicable to housing projects, such as the solar rooftop standard, stringent water and energy conservation standards, and laws and regulations more uniformly applicable to such projects, such as renewable energy mandates for electricity production, mandates to phase in electric and other lower GHG-emitting cars, and the cap-and-trade program for reducing GHG from fossil fuels from "wells to wheels" (aka production through refining through ultimate consumer consumption).[319]

[319] In 2017, the Legislature expanded its landmark "Cap and Trade" program establishing a comprehensive approach for transitioning from fossil fuels to electric or other zero GHG emission technologies, which already includes a "wells to wheels" program for taxing oil and natural gas extraction, refinement, and ultimate consumer use. Stats. 2017, ch. 135 (A.B. 398), 2017. CARB has explained that emissions from transportation fuel combustion and fuels used for residential, commercial, and small industry sources "are covered indirectly through the inclusion of fuel distributors [in the Cap and Trade Program]." CARB, Final Statement of Reasons for California's Cap-and-Trade Program at 2 (Oct. 2011), https://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf. The courts, too, have found it appropriate for a lead agency to rely on cap-and-trade to address both capped and uncapped,

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

529. The California Supreme Court declined to require use of unlegislated Executive Order GHG emission reduction targets as CEQA significance thresholds, but did recognize the important role that evolving science plays in CEQA.[320] Respondents do not address the science, and instead rely on unlegislated Executive Orders and other administration policies and activities. Were Respondents to actually engage on the science, the following inconvenient truths would defeat the Redlining Revisions:

- Climate change remains an urgent challenge, which California has elected to help lead.
- Climate change is a global challenge, and global GHG emission reductions are needed.
- Even though California is the world's fifth largest economy, if considered separately from the rest of the U.S., California contributes less than one percent of GHG emissions to the globe and has among the lowest per capita and per GDP GHG rates in the nation and among developed nations in the world. As former Governor Brown reported, California's climate leadership efforts will be "futile" unless other states and countries follow our lead.
- Keeping people (and their jobs) in California is better for the climate than exporting people to the higher per capita GHG states receiving Californians who have departed to find housing they can afford to buy.
- Converting California's forests from methane-emitting tracks of dead and dying trees that periodically and catastrophically explode into fatal, black carbon-emitting wildfires into sustainable forests with effective carbon

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consumer emissions from fuel consumption. *See Assoc. of Irritated Residents*, 17 Cal.App.5th at 739-44.

[320] *Cleveland Nat. Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 515-518.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

sequestration sinks and suppliers of sustainable building products that do not have to be sent across the ocean with waste biomass used for renewable energy, is one of many far more effective global GHG emission reduction strategies that avoids the disparate harms of the Redlining Revisions – and could be replicated to help improve sustainable forestry management practices globally.

- Using climate as the latest excuse to cause disparate harms to minority communities where hard working families are deprived of purchasing homes and getting to work is a civil rights violation, so other GHG emission reduction strategies – such as changing GHG requirements for furniture purchased by wealthier households – should be pursued.
- CEQA has been distorted from a tool to challenge construction of freeways, clear-cutting of old growth forests, and pollution from new factories, into a redlining tool targeting housing in existing communities. Housing is an existential crisis. Adding compliance and litigation costs, ambiguities, and delays hurts housing the most – and minorities needing housing the most of all.
- There is no scientific rationale supporting the weaponization of CEQA in furtherance of unlegislated, unlawful, and ultimately ineffective climate policies.

TENTH CAUSE OF ACTION

(Violation of CEQA for Mandatory Content of Guidelines, Pub. Res. Code § 21083(b))

530. Petitioners hereby re-allege and incorporate paragraphs 1-529, above.

531. Respondents NRA and OPR violated section 21083(b) of the Public Resources Code by failing to include in regulations implementing CEQA the required "express"

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

criteria for public agencies to use in determining whether a project causes a significant impact to the environment.

532. **Section 15064** includes an unlawful new mandate for each lead agency to "briefly explain" why each significance threshold it elects to use for each and every project that is subject to CEQA is in fact appropriately used in the context of that project. Respondents' partially accepted the substantial new compliance burden – and the cornucopia of new litigation opportunities – created by an earlier version of this new mandate which was the subject of a critical comment by Petitioners. Respondents' original version required that each lead agency for each threshold for each project defend that threshold with "substantial evidence." Respondents' revised version – calling for only a "brief explanation" – has no clear meaning in the litigious context of CEQA, and is most likely to be interpreted as being valid only if the "explanation" indeed constitutes "substantial evidence."

533. This regulatory addition that applies to *all* CEQA significance thresholds for *all* types of projects by *all* agencies alone turns the "rule of law" into a "we know it when we see it – and anybody can second-guess anything we think we know or see" litigation jump shot where anything can, and over time will, happen. This amendment is wholly at odds with Public Resources Code section 21083(b).

534. A second amendment to this regulation (§ 15064(b)(2)) encourages agencies to develop and use thresholds on a "case-by-case" basis whereby there would be no advance public disclosure of what threshold was going to be used when and for what type of project. This is another example of Respondents' weaponization of CEQA and use of the Redlining Revisions as an assault on the rule of law that governs all of American jurisprudence, even CEQA. Allowing any agency for any project to use arbitrary, surprise, and virtually unreviewable thresholds for determining significance – and thereafter impose all feasible mitigation to reduce such surprise new impacts that can be expressly tailored to impose burdens on some, but not other, types of housing in some, but not other, neighborhoods in staff- or consultant-invented significance threshold, is a

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

textbook definition of an arbitrary and capricious regulation that is not authorized by section 21083(b) or any other known or knowable California or federal law. This Redlining Revision also empowers private consultants and agency staff with virtually unreviewable authority to impose any significance threshold anytime, anywhere, on any project for any reason.

535. **Section 15064.7.** Amendments to Section 15064.7(b) endorse the same "case by case" threshold approach set forth in challenged Section 15064(b)(2), and is unlawful for the reasons discussed in the preceding paragraph. Subsection (d) of this section includes new, and unlawfully constrained, direction on when a lead agency can rely on compliance with another law or regulation to conclude that a CEQA impact is less than significant. This subsection suffers from important omissions which render it unlawful under Public Resources Code section 21083(b).

536. This subsection only references "environmental" standards as thresholds of significance when CEQA also protects public health and safety, and public health and safety standards are routinely used and have been upheld as appropriate thresholds under CEQA. For example, seismic building code compliance was upheld as an appropriate CEQA mitigation measure for protecting people against the hazard of buildings failing during earthquakes – but as a building code, its purpose is to protect public safety and not the environment.[321] Petitioners commented on this issue and requested that public health and safety standards be included alongside environmental standards, but Respondents summarily refused to make the requested change without explanation – but while readily admitting that lead agencies could use public health and safety standards. Respondents legal obligation under Public Resources Code section 21083(b), however, is to include appropriate thresholds in the regulations – not to summarily reject inclusion of appropriate thresholds and thereby force both lead agencies and the courts to guess at whether public health and safety standards may or should be used.

537. Respondents also ignore a fundamental maxim of interpreting statutes and regulations that provides that, when specific examples are provided and others are omitted, the

[321] *See Oakland Heritage,* 195 Cal.App.4th at 912.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

omission is legally relevant and should be given effect.[322] Respondents' failure to make this simple, and entirely appropriate and lawful, amendment in response to Petitioners' comments demonstrates both bias as well as willful refusal to increase clarity, and reduce litigation obstacles and compliance costs, to preserve and enhance CEQA's weaponization value against housing and other projects.

538. **Section 15064.3, Appendix G section XVII(b), and Underground VMT Regulation**. As described at length above, these contradictory, ambiguous, and unlawful provisions fall well short of the mandatory express regulatory content required by the Legislature in Public Resources Code section 21083(b).

539. **Section 15064.4, Appendix G section VIII(a) and (b), and Underground GHG Regulation.** As described at length above, these contradictory, ambiguous, and unlawful provisions fall well short of the mandatory regulatory content required by the Legislature in Public Resources Code section 21083(b).

540. **Section 15126.4 (performance standard mitigation measures), Appendix G section I(c) (Aesthetic impacts)**, and all other Redlining Revisions, are unlawful under CEQA itself. Section 20183(a) of the Public Resources Code directs Respondent OPR to prepare the CEQA regulations "in a manner consistent with this division [CEQA]." The Legislature has unequivocally stated in section 20014 of the Public Resources Code:

> In mitigating or avoiding a significant effect of a project on the environment, a public agency may exercise only those express or implied powers provided by law other than this division. However, a public agency may use discretionary powers provided by such other law for the purpose of mitigating or avoiding a significant effect on the environment subject to the express or implied constraints or limitations that may be provided by law.

541. The VMT and GHG Redlining Revisions violate each and every provision of Public Resources Code section 20014.

[322] *Williams v. The Pep Boys Manny Moe & Jack of California* (2018) 27 Cal.App.5th 225, 239, as modified (Sept. 24, 2018), review denied (Nov. 14, 2018) (quoting *People v. Salas* (2017) 9 Cal.App.5th 736, 742 ("Under the principle *expressio unius est exclusio alterius*, 'the enumeration of things to which a statute applies is presumed to exclude things not mentioned.'")).

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

542. Respondents have not shown, and cannot show, that the act of driving a car to work by a resident of a new home is itself an "effect on the environment," whereas the secondary environmental consequences of driving a car, such as the fact that air emissions are worse when traffic congestion extends the duration of commutes – not when a new home is 10 feet plus one-half mile further away from a bus stop used by 2 residents per acre in population centers like the Gateway Cities that have more than 8,000 residents per acre, are not an effect on the environment.

543. Similarly, keeping people in California with an adequate housing supply and lower housing costs, in homes meeting California's stringent energy and water conservation standards, serving as mini-renewable power plants by generating electricity on roofs, and driving the cleanest fleet of cars in the country, is a far better global GHG emission reduction and climate change leadership outcome than increasing housing prices and anti-housing CEQA litigation obstacles, and thereby inducing even more of the 48 percent of Californians currently contemplating moves to higher per capita GHG states to do so. Further, exacerbating residential racial segregation, and worsening the housing, poverty and homelessness crisis as a climate strategy is unlikely to inspire other states or countries to follow our lead and is thus, as former Governor Brown said, "futile."[323]

544. As the California Supreme Court's dissent plainly explained in *Newhall*,[324] CEQA is absolutely not a population control statute – nor does it authorize Respondents to adopt Redlining Revisions to induce the departure of California residents and jobs to other states. Respondents have zero legal authority to pursue de-population by weaponizing CEQA to make it difficult, if not impossible, to build a home that is affordable to California's majority-minority median income aspiring homeowners given the complete black hole of GHG and VMT CEQA

[323] *See generally* Hernandez & Friedman, California Greenhouse Gas Regulation, and Climate Change, Center for Demographics & Policy, Chapman University (2015) https://www.chapman.edu/wilkinson/_files/cas-oc-prio-fn-sm2.pdf.

[324] *Newhall*, 62 Cal.4th at 244 (J. Chin dissenting).

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

compliance uncertainty created by the Redlining Revisions.[325]

[325] San Diego is the epicenter of this CEQA black hole, in a tortured and ongoing series of judicial decisions. In 2011, San Diego's regional transportation agency ("SANDAG") completed a regional land use and transportation plan that complied with the GHG reduction targets established for the region under SB 375, but which also acknowledged that—in the later years of the plan—regional GHG levels would increase with population growth even as per capita GHG would decrease. From 2012 to 2017, this regional plan was in litigation, losing at both the trial and appellate court levels before posting a partial win at the California Supreme Court, which disagreed with the Attorney General and environmental advocates that an unlegislated Executive Order GHG emission reduction target for 2050 was required as a CEQA GHG significance threshold independent of the region's compliance with the legislated SB 375 GHG reduction target. *Cleveland Nat'l Forest Found. v. San Diego Ass'n of Gov'ts* (2017) 3 Cal.5th 497. During the litigation, the challenged regional plan had been superseded by an updated plan mandated by SB 375 and the CEQA streamlining benefits conferred by SB 375 on housing projects that complied with the regional GHG reduction plans remained emphemeral. In a separate but related local agency action, in 2011, San Diego County adopted a requirement to prepare a climate action plan ("CAP") as part of its General Plan update. The County's 2012 CAP was challenged, and both the trial and appellate court concluded that the CAP was legally inadequate because it did not include sufficiently enforceable GHG reduction measures and because it was not supported by a supplemental EIR. *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152. The County then approved a second CAP in 2018, which—among other provisions—required via a mitigation measure that new housing projects with General Plan amendments achieve a "net zero" GHG outcome, imposing on new housing the full cost of reducing GHGs – a CEQA GHG compliance strategy that had been endorsed by OPR, CARB and the California Attorney General for a master planned community in Los Angeles County that included, for example, converting dung- and wood-burning cook stoves to cleaner fuels on other continents. The County's second CAP was immediately challenged, however, for failing to require VMT reductions beyond "net zero" GHG; for allowing an option for some reductions to occur outside San Diego County (something already allowed by the regulatory agencies and the Attorney General for the Los Angeles project); and for continuing to allow single-family home development in San Diego County, rather than limiting new housing to transit-oriented, higher density housing in existing urbanized areas. The trial court ruled against the County's second CAP, and an appeal is pending. *Sierra Club v. County of San Diego* (Case No. D075478). Meanwhile, on a third litigation track, multiple anti-housing CEQA lawsuits were also filed against all approved County housing projects that relied on the "net zero" GHG CEQA compliance pathway. *See, e.g., Center for Biological Diversity v. County of San Diego* (San Diego County Superior Court Case No. 37-2018-00054312-CU-TT-CTL [Newland Sierra project]); *Endangered Habitats League v. County of San Diego* (San Diego County Superior Court Case No. 37-2019-00038672-CU-TT-CTL [Village 14 project]); *Elfin Forest Harmony Grove Town Council v. County of San Diego* (San Diego County Superior Court Case No. 37-2018-00043049-CU-TT-CTL [Valiano project]); *Elfin Forest Harmony Grove Town Council v. County of San Diego* (San Diego County Superior Court Case No. 37-2018-00042927-CU-TT-CTL [Harmony Grove Village South project]). In a fourth litigation track, San Diego County also published, as the Redlining Revisions endorse, its own CEQA guidance setting forth criteria for determining whether project GHG impacts are significant (and require mitigation) under CEQA, relying in part on CARB-endorsed "efficiency metric" that established a per capita GHG threshold as opposed to a mass reduction threshold. The County's Guidelines were then targeted by another lawsuit, led by a luxury spa resort opposed to allowing nearby housing. Again the County lost in trial and appellate courts, who were not persuaded that the County's reliance on a CARB-endorsed per capita GHG efficiency metric was supported by substantial evidence, and further concluded that no CEQA significance criteria could be completed in advance of the County's then-pending second CAP. *Golden Door*

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

545. Respondents likewise have zero legal authority to reject CEQA jurisprudence in favor of their own (rejected) policy preferences of elevating unlegislated state climate policies as significance criteria while adamantly refusing to accept judicial decisions that endorse compliance with California's extensive GHG legislative and regulatory mandates as a CEQA compliance pathway given their (rejected) policy preferences that CEQA always require "additive" mitigation mandates above and beyond those required by other laws and regulations.[326]

546. Respondents have not shown, and cannot show, why the subjective aesthetics judgment of a sidewalk gazer peering at a new fourplex in Beverly Hills is an effect on the environment when the identical fourplex in the city of San Bernardino is not under Appendix G section I(c).

547. Respondents have not shown how Section 15064.7(b)'s express endorsement of "case-by-case" (and thus inherently arbitrary) significance criteria aimed at a particular project by a CEQA consultant or agency staff member, or by an anti-housing CEQA litigant, are appropriate or lawful substitutes for the significance criteria that the Legislature expressly directed be included in the CEQA regulations pursuant to section 20083(b) of the Public Resources Code.

548. Respondents have not shown why subsection (d) of Section 15064.7 recognizes some environmental standards as appropriate significance criteria, but rejects public health and safety standards that have been expressly endorsed as appropriate CEQA compliance pathways by many courts over many years,[327] given its persistent violations of its statutory

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Properties, LLC v. County of San Diego (2018) 27 Cal.App.5th 892. Anti-housing CEQA lawsuits against specific projects remain in litigation, with no housing expected to be constructed while this litigation onslaught is weaving its way through the courts. And, one fact is undisputed: additional years of housing construction delay is a certainty. The terms "black hole" and "legal miasma" are not intended as hyperbole or mere rhetoric, but as the ongoing reality for approved housing—and critically needed housing that no one is even trying to get approved—in San Diego County.

[326] *Newhall*, 62 Cal.4th at 229

[327] *See, e.g., Oakland Heritage*, 195 Cal.App.4th at 906 (upholding CEQA document's reliance on building code seismic standards compliance to reduce related impacts); *Tracy First v. City of Tracy* (2009) 177 Cal.App.4th 912, 636-637 (upholding CEQA document's reliance on building code energy efficiency standards compliance to reduce related impacts); *Leonoff v. Monterey County Bd.*

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

obligation to update CEQA regulations every two years pursuant to Public Resources Code section 20083(f), and its own regulatory mandate requiring regulatory amendments to "match new developments relating to CEQA" under CEQA Guidelines section 15007.

549. Finally, Respondents have not shown any legal authority under CEQA to reject CEQA jurisprudence upholding performance standard mitigation measures and instead require detailed mitigation requirements that can only be finalized with design and engineering unless it is "infeasible or impracticable" to prepare such costly details for a project that may never be approved, will certainly be modified, and will accordingly be misleading at the CEQA stage and require costly and potentially litigious revisions once the final configuration of a project receives agency approvals.

550. CEQA does not confer on Respondents the legal authority to neuter statutory mandates to safely accommodate population and economic growth in CMPs and General Plans, or SIPs or Sustainable Communities Strategies for regional reductions in GHG emission from land use and transportation decisions. CEQA does not confer on Respondents the authority to pretend that commuters behave differently if their home is ten feet further away from the one-half mile donut around a rail station, and proclaim that housing in the three percent of the SCAG region in the donut hole has no VMT impact, while the new house next door has to fund tens or even hundreds of thousands of dollars of transit passes for strangers.

551. Finally, CEQA does not confer on Respondents the legal authority to enforce purportedly "environmental" mandates that the Legislature has considered but soundly rejected, like the urban growth boundaries and ecosystem service taxes in the CARB Vibrant Communities Appendix that Respondents OPR and NRA vowed to implement – unlawfully – in their Redlining Revisions.

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of Supervisors (1990) 222 Cal.App.3d 1337, 1355 (upholding CEQA document's reliance on hazardous material registration regulation compliance to reduce related impacts); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308 (upholding CEQA document's reliance on air and water quality standards compliance to reduce related impacts).

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

ELEVENTH CAUSE OF ACTION

(Violation of Administrative Procedure Act ("APA"), Gov. Code §11349)

552. Petitioners hereby re-allege and incorporate paragraphs 1-551, above.

553. Respondents violated section 11349 and 11349.1 of the APA in promulgating amendments to the CEQA regulations that fail mandatory APA criteria for necessity, authority, clarity and/or consistency, as more specifically described below. Gov. Code §§ 11349, 11349.1.

554. **Section 15064** newly mandates that lead agencies "briefly explain" how compliance with each significance criteria "means that the project's impacts are less than significant." Respondents' initially proposed that this explanation be supported by substantial evidence in the record, but then dropped the substantial evidence phrase and left the adequacy of the brief explanation to the imagination of lead agencies, contentious CEQA litigants, and judges.

555. CEQA allows,[328] and scores of judicial decisions have upheld as legally adequate,[329] the common practice of public agencies to use a "checklist" format for making significance determinations, including but not limited to the "Environmental Checklist Form" included as Appendix G of the CEQA regulations. Use of a checklist is particularly prevalent for smaller projects that are "categorically exempt" from the need for detailed and more costly CEQA compliance processes such as "environmental impact reports."

556. Smaller housing projects of the type far more likely to be affordable for minority family homeownership, such as building one to three single family homes in an existing residential area, or building lower density, lower cost small apartment structures that include up to six apartments, qualify for CEQA exemptions. 14 C.C.R. § 15303(a)-(b). Confirming project eligibility for CEQA categorical (as well as the more limited subset of statutory) exemptions constitutes the majority of CEQA compliance actions completed by public agencies and reported to

[328] 14 C.C.R. § 15064(b)(1).

[329] *See Oakland Heritage*, 195 Cal.App.4th at 896; *see also Eureka Citizens for Responsible Gov. v. City of Eureka* (2007) 147 Cal.App.4th 357, 498.

Respondent OPR each year, as shown by Table 1 (Summary of CEQA Document Submittals by Year and Type) in Respondents NRA's December 2017 "Standardized Regulatory Impact Assessment" ("SRIA") prepared for the Redlining Revisions.[330]

557. Agencies using Appendix G or a similar "checklist" format that identify significance thresholds of general applicability to projects cannot legally preclude a member of the public from making a "fair argument" supported by "substantial evidence in the record" that a project may have a significant adverse impact on the environment due either to "unusual circumstances" or because the project at issue does not qualify for an exemption.[331] Lawsuits challenging CEQA exemptions, however, are not common: only 17 percent of all lawsuits filed statewide over a three year period (2010-2012) challenged exemptions.[332] When challenged in court, even the smallest of CEQA-exempt housing projects lose access to lower cost conventional construction loans and are typically delayed until the lawsuit is resolved: one CEQA-exempt replacement single family home in Berkeley was delayed by more than 11 years of judicial proceedings and by the time the exemption was judicially upheld the homeowner had abandoned the project.[333]

558. CEQA-exempt projects also have the lowest CEQA compliance costs. Respondents NRA lacks the legal authority under the APA "necessity" and "authority" mandates to require public agencies to expand the content of each checklist for each project to separately, but

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

[330] NRA, Standardized Regulatory Impact Assessment: CEQA Guidelines Updates (Dec. 6, 2017) at 4, http://www.dof.ca.gov/Forecasting/Economics/Major_Regulations/Major_Regulations_Table/documents/CEQAUpdatesSRIA_CNRA_12-6-17.pdf (hereinafter "SRIA"). The actual number of CEQA-exempt projects are actually much greater since agencies are not required to file Notices of Exemption for exempt projects, and the SRIA reports only Notices of Exemptions.

[331] *Berkeley Hillside Preservation*, 60 Cal.4th at 1115; *Berkeley Hillside Preservation*, 241 Cal.App.4th 943.

[332] Hernandez, Friedman, and DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (Aug. 2015), at 14, https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-underceqa-august-2015/.

[333] *Id*. at 1086.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

"briefly," explain why each threshold is appropriate for each project. Respondents' Appendix G includes 88 project-specific thresholds (some of which involve sub-components and multi-part thresholds).

559. Respondents OPR and NRA are charged with updating CEQA's regulations based on new statutes or new judicial interpretations of CEQA. There is no new statute requiring this type of explanation to be added to long-established CEQA checklist practices. Two cases are cited by Defendant NRA to defend this new mandate.

560. *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1108-09, as modified (Apr. 9, 2004), which states in the context of a judicial dispute about the significance of an impact that "thresholds cannot be used to *determine automatically* whether a given effect will or will not be significant."[334] *Rominger v. County of Colusa (Adams Group Inc., Real Party in Interest and Respondent)* (2014) 229 Cal.App.4th 690, 717, which likewise involves a disputed impact, and requires only that agencies consider *information presented to the agency* when determining whether an impact is significant.[335] Neither the *Amador* nor *Rominger* decisions can be read as imposing a legal obligation requiring all state and local agencies to proactively defend the use of each of the 88 thresholds in Appendix G as applied to each and every project.

561. Petitioners specifically commented on Respondents' initially proposed expanded CEQA compliance obligation in subsection (b)(2) of Section 15064, which required that lead agencies provide "substantial evidence" explaining why compliance with a threshold meant that a project would have a less than significant effect. In one of the only examples of Respondents' changing the proposed regulation in response to comments, the "substantial evidence" phrase was

[334] NRA, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines (Nov. 2018), Exhibit A, Response 84.3, at 447, http://resources.ca.gov/ceqa/docs/2018_CEQA_ExA_FSOR.pdf (hereinafter "NRA FSOR").

[335] *Id.*

deleted and only the "briefly explain" text was retained.[336] Respondents' do not explain what text content is required to satisfy this new "briefly explain" mandate, or why the generally applicable CEQA standard of review requiring "substantial evidence" is not applicable to this new "briefly explain" mandate.

562. Respondent NRA's addition of subsection (b)(2) of Section 15064 unlawfully expands the scope and cost of lead agencies' obligations under CEQA, which in turn increase housing costs because applicants pay agency costs in the form of higher application fees or reimbursement requirements, and increase CEQA litigation obstacles for housing because the sufficiency of the newly-required "explanations" as to why each of the 88 impacts is appropriately used for a particular housing project present a new litigation target that shifts the evidentiary burden to the agency to proactively and repeatedly defend its CEQA methodology instead of the housing opponent who under current law is required to present substantial evidence of a fair argument that unusual circumstances render an otherwise categorical exempt project non-exempt.[337]

563. This new Redlining Revision fails the Government Code section 11349(a) criteria of necessity and Government Code section 11349(b) criteria of authority: neither any statute nor any judicial precedent require lead agencies to defend the adequacy of the approximately 88 significance thresholds – including significance thresholds included in the CEQA regulations promulgated by Respondents – as applied to every project. The absence of any criteria for what constitutes a lawful "brief explanation" fails the Government Code section 11349(c) criteria of clarity and reference as well.

564. **Section 15064.7** expressly encourages and endorses the use of "case-by-case" significance criteria. This fails the Government Code section 11349 criteria of necessity, authority, clarity, reference, and non-duplication.

[336] *Id.* at 172.

[337] *See generally Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

565. **Section 15064.3(b)** and **Appendix G section XVII(b)** defining land use projects outside the three percent of SCAG land comprising transit donut holes, and transportation projects anywhere, as having a presumptively less than significant VMT impact only if the projects result in an overall reduction of VMT in the project area violates all Government Code section 11349 criteria including necessity, authority, clarity, consistency, reference and non-duplication. The Underground VMT Regulation further compounds these section 11349 violations.

566. **Section 15064.4** and **Appendix G § VII**, elevating unlegislated GHG emission reduction mandates, including related VMT Redlining Revisions, increasing housing prices and anti-housing CEQA litigation obstacles, violate all Government Code section 11349 criteria including necessity, authority, consistency, clarity, reference and non-duplication. The Underground GHG Regulation further compounds these section 11349 violations.

567. **Section 15126.4** imposes new prohibitions on lawful performance standard mitigation measures and thereby violates the Government Code section 11349 criteria of necessity, authority, consistency, reference and non-duplication.

568. **Appendix G section I(c)** imposes arbitrary and differential aesthetics significance thresholds that violate the Government Code section 11349 criteria of necessity, authority, and reference.

TWELFTH CAUSE OF ACTION

(Violation of APA – Underground Regulations, Gov. Code § 11340-11365)

569. Petitioners hereby re-allege and incorporate paragraphs 1-568, above.

570. A regulation is defined by the APA as "every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure." Gov. Code § 11342.600.

571. State agencies are required to adopt regulations following the procedures established in the APA and are prohibited from issuing and enforcing underground regulations.

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Tel: 213.896.2400
Fax: 213.896.2450

Gov. Code § 11340.5. Under the APA, an underground regulation is void: only regulations properly promulgated under the APA are valid.

572. The Underground VMT Regulation and Underground GHG Regulation are standards of general application for public agencies to implement and interpret CEQA. The Underground VMT Regulation includes recommended significance criteria that flatly contradict the promulgated Section 15064.3 VMT regulation, as described above. The Underground GHG Regulation describes references to some but by no means all CEQA jurisprudence on GHG, and endorses significance criteria that differ from those in the promulgated Section 15064.4 GHG regulation, as described above.

573. These Underground regulations are particularly abhorrent in the context of civil rights violations and CEQA.

574. First, it is well-established, particularly in the context of civil rights, that claims may be based on an agency guideline, practice, or custom. *See, e.g., Castro v. County of Los Angeles* (9th Cir. 2016) 833 F.3d 1060, 1094 (upholding civil rights judgment for plaintiff based on jury instruction that "'Practice or custom' means any permanent, widespread, well-settled practice or custom that constitutes a standard operating procedure of the defendant. . . . .").

575. Second, in the context of CEQA, it is hornbook law that "guidance" in documents such as these two Underground Regulations are generally accepted by other lead agencies as a benchmark. *See* Kostka and Zischke, Practice Under the California Environmental Quality Act § 13.13 (CEB, 2d. Ed. 2018) ("Lead agencies often use performance standards adopted by regulatory agencies as thresholds of significance."); *Id.* at § 13.13 (Some "agencies have adopted manuals or other guidance documents designed to give lead agencies direction on how to assess impacts in CEQA documents"). Compliance with such "guidance" often conveys a presumption of adequacy, thereby adding force and weight to the "guidance." *See, e.g., Mission Bay Alliance v. Office of Community Investment & Infrastructure (GSW Arena LLC et al., Real Parties in Interest and Respondents)* (2016) 6 Cal.App.5th 160, 205 (upholding threshold for toxic air contaminants

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based on US EPA standards).

576. Such expert agency guidance documents have sufficient legal weight under CEQA that the California Supreme Court considered a non-binding CEQA guidance document issued by the Bay Area Air Quality Management District ("BAAQMD"), and found that some of the District's recommended significance criteria and other guidance "goes too far" and was in fact not authorized at all under CEQA. *California Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 386-87.

577. The Underground VMT and GHG regulations are far more unlawful than the non-binding guidance issued by BAAQMD, and then litigated up to the California Supreme Court, because the Legislature specifically directed that CEQA's regulations – not mere "guidance" – be amended to address GHG impacts (Pub. Res. Code § 21083.05), and to eliminate traffic delay as a stand-alone CEQA impact (Pub. Res. Code § 21099).

THIRTEENTH CAUSE OF ACTION

(Violation of APA – Mandatory Economic Impact Assessment, Gov. Code § 11346 *et seq*.)

578. Petitioners hereby re-allege and re-incorporate herein by reference the allegations of paragraphs 1-577, above.

579. Section 2003 of the California Department of Finance regulations (1 C.C.R. § 2003(a)) ("Methodology for Making Estimates") provides that, "[i]n conducting the SRIA required by section 11346.3," Respondents "shall use an economic impact method and approach that has all of the following capabilities:

> (1) Can estimate the total economic effects of changes due to regulatory policies over a multi-year time period.
> (2) Can generate California economic variable estimates such as personal income, employment by economic sector, exports and imports, and gross state product, based on inter-industry relationships that are equivalent in structure to the Regional Industry Modeling System published by the Bureau of Economic Analysis.
> (3) Can produce (to the extent possible) quantitative estimates of economic variables that address or facilitate the quantitative or qualitative estimation of the following:
> > (A) The creation or elimination of jobs within the state;
> > (B) The creation of new businesses or the elimination of existing businesses within the state;
> > (C) The competitive advantages or disadvantages for businesses currently doing business within the state;

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> (D) The increase or decrease of investment in the state;
> (E) The incentives for innovation in products, materials, or processes; and
> (F) The benefits of the regulations, including but not limited to benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency."

580. Department of Finance ("DOF") regulations require that DOF's "most current publicly available economic and demographic projections, which may be found on the department's website, shall be used unless the department approves the agency's written request to use a different projection for a specific proposed major regulation." 1 C.C.R. § 2003(b).

581. DOF regulations also provide that: "An analysis of estimated changes in behavior by businesses and/or individuals in response to the proposed major regulation shall be conducted and, if feasible, an estimate made of the extent to which costs or benefits are retained within the business and/or by individuals or passed on to others, including customers, employees, suppliers and owners." 1 C.C.R. § 2003(f).

582. Respondents OPR and NRA prepared a SRIA in December of 2017 for the Redlining Revisions as required by the APA for "major" regulatory proposals that "will have an economic impact on California business enterprises and individuals in an amount exceeding $50 million in any 12-month period."[338] As notified by several commenters, including Petitioners, the SRIA suffered from numerous fatal legal flaws.

583. First, the SRIA quantitatively considered only the cost of preparing CEQA documents such as VMT studies, and not the cost of complying with new CEQA compliance obligations such as mitigating significant VMT impacts. This is fundamentally flawed: the SRIA must evaluate all economic consequences of the regulatory proposal, and not simply document preparation costs – including the cost to a family of paying $58,000 in new VMT mitigation fees to purchase a new home that is actually affordable to median income minority families.

584. Second, the SRIA qualitatively assumed that new "infill" housing located in existing communities would not be required to pay any VMT or traffic congestion mitigation costs.

[338] SRIA, *supra* note 330, at 3.

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

Even for most "infill" projects – such as the 80 percent of non-TPA acres in the region's most densely populated cities in the Gateway Cities COG – VMT mitigation would in fact be required based on the Section 15064.3(b) regulatory threshold that projects must actually reduce total VMT in the project area, as well as in the un-promulgated Underground VMT Regulation dictating that projects outside TPAs should have 15 percent less VMT than the average for that jurisdiction, even if the project would reduce regional VMT.

585. Third, the SRIA qualitatively assumed that any VMT mitigation costs for non-infill development would be lower than traffic improvements required to reduce congestion delays under the traditional traffic congestion-based LOS standard, thereby reducing project costs. In fact, however, local, state and federal transportation laws – such as Circulation elements required to be included in local General Plans, regional CMP laws, and laws and regulations requiring adequate transportation capacity to efficiently move people and goods, and avoid excess emissions from longer commute durations – continue to apply to new housing through other mandatory CEQA impact topics such as air quality, transportation safety, and land use plan consistency. Residents occupying new housing could thus continue to be required to fund roadway improvements as well as pay VMT costs, both under CEQA and under local land use law, making VMT mitigation a net increase in CEQA compliance costs.

586. Fourth, Respondents' ignored all comments about increased litigation obstacles, and associated increased costs and delays, regarding the absence of validated, consistent, or even knowable VMT data such as VMT "averages" for cities *or* regions. Respondents' instead delayed the effective date for required use of VMT under CEQA, apparently based on the assumption that California's 482 cities and 58 counties would develop (with substantial evidence) VMT data, VMT evaluation methodologies, VMT significance criteria, and effective VMT mitigation measures, at zero cost to any "individual" or "business." Cities and counties are scrambling to comply with this dramatic regulatory expansion of CEQA, but routinely pass through CEQA compliance costs to new housing applicants in the form of increased application and

development fees – and all agency costs not paid by new housing residents are ultimately borne by individual and business taxpayers. Respondents' assertion in the SRIA that readily-available VMT models and mitigation measures are available is directly at odds with non-partisan transportation experts such as the scholars from U.C. Davis who have shown how inconsistent the VMT models actually are – and further how the absence of actual VMT validation data undermined the evidentiary value of any of these models. With agency fees already topping $100,000 per housing unit, and with the housing affordability crisis, Respondents' refusal to acknowledge and quantify the costs of expanding CEQA to VMT was likewise unlawful under the APA.

587. Fifth, Respondents applied arbitrary and inconsistent methodologies in the SRIA to assess the increased costs required to implement the Redlining Revisions. As noted above, for example, Respondents' quantified and claimed credit for the purportedly reduced regulatory costs for preparing VMT studies and no longer requiring traditional traffic studies that measure congestion-related delay based on LOS delay metrics. Respondents ignored or summarily rejected comments from traffic experts and other stakeholders that LOS studies would continue to be required under CEQA to accurately measure air emissions, transportation safety impacts, and consistency with other transportation laws, plans and policies including, but not limited to, the mandatory "circulation element" components of state-mandated local General Plans. In fact, recent surveys have confirmed that the majority of local jurisdictions are now requiring both LOS and VMT studies. Respondents likewise ignored or summarily rejected expert comments that LOS studies were required to accurately measure VMT, as well as comments regarding the adverse human health impacts of Respondents' decision to manipulate CEQA as part of Respondents' and CARB's unlegislated non-regulatory policy decision to intentionally worsening gridlock statewide to discourage driving and thereby decrease VMT.

588. Respondents likewise ignored or summarily dismissed comments about increased CEQA litigation costs and lawsuit loss risks engendered by the absence of validated VMT data, study methodologies, or mitigation measures. Respondents likewise ignored or summarily

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Fax: 213.896.2450

dismissed comments by experts and other stakeholders that the Redlining Restriction's unlawful new constraint on Performance-Based Mitigation Measures in Section 15126.4 would require applicants to build housing and other projects to prepare very detailed mitigation specifications without knowing whether the project was going to be approved, reconfigured, downsized, or denied.

589. For example, instead of using the common and judicially upheld "menu" of construction phase measures for reducing airborne dust and protecting water quality to meet specified regulatory standards and avoid "significant" CEQA impacts, Respondents' new constraint on Performance-Based Mitigation Measures would effectively require engineering-level drawings to demonstrate prescriptive dust control measures that may be redundant or counterproductive (i.e., watering surface dust during construction would be counterproductive on days when the only construction work underway is painting or pouring concrete), or deciding precisely where hay bales would be placed to protect stormwater runoff quality when bale placement would shift based on the construction status of permanent storm drain solutions. Even the expert air agencies (for construction dust management) and water quality agencies (for stormwater quality) recognize the effectiveness of Performance-Based Mitigation Measures with a menu of performance options, but Respondents refused to acknowledge or quantify in the SRIA the cost consequences of requiring prescriptive and precise, instead of performance-based, mitigation measures. Ignoring all such cost comments, Respondents' decreed that their more costly precise mitigation mandate would result in "the benefit of greater certainty regarding legal requirements," while providing no quantification of or evidence supporting this purported economic "benefit."[339]

590. Sixth, Respondents' ignored the global GHG consequences of increasing housing costs from both CEQA's expansion to VMT and the other Redlining Revisions, which continue to result in the out-migration of Californians to higher GHG states led by Texas, Nevada and Arizona.

[339] SRIA, *supra* note 330, at 27.

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591. Seventh, Respondents' simply ignored all comments about the disparate racial impacts of adding CEQA compliance and litigation costs to housing that is actually affordable for purchase by California's minority communities, as well as ignoring all comments about Respondents' intentional and unlawful policy opposition to attainable homeownership in favor of high cost, high density and overwhelming rental housing in the tiny fraction of California meeting the TPA transit-served criteria.

592. In sum, the economic impact assessment prepared by OPR and NRA, and accepted by OAL, violates the APA by (a) omitting any assessment of the impact of the challenged regulations on California residents, including but not limited to California residents harmed by the state's existing housing and homelessness crisis; and (b) omitting any assessment of the impact of the challenged regulations on the competitiveness of California businesses who are losing employees, or relocating to other states, because of California's acute shortage of housing units, and extraordinary and unaffordable housing costs.

FOURTEENTH CAUSE OF ACTION

(Violation of APA, Gov. Code § 11346.9)

593. Petitioners hereby re-allege and incorporate paragraphs 1-592, above.

594. Under the APA, agencies proposing regulations must prepare and submit to OAL a written "Final Statement of Reasons" which includes, in pertinent part, "[a] summary of each objection or recommendation made regarding the specific adoption, amendment, or repeal proposed, together with an explanation of how the proposed action has been changed to accommodate each objection or recommendation, or the reasons for making no change." Gov. Code, § 11346.9(a)(3).

595. Petitioners submitted 44 pages of comments, which included detailed citations and more than 200 pages of attached documents, to Respondent OPR dated March 14, 2015 describing the legal deficiencies, and racially disparate consequences of, Respondent OPR's 2017 proposed regulatory amendments to CEQA. In Exhibit A of its "Final Statement of Reasons

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Fax: 213.896.2450

for Regulatory Action" for amending CEQA regulations, Respondent NRA either summarily dismissed or rejected many of Petitioners' comments with the following form response: "The Agency is not making any change in response to this comment. This is beyond the scope of this regulatory package."[340] Examples of Petitioners' comments that were summarily dismissed as being "outside the scope of this rulemaking" include:

596. "Expanding CEQA, and increasing CEQA litigation risks, imposes stunningly regressive new costs and burdens on California lower and middle income families in the form of higher costs for basic necessities like utilities, transportation, fees and other CEQA 'mitigation' costs that are imposed solely on those needing the new housing and infrastructure.

597. OPR's decision to impose new bundles of regressive cost burdens – like the VMT threshold and 'all feasible' mitigation mandates for 'significant' VMT quantities that universally occur in the inland areas of California that provide the only homeownership opportunities available to median or below median income families – makes homeownership even less affordable and accessible to our communities.

598. No one in the Legislature voted to impose regressive new cost burdens that disproportionately harm California's minority communities. No one in the Legislature voted to authorize OPR to expand CEQA, or increase uncertainty and litigation risks. OPR is not empowered, in pursuant of climate or environmental goals, to worsen the housing, poverty and homelessness crisis."[341]

599. Petitioners submitted a second comment letter to Respondent NRA on July 20, 2018, again providing both detailed comments and extensive attachments and citations in support of the need to change proposed amendments to CEQA regulations. Again, Respondent NRA summarily dismissed as "outside the scope of this rulemaking" the commenters' urgent requests to avoid weaponizing CEQA to exacerbate the housing crisis and cause disparate harms to

[340] NRA FSOR, *supra* note 334, at 501-577.

[341] *Id.* at 506-507.

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Tel: 213.896.2400
Fax: 213.896.2450

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400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

California's minority communities, particularly given Respondents' very clear explanation that it was making "policy" changes to CEQA regulations to advance the administration's climate goals. Examples of the comments that Respondents' summarily dismissed as "outside the scope of this rulemaking" include:

600. "Because California's climate leaders have chosen to enact GHG reduction metrics that count as GHG 'reductions' the act of forcing California residents and jobs to other states and countries, it is true that making CEQA ever more burdensome will likely induce even more Californians to depart to other states rather than continuing to suffer from our housing, homelessness, poverty and transportation crises.

601. However, this is not a color-blind government policy choice: wealthier, whiter and older Californians benefit, and poorer, minority and younger Californians are harmed, by further exacerbating our housing and related crises.

602. This is also not a defensible choice for California as a global climate leader. Since California's per capita and per GDP GHG emissions are among the lowest of any state in the nation, forcing Californians and jobs to move to other states and countries results in increased global GHG – and it is global GHG, rather than the less than 1 percent of global GHG attributable to California's economy that must be addressed by effective climate leaders. Attachment 4 is a research brief, 'California, Greenhouse Gas Regulation, and Climate Change' (2018), documenting the ineffectiveness and inequity of California's GHG reduction strategies to date, as well as the fact that implementing the infill-only housing strategy included in the [CARB] Scoping Plan will achieve less than 1 percent of California's own GHG reduction goal and require the demolition of 'tens if not hundreds of thousands' of single family homes. California's GHG reductions account for only about 5 percent of the GHG reductions achieved in the United States since AB 32 was enacted in 2007, even though we have the country's largest economy and population.

603. With any honest accounting of global GHG emissions, weaponizing CEQA to further increase housing, energy and transportation costs against projects that meet every single

environmental mandate (other than CEQA) approved by the Legislature or any state or local agency, will simply increase global GHG as well as income inequity and the housing, poverty, homelessness, and transportation crises."[342]

604. Respondents' summary dismissal of Petitioners' civil rights, environmental, and APA comments – in the context of nearly 40 pages of detailed comments and suggested revisions to regulatory amendments which would protect the environment as well as public health and not cause disparate harm to minority communities – with the response "[t]his comment is outside the scope of this rulemaking" violates section 11346.9 of the APA, which requires Respondents to include a written "explanation of how the proposed action has been changed to accommodate each objection or recommendation, or the reasons for making no change."

605. Respondents' NRA's near-blanket refusal to make any of the specific changes described on nearly 40 pages of text of the proposed regulations requested by Petitioners, or to recognize and address the SRIA's failure to quantify, disclose and assess the economic impacts to individuals and businesses of the Redlining Revisions, violate the APA.

606. Respondent NRA's failure to provide content in response to comments as required by section 11346.9 of the APA also extended to comments filed by other interested parties.

607. Respondent OAL also violated the APA in allowing the Redlining Revisions to be promulgated as regulations based on Respondent NRA's failure to include the required content in responding to comments.

FIFTEENTH CAUSE OF ACTION

(Ultra Vires Agency Action, Cal. Code of Civil Proc. § 1085)

608. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-607, above.

609. The Redlining Revisions generally, and the Underground VMT and GHG Regulations in particular, are an unlawful attempt to achieve the 2050 GHG emission reduction

[342] *Id.* at 640-641.

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target that was expressly rejected by the Legislature in SB 32, and to compel VMT reduction mandates that were expressly rejected by the Legislature in SB 150.

610. The GHG Redlining Revisions elevate to CEQA significance criteria status the "State's long-term climate goals or strategies" notwithstanding the Legislature's express rejection of numerous "goals or strategies" included in CARB's 2017 Scoping Plan, including but not limited to: reducing VMT as a GHG reduction mandate, mandating reduction of GHG emission by 80 percent by 2050, mandating the use of "net zero GHG" as a CEQA significance threshold, and mandating the urban growth boundaries, land conversion prohibitions, and eco-system service taxes and fees on urban residents included in the Scoping Plan's "Vibrant Communities" appendix. The GHG Redlining Revisions also elevate to CEQA significance criteria status unlegislated GHG Executive Orders such as Executive Order S-3-05 or other unlegislated actions undertaken by the Executive Branch such as the Subnational Memorandum of Understanding (Under 2 MOU) referenced by Respondents as among the policy mandates for the Redlining Revisions. Even the LAO has stated that, in consultation with Legislative Counsel, it is unlikely that even the state's primary climate regulator, CARB, has authority to adopt and enforce regulations to achieve 2050 GHG reduction targets.[343]

611. Respondents lack the legal authority to enforce through regulations GHG and VMT reduction targets that have been expressly rejected by the Legislature. Under section 11349(a) of the APA, California regulations must meet the "necessity" criteria whereby the "rulemaking proceeding *demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute, court decision, or other provision of law*" (emphasis added). Under section 11349(b) of the APA, California regulations must also meet the "authority" criteria and be based on "*the provision of law* which permits or obligates the agency to adopt, amend, or repeal a regulation" (emphasis added). Only statutes, court decisions, or "other provision of law" – such as a regulation

[343] Taylor, Cap-and-Trade Revenues: Strategies to Promote Legislative Priorities, LAO (Jan, 21, 2016), at 7, https://lao.ca.gov/reports/2016/3328/cap-trade-revenues-012116.pdf.

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authorized by another statute – can authorize regulations. In the rulemaking for the Redlining Revisions, Respondents repeatedly state their purpose as implementing climate change "goals and policies" – and then elevate such unlegislated actions to CEQA significance criteria in Section 15064.4.

612. The Redlining Revisions are ultra vires because they fail to satisfy either the necessity or authority criteria.

613. The Redlining Revisions are also ultra vires to the extent they are based on the 2017 CARB Scoping Plan, which is referenced in Respondents' rulemaking proceedings. The California Supreme Court determined that the Scoping Plan is not itself a regulation,[344] and accordingly cannot serve as the "statute, court decision, or other provision of law" that meets the APA necessity and authority criteria. Further, CARB staff responded in the record on the Scoping Plan that it's "net zero GHG" significance threshold, Vibrant Communities Appendix setting forth infill and transit policies, and even its per capita VMT reduction measure, were not "part" of the Scoping Plan, were properly excluded from the mandated economic and environmental assessments of the Scoping Plan, or both.[345] The Scoping Plan does provide the requisite authority and necessity criteria for the ultra vires Redlining Revisions.

VI. PRAYER FOR RELIEF

WHEREFORE Petitioners/Plaintiffs THE TWO HUNDRED, including Jason Cordova and Lynn Brown-Summers request relief from this Court as follows:

A. For a declaration, pursuant to Code of Civil Procedures § 1060, that the abovementioned amendments to the CEQA Guidelines are unlawful as inconsistent with CEQA and prior judicial decisions, and thus shall be void and of no further force or effect;

B. For a writ of mandate or peremptory writ issued under the seal of this Court

[344] *Newhall,* 62 Cal.4th at 223.

[345] CARB, 2017 Scoping Plan, Supplemental Response to Comments Document, at 14-22, https://ww3.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

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Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

pursuant to Code of Civil Procedure § 1094.5 or in the alternative § 1085, directing Respondents/Defendants to set aside those sections of the CEQA Guidelines challenged above until such time as Respondents/Defendants have complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions, and any other applicable laws cited herein;

C. For permanent injunctions restraining Respondents/Defendants from issuing any further revisions or amendments to the CEQA Guidelines, or any new sections of the CEQA Guidelines, that address the issues described herein until such time as they have complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions, and any other applicable laws cited herein;

D. For an award of their fees and costs, including reasonable attorneys' fees and expert costs, as authorized by Code of Civil Procedure § 1021.5, 42 U.S. Code, section 1988, and any other applicable provision of law, and the cost of preparing and service of this Petition and Complaint;

E. That this Court retain continuing jurisdiction over this matter until such time as the Court has determined that Respondents have fully and properly complied with its orders; and

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Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

F. For any other relief deemed just and proper by this Court.

Dated: December 18, 2019

Respectfully submitted,

HOLLAND & KNIGHT LLP

By: _____

Jennifer L. Hernandez

Attorneys for Petitioners/Plaintiffs
THE TWO HUNDRED, Jason Cordova and Lynn Brown-Summers, *et al.*

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

VERIFICATION

I, John Gamboa, am a member of THE TWO HUNDRED, an unincorporated association, Petitioners/Plaintiffs in this action. I am authorized to make this verification on behalf of THE TWO HUNDRED and its members named herein. I have read the foregoing **Verified Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief** and know the contents thereof. I am informed and believe and on that ground allege that the matters stated therein are true.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of December 2019, at _____, California.

_____

John Gamboa

Holland & Knight LLP
400 South Hope Street, 8th Floor
Los Angeles, CA 90071
Tel: 213.896.2400
Fax: 213.896.2450

EXHIBIT A

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- **23%** improvement in cognitive stimulation.
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- **Lower dropout** rates in school.
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*Joint Center for Housing Studies at Harvard University Study on the impact of home ownership on children.

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Value and Impact of Homeownership

On homeowners, children of homeowners and their neighborhoods and communities

On Homeowners

Homeowners are:

- More likely to offer a more stimulating and supportive home environment for their children[i] and transfer management and financial skills necessary for homeownership to their children.[ii]
- More likely to vote (69% vs. 44% for renters), work to solve local problems and know their U.S. Representative and local school board chair by name.[iv]
- More likely to participate in civic organizations[v], community affairs[vi] and volunteer organizations.[vii]
- Happier and more satisfied with their lives and their choice to purchase rather than rent (even after 3 years of ownership in less desirable neighborhoods).[viii]
- Friendlier and more socially communicative with neighborsix, and have increased self-esteem, personal security and personal health.[x]

On Children of Homeowners

Children of homeowners (including low-income homeowners):

- Are more likely to achieve higher grades on academic (math & reading) achievement tests, to graduate from high school[xi] , achieve higher levels of education, income and savings[xii] and translate educational attainment into increased earnings.[xiii]
- Are less likely to be behavioral problems in high school and less likely to become pregnant as teenagers.[xiv]
- Earn substantially higher levels of housing and non-housing wealth than children of renters.[xv]
- Hold a preference for homeownership[xvi] and are more likely to become homeowners themselves[xvii], sooner than children of renters.[xviii] "Parental homeownership not only begets future homeownership but also a greater likelihood of ownership at an earlier time.[xix]"

On Neighborhood and Community of Homeowners

Neightborhoods and communities benefit from homeownership:

- Homeowners accumulate wealth in the form of housing equity. "Housing equity accumulation is a relatively stable and substantial component of overall wealth accumulation, particularly for lower income families.[xx]" Home equity becomes the largest and most productive wealth accumulation vehicle for lower income families.
- Homeowners are more likely to monitor socially deviant behavior by children[xxi] resulting in a reduction of violent crime in their neighborhood.
- Homeowners are more likely to maintain and repair their property.[xxiii]
- Increases in home ownership levels in neighborhoods leads to increased property values of single-family, owner-occupied units.[xxiv]
- Homeowners are less mobile, resulting in household and neighborhood stability.[xxv]
- Homeowners are more likely to recyclexxvi and belong to a church or community organization.[xxv]
- Homeowners are less likely to suffer a loss from crime[xxviii] or be a victim of a violent assault.[xxix]
- "Evidence suggests that if more families are able to achieve homeownership today, there will be a substantially higher proportion of children striving for and achieving homeownership tomorrow."[xxx]

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Value and Impact of Homeownership Sources

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8739 Artesia Blvd, Bellflower, CA 90706
310.323.4663 | www.habitatla.org

EXHIBIT B

Jason Levin (161807)
STEPTOE & JOHNSON LLP
633 West Fifth Street, Suite 700
Los Angeles, California 90071
Telephone: (213) 439-9400
Facsimile: (213) 439-9599
jlevin@steptoe.com

Karl M. Tilleman (*Pro Hac Pending*)
Alan Bayless Feldman (*Pro Hac Pending*)
STEPTOE & JOHNSON LLP
201 East Washington Street, Suite 1600
Phoenix, Arizona 85004-2382
Telephone: (602) 257-5200
Facsimile: (602) 257-5299
ktilleman@steptoe.com
afeldman@steptoe.com

Attorneys for Plaintiff

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

The Icon at Panorama, LLC,

Plaintiff,

vs.

Southwest Regional Council of Carpenters; Laborers International Union of North America Local 300; Daniel Langford, an individual; Alexis Olbrei, an individual; Ron Diament, an individual; Pete Rodriguez, an individual; Ernesto Pantoja, an individual; Sergio Rascon, an individual; Angel Olvera, an individual; SWAPE, LLC, a California limited liability company; Smith Engineering & Management, a California corporation; unnamed spouses of all named individual Defendants, and DOES 1 through 10, inclusive,

Defendants.

Case No.: 2:19-CV-00181

COMPLAINT FOR:

1. **ATTEMPTED MONOPOLIZATION IN VIOLATION OF SECTION 2 OF THE SHERMAN ACT**
2. **CONSPIRACY TO MONOPOLIZE IN VIOLATION OF SECTION 2 OF THE SHERMAN ACT**
3. **DIRECTING A "GROUP BOYCOTT" IN VIOLATION OF SECTION 1 OF THE SHERMAN ACT**
4. **CONSPIRACY AND ATTEMPT TO ENTER INTO EXCLUSIVE DEALING ARRANGEMENT IN VIOLATION OF SECTION 3 OF THE CLAYTON ACT AND SECTION 1 OF THE SHERMAN ACT**
5. **VIOLATION OF LABOR MANAGEMENT RELATIONS ACT, 29 U.S.C. § 187**

COMPLAINT AND DEMAND FOR JURY TRIAL

6. RACKETEER INFLUENCED AND CORRUPT ORGANIZATIONS ACT, 18 U.S.C. § 1962 (C)

7. UNFAIR COMPETITION, CAL. BUS. & PROF. CODE § 17200, AGAINST ALL DEFENDANTS

AND DEMAND FOR JURY TRIAL

Plaintiff, The Icon at Panorama, LLC ("Icon") alleges as follows:

Jurisdiction and Venue

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. § 1331 and § 1337. This action arises under the Clayton Act, 15 U.S.C. §§ 15, 26, to obtain injunctive relief, damages and costs, including reasonable attorneys' fees for violations of sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2, section 303 of the Labor Management Relations Act, 29 U.S.C. § 187, and the federal Racketeer Influenced and Corrupt Organizations statute, 18 U.S.C. § 1961 *et seq*.

2. This Court has jurisdiction pursuant to 28 U.S.C. § 1367 over the state law causes of action because those causes of action are related to the federal law causes of action and form part of the same case and controversy under Article III of the United States Constitution.

3. The conduct alleged in this Complaint occurred in interstate commerce and has affected and will continue to substantially and directly affect interstate commerce.

4. The Court has personal jurisdiction over the Defendants and venue is proper in the Central District of California because (a) all Defendants reside in the State of California and at least one of the Defendants resides in this District, and (b) substantial parts of the events or omissions giving rise to the claims occurred in this District.

Introduction

5. The Southwest Regional Council of Carpenters ("SWRCC") and the Laborers International Union of North America Local 300 ("LIUNA") have conspired to dominate, monopolize, and control the sale of labor services to developers of large real estate projects within Los Angeles County, California by engaging in anti-competitive conduct and racketeering activities, including fraud and extortion, by means of, *inter alia*, their pattern and practice of filing repeated sham litigation under the guise of the California Environmental Quality Act ("CEQA"). This fraudulent, extortionist, and anti-competitive conduct is commonly referred to as "greenmail."

6. Throughout this Complaint the term "Union Defendants" will mean SWRCC and LIUNA, whether acting directly as a labor organization or through any of its officers, directors, employees, or agents authorized to act on behalf of one or both organizations.

7. For nearly two decades, the former Montgomery Ward building at 14665 Roscoe Boulevard in Panorama City has sat abandoned, attracting homeless encampments, gangs, graffiti, and various other criminal activities. Once a popular shopping destination, the department store shut its doors in 2001 after struggling to compete with other retailers.

8. Icon purchased the vacant site in January of 2016 and based on feedback from the City and numerous community stakeholders, Icon submitted an application to the Los Angeles Department of City Planning ("Department of City Planning"), proposing to transform the vacant and dilapidated property that encompasses an approximate nine-acre site, into a mixed-use complex, including numerous residential units and commercial space – known as The Icon Panorama Project ("Project").

9. The Department of City Planning, the area's City Council Office, neighboring property and business owners, Panorama City residents, business leaders, the Panorama City Neighborhood Council, the Panorama City Chamber of Commerce, law enforcement (LAPD), a local hospital (Mission Community Hospital), Galpin Motors (a prominent employer in the area), PATH (People Assisting The Homeless) (an advocacy group focused on housing the homeless), among others (collectively the "Community"), enthusiastically support the Project. The Community overwhelmingly supports Icon's plan for the property and have expressly stated that it would strongly satisfy the area's critical housing needs with a contemporary and diverse mix of apartments, bring needed jobs and desirable retail businesses, beautify and safeguard the community, and provide the overall redevelopment desperately needed in the currently blighted area.

10. Despite the overwhelming and vocal Community support, from March 2017 through August 2018, the Union Defendants have, at every step of the Project approval process, tried to induce the area's City Council Office, Department of City Planning, Los Angeles City Planning Commission ("Planning Commission"), and the Los Angeles City Council ("City Council") to deny approval of the Project on false grounds that it does not comply with CEQA. The Union Defendants' sole purpose in filing CEQA challenges was to delay the Project and coerce, intimidate, and pressure Icon to agree to use exclusively union labor, otherwise Icon would suffer significant cost increases to the Project.

11. The Union Defendants were the only individuals or entities to continuously challenge the Project's compliance with CEQA and to publicly oppose the Project.

12. During its sham CEQA challenges, the Union Defendants essentially bribed the Icon Project developers promising that they would withdraw their CEQA challenges and actively support the Project if Icon would agree to use

exclusively union labor on the Project. The Union Defendants made these promises to Icon even if Icon took no steps whatsoever to address the purported environmental concerns raised in the Union Defendants' CEQA challenges. The Union Defendants' CEQA challenges were an absolute sham, through and through, and had nothing whatsoever to do with protecting the environment.

13. Icon continuously made good faith efforts to engage with the Union Defendants to involve them in the Project in ways that were financially feasible. Icon was consistent in its message that given the Project's location and the area's low rents, it could not support the high cost of using exclusively union labor but that finding certain areas on the Project to use union trades was a possibility once Icon began working on the construction plans and pricing the Project.

14. Icon informed the Union Defendants that the Project's financial constraints were further demonstrated by the fact that the Project site sat vacant for almost two decades and experienced a number of failed attempts by other developers to redevelop it.

15. Not once was the environment raised as a legitimate concern by the Union Defendants to Icon during any discussions or written communications among the parties about the Project. In fact, early on, during discussions with the Union Defendants, Icon attempted to address any environmental concerns that the Union Defendants had. The Union Defendants summarily refused to engage in discussions about environmental concerns as the Union Defendants were solely interested in compelling Icon to use exclusively union labor on the Project. Otherwise stated, the Union Defendants are exploiting the CEQA process itself, not for any reason related to the environment but for their own financial gain and as a weapon to coerce Icon, and other developers like Icon, to use nothing but union labor on major developments in Los Angeles County.

16. The irony and hypocrisy of the Union Defendants' sham claims are noteworthy as a considerable part of what they challenged and objected to are alleged unsafe conditions on the site that would adversely impact the health and well-being of those working on the Project, yet while they were publicly opposing the Project with these bogus environmental and health concerns, privately, they were pressuring Icon to use exclusively union labor that would guarantee that no one other than a their own union members would be working on the Project thus ensuring that their members would be exposed to these alleged "health risks."

17. SWRCC refused to negotiate with Icon to find feasible ways to include their trades and demanded that Icon use exclusively union contractors on the Project. LIUNA refused to negotiate with Icon over an alternative labor arrangement, in part, because LIUNA disclosed to ICON that they previously entered a "most favored nation" agreement with a competing developer whereby LIUNA agreed with the competing developer not to enter more favorable agreements with other developers, such as Icon.

18. The Union Defendants' challenges so lacked in merit that, in rejecting one of their numerous challenges to the Project, at the conclusion of the Planning Commission hearing, Los Angeles Planning Commission President David Ambroz stated that the Union Defendants "weaponized" CEQA and made objections that were "just patently false." That blunt public rebuke of the Union Defendants is exactly what they are doing, which is why Icon has filed this litigation—to stop the Union Defendants from weaponizing CEQA and filing frivolous CEQA challenges as a threat to any developer who does not succumb to the Union Defendants' threats.

19. The Union Defendants failed on their appeals in every administrative level and, on August 29, 2018, the City Council denied the Union Defendants'

appeal and unanimously approved the Project, exhausting the administrative approvals process.

20. Failing to force Icon to use exclusively union contractors on the Project via their spurious administrative challenges, the Union Defendants nevertheless continued their sham efforts on October 1, 2018 by filing a Petition for Writ of Mandate based on CEQA in the Superior Court of the State of California, County of Los Angeles. As they did during the administrative process before the Planning Commission and City Council, the Union Defendants again made false statements regarding the Project. And again, the Union Defendants have only one goal in mind—to delay the Project further, to drive up costs, and to force Icon to cede to their continued improper and anticompetitive demands or suffer significant cost overruns, potential termination of contracts with interested retailers, and the loss of relationships with potential nonunion contractors who have expressed an interest in working on the Project.

21. This is not the first time that the Union Defendants filed sham oppositions and appeals to the Los Angeles Planning Department, Planning Commission, and City Council based on false CEQA claims to delay development of large projects within Los Angeles County for the purpose of coercing, intimidating, and pressuring developers to surrender to their demands.

22. In fact, the Union Defendants' practice of challenging projects under the guise of CEQA is rampant and has become the status quo in Los Angeles County on projects that are of substantial enough scale to attract their attention. The Union Defendants' practice is well known by developers, the community, the City's council offices, the Department of City Planning, the Planning Commission, and the City Council. In fact, there is a website called www.phonyuniontreehuggers.com that tracks and documents the unions opposition to countless public and private sector projects throughout California

"on environmental grounds.... with the ulterior motive of extracting something of economic value from the public or private owner." As stated in an email from a planner at the Department of City Planning, Major Projects/Environmental Analysis unit: "From the experience in the Major Projects unit, the law firm Lozeau Drury, the Southwest Carpenters union, and/or the LIUNA union submit comment letters (electronically and written comments) on nearly every single recent EIR that our unit processes."

23. In fact, the Union Defendants utilize virtually the same "template" arguments and claims in their comment letters and appeals on every project they challenge and appeal.

24. The Union Defendants regularly conspire with SWAPE, LLC and Smith Engineering & Management, Inc., two consulting firms that provide misleading analyses on environmental impacts such as air quality and traffic to distort the facts and assist the Union Defendants in asserting frivolous challenges to projects' Environmental Impact Reports ("EIR").

25. The Union Defendants have a consistent pattern and practice of filing sham challenges administratively and litigation in the Superior Court of the State of California against other developers within Los Angeles County in which they assert similar false claims under CEQA in an effort to delay their projects and drive up project costs to control the labor market.

26. Most developers buckle under the pressure and settle with the Union Defendants, resulting in disproportionally more developments in higher rent areas that can support these increased costs to the detriment and at the expense of underserved and lower income areas such as Panorama City (where the Project site is located) where developers cannot sustain the higher costs and thus abandon their projects as they are no longer financially feasible. Unfortunately, the ultimate losers are the lower income communities that see little in the way of

quality community-enhancing development and more blight from boarded-up and dilapidated abandoned sites.

27. Icon brings this action to assert and defend its right to manage, control, and operate its business affairs free from the Union Defendants' conspiracy to dominate, monopolize, and control the sale of labor services to developers of large real estate projects within Los Angeles County thorough its blatant use of sham litigation to achieve its goals.

28. The Union Defendants' anti-competitive and abusive conduct has not only harmed Icon and other developers, nonunion contractors, the Panorama City community, and businesses and residents, it has also wasted the time and resources of public agencies, and now the courts.

29. Without intervention from this Court, the Union Defendants will stop at nothing to prevent the development of the Project and other similar large projects within Los Angeles County and to eliminate competing nonunion contractors from the labor market. By engaging in the anti-competitive activities described in this Complaint, the Union Defendants have violated the Sherman Act, the Clayton Act, the Labor Management Relations Act, the Racketeer Influenced and Corrupt Organizations Act, and the California unfair competition laws.

The Parties

30. Plaintiff Icon is a limited liability company organized in 2015 and authorized to do business in Los Angeles County. Icon is a real estate planning, investment, and development company currently developing the Icon at Panorama Project. William Ruvelson and Eran Fields are co-founders and principals of Icon.

31. Defendant SWRCC is a labor organization within the meaning of the Labor Act (29 U.S.C. § 151 *et seq.*). SWRCC represents over 50,000 members in Southern California, Nevada, Arizona, Utah, New Mexico, and Colorado.

32. Alexis Olbrei is the Chief of Staff of the SWRCC.

33. Pete Rodriguez is the President/COO of the SWRCC.

34. Dan Langford is the Executive Secretary – Treasurer/CEO of the SWRCC.

35. Ron Diament is a Special Representative of the SWRCC.

36. SWRCC, Olbrei, Rodriguez, Langford, and Diament transact business in this jurisdiction with their principal place of business at 533 S. Fremont Ave, Los Angeles, California 90071.

37. At all relevant times, Olbrei, Rodriguez, Langford, and Diament have been agents of SWRCC and are authorized to act for and on behalf of SWRCC.

38. Defendant LIUNA is a labor organization within the meaning of the Labor Act (29 U.S.C. § 151 *et seq.*).

39. Angel Olvera is an organizer with LIUNA.

40. Sergio Rascon is the Business Manager of LIUNA.

41. Ernesto Pantoja is a Special Projects Field Agent of LIUNA.

42. LIUNA, Olvera, Rascon, and Pantoja transact business in this jurisdiction with their principal place of business at 2005 W. Pico Blvd, 2nd Floor, Los Angeles, California 90006.

43. At all relevant times, Olvera, Rascon, and Pantoja have been agents of LIUNA and are authorized to act for and on behalf of LIUNA.

44. The Union Defendants were at all relevant times the agents, principals, partners, co-conspirators, and/or co-venturers of each other, and each of them acted within the course, scope, and authority of those relationships. As a result, the Union Defendants are jointly and severally liable for the acts alleged in this Complaint.

45. Upon information and belief, SWAPE, LLC is a California limited liability company with an office and place of business located at 2656 29th Street, Suite 201, Santa Monica, CA 90405.

46. SWAPE is an environmental consulting firm that conducts business within Los Angeles County, California. SWAPE provides consulting services to the Union Defendants directly or through its legal counsel.

47. The Union Defendants engaged the services of SWAPE in connection with their efforts to monopolize the labor market as described herein.

48. Upon information and belief, Smith Engineering & Management, Inc. ("SEM") is a California corporation with an office and place of business located at 5311 Lowry Rd, Union City, CA 94587.

49. SEM is a traffic and civil consulting firm that conducts business within Los Angeles County, California.

50. SEM provides consulting services to the Union Defendants directly or through its legal counsel.

51. The Union Defendants engaged the services of SEM in connection with their efforts to monopolize the labor market as described herein.

52. Plaintiff is unaware of the true names or capacities, whether individual, corporate, associate, or otherwise, of Defendants sued herein as DOES 1 through 10, inclusive, and therefore sue these Defendants by such fictitious names. Plaintiff will seek leave of the Court to amend this pleading to set forth the true names and capacities of said Doe Defendants when the same are ascertained. Plaintiff is informed and believes, and on that basis allege, that each of the fictitiously named Defendants is responsible in some manner for the occurrences herein alleged, or was acting in concert with, and with the permission, approval, and authorization of, the specifically named Defendants.

Factual Allegations

I. Icon proposes a transformative redevelopment project that the local community overwhelmingly supports.

53. Retail company Montgomery Ward previously owned and operated a large store at 14665 Roscoe Boulevard in Panorama City, California. Montgomery Ward closed its business in 2001. The building at Roscoe Boulevard has sat vacant since 2001, and the area has experienced homeless encampments, gang activity, graffiti, and other criminal activities.

54. In 2016, Icon paid $18 million for the nearly nine-acre parcel on Roscoe Boulevard as the first step in its plan to transform the lot previously occupied by Montgomery Ward.

55. On the abandoned site, Icon plans to construct 623 residential apartments, a 17,000 square foot public park, and 60,000 square feet of commercial space to potentially include pedestrian active retail at an estimated cost of $150 million to Icon.

56. The proposed development is named the "The Icon Panorama" and has been enthusiastically greeted by the City and the Community.

57. Neighborhood residents and groups have described the Project as a job-creator; "provid[ing] much needed housing"; "exactly what we need"; and "a critical element for the area's renewal."

58. For example, Jack Waizenegger, a 30 year resident of Panorama City, wrote in a letter of support for the Project: "Development of the project, The ICON at Panorama City, will be the catalyst to begin restoration of our community. In addition, it will clean up the blight left from the defunct Montgomery Ward ruins, create good jobs during and after construction, provide much needed housing, add new desirable shopping and entertainment, complement the future Metro line along Van Nuys Boulevard, attract more redevelopment, and become a centerpiece which all of our community can be

proud of. I do not know of a single neighbor or business owner who objects, instead they are all eager and excited to see this project arrive."

59. Stephanie Cervantes, a 20 year resident of Panorama City wrote in her letter of support: "As you know, we have the densest residential population of any community in the valley, yet our housing is generally older and run down. We need new and beautiful apartments so that instead of moving out of Panorama City to other nicer neighborhoods, we stay here in the same community where we were born and where our parents and grandparents live. The residents here are good hard-working folks who want to give our children a better quality of life than we had. Moving into another community has been the answer for so many, but as long-time Panorama City residents move out, the community loses its soul. If there was a better housing alternative here in the neighborhood, more of us would stay. All of us go elsewhere to shop because our only shopping center (the Panorama Mall) is old and lacks any of the new and interesting elements that everyone else takes for granted when they shop at the gorgeous newer centers in Burbank, Woodland Hills or Universal City. Icon Panorama will give us a high-quality shopping experience with a beautiful open park with plenty of parking. We need this development to happen. Los Angeles needs for this development to happen."

60. Local business owners have "applaud[ed] the developers and their efforts to transform the Panorama City neighborhood." Jeff Skobin, VP of Business Operations for Galpin Motors, one of the area's largest employers, wrote in Galpin's letter of support: "While the rest of Los Angeles has enjoyed tremendous development and economic boom, Panorama City has continued to languish. There have been two failed attempts in the past to revitalize the site, both of which were headed by out of state developers. This development is absolutely critical for the revitalization of Panorama City and the surrounding

communities. We desperately need this dynamic mixed-use project with its proposed community park that will become the social hub of our community. We deserve such a quality project."

61. Saul Mejia, President of the Panorama City Chamber of Commerce wrote in the Chamber's letter of support: "After driving around other parts of Los Angeles such as North Hollywood and Koreatown and seeing their beautiful new developments, it is disappointing to return to Panorama City and not see the same. Our community was once known as the heart of the San Fernando Valley. With this new project and those that will follow it, we will be beating strong once again. We applaud The Icon Company for coming into an area that was considered unworthy of development until recently."

62. Gregory Wilkinson, Chair of the Panorama City Neighborhood Council wrote in the Council's letter of support: "Further, the lost economic activities for having such a large part of our business district has been a real loss to our residences and other local businesses. We are tired of seeing the Site being left to waste away and our community suffer as a result."

63. Michel Moore, Chief of Police for the Los Angeles Police Department noted that the vacant site "has been occupied by the homeless/transients" and "has fallen victim to vandalism and has been burglarized." Chief Moore emphasized, "This location would be ideal as a redevelopment project. A new development would create jobs and benefit the local economy. It is a densely populated area and in desperate need of redevelopment. The developer, ICON, has taken on this challenge and proposed a project which we feel not only fits the community but benefits the city as well."

64. Tescia Uribe, Chief Program Officer for PATH Housing Partnerships Program, whose mission is to end homelessness for individuals, families, and

communities, applauded "[t]he fact that they are building desperately needed housing in a community that has been largely ignored by development."

65. James K. Theiring, Chief Executive Officer of Mission Community Hospital located in Panorama City that employs over 700 workers wrote: "As active participants in our community, we have not seen any significant business growth in recent years and struggle to find close partnerships. In this regard, we believe that the development of Icon Panorama will bring needed jobs, businesses and contemporary housing into the community, as well as modern attractions for residents of Panorama City and neighboring towns."

II. The Union Defendants raised sham challenges to the Icon Project at every step of the CEQA administrative process.

66. CEQA sets forth a process for evaluating and publicly disclosing the environmental impacts of a proposed project.

67. For projects subject to CEQA, the agency prepares an initial study of the project's impact on the environment.

68. If necessary, the lead agency then sends a Notice of Preparation to inform the public that it will prepare an EIR for a project. The lead agency provides at least 30 days to comment on the Notice of Preparation. The lead agency may also hold meetings with experts and the public during this period.

69. The lead agency then prepares a draft EIR ("DEIR") and provides the public an opportunity to comment on the draft. The lead agency can also issue revised DEIRs. The lead agency then prepares a final EIR ("FEIR") and responds to the comments on the DEIR. The agency then holds public hearings and makes a decision on the project.

70. In Los Angeles, the Los Angeles Advisory Agency initially approves the project. An interested party can appeal that decision to the Los Angeles Planning Commission, then to the Planning and Land Use Management Committee. If the Planning and Land Use Committee approves the project, an

interested party can appeal the decision to the City Council. Once an interested party has exhausted all administrative remedies, it can appeal the approval of the project by filing a Petition for a Writ of Mandate in California Superior Court.

71. On April 6, 2017, the Department of City Planning unanimously approved Icon's DEIR for the Panorama Project.

72. On May 22, 2017, the Union Defendants sent to the Department of City Planning, via e-mail and U.S. mail, comments challenging the DEIR for the Project.

73. The May 22, 2017 letter falsely stated that the DEIR failed to analyze the soil for hazardous chemicals at the Project site. In fact, the Union Defendants had a copy of the DEIR and knew that it analyzed the soil for hazardous chemicals at the Project site.

74. On August 31, 2017, the Department of City Planning recirculated a revised DEIR that addressed comment letters from City of Los Angeles's Building Departments, neighborhood stakeholders, and the Union Defendants.

75. On February 23, 2018, the Department of City Planning issued the FEIR for the Project.

76. On March 19, 2018, the day before the first public hearing on the Project, the Union Defendants sent another letter via e-mail challenging the FEIR. The letter urged the Department of City Planning to deny environmental certification of the Project.

77. The March 19, 2018 letter falsely stated that the City of Los Angeles Fire Department ("LAFD") found that fire protection for the Project would be inadequate. The Union Defendants knew that the LAFD found that the fire protection for the Project would be adequate if the Project made certain changes that are standard practice.

78. The March 19, 2018 letter also falsely stated that the FEIR refused to analyze the impact the project would have on fire protection. In fact, the Union Defendants knew that the FEIR analyzed the impact the Project would have on fire protection.

79. On March 20, 2018, at the first public hearing on the Project before the Los Angeles Advisory Agency, the Union Defendants opposed the Project and repeated the false statements about the Project contained in the March 19, 2018 letter. The Advisory Agency unanimously approved the Project the same day.

80. The Union Defendants appealed the Advisory Agency's decision to the Los Angeles Planning Commission.

81. On April 23, 2018, the Union Defendants sent another letter via e-mail and overnight mail to the Planning Commission challenging the Project.

82. The Union Defendants continued with their sham challenges by falsely claiming that the revised Project "has never been analyzed in any CEQA document," and "will dramatically increase almost all of the Project's environmental impacts," and that, because the revised Project has 48% more residential units than the original Project, it will have 48% greater impacts, conveniently ignoring that the overall scope of the revised Project was actually reduced by decreasing the commercial floor area proposed under the original Project from 200,000 to 60,000 square feet, a reduction of 70% which significantly reduced the Project's overall environmental impacts. In fact, the FEIR undertakes a thorough analysis to conclude that such impacts would be reduced from those of the original Project.

83. The Union Defendants, which purport to be advocating on behalf of environmental protection, seek to indict the Department of City Planning for advancing the purposes of CEQA by developing a less impactful project in

response to comments on the DEIR and analyzing that project as a new alternative in the FEIR.

84. The Union Defendants also falsely claimed that the Department of City Planning is required to adopt a different reduced project, which the EIR identified as the environmentally superior alternative. In certifying the EIR, the Advisory Agency correctly found this alternative to be infeasible, as it would not satisfy the Project's underlying purpose and key objectives to the same degree. In particular, it would not support regional housing goals and transit-oriented development or provide the critical mass and mix of uses necessary to successfully activate the area.

85. Inexplicably, the April 23, 2018 letter also falsely stated that the DEIR "states clearly that the Project proposal is for a ***maximum*** of 422 residential units." (Emphasis added.) In fact, the Union Defendants had a copy of the DEIR and knew or should have known that it did not state that the Project proposal is for a maximum of 422 residential units.

86. On April 26, 2018, the Planning Commission unanimously approved the Project over the Union Defendants' objections.

87. At the April 26, 2018 hearing, Planning Commission President David Ambroz chided the Union Defendants' abuse of process and sham litigation tactics, stating:

> I would like to say a few things. I feel as though ***the [Union Defendants'] appeal was specious at best*** and in my lawyer days I would say I would deny it with prejudice. I think ***CEQA has been weaponized*** and it's a shame that it is so. Things and assertions like "soil wasn't studied and would harm people" ***is just patently false.*** And the staff provided information to this commission that Phase 1 and Phase 2 studies were done and ***that is in the record and available to the appellant and I am just unclear why someone would make an assertion that is just patently false.*** I am dismayed that I have rarely seen CEQA used to actually protect the environment. It seems here and I would be curious to know, and I am not asking, that this seems to be a labor

> question, are you going to use union labor or not. And while that is not our decision to make it is a shame that we are now seeing CEQA used as a tool to both delay community redevelopment and potentially not harm by not improving the environment so dismaying and a trend that I do not see stopping anytime soon without significant reform.

88. On May 25, 2018, the Union Defendants again appealed the decision to the Planning and Land Use Management Committee.

89. On August 21, 2018, the Planning and Land Use Management Committee unanimously approved the Project.

90. The Union Defendants again appealed the decision to the Los Angeles City Council.

91. Before the City Council hearing on the Project, the SWRCC met with the City Council's office to further pressure them to oppose the Project.

92. On August 29, 2018, the City Council unanimously approved the Project.

93. On September 28, 2018, following the approval of the Project, SWRCC Chief of Staff Olbrei met with Jim Dantona, Chief of Staff of the area's City Council Office to try to discuss a labor agreement on the Project. According to Ackley Padilla, the area's City Council Office's Deputy Chief of Staff, Olbrei left the meeting amenable to the idea of providing SWRCC the right to match Icon's other subcontractors' pricing. On October 1, 2018, the final day to appeal the City Council's decision, the Union Defendants filed their suit as they were unable to coerce and force Icon to pledge in advance that it would use exclusively union contractors on the Project.

94. Throughout the entire administrative process, the Union Defendants were the *only* individuals or entities to continuously challenge the Project's compliance with CEQA and publicly oppose the Project. In fact, as detailed herein, the Project received overwhelming support from the City and Community.

95. Icon spent significant time and money responding to the Union Defendants' sham CEQA challenges at the administrative stage.

III. At the same time the Union Defendants pursued their sham CEQA challenges, the Union Defendants demanded that Icon agree to use exclusively union labor on its Project.

96. To facilitate their attempt to assert monopolistic control of the sale of labor services to developers of large projects in Los Angeles County, the Union Defendants have coerced or attempted to coerce developers like Icon to use exclusively union contractors.

97. In mid-April 2017, after the Department of City Planning released the DEIR but before the Unions Defendants filed their first opposition, Ron Diament, Special Representative for SWRCC, contacted Icon Principal Ruvelson and told him that he had learned about the Project and wanted to talk with him about having Icon use exclusively union contractors on the Project.

98. Ruvelson explained that Icon was willing to use both union and nonunion contractors on the Project, and that Icon would implement a competitive bidding process to select contractors for the Project to ensure that it met its budgets.

99. Unbeknownst to Icon, at the same time that Diament sought to discuss Icon's labor needs, the Union Defendants were preparing their sham CEQA challenges as described above.

100. After Icon received the Union Defendants' May 22, 2017 challenge to the Project, Ruvelson emailed Diament to express confusion about the Union Defendants' tactics, stating: "Ron, Please be in touch about this. I'm confused."

101. Diament told Ruvelson that if Icon agreed to use exclusively union contractors on the Project, the Union Defendants would drop their CEQA challenge to the Project. At no time did Diament ever tell Ruvelson that Icon also

needed to address any of the purported environmental issues contained in the Unions' CEQA challenge.

102. On June 8, 2017, Ruvelson met with Diament and Olbrei at SWRCC's training facility in Sylmar, CA.

103. At the June 8 meeting, Diament and Olbrei continued to pressure Ruvelson to use exclusively union contractors for the Project.

104. The next day, Diament emailed Ruvelson a list of four "Union General Contractors" that Icon should use for the Project: Morley Builders, Inc., W.M. Klorman Construction Corporation, Charles Pankow Builders, Ltd., and Bomel Construction Company. Diament stated that "There's more. . . . I started with these 4 and I will send out the complete list later."

105. Over the next few months, the administrative process and the Union Defendants' sham CEQA challenges continued.

106. On October 16, 2017, Icon principal Eran Fields contacted Diament to express his frustration with the Union Defendants' continuing challenges to the Project in an effort to force Icon to use exclusively union contractors. Fields reiterated that Icon was willing to use union contractors, as well as nonunion contractors, through a competitive bidding process. Fields stressed to Diament that due to the Project's location and projected rents, that it was infeasible for Icon to pledge in advance to use exclusively union contractors because of the higher labor costs but that Icon would work with the Union Defendants in good faith to include them in certain areas of the Project that Icon could afford.

107. That same day, Diament emailed Fields and stated, "I have some influence with these folks, [*i.e.*, the Unions]," and that they could work out a deal.

108. On March 14, 2018, one week before the first public hearing on the Project, Diament sent a text message to Fields asking to meet before the hearing and implying that the Union Defendants would drop their CEQA challenges only

if Icon agreed to use exclusively union contractors. In response to Fields questioning why he wanted to meet, Diament stated: "I know the road you need to be on the get the job to move forward," and in response to Fields' response of "Sorry, no idea what that means. You mean opposition from union if we don't?" Diament responded: "I know that there's been some of that from a few, including the carpenters."

109. In response, Fields texted the following: "As I mentioned to you in the past, we won't be coerced into using union labor due to threats of opposition but are willing to explore ways to include union labor on this job if feasible. Meeting before our hearing should have no bearing on that."

110. Diament immediately responded: "I'm just making suggestions on how to navigate through the woods. If you hire good contractors that participate in apprenticeship programs are tikkun olamins, it makes everyone smile."[1]

111. Fields responded: "Thanks Ron but it's very simple for us. We do our best and always act honorably and honestly. If we can find a way to work together that would be great. If we can't then it won't be for lack of trying."

IV. LIUNA agreed to give "Favored Nation" status to another Los Angeles County apartment developer.

112. G.H. Palmer, Inc. ("G.H. Palmer") is a real estate developer with apartment projects in Los Angeles County. G.H. Palmer claims to own more than 11,000 apartment units in Southern California.

113. Upon information and belief, LIUNA agreed with G.H. Palmer to grant G.H. Palmer "Favored Nation" status in its project labor agreements, ensuring that no other developer could obtain a more competitive agreement than the Union Defendants had with G.H. Palmer.

[1] Tikkun Olam is a concept in Judaism interpreted as an aspiration to behave and act constructively and beneficially.

114. Upon information and belief, LIUNA agreed with G.H. Palmer that they would never agree to allow a developer to use nonunion labor on a project. Per the Favored Nation agreement with G.H. Palmer, LIUNA agreed to demand use of exclusively union labor on all projects.

V. The Union Defendants offered to drop their sham CEQA litigation and allow the Project to timely proceed in exchange for exclusivity.

115. Despite the Union Defendants' sham CEQ challenges (as described above), Icon attempted to discuss possible ways to work together with the Union Defendants on the Project that did not require Icon to pledge in advance to use exclusively union labor, but met Icon's labor budget needs.

116. On May 2, 2018, Olbrei and Rodriguez from SWRCC and Pantoja and Rascon from LIUNA had a breakfast meeting with Ruvelson and Fields to discuss the Project and how to possibly work together. During the approximately two-hour meeting, Icon again explained that given the Project's location and the area's low rents, it could not support the higher cost of using exclusively union contractors, but that it would work with the Union Defendants to try to find areas in the Project to include their trades. Not once was the environment raised as a legitimate concern by the Union Defendants during the meeting. Icon left the meeting cautiously optimistic as the Union Defendants represented that it would be amenable to entering into a letter of intent between the parties that would require Icon to make good faith efforts to find ways to include the Union Defendants on the Project.

117. On May 24, 2018, one day before the Union Defendants filed yet another appeal of the Project's approval, Olbrei of SWRCC emailed Fields, stating that if Icon would sign a Letter of Understanding ("LOU") promising to use exclusively union contractors, in exchange the Union Defendants would withdraw its CEQA challenges without Icon doing anything to address the purported environmental issues. Specifically, the LOU promised that:

> the Carpenters' Union ***will promptly express its support for the Project before governmental bodies and/or community organizations in connection with any and all required government approvals***. Such expression of support may include, among other things, sending letters of support to appropriate entities; appearing in support at public hearings and/or community hearings; contacting the mayor and/or other elected or appointed officials to express support; and generally working together with the Owner/Construction Manager to obtain full entitlements and approvals for the Project to proceed. (Emphasis added.)

118. Fields responded to Olbrei's email: "Thanks for the LOU. As I'm sure you're aware, your proposed language is a far cry from what we discussed at breakfast a few weeks ago. As we mentioned to you, this project can only support a certain budget given its location and the project's projected rents. As a result, we cannot commit to anyone unless the numbers work. Nothing will change that. What we're willing to do is make a good faith effort to try to find ways to work with the Carpenters Union and for that matter, anyone, that can help us build this project at a feasible budget. That being said, please find attached redlined LOU that reflects our discussion and consistent position."

119. The next day, on May 25, Pantoja of LIUNA wrote to Fields that contrary to what they discussed at their breakfast meeting, they could not agree to anything other than the exclusivity arrangement in the proposed Letter of Commitment ["LOC"] because "of the Favored Nation Clause as it relates to our agreement with G.H. Palmer." Pantoja wrote that LIUNA "couldn't enter into anything different then [*sic*] we have with G.H. Palmer." Like SWRCC's LOU, in exchange to agreeing to use exclusive union under the LOC, LIUNA promised via its LOC:

> 17. The Union on its own behalf and/or through their participating individuals, members, labor organizations, unions, officers, representatives, business managers, agents, consultants, independent contractors (including any agents, persons or entities who assisted with preparation of comment letters and related appendices) or attorneys (or any other person action on their behalf or otherwise under the direction or control), or any of them (collectively 'Affiliated Parties') ***will not***

> ***participate in any meetings or hearings to challenge, oppose, contest, take adverse actions or bring suit or file any claim, complaint or opposition in any forum or before any agency, body, court or other tribunal, whether administratively, quasi-judicially, judicially or otherwise regarding a Residential/Commercial Podium Project covered by this Agreement.*** (Emphasis Added.)
>
> a. Furthermore, on behalf of itself and its Affiliated Parties, ***Union agrees that it will not assist, support, encourage or cooperate with any Affiliated Parties, or any other person or entity of any kind who challenges, opposes, contests, intervenes, takes adverse action or bring suit or files any claim, complaint or opposition in any forum or before any agency, body, court or other tribunal, whether administratively, quasi-judicially, judicially or otherwise, regarding a Residential/Commercial Podium Project and will take all lawful and good faith steps it deems necessary to ensure that all of its Affiliated Parties abide by the terms in the preceding paragraph and this Agreement.*** (Emphasis added.)

VI. When Icon did not cede to the Union Defendants' exclusivity demands, the Union Defendants brought their sham litigation to state court.

120. Having failed in their efforts to coerce, intimidate, extort and pressure Icon to use exclusively union contractors on the Project through its abuse of the administrative process from May 2017 through August 2018, the Union Defendants continued to press their sham CEQA challenges to delay the Project and drive up its costs by filing a Petition for Writ of Mandate in the Superior Court of the State of California County of Los Angeles. The Petition again asserted violations of CEQA and requested that the Court set aside the Project approvals.

121. The same day, SWRCC Senior Field Representative Dan Langford told Fields during a phone conversation that the Union Defendants had specifically budgeted money for their CEQA litigation scheme. Langford made it clear that the Union Defendants did not truly believe in the substance of their CEQA claims by telling Fields that if the Union Defendants did not challenge Icon's Project they would simply challenge another developer's project. Langford

further made clear that the Union Defendants' true goal was to delay the Project and drive up costs.

122. Immediately following Fields' discussion with Langford, Fields texted Ron Diament from SWRCC the following: "I spoke with Dan and he emphatically said that you want the full labor agreement or you'll sue. He suggested that we'd be better off paying for it now by hiring you versus getting the project delayed and the impacts it would cause. He boasted that they have the budget for it so it won't affect you but will significantly affect us."

123. Icon has continued to discuss with the SWRCC and the LIUNA the importance of the Project to the community and its willingness to use union contractors as well as nonunion contractors through a competitive bidding process, but the Union Defendants continue to abuse the CEQA process to force Icon to cede to their demands.

VII. The Union Defendants have a pattern and practice of filing sham CEQA litigation to delay large development projects within Los Angeles County (as well in other California counties).

124. Upon information and belief, the Union Defendants maintain databases that track general contractors, subcontractors, permit applications, as well as when cities release draft Mitigated Negative Declarations (environmental reports that are less comprehensive than EIRs) and EIRs for major construction projects. The Union Defendants use the databases to decide which contractors to target for CEQA litigation based on the size and scope of the project, without regard to the merits of the CEQA claims.

125. Upon information and belief, the Union Defendants used those databases to identify the Icon Panorama Project as a target for its scheme.

126. This is not the first time that the Union Defendants filed sham oppositions and appeals based on false CEQA claims to delay development projects within Los Angeles County, California for the sole purpose of coercing,

intimidating, extorting, and pressuring developers to surrender to their demands. The Union Defendants use the CEQA process as a means to secure control of the labor market and dictate the cost of labor for all construction projects in the County.

127. As an example, upon information and belief, LIUNA and/or SWRCC are currently utilizing the same sham challenges under the guise of alleging CEQA-based claims on the following large mixed use projects in Los Angeles County representing millions of square feet of residential and commercial space that include thousands of units and billions of dollars of development at a time when Los Angeles is experiencing a significant housing shortage that has resulted in a homeless crisis:

- 6901 West Santa Monica Boulevard, Los Angeles, CA
- 222 West Second Street, Los Angeles, CA
- 129-135 West College Street, Los Angeles, CA
- 1240-1260 South Figueroa Street, Los Angeles, CA
- 1107-1121 North Mansfield Avenue, and 1106-1126 North Orange Drive, Los Angeles, CA
- 520-532 South Mateo Street, Los Angeles, CA
- 676 South Mateo Street, Los Angeles, CA
- 1001 Olympic Blvd., Los Angeles, CA
- 1033-1057 South Olive Street, Los Angeles, CA
- 1375 St. Andrews Place, Los Angeles, CA
- 1030-1380 North Broadway and 1251 North Spring Street, Los Angeles, CA
- 1000-1022 South Hill Street, Los Angeles, CA and 220 and 226 West Olympic Blvd., Los Angeles, CA
- 1000 West Temple Street, Los Angeles, CA

FIRST CAUSE OF ACTION

Attempted Monopolization in Violation of

Section 2 of the Sherman Act

128. Paragraphs 1 through 127 are re-alleged and reincorporated herein.

129. The sham and baseless oppositions to construction permit applications on environmental or regulatory grounds is a strategy that labor organizations like the Union Defendants in this case use to eliminate competing nonunion contractors from the labor market. Developers who cannot pledge to use exclusively union labor find their projects blocked entirely or their costs increased significantly if their permits are challenged. Thus, developers like Icon suffer injury no matter which option they choose—higher labor costs if they pledge to use only union labor on their projects, or higher costs in delays of their projects if they do not succumb to the Union Defendants' tactics and defend against the sham litigation and proceedings that the Union Defendants pursue both administratively and in the courts.

130. Through such illegal conduct, the Union Defendants seek to obtain monopoly power over the sale of labor services to developers (like Icon) of large real estate projects within Los Angeles County, California (the "Relevant Market"). Such large real estate projects are generally those that fall within the purview of the Department of City Planning's "Major Projects Unit," which enables the Department to conduct a more thorough and focused analysis of large, complex projects that have the potential to generate the most significant effects on the City's infrastructure, local economy, and environment.

131. Unions, Icon, other project owners/construction contractors which use nonunion labor, other project owners/construction contractors which use union labor only, and the community at large recognize the existence of the Relevant Market as an area of effective competition for labor services due to the

high demand and desirability of project development and construction such as Icon's Panorama Project.

132. The Union Defendants compete against nonunion contractors in the Relevant Market.

133. The Union Defendants have sought to exercise control and monopoly power over the Relevant Market by engaging in predatory, unlawful, fraudulent and/or other anti-competitive business practices, including but not limited to initiating or threatening to initiate sham and objectively baseless CEQA-based protests and litigation that will prevent or delay the development of construction (including the Project) within the Relevant Market. Such baseless protests and lawsuits, which the Union Defendants file over and over again, are the means by which they conceal their attempts to control/lower the supply of labor and drive up the cost of using nonunion labor such that nonunion contractors are excluded from the Relevant Market, interfering directly with Icon's relationships with, and right to open competitive bidding to, construction contractors that use nonunion labor.

134. The Union Defendants' lawsuits and threats of lawsuits represent a significant barrier to entry to the Relevant Market for any price-competitive nonunion contractor that seeks to obtain work from developers like Icon. By raising the aggregate wage rate, the Union Defendants' anti-competitive activities also drive up the cost of projects because only union labor can be used, allowing the Union Defendants to maintain their market power in such downstream markets. As a result of the Unions' illegal actions, market labor prices will rise to the level set by the Union Defendants when nonunion contractors are driven out of the market.

135. The Union Defendants' acts have prevented or suppressed competition, and continue to prevent or suppress competition, and these acts have

permitted the Union Defendants to seek a dominant and monopolistic market position and wage control in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2.

136. The Union Defendants have made clear their intent to prevent development of any additional project in the Relevant Market on which union labor is not used. Their objective is to obtain a monopoly by increasing and controlling wage rates and/or destroying competition in the Relevant Market and to obtain and maintain a dominant market position.

137. Competition in the Relevant Market has suffered, and will continue to suffer, regardless of whether monopoly power is attained because through their anti-competitive activities, the Union Defendants will obtain the unilateral power to set wage rates in the Relevant Market.

138. The Union Defendants have willfully sought to acquire and maintain a monopoly in the Relevant Market through predatory, unlawful, fraudulent and/or other anti-competitive business practices. The Union Defendants' intent to monopolize can be inferred from the nature of their illegal conduct.

139. The Union Defendants' intent, power, and resources create a dangerous probability that they will succeed in monopolizing the Relevant Market, causing the significant anticompetitive consequences described above.

140. The Union Defendants' illegal conduct is not exempted from the Sherman Act or any other anti-trust law because they have sought to act in concert with project-owners like Icon, construction contractors, and consulting companies (SWAPE and SEM) – all non-labor groups – to achieve a monopoly in the Relevant Market and have sought to obtain that monopoly through illegitimate means and for illegitimate purposes. In particular, if developers (like Icon) or their contractors/designated agents do not succumb to the Union Defendants' demands that they use exclusively union labor on their construction projects, the Union

Defendants continue to assert their sham and objectively baseless protests and litigation, which have nothing to do with the legitimate goals of a union or the purpose of labor law protections.

141. Icon is a "person" entitled to sue under 15 U.S.C. § 15 because it has been injured as a direct result of the Union Defendants' antitrust violations described herein. Icon's injury was caused by a substantial reduction in the available supply of labor in the Relevant Market as a result of the Union Defendants' illegal conduct, which was intended to, and did in fact, have an anticompetitive effect beyond the costly delays in Icon's Project and the other damages it has suffered. Specifically, the Union Defendants' illegal conduct has removed nonunion labor from the Relevant Market: either developers (i) succumb and pledge to use exclusively union labor, substantially driving up their labor costs, or (ii) decline such a pledge, suffer delays to their projects caused by the Union Defendants' sham and baseless CEQA litigation, and incur substantial litigation costs in defending against that litigation.

142. As a direct and proximate result of the Union Defendants' above-described anti-competitive activities, Icon has suffered business injuries and/or loss of property by, among other things, threats to their project, loss of goodwill, significant lost profits, increase in interest rates, costs increases due to increases in the minimum wage, possible retail lease losses, costs of suit and attorneys' fees, a loss of revenue that will impact prices paid by consumers of the Project and other projects that project-owners seek, or will seek, to develop, and significant cost overruns due to delays in construction and carrying costs of those projects.

143. As a proximate result of the wrongful acts herein alleged, Icon has been damaged in an amount to be determined at trial.

144. Icon has suffered, and will continue to suffer, irreparable harm, entitling Icon to injunctive relief, if the Union Defendants are not enjoined from engaging in their anti-competitive conduct.

SECOND CAUSE OF ACTION

Conspiracy to Monopolize in Violation of Section 2 of the Sherman Act

145. Paragraphs 1 through 144 are re-alleged and reincorporated herein.

146. The Union Defendants knowingly and willfully conspired among themselves and others, including the non-labor groups described above, to monopolize the Relevant Market.

147. The Union Defendants' specific intent to monopolize the Relevant Market is apparent from the character of the Unions' conduct and their actions as alleged in this Complaint.

148. The Union Defendants committed overt acts and engaged in other conduct pursuant to, and in furtherance of, the conspiracy. The Union Defendants have engaged in predatory, unlawful, fraudulent and/or other anti-competitive business practices directed toward achieving the objective of controlling labor costs and destroying competition in the Relevant Market as described above.

149. The Union Defendants did the acts and things alleged in this Complaint pursuant to, and in furtherance of, the conspiracy. By virtue of the Union Defendants' statements, behavior, conduct, overt acts, and omissions to prevent or substantially delay Icon from proceeding with the Project and other construction projects, the Union Defendants have the specific intent to monopolize the Relevant Market by controlling wage rates and excluding nonunion contractors and owner-developers which choose to work with nonunion contractors (like Icon) from the construction industry.

150. Icon is a "person" entitled to sue under 15 U.S.C. § 15, because it has been injured as a direct result of the Union Defendants' antitrust violations

described herein. Icon's injury was caused by a substantial reduction in the available supply of labor in the Relevant Market as a result of the Union Defendants' illegal conduct, which was intended to, and did in fact, have an anticompetitive effect beyond the costly delays in Icon's Project and the other damages it has suffered. Specifically, the Union Defendants' illegal conduct has removed nonunion labor from the Relevant Market: either developers (i) succumb and pledge to use exclusively union labor, substantially driving up their labor costs, or (ii) decline such a pledge, suffer delays to their projects caused by the Union Defendants' sham and baseless CEQA litigation, and incur substantial litigation costs in defending against that litigation.

151. As a direct and proximate result of the Union Defendants conspiracy to engage in anti-competitive activities in violation of the Sherman Act, Icon has suffered business injuries and/or loss of property by, among other things, threats to their projects, loss of goodwill, significant lost profits, costs of suit and attorneys' fees, a loss of revenue that will impact prices paid by consumers for the Project and other projects Icon and other owners seek to develop, and significant cost overruns due to delays in construction of those projects.

152. As a proximate result of the wrongful acts herein alleged, Icon has been damaged in an amount to be determined at trial.

153. Icon has suffered, and will continue to suffer, irreparable harm, entitling Icon to injunctive relief, if the Union Defendants are not enjoined from engaging in their anti-competitive conduct.

THIRD CAUSE OF ACTION

Directing a "Group Boycott" in Violation of Section 1 of the Sherman Act

154. Paragraphs 1 through 153 are re-alleged and reincorporated herein.

155. The Union Defendants have sought to control/lower the supply of labor and drive up the cost of using nonunion labor such that nonunion

contractors are excluded from the Relevant Market by organizing and leading an unlawful group boycott in violation of Section 1 of the Sherman Act.

156. The Union Defendants have directed and orchestrated concerted efforts between and among various union contractors in the Relevant Market to enter into tacit and/or express agreements with the Union Defendants and each other to offer developers only union labor on any projects within the Relevant Market and refuse to work with developers who do not accede to their demands to use only union labor.

157. For example, as explained above in Paragraphs 112-114, 116-119, Defendant LIUNA refused to negotiate with Icon over an alternative labor arrangement, in part, because LIUNA entered a "most favored nation" agreement with a competing developer whereby LIUNA agreed with the competing developer not to enter more favorable agreements with other developers, such as Icon. Given the lower costs of nonunion labor, this type of agreement ensures that LIUNA, and the union contractors which participate in the unlawful group boycott with LIUNA described above, will never agree to allow a developer to use any nonunion labor on any project, effectively foreclosing nonunion contractors from entering the Relevant Market.

158. On information and belief, union contractors who have agreed to participate in the unlawful group boycott described above have refused to work with developers like Icon, and/or bid on any development projects, where the developer does not pledge to use only union labor.

159. As part of this unlawful group boycott, the Union Defendants have made clear their intent to prevent development of medium to large scaled projects that require environmental review in the Relevant Market on which union labor is not used. Their objective is to obtain a monopoly by increasing and controlling

wage rates and/or destroying competition in the Relevant Market and to obtain and maintain a dominant market position.

160. The Union Defendants have willfully sought to acquire and maintain a monopoly in the Relevant Market through predatory, unlawful, fraudulent and/or other anti-competitive business practices such as directing the above-described group boycott. The Union Defendants' intent to monopolize can be inferred from the nature of their illegal conduct.

161. The Union Defendants' illegal conduct is not exempted from the Sherman Act or any other anti-trust law because they have sought to act in concert with construction contractors and consulting companies like SWAPE and SEM – all non-labor groups – to achieve a monopoly in the Relevant Market and have sought to obtain that monopoly through illegitimate means and for illegitimate purposes, including an unlawful group boycott as described above.

162. The Union Defendants-led unlawful group boycott is a per se violation of section 1 of the Sherman Act. Alternatively, the Union Defendants-led unlawful group boycott violates the Rule of Reason because it harmed not only Icon's business, but also competition in the Relevant Market among suppliers of labor for development projects as described herein.

163. Icon is a "person" entitled to sue under 15 U.S.C. § 15, because it has been injured as a direct result of the Union Defendants' antitrust violations described herein. Icon's injury was caused by a substantial reduction in the available supply of labor in the Relevant Market as a result of the Union Defendants' illegal conduct, which was intended to, and did in fact, have an anticompetitive effect beyond the costly delays in Icon's Project and the other damages it has suffered. Specifically, the Union Defendants' illegal conduct has removed nonunion labor from the Relevant Market: either developers (i) succumb and pledge to use exclusively union labor, substantially driving up their labor

costs, or (ii) decline such a pledge, suffer delays to their projects caused by the Union Defendants' sham and baseless CEQA litigation, and incur substantial litigation costs in defending against that litigation.

164. As a direct and proximate result of the Unions' above-described anti-competitive activities, Icon has suffered business injuries and/or loss of property by, among other things, threats to their projects, loss of goodwill, significant lost profits, costs of suit and attorneys' fees, a loss of revenue that will impact prices paid by consumers of the Project and other projects that project-owners seek, or will seek, to develop, and significant cost overruns due to delays in construction of those projects.

165. As a proximate result of the wrongful acts herein alleged, Icon has been damaged in an amount to be determined at trial.

166. Icon has suffered, and will continue to suffer, irreparable harm, entitling Icon to injunctive relief, if the Union Defendants are not enjoined from engaging in their anti-competitive conduct.

FOURTH CAUSE OF ACTION

Conspiracy and Attempt to Enter Into Exclusive Dealing Arrangement in Violation of Section 3 of the Clayton Act and Section 1 of the Sherman Act

167. Paragraphs 1 through 166 are re-alleged and reincorporated herein.

168. By engaging in predatory, unlawful, fraudulent and/or other anti-competitive business practices, including but not limited to initiating or threatening to initiate sham and objectively baseless CEQA-based protests and litigation that will prevent or delay the development of construction (including the Project) within the Relevant Market, the Union Defendants seek to create an unlawful exclusive dealing arrangement between themselves and contractors which work on development projects like Icon's Project, all of which is prohibited by section 3 of the Clayton Act, 15 U.S.C. § 14. Under this exclusive dealing

arrangement, whereby contractors pledge to the Union Defendants in advance of any bids the contractors may submit on construction projects in the Relevant Market that they will use exclusively union labor on such projects, union contractors become the exclusive source of labor services available for purchase by developers like Icon.

169. The Union Defendants knowingly and willfully conspired among themselves and others, including the non-labor groups described above, to obtain an exclusive dealing arrangement in violation of section 3 of the Clayton Act.

170. The Union Defendants' specific intent to monopolize the Relevant Market through an unlawful exclusive dealing arrangement is apparent from the character of the Union Defendants' conduct and their actions as alleged in this Complaint.

171. The Union Defendants committed overt acts and engaged in other conduct pursuant to, and in furtherance of, the above-described conspiracy. The Union Defendants have engaged in predatory, unlawful, fraudulent and/or other anti-competitive business practices directed toward achieving the objective of controlling labor costs, eliminating or foreclosing a substantial share of the nonunion labor supply that exists or previously existed in the Relevant Market, and destroying competition in the Relevant Market.

172. The Union Defendants did the acts and things alleged in this Complaint pursuant to, and in furtherance of, the conspiracy. By virtue of the Union Defendants' statements, behavior, conduct, overt acts, and omissions to prevent or substantially delay Icon from proceeding with the Project and other construction projects, the Union Defendants have the specific intent to enter into an exclusive dealing arrangement in violation of Section 3 of the Clayton Act.

173. The Union Defendants' illegal conduct is not exempted from the Clayton Act or any other anti-trust law because they have sought to act in concert

with construction contractors and certain consulting companies (SWAPE and SEM) – all non-labor groups – to achieve a monopoly in the Relevant Market and have sought to obtain that monopoly through illegitimate means and for illegitimate purposes. In particular, if owners (like Icon) or their contractors/designated agents do not succumb to the Union Defendants' demands that they use only union labor on their construction projects, the Union Defendants continue to assert their sham and objectively baseless protests and litigation, which have nothing to do with the legitimate goals of a union or the purpose of labor law protections.

174. The exclusive dealing arrangement described above violates the Rule of Reason because it harmed not only Icon's business, but also competition in the Relevant Market among suppliers of labor for development projects as described herein.

175. Icon is a "person" entitled to sue under 15 U.S.C. § 15, because it has been injured as a direct result of the Union Defendants' antitrust violations described herein. Icon's injury was caused by a substantial reduction in the available supply of labor in the Relevant Market as a result of the Union Defendants' illegal conduct, which was intended to, and did in fact, have an anticompetitive effect beyond the costly delays in Icon's Project and the other damages it has suffered. Specifically, the Union Defendants' illegal conduct has removed nonunion labor from the Relevant Market: either developers (i) succumb and pledge to use exclusively union labor, substantially driving up their labor costs, or (ii) decline such a pledge, suffer delays to their projects caused by the Union Defendants' sham and baseless CEQA litigation, and incur substantial litigation costs in defending against that litigation.

176. As a direct and proximate result of the Union Defendants conspiracy to enter into an exclusive dealing arrangement and engage in anti-competitive

activities in violation of the Clayton Act, Icon has suffered business injuries and/or loss of property by, among other things, threats to their projects, loss of goodwill, significant lost profits, costs of suit and attorneys' fees, a loss of revenue that will impact prices paid by consumers for the Project and other projects Icon and other owners seek to develop, and significant cost overruns due to delays in construction of those projects.

177. As a proximate result of the wrongful acts herein alleged, Icon has been damaged in an amount to be determined at trial.

178. Icon has suffered, and will continue to suffer, irreparable harm, entitling Icon to injunctive relief, if the Union Defendants are not enjoined from engaging in their anti-competitive conduct.

FIFTH CAUSE OF ACTION

Violation of Labor Management Relations Act, 29 U.S.C. § 187

179. Paragraphs 1 through 178 are re-alleged and reincorporated herein.

180. Section 303(a) of the Labor Management Relations Act makes it unlawful for a labor organization, like the Union Defendants, to engage in conduct defined as an unfair labor practice under section 8(b)(4) of the National Labor Relations Act, 29 U.S.C. 158(b)(4).

181. Under section 8(b)(4) of the NLRA, it is an unfair labor practice for a union to threaten, coerce, or restrain an employer with the object of forcing the employer to enter into any agreement prohibited by section 8(e) of the NLRA or forcing or requiring any employer to cease doing business with any other employer.

182. Under section 8(e) of the NLRA, labor organizations and employers are prohibited from entering into any agreement, express or implied, whereby such employer ceases or refrains or agrees to cease or refrain from doing business or otherwise dealing with the products of any other employer.

183. The Union Defendants used, and are using, the sham litigation tactics described herein to coerce Icon to sign project labor agreements in which Icon pledges to use exclusively union labor on the Panorama Project. Thus, the object of the Union Defendants' unlawful conduct is to force Icon not to purchase the labor services offered by nonunion contractors (i.e., "other employers") or otherwise work with nonunion contractors on the Project. Specifically, the Union Defendants' unlawful conduct coerces Icon into either (i) succumbing and signing the project labor agreements, eliminating competitive bidding and substantially driving up Icon's labor costs, or (ii) declining such a pledge, suffering delays to their projects caused by the Union Defendants' sham and baseless CEQA litigation, and incurring substantial litigation costs in defending against that litigation.

184. The project labor agreements are unlawful under section 8(e) of the NLRA because the Union Defendants do not have a collective bargaining relationship with Icon, and because the project labor agreements are not directed towards the "reduction of friction" that may be caused when union and nonunion employees of different employers are required to work together at the same jobsite. To the contrary, the Union Defendants' sole motivation in coercing Icon to sign the unlawful project labor agreements is to monopolize the supply of construction labor for projects within the Relevant Market, as described herein.

185. Under section 303(b) of the LMRA, an employer "injured in his business or property by reason of any violation" of section 303(a) of the Act may sue for and recover damages and the cost of suit.

186. Icon has standing to bring suit under section 303(b) because it was the specific target of the Union Defendants' illegal conduct in attempting to coerce Icon to enter into the project labor agreements. As a direct and proximate result of the Union Defendants' illegal conduct, Icon has suffered business injuries and/or loss

of property by, among other things, threats to their projects, loss of goodwill, significant lost profits, costs of suit and attorneys' fees, a loss of revenue that will impact prices paid by consumers for the Project and other projects Icon and other owners seek to develop, and significant cost overruns due to delays in construction of those projects.

187. As a proximate result of the wrongful acts herein alleged, Icon has been damaged in an amount to be determined at trial.

SIXTH CAUSE OF ACTION

Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(c)

188. Paragraphs 1 through 187 are re-alleged and reincorporated herein.

189. Icon is a "person" within the meaning of 18 U.S.C. §§ 1961(3) and 1964(c).

190. The Union Defendants constitute an "enterprise" engaged in, and whose activities affect, interstate commerce within the meaning of 18 U.S.C. §§ 1961(4) and 1962 (the "Enterprise"). The Enterprise exists separate and apart from the pattern of racketeering activity alleged and the Union Defendants themselves.

191. Defendants Alexis Olbrei, Pete Rodriguez, Dan Langford, Ron Diament, Angel Olvera, Sergio Rascon, and Ernesto Pantoja are each "persons" within the meaning of 18 U.S.C. §§ 1961(3) and 1962(c), who are employed by and/or associated with the Enterprise.

192. From April 2017 until the present, the "persons" identified in Paragraph 191 conducted, participated in, engaged in, conspired to engage in, or aided and abetted the conduct of the affairs of the Enterprise through a pattern of racketeering activity within the meaning of 18 U.S.C. §§ 1961(1), 1961(5), and 1962(c). The predicate acts constituting the pattern of unlawful activity engaged in by the "persons" identified in Paragraph 191 constitute:

a. Extortion, as defined in 18 U.S.C. § 1961(1)(B) and 18 U.S.C. § 1951, including but not limited to:

i. The sham and objectively baseless litigation and related conduct described above beginning in April 2017 and continuing to the present, in which one or more of the "persons" identified in Paragraph 191 threatened to stop and/or delay the Project through unfounded CEQA and/or related challenges and litigation if Icon continued its efforts to develop the Project or other projects in the Relevant Market. Icon's fear of economic loss from the extortion is reasonable. This extortion obstructed interstate commerce;

ii. Upon information and belief, additional acts of extortion were engaged in by one or more of the "persons" identified in Paragraph 191 beginning on or after April 2017. The information regarding each of those separate acts of extortion is within the custody and control of the Union Defendants and/or their agents.

b. Mail fraud, as defined in 18 U.S.C. § 1961(1)(B) and 18 U.S.C. § 1341, including but not limited to, one or more of the "persons" identified in Paragraph 191 used the U.S. mails in around April 2017 through August 2018 to submit to the Planning Committee correspondence, petitions, "written comments," and/or other documents that made false and misleading factual representations about the size, scope and environmental impact of the Project. Upon information and belief, one or more of the "persons" identified in Paragraph 191 made additional uses of the U.S. mails to circulate materially false and misleading information and/or documents about the Project. The information regarding those additional separate mail fraud violations is entirely within the custody and control of the Union Defendants and/or their agents.

193. These acts all occurred after the effective date of RICO and more than two such acts occurred within ten years of one another.

194. All of the predicate acts described herein were continuous so as to form a pattern of racketeering activity in that the "persons" identified in Paragraph 191 engaged in the predicate acts over a substantial period of time and such predicate acts have become their regular way of conducting business, and these business practices will continue indefinitely into the future unless restrained by this Court. Specifically, the "persons" identified in Paragraph 191 knowingly violated the extortion, mail fraud statutes and other statutes discussed in the preceding paragraphs in connection with their illegal schemes. Each of these acts constitutes a separate and distinct racketeering activity, as defined in 18 U.S.C. § 1961(a).

195. The "persons" identified in Paragraph 191 have engaged in numerous illegal acts in connection with their fraudulent schemes, as described in the preceding paragraphs. Those illegal acts constitute predicate acts of racketeering activity within the meaning of 18 U.S.C. § 1961(1) and were perpetrated for the same or similar purpose, and had similar results, participants, victims, and methods of communication.

196. As a direct and proximate result of, and by reason of the activities of the "persons" identified in Paragraph 191, and their conduct in violation of 18 U.S.C. § 1962(c), Icon has been injured in its business or property within the meaning of 18 U.S.C. § 1964(c). The above-described actions were taken, among other purposes described herein, with the specific intent and for the purpose of carrying out the Union Defendants' scheme and artifice to defraud and to conduct or participate in the affairs of the Enterprise. These acts are capable of repetition. Furthermore, the extortionate conduct aimed at Icon was done specifically to prevent construction of the Project and any other project which would utilize non-union labor.

197. As a result of these actions, Icon has been injured in its business or property, having suffered, among other things, threats to their projects, significant lost profits, lost goodwill, costs of suit and attorneys' fees, and significant cost overruns due to delays in construction of the Project.

198. Icon is entitled to recover treble the damages it has sustained together with the cost of the suit, including reasonable attorneys' and experts' fees.

199. Icon has suffered, and will continue to suffer, irreparable harm, entitling Icon to injunctive relief, if the Union Defendants are not enjoined from engaging in their anti-competitive conduct.

SEVENTH CAUSE OF ACTION

Unfair Competition, Cal. Bus. & Prof. Code § 17200, Against All Defendants

200. Paragraphs 1 through 199 are re-alleged and reincorporated herein.

201. Icon brings this action on its own behalf as an entity that has suffered injury in fact and lost money or property as a result of the Union Defendants' unfair competition within Los Angeles County, California.

202. The Union Defendants have engaged in unfair competition by committing acts that are unlawful, unfair, and fraudulent business practices or acts as defined by the California Business and Professions Code sections 17200, *et seq.* by, among other things, engaging in the acts described above, including but not limited to:

a. Conduct that constitutes or threatens incipient violation of the Sherman and Clayton Acts, 15 U.S.C. § 2, *et seq.*, and/or violates the policy and spirit of these laws by significantly threatening or actually harming lawful competition, including but not limited to the conduct described in the first, second, third, and fourth causes of action;

b. Conduct that violates the Racketeering Influenced and Corrupt Organizations Act, 18 U.S.C. § 1960, *et seq.*, including but not limited to the predicate acts described in Paragraphs 192-196 above; and

c. Initiating and maintaining frivolous sham inquiries or objections to the Project, with the sole purpose of halting or delaying completion of the Project.

203. The acts described in this Complaint constitute numerous individuals and combined unfair, unlawful, and/or fraudulent acts or practices within the meaning of Business and Professions Code sections 17200, *et seq.* The totality of the Union Defendants' conduct has enabled the Union Defendants, among other things, to dominate and control competition, including the sale of labor services to construction contractors and project developers, including but not limited to Icon, within the Relevant Market. The Union Defendants' conduct as detailed above represents a significant barrier to entry to the Relevant Market for any developer-owner, like Icon, which seeks or may seek to use a price-competitive nonunion contractor. By raising the aggregate wage rate, the Unions' anti-competitive activities raise barriers to entry in both project-owner and construction contractor markets because projects will become cost-prohibitive or more costly to complete, allowing the Union Defendants to maintain their market power in such downstream markets. As a result of the Union Defendants' illegal actions, market labor prices will rise to the level set by the Union Defendants when nonunion contractors are driven out of the market.

204. The Union Defendants actively and directly participated in or provided substantial assistance to others who committed the unfair, unlawful and/or fraudulent acts or practices described herein.

205. The gravity of the harm of the Union Defendants' conduct on Icon as well as on nonunion contractors and labor within the Relevant Market outweighs

any potential benefits of such conduct. The Union Defendants' conduct described herein offends established public policies, is immoral, unethical, oppressive, unscrupulous, and is substantially injurious to consumers.

206. The Union Defendants' unfair and unlawful business practices are likely to continue to harm Icon, nonunion contractors and labor, and consumers, and present a continuing threat to the public.

207. As a result of these actions, Icon has been injured in its business or property, having suffered, among other things, threats to their projects, significant lost profits, lost goodwill, costs of suit and attorneys' fees, and significant cost impacts and overruns due to delays in construction of the Project.

208. Icon seeks a permanent injunction pursuant to Business and Professions Code section 17203, restraining and enjoining the Union Defendants from continuing the acts of unfair competition set forth above;

209. Icon requests during this action a preliminary injunction pursuant to Business and Professions Code section 17203 to enjoin and restrain the Union Defendants from the acts of unfair competition set forth above;

210. Icon is entitled to recover restitutionary disgorgement of profits and other economic benefits unjustly obtained by the Union Defendants from the Icon as a result of the Union Defendants' acts of unfair competition;

211. Icon requests all costs, expenses and attorneys' fees of suit pursuant to 17 U.S.C. §§ 503-05; and

212. Any other and further relief as the court deems just and equitable.

WHEREFORE, Plaintiffs request judgment against Defendants, and each of them, for the following:

ON THE FIRST, SECOND, THIRD, FOURTH AND FIFTH CAUSES OF ACTION

213. The Union Defendants and their agents be enjoined during this litigation, and permanently thereafter, from ongoing and future acts constituting violations of Federal antitrust laws to maintain or secure a monopoly, as provided for by 15 U.S.C. § 26;

214. Treble damages under section 4 of the Clayton Act, 15 U.S.C. § 15, arising from harm Icon has sustained as a result of the Union Defendants' violation of section 2 of the Sherman Act, 15 U.S.C. § 2;

215. Damages under 29 U.S.C. § 187(b);

216. Prejudgment interest;

217. Costs of suit incurred;

218. All costs, expenses and attorneys' fees; and

219. Such other and further relief as the court deems just and proper.

ON THE SIXTH CAUSE OF ACTION

220. Issue a permanent injunction restraining the Union Defendants, their officers, employees, agents, affiliates, parents, subsidiaries and all other persons who act in concert with them from making false, misleading or deceptive statements or representations about the Project;

221. Issue a permanent injunction restraining the Union Defendants, their officers, employees, agents, affiliates, parents, subsidiaries and all other persons who act in concert with them from extorting Icon;

222. Award damages against the Union Defendants, jointly and severally, for a sum of money equal to the amount of damages Icon has sustained or will sustain, said amount to be trebled pursuant to 18 U.S.C. § 1964(c);

223. Award prejudgment interest on the amount of damages Icon has sustained;

224. Award all costs of litigation incurred by Icon, including its reasonable attorneys' fees and expert witness fees, pursuant to 18 U.S.C. § 1964(c);

225. Award punitive damages; and

226. Award such other further relief as the Court deems just and equitable.

ON THE SEVENTH CAUSE OF ACTION

227. A permanent injunction pursuant to Business and Professions Code section 17203, restraining and the Union Defendants from continuing the acts of unfair competition set forth above;

228. During this action, a preliminary injunction pursuant to Business and Professions Code section 17203 to enjoin and restrain the Union Defendants from the acts of unfair competition set forth above;

229. The Union Defendants be ordered to restore all funds acquired by the acts of unfair competition set forth above pursuant to Business and Professions Code section 17203;

230. For all costs, expenses and attorney's fees of suit pursuant to 17 U.S.C. §§ 503-05; and

231. Any other and further relief as the court deems just and equitable.

DATED: January 9, 2019.

STEPTOE & JOHNSON LLP

s/ Jason Levin

Jason Levin
633 West Fifth Street, Suite 700
Los Angeles, California 90071

Karl M. Tilleman (*Pro Hac Pending*)
Alan Bayless Feldman (*Pro Hac Pending*)
201 E. Washington St., Suite 1600
Phoenix, AZ 85004

Attorneys for Plaintiff

EXHIBIT C

AKIN GUMP STRAUSS HAUER & FELD LLP
SUSAN KAY LEADER (SBN 216743)
STEPHANIE P. PRIEL (SBN 313085)
sleader@akingump.com
spriel@akingump.com
1999 Avenue of the Stars, Suite 600
Los Angeles, CA 90067-6022
Telephone: 310.229.1000
Facsimile: 310.229.1001

AKIN GUMP STRAUSS HAUER & FELD LLP
Lawrence D. Levien (*Pro Hac Vice*, application pending)
llevien@akingump.com
1333 New Hampshire Avenue, N.W.
Washington, D.C. 20036
Telephone: 202.887.4000

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF CALIFORNIA

'18CV2763 H KSC

EVANS HOTELS, LLC, a California limited liability company; BH PARTNERSHIP LP, a California limited partnership; EHSW, LLC, a Delaware limited liability company,

Plaintiffs,

v.

UNITE HERE! LOCAL 30; BRIGETTE BROWNING, an individual; SAN DIEGO COUNTY BUILDING and CONSTRUCTION TRADES COUNCIL, AFL-CIO; TOM LEMMON, an individual; and DOES 1-10,

Defendants.

COMPLAINT FOR:

1. **UNLAWFUL SECONDARY BOYCOTT**
2. **ATTEMPTED MONOPOLIZATION IN VIOLATION OF SECTION 2 OF THE SHERMAN ACT**
3. **CONSPIRACY TO MONOPOLIZE IN VIOLATION OF SECTION 2 OF THE SHERMAN ACT**
4. **VIOLATION OF THE RACKETEER INFLUENCED AND CORRUPT ORGANIZATIONS ACT, 18 U.S.C. § 1962(c)**
5. **VIOLATION OF THE RACKETEER INFLUENCED AND CORRUPT ORGANIZATIONS ACT, 18 U.S.C. § 1962(d), BY CONSPIRING TO VIOLATE 18 U.S.C. § 1962(c)**
6. **VIOLATION OF THE RACKETEER INFLUENCED AND CORRUPT ORGANIZATIONS ACT, 18 U.S.C. § 1962(d), BY CONSPIRING TO VIOLATE 18 U.S.C. § 1962(a)**
7. **VIOLATION OF THE RACKETEER INFLUENCED AND CORRUPT**

Plaintiffs Evans Hotels, LLC; BH Partnership, LP; and EHSW, LLC (collectively "Evans Hotels" or "Plaintiffs") allege as follows:

SUMMARY OF THE ACTION

1. This is a case about unions and union leaders that, in their quest for increased dues and market power, have abandoned traditional (and legal) statutory systems of labor democracy in favor of a pattern of abusive and unlawful secondary boycotts, sham "environmental" and zoning opposition, extortion, threats, and intimidation. Defendants Unite Here! Local 30, the San Diego County Building and Construction Trades Council, AFL-CIO, and their respective leaders, Brigette Browning and Tom Lemmon (collectively "Defendants"), have combined and conspired with a rotating cast of "concerned citizens" and groups–for hire–in an attempt to dominate, monopolize, and control the hospitality labor market and restrain trade in the prime tourism regions of San Diego. Defendants have engaged in this illegal behavior not to protect hotel workers, but to advance their own economic self-interest and to eliminate the development of any new or redeveloped non-union hotels in the prime tourism regions of San Diego.

2. For more than ten years, and with ever-increasing frequency, Defendants have followed and refined their "playbook": hold any non-union owner and developer hostage by impeding, delaying, or shutting down projects through threats of political strong-arming, greenmail, and unlawful secondary boycott activities. Defendants' conduct has delayed and, in many cases, shut down development of projects (and impeded the creation of tens of thousands of new jobs) at the expense of the residents of San Diego.

3. Defendants' playbook is designed for one objective and one objective only—to use unlawful measures to unionize all labor in the construction and operation of hospitality properties in San Diego. For Local 30 and Ms. Browning, this objective is achieved by securing a card check neutrality agreement at non-union properties. For Mr. Lemmon and San Diego County Building and Construction Trades Council, AFL-CIO, this means ensuring that hospitality developers agree to enter a Project Labor Agreement ("PLA") for an upcoming construction project. Defendants have made clear by their actions that they will stop at nothing to get what they want.

4. Defendants' success hinges in part on an alliance between Ms. Browning (president of Defendant Local 30) and Mr. Lemmon (business manager of Defendant San Diego County Building and Construction Trades Council, AFL-CIO). Ms. Browning and Mr. Lemmon jointly target projects with the aim of strong-arming their opponent into conceding to the unions' demands. Ms. Browning and Mr. Lemmon pledge mutual support to one another regardless of whether the project in question would benefit the members of the union they represent. Unless the developer agrees both to use union contractors for the construction of the project *and* to unionize the hotel workers, they will oppose the project.

5. The latest target of Defendants' unlawful activity is the redevelopment of the Bahia Resort Hotel. In the late 1980s, the Evans family submitted a redevelopment plan for the Bahia Resort Hotel in Mission Bay, San Diego. The City of San Diego asked the Evans family to put the redevelopment plan on hold, so the City could finish updating its comprehensive land-use plan for the entirety of Mission Bay Park (the Mission Bay Park Master Plan Update, "MBMPU"). In 1994, after years of public input, over one hundred public meetings, and approval of the California Coastal Commission, the MBMPU was adopted by the City of San Diego. The approved land use plan expressly contemplated the new and expanded footprint for the Bahia Hotel.

6. Evans Hotels is now seeking an amendment to the Bahia lease agreement in order to redevelop the Bahia in accordance with the MBMPU. Because the Bahia operates on City property and is subject to a ground lease, a lease amendment from the City is required as part of any significant redevelopment. Defendants have not engaged in negotiations with Evans Hotels regarding the use of organized labor in either the development of the Bahia or its staffing. Instead, Defendants presented sham environmental and zoning challenges to the lease amendment, made threats of extortion and delay, spearheaded misleading and false attacks on how or why the proposed amendment to the lease would be harmful for Mission Bay, and even unlawfully targeted Evans Hotels' business partners.

7. Defendants' conduct not only violates Section 8(b)(4) of the National Labor Relations Act and Section 303 of the Labor Management Relations Act, but in the aggregate demonstrates a pattern of anti-competitive, coercive conduct that is designed to stifle development, competition and commerce in San Diego.

THE PARTIES

8. Evans Hotels was founded by San Diego natives William and Anne Evans in 1953. It operates three hotel properties in and around San Diego: the Bahia Resort Hotel (the first commercial lessee on Mission Bay); the Catamaran Resort Hotel and Spa (on the northwest corner of Mission Bay); and The Lodge at Torrey Pines (a AAA Five Diamond resort located near Torrey Pines State Reserve and Torrey Pines Golf Course).

9. Plaintiff Evans Hotels, LLC is a California limited liability company located at 998 West Mission Bay Drive in San Diego. Evans Hotels, LLC is an employer within the meaning of the National Labor Relations Act ("NLRA"), 29 U.S.C. § 152(s). Evans Hotels, LLC is committed to its employees. It employs over 1,186 individuals, many of whom have been with the company and its predecessors for more than a decade. Indeed, 8% of Evans Hotels, LLC's employees have over 20 years of service, and the average tenure of all employees with over one year of service is 11 years. Annually, Evans Hotels, LLC pays over $39 million to its employees and over $9.5 million in employee benefits. Along with competitive health insurance and a matching 401(k) program, Evans Hotels, LLC offers all of its employees interest-free loans and hosts 35 free on-site health and wellness activities throughout the year. Evans Hotels, LLC is committed to training its employees and promoting based on merit. 45% of Evans Hotels, LLC's managers have received advanced training in leadership development.

10. The Bahia Resort Hotel, which opened in 1953, is located in the heart of Mission Bay on the Bahia Peninsula. The Bahia is a full-service hotel, offering, among other things, luxury amenities, on-site restaurants and bars, a fitness center, and resort activities. Plaintiff BH Partnership, LP is a California limited partnership located at 998 West Mission Bay Drive in San Diego. BH Partnership, LP owns the Bahia and is a party to the Bahia lease with the City. Members of the Evans family own and control BH Partnership, LP.

11. Plaintiff EHSW, LLC is a Delaware limited liability company located at 998 West Mission Bay Drive in San Diego. Members of the Evans family own and control EHSW, LLC.

12. Plaintiffs are informed and believe, and thereon allege, that Defendant Unite Here! Local 30 ("Local 30") is an unincorporated association and a labor union. Local 30 is the local affiliate

of the national UNITE HERE union (formed when the Union of Needletrades, Industrial and Textiles Employees combined with and the Hotel Employees & Restaurant Employees International). Local 30 represents service workers in the San Diego region. Local 30 maintains offices at 2436 Market Street (in San Diego) and at 5256 Mission Road (in San Diego County). Local 30 is a labor organization within the meaning of Section 152(4)-(5) of the NLRA, 29 U.S.C. Section 152(4)-(5).

13. Plaintiffs are informed and believe, and thereon allege, that Defendant Brigette Browning ("Ms. Browning") is the president of Local 30 and works in San Diego. Defendant Browning is an individual capable of holding a beneficial interest in property. On information and belief, Ms. Browning will receive increased salary and/or benefits if the number of union members increases.

14. Plaintiffs are informed and believe, and thereon allege, that Defendant Tom Lemmon is the business manager of Defendant San Diego County Building and Construction Trades Council, AFL-CIO, and lives and works in San Diego County. Defendant Lemmon is an individual capable of holding a beneficial interest in property. On information and belief, Mr. Lemmon will receive increased salary and/or benefits if the number of union members increases.

15. Plaintiffs are informed and believe, and thereon allege, that Defendant San Diego County Building and Construction Trades Council, AFL-CIO, consists of affiliated construction and trade unions in San Diego County. San Diego County Building and Construction Trades Council, AFL-CIO maintains an office at 3737 Camino del Rio South, Suite 202 in San Diego.

16. Plaintiffs are unaware of the true names or capacities, whether individual, corporate, associate, or otherwise, of Defendants sued herein as DOES 1 through 10, inclusive, and therefore sue these Defendants by such fictitious names. Plaintiffs will seek leave of the Court to amend this pleading to set forth the true names and capacities of said Doe Defendants when the same are ascertained. Plaintiffs are informed and believe, and on that basis allege, that each of the fictitiously named Defendants is responsible in some manner for the occurrences herein alleged, or was acting in concert with, and with the permission, approval, and authorization of, the specifically named Defendants.

JURISDICTION AND VENUE

17. This Court has jurisdiction over the subject matter of Plaintiffs' Complaint under 28 U.S.C. § 1331 and § 1337, because the Complaint arises under federal statutes: the NLRA; the Labor Management Relations Act ("LMRA"); the Sherman Act, 15 U.S.C. § 2; the Clayton Act, 15 U.S.C. §§ 15, 26; and the Racketeering Influenced and Corrupt Practices Act ("RICO"), 18 U.S.C. § 1964(a).

18. The conduct alleged in this Complaint occurred in interstate commerce, and has substantially affected and will continue to substantially and directly affect interstate commerce.

19. The Court has personal jurisdiction over the Defendants and venue is proper in the Southern District of California because: (1) the Defendants reside and/or conduct business in the State of California and at least one of the Defendants resides and/or conducts business in this District; and (2) substantial parts of the events or omissions giving rise to the claims alleged herein occurred in this District.

20. Plaintiffs are informed and believe, and thereon allege, that at all times mentioned herein and unless otherwise alleged, each Defendant was the agent, employee, partner, and/or representative of one or more of the other Defendants, and was acting within the course, scope, and authority of such relationship. Plaintiffs are further informed and believe, and thereon allege, that each of the Defendants herein consented to, ratified, and/or authorized the acts alleged herein as to each of the remaining Defendants.

DEFENDANTS' UNLAWFUL CONDUCT

Defendants' Goal: Increase Union Dues By Securing a Card Check Neutrality Agreement

21. The differences between traditional, lawful labor organization and Defendants' playbook cannot be overstated. Traditional, statutory NLRA rules focus on *employees*' wants and demands – only once 30% of a group of employees at a given location expresses an interest in a particular union can a union then seek a secret ballot election. The time period prior to the secret ballot allows employees to hear the pros and cons of unionization to fully inform and determine for themselves whether unionization is best for them. If the union prevails in the secret ballot, only then can the union negotiate with the employer on the employees' behalf. This process takes time, effort,

and money, and the union does not always prevail if the employees choose that unionization is not right for them after coming to an informed decision.

22. By contrast to an NLRA sanctioned election, a card check neutrality agreement effectuates a process that allows the union to bypass those legal requirements to unionize a property. Once a card check neutrality agreement is in place, the employer is required to provide the union with a list of all of its employees' names, addresses and home telephone numbers without the employees' knowledge or consent. Then, the employer must allow the union not just access to the property but to affirmatively provide a meeting room during employee work hours at the employer's facility for the representatives to meet with the employees while they are working. Regardless of how the employer feels, or what relevant information the employer holds, the employer is restricted from speaking with its employees about the ramifications of joining the union other than to say it "welcomes the union." The result of this sham employer "welcome" is that the employees never hear the practical consequences of joining the union so that they can make an informed decision.

23. And there are practical considerations that employees may want to consider in deciding whether to join a union. For instance, Evans Hotels' employees would not be able to consider that employee contributions to the Evans Hotels' 401(k) plan vest immediately and employer contributions vest in 25% increments over the course of five years. If an employee decides to leave Evans Hotels at any time, that employee keeps his or her vested account balance and may leave it in the Evans Hotels' 401(k) plan, directly roll it over into another qualified plan, or withdraw the account balance (subject to taxes and penalties for early distribution), regardless of where he or she decides to work, or what he or she decides to do. By contrast, the union's pension plan's benefits are generally not portable and are contingent on the employee working the required number of years at a union hotel that contributes to the pension plan. If that same employee leaves a contributing union hotel without a full five years of vesting service to work at a non-union property, the employee loses all his or her accrued benefits—even though these benefits were earned through contributions that came of out of the employee's wage and benefits package.

24. For obvious reasons, Defendants prefer a process where they control the information presented to employees and where the employer is forced to stay silent as to the consequences of

unionization. Defendants do not want to invest the time, effort, and money to allow employees to make an informed choice and face the risk of recovering nothing in the way of union dues and fees. Rather than seek employees' support, they pursue employers' surrender. Defendants seek to circumvent employees' rights to information, voting, and consent by seeking card check neutrality agreements as their preferred strategy for unionization.

25. Defendants know that if they are forced to try to organize workers the traditional way, there is a significant chance that they will be unsuccessful. With a card check neutrality agreement, there is no vote by the employees as to whether to join the union, much less a secret ballot. Instead, the union simply collects cards from the employees. Once a majority of cards are signed, the union declares that there is a "voluntary recognition" to join the union. It is very rare that a "card check vote" under this process results in a "no" for unionization. With a secret ballot alone, unions win about 50% of the time. When unions obtain card check neutrality agreements, however, that number increases to 80%. Such an increase in dues-paying members gives a financial benefit in the form of increased union dues, initiation fees, and employer payments into union pension and health plans. In fact, Local 30 receives a substantial portion of its income in the form of dues from its members. On average, a member pays the union $400 a year in dues. Local 30 also imposes one-time "initiation fees"—ranging from $60-$124—for each new member. Thus, an increase in dues-paying members causes an immediate increase in income to Local 30 and ongoing increases over time. On information and belief, those union dues and fees both fund the Defendants' playbook, and benefit Defendants Ms. Browning and Mr. Lemmon personally in both salary and stature.[1] Local 30 received 99.6% of its $3,494,626 income from dues and dues related fees alone.

26. Unsurprisingly, employers are generally not inclined to agree to a card check neutrality agreement–a process that denies them the right to oppose unionization and communicate with their employees.

27. Defendants have resorted to unlawful means, including threats and blackmail, to secure employers' "consent" and effectively move forward with their plan to force the non-unionized hotels

[1] Brigette Browning was compensated a total of $117,227 from her vice president role at UNITE HERE, and president role at UNITE HERE Local 30 in 2017.

and their employees to go union. If Defendants had faith in their ability to lawfully convince employees of the benefits of unionization, Defendants would not need to resort to breaking the law. But when market power and millions of dollars of union dues and fees are on the line, Defendants have instead chosen the route to economically back employers into a corner through unlawful acts. Once the employer agrees to a card check neutrality agreement, the employer's hands are tied and it must order its employees to listen to the union. This repeatable, decade-old "playbook" continues to threaten the competitive market for San Diego hospitality jobs and tourist accommodation, as described below.

Part 1 of the Playbook: Attack the Non-Union Project on Environmental Grounds

28. For each target, Defendants delay, oppose and, if necessary, eliminate the project by painting it as environmentally harmful. First, they send letters to public officials to express their concern that a new development plan does not align with governing environmental regulations and zoning requirements. They also request documents from governmental agencies, namely all environmental materials applicable to the development. Next, they draw public attention to the purported environmental issues, feigned environmental concerns, and sham zoning issues by creating websites (dedicated solely to opposing the project) and/or posting on social media.

29. Defendants then aggressively pursue frivolous challenges to the development at every level (*e.g.*, City Council first, then the California Coastal Commission, and finally by initiating litigation either directly or indirectly under state statutes such as the California Environmental Quality Act ("CEQA")). Defendants are not interested in mitigation measures or improvements to the project. Rather, they openly and blatantly pursue the environmental and zoning challenges to the highest level for the sole purpose of delay and, in many cases, complete obstruction. This sham opposition—a form of "greenmail"—results in a huge expenditure of resources for owners/developers, who are required to respond to hundreds or thousands of pages of drummed up environmental comments and to prepare environmental assessments that would not otherwise be required for the project to be permitted (resulting in high legal and other professional fees). In addition to the expense incurred, these challenges also delay development for years, oftentimes causing the owners/developers to lose financing and incur other financial disincentives, including land costs as a result. Thus, the

environmental and zoning opposition has the effect of maintaining the status quo in the development cycle, resulting in less competition, development, and commerce in the San Diego market.

Part 2 of the Playbook: Threaten Third Parties

30. While pursuing the frivolous environmental and zoning challenges, Defendants utilize additional unlawful tactics, such as threatening third parties. Defendants may threaten neutral third parties who do business with the non-union developer, using the risk of disrupting the third party/non-union developer's business relationship as leverage to force the developer to accede to Defendants' demands.

31. Defendants also strong-arm city councilmembers or Coastal Commissioners by offering union money and support for their election(s) or reelection(s) if they vote against the project regardless of whether it is in the best interest of the residents of San Diego.[2]

The Playbook in Action

32. Defendants' playbook is common knowledge among owners, developers and local government in San Diego. Defendants have followed this playbook of unlawfully interfering with and obstructing non-union projects to attain control of any new or redeveloped hotels in the prime tourism areas in San Diego: Mission Bay, Downtown, and Mission Valley. Defendants target each non-union project not simply to unionize each individual project, but to send a broader message to hotel developers and owners in San Diego that Local 30 is the gatekeeper of the hospitality labor market in the prime tourism areas of the City.

33. Over the last ten years, Defendants have used this playbook to cause non-union projects in the market to grind to a halt, at times for years, and/or to cease entirely. Some of the more recent victims of Defendants' misconduct include the notorious Ritz-Carlton/Cisterra development at 7th and Market Streets in Downtown San Diego (delay of over three years, resulting in Whole Foods backing out of the project); the Town and Country Hotel and Convention Center in Mission Valley (delay of one and a half years prior to entering into card check neutrality agreement); the Sunroad Hotel on Harbor Island (delay of over five years before card check agreementsigned, and hotel project still not

[2] The California Coastal Commissioners are appointed variously by the California Governor, Speaker of the California Assembly and California Senate Rules Committee.

constructed); the Lane Field development (including the InterContinental and SpringHill Suites & Residence Inn) (delay of over one year); and the Hotel Del Coronado (delay of approximately eighteen months).

34. Not only do the owners and developers of the projects incur the cost associated with defending against Defendants' sham litigation and coercive misconduct, but the residents of San Diego are also held hostage by the Defendants' misconduct. Specifically, new projects and redevelopment efforts translate into more jobs, increased tourism and revenue for the city and healthy competition. Likewise, having union and non-union properties (as determined by legal and fair union voting practices) allows for competition in the hospitality industry and choices for workers. Defendants' anti-competitive and abusive conduct exploits the time and resources of public agencies and the courts, to Defendants' exclusive financial benefit.

35. In repeating the playbook, Defendants count on the fact that non-union developers and owners will surrender without a fight after seeing what others, including Evans Hotels, have lost once Local 30 stamped a red "X" on their back. A few examples of Defendants' real life targets follow:

The Cisterra Development

36. In December 2013, Cisterra Development ("Cisterra"), a real estate development company based in San Diego, began the process of completing a Request for Qualifications and Proposals (issued by Civic San Diego) to complete a $400 million project on Market Street that would combine residential, hotel, office, and public parking uses. Unfortunately, although Cisterra agreed to sign a PLA and use union labor for construction, it did not have authority or control to commit the owner of the housing/hotel complex (Marriott) to agree to a card check neutrality agreement. Thus, Defendants Local 30 and Ms. Browning targeted Cisterra, a third party "secondary employer," in order to exert pressure on Marriott, the primary employer, to agree to sign a card check agreement for its employees. Although Cisterra's comparable projects typically take three years to complete from planning through construction, the project to date has still not been constructed. Defendants' efforts to block this development include the following acts:

- Forcing delay in negotiations between the city and Cisterra by insisting on a requirement the San Diego City Attorney found illegal: that all businesses operating in the development accept a card check neutrality agreement;
- Having staff members of Local 30, such as Rick Bates, speak at public hearings to oppose the project for a number of sham reasons, including the adequacy of the environmental review that was completed for the project;
- Through San Diegans for Responsible Planning and a nominal plaintiff who, on information and belief, is a member of Local 30's Executive Board, filing a sham CEQA suit against the City of San Diego and Cisterra that challenged the City's approval of the project; and
- Appealing the Court's finding that substantial evidence existed to support the City's approval.

On information and belief, Marriott entered into a card check neutrality agreement with Local 30. However, that was after the delays engendered by Defendants had already caused Whole Foods to terminate its agreement to lease space in the Cisterra project.

Town and Country Development

37. Atlas Hotels, the owner of the Town and Country Hotel and Convention Center site in the Mission Valley area of San Diego, formed a joint venture with financial backers in 2015 to consolidate and renovate the hotel and convention center, create a new compact multi-family residential neighborhood, restore San Diego River open space habitat, and establish recreational areas. Defendants' efforts to block this development and coerce Town and Country into signing a card check neutrality agreement include the following acts:

- Sending a letter, through its local counsel Tony LoPresti (an attorney with the firm Altschuler Berzon LLP), to the Wetlands Advisory Board falsely claiming to have identified "serious flaws" in Town and Country's Draft Environmental Impact Report (EIR);
- Sending a 123-page letter, signed by Tony LoPresti, to the City of San Diego raising environmental challenges to the Draft EIR;

- Having staff members of Local 30 speak on behalf of Local 30 at public hearings to oppose the project, including the adequacy of the environmental review that was completed for the project.

38. The above-mentioned actions effectively stalled City Council's consideration of the project by over eight months. Town and Country ultimately entered into a card check neutrality agreement with Local 30. Tellingly, no environmental litigation ensued, and at the next City Council meeting, not a single person from Local 30 objected to the project on environmental grounds and the San Diego City Council approved all actions necessary to begin the project.

Sunroad Project

39. In 2014, Sunroad Enterprises ("Sunroad") began in earnest the process of developing a restaurant and hotel on Harbor Island in San Diego. Because Sunroad is non-union, Local 30 pushed to block the development by engaging in the following acts:

- Appealing the Port of San Diego's determination to exclude the restaurant from coastal development permit requirements;
- Having its counsel submit a letter in support of its challenge, claiming that a proposed Port Master Plan Amendment sought for the property required the California Legislature to amend that California Coastal Act and that the proposed amendment should be denied because a proposed hotel on the property did not provide lower cost overnight accommodations;
- Having Ms. Browning meet with the President of Sunroad Holding Corp. to clarify that Local 30 was opposing the project because it wanted to set precedent that everyone who goes through the Port has to sign a card check neutrality agreement with Local 30;
- Threatening Sunroad to do everything in its power to block the project with the California Coastal Commission; and
- Pressuring the California Coastal Commission to veto the project. On information and belief, Ms. Browning and Mr. Lemmon met with Coastal Commissioners in the days before the Sunroad project was heard (and voted against) by the Coastal

Commission on August 13, 2015 and instructed them unlawfully to vote against the project unless and until Sunroad agreed to a card check neutrality agreement.

40. After years of opposition, Sunroad acquiesced in 2018 and signed a card check agreement. Once this happened, Local 30 dropped its opposition to the project.

The Hotel Del Coronado

41. Hotel Del Coronado is a national historic landmark that opened in 1888. Between 2003 and 2008, KSL Resorts and CNL Hospitality Properties (hereafter "KSL Resorts") sought and received permits to revise the Hotel Del Coronado's Master Plan to allow for physical improvements to the property. KSL Resort's contract with Local 30 was set to expire in 2009, and with labor uncertainty on the horizon in 2008, Local 30 exploited Hotel Del Coronado's plans to expand and again turned to its pattern of coercion by completing the following acts:

- Appealing the approval of the permits to the California Coastal Commission;
- Filing a complaint against the City of Coronado, the City Council of Coronado, the Hotel Del Coronado, Hotel Del Partners, and KSL Management, with frivolous CEQA claims. On December 4, 2009, the Superior Court of San Diego found that the City did not violate CEQA and that there was substantial evidence to support the City's decision to approve the Project;
- Demanding a full-blown and unnecessary Environmental Impact Report to further stall the City Council's approval process and pressure the Hotel into agreeing to provide health care benefits only through Ms. Browning's health care organization.

42. Unsurprisingly, once the hotel came to an agreement with Local 30 regarding health benefits, Local 30 withdrew its appeal of the Coastal Development Permits, and did not again threaten to block the Hotel's expansion

San Diego Marriott Marquis & Marina

43. The San Diego Marriott Marquis & Marina (the "Marriott Marquis") is a hotel located at 333 West Harbor Drive in Downtown San Diego. In 2011, the Marriott Marquis proposed a redevelopment project that would result in reconstruction of its existing facilities, as well as

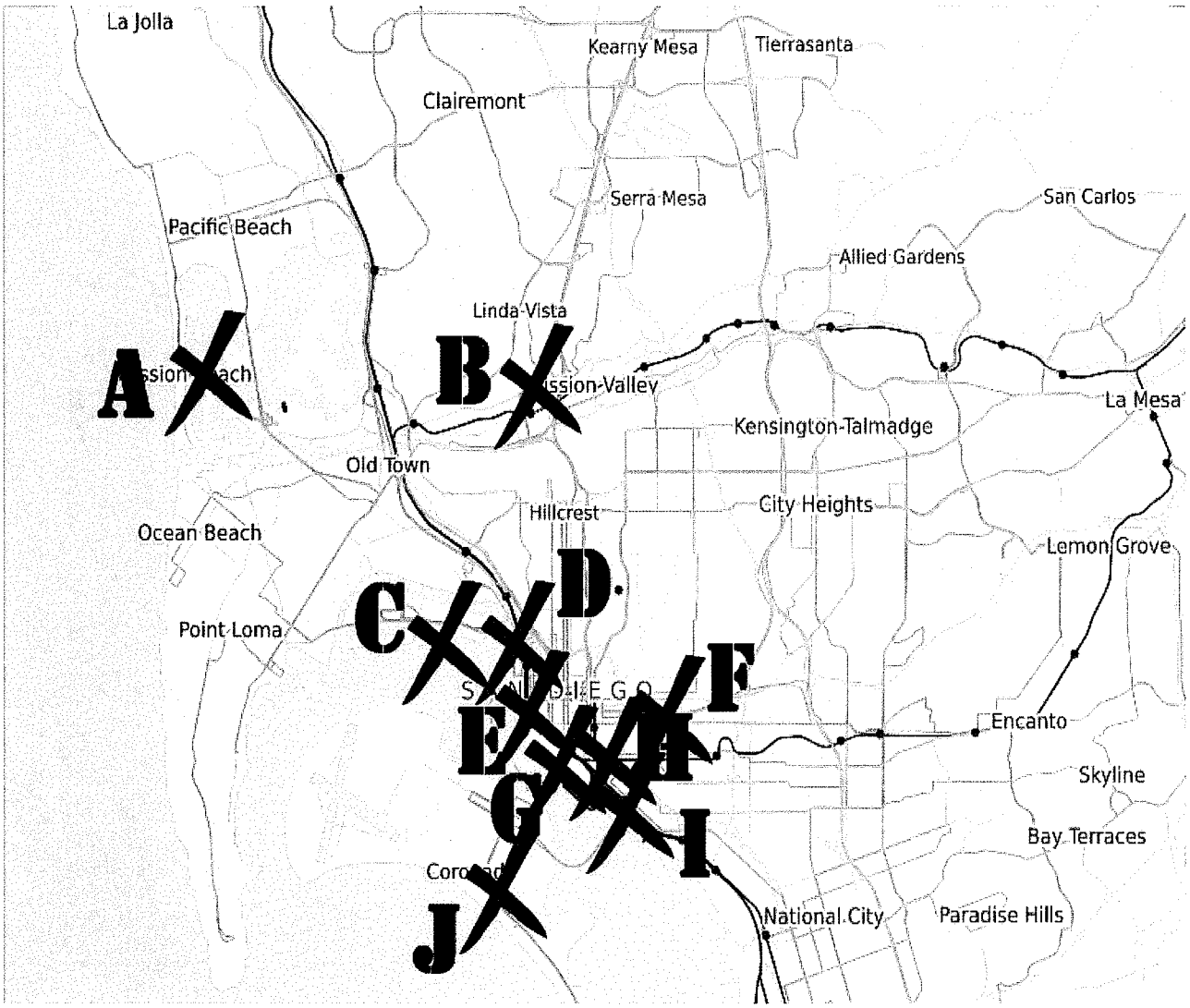
construction of a public access way and a 25,000-square-foot public promenade. Consistent with its playbook, Local 30 engaged in the following acts to halt the Marriott's proposed expansion:

- Appealing the City Council's water easement determination in connection with the Marriott Marquis project, making the sham allegation that the project required further analysis under CEQA;
- Opposing the Board of Port Commissioners' approval of a Port Master Plan Amendment for the Marriott's expansion; and
- Sending a letter of opposition to the Coastal Commission through its attorneys regarding the Coastal Commission's consideration of the Port Master Plan Amendment.

44. This repeated unfair and unlawful strategy from UNITE HERE Local 30 stems from the highest level of management within the union, as the former General President of its parent union, UNITE HERE, publically asserted that: "[T]o be successful [in unionizing target companies], I believe you have to be relentless . . . We're not businessmen, and at the end of the day they are. **If we're willing to cost them enough, they'll give in.**" (Bruce Raynor's presentation at the annual meeting of the American Political Science Association, Atlanta, Georgia, September 3, 1999) (emphasis added).

45. In addition to the projects discussed above, Defendants have targeted other developments. As shown in the graphic below, Defendants have targeted virtually all significant, non-union projects on the coastline or in downtown San Diego over the course of the last fifteen years.

Defendants' Targets



A. **Bahia Hotel**
B. **Town & Country**
C. **Sunroad Project**
D. **Fat City Hotel Project**
E. **Lane Field Hotel Development**
F. **AC Hotel Project**
G. **Marriott Marquis & Marina**
H. **Cisterra Development**
I. **Convention Center Expansion**
J. **Hotel Del Coronado**

46. As they did with each of the projects described above, Defendants are now using the same illegal playbook with the Bahia Resort Hotel redevelopment project. Defendants seek not only to unionize the Bahia Hotel, but also to make an example out of Evans Hotels. The message to all other non-union developers and owners is clear: see how much you will spend and lose if you present Local 30 with any opposition.

Local 30 Targets Evans Hotels in the 1990s

47. This is not the first time Local 30 has used the playbook against Evans Hotels or the Bahia.

48. In 1996, Local 30, then under the helm of Ms. Browning's stepfather, Jef Eatchel, and Ms. Browning's mother, Nancy Browning, targeted the Bahia and the Catamaran, another Evans family owned hotel. Specifically, Local 30 called and wrote letters to at least three of Evans Hotels' clients, including the ACLU, and threatened that if they did not cancel their reservation at Evans Hotels, Local 30 would disrupt their trip by picketing the hotel. When one of Evans Hotels' clients asked an agent of Local 30 why it was targeting Evans Hotels, the agent responded that it was due to purported anti-union actions that Bill Evans had taken in his role on the Board of the San Diego Convention Center Corporation. As a result of Local 30's unlawful secondary threats and conduct, at least two of Evans Hotels' clients canceled their scheduled conferences. It was only after Evans Hotels filed a lawsuit against Local 30 that Local 30 agreed to stop unlawfully targeting Evans Hotels. In fact, Local 30 agreed to cease any attempt to unionize the Bahia (or any other Evans Hotels owned property) for a period of 5 years. While twenty years have now passed and the reigns of Local 30 have passed from Jef Eatchel and Nancy Browning to daughter Brigette Browning, Local 30 continues to resort to the same unlawful conduct in an effort to impede competition and commerce.[3]

Local 30 Targets the Bahia Redevelopment Project in 2018

49. On November 5, 2015, Evans Hotels requested City Council approval of the lease amendment for the Bahia.

[3] Nancy Browning, Ms. Browning's mother, earns an annual salary of $91,312 from Local 30 for work as a contract administrator.

50. As expected, Defendants responded by implementing Part 1 of their playbook. On February 28, 2018, Tony LoPresti of the Altshuler Berzon firm (not coincidentally the same attorney who represented Local 30 in the Town and Country dispute referenced above) sent a letter on behalf of Local 30 to San Diego Mayor Faulconer and San Diego City Council members. Its re line read: "Access to information regarding environmental review of the Bahia Resort Hotel Lease Amendment." Mr. LoPresti stated that he wrote on behalf of his client, Local 30, "to express concern regarding the lack of transparency and access to information pertaining to environmental review of the proposed Lease Amendment for the Bahia Resort Hotel Renovation Project . . . ." Mr. LoPresti expressed his concern that the Bahia redevelopment was being processed "to preclude public comment on environmental review under [CEQA]" because the project was being analyzed under an EIR addendum to the EIR previously approved for the MBMPU, which is not subject to public comment.

51. On May 11, 2018 Mr. LoPresti sent another letter to the Mayor and the City Council, this time claiming that because the project purported to eliminate Gleason Road it was not consistent with the 1997 MBMPU and therefore would require Evans Hotels to amend the MBMPU in order to move forward.

52. Defendants knew or had reason to know that the retention of Gleason Road was not a part of the MBMPU. Although the words "Retain Gleason Road" mysteriously appear on an unapproved, amended graphic that was prepared after the approvals for the Bahia redevelopment were articulated, this requirement is nowhere to be found in the administrative record. In fact, the Planning Department of the City of San Diego formally issued a memo on October 3, 2018, stating that the City conducted a thorough examination of the administrative record and concluded again that the retention of Gleason Road is not part of the MBMPU. Therefore, the Bahia's proposed lease amendment does not require an amendment to that plan. Notwithstanding this, Defendants continue to propagate false information that the MBMPU forbids the elimination of Gleason Road. Specifically, Defendants created and sponsored a website, "nomissionbaylandgrab.org," and a related Facebook page to disseminate the false message that the Bahia redevelopment violates the MBMPU. In fact, users on Facebook have shared a link to the website over 330 times.

53. Because Defendants' opposition is unrelated to the proposed changes to the Bahia (but rather is directed at keeping a non-union project out of the market), Defendants continued their obstructive (and destructive) conduct. They met individually with city councilmembers and demanded that they revoke or change their position regarding the proposed Bahia lease amendment unless Evans Hotels agreed to meet with Ms. Browning. Plaintiffs allege on information and belief that these meetings with city councilmembers were conducted by Ms. Browning on behalf of Defendants.

54. Plaintiffs first learned of Ms. Browning's action in the February/March 2018 timeframe. On February 23, 2018, Grace Cherashore, the Executive Chairwoman of Evans Hotels, (hereinafter "Ms. Cherashore") met with a San Diego City Councilmember (hereinafter "Councilmember I") in an office at 10:00 a.m. At this meeting, Ms. Cherashore presented materials regarding the project and Evans Hotels generally. Ms. Cherashore specifically addressed why Evans Hotels did not want to unionize, including the fact that it would hinder Evans Hotels' ability to have a direct relationship with its employees and promote based on merit. Ms. Cherashore talked about different employee programs, including the interest free loans it offers to employees, its high quality health insurance, and matching 401k program. The fact that Evans Hotels' employees commute right past unionized hotel properties with job postings on the way to work, such as the Hilton or the Hyatt, speaks to the fact that many workers prefer a non-unionized work environment. Ms. Cherashore also noted that each of Evans Hotels' hotels are listed in the top 40 of Trip Advisor ratings, while competing union properties are all ranked significantly lower. Evans Hotels has scores of employees who have been with the business for more than a decade. For these reasons, Ms. Cherashore stated that although Evans Hotels was committed to the City of San Diego and prepared to invest hundreds of millions of dollars in the Bahia redevelopment, it would do so only if it could continue to operate in a non-unionized environment. Ms. Cherashore concluded by pointing out that the City would benefit to the tune of almost *half a billion dollars* in increased revenue over the course of the lease.

55. In response, Councilmember I indicated personal support for the proposal and strategized as to who else Ms. Cherashore should speak with in order to assure that the project get the necessary approvals from the City (e.g., Municipal Employees Association). Councilmember I stated

that a lunch meeting was already scheduled with Ms. Browning and that Councilmember I would speak to her and attempt to gain her support for the project.

56. Weeks later, Mr. Evans received a call from one of Councilmember I's staff members. The staff member indicated on this call that there was now a "problem" with the Bahia proposal and that Councilmember I (and others on City Council) can "no longer support it." When Mr. Evans pressed as to what had caused the City to change its stance, the staff member indicated that Councilmember I had met with Ms. Browning and that Ms. Browning had pressured Councilmember I to agree to oppose the project, regardless of what this would mean in terms of lost revenue for the City. On information and belief, Ms. Browning "pressured" Councilmember I by conditioning future funding and political support for Councilmember I on her agreement to unlawfully oppose the Bahia unless Evans Hotels agreed to sign a card check neutrality agreement. On information and belief, Councilmember I was aware that conditioning project approval on an employer's agreement to sign a card check neutrality agreement was unlawful: the City Attorney previously addressed this issue in a letter directed to the Mayor and City Council members on December 2, 2015. Mr. Evans expressed his disappointment that the City's change in stance ignored the merits of the project and the benefits to the City. Mr. Evans asked that Councilmember I communicate the change in position directly to Ms. Cherashore.

57. On March 23, 2018, Councilmember I spoke with Ms. Cherashore at a luncheon they both attended at the Bahia Hotel. Councilmember I pulled Ms. Cherashore aside so they could speak privately. Councilmember I indicated that the lunch meeting with Ms. Browning took place, and that unless Evans Hotels agreed to a card check neutrality agreement at the Bahia, Councilmember I would have to oppose the project. When Ms. Cherashore reiterated the benefits of being a non-union property and how the proposed redevelopment would benefit the city of San Diego, Councilmember I responded that "not all card check neutrality agreements are the same." Councilmember I insisted that Evans Hotels would need to sign some form of a card check neutrality agreement for Councilmember I to support the project. Councilmember I made it clear that this position was based solely on the discussion Councilmember I had with Ms. Browning and that Councilmember I's personal view that the project would benefit the residents of San Diego had not changed.

58. Conditioning City Council support for a development on the developer's acceptance of a card check neutrality agreement is unlawful and preempted by the NLRA. The San Diego City Attorney expressly advised the City Council of this in a 2015 Memorandum in response to efforts to force Cisterra to accept a card check neutrality agreement. On information and belief, Local 30 knew such a demand was unlawful and contrary to the City Attorney's analysis when Ms. Browning pressured Councilmember I to unlawfully require that Evans Hotels agree to a card check neutrality agreement.

59. When Evans Hotels refused to acquiesce, Ms. Browning sent her cohort, Tom Lemmon to meet with Mr. Evans and personally deliver a message. Specifically, on the morning of June 30, 2018, Mr. Lemmon texted Mr. Evans to meet him at the Catamaran Hotel for a drink. After making small talk, Mr. Lemmon raised the Bahia redevelopment, initially stating that he thought the redevelopment would result in a lack of access on Bahia Point. After discussing this point with Mr. Evans, Mr. Lemmon agreed that the new walkway proposed as part of the redevelopment would be better for bike and pedestrian access than the current road (Gleason), which is designed for cars.

60. Mr. Lemmon then abruptly shifted gears to the reason for the meeting and stated firmly that Evans Hotels needed to sign a card check neutrality agreement with Ms. Browning and Local 30. Initially, Mr. Lemmon focused on the benefit to Evans Hotels of unionizing—claiming that it would result in union money and guests flowing to Evans Hotels' properties. When Mr. Evans made it clear that Evans Hotels would not voluntarily sign a card check neutrality agreement, the discussion quickly shifted to greenmail and other union tactics. Mr. Evans told Mr. Lemmon that Ms. Browning and Local 30 had already hired lawyers to threaten the redevelopment. He noted that those attorneys had already sent letters to the Mayor and City Council. Mr. Lemmon appeared excited by the reference to the letters, and told Mr. Evans that those were "my lawyers" and that "they always win." He admitted to Mr. Evans that it was greenmail, but said the union would cover its tracks if Evans Hotels agreed to the neutrality agreement by requiring a couple of "small mitigation measures." Mr. Lemmon made it clear to Mr. Evans that Local 30 and its allies, including Mr. Lemmon, intended to use CEQA and other environmental challenges to hold the Bahia redevelopment project hostage. Although Mr. Lemmon is not associated with Local 30, he did not hide the fact that Ms. Browning was behind the meeting and

exchanged numerous text messages with Ms. Browning during the course of the discussion. Mr. Lemmon concluded the meeting by threatening Mr. Evans that if he did not meet with Ms. Browning, his project would be doomed as the union would hold it up—stating "we know how to do it, we do it all the time."

61. The threats were not idle. On September 11, Local 30 posted links on its Facebook pages to a website that it funded and created. This website, called "No Mission Bay Land Grab at Bahia Point by UNITE HERE Local 30," contains false and misleading information regarding the Bahia Project.

62. On September 19, 2018, Evans Hotels' CEO, Robert Gleason, ran into Mr. Lemmon in the lobby of City Hall. Mr. Lemmon asked Mr. Gleason if he had seen all the social media about the Bahia project, to which Mr. Gleason responded that he had. Mr. Lemmon then asked Mr. Gleason if he was interested in sitting down to talk about it, and advised that, "just so you know, we're going to turn up the volume."

63. In early October, 2018, the City Real Estate Assets Department was trying to schedule a hearing on the Bahia lease amendment with a City Council Committee. Mr. Gleason learned that the Bahia lease amendment would not be put on the agenda for the Committee meeting in mid-October because there were too many items on the agenda.

64. On October 9, 2018, a representative Evans Hotels spoke with a staff member representing a different San Diego City Councilmember (hereinafter "Councilmember II") on scheduling the Committee hearing. The staff member noted that Councilmember II would not calendar the Bahia lease amendment on the requested date because Ms. Browning and Councilmember II are "best friends" and that Ms. Browning, had been "very good" to Councilmember II, and has helped Councilmember II out on many occasions.

65. Not surprisingly, far from being "too busy," there were only three agenda items heard at one of the requested Committee hearing dates and the other Committee hearing date was taken completely off calendar.

66. Sensing weakness, on October 19, 2018, Mr. Lemmon initiated a text message communication with Ms. Browning and Gleason, in which he said, "**Bahia** We should all huddle up."

Mr. Lemmon then told Ms. Browning to "send Robert [Mr. Gleason] [her] card check language in advance . . . . I got the feeling he's gonna need it." After Ms. Browning responded, "Yep," Mr. Lemmon then added, "Robert I'd like to see all construction and future maintenance done by Union signatory contractors."

Defendants Threaten SeaWorld, Evans Hotels' Business Partner

67. While successfully carrying out Part 1 of their playbook and delaying a vote on the Bahia lease amendment, Defendants further turned up the volume by implementing Part 2. At the same time that Defendants were drumming up environmental opposition, strong-arming City Council officials to impose unlawful conditions and delay hearings, and posting false messages on its website, they also turned up the heat by going after Evans Hotels' business partners, specifically Sea World LLC ("SeaWorld").

68. Evans Hotels' relationship with SeaWorld is long-standing. Evans Hotels first entered into a business venture with SeaWorld several years ago, on April 21, 2015, when the parties signed a Letter of Intent to explore hotel development opportunities on the property of SeaWorld's San Diego Park. Later that year, on November 4, 2015, SeaWorld and Evans Hotels entered into a Preliminary Project Agreement to develop an upscale, full service SeaWorld themed and branded hotel of approximately three hundred rooms adjacent to the theme park. Evans Hotels' business agreement with SeaWorld was a matter of public knowledge as the parties issued a press release on November 9, 2015 announcing their intention to develop the hotel next to the theme park. In the ensuing days, the LA Times, Fox News and the San Diego Tribune wrote articles about the expected success of the joint venture.

69. After years of further negotiation and collaboration, on January 22, 2018, the parties formally agreed to a Joint Venture to develop, own and operate a hotel project (hereinafter "SeaWorld hotel") leased by SeaWorld.

70. Defendants knew about the Joint Venture and the significance of this opportunity for Evans Hotels' business. SeaWorld is one of the top tourist attractions in San Diego and the Joint Venture contemplated Evans Hotels' hotel to be the first hotel in the country branded with SeaWorld's name.

71. Defendants also knew that it was important to SeaWorld to build new attractions in the San Diego park. These new attractions require Coastal Commission approval. SeaWorld had already encountered problems with the Coastal Commission in 2016 when the Commission had conditioned approval of SeaWorld's $100 million proposed expansion to the orca tank and habitat (referred to as "Blue World") on SeaWorld's agreement to discontinue its orca breeding program. Although SeaWorld initially sued the Coastal Commission on the ground that it had no legal basis to take the action it did, ultimately SeaWorld absorbed the loss and focused its energy on developing new rides for its parks. SeaWorld was not back before the Coastal Commission until Summer 2017 when it sought approval of a new ride for its San Diego theme park called the "Electric Eel."

72. By 2018, SeaWorld had retained a consultant, Allison Rolfe, President of Collaborative Land Use Solutions, and former environmental activist to facilitate its dealings with the California Coastal Commission and other environmental groups. Not coincidentally, Ms. Rolfe is also very close friends with Ms. Browning. Although SeaWorld is not unionized, the union did not to oppose the Electric Eel ride because of the large number of new union jobs that would be created in constructing it. SeaWorld was also able to get approval of a new roller coaster for construction and release in 2019. The union's support, however, was limited and ultimately designed to send a message to SeaWorld that if it wanted to move forward with its new attractions it would need Defendants' continued support.

73. At the same time that Ms. Rolfe was advising SeaWorld in its dealings with the union, Ms. Rolfe was also meeting with Mr. Evans regarding the Bahia. Specifically, Ms. Rolfe met Mr. Evans for lunch on or around March 22, 2018 to discuss the Bahia proposal and how it could negatively impact the SeaWorld hotel. While Ms. Rolfe communicated that she could get Ms. Browning to agree to "back off" the SeaWorld hotel, to do so Evans Hotels would need to first agree to do a deal with Ms. Browning for the Bahia. Ms. Rolfe shared with Mr. Evans that Mr. LoPresti had sent a letter to the San Diego City Council on behalf of Local 30 opposing the Bahia. Because no one at City Council had shared this letter with Mr. Evans, he was unaware of its existence until he met with Ms. Rolfe. On information and belief, Ms. Rolfe knew about this letter from Ms. Browning. In this lunch meeting, Ms. Rolfe told Mr. Evans that Ms. Browning has "a real problem with you" and that unless he did a deal with Ms. Browning she would target all of Evans Hotels' projects and SeaWorld as

Evans Hotels' business partner. By contrast, if Evans Hotels agreed to the card check agreement, the environmental opposition would resolve itself. By way of example, Ms. Rolfe referenced her work in securing entitlements for Pacifica Hotels to build a 30-story hotel on environmentally sensitive land. Put simply, Ms. Rolfe conveyed that Pacifica Hotels was able to build its hotel by doing what she urged Evans Hotel to do—i.e., sign a card-check neutrality agreement with Ms. Browning.

74. Ms. Rolfe spoke regularly with Mr. Evans during the Spring 2018 time frame and relayed the same message again and again: If you want to be able to move forward with SeaWorld, you need to do a deal with Ms. Browning for the Bahia.

75. In or around June or July 2018, when Evans Hotels refused to acquiesce to Defendants' threats and demands, Ms. Browning turned her focus instead on SeaWorld, Evans Hotels' business partner. Through Ms. Rolfe, Ms. Browning communicated to SeaWorld that if SeaWorld continued its partnership with Evans Hotels, SeaWorld would face severe opposition from the union and other union allies in connection with getting approval for its master plan amendment. Not only would opposition to the master plan amendment jeopardize the SeaWorld hotel, but also, more importantly, it would frustrate SeaWorld's ability to open new attractions contemplated in the plan and currently pending in the pipeline for approval. The message to SeaWorld was clear: Either terminate your deal with Evans Hotels or face years of delay and opposition in getting future rides passed through the Coastal Commission.

76. As expected, when faced with the prospect of the union targeting its core business plan to open up new attractions in San Diego, SeaWorld had no choice but to agree to abandon its Joint Venture with Evans Hotels and pay out more than $2.8M in termination fees.

77. In mid-July 2018, Bill Evans received a phone call from John Reilly, the interim CEO of SeaWorld regarding the Joint Venture. Mr. Reilly stated on the call that he understood there was "a big problem" with the union relating to the Bahia and that SeaWorld could not afford to be involved with anyone or any projects that could delay SeaWorld's ability to get its master plan approved. Mr. Reilly said that while SeaWorld still liked conceptually the idea of a SeaWorld hotel and believed that it would bring millions of dollars in increased revenue to the city, SeaWorld's stock price is dependent on developing new rides and that SeaWorld could not afford to become a target of the union. Given

the choice of keep the hotel and spend years fighting the union or drop the hotel and move forward with the planned opening of key attractions for the park, SeaWorld had no choice but to break its venture with Evans Hotels.

78. Evans Hotels' CEO, Robert Gleason, had a subsequent phone call with Mr. Reilly on the same subject on or around July 26, 2018. On this call, Mr. Reilly reiterated SeaWorld's concern regarding the union and asked that the parties arrange for an in person meeting in San Diego to discuss. Without going into much detail, Mr. Reilly reiterated that while there was still "interest" conceptually in doing a SeaWorld hotel, he said that rides are the "lifeblood" of the organization and that would have to take priority. Mr. Reilly expressed concern that doing a hotel with Evans Hotels would make SeaWorld a target to union opposition and reiterated that SeaWorld could not afford any "wrinkle" in the master plan relating to the approval of new attractions at the San Diego Park.

79. On or around August 10, 2018 the parties convened at SeaWorld's office in San Diego. Mr. Reilly again reiterated that SeaWorld's focus was on its new attraction cadence and that being able to open up new attractions on an annual basis was critically important to SeaWorld's success. Although SeaWorld had been able to get its new ride Electric Eel approved by the Coastal Commission for 2018, there were other rides in the pipeline pending approval because they need an amendment to the SeaWorld Master Plan. While SeaWorld still saw the value in a branded hotel, it told Evans Hotels that it could not move forward with this plan at the expense of its core business of opening new attractions at its parks.

80. SeaWorld pointedly asked about the status of the Bahia and whether Evans Hotels had agreed to meet with Ms. Browning or anyone else at Local 30. When Mr. Evans responded that Evans Hotels had not agreed to meet with Ms. Browning, Corrine Brindley, SeaWorld's Vice President of State Affairs, said that SeaWorld's concern is that if Evans Hotels did not do a deal with Ms. Browning for the Bahia, Defendants would come after SeaWorld and its proposed new attractions with "pitchforks in air."

81. Mr. Reilly acknowledged that SeaWorld's decision effectively threw Evans Hotels under the bus but said again that SeaWorld had no choice but to "protect its bread and butter" from union interference.

82. On September 19, 2018, Tony Taylor, the General Counsel of SeaWorld, called Robert Gleason and formally terminated the Joint Venture with Evans Hotels. He stated that while SeaWorld valued its relationship with Evans Hotels, SeaWorld's leadership had decided that they could not move forward with the Joint Venture as it would jeopardize SeaWorld's underlying capital strategy of opening up new attractions at its theme park. He then stated that SeaWorld would move forward without Evans Hotels in the Master Plan Amendment so that it could formally get the entitlement process moving forward on its new attraction. Mr. Taylor reiterated that while it was a difficult decision to make given the amount of time, energy and money invested by the parties in the SeaWorld hotel, SeaWorld had no choice but to protect its core business.

83. On November 7, 2018, SeaWorld issued an SEC filing formally announcing its decision to abandon the SeaWorld hotel. Although SeaWorld did not share in the press release the real reason why it was that it had decided at significant cost to abandon a hotel destined to bring thousands of jobs and hundreds of millions of dollars in anticipated revenue to the city of San Diego, the message was clear. In fact, the following day Mayor Faulconer pulled aside Mr. Evans and asked why it was that SeaWorld abandoned the project after years of investment and collaboration with Evans. When Mr. Evans declined to respond, the Mayor leaned in and said, "It was the Union, right?"

84. Approximately one week later, a SeaWorld executive confirmed to Evans Hotels that the reason why the Board of Directors terminated the joint venture with Evans Hotels was based on the union's threats to target SeaWorld if it continued in its joint venture with Evans Hotels. The SeaWorld representative's confirmation that it terminated the joint venture because of the union's threats closed the latest chapter of the illegal extent to which Defendants will engage in anti-competitive behavior.

Defendants Continue to Interfere with the Bahia Project

85. When Councilmember II refused to schedule the Bahia lease amendment for a hearing at the Committee level, Evans Hotels requested that City Council President, Myrtle Cole, direct docket the Bahia lease amendment. Ms. Cole refused. When Mr. Evans called Ms. Cole to ask why the Bahia would not be docketed, Ms. Cole admitted that the unions had given her "hundreds of thousands of dollars to win this thing" and that they (Ms. Browning and Mr. Lemmon) would be upset if the Bahia was to get docketed before the newly-elected city councilmembers take office. Ms. Cole offered to

check with her Chief of Staff to see if he could make a change but said she thought it was very unlikely.

86. After hearing that the President of City Council was unable to docket an item out of fear of Ms. Browning and Mr. Lemmon's reaction, Evans Hotels turned to the Mayor of San Diego for help. Unfortunately, Defendants were undeterred. On November 26, 2018, Local 30 contacted the Mayor's office and demanded that he stop asking the City Council to docket the Bahia for December 3, 2018.

87. Then and only then, after surrender by Evans Hotels was all but certain, Ms. Browning and Mr. Lemmon met with Robert Gleason and Bill Evans at the Patio in Mission Hills on November 27, 2018 at 4 p.m. After exchanging brief pleasantries, Mr. Gleason raised the issue of the numerous environmental challenges to the Bahia and Evans Hotels' belief that the opposition all stemmed from Defendants' desire to unionize the Bahia. Although Mr. Lemmon was careful not to discredit the environmental opposition, he acknowledged that neither he nor Ms. Browning could speak to any of the purported environmental concerns. Instead, he rationalized their opposition by stating that the union is a business and its objective is to sign up members via a signed PLA and card check neutrality agreement. When Mr. Evans posed the question as to why they should agree to do this, Ms. Browning responded bluntly "so that you can go forward with your project" and be able to pursue other opportunities in San Diego. In case the message was not clear enough, Mr. Lemmon likened the union's conduct to a "grenade with the pin on the table." Mr. Lemmon said that although the "pin" had been taken out of the grenade, there was still time to put it back in. Ms. Browning made clear that the alternative for Evans Hotels would not be pretty. Citing her sham environmental suit with the Cisterra development and the affordable accommodation challenge she pulled out of "thin air" to oppose the SunRoad development, Ms. Browning assured Evans Hotels that they would stop at nothing to prevent the Bahia from going forward. When Mr. Evans asked why they were targeting Evans Hotels, as they were good employers, Mr. Lemmon appeared surprised and said this has nothing to do with Evans Hotels being "bad people" or a "bad employer." To the contrary, both he and Ms. Browning reiterated that it is a "new era" for the unions. Mr. Lemmon summed it up by saying "we have a business just like you have a business" and that their focus was on increasing the number of members because that

translates into increased dues. Ms. Browning added that the plan is to have 10,000 members within a year's time and ultimately to use their control over the City Council[4] and the California Coastal Commission to unionize "each and every hotel in San Diego." In other words, non-union hotel owners/developers in the market would need to sign up or be forced out of the Mission Bay and Downtown market.

88. Defendants have taken all of these surreptitious actions knowing full well that that their ultimate objective–Evans Hotels' forced execution of a card check neutrality agreement–is an unlawful act that neither the City Council nor any other state or local governmental entity may impose upon Evans or any other employer. Indeed, the San Diego City Attorney, in his 2015 Memorandum to the San Diego City Council, specifically advised the Council and the public of this federal prohibition.

89. Defendants have taken the steps described herein in an attempt to allow Local 30 to control and monopolize the prime tourist regions of San Diego, including the waterfront along Mission Bay and Downtown and to eliminate competition and development from non-union hotels. Defendants' actions in opposing any hospitality development project by a full-service hotel in these areas whose labor is not represented by Local 30 has the effect of forcing all existing hotels undergoing renovation and/or expanding their footprint (which all hotels must do regularly to continue to attract guests) to "go union" and forcing all newcomers to the San Diego hotel market to either use union labor, both in the construction and operation of the properties, or to build elsewhere. This is harmful to competition in the San Diego hospitality market in multiple ways, including but not limited to the following:

a. **First**, Defendants' actions in forcing San Diego hotels to "go union" has the effect of imposing certain wage scales and work rules on all full-service hotels in the San Diego waterfront, regardless of a hotel's ability to pay or desire to use non-union workers for reasons unrelated to wage scale (*e.g.,* because the hotel has found that its efficiency and performance is tied to its long-term employees, who have consistently refused to vote to

[4] On information and belief, Ms. Browning has repeatedly mentioned that she is "best friends" with Councilmember II, and that her husband was responsible for getting Councilmember II elected to office. Ms. Browning even referred to Councilmember II as the Council President, even though the election for that position had not yet occurred.

unionize, and other more efficient operating methods). This has the effect of eliminating competition in the market.

b. **Second**, Defendants are successfully blocking hoteliers from entering the market with non-union labor workforce, just as they did with the SeaWorld hotel. These barriers to entry will stifle competition and result in Defendants' monopoly power in the San Diego hospitality labor market.

c. **Third**, Defendants' actions in forcing San Diego full-service hotels to "go union" harms competition by restraining hospitality developers' and their hotel employees' rights to recognize a union or not. As discussed above, there are benefits to working at non-union hotels that would be eliminated if all full-service hotels in the area are forced to unionize.

90. Defendants will not stop their abusive and unlawful behavior with respect to the Bahia redevelopment until they receive what they want—a signed card check neutrality agreement. And they will not stop this behavior in the City of San Diego going forward. Their illegal actions, violating the Sherman Act and state laws, ensure that they maintain control over the relevant hospitality labor market.

FIRST CAUSE OF ACTION

(Unlawful Secondary Boycott)

(Against Defendant Unite Here! Local 30)

91. Evans Hotels incorporates by reference the allegations contained in Paragraphs 1 through 90, as if fully set forth herein.

92. Evans Hotels brings this action pursuant to Section 303 of the Labor Management Relations Act ("LMRA"), which states in pertinent part that "[i]t shall be unlawful . . . for any labor organization to engage in any activity or conduct defined as an unfair labor practice in section 158(b)(4) of this title." 29 U.S.C. § 187(a).

93. Section 8(b)(4) of the National Labor Relations Act ("NLRA") states in pertinent part that "[i]t shall be an unfair labor practice for a labor organization or its agents . . . to threaten, coerce, or restrain any person engaged in commerce or in an industry affecting commerce, where in either case

an object thereof is . . . forcing or requiring any person . . . to cease doing business with any other person." 29 U.S.C. § 158(b)(4)(ii).

94. Local 30 is a "labor organization" under Section 303(a) of the LMRA and Section 8(b)(4) of the NLRA.

95. Sea World LLC is a "person" under 29 U.S.C. § 152(1). SeaWorld is engaged in "commerce" and/or activities that "affect commerce," including (but not limited to) operating SeaWorld branded theme parks.

96. SeaWorld and Evans Hotels, through EHSW, entered into a Joint Venture in January 2018 to develop, own and operate a SeaWorld hotel. SeaWorld and Evans Hotels began working on the Joint Venture before April 2015 when they first entered into a letter of intent and had already started the initial stage of getting the approvals for the project.

97. Defendants knew about the Joint Venture and the significance of this opportunity for Evans Hotels' business, as the plans to develop a SeaWorld branded hotel were released to the public on November 9, 2015. Defendants also knew about the importance to SeaWorld of meeting its business objective to get its new rides passed through the coastal commission.

98. When Defendants were unsuccessful in getting Evans Hotels to agree to sign a card check neutrality agreement at the Bahia, they decided to increase the pressure by targeting SeaWorld, Evans Hotels' partner in the recently signed Joint Venture (i.e., a secondary party).

99. Defendants, specifically Mr. Lemmon and Ms. Browning, communicated with representatives of SeaWorld in the Spring/Summer 2018 and communicated the message to them that if Evans Hotels did not agree to a card check neutrality agreement at the Bahia they would target not just Evans Hotels' other projects, but anyone doing business with Evans Hotels, including SeaWorld. Specifically, Defendants threatened that they would impede SeaWorld's ability to get rides approved by the Coastal Commission and/or collaborate with opponents to disrupt SeaWorld's business and harm its name and reputation.

100. After these meetings with Defendants, SeaWorld did a sudden about face and within months of signing a deal that had been negotiated and developed over more than three years, it announced to Evans Hotels in a meeting that took place on August 10, 2018 that it could no longer

move forward as planned with the SeaWorld hotel. When pressed as to what prompted SeaWorld to suddenly abandon a project that it had so eagerly pursued for years, SeaWorld stated its concern that if Evans Hotels did not come to an agreement with Ms. Browning and Local 30 regarding the Bahia, that Defendants would target SeaWorld based on its relationship with Evans Hotels. SeaWorld said that while it understood why Evans Hotels did not want to do a deal with Defendants, SeaWorld did not want Defendants to come after SeaWorld with "pitchforks in air" and block its new projects that were pending city approval. SeaWorld indicated that it could not afford to be targeted by the union as this would hurt its stock price and disrupt its core business.

101. On September 19, 2018, SeaWorld notified Evans Hotels of its decision to terminate the Joint Venture.

102. SeaWorld's decision to terminate was a direct result of Defendants' threat to target SeaWorld based on its relationship with Evans Hotels.

103. Defendants' conduct was designed to and has in fact injured Evans Hotels. As a direct result of Defendants' unlawful conduct, Evans Hotels has suffered substantial injury to its property and/or business, including but not limited to, lost profits in excess of $100 million in connection with the opportunity to build a SeaWorld branded hotel, legal fees and other costs incurred because of, and in response to, Defendants' coercive threats made in violation of NLRA Section 8(b)(4).

SECOND CAUSE OF ACTION

Attempted Monopolization in Violation of Section 2 of the Sherman Act

(Against All Defendants)

104. Evans Hotels incorporates by reference the allegations contained in Paragraphs 1 through 103, as if fully set forth herein.

105. Evans Hotels competes or has attempted to compete with Local 30 in the Mission Bay and Downtown San Diego hospitality labor market for full-service, waterfront hotels in San Diego (hereinafter the "Relevant Market") by providing non-union labor alternatives. The Relevant Market includes the use of labor in the construction and operation of hospitality properties in San Diego along the coastline of and in downtown San Diego.

106. Plaintiffs are informed and believe, and thereon allege that Local 30 has a dominant presence in the Relevant Market and, if Local 30 continues to rely on unlawful practices to prevent non-union hotels from entering the market, it will achieve control of the Relevant Market. Specifically, as alleged above, Defendants have relied on their unlawful playbook to halt or stop the development of ten or more new non-union hotels in the San Diego market. Plaintiffs are informed and believe, and thereon allege that Defendant Local 30 possesses at a minimum a 60% share and up to a 70% share of the Relevant Market.

107. By virtue of Local 30's threats, statements, behavior, conduct, acts and omissions (and in combination with other groups in connection with said behavior), to prevent Evans Hotels and the other developers described herein from competing in the Relevant Market, Local 30 has a specific intent to control labor and destroy competition in the Relevant Market. Local 30's behavior described in this Complaint demonstrates its specific intent to do so.

108. Local 30 has engaged in predatory and/or anti-competitive conduct to attempt to exercise control over the Relevant Market and do whatever it takes to prevent non-union hotels from developing in San Diego. This conduct includes Local 30's actions with respect to the other non-union development projects (described in paragraphs 32 through 45), as well as the actions taken with respect to the Bahia redevelopment. One example of an unfair, unlawful and fraudulent action is Local 30's attempt to combine with Tom Lemmon and non-labor groups (including but not limited to Citizens and Paddlers Against the Bahia Hotel Land Grab on Bahia Point, San Diegans for Responsible Planning, and Rick Bates) to initiate or threaten to initiate sham CEQA, environmental, and zoning opposition that will prevent or delay the development of non-union hotel properties. Pursuant to its playbook, Defendants initiate these proceedings without regard to the merits of a CEQA claim. Another example is to threaten and engage in unlawful secondary boycotts against third parties, such as SeaWorld, with the purpose of forcing the third party to cease doing business with the non-union hospitality developer. Defendants have engaged in this conduct with the stated objective of dominating the market by unionizing each and every hotel in San Diego.

109. Defendants' intent, power, and resources create a dangerous probability that Local 30 will succeed in monopolizing the Relevant Market. In fact, Local 30's illegal behavior to date (with

respect to the Bahia redevelopment and other development projects described herein) and exclusionary intent that is evident in this behavior, poses such a danger to competition in the Relevant Market that, if left unchecked, it will result in Local 30's acquisition of monopoly power.

110. Defendants are not involved in a labor dispute for the purpose of acting in their own self-interest. Evans Hotels is not unionized and there is not a petition for an election. Further, the unfair, unlawful, and fraudulent business practices described herein are not traditional organizational activities. Local 30's use of these practices demonstrates that it is acting illegitimately, outside its legitimate self-interest.

111. Defendants have violated and continue to violate Section 2 of the Sherman Act, 15 U.S.C. § 2.

112. As a direct and proximate result of Defendants' anti-competitive activities in violation of Section 2 of the Sherman Act, Evans Hotels has suffered business injuries and/or loss of property in excess of $100 million. Plaintiff's damages include but are not limited to the loss of its right to develop the Bahia in accordance with the MBMPU, the lost opportunity to develop a non-union SeaWorld branded hotel, loss of goodwill, lost profits, and lost property value. Evans Hotels has suffered, and will continue to suffer, irreparable harm if Local 30 is not enjoined from engaging in its anti-competitive conduct.

113. Defendants' anti-competitive activities have also caused, and continue to cause, among other things, a loss of revenue due to unlawful delays, increased prices to consumers in the Relevant Market due to the lack of meaningful market competition, reduced competition and reduced supply due to Defendants' unlawful practice of preventing the development of non-union hotels, and blocked entry or reduced desirability of entry into the Relevant Market that would be competitors of Defendants (i.e., non-union labor market).

114. As a proximate result of the wrongful acts herein alleged, Evans Hotels has been damaged in excess of $100 million. Evans Hotels is also entitled to recover treble damages, costs of suit, and attorneys' fees.

THIRD CAUSE OF ACTION

Conspiracy to Monopolize in Violation of Section 2 of the Sherman Act

(Against All Defendants)

115. Evans Hotels incorporates by reference the allegations contained in Paragraphs 1 through 114, as if fully set forth herein.

116. Defendants knowingly and willfully conspired among themselves and others, including but not limited to Citizens and Paddlers Against the Bahia Hotel Land Grab on Bahia Point, San Diegans for Responsible Planning, and Rick Bates, to monopolize the Relevant Market, as defined in paragraph 105.

117. Plaintiffs are informed and believe, and thereon allege that Local 30 has a dominant presence in the Relevant Market for new and redeveloping hotels and, if Local 30 continues to rely on unlawful practices to prevent non-union hotels from entering the market, it will achieve control of the market. Specifically, as alleged above, Defendants have relied on their unlawful playbook to halt or stop the development of non-union hotels in the Relevant Market. On information and belief, over 20 non-union hotels that have attempted to enter the market or attempt a significant expansion in the same have confronted unlawful opposition from Local 30. Plaintiffs are informed and believe, and thereon allege that Local 30 possesses at a minimum a 60% share and up to a 70% share of the Relevant Market.

118. Defendants are not involved in a labor dispute for the purpose of acting in their own self-interest. Evans Hotels is not unionized and there is not a petition for an election. Further, the unfair, unlawful, and fraudulent business practices described herein are not traditional organizational activities. Local 30's use of these practices demonstrates that it is acting illegitimately, outside its legitimate self-interest.

119. Defendants' specific intent to monopolize the Relevant Market is apparent from the character of Defendants' conduct and their actions as alleged in paragraphs 85 through 90.

120. Defendants committed overt acts and engaged in other conduct pursuant to, and in furtherance of, the conspiracy, including the acts alleged in this Complaint. Defendants have engaged in anti-competitive conduct directed toward achieving the objective of removing developers' and their

employees' rights to determine whether or not to recognize a union, and destroying competition in the Relevant Market. Defendants did these acts and things pursuant to, and in furtherance of, the conspiracy.

121. Recent overt acts in pursuit of the above-described conspiracy include: actions taken against other non-union properties as described in paragraphs 30 through 45; Ms. Browning's communications with Councilmember I that she would not back down unless Evans Hotels signed a card check neutrality agreement as described in paragraphs 55 through 57; Mr. Lemmon promising that Defendants are "going to turn up the volume" in opposing Evans Hotels, described in paragraph 62; and text messages from Mr. Lemmon and Ms. Browning to Mr. Gleason, described in paragraph 66.

122. As a direct and proximate result of Defendants' anti-competitive activities in violation of Section 2 of the Sherman Act, Evans Hotels has suffered business injuries and/or loss of property. Plaintiff's damages include but are not limited to the loss of its right to develop the Bahia in accordance with the Master Plan, the lost opportunity to develop a non-union SeaWorld branded hotel, loss of goodwill, lost profits, and lost property value. Evans Hotels has suffered, and will continue to suffer, irreparable harm if Local 30 is not enjoined from engaging in its anti-competitive conduct.

123. Defendants' anti-competitive activities have also caused, and continue to cause, among other things, a loss of revenue due to unlawful delays that will impact prices paid by consumers in the Relevant Market, increased prices to consumers in the Relevant Market due to the lack of meaningful market competition, reduced competition and reduced supply due to Defendants' unlawful practice of preventing the development of non-union hotels, and blocked entry or reduced desirability of entry into the Relevant Market of Evans Hotels that would be competitors of Defendants (i.e., non-union labor market).

124. As a proximate result of the wrongful acts herein alleged, Evans Hotels has been damaged in excess of $100 million. Evans Hotels is also entitled to recover treble damages, costs of suit, and attorneys' fees.

FOURTH CAUSE OF ACTION

Violation of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(c)

(Against All Defendants)

125. Evans Hotels incorporates the allegations contained in Paragraphs 1 through 124, as if fully set forth herein.

126. Evans Hotels, LLC, BH Partnership LP, and EHSW, LLC are each a "person" under 18 U.S.C. §§ 1961(3) and 1964(c).

127. Each of the Defendants is a "person" under 18 U.S.C. §§ 1961(3), 1962(c), and 1962(d).

128. Defendants Local 30 (and its affiliated entities and/or any subsidiaries), Ms. Browning, San Diego County Building and Construction Trades Council AFL-CIO, and Mr. Lemmon, along with Tony LoPresti, San Diegans for Responsible Planning, and Rick Bates, constitute an "enterprise" engaged in, and whose activities affect, interstate commerce within the meaning of 18 U.S.C. §§ 1961(4) and 1962(c) (the "Local 30 Enterprise"). The Local 30 Enterprise exists separate and apart from the pattern of racketeering activity alleged and the Defendants themselves.

129. As part of the Local 30 Enterprise, each of the Defendants was and is associated with the Local 30 Enterprise and has conducted or participated, directly or indirectly, in the management and operation of the affairs of the Local 30 Enterprise in relation to Evans Hotels and other developers, including, but not necessarily limited to, Cisterra, Atlas Hotels, Sunroad, KSL Resorts, and Marriott, through a pattern of activity unlawful under 18 U.S.C. § 1961(A) and (B), including multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524.

130. Defendants also have engaged in multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524, by threatening entities that engage in business with employers like Evans Hotels as a means of forcing the employers to accede to Defendants' demands. Defendants took such actions against SeaWorld in an effort to extort Evans Hotels, against Cisterra as a means of forcing Marriott to agree to Defendants' demands, and, on information and belief, have taken similar actions against other employers.

131. On information and belief, Defendants also have violated California Penal Code §§ 7(6), 85, by giving, offering, or promising something of value or advantage in the form of future monetary and political support to Councilmembers to influence them to withdraw support for the Bahia Project and cast a vote against the project when it is reviewed by the City Council.

132. These acts or threats form a pattern of racketeering activity as they all have occurred within 10 years of one another, are related insofar as they involve the same participants, share the same purpose of forcing developers to cave to the demands made to enrich the Local 30 Enterprise, and employ the same methods, including, but not limited to pursuing sham opposition to and litigation over projects in City Council, administrative, Coastal Commission, and civil proceedings in an effort to hold projects hostage unless Evans Hotels and the other developers accede to Local 30's demands. Evans Hotels also alleges on information and belief, including Defendant Local 30's past conduct toward Evans Hotels in the 1990s and its actions toward SeaWorld, that Defendants also have employed the method of targeting third parties that do business with other developers such as Marriott and Cisterra, to force them to cease doing business unless the other developers caved to the demands of the Local 30 Enterprise. These acts reflect a continuous use of Defendants' "playbook" dating back to the 1990s and including the multiple acts of racketeering activity in the last 10 years set forth herein.

133. Using the threat of injury to Evans Hotels' business interests, including the Bahia redevelopment project and the development of the SeaWorld branded hotel, Defendants have conspired and attempted to take property from Evans Hotels, including money in the form of per capita payments, union dues, union fees, and other payments, such as contributions to union pension and health plans, as well as Evans Hotels' rights to have a vote for unionization be carried out by secret ballot.

134. Defendants' activities described herein were taken knowingly and willfully and have obstructed, delayed, or otherwise affected commerce.

135. Defendants' conduct was designed to, and has in fact, injured Evans Hotels. As a direct result of Defendants' unlawful and ongoing threats of extortion in violation of 18 U.S.C. § 1951 and Cal. Penal Code §§ 518, 522, and 524, SeaWorld terminated its contract with Evans Hotels as a direct result of Defendants' threat to target SeaWorld based on its relationship with Evans Hotels.

136. Evans Hotels has suffered substantial injury to its property and/or business, including but not limited to, lost profits in excess of $100 million in connection with the opportunity to build a SeaWorld branded hotel, legal fees and other costs incurred because of, and in response to, Defendants' extortionate conduct.

FIFTH CAUSE OF ACTION

Violation of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(d), by Conspiring to Violate 18 U.S.C. § 1962(c)

(Against All Defendants)

137. Evans Hotels incorporates the allegations contained in Paragraphs 1 through 136, as if fully set forth herein.

138. Evans Hotels, LLC, BH Partnership LP, and EHSW, LLC are each a "person" under 18 U.S.C. §§ 1961(3) and 1964(c).

139. Each of the Defendants is a "person" under 18 U.S.C. §§ 1961(3), 1962(c), and 1962(d).

140. Defendants Local 30 (and its affiliated entities and/or any subsidiaries), Ms. Browning, San Diego County Building and Construction Trades Council AFL-CIO, and Mr. Lemmon, along with Tony LoPresti, San Diegans for Responsible Planning, and Rick Bates, constitute the Local 30 Enterprise engaged in, and whose activities affect, interstate commerce within the meaning of 18 U.S.C. §§ 1961(4) and 1962(c). The Local 30 Enterprise exists separate and apart from the pattern of racketeering activity alleged and the Defendants themselves.

141. Each of the Defendants was and is associated with the Local 30 Enterprise and has conspired among themselves within the meaning of 18 U.S.C. § 1962(d) to violate 18 U.S.C. § 1962(c). Specifically, each of the Defendants agreed and intended, and/or adopted the goal of furthering or facilitating, the following endeavor: to conduct or participate, directly or indirectly, in the management and operation of the affairs of the Local 30 Enterprise in relation to Evans Hotels and other developers, including, but not necessarily limited to, Cisterra, Atlas Hotels, Sunroad, KSL Resorts, and Marriott, through a pattern of activity unlawful under 18 U.S.C. § 1961(A) and (B), including multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524.

142. Defendants also have engaged in multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524, by threatening entities that engage in business with employers like Evans Hotels as a means of forcing the employers to accede to Defendants' demands. Defendants took such actions against SeaWorld in an effort to extort Evans Hotels, against Cisterra as a means of forcing Marriott to agree to Defendants' demands, and, on information and belief, have taken similar actions against other employers.

143. On information and belief, Defendants violated California Penal Code §§ 7(6), 85, by giving, offering, or promising something of value or advantage in the form of future monetary and political support to Councilmembers to influence them to withdraw their support for the Bahia Project and cast a vote against the project when it is reviewed by the City Council.

144. These acts or threats form a pattern of racketeering activity as they all have occurred within 10 years of one another, are related insofar as they involve the same participants, share the same purpose of forcing developers to cave to the demands made to enrich the Local 30 Enterprise, and employ the same methods, including, but not limited to pursuing sham opposition to and litigation over projects in City Council, administrative, Coastal Commission, and civil proceedings in an effort to hold projects hostage unless Evans Hotels and the other developers accede to Local 30's demands. Evans Hotels also alleges on information and belief, including Defendant Local 30's past conduct toward Evans Hotels in the 1990s and its actions toward SeaWorld, that Defendants also have employed the method of targeting third parties that do business with other developers to force them to cease doing business unless the other developers caved to the demands of the Local 30 Enterprise. These acts reflect a continuous use of Defendants' "playbook" dating back to the 1990s and including the multiple acts of racketeering activity in the last 10 years set forth herein.

145. Using the threat of injury to Evans Hotels' business interests, including the Bahia redevelopment project and the development of the SeaWorld branded hotel, Defendants have conspired and attempted to take property from Evans Hotels, including money in the form of per capita payments, union dues, union fees, and other payments, such as contributions to union pension and

health plans, as well as Evans Hotels' right to have a vote for unionization be carried out by secret ballot.

146. Defendants' activities described herein were taken knowingly and willfully and have obstructed, delayed, or otherwise affected commerce.

147. Defendants' conduct was designed to and has in fact injured Evans Hotels. As a direct result of Defendants' unlawful and ongoing threats of extortion in violation of 18 U.S.C. § 1951 and Cal. Penal Code §§ 518, 522, and 524, SeaWorld terminated its contract with Evans Hotels as a direct result of Defendants' threat to target SeaWorld based on its relationship with Evans Hotels.

148. Evans Hotels has suffered substantial injury to its property and/or business, including but not limited to, lost profits in excess of $100 million in connection with the opportunity to build a SeaWorld branded hotel, legal fees and other costs incurred because of, and in response to, Defendants' extortionate conduct.

SIXTH CAUSE OF ACTION

Violation of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(d), by Conspiring to Violate 18 U.S.C. § 1962(a)

(Against All Defendants)

149. Evans Hotels incorporates the allegations contained in Paragraphs 1 through 148, as if fully set forth herein.

150. Evans Hotels, LLC, BH Partnership LP, and EHSW, LLC are each a "person" under 18 U.S.C. §§ 1961(3) and 1964(a).

151. Each of the Defendants is a "person" under 18 U.S.C. §§ 1961(3), 1962(c), and 1962(d).

152. Defendants Local 30 (and its affiliated entities and/or any subsidiaries), Ms. Browning, San Diego County Building and Construction Trades Council AFL-CIO, and Mr. Lemmon, along with Tony LoPresti, constitute the Local 30 Enterprise engaged in, and whose activities affect, interstate commerce within the meaning of 18 U.S.C. §§ 1961(4) and 1962(a). The Local 30 Enterprise exists separate and apart from the pattern of racketeering activity alleged and the Defendants themselves.

153. Each of the Defendants was and is associated with the Local 30 Enterprise and has conspired among themselves within the meaning of 18 U.S.C. § 1962(d) to violate 18 U.S.C.

§ 1962(a). Specifically, each of the Defendants agreed and intended, and/or adopted the goal of furthering or facilitating, the following endeavor: that payments to the union, in the form of per capita fees, union dues, and other payments, including contributions to union pension and health plans, and other financial concessions, would be received by Defendants Local 30 and San Diego County Building and Construction Trades Council AFL-CIO. Such income would be derived, directly or indirectly, from activities in relation to Evans Hotels and other developers, including, but not necessarily limited to, Cisterra, Atlas Hotels, Sunroad, KSL Resorts, and Marriott, through a pattern of activity unlawful under 18 U.S.C. §§ 1961(1), 1961(5), and 1962(a), including multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524.

154. Defendants also have engaged in multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524, by threatening entities that engage in business with employers like Evans Hotels as a means of forcing the employers to accede to Defendants' demands. Defendants took such actions against SeaWorld in an effort to extort Evans Hotels, against Cisterra as a means of forcing Marriott to agree to Defendants' demands, and, on information and belief, have taken similar actions against other employers.

155. On information and belief, Defendants also have violated of California Penal Code §§ 7(6), 85, by giving, offering, or promising something of value or advantage in the form of future monetary and political support to Council members to influence them to withdraw their support for the Bahia Project and cast a vote against the project when it is reviewed by the City Council.

156. These acts or threats form a pattern of racketeering activity as they all have occurred within 10 years of one another, are related insofar as they involve the same participants, share the same purpose of forcing developers to cave to the demands made to enrich the Local 30 Enterprise, and employ the same methods, including, but not limited to pursuing sham opposition to and litigation over projects in City Council, administrative, Coastal Commission, and civil proceedings in an effort to hold projects hostage unless Evans Hotels and the other developers accede to Local 30's demands. Evans Hotels also alleges on information and belief, including Defendant Local 30's past conduct toward

Evans Hotels in the 1990s and its actions toward SeaWorld, that Defendants also have employed the method of targeting third parties that do business with other developers to force them to cease doing business unless the other developers caved to the demands of the Local 30 Enterprise. These acts reflect a continuous use of Defendants' "playbook" dating back to the 1990s and including the multiple acts of racketeering activity in the last 10 years set forth herein.

157. Using the threat of injury to Evans Hotels' business interests, including the Bahia redevelopment project and the development of the SeaWorld branded hotel, Defendants have conspired and attempted to take property from Evans Hotels, including money in the form of per capita payments, union dues, union fees, and other payments, such as contributions to union pension and health plans, as well as Evans Hotels' right to have a vote for unionization be carried out by secret ballot.

158. An object of Defendants' conspiracy to violate 18 U.S.C. § 1962(a) was and is that the income described above, or the proceeds of such income, would thereafter be used and invested in the operation of the aforementioned enterprises for numerous legitimate and illegitimate purposes including, inter alia, the conduct of additional extortionate corporate campaigns against Evans Hotels and other employers and business entities, the payment of salaries and fees to the other Defendants for the purpose of engaging in future extortionate corporate campaigns and otherwise, and the ongoing operation of the enterprises described above.

159. Defendants' activities described herein were taken knowingly and willfully, and have obstructed, delayed, or otherwise affected commerce.

160. Defendants' conduct was designed to and has in fact injured Evans Hotels. As a direct result of Defendants' unlawful and ongoing threats extortion in violation of 18 U.S.C. § 1951 and Cal. Penal Code §§ 518, 522, and 524, SeaWorld terminated its contract with Evans Hotels as a direct result of Defendants' threat to target SeaWorld based on its relationship with Evans Hotels.

161. Evans Hotels has suffered substantial injury to its property and/or business, including but not limited to, lost profits in excess of $100 million in connection with the opportunity to build a SeaWorld branded hotel, legal fees and other costs incurred because of, and in response to, Defendants' extortionate conduct.

SEVENTH CAUSE OF ACTION

Violation of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(d), by Conspiring to Violate 18 U.S.C. § 1962(b)

(Against All Defendants)

162. Evans Hotels incorporates the allegations contained in Paragraphs 1 through 161, as if fully set forth herein.

163. Evans Hotels, LLC, BH Partnership LP, and EHSW, LLC are each a "person" under 18 U.S.C. §§ 1961(3) and 1964(b).

164. Each of the Defendants is a "person" under 18 U.S.C. §§ 1961(3), 1962(b), and 1962(d).

165. Defendants Local 30 (and its affiliated entities and/or any subsidiaries), Ms. Browning, San Diego County Building and Construction Trades Council AFL-CIO, and Mr. Lemmon, along with Tony LoPresti, constitute the Local 30 Enterprise engaged in, and whose activities affect, interstate commerce within the meaning of 18 U.S.C. §§ 1961(4) and 1962(b). The Local 30 Enterprise exists separate and apart from the pattern of racketeering activity alleged and the Defendants themselves.

166. Each of the Defendants were and are associated with the Local 30 Enterprise and has conspired among themselves within the meaning of 18 U.S.C. § 1962(d) to violate 18 U.S.C. § 1962(b). Specifically, each of the Defendants agreed and intended, and/or adopted the goal of furthering or facilitating, the following endeavor: to acquire or maintain, directly or indirectly, an interest in or control of Evans Hotels and other developers through a pattern of activity unlawful under 18 U.S.C. §§ 1961(1), 1961(5), and 1962(b), including multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524.

167. Defendants also have engaged in multiple, repeated, and continuous acts or threats involving extortion and/or attempted extortion, chargeable under 18 U.S.C. § 1951 and California Penal Code §§ 518, 522, 524, by threatening entities that engage in business with employers like Evans Hotels as a means of forcing the employers to accede to Defendants' demands. Defendants took such actions against SeaWorld in an effort to extort Evans Hotels, against Cisterra as a means of forcing

Marriott to agree to Defendants' demands, and, on information and belief, have taken similar actions against other employers.

168. On information and belief, Defendants also have violated California Penal Code §§ 7(6), 85, by giving, offering, or promising something of value or advantage in the form of future monetary and political support to Council members to influence them to withdraw their support for the Bahia Project and cast a vote against the project when it is reviewed by the City Council.

169. These acts or threats form a pattern of racketeering activity as they all have occurred within 10 years of one another, are related insofar as they involve the same participants, share the same purpose of forcing developers to cave to the demands made to enrich the Local 30 Enterprise, and employ the same methods, including, but not limited to targeting secondary employers, pursuing sham opposition to and litigation over projects in City Council, administrative, Coastal Commission, and civil proceedings in an effort to hold projects hostage unless Evans Hotels and the other developers accede to Local 30's demands. Evans Hotels also alleges on information and belief, including Defendant Local 30's past conduct toward Evans Hotels in the 1990s and its actions toward SeaWorld, that Defendants also have employed the method of targeting third parties that do business with other developers to force them to cease doing business unless the other developers caved to the demands of the Local 30 Enterprise. These acts reflect a continuous use of Defendants' "playbook" dating back to the 1990s and including the multiple acts of racketeering activity in the last 10 years set forth herein.

170. Using the threat of injury to Evans Hotels' business interests, including the Bahia redevelopment project and the development of the SeaWorld branded hotel, Defendants have conspired and attempted to take property from Evans Hotels, including money in the form of per capita payments, union dues, union fees, and other payments, such as contributions to union pension and health plans, as well as Evans Hotels' right to have a vote for unionization be carried out by secret ballot.

171. Defendants' activities described herein were taken knowingly and willfully, and have obstructed, delayed, or otherwise affected commerce.

172. Defendants' conduct was designed to, and has in fact, injured Evans Hotels. As a direct result of Defendants' unlawful and ongoing threats of extortion in violation of 18 U.S.C. § 1951 and

Cal. Penal Code §§ 518, 522, and 524, SeaWorld terminated its contract with Evans Hotels as a direct result of Defendants' threat to target SeaWorld based on its relationship with Evans Hotels.

173. Evans Hotels has suffered substantial injury to its property and/or business, including but not limited to, lost profits in excess of $100 million in connection with the opportunity to build a SeaWorld branded hotel, legal fees and other costs incurred because of, and in response to, Defendants' extortionate conduct.

EIGHTH CAUSE OF ACTION

Interference with Prospective Economic Advantage

(Against All Defendants)

174. Evans Hotels incorporates by reference as if set forth herein the allegations contained in Paragraphs 1 through 27, 48 through 84, and 96 through 102. This interference alleged in this Eighth Cause of Action is predicated solely on Defendants' actions toward Evans Hotels and SeaWorld, resulting in the termination of their business relationship.

175. Evans Hotels had a valid, existing, and valuable business relationship with SeaWorld in that EHSW and SeaWorld entered into a Joint Venture in January 2018 to develop, own and operate a SeaWorld hotel.

176. Defendants knew of the business relationship and Joint Venture between Evans Hotels and SeaWorld.

177. Defendants intentionally interfered with the business relationship between Evans Hotels and SeaWorld in order to induce SeaWorld to terminate the Joint Venture. Defendants' unlawful conduct includes threatening to impede SeaWorld's ability to get rides approved by the Coastal Commission and/or to disrupt SeaWorld's business and harm its name unless SeaWorld terminated its Joint Venture with Evans Hotels. In order to protect its stock price and plan to develop new rides, SeaWorld had no reasonable choice but to terminate the Joint Venture and its business relationship with Evans Hotels.

178. Defendants' misconduct (and/or that of their agents) was intentional and committed with the purpose of causing economic injury to Evans Hotels. Plaintiffs took these illegal actions for their own pecuniary benefit.

179. Defendants' misconduct caused an actual disruption of the business relationship between Evans Hotels and SeaWorld. SeaWorld publicly announced its formal termination of the Joint Venture on November 7, 2018.

180. Defendants' conduct was designed to and has in fact injured Evans Hotels. As a direct result of Defendants' unlawful conduct, Evans Hotels has suffered substantial injury to its property and/or business, including but not limited to, lost profits in excess of $100 million in connection with the opportunity to build a SeaWorld branded hotel, legal fees and other costs incurred because of, and in response to, Defendants' unlawful conduct. Defendants' misconduct is intentional and malicious to such a degree that Evans Hotels is entitled to punitive or exemplary damages.

NINTH CAUSE OF ACTION

Attempted Extortion

(Against All Defendants)

181. Evans Hotels incorporates by reference as if set forth herein the allegations contained in Paragraphs 1 through 27, 30, and 47 through 88. This cause of action is based solely on Defendants' actions toward Evans Hotels and SeaWorld, resulting in the termination of their business relationship, and Defendants' direct communications to Evans Hotels. Evans Hotels does not base this cause of action on any actions Defendants have taken before the City Council, in communications with members of the City Council or the Mayor, on any statements made on Defendants' website.

182. Defendants intended by their actions to commit extortion, by using the threat of and Evans Hotels' fear of economic harm and injury to Evans Hotels' business interests to induce Evans Hotels to give up its property, including money in the form of per capita payments, union dues, union fees, and other payments, such as contributions to union pension and health plans, as well as Evans Hotels' rights to recognize or not recognize a union and to have a vote for unionization be carried out by secret ballot.

183. Defendants have engaged in multiple acts in furtherance of their attempt to extortion Evans Hotels' property, including threatening SeaWorld with economic harm to cause it to cancel its contract for the SeaWorld branded hotel; threatening Evans Hotels with sham opposition to and lawsuits against the Bahia Project despite admitting there is no basis for such actions; and demanding

that Evans Hotels agree to sign a PLA and card check neutrality agreement so that Evans Hotels "can go forward with your project" and put the pin back in the "grenade."

184. Although Defendants have been unsuccessful so far in their efforts, Evans Hotels has suffered substantial injury to its property and/or business, including but not limited to, lost profits in excess of $100 million in connection with the opportunity to build a SeaWorld branded hotel, legal fees and other costs incurred because of, and in response to, Defendants' unlawful conduct. Defendants' misconduct is intentional and malicious to such a degree that Evans Hotels is entitled to punitive or exemplary damages.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs Evans Hotels, LLC, BH Partnership LP, and EHSW, LLC respectfully request that the Court issue the following relief:

ON THE FIRST CAUSE OF ACTION:

A. Compensatory damages;

B. Costs of suit incurred, including all costs, expenses, attorneys' and experts' fees;

C. Punitive damages; and

D. Such other relief as the Court deems just and proper.

ON THE SECOND AND THIRD CAUSES OF ACTION:

A. Defendants and their agents be enjoined during this litigation and permanently thereafter, from ongoing and future acts constituting violations of federal antitrust laws to maintain and/or secure a monopoly, as provided by 15 U.S.C. § 26;

B. Treble damages under section 4 of the Clayton Act, 15 U.S.C. § 15, arising from harm Evans Hotels has suffered as a result of Defendants' violation of section 2 of the Sherman Act, 15 U.S.C. § 2;

C. Prejudgment interest;

D. Costs of suit incurred, including all costs, expenses, attorneys' and experts' fees; and

E. Such other relief as the Court deems just and proper.

ON THE FOURTH, FIFTH, SIXTH, AND SEVENTH CAUSES OF ACTION:

A. Defendants and their agents be enjoined from engaging in further extortion and bribery in an effort to oppose Evans Hotels and/or the Bahia project;

B. Damages against Defendants, jointly and severally, for a sum of money equal to the amount of damages Evans Hotels has sustained or will sustain (trebled pursuant to 18 U.S.C. § 1964(c);

C. Prejudgment interest;

D. Costs of suit incurred, including all costs, expenses, attorneys' and experts' fees;

E. Punitive damages; and

F. Such other relief as the Court deems just and proper.

ON THE EIGHTH AND NINTH CAUSES OF ACTION:

A. Compensatory damages;

B. Costs of suit incurred, including all costs, expenses, attorneys' and experts' fees;

C. Punitive damages; and

D. Such other relief as the Court deems just and proper.

JURY DEMAND

Plaintiffs demand a trial by jury.

Dated: December 7, 2018

AKIN GUMP STRAUSS HAUER & FELD LLP
Susan Leader
Stephanie P. Priel

By: *s/* Susan Kay Leader
Susan Leader
Attorneys for Plaintiffs

EXHIBIT D

Hernandez, Jennifer L (SFO - X56927)

From: Walter, Rich <Rich.Walter@icf.com>
Sent: Friday, September 27, 2019 9:39 AM
To: Art Coon; 'Gary Jakobs'; Adam Lewandowski; Adrienne Graham; AGarcia6 @semprautilities.com; Ahmad Kashkoli; Al Herson; Aladjem, David; Alicia Guerra (aguerra@buchalter.com); Alisha Winterswyk; Amanda Daams; Amanda Olekszulin; Amanda.Schneider@greshamsavage.com; amoore@esassoc.com; Amy R. Higuera (ahiguera@thomaslaw.com); Amy.Fischer@lsa-assoc.com; Andrea Matarazzo; Andrew M. Hitchings (ahitchings@somachlaw.com); Andrew Martin; Ashle T. Crocker (acrocker@thomaslaw.com); Austin Kerr; Bill Ziebron (billziebron@yahoo.com); Bob Sleppy (bob.sleppy@cdcr.ca.gov); Bobbette Biddulph (bbiddulph@esassoc.com); Brian Boxer; bstark@PMCWorld.com; Camille Kirk; Carrie Lukacic; CBradley@recology.com; Charity.Schiller@bbklaw.com; Chris Calfee (Christopher.Calfee@resources.ca.gov); Chris Ganson; Chris Mundhenk; Chris Stiles; Christy Ryan; Christine Kronenberg; Elliott, Chris; Christopher J. Butcher (cbutcher@thomaslaw.com); Clark Morrison; Claudia Garcia; Connelly, Peter@CDCR; Curtis Alling; Cynthia Van Ampel; Dallas, Janet; David E. Miller (dmiller@folsom.ca.us); David Mohlenbrok (David.Mohlenbrok@rocklin.ca.us); David Snow ; David Vintze (dvintze@baaqmd.gov); Deanna M. Hansen; Denise Jurich; dennisodion@gmail.com; Devon Mutro; Diane Kindermann Henderson; Doug Brown (browndoug@att.net); Elizabeth Sarine; Ellison Folk; Emily Bacchini; Eric Parfrey ; Eric Ruby; Erich Fischer; Ericka Leachman; Erik de Kok; Erika Carpenter; Espinosa, Kim; Fran Ruger; Fran Ruger; Fred Choa; Gene Talmadge (jngtalmadge@msn.com); George Phillips; Hanspeter Walter ; Harriet Steiner; Harris, Arielle; Hawkins. Tim ; Heather Beckman; Heather Blair; Heather D Davis; Heidi Tschudin (htschudin@sbcglobal.net); Hguerra@co.tulare.ca.us; Honey Walters; Hori, Susan; Howard Wilkins III (hwilkins@rmmenvirolaw.com); Ian.Forrest@sce.com; Irving, Cedric@Waterboards; Kristi Black; Janill Richards (Janill.Richards@doj.ca.gov); Jennifer Buckman; Hernandez, Jennifer L (SFO - X56927); Jennifer Johnson; Jessica Kirchner Flores; Jim Moose; Jkinsey@wjhattorneys.com; JoAnn Hadfield; john.s.karamitsos@gmail.com; Jose Bodipo-Memba; julie.wang@ch2m.com; Kate Wheatley; Kathleen Brady; Kelley Taber; Ken Alex; Kido, Maggie (PMO Contractor); Kit Faubion; kmiller@terraverdeweb.com; konnie@epdsolutionsinc.com; Lara Rachowicz; Lassell, Susan; Laurel Lees; Leslie Moulton; Lily Bostrom; Linda Leeman; MacKenzie, Nancy@CDCR; mae@semlawyers. com (osha@semlawyers.com); Marian Moe (marian.moe@doj.ca.gov); Mark Kenegos; Matt Dulcich; Matthew.Franck@ch2m.com; mcampbell@sapphosenvironmental.com; Megan Jones; Michael H. Zischke; Michael Hendrix; Michael Jewell (Michael.S.Jewell@usace.army.mil); Michelle Ouellette (michelle.Ouellette@bbklaw.com); Mike Parker; Mindy Fogg; Mitchel Morrison; Morrison, David; msohagi@sohagi.com; Townsley, Maggie; ngordon@sohagi.com; Pat Angell; Pat Angell; Paul S. Simmons; Pete Parkinson; Peter Maurer (pmaurer@co.calaveras.ca.us); Poonam Boparai; Ramon Batista (rbatista@cambaygroup.com); Richard Daulton; Richard Taylor (rtaylor@smwlaw.com); Robert E. Donlan (red@eslawfirm.com); robert.pontelle@sce.com; Robinson, Geoffrey L. (Perkins Coie); Ron Sissem (sissem@emcplanning.com); Sabrina Teller; Sande George (sgeorge@stefangeorge.com); Scott Morgan (scott.morgan@opr.ca.gov); Sean Bechta; Shabnam Barati (sbarati@impactsciences.com); Smith, Thomas E.; Starzak, Richard; Stephen Kostka; Susan Dell'Osso - River Islands (sdellosso@riverislands.com); Suzanne Enslow; svarco@envirolawyer.com; Sydney Coatsworth; Tanya Sundberg; Taylor, Timothy M.; Terri McCracken; Rivasplata, Antero; Tiffany Wright (twright@rmmenvirolaw.com); Tim Cremin; Tim Taron (ttaron@hsmlaw.com); Tina A. Thomas; Tina Andersen; Tom Barnes; Tom Buford; Whit Manley (wmanley@rmmenvirolaw.com); Will Halligan; William Abbott; Zeff, Sally

Subject: RE: Recommendations: Topics for AEP Advanced CEQA Workshop

[External email]
FYI all re: GHG/Climate Change and CEQA. The AEP Climate Change Committee has been endeavouring through numerous white papers and conference presentations for about 10 years to promote best practices in this arena. Despite that, the practice remains unsettled on this matter, in particular because of aggressive plaintiffs using GHG as their latest legal cudgel, courts that are sometimes on point and sometimes clueless on the technical matters, and the unprecedented natures of the climate change challenge.

So, if people aren't exhausted by prior presentations/workshops on the topics, I would be happy to work with the climate change committee to support any workshops in 2020 on this. We have lots of ideas. We are working on a new white paper on CEQA GHG threshold for publication in 2020 as well.

Also- the Climate Change Committee is also working on a new white paper on Friant as well and plan to present on that at the 2020 AEP conference.

From: Art Coon [mailto:arthur.coon@msrlegal.com]
Sent: Friday, September 27, 2019 9:32 AM
To: 'Gary Jakobs' <Gary.Jakobs@ascentenvironmental.com>; Adam Lewandowski <Adam.Lewandowski@ascentenvironmental.com>; Adrienne Graham <algraham@surewest.net>; AGarcia6@semprautilities.com; Ahmad Kashkoli <Ahmad.Kashkoli@waterboards.ca.gov>; Al Herson <aherson@sohagi.com>; Aladjem, David <daladjem@DowneyBrand.com>; Alicia Guerra (aguerra@buchalter.com) <aguerra@buchalter.com>; Alisha Winterswyk <Alisha.Winterswyk@bbklaw.com>; Amanda Daams <Amanda.Daams@GreshamSavage.com>; Amanda Olekszulin <amanda.olekszulin@ascentenvironmental.com>; Amanda.Schneider@greshamsavage.com; amoore@esassoc.com; Amy R. Higuera (ahiguera@thomaslaw.com) <ahiguera@thomaslaw.com>; Amy.Fischer@lsa-assoc.com; Andrea Matarazzo <andrea@pioneerlawgroup.net>; Andrew M. Hitchings (ahitchings@somachlaw.com) <ahitchings@somachlaw.com>; Andrew Martin <Andrew.Martin@ascentenvironmental.com>; Ashle T. Crocker (acrocker@thomaslaw.com) <acrocker@thomaslaw.com>; Austin Kerr <austin.kerr@ascentenvironmental.com>; Bill Ziebron (billziebron@yahoo.com) <billziebron@yahoo.com>; Bob Sleppy (bob.sleppy@cdcr.ca.gov) <bob.sleppy@cdcr.ca.gov>; Bobbette Biddulph (bbiddulph@esassoc.com) <bbiddulph@esassoc.com>; Brian Boxer <BBoxer@esassoc.com>; bstark@PMCWorld.com; Camille Kirk <cmkirk@ucdavis.edu>; Carrie Lukacic <Carrie@pcz.com>; CBradley@recology.com; Charity.Schiller@bbklaw.com; Chris Calfee (Christopher.Calfee@resources.ca.gov) <Christopher.Calfee@resources.ca.gov>; Chris Ganson <Chris.Ganson@OPR.CA.GOV>; Chris Mundhenk <Chris.Mundhenk@ascentenvironmental.com>; Chris Stiles <CStiles@rmmenvirolaw.com>; Christy Ryan <christy.ryan@ascentenvironmental.com>; Christine Kronenberg <ckronenberg@dudek.com>; Elliott, Chris <Chris.Elliott@icf.com>; Christopher J. Butcher (cbutcher@thomaslaw.com) <cbutcher@thomaslaw.com>; Clark Morrison <cmorrison@coxcastle.com>; Claudia Garcia <cgarcia@placeworks.com>; Connelly, Peter@CDCR <Peter.Connelly@cdcr.ca.gov>; Curtis Alling <curtis.alling@ascentenvironmental.com>; Cynthia Van Ampel <cvanampel@modestogov.com>; Dallas, Janet <Janet.Dallas@aecom.com>; David E. Miller (dmiller@folsom.ca.us) <dmiller@folsom.ca.us>; David Mohlenbrok (David.Mohlenbrok@rocklin.ca.us) <David.Mohlenbrok@rocklin.ca.us>; David Snow <dsnow@rwglaw.com>; David Vintze (dvintze@baaqmd.gov) <dvintze@baaqmd.gov>; Deanna M. Hansen <dhansen@esassoc.com>; Denise Jurich <djurich@geiconsultants.com>; dennisodion@gmail.com; Devon Mutro <devon.muto@icfi.com>; Diane Kindermann Henderson <DKindermann@aklandlaw.com>; Doug Brown (browndoug@att.net) <browndoug@att.net>; Elizabeth Sarine <ESarine@rmmenvirolaw.com>; Ellison Folk <Folk@smwlaw.com>; Emily Bacchini <emily.bacchini@smud.org>; Eric Parfrey <eric.parfrey@yolocounty.org>; Eric Ruby <Eric.Ruby@ascentenvironmental.com>; Erich Fischer <EFischer@esassoc.com>; Ericka Leachman <erika.leachman@amec.com>; Erik de Kok <erik.dekok@ascentenvironmental.com>; Erika Carpenter <escarpen@ucsc.edu>; Espinosa, Kim <ESPINOSAK@cityofmerced.org>; Fran Ruger <fran.ruger@ascentenvironmental.com>; Fran Ruger <fran.ruger@ascentenvironmental.com>; Fred Choa <F.Choa@fehrandpeers.com>; Gene Talmadge (jngtalmadge@msn.com) <jngtalmadge@msn.com>; George Phillips

<gphillips@phillipslandlaw.com>; Hanspeter Walter <hwalter@kmtg.com>; Harriet Steiner <Harriet.Steiner@bbklaw.com>; Harris, Arielle <aharris@downeybrand.com>; Hawkins. Tim <hawkinst@saccounty.net>; Heather Beckman <HBeckman@placer.ca.gov>; Heather Blair <Heather.Blair@ascentenvironmental.com>; Heather D Davis <hddavis@ucdavis.edu>; Heidi Tschudin (htschudin@sbcglobal.net) <htschudin@sbcglobal.net>; Hguerra@co.tulare.ca.us; Honey Walters <honey.walters@ascentenvironmental.com>; Hori, Susan <SHori@manatt.com>; Howard Wilkins III (hwilkins@rmmenvirolaw.com) <hwilkins@rmmenvirolaw.com>; Ian.Forrest@sce.com; Irving, Cedric@Waterboards <cedric.irving@waterboards.ca.gov>; Kristi Black <kristi.black@ascentenvironmental.com>; Janill Richards (Janill.Richards@doj.ca.gov) <Janill.Richards@doj.ca.gov>; Jennifer Buckman <jtb@bkslawfirm.com>; Jennifer Hernandez <jennifer.hernandez@hklaw.com>; Jennifer Johnson <Jennifer.Johnson@ascentenvironmental.com>; Jessica Kirchner Flores <jflores@impactsciences.com>; Jim Moose <JMoose@rmmenvirolaw.com>; Jkinsey@wjhattorneys.com; JoAnn Hadfield <jhadfield@placeworks.com>; john.s.karamitsos@gmail.com; Jose Bodipo-Memba <Jose.Bodipo-Memba@smud.org>; julie.wang@ch2m.com; Kate Wheatley <kwheatley@taylor-wiley.com>; Kathleen Brady <KBrady@bonterraconsulting.com>; Kelley Taber <ktaber@somachlaw.com>; Ken Alex <Ken.Alex@GOV.CA.GOV>; Kido, Maggie (PMO Contractor) <kidom@sacsewer.com>; Kit Faubion <kfaubion@meyersnave.com>; kmiller@terraverdeweb.com; konnie@epdsolutionsinc.com; Lara Rachowicz <Lara.Rachowicz@ascentenvironmental.com>; Lassell, Susan <Susan.Lassell@icf.com>; Laurel Lees <llees@greatecology.com>; Leslie Moulton <LMoulton@esassoc.com>; Lily Bostrom <Lily.Bostrom@ascentenvironmental.com>; Linda Leeman <linda.leeman@ascentenvironmental.com>; MacKenzie, Nancy@CDCR <Nancy.MacKenzie@cdcr.ca.gov>; mae@semlawyers. com (osha@semlawyers.com) <osha@semlawyers.com>; Marian Moe (marian.moe@doj.ca.gov) <marian.moe@doj.ca.gov>; Mark Kenegos <mkenegos@placeworks.com>; Matt Dulcich <medulcich@ucdavis.edu>; Matthew.Franck@ch2m.com; mcampbell@sapphosenvironmental.com; Megan Jones <mjones@rinconconsultants.com>; Michael H. Zischke <mzischke@coxcastle.com>; Michael Hendrix <Michael.Hendrix@lsa.net>; Michael Jewell (Michael.S.Jewell@usace.army.mil) <Michael.S.Jewell@usace.army.mil>; Michelle Ouellette (michelle.Ouellette@bbklaw.com) <michelle.Ouellette@bbklaw.com>; Mike Parker <mike.parker@ascentenvironmental.com>; Mindy Fogg <mfogg@rinconconsultants.com>; Mitchel Morrison <mmorrison@envicomcorporation.com>; Morrison, David <David.Morrison@countyofnapa.org>; msohagi@sohagi.com; Townsley, Maggie <Maggie.Townsley@icf.com>; ngordon@sohagi.com; Pat Angell <pat.angell@ascentenvironmental.com>; Pat Angell <pat.angell@ascentenvironmental.com>; Paul S. Simmons <psimmons@somachlaw.com>; Pete Parkinson <pete.parkinson54@gmail.com>; Peter Maurer (pmaurer@co.calaveras.ca.us) <pmaurer@co.calaveras.ca.us>; Poonam Boparai <poonam.boparai@ascentenvironmental.com>; Ramon Batista (rbatista@cambaygroup.com) <rbatista@cambaygroup.com>; Richard Daulton <RDaulton@rinconconsultants.com>; Richard Taylor (rtaylor@smwlaw.com) <rtaylor@smwlaw.com>; Robert E. Donlan (red@eslawfirm.com) <red@eslawfirm.com>; robert.pontelle@sce.com; Robinson, Geoffrey L. (Perkins Coie) <GRobinson@perkinscoie.com>; Ron Sissem (sissem@emcplanning.com) <sissem@emcplanning.com>; Sabrina Teller <STeller@rmmenvirolaw.com>; Sande George (sgeorge@stefangeorge.com) <sgeorge@stefangeorge.com>; Scott Morgan (scott.morgan@opr.ca.gov) <scott.morgan@opr.ca.gov>; Sean Bechta <sean.bechta@ascentenvironmental.com>; Shabnam Barati (sbarati@impactsciences.com) <sbarati@impactsciences.com>; Smith, Thomas E. <TSmith@bonterraconsulting.com>; Starzak, Richard <Richard.Starzak@icf.com>; Stephen Kostka <SKostka@perkinscoie.com>; Susan Dell'Osso - River Islands (sdellosso@riverislands.com) <sdellosso@riverislands.com>; Suzanne Enslow <suzanne.enslow@ascentenvironmental.com>; svarco@envirolawyer.com; Sydney Coatsworth <sydney.coatsworth@ascentenvironmental.com>; Tanya Sundberg <tsundberg@placeworks.com>; Taylor, Timothy M. <tmtaylor@stoel.com>; Terri McCracken <tmccracken@planningcenter.com>; Rivasplata, Antero <Antero.Rivasplata@icf.com>; Tiffany Wright (twright@rmmenvirolaw.com) <twright@rmmenvirolaw.com>; Tim Cremin <tcremin@meyersnave.com>; Tim Taron (ttaron@hsmlaw.com) <ttaron@hsmlaw.com>; Tina A. Thomas <tthomas@thomaslaw.com>; Tina Andersen <tina.andersen@psomas.com>; Tom Barnes <TBarnes@ESASSOC.COM>; Tom Buford <TBuford@cityofsacramento.org>; Walter, Rich <Rich.Walter@icf.com>; Whit Manley (wmanley@rmmenvirolaw.com) <wmanley@rmmenvirolaw.com>; Will Halligan <whalligan@planningcenter.com>; William Abbott <WAbbott@aklandlaw.com>; Zeff, Sally <Sally.Zeff@icf.com>

Subject: RE: Recommendations: Topics for AEP Advanced CEQA Workshop

Gary (and all):
Ok, here are a few thoughts to maybe get a conversation going: I don't think CEQA documents handle GHG/climate change impacts particularly well in terms of assessing significance and mitigation, and it's no knock on the consultants but inherent in the nature of figuring out the significance of impacts constituting a global problem on a project-by-project basis in local jurisdictions with no clear uniform threshold of significance. The required informational content of EIRs' analysis of the human health impacts of projects' air quality emissions (Friant Ranch) is an interesting current topic. There have also been some interesting developments in the case law addressing CEQA coverage of design review/aesthetic impacts that relate to the ministerial/discretionary dividing line demarcating the scope of CEQA. The recent Supreme Court decision in UMMP basically reaffirms the broad scope of a "project" subject to CEQA and should serve to dissuade agencies from summarily dispensing with CEQA review on the basis that an approval action isn't a "project". The recent popularity of "all-electric reach codes" in some local jurisdictions raises in my mind some interesting issues about possible abuse of the common sense exemption and use of impermissible "net benefit" analysis (ignoring "downside" impacts in other, non-GHG study areas) as shortcutting required CEQA review in the name of achieving a greater environmental good.
AFC

From: Gary Jakobs [mailto:Gary.Jakobs@ascentenvironmental.com]
Sent: Thursday, September 26, 2019 10:12 AM
To: Adam Lewandowski; Adrienne Graham; AGarcia6@semprautilities.com; Ahmad Kashkoli; Al Herson; Aladjem, David; Alicia Guerra (aguerra@buchalter.com); Alisha Winterswyk; Amanda Daams; Amanda Olekszulin; Amanda.Schneider@greshamsavage.com; amoore@esassoc.com; Amy R. Higuera (ahiguera@thomaslaw.com); Amy.Fischer@lsa-assoc.com; Andrea Matarazzo; Andrew M. Hitchings (ahitchings@somachlaw.com); Andrew Martin; Art Coon; Ashle T. Crocker (acrocker@thomaslaw.com); Austin Kerr; Bill Ziebron (billziebron@yahoo.com); Bob Sleppy (bob.sleppy@cdcr.ca.gov); Bobbette Biddulph (bbiddulph@esassoc.com); Brian Boxer; bstark@PMCWorld.com; Camille Kirk; Carrie Lukacic; CBradley@recology.com; Charity.Schiller@bbklaw.com; Chris Calfee (Christopher.Calfee@resources.ca.gov); Chris Ganson; Chris Mundhenk; Chris Stiles; Christy Ryan; Christine Kronenberg; Christopher Elliot (celliott@icfi.com); Christopher J. Butcher (cbutcher@thomaslaw.com); Clark Morrison; Claudia Garcia; Connelly, Peter@CDCR; Curtis Alling; Cynthia Van Ampel; Dallas, Janet; David E. Miller (dmiller@folsom.ca.us); David Mohlenbrok (David.Mohlenbrok@rocklin.ca.us); David Snow ; David Vintze (dvintze@baaqmd.gov); Deanna M. Hansen; Denise Jurich; dennisodion@gmail.com; Devon Mutro; Diane Kindermann Henderson; Doug Brown (browndoug@att.net); Elizabeth Sarine; Ellison Folk; Emily Bacchini; Eric Parfrey ; Eric Ruby; Erich Fischer; Ericka Leachman; Erik de Kok; Erika Carpenter; Espinosa, Kim; Fran Ruger; Fran Ruger; Fred Choa; Gene Talmadge (jngtalmadge@msn.com); George Phillips; Hanspeter Walter ; Harriet Steiner; Harris, Arielle; Hawkins. Tim ; Heather Beckman; Heather Blair; Heather D Davis; Heidi Tschudin (htschudin@sbcglobal.net); Hguerra@co.tulare.ca.us; Honey Walters; Hori, Susan; Howard Wilkins III (hwilkins@rmmenvirolaw.com); Ian.Forrest@sce.com; Irving, Cedric@Waterboards; Kristi Black; Janill Richards (Janill.Richards@doj.ca.gov); Jennifer Buckman; Jennifer Hernandez; Jennifer Johnson; Jessica Kirchner Flores; Jim Moose; Jkinsey@wjhattorneys.com; JoAnn Hadfield; john.s.karamitsos@gmail.com; Jose Bodipo-Memba; julie.wang@ch2m.com; Kate Wheatley; Kathleen Brady; Kelley Taber; Ken Alex; Kido, Maggie (PMO Contractor); Kit Faubion; kmiller@terraverdeweb.com; konnie@epdsolutionsinc.com; Lara Rachowicz; susan.lassell@icf.com; Laurel Lees; Leslie Moulton; Lily Bostrom; Linda Leeman; MacKenzie, Nancy@CDCR; mae@semlawyers. com (osha@semlawyers.com); Marian Moe (marian.moe@doj.ca.gov); Mark Kenegos; Matt Dulcich; Matthew.Franck@ch2m.com; mcampbell@sapphosenvironmental.com; Megan Jones; Michael H. Zischke; Michael Hendrix; Michael Jewell (Michael.S.Jewell@usace.army.mil); Michelle Ouellette (michelle.Ouellette@bbklaw.com); Mike Parker; Mindy Fogg; Mitchel Morrison; Morrison, David; msohagi@sohagi.com; mtownsley@icfi.com; ngordon@sohagi.com; Pat Angell; Pat Angell; Paul S. Simmons; Pete Parkinson; Peter Maurer (pmaurer@co.calaveras.ca.us); Poonam Boparai; Ramon Batista (rbatista@cambaygroup.com); Richard Daulton; Richard Taylor (rtaylor@smwlaw.com); Robert E. Donlan (red@eslawfirm.com); robert.pontelle@sce.com; Robinson, Geoffrey L. (Perkins Coie); Ron Sissem (sissem@emcplanning.com); Sabrina Teller; Sande George (sgeorge@stefangeorge.com); Scott Morgan (scott.morgan@opr.ca.gov); Sean Bechta; Shabnam Barati (sbarati@impactsciences.com); Smith, Thomas E.; Starzak, Richard; Stephen Kostka; Susan Dell'Osso - River Islands (sdellosso@riverislands.com); Suzanne Enslow; svarco@envirolawyer.com; Sydney Coatsworth; Tanya Sundberg; Taylor, Timothy M.; Terri McCracken; Terry Rivasplata (Antero.Rivasplata@icfi.com); Tiffany Wright (twright@rmmenvirolaw.com); Tim Cremin; Tim Taron (ttaron@hsmlaw.com); Tina A. Thomas; Tina Andersen; Tom Barnes; Tom Buford; Walter, Rich; Whit Manley

(wmanley@rmmenvirolaw.com); Will Halligan; William Abbott; Zeff, Sally
Subject: Recommendations: Topics for AEP Advanced CEQA Workshop

Dear Friends and Colleagues:

Every year as the school year begins I am reminded that it is time to think of education! And now that the UC's are all in session, it is time to think of advancing the CEQA practice!

Most of you who are receiving this e-mail have received a similar one in the past. I am Gary Jakobs, Ascent Environmental, and serve as the curriculum director for the **annual AEP Advanced CEQA Workshop**. You are the leaders, the movers, the people who prepare and defend CEQA documents, make them better, and advance the craft. And, **I need your help!** However, unlike some requests you receive, I **do not need 130,000 $1 donations. I do, however, need your ideas.**

AEP holds its Advanced CEQA Workshop annually in late February/early March at venues throughout the State. It is an opportunity to reach and instruct upwards of nearly 1,000 practitioners on trends, legal issues affecting the practice, new laws, and an advanced look at how we tackle important analysis. We mostly focus on CEQA, but occasionally will tackle a NEPA topic.

A major update to the CEQA Guidelines was adopted this past December, and we tried to cover many of the big changes in last year's workshops. Now that you are putting them into practice, what challenges are you encountering? What else are you seeing in your environmental documents that warrant consideration and training? Case law continues to define how we practice, yet there is a lot of push back on "too much regulation" and that it gets in the way of important housing projects. This is your opportunity to help guide the practice to help address these or other issues you confront.

I need your help identifying the important topics we should address in this year's (2020) workshop. (Fun fact: I have been in this role with AEP since 2006, the time AB 32 was passed. However, I have far less hair in 2020 than in 1990.) **Please provide your input to me by the end of next week, no later than October 4.** Feel free to forward this message to other colleagues you feel may want to provide input.

As you consider the important topics we might address, think both within and outside the geography in which you practice:

- What important issues have emerged over the past year?
- Are there issues you feel CEQA documents do not handle well?
- Are there specific NEPA topics you feel we should tackle?
- Do any CEQA cases over the past year or two suggest the need for focused consideration?
- Are there legislative changes over the past few years that warrant a technical session?

Consider the issues, challenges, and trends you come across in your work.

A standing issue we address each year is case law and new legislation.

Once I receive your input, I will work with AEP's Board in developing a list of topics we will turn into sessions for the workshop. Following that, I will reach out again to request **assistance preparing the workshop material. If you are interested in helping**, you can let me know now or you can respond later. We typically select the topics in November, prepare drafts of the material in December and January, and produce it for workshops in February/March.

Thank you all in advance for your help. **The more input and help we receive, the better the program.**

Sincerely,

Gary D. Jakobs, AICP
Principal
D 916.930.3182 | C 916.847.5808
E Gary.Jakobs@AscentEnvironmental.com

Ascent Environmental, Inc.
455 Capitol Mall, Suite 300
Sacramento, CA 95814
O 916.444.7301

MILLER STARR REGALIA

EXHIBIT E

National Association
of Home Builders

Office of Legal Affairs
Devala Janardan
Senior Counsel
djanardan@nahb.org

December 2, 2019

Jennifer L. Hernandez
Holland & Knight
Counsel for The 200
50 California St., 28th Floor
San Francisco, CA 94707

Dear Ms. Hernandez:

The National Association of Home Builders (NAHB) is a Washington, D.C.-based trade association that includes as part of its federation more than 700 affiliated state and local associations in all fifty states including California, the District of Columbia, and Puerto Rico.

The NAHB mission is to protect the American dream of homeownership and housing opportunities for all. Our thousands of builder members are proud to construct approximately 80 percent of the housing units produced every year in the United States. Our members include small-volume builders, production builders, multifamily builders, modular housing companies, and residential remodelers. In addition, NAHB includes associate members who span the spectrum of the housing industry, including suppliers, service providers, and product manufacturers.

Safe, decent, affordable housing provides fundamental benefits that are essential to the well-being of families, communities, and the Nation. Yet, owning or renting a suitable home is increasingly out of financial reach for many households. One of the often overlooked impacts of regulation is the effect on housing affordability. Higher costs invariably translate into higher home prices. Even a modest increase in the price of a home has drastic effects on housing affordability for a large number of potential home buyers.

NAHB economists have studied the impact of increases in housing prices on the number of eligible buyers in a given market.[1] These studies are based on mortgage underwriting standards, through which it is possible to calculate the number of households that can qualify for a mortgage before an increase in a representative home price and the number that can qualify for a mortgage after a price increase. The difference in these two numbers represents the number of households that are "priced out" of the market for a representative home.

NAHB data for 2019 shows that the median new home price estimate in California is $518,878.[2] A small $1,000 increase will price out 9,897 households throughout California. A $45,100 increase, which we understand to be one of the two quantified Vehicle Mile Travelled (VMT) mitigation examples calculated under 2018 revisions to regulatory requirements under the California Environmental Quality Act (CEQA), would price out 400,049 households out of a median priced home in the California homeownership market. A $403,800 VMT fee increase, provided as the second of the two quantified examples, would price out 2,620,616 California households from the median priced home.

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2 5844&subContentID=720994

More specific to San Bernadino, a $45,100 increase in new homes at an estimated median price of $514,900 (from data provided to NAHB by the Baldy View Chapter of the Building Industry Association of Southern California) would price 19,538 households out of the market and a $403,800 increase would price out 109,181 households.

Thus, housing cost increases due to just this one additional regulatory VMT CEQA fee have a clear and direct impact on housing affordability by pricing out many households. For those households that remain in the housing market, increased home prices will leave less money for these families to spend on other essentials, such as food, utilities, transportation, medical care, and child care.

Regards,

Devala Janardan
Senior Counsel
NAHB

202-266-8335

EXHIBIT F

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

August 28, 2019

Seleta Reynolds
General Manager
Attn: Tomas Carranza
City of Los Angeles Department of Transportation
100 Main St., 10th Floor
Los Angeles, CA 90012

RE: Dissolution of the Congestion Management Program in Los Angeles County

Dear Seleta Reynolds:

The purpose of this letter is to notify you that the County of Los Angeles and a majority of cities in the county, which in total represent a majority of the population in the county, have elected to be exempt from the Congestion Management Program (CMP), which means the provisions of the CMP no longer apply to any of the 89 local jurisdictions in Los Angeles County.

On June 28, 2018 the Metro Board approved a staff recommendation to initiate the process for Metro and all Los Angeles County local jurisdictions to opt out of the CMP in accordance with state law. Over the following year staff conducted outreach meetings directly with cities, through and with, Councils of Governments and at city council hearings. The outreach revealed a strong preference among cities to opt out of the CMP

Fifty-seven local jurisdictions, which in total represent 8.5 million in population have now adopted resolutions electing to be exempt from the Congestion Management Program (CMP). California Government Code §65088.3 provides that jurisdictions within a county may opt out of the CMP requirement without penalty, if a majority of local jurisdictions representing a majority of a county's population adopt resolutions requesting to opt out of the program. With the Los Angeles County region now having reached and exceeded this statutorily required threshold, the provisions of the CMP are no longer applicable to the region. Metro staff has communicated this information to our Board and have also sent notification to the State Controller, the California Transportation Commission and the Office of Planning and Research.

For your local jurisdiction that means you are:

- No longer required to prepare CMP biennial Highway Monitoring Reports
- No longer required to prepare CMP annual Local Development Reports
- Conformance with the CMP is no longer an eligibility requirement to participate in the Metro Call for Projects or any other discretionary funding program

- Transportation Demand Management Ordinances that local jurisdictions adopted to conform with the CMP remain your local ordinance to retain or augment to meet your local needs
- CMP Traffic Impact Analysis (TIA) is no longer required in Environmental Impact Reports (EIR)
- Local jurisdictions will continue to receive Section 2105 gas tax funds

There are a number of cities that are in various stages of preparing to take a CMP opt-out resolution to their governing body. Metro welcomes the continued adoption of resolutions for our records but please note that any future resolutions are not necessary at this point.

The collective majority decision to opt out of the CMP applies to all 89 jurisdictions in Los Angeles County regardless of whether or not a jurisdiction adopted an opt-out resolution. Similarly, as noted above, all local jurisdictions will continue to receive Section 2105 gas tax funds regardless of whether their jurisdiction adopted an opt-out resolution.

Metro staff remain available to respond to any inquiries you may have in regards to this matter. Should you have any questions please contact Paul Backstrom by email backstromp@metro.net or by phone at 213.922.2183.

Sincerely,

Kalieh Honish
Executive Officer

[redacted]

California Cultural Resource Preservation Alliance, Inc.
An alliance of American Indian and scientific communities working for the preservation of archaeological sites and other cultural resources.

Dear Connect SoCal Team:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS) (collectively called Connect SoCal). In 2012, with release of the prior RTP/SCS, Friends of Harbors, Beaches and Parks coordinated a cross-county regional conservation coalition focused on the inclusion of natural lands mitigation and policies within that SCAG plan. Our organization, California Cultural Resource Preservation Alliance, Inc. (CCRPA), is now a part of this growing coalition in 2020.

CCRPA works in Los Angeles and Orange counties and has since 1998. Our mission is to protect and preserve cultural resources such as sacred sites, archaeological sites, historic sites, and Traditional Cultural Places in Southern California with a focus on Orange and Los Angeles Counties. Preservation of natural and farmland results in the preservation of these cultural resources. We have had important successes since our inception including the preservation of the 100-acre, 7,000-year-old Tomato Springs site in east Irvine.

We offer the following comments on the Natural and Farmland policy, goals, and next steps.

Many of the benefits of open space and parkland have been outlined in the Plan and Natural Lands Appendix. We wish to make sure that the protection of cultural resources is not overlooked. It has been estimated that 90% of archaeological sites in southern California have been destroyed to make way for development. We strongly support the preservation of open space as the means of protecting the remaining cultural and archaeological sites that are an important part of our national patrimony. In addition, there are many economic benefits of open space. These are realized through increased property values, ecosystem services, support of local businesses through park visitor purchases, and a reduction in the urban heat island effect. Further, conservation of natural lands has many on-the-ground co-benefits like access to recreational opportunities, preservation of important habitats and species, increased job opportunities, protection of threatened/endangered species, and environmental education experiences. Our natural lands also filter water, clean the air, and provide homes for wildlife. Natural lands preservation also protects our watersheds, rivers, and water sources. Voters consistently support measures that benefit their local water resources.

The plan outlines that the region anticipates and additional 3.8 million people by 2045 providing increased pressure to our existing parkland. Existing studies document that many communities in the Southern California region already do not have enough parkland as outlined by the Quimby Act (five acres per 1000 residents). As cities grow, more parks and more park access will be needed. What is the

C.C.R.P.A.
Preserving The Past For The Future

California Cultural Resource Preservation Alliance, Inc.

P.O. Box 54132
Irvine, CA 92619-4132

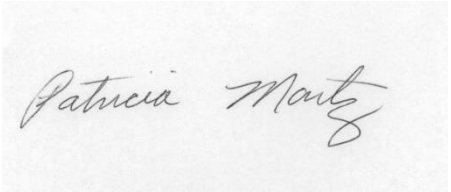
An alliance of American Indian and scientific communities working for the preservation of archaeological sites and other cultural resources.

mechanism for this? Additionally, and more importantly, these city parks are fundamentally different than habitat-focused parks. Usually city and regional parks include high intensity activities, like turfed soccer and baseball fields. The types of land acquired as mitigation or through local conservation efforts typically focus on preservation of natural habitat and less intensive uses (birding, hiking, etc.). In fact, many of these mitigation lands have limited or managed public access. Providing "more" access to either high or low intensity parks and/or habitat lands may have significant consequences for the land manager. How additional access will be provided should be addressed, as well as how additional lands will actually be preserved.

Wildlife corridors are getting more and more attention these days. Ensuring survival of the top predator and the suite of species in the ecosystem means our natural lands must also maintain environmental functions, be sustainable over the long term, and include plans for long term stewardship. The issue is that many housing and transportation projects eliminate the wildlife movement corridors and fragment the landscapes into smaller, less viable pieces of land. Ensuring our open spaces are connected to one another is essential for species survival. Wildlife corridors allow landscapes to maintain ecological functions, allow places for regeneration after natural disasters such as fire, flood or landslide, and improve the resiliency in the face of climate change impacts. The Plan would be stronger if it supported the enhancement of and/or protection of documented wildlife corridors *prior to commencing* impactful projects.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this Plan, especially as it relates to the conservation policy and Natural and Farmlands Appendix. Should you need to contact me, I can be reached at [redacted]. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to [redacted]

Sincerely,



Patricia Martz, Ph.D.
President, California Cultural Resources Preservation Alliance, Inc.

REGIONAL ADVANCE MITIGATION

To promote the conservation of natural and agricultural lands and restoration of habitats, Connect SoCal includes a new Regional Advance Mitigation Program (RAMP) initiative that will establish ~~and/or~~or supplement regional conservation and mitigation banks ~~and/or~~and other ~~programs~~ approaches to more effectively address impacts for projects that support reduction of per–capita vehicle miles traveled. The initiative will also support the long~~–~~term management and stewardship of mitigated properties.

Transportation, land use and other development projects and programs are often required to reduce their impacts on the environment through mitigation measures. Habitat preservation and restoration is a leading mitigation method, especially for significant transportation projects. Implementing agencies can directly preserve land through acquisitions or they can pay into "mitigation banks" (for wetlands) or "conservation banks" (for listed species) where a qualified land trust, joint powers authority, or governmental agency acquires and manages lands for conservation and restoration. Advance mitigation uses a science–based approach to anticipate and identify mitigation needs for multiple development projects, early in the planning process. By avoiding piecemeal mitigation for individual projects, and by doing so in advance of impacts, this method can prioritize~~s~~ sites with the highest ecological benefits and provide mitigation efficiencies to transportation, land use and other development projects. Advance mitigation can reduce project

~~Advance mitigation also benefits transportation agencies with a more efficient permitting process, as well as reduced~~ cost escalations and ~~project~~ delays.

Regional advance mitigation planning for transportation projects takes this concept further and establishes two things: 1) inventories of anticipated impacts from transportation projects across the region, and 2) an assessment of the region's sensitive habitats and the conservation actions needed to protect them. As ~~ecological~~ habitats and other conservation elements do not routinely line up with jurisdictional borders, designation of conservation sites can span multiple jurisdictions.

In 2017~~6~~, the California Department of Fish and Wildlife created the Regional Conservation Investment Strategy (RCIS) P~~p~~rogram ~~in part based on regional advance mitigation planning,~~ to encourage regional ~~planning~~ approaches for advance mitigation and conservation. The program is a voluntary, non–regulatory conservation assessment and strategy to benefit ~~for~~ species and habitats of concern and to provide more efficient and effective approaches to mitigation and conservation. An RCIS can be used as the basis for the creation of advance mitigation in the form of Mitigation Credit Agreements (MCAs)~~,~~ which, like mitigation and conservation banks, ~~and~~ may have the benefit of project streamlining by providing mitigation ahead of impacts. In addition to the regional approach for mitigation and conservation planning, the RCIS Program provides public agencies with additional mitigation opportunities that other programs were not authorized to include, such as the potential use of excess project ecological benefits as credits, and other opportunities.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
[redacted]
www.dot.ca.gov

Making Conservation a California Way of Life.

January 23, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California Department of Transportation (Caltrans) wishes to thank the Southern California Association of Governments (SCAG) for the opportunity to review and comment on the Draft Connect SoCal, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR).

Caltrans applauds SCAG's use of innovative techniques and methodologies in engaging constituents within its six-county jurisdiction through its "Bottom-Up Local Input and Envisioning Process". Building upon the previous 2016 RTP/SCS, the Draft Connect SoCal plan boldly implements sustainable planning strategies aimed to increase active transportation plans and products, increase ridership and use of various forms of transit, improve the infrastructure of goods movement, reduce congestion and Vehicle Miles Traveled (VMT), and create more diverse and affordable housing; while reducing greenhouse gases and advancing healthy communities amongst other transformative efforts.

The Draft Connect SoCal plan was distributed to Caltrans' Headquarters and Districts 7 (Los Angeles and Ventura Counties), 8 (San Bernardino and Riverside Counties), 11 (Imperial County), and 12 (Orange County). The offices within each District and Division were given the opportunity to review and comment on the Draft RTP/SCS and Draft PEIR documents according to the California Regional Transportation Plan Guidelines.

Connect SoCal's core vision coupled with its goals and guiding principles helps to further an interconnect region. Moreover, SCAG's commitment to strengthen previous investments in our multi-modal transportation system and with focused direction for future plan investments results in increasing the region's overall resiliency, prosperity and competitiveness.

Specific comments on the Draft RTP/SCS chapters and appendices are included in Attachment A and specific comments on the PEIR are included in Attachment B.

If you should have any questions in regard to the comments, please do not hesitate to contact [redacted]

Sincerely,

Paul Albert Marquez
Deputy District Director for Planning

cc: John Bulinski, D7
Ray Desselle, D8
Ann Fox, D11
Lan Zhou, D12
Marlon Flournoy, DOTP
Jacqueline Kars, ORP
Caleb Brock, ORP

Attachments

Attachment A

Caltrans Headquarters – Office of State Planning

- The introduction is clear and informative on the regulations that guide the RTP development process however, RTP's are also influenced by the policies leveraged by the State. Suggest including additional language on SB 391 (2009) which also requires the California Department of Transportation to prepare the California Transportation Plan (CTP), California's long-range transportation plan. Reference to the CTP would illustrate the interrelationship between regional and statewide transportation objectives – highlighting how major metropolitan areas, rural areas, and state agencies can coordinate planning efforts to achieve critical statewide goals. Consider the following:

  "To better coordinate with the State, Connect SoCal was developed to align with The California Transportation Plan (CTP). The CTP is a long-range statewide level transportation plan that combines regional transportation and land-use plans to produce a unified multimodal strategy to achieve our collective vision of a lasting and well-integrated transportation system that benefits both people and goods over the next 25 years."

- While the plan is visually appealing and easy to read, consider including discussion on other Caltrans modal plans where necessary. With regards to the transportation complexities that exist throughout the State, differentiating the statewide goals from local/regional needs helps emphasize the challenges associated with transportation targets set forth by the State. Doing so also highlights the strategies proposed within the Connect SoCal to address transportation shortfalls within the SCAG region.

Caltrans Headquarters – Aviation & Aeronautics

- Land use and zoning around airports is an important element to consider and guidance can be found in the California Airport Land Use Planning Handbook (Handbook). Land use compatibility with an adopted general plan is the responsibility of each Airport Land Use Commission (ALUC). Airport Land Use Compatibility Plans should be regularly updated and reference current general plans to prevent incompatible land uses that encroach upon or threaten airport operations. Airports enable the movement of people and goods. They allow a community access to the nation's air transportation system. Airports are a valuable community resource enabling public services, such as medical transport and law enforcement. Future uses may include freight and package delivery as the use of Unmanned Aerial Systems (UAS) develops.

- Traffic congestion is one of the leading issues in transportation planning. The emerging concept urban air mobility (UAM) is expected to provide a new solution by making use of the three-dimensional airspace to transport passengers and goods in urban areas. Airport Shuttle and Air Taxi markets are viable markets. We are aware of Uber announcing Los

Angeles as one of the first cities to offer Uber Air flights, with the goal of beginning demonstrator flights in 2020 and commercial operations in 2023. The City of Los Angeles is creating an aerial mobility network integrated with its other transportation systems and investments.

- UAM largely is dependent on vertical takeoff and landing (VTOL) operations in urban areas. UAM application is to build well-distributed infrastructures to support VTOL aircraft operations. Those infrastructures are heliports and vertiports (or sky ports), where VTOL aircrafts take off and land, onboard or disembark passengers, and get charged. The Federal Aviation Administration has Advisory Circular 150/5390-2C to provide guidance on permitting and siting heliports.

- Significant legal/regulatory, certification, permitting/licensing, infrastructure, and weather constraints exist for currently operating aircraft. Vertiport or heliport locations should be carefully reviewed with consideration of its impact on potential UAM demand, safety, environmental impacts, land uses, energy distribution and demand, and transportation system performance.

- Can SCAG's RTP/SCS draw from Air Cargo projections and congestion/demand management strategies to formulate planning for logistics impacts from the growing consumer demand for home deliveries?

Please note below the following Codes for implementation in the Aviation input into the SCAG Draft RTP and its Aviation Technical Appendix:

- PUBLIC UTILITIES CODE – PUC- - -
- DIVISION 9. AVIATION [21001 - 24451]
- (Division 9 added by Stats. 1953, Ch. 151)
- ARTICLE 3.5. Airport Land Use Commission [21670 - 21679.5]
- (Article 3.5 added by Stats. 1967, Ch. 852)

- SCAG also note: 21670.2.
- Sections 21670 and 21670.1 *[These are the sections that require ALUCs in any county with public-use airports—DOC]* do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal. http://planning.lacounty.gov/aluc

- And, to clarify, our Cal. Aviation System Plan (CASP) update is not for the 2016 Policy Element directly. We're following a required 5-year update cycle, but the Plan will embark on a new course without "elements;" instead aligning with CTP 2050 to assist inter-modal goals.

Caltrans Headquarters – Office of Regional Planning

The Office of Regional Planning (ORP) would like to commend SCAG for their vivid and creative approach to demonstrating SCAG's 20-year vision for the future.

Overall, the page references on the RTP Checklist included whole chapters and entire technical reports. We recommend that SCAG reference specific page numbers for each question on the RTP Checklist with their Final RTP submission.

Below are the following comments in reference to the RTP Checklist Contents:

General

- #2. The document identifies several strategies but does not delineate whether they are short-range and long-range strategies/actions (23 CFR 450.324(b)).

- #3. There is mention of the elements required throughout the report, but as a public document this checklist should reference more specific pages instead of whole chapters and technical reports. Also, the report doesn't have specific sections dedicated to each element i.e. policy, action, and financial (California Government Code Section 65080). These elements should be clearly defined and easily accessible by specific page numbers.

- #4(a). The referenced pages are missing the general location of uses and building intensities. (HQ referring to the page numbers that SCAG identified on the RTP Checklist. SCAG should ensure 4(a) of the RTP Checklist is fully addressed, specifically, the general location of uses and building intensities within the region).

- #4(b). There is a lot of information to decipher and it is not clear that SCAG identified areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth.

- #4(h). SCAG identified one map on page 23 of their SCS Technical Report (HQ is referring only to the SCS. It seems that SCAG labeled all of their appendices with "Technical Report," but the specific requirement in RTP Checklist 4(h) refers to the SCS requirement). This does not set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB.

- #7. The outdated RTP Checklist that SCAG provided did not include question 7. Please provide the appropriate page references with an updated checklist.

Consultation/Cooperation

- #3. It is difficult to clearly determine that SCAG consulted with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP (23 CFR 450.316(b)). Please identify the specific pages for reference.

- #4. Please ensure that the final plan includes reference that federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP (23 CFR 450.316(d)).

- #5. It is difficult to determine where the RTP specifies that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation were consulted (23 CFR 450.324(g)).

- #6. Please include specific page reference that the RTP includes a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources (23 CFR 450.324(g)(1&2)).

- #15. It is not clear that the RTP will be adopted on the estimated date provided in writing to State Department of Housing and Community Development to determine the Regional Housing Need Allocation and planning period (start and end date) and align the local government housing element planning period (start and end date) and housing element adoption due date 18 months from RTP adoption date (Government Code 65588(e)(5)).

Programming/Operations

- The outdated RTP Checklist that SCAG provided did not include a *Programming/Operations Section*. Please provide the appropriate page references for each question on the updated checklist.

Financial

- #4. It is difficult to determine which projects are regionally significant. Please ensure that all regionally significant projects are identified (Government Code 65080(4)(A)).

- #9. In the Transportation Finance Technical Report neither TCMs or SIP is mentioned. Please ensure that the final RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented (23 CFR part 450.324(f)(11)(vi)).

Caltrans Headquarters – Office of Freight Planning

Overall, much of the Plan, specifically the Goods Movement Technical Report, includes vague and broad statements that are either not supported directly by data, analysis, or supporting evidence, or are supported with indirect and loosely (at best) related data and analysis. When data is sourced, it is cited in a way that makes it impossible to fact-check it or replicate the analyses. The language is so broad and vague that the plan does not leave the reader with a

clear understanding of how the system works. For example, each goods movement mode is independently discussed within its section, and the plan is missing a section (discussion) that ties together and analyzes all the freight modes for a true multimodal freight system. The Plan's structure, styles, multicolor headings are confusing to read and difficult to identify the section relationships (e.g., main and subsections). We have listed main comments below.

Draft Connect SoCal

- Broad and a Vague Content with Limited Supporting Data and Analysis
- Page 74 through 82, A significant portion of the main body includes broad and sweeping claims with limited, if any supporting data and analysis.
- Page 81, Table 3.3, SCAG Region Airport Passenger Forecast for 2020–2045 (no citation)
- Significant portions of supporting data are either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with multiple data sources, one cannot determine what source is attached to the data.
- Provide professional citations. For example, see page 78, Truck Bottleneck Relief Strategy and Industrial Warehouse & Distribution Centers
- Missing Significant Freight Information
- Chapter 4 is missing a discussion of National Highway Freight Program funding and the Trade Corridor Enhancement Program.

Goods Movement Technical Report (GDPR)

The Goods Movement Technical Report contained very little technical information. We expected to find supporting data, analysis, and methodologies for planning the regional freight system. Instead, the information was only slightly more detailed than what we found within the main document. In fact, the GMTR included very little supporting evidence, and sources are not cited in a way that allowed the reader to fact-check or replicate the analysis.

- A section for Pipelines, a key and critical freight mode recognized by the U.S. Department of Transportation as well as the California Department of Transportation, is not included within this report. Include a Pipeline section with the other freight modal sections (e.g., Rail, Seaports, Airports, Highways)
- Significant portions of the main body and the GMTR include broad and sweeping claims with limited, if any supporting data and analysis. For example, there is no direct supporting data and evidence included in the e-commerce section. We see broad statements such as e-commerce has greatly increased, and that e-commerce has negatively impacted

neighborhoods. However, we did not see any direct supporting evidence. We expected to see the number of increased trips related to e-commerce, but instead, we saw an increase in the dollars spent. This data does not support that there are more trips, as customers may be buying more expensive items or more items that are delivered on the same trip. Also, all forms of e-commerce a lump together. For example, Amazon purchases that are ordered online and delivered directly to the customer are combined with purchases that are ordered online at places like Target, Walmart, and Best Buy, where the customer can choose to pick up their purchase at the store. The store pick-up purchases are similar to the Sears Catalog (started in 1893) when customers ordered out of a catalog via the mail and picked up their purchases at Sears. We recommend separating the different types of "e-commerce" and addressing them individually.

- Page 5, First Paragraph: Define goods movement dependent jobs and provide examples for the industries

- Page 5, First Paragraph, "Jobs in goods movement dependent industries are generally well-paying, with annual average compensation in the construction, manufacturing, and wholesale trade sectors outpacing the average annual compensation for all regional industry sectors.": Support with specific data (not just averages) so that we can see the range in pay to the job. Using averages can greatly skew the results (e.g., low wage jobs offset by CEO salaries). Also, support with more data, including data sources (including reports, data tables) so that the analysis can be replicated.

- Page 6, Maintaining the Long-term Economic Completeness of the Region: Either provide useful information, data, and analysis or delete this section.

- Page 6, Promoting Local and Regional Job Creation and Retention: Provide supporting evidence and data. Provide the specific number of jobs that are created by the ports as well as the number of regional jobs created by "international trade activities." Define International trade activities. Also, link the infrastructure to the economy.

- Page 17, Distribution Centers, Warehousing and Transloading Facilities: This section includes unsupported statements and claims. Include supporting evidence and data, and professionally source and cite the data.

- Page 17, Consumer Base, "This growth in residents and income is expected to drive consumer spending and demand for goods, increasing pressure on the regional transportation network.": Support with evidence and data, and professionally cite the data source(s).

- Page 26, Highlight Area, Trade in the SCAG Region, First Paragraph: Define "current Administration" by giving its name. Also, is it regional, state, or federal?

- Most of the supporting data is either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with

multiple data sources, there is no way to determine what source is attached to the data. Provide professional citations. For example, when using the US Census data, include the Program (American Factfinder), the table (e.g., DP05), and the date(s) or when using the US DOT data, include the Program (FHWA), the report, table, website, and the date(s). This is important so that a reader can fact-check the data and replicate the analysis. Without this critical information, the reader must question the validity of the data and analysis. Examples include but are not limited to:

- Page 4, Table 1
- Page 7, Improving the Safety of Goods Moment Activities and Highlight Area: regional Goods Movement Workforce Development
- Page 14 Exhibit 3
- Page 15, Table 2, footnote 6, 7, and 8
- Page 16, Figure 1, Airports, International Land Ports-of Entrée
- Page 17 Distribution Centers, Warehousing and Transloading Facilities, and footnotes 10 and 11
- Pages 18 and 19, Highlight Area, Seaports and Regional Trade Flows, Figure 2, and footnote 13
- Pages 2020 to 34, Figure 3 to Figure 19, Footnotes 14, 17,18, 19, 20, 21, 2223, 25,26, 30 (FAF Version?), 31,32,33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47,48

Miscellaneous Comments

- Page 3, What is Goods Movement? A pipeline, a key freight mode is missing from this section.

- Page 3, Broad Economic Benefits: As currently written, this section is not understandable. Consider rewriting this section to include a clear introduction, thesis statement, body paragraphs, a restatement of the thesis, and a conclusion.

- Page 3, Broad Economic Benefits - First Paragraph: Who uses "performance" as a proxy: Without a subject, the relevance of this statement is unclear. What is the difference between the performance of the logistics industry and the contributions of the five major industries? Why does SCAG consider contributions of the "five major industry sectors..." more closely associated? Why were the agriculture and service industries (e.g., repairpersons) not included?

- Page 3, Broad Economic Benefits, Second Paragraph: Clearly link this discussion within this paragraph to the introduction above. As it is currently written, it is unclear how the GRP/GDP are connected (or not) with the five major industrial sectors. Also, what is "this economic impact"? Define "this economic impact."

- Page 3, Broad Economic Benefits, Third Paragraph: Clearly link this discussion within this paragraph to the first, introduction paragraph. Are the "good movement dependent

industries" the same as the "five major industry sectors"? If not, how are they different. What is the difference between a sector and an industry? A layperson and technical expert should be able to read this and understand. As this is currently written, neither can.

- Page 4, Table 1- Change in Average Annual Pay for Goods Movement Dependent Industries in the SCAG Region 2012-2016: The introduction sectors reference five sectors; this table includes seven sectors. Why?

- Page 5, First Paragraph: Define freight dependent jobs.

- Page 5, Regional Global Profile: Consider renaming this section the United States Global Profile as the narrative references the U.S. and not the SCAG region. Also, absent from this section is a discussion regarding the impacts of California's climate policies on So Ca Port's competitiveness with other U.S. and international ports.

- Page 5, Regional Global Profile - Second Paragraph: Consider rewriting this paragraph because it is confusing.

- Page 6, First Paragraph: Identity who expects them to grow and by how much? Support this statement with evidence.

- Page 6, Second Paragraph: Replace "recent" with a specific date and identify the specific shift(s) (e.g., percentages) and policies as well as the specific impacts of those shifts. It is not unusual for the federal reserve to adjust, so it is important that this statement is supported with evidence and a citation.

- Page 6, Goods Movement Vision: This vision is focused on freight movement; however, it should also focus on servicing the people (e.g., brings food and clothing to the people in the region). By focusing on throughput and other technical details, the basic needs that freight movement provides for are overlooked. It is helpful to plan for freight movement using a lens of what the region would look like without freight accessibility.

- Page 7, Increasing Freight and Passenger Mobility: Populate this section with useful information like specific strategies for improving goods movement and how the region is going to double rail volumes. Also, include the current freight performance by mode (or reference to a different section that contains that information) and what needs to be done to maintain that performance into the future.

- Page 7, Improving the Safety of Goods Movement Activities: Are there currently issues, if so, what are they?

- Page 7, Mitigating Environmental Impacts of Goods Movement Operations: Explain why and provide cited data, analysis, and evidence supporting this claim.

- Page 7, Highlight Area: Regional Goods Movement Workforce Development, Second Paragraph, First Sentence: "Currently, the U.S. is nearing, or at, full employment": Provide properly cited data supporting this claim. Also, link this to the SCAG region.

- Page 9, First Paragraph: Define "dead-end-jobs."

- Page 9, Seaports First Paragraph: Footnote 2: The WSC is a group. Please include a specific source (interview, report) that is properly cited so that readers can find the documentation of this statement.

- Page 9, Seaports, "percent of all containers in the U.S. moving through the San Pedro Bay Ports.3 Despite some recent modest shifts in container volumes to other U.S., Canadian and Mexican ports, the total container volume for the San Pedro Bay Ports is still expected to grow to over 34 million by 2045, a 120 percent ...": How was this analysis performed. What is the data source (including citation)? Model type, name, version?

- Page 9, Seaports, "35 percent of the San Pedro Bay Ports' total import-related traffic. The other 65 percent is assumed...": Did this data also come from footnote 3? If not, source the data, and provide a professional citation.

- Page 9, Seaports, Third Paragraph – "deconsolidation of the contents": Define for laypersons.

- Page 9, Seaports, Third Paragraph – "Transloading allows for the movement of increased amounts of goods while...": This statement may or may not be correct. For example, it may be that the region has gotten to the point that the transportation system is so congested that there is no capacity to support any more trips (freight or other) regardless of container. So, provide data, analysis, and supporting evidence for this claim as it relates to the current and future SCAG freight system.

- Page 10, Railroads, First Paragraph, First Sentence, "Critical to the growth": Demonstrate how BNSF and UP are critical to SCAG's growth. For example, what functions to they play in SCAG's economy? Support with professionally cited data and evidence.

- Page 12, Second Paragraph: Who reduced the number of times freight itself (?) was handled, how was the freight handled, and what is the base year for the speed, efficiency, damage, and security. What year was the performance assessment developed that measured these items and identified that the efficiency and speed increased, the damage was reduced, and security became greater? Was the same base year and performance year used for all six intermodal terminals? Did all terminals follow the same methodology and use the same data? Support with professionally cited data and analysis.

- Page 12, "In addition to these intermodal terminals, there are railyards that serve carload traffic of various types. UP has a large carload freight classification yard at West Colton (at

the east end.": Does this section capture all the rail yards that serve carload traffic of various types?

- Page 15, Airports, First Paragraph: It appears that multiple data sources and perhaps years were used to produce the number included in this section. With this said, there is a real concern that the analysis is comparing "apples with oranges" or that selective data was used.

- Page 16, Figure 1 Air Cargo Tonnage through SCAG Regional Airports 2000- 2018: It appears that this table was constructed based on a mix of data and analysis that is not consistent. I suspect that this is a comparison of apples and oranges. See my comments regarding the data sources.

- Page 17, Supply Chains and the SCAG Region: Consider rewriting this section so that a layperson can understand. For example, what are product demand forecasting and production planning?

Caltrans District 7 – Freight Planning

Goods Movement Technical Report

- Last mile Delivery—page 2. METRO sponsored a conference in this regard, and it was also a focus in conjunction with INUF Conference in 2019. A more extensive discussion was expected. Additionally, no discussion provided on "First mile."

- Page 16 of 32—Exhibit 3:

    - The "SR-206" shield should be Interstate 215. (same comment on exhibit 6 on page 52 of 132)
    - The "SR-30" shield should be SR-210.
    - The "I-210" shield that is shown to the right of the juncture of SR-57 and 210 should be SR-210 (Interstate 210 becomes SR-210 at the junction with SR-57.
    - Recommend the "county lines" are shown in different color as they are very similar to the highways not identified as part of the "Primary Highway Freight System."
    - What year is the USDOT source?
    - NOTE: To the extent above information occurs in other exhibits, this should be considered a global comment.

- East-West Corridor—page 51. There is no "project scope" information, and no reference to any project(s) in the list of projects.

- Appendix 1 of 1—page 123. Although multiple footnotes are from 2019, the discussion provided does not seem to include the most current information related to POLA (and possibly POLB) in this regard.

Caltrans District 7 – System Planning

- Page 34 - Exhibit 2.5 – There are lots of gradients in the LA/OC region; suggest doing a zoom box to show the land use breakdown in better detail.
- Page 40 - Figure 2.5/2.6 (and other graphs throughout) - Color choices for poor and good are very similar, which makes it hard to read tables quickly.
- Page 59: *Core Vision – Paragraph 1*: Fix-It First is commonly associated with the SHOPP program; suggest mentioning it here.
- *Planning for 2045* – typos in Line 1
- Page 69 - Active Transportation - "Walking and bicycling are accessible forms of transportation for people of all ages, abilities and socioeconomic backgrounds." This is not technically for certain abilities. Line could be read as exclusionary.
- Page 77 – Express Lanes Table Line 3 - Los Angeles – I-405 – Add I-*105* Express Lane (Should be add I-*405* Express Lane?)
- Page 163 – Measure R – Measure R has no sunset as of Measure M's approval.

Caltrans District 7 – Forecasting and Modeling

Draft Connect SoCal

- The goal of maintaining and rehabilitating the existing system is a laudable goal. The goal, according to SB-1, is to have 98% of the state highway system in each county operating at *Good* or *Better* condition by 2045. Table 1 on page 9 gives 47.9% of the statewide interstate highway system operating at *Good* in 2017. The only data in the report on pavement condition suggests a 3.4% drop over 2017-2022. How does the region intend to achieve the statewide level of performance when the current trend is downward?

Transit Technical Report

- Over the past 30 years, the SCAG region has made an unprecedented investment in transit infrastructure. Between 2007 and 2017, however, transit ridership has gone down by 19%. The projected goal of 1.6 billion transit trips in 2045, reflecting a 245% increase in transit ridership since 2015, seems rosy.

- A common perception that transit is for the underclass seems to be an element here, but it isn't addressed.

- Calling for diligence against encroaching gentrification and good intentions regarding economic and environmental equity do not seem to have been enough so far to establish housing opportunities for all income levels. Relying upon the market forces that generated the current inequities to somehow solve them seems unrealistic. Markets prefer building housing for the higher income.

- There is a claim that you will get there from here, but the battle to provide affordable housing in Southern California is being lost, as witnessed by the tented encampments throughout the region, as well as the collapse every 20 years or so of the housing markets in the Antelope Valley, Inland Empire and the Victor Valley during recessions.

- The details on the 2020 RTP/SCS Travel demand modeling efforts in this report are scant. On page 2 of the Transportation Modeling conformity appendix, reference to the model as an Activity Based Model, and mentions that it has met federal requirements, and has been through a peer review process, but there aren't other details to assess the modeling efforts.

- Express Lanes are an important component of SCAG's planning for the highway system. The 2016 RTP assumes very high participation of 3+ Person Carpools on the Express Lane System. Those values are not realistic and give inaccurate estimates of future express lane person throughput, revenues generated and so forth. What are the values being generated in the SCAG 2020 RTP/SCS assignment model?

- The configuration of the No Build Highway Network mostly includes projects that I expected to see. The major changes seem to lay in the land use/transportation system interface which is the appropriate, but don't appear substantive enough to generate the massive behavioral changes envisioned.

- The report notes only one very general impediment to telecommuting. Specifically, it notes that some jobs are simply not amenable to telecommuting. That is true enough, but it reflects almost no examination of any specific impediments to telecommuting, nor how to overcome them. Questions of exercising oversight, handling liability issues are not addressed let alone resolved. No reference to specific financial, legal or social impediments to expanded telecommuting is mentioned. Yet, SCAG expects 9.5% of Home-Work trips to be eliminated through telecommuting.

Caltrans District 7 – LD-IGR/ Mass Transit

- Add an Executive Summary (that's a few pages longer than the summary on page 5)

- In light of SB 743, it seems the following percentages should be reversed:
-
  - 22.8% Decrease in time spent in traffic delay per capita
  - 4.2% Decrease in daily miles driven per capita

Caltrans District 7 – Regional Planning

Draft Connect SoCal

- Page 2, under 'Our Plan'; in this section, commend SCAG for acknowledging the continuous partnership with the State (Department of Transportation) in advocating for implementation and funding for California's Active Transportation Program, resulting in the passage of Senate Bill 1.

- Page 2, SCAG identifies the region's multi-family shares declining from their peak in 2015. However, figure 2.4 illustrates 2017 as the peak year.

- Page 32, 'Present & Future Challenges', this section identifies Technical Reports for Connect SoCal. This section should include a weblink to the Technical Reports for reference purposes.

- Page 8, under 'What is Connect SoCal; in this section, the first paragraph discusses the Plan charting a path toward a more mobile sustainable and prosperous region. This section should include a visual graphic illustrating the connection between the key components.

- Page 20, SCAG identifies the two counties with the largest population growth (Riverside & Los Angeles), however this section should include the population growth throughout the SCAG region, including and identifying counties with disadvantage communities.

- Page 32, under 'Present and Future Challenges'; This section should include a weblink to the Technical Reports so interested parties can more easily see *how* the highlighted issues mentioned below are directly addressed by this plan.

- Page 32-33, under 'Affordable Housing'; This section brings up hurdles such as land use zoning that can make the development process expensive. Perhaps it would be beneficial to include some brief verbiage about how our region's zoning policies generally compare to other areas.

- Page 37, under 'Transportation Safety'; In the last sentence, it does not seem relevant or noteworthy to mention that lower speed crashes translate to a higher pedestrian survival rate. Instead, the plan should elaborate on how we can plan our transportation system in a way that encourages safe speeds since it has established that 30% of collisions result in unsafe speeds.

- Page 38, this section identifies the historic catastrophic events data, however this section should include the effects of the catastrophic events as they corollate to transportation security.

- Page 41, the paragraph regarding funding transportation would have been enhanced by having a graphic showing the existing gap between cost of transportation and available dollars.

- Page 47, this section addresses trends and emerging challenges which must be done to reduce greenhouse gas and meet target goals. Commend SCAG for incorporating this segment as part of Connect SoCal to address additional alternative approaches to address regional challenges.

- Page 66, Table 3.1; Where can interested parties find more information on the listed Transit Capital Projects?

- Page 74, this section identifies the Project List Technical Report of financially constrained and unconstrained lists of projects. This section should include a weblink to the Project List Technical Reports for accessible reference purposes.

- Page 128, under 'VMT Per Capita'; Should verbiage be added to explain why the State is shifting towards VMT as opposed to Level of Service (LOS)? It could tie in with the promotion of in-fill development, multi-modal transportation options, etc.

- Page 150, Commend SCAG for identifying a framework to continue regional partnerships. Together the efforts will address regional challenges and an attempt to meet goals that deem unpredictable.

- SCAG is applauded for explaining Connect SOCAL concept and its connection to the RTP and its long-range goals. SCAG also noted that cities and counties adopting the spirit of the RTP into planning measures for their areas could help their eligibility for future funding grants.

- SCAG did a great job on discussion of the myriad of components that makeup an RTP.

- Suggest making the Environmental Justice/ Public Health Technical Report maps available as interactive maps for the public to view impacts in their communities as well as for comparative analysis.

- We applaud SCAG for considering the importance of an aging population (65+) in the Plan; 1 out of 5 residents in the SCAG region will make up this demographic (Page 17, Connect SoCal Draft). They are more susceptible to impacts in the focus areas listed in the Public Health Technical Report than is the general population.

- Suggest more transparency, inclusion of sources, and studies concerning metrics such as those used to forecast "growth" regarding the job-housing balance (Page 45, EJ Technical Report) and "best practices" for time-based shopping and job accessibility (Page 58, EJ Technical Report).

Technical Reports (General)

- Passenger Rail: How does the Passenger Rail Report integrate CTP 2040 and the California State Rail Plan 2018 with regards to goals, policies and strategies?

- Transit: How does the Transit Technical Report integrate CTP 2040 and the Caltrans 2017 Statewide Transit Strategic Plan with regards to goals, policies, strategies and recommendations?

- Goods Movement: How does the Goods Movement Technical Report integrate CTP 2040 and the California Freight Mobility Plan with regards to goals, policies, strategies and recommendations?

- Aviation and Airport Ground Access: How does the Aviation and Airport Ground Access Technical Report integrate CTP 2040 and the California Aviation System Plan Policy Element 2016 with regards to goals, policies, strategies and recommendations?

- Active Transportation: Caltrans applauds SCAG on its robust and comprehensive commitment to Active Transportation. Caltrans praises SCAG for its many referencing of State of California and Caltrans documents relating to active transportation. Excellent sourcing and listing of CTP 2040, California Bicycle and Pedestrian Plan, various Caltrans District Level Active Transportation Plans, Caltrans State Highway Safety Plan, Caltrans Complete Streets Element Toolbox Guidebook, etc.

- Highways and Arterials: How does the Highways and Arterials Technical Report integrate CTP 2040 and the 2015 Interregional Transportation Strategic Plan and its programmed projects in the Interregional Transportation Improvement Program (ITIP) with regards to purpose, policies and considerations?

Performance Measures Technical Report

- Page 30, The report states that Environmental Quality is measured in terms of criteria air pollutant and GHG emissions. The EPA sets NAAQS for six common criteria pollutants, however only four (transportation related) pollutants are monitored in the SCAG region. What percentage of the overall criteria air pollutants do the other two pollutants contribute?

- In addition to criteria pollutants, the EPA identifies 9 priority air toxic compounds with mobile sources known as Mobile Source Air Toxins (MSAT). The nine priority compounds are: 1,3 – butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM) which have the potential

for adverse health effects. The Performance Measures technical report has no mention of these mobile source air toxins. They should be monitored and strategies for reduction of MSAT be implemented.

- Non-SOV mode share is included in the Environmental Quality outcome category. Would be helpful to have figures that show percent of people who have switched to this method of transport and projections for future conversions to this method and its overall impact on emissions.

- Emissions are estimated using results of the SCAG RTDM which are then inputted to the California Air resources Board (ARB) Emission Factors (EMFAC) model. Information on the accuracy, precision, and uncertainty values of the model would be helpful.

- Page 31 Differentiate between tropospheric ozone (ground/surface-level) which can have adverse health impacts on the community versus stratospheric ozone.

- Clearly define "reactive organic gases (ROG)" and identify which ones are the largest contributors to the formation of surface ozone levels in the SCAG area. Which reactive organic gases are being monitored?

- Ozone concentrations can reach unhealthy levels when the weather is hot and sunny with little or no wind. Tropospheric ozone formation is sunlight/temperature dependent. Report could use information on the effects that future climate change (possible increase in temperature) will have on tropospheric ozone production rates up to the year 2035. It is not clear if this change has been considered when running prediction models.

- Page 31 – Table 10, (SB 375) regional targets were updated by the Air Resources Board in 2018 to ensure consistency with the more stringent statewide reduction goals subsequently introduced by the California legislature and the Governor's office.

- SB 375 Regional Plan Climate Targets through Sept. 20, 2018 for 2020 were -8%, that goal remained the same after the more stringent goals were introduced beginning Oct. 1, 2018. Was this goal met? If so, what strategies were successful in reaching this goal?

- However, for the 2035 goal, the goal before Oct. 1, 2018 was -13% and was changed to -19%. The newly adjusted goal has been made significantly higher. How has this affected planning to meet the 2035 goal now that it has been changed substantially? Is it feasible?

- Page 32, What criteria and associated weights are used in the SCAG Scenario Planning Model (SPM)?

- There is mention that for Connect SoCal. The scenario modeling capabilities have been enhanced. By what methods and criteria?

Transportation Conformity Analysis Technical Report

- Page 3, State Implementation Plans (SIPs) - Connect SoCal must conform to the applicable SIPs [motor vehicle emissions budgets (for all criteria pollutant SIP's) and TCM's (for ozone and CO SIP's only)] in the SCAG region.

- Page 4, Federal Clean Air Act Designations in the SCAG Region - Differentiate between tropospheric and stratospheric ozone formation.

- Address the differences and severity between PM 10 and PM 2.5 health risks.

- It is crucial to provide information about the atmospheric lifetime of the criteria pollutants. Pollutants with long atmospheric lifetimes can survive in the environment for years which can greatly impact modeling efforts.

- Page 28 – end, Tables with ROG - Define Reactive Organic Gases/clarify if they are using the ARB definition along with its exemptions. (ROG usually means any compound of carbon) however the ARB has listed exemptions to ROG which would not be included in emission measurements. Alternatively, specify what compounds are being tested for/monitored and shown in the table under ROG.

Goods Movement Technical Report

- Currently, much of the SCAG region fails to meet federal ozone and fine particulate air quality standards as mandated by the federal Clean Air Act.

- Although zero-emissions vehicles seem to be the goal, the discussion on near-term improvements that can be implemented sooner and at a cheaper cost is appreciated. Zero-emission vehicles for goods movement are still at an early stage and require a lot of money for implementation including the planning and building of new infrastructure to support the energy needs of these technologies.

- It is important to explore other emission reduction strategies that can be implemented right away with relatively lower costs. (e.g. improvements to engine efficiency. Increase efficiency in internal combustion engines through engine technologies such as waste heat recovery which lowers fuel use).

Caltrans District 7 - Active Transportation

Draft Connect SoCal

- Page 54 - Livable Corridors Section:

  - This section focuses on BRT options to qualify an area as a "livable corridor", but consideration should also be given to rail corridors as well.
  - There is no mention of landscaping, green scaping, shade trees or bioswales as a viable improvement for a livable corridor. These types of improvements can also help slow down traffic and improve the conditions for other street users.

- Page 69-70 - Active Transportation Section:

  - It would be helpful if the active transportation improvements section included more specific improvements (like the Transit Improvements section). Improvements to pedestrian facilities are important and should be noted.
  - There were many community concerns regarding the Venice Boulevard Great Streets project. We suggest using a much more successful example of a Great Street in this section.
  - More funding opportunities should be provided for community-based organizations to be "partners" or "co-leaders" with agencies to help ensure the community's active transportation needs will be met.

Active Transportation Technical Report

- The terminology used in this technical report is not well explained or defined; please consider providing a Lexicon.

- We recommend providing more details on "green streets" and the value these offer towards a more sustainable future.

- Page 56 – Safety: The current safety goal (reduce traffic fatalities for all modes by three percent and serious injuries by 1.5 percent by 2050) is extremely conservative relative to the widespread adoption of "Vision Zero" at many federal, state and local agencies to reduce fatalities and serious injuries to zero.

- Page 59 - Pedestrian Infrastructure: Consider adding "reducing driveway conflicts" as part of Strategy 1 or 3 to reduce potential conflicts between pedestrians and drivers.

- Page 59 - Local Bikeway Infrastructure: Specify the types of "low-stress protected bikeway networks" facilities described in Strategy 1 that are preferred (e.g., Class I, II, III, or IV)

- Page 60 - First-Last Mile Infrastructure / SRTS Infrastructure: All policies should include an equity strategy to ensure future investments are going towards improving previously disinvested communities to increase safety for vulnerable road users.

- Page 64 - Safety Strategies: Consider historically disproportionate impact that increased enforcement/ policing has had on low-income communities of color in Safety Strategy 3 and

Strategy 7. Enforcement should be tempered with appropriate, ongoing public engagement to avoid potential alienation and discrimination in these communities.

Caltrans District 7 – Division of Design

- The plan "sounds good" and at the same time very unrealistic.
- Assume reduction in car usages and VMTs, mainly thru "Transit Integration". While in the past 10 to 12 years Transit Ridership has been decreasing in the region and nationwide.
- The use of this Plan/Strategy's numbers will hide/lessen the impacts of Goods Movements mobility projects, Tolling Lanes with assumed future Demand, etc., and boasts the assumed benefits identified below (Region's assumptions). See Regions unsupported/overestimated assumptions below (pushed as future "facts".)
    - SCAG's region projected 19%, or 3.7 Million population increase in the Region over the next 25 years. This projection is likely to be low, if California's economy maintains its strength.
    - According LA based Beacon Economics in the next 30 years, LA County would increase by 3.5 million and Riverside County will increase ~ 3.2 million.
    - https://www.reuters.com/article/us-california-population/californias-population-to-hit-60-million-by-2050-idUSN0930091220070709
- MODE SHIFT: The assumptions are based to a large degree upon the extent to which major mode shifts within the region can be accomplished. No reasonable and/or quantifiable data provided on that insures these shifts are highly probable to materialize, especially as transit ridership has been steadily declining in the past 12 years nationwide and throughout Southern California. With Technology leaps, driverless car sharing options are likely to lead to increases in vehicle miles traveled (VMT).
- The same with all past Plans, this Mobility Plan promises to "fix" the current challenges… With No Accountability, only to repeat in the next one while consuming Billions of tax dollars, which is very good for the economy.
- HIGH OCCUPANCY VEHICLE (HOV) AND TOLLING LANES: It is crucial to transparently address Inequity issues (Title VI, etc.), address the true Corridors' mobilities prior to regional policies to increase the number of persons needed to ride for free in Tolling lanes. Need comprehensive and transparent impacts assessment on traffic congestion and on people impacted by these changes. Currently designed Tolling "Express" Lanes policy papers is skewed towards Tolling ("drives" the operational assessment). The operations should be based on, at a minimum, evaluating all freeway lanes together (included tolling). To be transparent, the operational analysis should address the Corridor (to include parallel arterials/local streets impacts).

A recent example from Metro's I-105, EA 314500 PAED docs., Convert HOV lane and add a lane (for a 2-Tolling Lanes): The 2016 SCAG RTP/Sustainable Communities Strategy (scenarios include: Transit Integration, Livable Corridors, "Neighborhood Mobility Area" - walking/bicycling, Bike and car sharing, etc.). The Travel Demand Model year (2047) shows 17.2 % trip reduction (traffic #s lower than current counts). Metro/" PDT" said this was not a realistic forecast and implemented a strategy that translates into higher vehicle on the I-105 GP and Tolling lanes). Metro selected to use year (2027) TDM projections/congested #s, project opening year, and held these #s constant thru year (2047)! This Strategy justifies implementing the Tolling Project. At the same time to reduce the schedule and cost, it was argued that the Fwy Traffic Noise impacts would be much lower with reduced traffic demand, therefore no need to construct sound walls.

Caltrans District 8

Thank you for the opportunity to review Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. We found the overall document to be generally well written, visually interesting to read and provided the results and finding on an array of regional planning issues from a lot of work that clearly took years of sustained, focused, directed effort.

It is our understanding that the United States currently faces a housing shortage in excess of some 7 million dwelling units. Of that 7 million+ dwelling unit shortage some 3.5 million units of the shortfall exists here in California. Beyond homelessness and increased use of limited existing square footage in our existing housing supply, the unprecedented housing shortage has created a range of social equity issues (lack of personal financial independence, homeownership etc.).

Since some 73 percent of Californians live in Southern California, the housing shortage is an extremely important issue with a range of impacts on the transportation system. The 2012 RHNA indicate a need for 412,000 new housing units. The 2018 RHNA indicates a need for some 1,340,000 million new housing units in Southern California. The draft Connect SOCAL document doesn't seem to indicate what the extent of this worsening crisis is here in Southern California.

As noted in the summary of Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the current severe housing shortage creates jobs/ housing balance issues and the need for longer commutes and increased congestion on the overall transportation system.

On Pages 48-56 under the heading Sustainable Communities Strategies and Housing Supportive Infrastructure Connect SOCAL discusses sustainable development practices such as Center Focused Placemaking, Priority Growth Areas, Job Centers Transit Priority Areas, High Quality Transit Areas and Neighborhood Mobility Areas and discusses the housing crisis

but provides little indication that the types of desired development listed above is happening on a large scale in the region.

Page 49 included a short list of ways Diverse Housing Choices could be encouraged. We commented in bold below on these strategies and recommended additional strategies related to housing and transportation caused by longer commutes and increased congestion caused by new housing.

1) Preserve and rehabilitate housing and prevent displacement. **Wouldn't preservation/rehabilitation occur due to supply and demand? Is displacement good if higher density is proposed?**
2) Identify opportunities for new workforce and affordable housing development. **Not really clear what this means? Do you mean Affordable housing for new members of the workforce?**
3) Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. **Would this be expected to create hundreds of thousands of new units.**
4) Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions. **List ways to do this.**

Suggest policy support and reworking the Diverse Housing Choices section of the plan to include support of ideas like the following:

Support and reference The Ahwahnee Principles. https://www.lgc.org/who-we-are/ahwahnee/principles/
Support long lasting smart mobility decisions that improve the environment, create a vibrant economy and build communities not sprawl.
Support redevelopment of high density residential along transit served corridors.
Support having new housing be originally built with an accessory dwelling unit.
Support an overall trend to reduce of lot size minimums in the region by 20%.
Support the concept of building to the maximum density allowed in a residential zoning district rather to the minimum density.
Support a policy that wherever possible in all new specific plans placement of high density housing residential shall occur near planned schools, employment and retail areas.
Support a regional mode shift to walking and bicycling https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf
Support the provision of designated areas for employment (beyond a few retail commercial and school sites) in all new specific plans.
Support the provision of connected street grid system by limiting cul-de-sac length to no more than 250 feet.
Support minimizing the size of a block, through the use of a block size maximum of 1,600 feet.
Support bike and pedestrian through block connectivity through subdivisions by providing one such connection every 600 feet.

Support allowing 100 percent housing on vacant or abandoned property zoned for commercial retail use to help the viability of existing commercial uses (25 solutions article below).
Support local jurisdictions efforts to provide a temporary 30% reduction on all residential impact fees for (3 -5 years) to encourage housing production.
Support housing policy that provides net zero energy use that would build on the 1 million solar homes California has with a goal of greatly increasing this total (roughly 12.5 million dwelling units exist with a need for 3.5 million more dwelling units)
Support allowing a reduction in setback standards to Uniform Building Code minimums on side yards and limit front and rear yard setbacks to no more than 10 feet.
Support the elimination for any required covered off street parking to support development of more housing units.
Support development of high density housing in unused portions of commercial shopping centers/office etc. parking lot areas.
Support allowing a reduction in local public street width standards and/or to allow reduced width private streets to encourage infill development.
Support increasing residential building height standards in residential zoning districts to allow greater building square footage.
Support any regional efforts to develop the missing middle housing of the past few decades.
https://missingmiddlehousing.com/

In the Measuring our Progress portion of Connect SOCAL Pages 118-147 it seems reasonable to assume that much of the "progress" in congestion relief and other areas has to do with 91,000 people per year leaving the SCAG region due to the high cost of housing and other reasons since 2014 as noted on Page 16 of Connect SOCAL discussion on mega trends. Is this real progress or an abandonment trend that needs to be reversed?

https://www.worldpropertyjournal.com/real-estate-news/united-states/washington-dc-real-estate-news/up-for-growth-national-coalition-econorthwest-holland-government-affairs-housing-underproduction-in-the-us-2018-housing-shortage-data-10842.php

https://www.curbed.com/2019/5/15/18617763/affordable-housing-policy-rent-real-estate-apartment

https://ucreconomicforecast.org/wp-content/uploads/2019/04/SCAG_Housing_White_Paper_Digital_4_11_2019_Revise.pdf

https://urbanize.la/post/25-solutions-builder%E2%80%99s-perspective-fix-california-housing-crisis

Caltrans District 11

Draft Connect SoCal

- Truck Parking/Truck driver shortage: Please address and include truck parking needs in the SCAG region. In addition, the shortage of truck drivers is commonly cited as the number one problem in the trucking industry.

- Freight Projects List: Please include transportation projects that have been identified in the *2014 California-Baja California Border Master Plan* and the *Draft 2020 California Freight Mobility Plan*. Examples of projects that are missing in the Goods Movement Project List are: Forrester Road, Commercial Vehicle Inspection Facility modernization project at Calexico East Port of Entry (POE), bridge and highway realignment to Andrade POE, widen State Route 98 (SR-98) between Dogwood Road and V.V. Williams Ave., widen SR-98 between Ollie Ave. and Rockwood Dr., widen Menvielle Road to four lanes from Carr Road to SR-98, implement Border Wait Times System, and modernize existing truck parking/staging areas for near-zero to zero emission infrastructure truck shore power.

- National Freight Highway Network (NFHN): Please include and identify routes that have been designated as Critical Urban Freight Corridors and Critical Rural Freight Corridors. These are public roads in urbanized and rural areas which provide access and connection to the Primary Highway Freight System and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

- California Sustainable Freight Action Plan (CSFAP): Please describe how the RTP supports the goals and vision of the CSFAP. This State plan provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. Please include the Advanced Technology Corridors at Border POEs CSFAP pilot project as part of the RTP Goods Movement Environmental Conditions and Technology Advancement Strategies.

- Agriculture and Mining: Little is discussed regarding needs and availability of producing agricultural and mining (e.g., aggregate) commodities among border or rural areas of the region (Imperial and Coachella Valleys, Ventura, etc.). Safety, maintenance and asset management (e.g., State Highway Operation and Protection Program [SHOPP]) needs could be mentioned on lower-volume/seasonal routes impacted by heavy machinery movements/emissions.

Technical Reports

- Highways and Arterials Technical Report Page 8 references SB1 in the context of performance measures and Page 14 mentions the Proposition 1B Corridor Mobility Improvement Account (CMIA) requirements for Corridor System Management Plans (CSMP) and components of those documents. SB1s requirement of corridor plans is not addressed nor are the competitive programs such as Solutions for Congested Corridors

Program (SCCP), Trade Corridor Enhancement Program (TCEP) and Local Partnerships. Although not Impactful for the California Environmental Quality Act (CEQA), the discussion is important for future funding opportunities and possible planning efforts.

- Page 10, Transportation Safety & Security: Table 3 - Is Fatality and Injury prediction table approved by Caltrans?
- Table 1 – FTIP Projects – FTIP ID Number IMP140804: Route should be "8", not "999".
- Table 2 – Project Number IMP0042A: The Demo funds identified for this project have been repurposed to a different phase for SR98. As such, this project should be removed.
- Additional project: Please add: SR186 All American Canal Bridge – Replace bridge to accommodate two vehicle lanes, shoulders and pedestrian/bicyclist facilities. Cost $40M; Construction Year 2027.
- Transit: There are no comments related to any specific projects; however, the District would like to recommend that consideration be given to include bicycle and pedestrian facility connections and protection by enhancing visibility of bicyclists and pedestrians as well as to provide wayfinding signage to guide the active transportation population to facilities to help them complete their trip.

Caltrans District 12

Draft Connect SoCal

- The Draft Connect SoCal Plan provides long term guidelines and strategies for the SCAG region. These guidelines and strategies should align with State goals as laid out in State planning documents such as the California Transportation Plan (CTP), California State Rail Plan, California Freight Mobility Plan (CFMP), California Aviation System Plan (CASP), and State Bicycle and Pedestrian Plan. As stated in our previous comment letter during the Notice of Preparation (NOP) process, dated February 22, 2019, we encourage the incorporation of State planning documents to align the 2020-2045 RTP/SCS with State goals.
- The SCAG region has many highly urbanized areas that have increasing traffic demand due to population growth and economic development and have limited available Right-of-Way (ROW) for transportation purposes. To enhance the operability of current facilities, strategies such as Managed Lanes would provide efficient usage of current capacity, improve travel times, reduce vehicle miles traveled (VMT), provide alternative means of transportation and may provide revenue for other transportation improvements. These strategies are consistent with state, regional and local goals and objectives. As stated in comment 10 of our previous comment letter, the Department requests SCAG review and incorporate the Orange County Managed Lanes Feasibility Study (MLFS) and the Orange

County Managed Lanes Network Study (MLNS) in the 2020-2045 RTP/SCS. The recommendations from these studies have not been included in the 2020-2045 RTP/SCS. These studies and the proposed projects, including District 12's I-5 Managed Lanes Project, reflect SCAG's Goals and Guiding Principles found on pages 9 and 10 by placing a high priority on improving mobility and reliability. The Department requests that District 12's I-5 Managed Lanes Project, for the project approval and environmental document (PA/ED) component, be included in the final 2020-2045 RTP/SCS and also amended to the 2019 FTIP, per our October 2019 request to Orange County Transportation Authority (OCTA).

- Climate change impacts have become a major concern for planning agencies at all levels. As required by California Senate Bill 379, many regional and local planning agencies have started developing plans to address climate change issues. While the 2020-2045 RTP/SCS includes climate change considerations in multiple sections of the document, it should incorporate climate change plans from other agencies into the document. Further clarification should also be provided to establish which plans supersede. As requested in our previous comment letter, please review the Vulnerability Assessment for Orange County and coordinate with Caltrans for future implementation.

- Caltrans District 12 appreciates the robust and thorough discussion in the RTP's Active Transportation Technical Report and supports SCAG's efforts in encouraging Complete Streets. This technical report aligns with Caltrans' goals and objectives. Complete Streets infrastructure benefits all roadway users and promotes mobility, equity, accessibility and regional connectivity, all while decreasing congestion and improving air quality.

Active Transportation Technical Report

The following areas of the Active Transportation technical report that accompany the 2020-2045 RTP/SCS require consideration for revision:

- Page 3, first paragraph: under Section "Defining Active Transportation", add walking as part of the examples.

- Page 3, paragraph eight: consider making a distinction between traditional active transportation modes and micro-mobility modes.

- Page 5, Table 1 second row, second column: consider adding increased connectivity as part of the impacts.

- Page 7, paragraph eight: under Regional Significance consider discussing ADA-friendly infrastructure in one of the subsections. Active Transportation infrastructure also benefits ADA-reliant users by increasing these users' mobility and accessibility.

- Page 19, paragraph 4: verify the list of cities that currently have bike share programs. Some of the cities listed may no longer have these programs available. For example, the cities of

Bellflower and Paramount had a partnership with dockless bikeshare company Ofo in 2017. However, Ofo has since backed out of the United States market.

- Page 79 and 85, Bicycle Master Plans, and Pedestrian Master Plans: the City of Irvine is currently developing an Active Transportation Plan and the City of Santa Ana has recently finalized its Active Transportation Plan. Additionally, the Orange County Transportation Authority has bikeway studies on four sub-areas of Orange County--North, West/Central, South and Foothills.

- Page 98, second paragraph and page 99 Exhibit 13: clarify that the City's protected bike lane along Bristol Street is a class IV facility and incorporate it into Exhibit 13.

- Southern California ports are seeing increased demand as trade with the Pacific Region continues to grow. SCAG should continue to plan for increased truck traffic within the region. Additionally, consider a discussion of the lack of available safe, secure and accessible parking for long distance freight vehicles. Projected growth of truck traffic and the demand for truck parking will continue to outpace the supply of public and private parking facilities.

- Due to the high number of residential developments, related functions such as micro-transit and micro-freight, need to be analyzed. Optimizing curb space locations and micro-freight and micro-transit routes may reduce congestion, VMT, and wait times for users. Additional multi-modal transportation options such as bus rapid transit and parallel light rail provide alternative options for travelers.

- The Department supports SCAG's efforts to create an integrated transit payment system, discussed in the Shared Mobility and Mobility as a Service section. Please coordinate with Caltrans since we are currently developing a similar statewide program. These efforts may improve the accessibility and affordability of transit services which may result in reduced emissions, VMT and congestion.

- Consider incorporating discussion of policies of various agencies to promote existing and future Park and Ride lots that may increase carpooling, bicycling and transit use as options for commuters. This would reduce VMT and congestion.

- Due to ROW constraints on the State Highway System (SHS), implementing Intelligent Transportation Systems strategies, as discussed in the core vision of the 2020-2045 RTP/SCS, would allow for enhanced capabilities to protect transportation systems and shorten response times, enhancing operations of the SHS.

- Review of the Project List has highlighted the following inconsistencies:

  - Project FTIP ID – ORA000820 – SR 57 Truck Climbing has a total Cost of $164.2 million

  - Project FTIP ID – ORA131301 – SR 55 Add 1 Mixed Flow Lane from I-5 to SR 91 has a total Cost of $151.1 million

- Project FTIP ID – ORA131303 – SR 57 Orangewood to Katella has a total Cost of $70.6 million
- Project FTIP ID – ORA131304 – I-405 Add 1 Mixed Flow Lane from I-5 to SR 55 has a total Cost of $176 million

Attachment B

Caltrans District 7 – Environmental Planning

- Footnote 75: the hyperlink to the Induced Travel Calculator may need to be corrected by simply removing "on October 25" from the clickable hyperlink. The hyperlink currently includes the phrase "on October 25" when clicked.

- Page 3.17-8, Regional High-Occupancy Vehicle (HOV) System and Park and Ride System: please clarify if the HOV system described in this section includes the High Occupancy Toll (HOT) / express lanes. General information on the HOT lanes in the SCAG region (Los Angeles County in particular) and how HOT/Express and HOV lanes differ may be useful for this section.

- Wildlife Crossing: Besides the Liberty Canyon Wildlife Crossing that connects the Santa Monica Mountains to the open space of Simi Hills and Santa Susana Mountains, there is another opportunity for a different Wildlife Crossing at Conejo Grade around Camarillo and Thousand Oaks that needs to be looked at.

- SCAG, Metro, and Caltrans should fund projects that will improve culverts for wildlife usage, especially in the rural areas of Ventura County.

- There is also opportunity for wildlife crossings, connectivity, and corridor improvements on State Route 2 and Interstate 210 around La Cañada Flintridge, State Route 118, and State Route 126 around the Moorpark and Filmore area.

- Rocky Peak on State Route 118 needs fencing and habitat connectivity including corridor improvements for wildlife.

- Areas along Interstate 5 and State Route 14 at Sylmar, Granada Hills and north of Santa Clarita need open space to be connected (habitat connectivity) for wildlife movement.

- Access to public parks and open spaces need to be improved. Special buses at discount rate (to take people from inner-city to these parks) will be very helpful to inner-city parents and families since many inner-city neighborhoods are far from parks that have interesting resources.

- Besides light-rails and all proposed transportation projects, governmental agencies within Downtown Los Angeles and other large cities should consider alternative working hours and equip their staff to telecommute 3-4 times a month. This will improve lives and air quality.

- Cal-Fire should have fire continues education for areas in the cities that boarders open spaces. Training should be giving to volunteers and people who are willing to assist Fire

Officers and crew. We strongly encourage utility companies to place their utilities line underground (buried) in areas that are prone to wildfires.

- We believe some cities within SCAG's Region collects rainwater and run-off water. Since the average annual rainfall is between 12-22 inches, SCAG should encourage cities to capture rainwater, treat it and release it to our dry ravines.

END OF CALTRANS COMMENT LETTER

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
[redacted]
www.dot.ca.gov

Making Conservation a California Way of Life.

January 23, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California Department of Transportation (Caltrans) wishes to thank the Southern California Association of Governments (SCAG) for the opportunity to review and comment on the Draft Connect SoCal, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR).

Caltrans applauds SCAG's use of innovative techniques and methodologies in engaging constituents within its six-county jurisdiction through its "Bottom-Up Local Input and Envisioning Process". Building upon the previous 2016 RTP/SCS, the Draft Connect SoCal plan boldly implements sustainable planning strategies aimed to increase active transportation plans and products, increase ridership and use of various forms of transit, improve the infrastructure of goods movement, reduce congestion and Vehicle Miles Traveled (VMT), and create more diverse and affordable housing; while reducing greenhouse gases and advancing healthy communities amongst other transformative efforts.

The Draft Connect SoCal plan was distributed to Caltrans' Headquarters and Districts 7 (Los Angeles and Ventura Counties), 8 (San Bernardino and Riverside Counties), 11 (Imperial County), and 12 (Orange County). The offices within each District and Division were given the opportunity to review and comment on the Draft RTP/SCS and Draft PEIR documents according to the California Regional Transportation Plan Guidelines.

Connect SoCal's core vision coupled with its goals and guiding principles helps to further an interconnect region. Moreover, SCAG's commitment to strengthen previous investments in our multi-modal transportation system and with focused direction for future plan investments results in increasing the region's overall resiliency, prosperity and competitiveness.

Specific comments on the Draft RTP/SCS chapters and appendices are included in Attachment A and specific comments on the PEIR are included in Attachment B.

If you should have any questions in regard to the comments, please do not hesitate to contact [redacted]

Sincerely,

Paul Albert Marquez
Deputy District Director for Planning

cc: John Bulinski, D7
Ray Desselle, D8
Ann Fox, D11
Lan Zhou, D12
Marlon Flournoy, DOTP
Jacqueline Kars, ORP
Caleb Brock, ORP

Attachments

Attachment A

Caltrans Headquarters – Office of State Planning

- The introduction is clear and informative on the regulations that guide the RTP development process however, RTP's are also influenced by the policies leveraged by the State. Suggest including additional language on SB 391 (2009) which also requires the California Department of Transportation to prepare the California Transportation Plan (CTP), California's long-range transportation plan. Reference to the CTP would illustrate the interrelationship between regional and statewide transportation objectives – highlighting how major metropolitan areas, rural areas, and state agencies can coordinate planning efforts to achieve critical statewide goals. Consider the following:

  "To better coordinate with the State, Connect SoCal was developed to align with The California Transportation Plan (CTP). The CTP is a long-range statewide level transportation plan that combines regional transportation and land-use plans to produce a unified multimodal strategy to achieve our collective vision of a lasting and well-integrated transportation system that benefits both people and goods over the next 25 years."

- While the plan is visually appealing and easy to read, consider including discussion on other Caltrans modal plans where necessary. With regards to the transportation complexities that exist throughout the State, differentiating the statewide goals from local/regional needs helps emphasize the challenges associated with transportation targets set forth by the State. Doing so also highlights the strategies proposed within the Connect SoCal to address transportation shortfalls within the SCAG region.

Caltrans Headquarters – Aviation & Aeronautics

- Land use and zoning around airports is an important element to consider and guidance can be found in the California Airport Land Use Planning Handbook (Handbook). Land use compatibility with an adopted general plan is the responsibility of each Airport Land Use Commission (ALUC). Airport Land Use Compatibility Plans should be regularly updated and reference current general plans to prevent incompatible land uses that encroach upon or threaten airport operations. Airports enable the movement of people and goods. They allow a community access to the nation's air transportation system. Airports are a valuable community resource enabling public services, such as medical transport and law enforcement. Future uses may include freight and package delivery as the use of Unmanned Aerial Systems (UAS) develops.

- Traffic congestion is one of the leading issues in transportation planning. The emerging concept urban air mobility (UAM) is expected to provide a new solution by making use of the three-dimensional airspace to transport passengers and goods in urban areas. Airport Shuttle and Air Taxi markets are viable markets. We are aware of Uber announcing Los

Angeles as one of the first cities to offer Uber Air flights, with the goal of beginning demonstrator flights in 2020 and commercial operations in 2023. The City of Los Angeles is creating an aerial mobility network integrated with its other transportation systems and investments.

- UAM largely is dependent on vertical takeoff and landing (VTOL) operations in urban areas. UAM application is to build well-distributed infrastructures to support VTOL aircraft operations. Those infrastructures are heliports and vertiports (or sky ports), where VTOL aircrafts take off and land, onboard or disembark passengers, and get charged. The Federal Aviation Administration has Advisory Circular 150/5390-2C to provide guidance on permitting and siting heliports.

- Significant legal/regulatory, certification, permitting/licensing, infrastructure, and weather constraints exist for currently operating aircraft. Vertiport or heliport locations should be carefully reviewed with consideration of its impact on potential UAM demand, safety, environmental impacts, land uses, energy distribution and demand, and transportation system performance.

- Can SCAG's RTP/SCS draw from Air Cargo projections and congestion/demand management strategies to formulate planning for logistics impacts from the growing consumer demand for home deliveries?

Please note below the following Codes for implementation in the Aviation input into the SCAG Draft RTP and its Aviation Technical Appendix:

- PUBLIC UTILITIES CODE – PUC- - -
- DIVISION 9. AVIATION [21001 - 24451]
- (Division 9 added by Stats. 1953, Ch. 151)
- ARTICLE 3.5. Airport Land Use Commission [21670 - 21679.5]
- (Article 3.5 added by Stats. 1967, Ch. 852)

- SCAG also note: 21670.2.
- Sections 21670 and 21670.1 *[These are the sections that require ALUCs in any county with public-use airports—DOC]* do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal. http://planning.lacounty.gov/aluc

- And, to clarify, our Cal. Aviation System Plan (CASP) update is not for the 2016 Policy Element directly. We're following a required 5-year update cycle, but the Plan will embark on a new course without "elements;" instead aligning with CTP 2050 to assist inter-modal goals.

Caltrans Headquarters – Office of Regional Planning

The Office of Regional Planning (ORP) would like to commend SCAG for their vivid and creative approach to demonstrating SCAG's 20-year vision for the future.

Overall, the page references on the RTP Checklist included whole chapters and entire technical reports. We recommend that SCAG reference specific page numbers for each question on the RTP Checklist with their Final RTP submission.

Below are the following comments in reference to the RTP Checklist Contents:

General

- #2. The document identifies several strategies but does not delineate whether they are short-range and long-range strategies/actions (23 CFR 450.324(b)).

- #3. There is mention of the elements required throughout the report, but as a public document this checklist should reference more specific pages instead of whole chapters and technical reports. Also, the report doesn't have specific sections dedicated to each element i.e. policy, action, and financial (California Government Code Section 65080). These elements should be clearly defined and easily accessible by specific page numbers.

- #4(a). The referenced pages are missing the general location of uses and building intensities. (HQ referring to the page numbers that SCAG identified on the RTP Checklist. SCAG should ensure 4(a) of the RTP Checklist is fully addressed, specifically, the general location of uses and building intensities within the region).

- #4(b). There is a lot of information to decipher and it is not clear that SCAG identified areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth.

- #4(h). SCAG identified one map on page 23 of their SCS Technical Report (HQ is referring only to the SCS. It seems that SCAG labeled all of their appendices with "Technical Report," but the specific requirement in RTP Checklist 4(h) refers to the SCS requirement). This does not set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB.

- #7. The outdated RTP Checklist that SCAG provided did not include question 7. Please provide the appropriate page references with an updated checklist.

Consultation/Cooperation

- #3. It is difficult to clearly determine that SCAG consulted with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP (23 CFR 450.316(b)). Please identify the specific pages for reference.

- #4. Please ensure that the final plan includes reference that federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP (23 CFR 450.316(d)).

- #5. It is difficult to determine where the RTP specifies that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation were consulted (23 CFR 450.324(g)).

- #6. Please include specific page reference that the RTP includes a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources (23 CFR 450.324(g)(1&2)).

- #15. It is not clear that the RTP will be adopted on the estimated date provided in writing to State Department of Housing and Community Development to determine the Regional Housing Need Allocation and planning period (start and end date) and align the local government housing element planning period (start and end date) and housing element adoption due date 18 months from RTP adoption date (Government Code 65588(e)(5)).

Programming/Operations

- The outdated RTP Checklist that SCAG provided did not include a *Programming/Operations Section*. Please provide the appropriate page references for each question on the updated checklist.

Financial

- #4. It is difficult to determine which projects are regionally significant. Please ensure that all regionally significant projects are identified (Government Code 65080(4)(A)).

- #9. In the Transportation Finance Technical Report neither TCMs or SIP is mentioned. Please ensure that the final RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented (23 CFR part 450.324(f)(11)(vi)).

Caltrans Headquarters – Office of Freight Planning

Overall, much of the Plan, specifically the Goods Movement Technical Report, includes vague and broad statements that are either not supported directly by data, analysis, or supporting evidence, or are supported with indirect and loosely (at best) related data and analysis. When data is sourced, it is cited in a way that makes it impossible to fact-check it or replicate the analyses. The language is so broad and vague that the plan does not leave the reader with a

clear understanding of how the system works. For example, each goods movement mode is independently discussed within its section, and the plan is missing a section (discussion) that ties together and analyzes all the freight modes for a true multimodal freight system. The Plan's structure, styles, multicolor headings are confusing to read and difficult to identify the section relationships (e.g., main and subsections). We have listed main comments below.

Draft Connect SoCal

- Broad and a Vague Content with Limited Supporting Data and Analysis
- Page 74 through 82, A significant portion of the main body includes broad and sweeping claims with limited, if any supporting data and analysis.
- Page 81, Table 3.3, SCAG Region Airport Passenger Forecast for 2020–2045 (no citation)
- Significant portions of supporting data are either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with multiple data sources, one cannot determine what source is attached to the data.
- Provide professional citations. For example, see page 78, Truck Bottleneck Relief Strategy and Industrial Warehouse & Distribution Centers
- Missing Significant Freight Information
- Chapter 4 is missing a discussion of National Highway Freight Program funding and the Trade Corridor Enhancement Program.

Goods Movement Technical Report (GDPR)

The Goods Movement Technical Report contained very little technical information. We expected to find supporting data, analysis, and methodologies for planning the regional freight system. Instead, the information was only slightly more detailed than what we found within the main document. In fact, the GMTR included very little supporting evidence, and sources are not cited in a way that allowed the reader to fact-check or replicate the analysis.

- A section for Pipelines, a key and critical freight mode recognized by the U.S. Department of Transportation as well as the California Department of Transportation, is not included within this report. Include a Pipeline section with the other freight modal sections (e.g., Rail, Seaports, Airports, Highways)
- Significant portions of the main body and the GMTR include broad and sweeping claims with limited, if any supporting data and analysis. For example, there is no direct supporting data and evidence included in the e-commerce section. We see broad statements such as e-commerce has greatly increased, and that e-commerce has negatively impacted

neighborhoods. However, we did not see any direct supporting evidence. We expected to see the number of increased trips related to e-commerce, but instead, we saw an increase in the dollars spent. This data does not support that there are more trips, as customers may be buying more expensive items or more items that are delivered on the same trip. Also, all forms of e-commerce a lump together. For example, Amazon purchases that are ordered online and delivered directly to the customer are combined with purchases that are ordered online at places like Target, Walmart, and Best Buy, where the customer can choose to pick up their purchase at the store. The store pick-up purchases are similar to the Sears Catalog (started in 1893) when customers ordered out of a catalog via the mail and picked up their purchases at Sears. We recommend separating the different types of "e-commerce" and addressing them individually.

- Page 5, First Paragraph: Define goods movement dependent jobs and provide examples for the industries

- Page 5, First Paragraph, "Jobs in goods movement dependent industries are generally well-paying, with annual average compensation in the construction, manufacturing, and wholesale trade sectors outpacing the average annual compensation for all regional industry sectors.": Support with specific data (not just averages) so that we can see the range in pay to the job. Using averages can greatly skew the results (e.g., low wage jobs offset by CEO salaries). Also, support with more data, including data sources (including reports, data tables) so that the analysis can be replicated.

- Page 6, Maintaining the Long-term Economic Completeness of the Region: Either provide useful information, data, and analysis or delete this section.

- Page 6, Promoting Local and Regional Job Creation and Retention: Provide supporting evidence and data. Provide the specific number of jobs that are created by the ports as well as the number of regional jobs created by "international trade activities." Define International trade activities. Also, link the infrastructure to the economy.

- Page 17, Distribution Centers, Warehousing and Transloading Facilities: This section includes unsupported statements and claims. Include supporting evidence and data, and professionally source and cite the data.

- Page 17, Consumer Base, "This growth in residents and income is expected to drive consumer spending and demand for goods, increasing pressure on the regional transportation network.": Support with evidence and data, and professionally cite the data source(s).

- Page 26, Highlight Area, Trade in the SCAG Region, First Paragraph: Define "current Administration" by giving its name. Also, is it regional, state, or federal?

- Most of the supporting data is either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with

multiple data sources, there is no way to determine what source is attached to the data. Provide professional citations. For example, when using the US Census data, include the Program (American Factfinder), the table (e.g., DP05), and the date(s) or when using the US DOT data, include the Program (FHWA), the report, table, website, and the date(s). This is important so that a reader can fact-check the data and replicate the analysis. Without this critical information, the reader must question the validity of the data and analysis. Examples include but are not limited to:

- Page 4, Table 1
- Page 7, Improving the Safety of Goods Moment Activities and Highlight Area: regional Goods Movement Workforce Development
- Page 14 Exhibit 3
- Page 15, Table 2, footnote 6, 7, and 8
- Page 16, Figure 1, Airports, International Land Ports-of Entrée
- Page 17 Distribution Centers, Warehousing and Transloading Facilities, and footnotes 10 and 11
- Pages 18 and 19, Highlight Area, Seaports and Regional Trade Flows, Figure 2, and footnote 13
- Pages 2020 to 34, Figure 3 to Figure 19, Footnotes 14, 17,18, 19, 20, 21, 2223, 25,26, 30 (FAF Version?), 31,32,33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47,48

Miscellaneous Comments

- Page 3, What is Goods Movement? A pipeline, a key freight mode is missing from this section.

- Page 3, Broad Economic Benefits: As currently written, this section is not understandable. Consider rewriting this section to include a clear introduction, thesis statement, body paragraphs, a restatement of the thesis, and a conclusion.

- Page 3, Broad Economic Benefits - First Paragraph: Who uses "performance" as a proxy: Without a subject, the relevance of this statement is unclear. What is the difference between the performance of the logistics industry and the contributions of the five major industries? Why does SCAG consider contributions of the "five major industry sectors..." more closely associated? Why were the agriculture and service industries (e.g., repairpersons) not included?

- Page 3, Broad Economic Benefits, Second Paragraph: Clearly link this discussion within this paragraph to the introduction above. As it is currently written, it is unclear how the GRP/GDP are connected (or not) with the five major industrial sectors. Also, what is "this economic impact"? Define "this economic impact."

- Page 3, Broad Economic Benefits, Third Paragraph: Clearly link this discussion within this paragraph to the first, introduction paragraph. Are the "good movement dependent

industries" the same as the "five major industry sectors"? If not, how are they different. What is the difference between a sector and an industry? A layperson and technical expert should be able to read this and understand. As this is currently written, neither can.

- Page 4, Table 1- Change in Average Annual Pay for Goods Movement Dependent Industries in the SCAG Region 2012-2016: The introduction sectors reference five sectors; this table includes seven sectors. Why?

- Page 5, First Paragraph: Define freight dependent jobs.

- Page 5, Regional Global Profile: Consider renaming this section the United States Global Profile as the narrative references the U.S. and not the SCAG region. Also, absent from this section is a discussion regarding the impacts of California's climate policies on So Ca Port's competitiveness with other U.S. and international ports.

- Page 5, Regional Global Profile - Second Paragraph: Consider rewriting this paragraph because it is confusing.

- Page 6, First Paragraph: Identity who expects them to grow and by how much? Support this statement with evidence.

- Page 6, Second Paragraph: Replace "recent" with a specific date and identify the specific shift(s) (e.g., percentages) and policies as well as the specific impacts of those shifts. It is not unusual for the federal reserve to adjust, so it is important that this statement is supported with evidence and a citation.

- Page 6, Goods Movement Vision: This vision is focused on freight movement; however, it should also focus on servicing the people (e.g., brings food and clothing to the people in the region). By focusing on throughput and other technical details, the basic needs that freight movement provides for are overlooked. It is helpful to plan for freight movement using a lens of what the region would look like without freight accessibility.

- Page 7, Increasing Freight and Passenger Mobility: Populate this section with useful information like specific strategies for improving goods movement and how the region is going to double rail volumes. Also, include the current freight performance by mode (or reference to a different section that contains that information) and what needs to be done to maintain that performance into the future.

- Page 7, Improving the Safety of Goods Movement Activities: Are there currently issues, if so, what are they?

- Page 7, Mitigating Environmental Impacts of Goods Movement Operations: Explain why and provide cited data, analysis, and evidence supporting this claim.

- Page 7, Highlight Area: Regional Goods Movement Workforce Development, Second Paragraph, First Sentence: "Currently, the U.S. is nearing, or at, full employment": Provide properly cited data supporting this claim. Also, link this to the SCAG region.

- Page 9, First Paragraph: Define "dead-end-jobs."

- Page 9, Seaports First Paragraph: Footnote 2: The WSC is a group. Please include a specific source (interview, report) that is properly cited so that readers can find the documentation of this statement.

- Page 9, Seaports, "percent of all containers in the U.S. moving through the San Pedro Bay Ports.3 Despite some recent modest shifts in container volumes to other U.S., Canadian and Mexican ports, the total container volume for the San Pedro Bay Ports is still expected to grow to over 34 million by 2045, a 120 percent ...": How was this analysis performed. What is the data source (including citation)? Model type, name, version?

- Page 9, Seaports, "35 percent of the San Pedro Bay Ports' total import-related traffic. The other 65 percent is assumed...": Did this data also come from footnote 3? If not, source the data, and provide a professional citation.

- Page 9, Seaports, Third Paragraph – "deconsolidation of the contents": Define for laypersons.

- Page 9, Seaports, Third Paragraph – "Transloading allows for the movement of increased amounts of goods while...": This statement may or may not be correct. For example, it may be that the region has gotten to the point that the transportation system is so congested that there is no capacity to support any more trips (freight or other) regardless of container. So, provide data, analysis, and supporting evidence for this claim as it relates to the current and future SCAG freight system.

- Page 10, Railroads, First Paragraph, First Sentence, "Critical to the growth": Demonstrate how BNSF and UP are critical to SCAG's growth. For example, what functions to they play in SCAG's economy? Support with professionally cited data and evidence.

- Page 12, Second Paragraph: Who reduced the number of times freight itself (?) was handled, how was the freight handled, and what is the base year for the speed, efficiency, damage, and security. What year was the performance assessment developed that measured these items and identified that the efficiency and speed increased, the damage was reduced, and security became greater? Was the same base year and performance year used for all six intermodal terminals? Did all terminals follow the same methodology and use the same data? Support with professionally cited data and analysis.

- Page 12, "In addition to these intermodal terminals, there are railyards that serve carload traffic of various types. UP has a large carload freight classification yard at West Colton (at

the east end.": Does this section capture all the rail yards that serve carload traffic of various types?

- Page 15, Airports, First Paragraph: It appears that multiple data sources and perhaps years were used to produce the number included in this section. With this said, there is a real concern that the analysis is comparing "apples with oranges" or that selective data was used.

- Page 16, Figure 1 Air Cargo Tonnage through SCAG Regional Airports 2000- 2018: It appears that this table was constructed based on a mix of data and analysis that is not consistent. I suspect that this is a comparison of apples and oranges. See my comments regarding the data sources.

- Page 17, Supply Chains and the SCAG Region: Consider rewriting this section so that a layperson can understand. For example, what are product demand forecasting and production planning?

Caltrans District 7 – Freight Planning

Goods Movement Technical Report

- Last mile Delivery—page 2. METRO sponsored a conference in this regard, and it was also a focus in conjunction with INUF Conference in 2019. A more extensive discussion was expected. Additionally, no discussion provided on "First mile."

- Page 16 of 32—Exhibit 3:

    - The "SR-206" shield should be Interstate 215. (same comment on exhibit 6 on page 52 of 132)
    - The "SR-30" shield should be SR-210.
    - The "I-210" shield that is shown to the right of the juncture of SR-57 and 210 should be SR-210 (Interstate 210 becomes SR-210 at the junction with SR-57.
    - Recommend the "county lines" are shown in different color as they are very similar to the highways not identified as part of the "Primary Highway Freight System."
    - What year is the USDOT source?
    - NOTE: To the extent above information occurs in other exhibits, this should be considered a global comment.

- East-West Corridor—page 51. There is no "project scope" information, and no reference to any project(s) in the list of projects.

- Appendix 1 of 1—page 123. Although multiple footnotes are from 2019, the discussion provided does not seem to include the most current information related to POLA (and possibly POLB) in this regard.

Caltrans District 7 – System Planning

- Page 34 - Exhibit 2.5 – There are lots of gradients in the LA/OC region; suggest doing a zoom box to show the land use breakdown in better detail.
- Page 40 - Figure 2.5/2.6 (and other graphs throughout) - Color choices for poor and good are very similar, which makes it hard to read tables quickly.
- Page 59: *Core Vision – Paragraph 1*: Fix-It First is commonly associated with the SHOPP program; suggest mentioning it here.
- *Planning for 2045* – typos in Line 1
- Page 69 - Active Transportation - "Walking and bicycling are accessible forms of transportation for people of all ages, abilities and socioeconomic backgrounds." This is not technically for certain abilities. Line could be read as exclusionary.
- Page 77 – Express Lanes Table Line 3 - Los Angeles – I-405 – Add I-*105* Express Lane (Should be add I-*405* Express Lane?)
- Page 163 – Measure R – Measure R has no sunset as of Measure M's approval.

Caltrans District 7 – Forecasting and Modeling

Draft Connect SoCal

- The goal of maintaining and rehabilitating the existing system is a laudable goal. The goal, according to SB-1, is to have 98% of the state highway system in each county operating at *Good* or *Better* condition by 2045. Table 1 on page 9 gives 47.9% of the statewide interstate highway system operating at *Good* in 2017. The only data in the report on pavement condition suggests a 3.4% drop over 2017-2022. How does the region intend to achieve the statewide level of performance when the current trend is downward?

Transit Technical Report

- Over the past 30 years, the SCAG region has made an unprecedented investment in transit infrastructure. Between 2007 and 2017, however, transit ridership has gone down by 19%. The projected goal of 1.6 billion transit trips in 2045, reflecting a 245% increase in transit ridership since 2015, seems rosy.

- A common perception that transit is for the underclass seems to be an element here, but it isn't addressed.

- Calling for diligence against encroaching gentrification and good intentions regarding economic and environmental equity do not seem to have been enough so far to establish housing opportunities for all income levels. Relying upon the market forces that generated the current inequities to somehow solve them seems unrealistic. Markets prefer building housing for the higher income.

- There is a claim that you will get there from here, but the battle to provide affordable housing in Southern California is being lost, as witnessed by the tented encampments throughout the region, as well as the collapse every 20 years or so of the housing markets in the Antelope Valley, Inland Empire and the Victor Valley during recessions.

- The details on the 2020 RTP/SCS Travel demand modeling efforts in this report are scant. On page 2 of the Transportation Modeling conformity appendix, reference to the model as an Activity Based Model, and mentions that it has met federal requirements, and has been through a peer review process, but there aren't other details to assess the modeling efforts.

- Express Lanes are an important component of SCAG's planning for the highway system. The 2016 RTP assumes very high participation of 3+ Person Carpools on the Express Lane System. Those values are not realistic and give inaccurate estimates of future express lane person throughput, revenues generated and so forth. What are the values being generated in the SCAG 2020 RTP/SCS assignment model?

- The configuration of the No Build Highway Network mostly includes projects that I expected to see. The major changes seem to lay in the land use/transportation system interface which is the appropriate, but don't appear substantive enough to generate the massive behavioral changes envisioned.

- The report notes only one very general impediment to telecommuting. Specifically, it notes that some jobs are simply not amenable to telecommuting. That is true enough, but it reflects almost no examination of any specific impediments to telecommuting, nor how to overcome them. Questions of exercising oversight, handling liability issues are not addressed let alone resolved. No reference to specific financial, legal or social impediments to expanded telecommuting is mentioned. Yet, SCAG expects 9.5% of Home-Work trips to be eliminated through telecommuting.

Caltrans District 7 – LD-IGR/ Mass Transit

- Add an Executive Summary (that's a few pages longer than the summary on page 5)

- In light of SB 743, it seems the following percentages should be reversed:
-
  - 22.8% Decrease in time spent in traffic delay per capita
  - 4.2% Decrease in daily miles driven per capita

Caltrans District 7 – Regional Planning

Draft Connect SoCal

- Page 2, under 'Our Plan'; in this section, commend SCAG for acknowledging the continuous partnership with the State (Department of Transportation) in advocating for implementation and funding for California's Active Transportation Program, resulting in the passage of Senate Bill 1.

- Page 2, SCAG identifies the region's multi-family shares declining from their peak in 2015. However, figure 2.4 illustrates 2017 as the peak year.

- Page 32, 'Present & Future Challenges', this section identifies Technical Reports for Connect SoCal. This section should include a weblink to the Technical Reports for reference purposes.

- Page 8, under 'What is Connect SoCal; in this section, the first paragraph discusses the Plan charting a path toward a more mobile sustainable and prosperous region. This section should include a visual graphic illustrating the connection between the key components.

- Page 20, SCAG identifies the two counties with the largest population growth (Riverside & Los Angeles), however this section should include the population growth throughout the SCAG region, including and identifying counties with disadvantage communities.

- Page 32, under 'Present and Future Challenges'; This section should include a weblink to the Technical Reports so interested parties can more easily see *how* the highlighted issues mentioned below are directly addressed by this plan.

- Page 32-33, under 'Affordable Housing'; This section brings up hurdles such as land use zoning that can make the development process expensive. Perhaps it would be beneficial to include some brief verbiage about how our region's zoning policies generally compare to other areas.

- Page 37, under 'Transportation Safety'; In the last sentence, it does not seem relevant or noteworthy to mention that lower speed crashes translate to a higher pedestrian survival rate. Instead, the plan should elaborate on how we can plan our transportation system in a way that encourages safe speeds since it has established that 30% of collisions result in unsafe speeds.

- Page 38, this section identifies the historic catastrophic events data, however this section should include the effects of the catastrophic events as they corollate to transportation security.

- Page 41, the paragraph regarding funding transportation would have been enhanced by having a graphic showing the existing gap between cost of transportation and available dollars.

- Page 47, this section addresses trends and emerging challenges which must be done to reduce greenhouse gas and meet target goals. Commend SCAG for incorporating this segment as part of Connect SoCal to address additional alternative approaches to address regional challenges.

- Page 66, Table 3.1; Where can interested parties find more information on the listed Transit Capital Projects?

- Page 74, this section identifies the Project List Technical Report of financially constrained and unconstrained lists of projects. This section should include a weblink to the Project List Technical Reports for accessible reference purposes.

- Page 128, under 'VMT Per Capita'; Should verbiage be added to explain why the State is shifting towards VMT as opposed to Level of Service (LOS)? It could tie in with the promotion of in-fill development, multi-modal transportation options, etc.

- Page 150, Commend SCAG for identifying a framework to continue regional partnerships. Together the efforts will address regional challenges and an attempt to meet goals that deem unpredictable.

- SCAG is applauded for explaining Connect SOCAL concept and its connection to the RTP and its long-range goals. SCAG also noted that cities and counties adopting the spirit of the RTP into planning measures for their areas could help their eligibility for future funding grants.

- SCAG did a great job on discussion of the myriad of components that makeup an RTP.

- Suggest making the Environmental Justice/ Public Health Technical Report maps available as interactive maps for the public to view impacts in their communities as well as for comparative analysis.

- We applaud SCAG for considering the importance of an aging population (65+) in the Plan; 1 out of 5 residents in the SCAG region will make up this demographic (Page 17, Connect SoCal Draft). They are more susceptible to impacts in the focus areas listed in the Public Health Technical Report than is the general population.

- Suggest more transparency, inclusion of sources, and studies concerning metrics such as those used to forecast "growth" regarding the job-housing balance (Page 45, EJ Technical Report) and "best practices" for time-based shopping and job accessibility (Page 58, EJ Technical Report).

Technical Reports (General)

- Passenger Rail: How does the Passenger Rail Report integrate CTP 2040 and the California State Rail Plan 2018 with regards to goals, policies and strategies?

- Transit: How does the Transit Technical Report integrate CTP 2040 and the Caltrans 2017 Statewide Transit Strategic Plan with regards to goals, policies, strategies and recommendations?

- Goods Movement: How does the Goods Movement Technical Report integrate CTP 2040 and the California Freight Mobility Plan with regards to goals, policies, strategies and recommendations?

- Aviation and Airport Ground Access: How does the Aviation and Airport Ground Access Technical Report integrate CTP 2040 and the California Aviation System Plan Policy Element 2016 with regards to goals, policies, strategies and recommendations?

- Active Transportation: Caltrans applauds SCAG on its robust and comprehensive commitment to Active Transportation. Caltrans praises SCAG for its many referencing of State of California and Caltrans documents relating to active transportation. Excellent sourcing and listing of CTP 2040, California Bicycle and Pedestrian Plan, various Caltrans District Level Active Transportation Plans, Caltrans State Highway Safety Plan, Caltrans Complete Streets Element Toolbox Guidebook, etc.

- Highways and Arterials: How does the Highways and Arterials Technical Report integrate CTP 2040 and the 2015 Interregional Transportation Strategic Plan and its programmed projects in the Interregional Transportation Improvement Program (ITIP) with regards to purpose, policies and considerations?

Performance Measures Technical Report

- Page 30, The report states that Environmental Quality is measured in terms of criteria air pollutant and GHG emissions. The EPA sets NAAQS for six common criteria pollutants, however only four (transportation related) pollutants are monitored in the SCAG region. What percentage of the overall criteria air pollutants do the other two pollutants contribute?

- In addition to criteria pollutants, the EPA identifies 9 priority air toxic compounds with mobile sources known as Mobile Source Air Toxins (MSAT). The nine priority compounds are: 1,3 – butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM) which have the potential

for adverse health effects. The Performance Measures technical report has no mention of these mobile source air toxins. They should be monitored and strategies for reduction of MSAT be implemented.

- Non-SOV mode share is included in the Environmental Quality outcome category. Would be helpful to have figures that show percent of people who have switched to this method of transport and projections for future conversions to this method and its overall impact on emissions.

- Emissions are estimated using results of the SCAG RTDM which are then inputted to the California Air resources Board (ARB) Emission Factors (EMFAC) model. Information on the accuracy, precision, and uncertainty values of the model would be helpful.

- Page 31 Differentiate between tropospheric ozone (ground/surface-level) which can have adverse health impacts on the community versus stratospheric ozone.

- Clearly define "reactive organic gases (ROG)" and identify which ones are the largest contributors to the formation of surface ozone levels in the SCAG area. Which reactive organic gases are being monitored?

- Ozone concentrations can reach unhealthy levels when the weather is hot and sunny with little or no wind. Tropospheric ozone formation is sunlight/temperature dependent. Report could use information on the effects that future climate change (possible increase in temperature) will have on tropospheric ozone production rates up to the year 2035. It is not clear if this change has been considered when running prediction models.

- Page 31 – Table 10, (SB 375) regional targets were updated by the Air Resources Board in 2018 to ensure consistency with the more stringent statewide reduction goals subsequently introduced by the California legislature and the Governor's office.

- SB 375 Regional Plan Climate Targets through Sept. 20, 2018 for 2020 were -8%, that goal remained the same after the more stringent goals were introduced beginning Oct. 1, 2018. Was this goal met? If so, what strategies were successful in reaching this goal?

- However, for the 2035 goal, the goal before Oct. 1, 2018 was -13% and was changed to -19%. The newly adjusted goal has been made significantly higher. How has this affected planning to meet the 2035 goal now that it has been changed substantially? Is it feasible?

- Page 32, What criteria and associated weights are used in the SCAG Scenario Planning Model (SPM)?

- There is mention that for Connect SoCal. The scenario modeling capabilities have been enhanced. By what methods and criteria?

Transportation Conformity Analysis Technical Report

- Page 3, State Implementation Plans (SIPs) - Connect SoCal must conform to the applicable SIPs [motor vehicle emissions budgets (for all criteria pollutant SIP's) and TCM's (for ozone and CO SIP's only)] in the SCAG region.

- Page 4, Federal Clean Air Act Designations in the SCAG Region - Differentiate between tropospheric and stratospheric ozone formation.

- Address the differences and severity between PM 10 and PM 2.5 health risks.

- It is crucial to provide information about the atmospheric lifetime of the criteria pollutants. Pollutants with long atmospheric lifetimes can survive in the environment for years which can greatly impact modeling efforts.

- Page 28 – end, Tables with ROG - Define Reactive Organic Gases/clarify if they are using the ARB definition along with its exemptions. (ROG usually means any compound of carbon) however the ARB has listed exemptions to ROG which would not be included in emission measurements. Alternatively, specify what compounds are being tested for/monitored and shown in the table under ROG.

Goods Movement Technical Report

- Currently, much of the SCAG region fails to meet federal ozone and fine particulate air quality standards as mandated by the federal Clean Air Act.

- Although zero-emissions vehicles seem to be the goal, the discussion on near-term improvements that can be implemented sooner and at a cheaper cost is appreciated. Zero-emission vehicles for goods movement are still at an early stage and require a lot of money for implementation including the planning and building of new infrastructure to support the energy needs of these technologies.

- It is important to explore other emission reduction strategies that can be implemented right away with relatively lower costs. (e.g. improvements to engine efficiency. Increase efficiency in internal combustion engines through engine technologies such as waste heat recovery which lowers fuel use).

Caltrans District 7 - Active Transportation

Draft Connect SoCal

- Page 54 - Livable Corridors Section:

  - This section focuses on BRT options to qualify an area as a "livable corridor", but consideration should also be given to rail corridors as well.
  - There is no mention of landscaping, green scaping, shade trees or bioswales as a viable improvement for a livable corridor. These types of improvements can also help slow down traffic and improve the conditions for other street users.

- Page 69-70 - Active Transportation Section:

  - It would be helpful if the active transportation improvements section included more specific improvements (like the Transit Improvements section). Improvements to pedestrian facilities are important and should be noted.
  - There were many community concerns regarding the Venice Boulevard Great Streets project. We suggest using a much more successful example of a Great Street in this section.
  - More funding opportunities should be provided for community-based organizations to be "partners" or "co-leaders" with agencies to help ensure the community's active transportation needs will be met.

Active Transportation Technical Report

- The terminology used in this technical report is not well explained or defined; please consider providing a Lexicon.

- We recommend providing more details on "green streets" and the value these offer towards a more sustainable future.

- Page 56 – Safety: The current safety goal (reduce traffic fatalities for all modes by three percent and serious injuries by 1.5 percent by 2050) is extremely conservative relative to the widespread adoption of "Vision Zero" at many federal, state and local agencies to reduce fatalities and serious injuries to zero.

- Page 59 - Pedestrian Infrastructure: Consider adding "reducing driveway conflicts" as part of Strategy 1 or 3 to reduce potential conflicts between pedestrians and drivers.

- Page 59 - Local Bikeway Infrastructure: Specify the types of "low-stress protected bikeway networks" facilities described in Strategy 1 that are preferred (e.g., Class I, II, III, or IV)

- Page 60 - First-Last Mile Infrastructure / SRTS Infrastructure: All policies should include an equity strategy to ensure future investments are going towards improving previously disinvested communities to increase safety for vulnerable road users.

- Page 64 - Safety Strategies: Consider historically disproportionate impact that increased enforcement/ policing has had on low-income communities of color in Safety Strategy 3 and

Strategy 7. Enforcement should be tempered with appropriate, ongoing public engagement to avoid potential alienation and discrimination in these communities.

Caltrans District 7 – Division of Design

- The plan "sounds good" and at the same time very unrealistic.
- Assume reduction in car usages and VMTs, mainly thru "Transit Integration". While in the past 10 to 12 years Transit Ridership has been decreasing in the region and nationwide.
- The use of this Plan/Strategy's numbers will hide/lessen the impacts of Goods Movements mobility projects, Tolling Lanes with assumed future Demand, etc., and boasts the assumed benefits identified below (Region's assumptions). See Regions unsupported/overestimated assumptions below (pushed as future "facts".)
    - SCAG's region projected 19%, or 3.7 Million population increase in the Region over the next 25 years. This projection is likely to be low, if California's economy maintains its strength.
    - According LA based Beacon Economics in the next 30 years, LA County would increase by 3.5 million and Riverside County will increase ~ 3.2 million.
    - https://www.reuters.com/article/us-california-population/californias-population-to-hit-60-million-by-2050-idUSN0930091220070709
- MODE SHIFT: The assumptions are based to a large degree upon the extent to which major mode shifts within the region can be accomplished. No reasonable and/or quantifiable data provided on that insures these shifts are highly probable to materialize, especially as transit ridership has been steadily declining in the past 12 years nationwide and throughout Southern California. With Technology leaps, driverless car sharing options are likely to lead to increases in vehicle miles traveled (VMT).
- The same with all past Plans, this Mobility Plan promises to "fix" the current challenges… With No Accountability, only to repeat in the next one while consuming Billions of tax dollars, which is very good for the economy.
- HIGH OCCUPANCY VEHICLE (HOV) AND TOLLING LANES: It is crucial to transparently address Inequity issues (Title VI, etc.), address the true Corridors' mobilities prior to regional policies to increase the number of persons needed to ride for free in Tolling lanes. Need comprehensive and transparent impacts assessment on traffic congestion and on people impacted by these changes. Currently designed Tolling "Express" Lanes policy papers is skewed towards Tolling ("drives" the operational assessment). The operations should be based on, at a minimum, evaluating all freeway lanes together (included tolling). To be transparent, the operational analysis should address the Corridor (to include parallel arterials/local streets impacts).

A recent example from Metro's I-105, EA 314500 PAED docs., Convert HOV lane and add a lane (for a 2-Tolling Lanes): The 2016 SCAG RTP/Sustainable Communities Strategy (scenarios include: Transit Integration, Livable Corridors, "Neighborhood Mobility Area" - walking/bicycling, Bike and car sharing, etc.). The Travel Demand Model year (2047) shows 17.2 % trip reduction (traffic #s lower than current counts). Metro/" PDT" said this was not a realistic forecast and implemented a strategy that translates into higher vehicle on the I-105 GP and Tolling lanes). Metro selected to use year (2027) TDM projections/congested #s, project opening year, and held these #s constant thru year (2047)! This Strategy justifies implementing the Tolling Project. At the same time to reduce the schedule and cost, it was argued that the Fwy Traffic Noise impacts would be much lower with reduced traffic demand, therefore no need to construct sound walls.

Caltrans District 8

Thank you for the opportunity to review Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. We found the overall document to be generally well written, visually interesting to read and provided the results and finding on an array of regional planning issues from a lot of work that clearly took years of sustained, focused, directed effort.

It is our understanding that the United States currently faces a housing shortage in excess of some 7 million dwelling units. Of that 7 million+ dwelling unit shortage some 3.5 million units of the shortfall exists here in California. Beyond homelessness and increased use of limited existing square footage in our existing housing supply, the unprecedented housing shortage has created a range of social equity issues (lack of personal financial independence, homeownership etc.).

Since some 73 percent of Californians live in Southern California, the housing shortage is an extremely important issue with a range of impacts on the transportation system. The 2012 RHNA indicate a need for 412,000 new housing units. The 2018 RHNA indicates a need for some 1,340,000 million new housing units in Southern California. The draft Connect SOCAL document doesn't seem to indicate what the extent of this worsening crisis is here in Southern California.

As noted in the summary of Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the current severe housing shortage creates jobs/ housing balance issues and the need for longer commutes and increased congestion on the overall transportation system.

On Pages 48-56 under the heading Sustainable Communities Strategies and Housing Supportive Infrastructure Connect SOCAL discusses sustainable development practices such as Center Focused Placemaking, Priority Growth Areas, Job Centers Transit Priority Areas, High Quality Transit Areas and Neighborhood Mobility Areas and discusses the housing crisis

but provides little indication that the types of desired development listed above is happening on a large scale in the region.

Page 49 included a short list of ways Diverse Housing Choices could be encouraged. We commented in bold below on these strategies and recommended additional strategies related to housing and transportation caused by longer commutes and increased congestion caused by new housing.

1) Preserve and rehabilitate housing and prevent displacement. **Wouldn't preservation/rehabilitation occur due to supply and demand? Is displacement good if higher density is proposed?**
2) Identify opportunities for new workforce and affordable housing development. **Not really clear what this means? Do you mean Affordable housing for new members of the workforce?**
3) Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. **Would this be expected to create hundreds of thousands of new units.**
4) Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions. **List ways to do this.**

Suggest policy support and reworking the Diverse Housing Choices section of the plan to include support of ideas like the following:

Support and reference The Ahwahnee Principles. https://www.lgc.org/who-we-are/ahwahnee/principles/
Support long lasting smart mobility decisions that improve the environment, create a vibrant economy and build communities not sprawl.
Support redevelopment of high density residential along transit served corridors.
Support having new housing be originally built with an accessory dwelling unit.
Support an overall trend to reduce of lot size minimums in the region by 20%.
Support the concept of building to the maximum density allowed in a residential zoning district rather to the minimum density.
Support a policy that wherever possible in all new specific plans placement of high density housing residential shall occur near planned schools, employment and retail areas.
Support a regional mode shift to walking and bicycling https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf
Support the provision of designated areas for employment (beyond a few retail commercial and school sites) in all new specific plans.
Support the provision of connected street grid system by limiting cul-de-sac length to no more than 250 feet.
Support minimizing the size of a block, through the use of a block size maximum of 1,600 feet.
Support bike and pedestrian through block connectivity through subdivisions by providing one such connection every 600 feet.

Support allowing 100 percent housing on vacant or abandoned property zoned for commercial retail use to help the viability of existing commercial uses (25 solutions article below).
Support local jurisdictions efforts to provide a temporary 30% reduction on all residential impact fees for (3 -5 years) to encourage housing production.
Support housing policy that provides net zero energy use that would build on the 1 million solar homes California has with a goal of greatly increasing this total (roughly 12.5 million dwelling units exist with a need for 3.5 million more dwelling units)
Support allowing a reduction in setback standards to Uniform Building Code minimums on side yards and limit front and rear yard setbacks to no more than 10 feet.
Support the elimination for any required covered off street parking to support development of more housing units.
Support development of high density housing in unused portions of commercial shopping centers/office etc. parking lot areas.
Support allowing a reduction in local public street width standards and/or to allow reduced width private streets to encourage infill development.
Support increasing residential building height standards in residential zoning districts to allow greater building square footage.
Support any regional efforts to develop the missing middle housing of the past few decades.
https://missingmiddlehousing.com/

In the Measuring our Progress portion of Connect SOCAL Pages 118-147 it seems reasonable to assume that much of the "progress" in congestion relief and other areas has to do with 91,000 people per year leaving the SCAG region due to the high cost of housing and other reasons since 2014 as noted on Page 16 of Connect SOCAL discussion on mega trends. Is this real progress or an abandonment trend that needs to be reversed?

https://www.worldpropertyjournal.com/real-estate-news/united-states/washington-dc-real-estate-news/up-for-growth-national-coalition-econorthwest-holland-government-affairs-housing-underproduction-in-the-us-2018-housing-shortage-data-10842.php

https://www.curbed.com/2019/5/15/18617763/affordable-housing-policy-rent-real-estate-apartment

https://ucreconomicforecast.org/wp-content/uploads/2019/04/SCAG_Housing_White_Paper_Digital_4_11_2019_Revise.pdf

https://urbanize.la/post/25-solutions-builder%E2%80%99s-perspective-fix-california-housing-crisis

Caltrans District 11

Draft Connect SoCal

- Truck Parking/Truck driver shortage: Please address and include truck parking needs in the SCAG region. In addition, the shortage of truck drivers is commonly cited as the number one problem in the trucking industry.

- Freight Projects List: Please include transportation projects that have been identified in the *2014 California-Baja California Border Master Plan* and the *Draft 2020 California Freight Mobility Plan*. Examples of projects that are missing in the Goods Movement Project List are: Forrester Road, Commercial Vehicle Inspection Facility modernization project at Calexico East Port of Entry (POE), bridge and highway realignment to Andrade POE, widen State Route 98 (SR-98) between Dogwood Road and V.V. Williams Ave., widen SR-98 between Ollie Ave. and Rockwood Dr., widen Menvielle Road to four lanes from Carr Road to SR-98, implement Border Wait Times System, and modernize existing truck parking/staging areas for near-zero to zero emission infrastructure truck shore power.

- National Freight Highway Network (NFHN): Please include and identify routes that have been designated as Critical Urban Freight Corridors and Critical Rural Freight Corridors. These are public roads in urbanized and rural areas which provide access and connection to the Primary Highway Freight System and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

- California Sustainable Freight Action Plan (CSFAP): Please describe how the RTP supports the goals and vision of the CSFAP. This State plan provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. Please include the Advanced Technology Corridors at Border POEs CSFAP pilot project as part of the RTP Goods Movement Environmental Conditions and Technology Advancement Strategies.

- Agriculture and Mining: Little is discussed regarding needs and availability of producing agricultural and mining (e.g., aggregate) commodities among border or rural areas of the region (Imperial and Coachella Valleys, Ventura, etc.). Safety, maintenance and asset management (e.g., State Highway Operation and Protection Program [SHOPP]) needs could be mentioned on lower-volume/seasonal routes impacted by heavy machinery movements/emissions.

Technical Reports

- Highways and Arterials Technical Report Page 8 references SB1 in the context of performance measures and Page 14 mentions the Proposition 1B Corridor Mobility Improvement Account (CMIA) requirements for Corridor System Management Plans (CSMP) and components of those documents. SB1s requirement of corridor plans is not addressed nor are the competitive programs such as Solutions for Congested Corridors

Program (SCCP), Trade Corridor Enhancement Program (TCEP) and Local Partnerships. Although not Impactful for the California Environmental Quality Act (CEQA), the discussion is important for future funding opportunities and possible planning efforts.

- Page 10, Transportation Safety & Security: Table 3 - Is Fatality and Injury prediction table approved by Caltrans?

- Table 1 – FTIP Projects – FTIP ID Number IMP140804: Route should be "8", not "999".

- Table 2 – Project Number IMP0042A: The Demo funds identified for this project have been repurposed to a different phase for SR98. As such, this project should be removed.

- Additional project: Please add: SR186 All American Canal Bridge – Replace bridge to accommodate two vehicle lanes, shoulders and pedestrian/bicyclist facilities. Cost $40M; Construction Year 2027.

- Transit: There are no comments related to any specific projects; however, the District would like to recommend that consideration be given to include bicycle and pedestrian facility connections and protection by enhancing visibility of bicyclists and pedestrians as well as to provide wayfinding signage to guide the active transportation population to facilities to help them complete their trip.

Caltrans District 12

Draft Connect SoCal

- The Draft Connect SoCal Plan provides long term guidelines and strategies for the SCAG region. These guidelines and strategies should align with State goals as laid out in State planning documents such as the California Transportation Plan (CTP), California State Rail Plan, California Freight Mobility Plan (CFMP), California Aviation System Plan (CASP), and State Bicycle and Pedestrian Plan. As stated in our previous comment letter during the Notice of Preparation (NOP) process, dated February 22, 2019, we encourage the incorporation of State planning documents to align the 2020-2045 RTP/SCS with State goals.

- The SCAG region has many highly urbanized areas that have increasing traffic demand due to population growth and economic development and have limited available Right-of-Way (ROW) for transportation purposes. To enhance the operability of current facilities, strategies such as Managed Lanes would provide efficient usage of current capacity, improve travel times, reduce vehicle miles traveled (VMT), provide alternative means of transportation and may provide revenue for other transportation improvements. These strategies are consistent with state, regional and local goals and objectives. As stated in comment 10 of our previous comment letter, the Department requests SCAG review and incorporate the Orange County Managed Lanes Feasibility Study (MLFS) and the Orange

County Managed Lanes Network Study (MLNS) in the 2020-2045 RTP/SCS. The recommendations from these studies have not been included in the 2020-2045 RTP/SCS. These studies and the proposed projects, including District 12's I-5 Managed Lanes Project, reflect SCAG's Goals and Guiding Principles found on pages 9 and 10 by placing a high priority on improving mobility and reliability. The Department requests that District 12's I-5 Managed Lanes Project, for the project approval and environmental document (PA/ED) component, be included in the final 2020-2045 RTP/SCS and also amended to the 2019 FTIP, per our October 2019 request to Orange County Transportation Authority (OCTA).

- Climate change impacts have become a major concern for planning agencies at all levels. As required by California Senate Bill 379, many regional and local planning agencies have started developing plans to address climate change issues. While the 2020-2045 RTP/SCS includes climate change considerations in multiple sections of the document, it should incorporate climate change plans from other agencies into the document. Further clarification should also be provided to establish which plans supersede. As requested in our previous comment letter, please review the Vulnerability Assessment for Orange County and coordinate with Caltrans for future implementation.

- Caltrans District 12 appreciates the robust and thorough discussion in the RTP's Active Transportation Technical Report and supports SCAG's efforts in encouraging Complete Streets. This technical report aligns with Caltrans' goals and objectives. Complete Streets infrastructure benefits all roadway users and promotes mobility, equity, accessibility and regional connectivity, all while decreasing congestion and improving air quality.

Active Transportation Technical Report

The following areas of the Active Transportation technical report that accompany the 2020-2045 RTP/SCS require consideration for revision:

- Page 3, first paragraph: under Section "Defining Active Transportation", add walking as part of the examples.

- Page 3, paragraph eight: consider making a distinction between traditional active transportation modes and micro-mobility modes.

- Page 5, Table 1 second row, second column: consider adding increased connectivity as part of the impacts.

- Page 7, paragraph eight: under Regional Significance consider discussing ADA-friendly infrastructure in one of the subsections. Active Transportation infrastructure also benefits ADA-reliant users by increasing these users' mobility and accessibility.

- Page 19, paragraph 4: verify the list of cities that currently have bike share programs. Some of the cities listed may no longer have these programs available. For example, the cities of

Bellflower and Paramount had a partnership with dockless bikeshare company Ofo in 2017. However, Ofo has since backed out of the United States market.

- Page 79 and 85, Bicycle Master Plans, and Pedestrian Master Plans: the City of Irvine is currently developing an Active Transportation Plan and the City of Santa Ana has recently finalized its Active Transportation Plan. Additionally, the Orange County Transportation Authority has bikeway studies on four sub-areas of Orange County--North, West/Central, South and Foothills.

- Page 98, second paragraph and page 99 Exhibit 13: clarify that the City's protected bike lane along Bristol Street is a class IV facility and incorporate it into Exhibit 13.

- Southern California ports are seeing increased demand as trade with the Pacific Region continues to grow. SCAG should continue to plan for increased truck traffic within the region. Additionally, consider a discussion of the lack of available safe, secure and accessible parking for long distance freight vehicles. Projected growth of truck traffic and the demand for truck parking will continue to outpace the supply of public and private parking facilities.

- Due to the high number of residential developments, related functions such as micro-transit and micro-freight, need to be analyzed. Optimizing curb space locations and micro-freight and micro-transit routes may reduce congestion, VMT, and wait times for users. Additional multi-modal transportation options such as bus rapid transit and parallel light rail provide alternative options for travelers.

- The Department supports SCAG's efforts to create an integrated transit payment system, discussed in the Shared Mobility and Mobility as a Service section. Please coordinate with Caltrans since we are currently developing a similar statewide program. These efforts may improve the accessibility and affordability of transit services which may result in reduced emissions, VMT and congestion.

- Consider incorporating discussion of policies of various agencies to promote existing and future Park and Ride lots that may increase carpooling, bicycling and transit use as options for commuters. This would reduce VMT and congestion.

- Due to ROW constraints on the State Highway System (SHS), implementing Intelligent Transportation Systems strategies, as discussed in the core vision of the 2020-2045 RTP/SCS, would allow for enhanced capabilities to protect transportation systems and shorten response times, enhancing operations of the SHS.

- Review of the Project List has highlighted the following inconsistencies:

  - Project FTIP ID – ORA000820 – SR 57 Truck Climbing has a total Cost of $164.2 million

  - Project FTIP ID – ORA131301 – SR 55 Add 1 Mixed Flow Lane from I-5 to SR 91 has a total Cost of $151.1 million

- Project FTIP ID – ORA131303 – SR 57 Orangewood to Katella has a total Cost of $70.6 million
- Project FTIP ID – ORA131304 – I-405 Add 1 Mixed Flow Lane from I-5 to SR 55 has a total Cost of $176 million

Attachment B

Caltrans District 7 – Environmental Planning

- Footnote 75: the hyperlink to the Induced Travel Calculator may need to be corrected by simply removing "on October 25" from the clickable hyperlink. The hyperlink currently includes the phrase "on October 25" when clicked.

- Page 3.17-8, Regional High-Occupancy Vehicle (HOV) System and Park and Ride System: please clarify if the HOV system described in this section includes the High Occupancy Toll (HOT) / express lanes. General information on the HOT lanes in the SCAG region (Los Angeles County in particular) and how HOT/Express and HOV lanes differ may be useful for this section.

- Wildlife Crossing: Besides the Liberty Canyon Wildlife Crossing that connects the Santa Monica Mountains to the open space of Simi Hills and Santa Susana Mountains, there is another opportunity for a different Wildlife Crossing at Conejo Grade around Camarillo and Thousand Oaks that needs to be looked at.

- SCAG, Metro, and Caltrans should fund projects that will improve culverts for wildlife usage, especially in the rural areas of Ventura County.

- There is also opportunity for wildlife crossings, connectivity, and corridor improvements on State Route 2 and Interstate 210 around La Cañada Flintridge, State Route 118, and State Route 126 around the Moorpark and Filmore area.

- Rocky Peak on State Route 118 needs fencing and habitat connectivity including corridor improvements for wildlife.

- Areas along Interstate 5 and State Route 14 at Sylmar, Granada Hills and north of Santa Clarita need open space to be connected (habitat connectivity) for wildlife movement.

- Access to public parks and open spaces need to be improved. Special buses at discount rate (to take people from inner-city to these parks) will be very helpful to inner-city parents and families since many inner-city neighborhoods are far from parks that have interesting resources.

- Besides light-rails and all proposed transportation projects, governmental agencies within Downtown Los Angeles and other large cities should consider alternative working hours and equip their staff to telecommute 3-4 times a month. This will improve lives and air quality.

- Cal-Fire should have fire continues education for areas in the cities that boarders open spaces. Training should be giving to volunteers and people who are willing to assist Fire

Officers and crew. We strongly encourage utility companies to place their utilities line underground (buried) in areas that are prone to wildfires.

- We believe some cities within SCAG's Region collects rainwater and run-off water. Since the average annual rainfall is between 12-22 inches, SCAG should encourage cities to capture rainwater, treat it and release it to our dry ravines.

END OF CALTRANS COMMENT LETTER

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
[redacted]
www.dot.ca.gov

Making Conservation a California Way of Life.

January 23, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California Department of Transportation (Caltrans) wishes to thank the Southern California Association of Governments (SCAG) for the opportunity to review and comment on the Draft Connect SoCal, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR).

Caltrans applauds SCAG's use of innovative techniques and methodologies in engaging constituents within its six-county jurisdiction through its "Bottom-Up Local Input and Envisioning Process". Building upon the previous 2016 RTP/SCS, the Draft Connect SoCal plan boldly implements sustainable planning strategies aimed to increase active transportation plans and products, increase ridership and use of various forms of transit, improve the infrastructure of goods movement, reduce congestion and Vehicle Miles Traveled (VMT), and create more diverse and affordable housing; while reducing greenhouse gases and advancing healthy communities amongst other transformative efforts.

The Draft Connect SoCal plan was distributed to Caltrans' Headquarters and Districts 7 (Los Angeles and Ventura Counties), 8 (San Bernardino and Riverside Counties), 11 (Imperial County), and 12 (Orange County). The offices within each District and Division were given the opportunity to review and comment on the Draft RTP/SCS and Draft PEIR documents according to the California Regional Transportation Plan Guidelines.

Connect SoCal's core vision coupled with its goals and guiding principles helps to further an interconnect region. Moreover, SCAG's commitment to strengthen previous investments in our multi-modal transportation system and with focused direction for future plan investments results in increasing the region's overall resiliency, prosperity and competitiveness.

Specific comments on the Draft RTP/SCS chapters and appendices are included in Attachment A and specific comments on the PEIR are included in Attachment B.

If you should have any questions in regard to the comments, please do not hesitate to contact [redacted]

Sincerely,

Paul Albert Marquez
Deputy District Director for Planning

cc: John Bulinski, D7
Ray Desselle, D8
Ann Fox, D11
Lan Zhou, D12
Marlon Flournoy, DOTP
Jacqueline Kars, ORP
Caleb Brock, ORP

Attachments

Attachment A

Caltrans Headquarters – Office of State Planning

- The introduction is clear and informative on the regulations that guide the RTP development process however, RTP's are also influenced by the policies leveraged by the State. Suggest including additional language on SB 391 (2009) which also requires the California Department of Transportation to prepare the California Transportation Plan (CTP), California's long-range transportation plan. Reference to the CTP would illustrate the interrelationship between regional and statewide transportation objectives – highlighting how major metropolitan areas, rural areas, and state agencies can coordinate planning efforts to achieve critical statewide goals. Consider the following:

  "To better coordinate with the State, Connect SoCal was developed to align with The California Transportation Plan (CTP). The CTP is a long-range statewide level transportation plan that combines regional transportation and land-use plans to produce a unified multimodal strategy to achieve our collective vision of a lasting and well-integrated transportation system that benefits both people and goods over the next 25 years."

- While the plan is visually appealing and easy to read, consider including discussion on other Caltrans modal plans where necessary. With regards to the transportation complexities that exist throughout the State, differentiating the statewide goals from local/regional needs helps emphasize the challenges associated with transportation targets set forth by the State. Doing so also highlights the strategies proposed within the Connect SoCal to address transportation shortfalls within the SCAG region.

Caltrans Headquarters – Aviation & Aeronautics

- Land use and zoning around airports is an important element to consider and guidance can be found in the California Airport Land Use Planning Handbook (Handbook). Land use compatibility with an adopted general plan is the responsibility of each Airport Land Use Commission (ALUC). Airport Land Use Compatibility Plans should be regularly updated and reference current general plans to prevent incompatible land uses that encroach upon or threaten airport operations. Airports enable the movement of people and goods. They allow a community access to the nation's air transportation system. Airports are a valuable community resource enabling public services, such as medical transport and law enforcement. Future uses may include freight and package delivery as the use of Unmanned Aerial Systems (UAS) develops.

- Traffic congestion is one of the leading issues in transportation planning. The emerging concept urban air mobility (UAM) is expected to provide a new solution by making use of the three-dimensional airspace to transport passengers and goods in urban areas. Airport Shuttle and Air Taxi markets are viable markets. We are aware of Uber announcing Los

Angeles as one of the first cities to offer Uber Air flights, with the goal of beginning demonstrator flights in 2020 and commercial operations in 2023. The City of Los Angeles is creating an aerial mobility network integrated with its other transportation systems and investments.

- UAM largely is dependent on vertical takeoff and landing (VTOL) operations in urban areas. UAM application is to build well-distributed infrastructures to support VTOL aircraft operations. Those infrastructures are heliports and vertiports (or sky ports), where VTOL aircrafts take off and land, onboard or disembark passengers, and get charged. The Federal Aviation Administration has Advisory Circular 150/5390-2C to provide guidance on permitting and siting heliports.

- Significant legal/regulatory, certification, permitting/licensing, infrastructure, and weather constraints exist for currently operating aircraft. Vertiport or heliport locations should be carefully reviewed with consideration of its impact on potential UAM demand, safety, environmental impacts, land uses, energy distribution and demand, and transportation system performance.

- Can SCAG's RTP/SCS draw from Air Cargo projections and congestion/demand management strategies to formulate planning for logistics impacts from the growing consumer demand for home deliveries?

Please note below the following Codes for implementation in the Aviation input into the SCAG Draft RTP and its Aviation Technical Appendix:

- PUBLIC UTILITIES CODE – PUC- - -
- DIVISION 9. AVIATION [21001 - 24451]
- (Division 9 added by Stats. 1953, Ch. 151)
- ARTICLE 3.5. Airport Land Use Commission [21670 - 21679.5]
- (Article 3.5 added by Stats. 1967, Ch. 852)

- SCAG also note: 21670.2.
- Sections 21670 and 21670.1 *[These are the sections that require ALUCs in any county with public-use airports—DOC]* do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal. http://planning.lacounty.gov/aluc

- And, to clarify, our Cal. Aviation System Plan (CASP) update is not for the 2016 Policy Element directly. We're following a required 5-year update cycle, but the Plan will embark on a new course without "elements;" instead aligning with CTP 2050 to assist inter-modal goals.

Caltrans Headquarters – Office of Regional Planning

The Office of Regional Planning (ORP) would like to commend SCAG for their vivid and creative approach to demonstrating SCAG's 20-year vision for the future.

Overall, the page references on the RTP Checklist included whole chapters and entire technical reports. We recommend that SCAG reference specific page numbers for each question on the RTP Checklist with their Final RTP submission.

Below are the following comments in reference to the RTP Checklist Contents:

General

- #2. The document identifies several strategies but does not delineate whether they are short-range and long-range strategies/actions (23 CFR 450.324(b)).

- #3. There is mention of the elements required throughout the report, but as a public document this checklist should reference more specific pages instead of whole chapters and technical reports. Also, the report doesn't have specific sections dedicated to each element i.e. policy, action, and financial (California Government Code Section 65080). These elements should be clearly defined and easily accessible by specific page numbers.

- #4(a). The referenced pages are missing the general location of uses and building intensities. (HQ referring to the page numbers that SCAG identified on the RTP Checklist. SCAG should ensure 4(a) of the RTP Checklist is fully addressed, specifically, the general location of uses and building intensities within the region).

- #4(b). There is a lot of information to decipher and it is not clear that SCAG identified areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth.

- #4(h). SCAG identified one map on page 23 of their SCS Technical Report (HQ is referring only to the SCS. It seems that SCAG labeled all of their appendices with "Technical Report," but the specific requirement in RTP Checklist 4(h) refers to the SCS requirement). This does not set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB.

- #7. The outdated RTP Checklist that SCAG provided did not include question 7. Please provide the appropriate page references with an updated checklist.

Consultation/Cooperation

- #3. It is difficult to clearly determine that SCAG consulted with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP (23 CFR 450.316(b)). Please identify the specific pages for reference.

- #4. Please ensure that the final plan includes reference that federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP (23 CFR 450.316(d)).

- #5. It is difficult to determine where the RTP specifies that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation were consulted (23 CFR 450.324(g)).

- #6. Please include specific page reference that the RTP includes a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources (23 CFR 450.324(g)(1&2)).

- #15. It is not clear that the RTP will be adopted on the estimated date provided in writing to State Department of Housing and Community Development to determine the Regional Housing Need Allocation and planning period (start and end date) and align the local government housing element planning period (start and end date) and housing element adoption due date 18 months from RTP adoption date (Government Code 65588(e)(5)).

Programming/Operations

- The outdated RTP Checklist that SCAG provided did not include a *Programming/Operations Section*. Please provide the appropriate page references for each question on the updated checklist.

Financial

- #4. It is difficult to determine which projects are regionally significant. Please ensure that all regionally significant projects are identified (Government Code 65080(4)(A)).

- #9. In the Transportation Finance Technical Report neither TCMs or SIP is mentioned. Please ensure that the final RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented (23 CFR part 450.324(f)(11)(vi)).

Caltrans Headquarters – Office of Freight Planning

Overall, much of the Plan, specifically the Goods Movement Technical Report, includes vague and broad statements that are either not supported directly by data, analysis, or supporting evidence, or are supported with indirect and loosely (at best) related data and analysis. When data is sourced, it is cited in a way that makes it impossible to fact-check it or replicate the analyses. The language is so broad and vague that the plan does not leave the reader with a

clear understanding of how the system works. For example, each goods movement mode is independently discussed within its section, and the plan is missing a section (discussion) that ties together and analyzes all the freight modes for a true multimodal freight system. The Plan's structure, styles, multicolor headings are confusing to read and difficult to identify the section relationships (e.g., main and subsections). We have listed main comments below.

Draft Connect SoCal

- Broad and a Vague Content with Limited Supporting Data and Analysis
- Page 74 through 82, A significant portion of the main body includes broad and sweeping claims with limited, if any supporting data and analysis.
- Page 81, Table 3.3, SCAG Region Airport Passenger Forecast for 2020–2045 (no citation)
- Significant portions of supporting data are either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with multiple data sources, one cannot determine what source is attached to the data.
- Provide professional citations. For example, see page 78, Truck Bottleneck Relief Strategy and Industrial Warehouse & Distribution Centers
- Missing Significant Freight Information
- Chapter 4 is missing a discussion of National Highway Freight Program funding and the Trade Corridor Enhancement Program.

Goods Movement Technical Report (GDPR)

The Goods Movement Technical Report contained very little technical information. We expected to find supporting data, analysis, and methodologies for planning the regional freight system. Instead, the information was only slightly more detailed than what we found within the main document. In fact, the GMTR included very little supporting evidence, and sources are not cited in a way that allowed the reader to fact-check or replicate the analysis.

- A section for Pipelines, a key and critical freight mode recognized by the U.S. Department of Transportation as well as the California Department of Transportation, is not included within this report. Include a Pipeline section with the other freight modal sections (e.g., Rail, Seaports, Airports, Highways)
- Significant portions of the main body and the GMTR include broad and sweeping claims with limited, if any supporting data and analysis. For example, there is no direct supporting data and evidence included in the e-commerce section. We see broad statements such as e-commerce has greatly increased, and that e-commerce has negatively impacted

neighborhoods. However, we did not see any direct supporting evidence. We expected to see the number of increased trips related to e-commerce, but instead, we saw an increase in the dollars spent. This data does not support that there are more trips, as customers may be buying more expensive items or more items that are delivered on the same trip. Also, all forms of e-commerce a lump together. For example, Amazon purchases that are ordered online and delivered directly to the customer are combined with purchases that are ordered online at places like Target, Walmart, and Best Buy, where the customer can choose to pick up their purchase at the store. The store pick-up purchases are similar to the Sears Catalog (started in 1893) when customers ordered out of a catalog via the mail and picked up their purchases at Sears. We recommend separating the different types of "e-commerce" and addressing them individually.

- Page 5, First Paragraph: Define goods movement dependent jobs and provide examples for the industries

- Page 5, First Paragraph, "Jobs in goods movement dependent industries are generally well-paying, with annual average compensation in the construction, manufacturing, and wholesale trade sectors outpacing the average annual compensation for all regional industry sectors.": Support with specific data (not just averages) so that we can see the range in pay to the job. Using averages can greatly skew the results (e.g., low wage jobs offset by CEO salaries). Also, support with more data, including data sources (including reports, data tables) so that the analysis can be replicated.

- Page 6, Maintaining the Long-term Economic Completeness of the Region: Either provide useful information, data, and analysis or delete this section.

- Page 6, Promoting Local and Regional Job Creation and Retention: Provide supporting evidence and data. Provide the specific number of jobs that are created by the ports as well as the number of regional jobs created by "international trade activities." Define International trade activities. Also, link the infrastructure to the economy.

- Page 17, Distribution Centers, Warehousing and Transloading Facilities: This section includes unsupported statements and claims. Include supporting evidence and data, and professionally source and cite the data.

- Page 17, Consumer Base, "This growth in residents and income is expected to drive consumer spending and demand for goods, increasing pressure on the regional transportation network.": Support with evidence and data, and professionally cite the data source(s).

- Page 26, Highlight Area, Trade in the SCAG Region, First Paragraph: Define "current Administration" by giving its name. Also, is it regional, state, or federal?

- Most of the supporting data is either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with

multiple data sources, there is no way to determine what source is attached to the data. Provide professional citations. For example, when using the US Census data, include the Program (American Factfinder), the table (e.g., DP05), and the date(s) or when using the US DOT data, include the Program (FHWA), the report, table, website, and the date(s). This is important so that a reader can fact-check the data and replicate the analysis. Without this critical information, the reader must question the validity of the data and analysis. Examples include but are not limited to:

- Page 4, Table 1
- Page 7, Improving the Safety of Goods Moment Activities and Highlight Area: regional Goods Movement Workforce Development
- Page 14 Exhibit 3
- Page 15, Table 2, footnote 6, 7, and 8
- Page 16, Figure 1, Airports, International Land Ports-of Entrée
- Page 17 Distribution Centers, Warehousing and Transloading Facilities, and footnotes 10 and 11
- Pages 18 and 19, Highlight Area, Seaports and Regional Trade Flows, Figure 2, and footnote 13
- Pages 2020 to 34, Figure 3 to Figure 19, Footnotes 14, 17,18, 19, 20, 21, 2223, 25,26, 30 (FAF Version?), 31,32,33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47,48

Miscellaneous Comments

- Page 3, What is Goods Movement? A pipeline, a key freight mode is missing from this section.

- Page 3, Broad Economic Benefits: As currently written, this section is not understandable. Consider rewriting this section to include a clear introduction, thesis statement, body paragraphs, a restatement of the thesis, and a conclusion.

- Page 3, Broad Economic Benefits - First Paragraph: Who uses "performance" as a proxy: Without a subject, the relevance of this statement is unclear. What is the difference between the performance of the logistics industry and the contributions of the five major industries? Why does SCAG consider contributions of the "five major industry sectors..." more closely associated? Why were the agriculture and service industries (e.g., repairpersons) not included?

- Page 3, Broad Economic Benefits, Second Paragraph: Clearly link this discussion within this paragraph to the introduction above. As it is currently written, it is unclear how the GRP/GDP are connected (or not) with the five major industrial sectors. Also, what is "this economic impact"? Define "this economic impact."

- Page 3, Broad Economic Benefits, Third Paragraph: Clearly link this discussion within this paragraph to the first, introduction paragraph. Are the "good movement dependent

industries" the same as the "five major industry sectors"? If not, how are they different. What is the difference between a sector and an industry? A layperson and technical expert should be able to read this and understand. As this is currently written, neither can.

- Page 4, Table 1- Change in Average Annual Pay for Goods Movement Dependent Industries in the SCAG Region 2012-2016: The introduction sectors reference five sectors; this table includes seven sectors. Why?

- Page 5, First Paragraph: Define freight dependent jobs.

- Page 5, Regional Global Profile: Consider renaming this section the United States Global Profile as the narrative references the U.S. and not the SCAG region. Also, absent from this section is a discussion regarding the impacts of California's climate policies on So Ca Port's competitiveness with other U.S. and international ports.

- Page 5, Regional Global Profile - Second Paragraph: Consider rewriting this paragraph because it is confusing.

- Page 6, First Paragraph: Identity who expects them to grow and by how much? Support this statement with evidence.

- Page 6, Second Paragraph: Replace "recent" with a specific date and identify the specific shift(s) (e.g., percentages) and policies as well as the specific impacts of those shifts. It is not unusual for the federal reserve to adjust, so it is important that this statement is supported with evidence and a citation.

- Page 6, Goods Movement Vision: This vision is focused on freight movement; however, it should also focus on servicing the people (e.g., brings food and clothing to the people in the region). By focusing on throughput and other technical details, the basic needs that freight movement provides for are overlooked. It is helpful to plan for freight movement using a lens of what the region would look like without freight accessibility.

- Page 7, Increasing Freight and Passenger Mobility: Populate this section with useful information like specific strategies for improving goods movement and how the region is going to double rail volumes. Also, include the current freight performance by mode (or reference to a different section that contains that information) and what needs to be done to maintain that performance into the future.

- Page 7, Improving the Safety of Goods Movement Activities: Are there currently issues, if so, what are they?

- Page 7, Mitigating Environmental Impacts of Goods Movement Operations: Explain why and provide cited data, analysis, and evidence supporting this claim.

- Page 7, Highlight Area: Regional Goods Movement Workforce Development, Second Paragraph, First Sentence: "Currently, the U.S. is nearing, or at, full employment": Provide properly cited data supporting this claim. Also, link this to the SCAG region.

- Page 9, First Paragraph: Define "dead-end-jobs."

- Page 9, Seaports First Paragraph: Footnote 2: The WSC is a group. Please include a specific source (interview, report) that is properly cited so that readers can find the documentation of this statement.

- Page 9, Seaports, "percent of all containers in the U.S. moving through the San Pedro Bay Ports.3 Despite some recent modest shifts in container volumes to other U.S., Canadian and Mexican ports, the total container volume for the San Pedro Bay Ports is still expected to grow to over 34 million by 2045, a 120 percent ...": How was this analysis performed. What is the data source (including citation)? Model type, name, version?

- Page 9, Seaports, "35 percent of the San Pedro Bay Ports' total import-related traffic. The other 65 percent is assumed...": Did this data also come from footnote 3? If not, source the data, and provide a professional citation.

- Page 9, Seaports, Third Paragraph – "deconsolidation of the contents": Define for laypersons.

- Page 9, Seaports, Third Paragraph – "Transloading allows for the movement of increased amounts of goods while...": This statement may or may not be correct. For example, it may be that the region has gotten to the point that the transportation system is so congested that there is no capacity to support any more trips (freight or other) regardless of container. So, provide data, analysis, and supporting evidence for this claim as it relates to the current and future SCAG freight system.

- Page 10, Railroads, First Paragraph, First Sentence, "Critical to the growth": Demonstrate how BNSF and UP are critical to SCAG's growth. For example, what functions to they play in SCAG's economy? Support with professionally cited data and evidence.

- Page 12, Second Paragraph: Who reduced the number of times freight itself (?) was handled, how was the freight handled, and what is the base year for the speed, efficiency, damage, and security. What year was the performance assessment developed that measured these items and identified that the efficiency and speed increased, the damage was reduced, and security became greater? Was the same base year and performance year used for all six intermodal terminals? Did all terminals follow the same methodology and use the same data? Support with professionally cited data and analysis.

- Page 12, "In addition to these intermodal terminals, there are railyards that serve carload traffic of various types. UP has a large carload freight classification yard at West Colton (at

the east end.": Does this section capture all the rail yards that serve carload traffic of various types?

- Page 15, Airports, First Paragraph: It appears that multiple data sources and perhaps years were used to produce the number included in this section. With this said, there is a real concern that the analysis is comparing "apples with oranges" or that selective data was used.

- Page 16, Figure 1 Air Cargo Tonnage through SCAG Regional Airports 2000- 2018: It appears that this table was constructed based on a mix of data and analysis that is not consistent. I suspect that this is a comparison of apples and oranges. See my comments regarding the data sources.

- Page 17, Supply Chains and the SCAG Region: Consider rewriting this section so that a layperson can understand. For example, what are product demand forecasting and production planning?

Caltrans District 7 – Freight Planning

Goods Movement Technical Report

- Last mile Delivery—page 2. METRO sponsored a conference in this regard, and it was also a focus in conjunction with INUF Conference in 2019. A more extensive discussion was expected. Additionally, no discussion provided on "First mile."

- Page 16 of 32—Exhibit 3:

    - The "SR-206" shield should be Interstate 215. (same comment on exhibit 6 on page 52 of 132)
    - The "SR-30" shield should be SR-210.
    - The "I-210" shield that is shown to the right of the juncture of SR-57 and 210 should be SR-210 (Interstate 210 becomes SR-210 at the junction with SR-57.
    - Recommend the "county lines" are shown in different color as they are very similar to the highways not identified as part of the "Primary Highway Freight System."
    - What year is the USDOT source?
    - NOTE: To the extent above information occurs in other exhibits, this should be considered a global comment.

- East-West Corridor—page 51. There is no "project scope" information, and no reference to any project(s) in the list of projects.

- Appendix 1 of 1—page 123. Although multiple footnotes are from 2019, the discussion provided does not seem to include the most current information related to POLA (and possibly POLB) in this regard.

Caltrans District 7 – System Planning

- Page 34 - Exhibit 2.5 – There are lots of gradients in the LA/OC region; suggest doing a zoom box to show the land use breakdown in better detail.
- Page 40 - Figure 2.5/2.6 (and other graphs throughout) - Color choices for poor and good are very similar, which makes it hard to read tables quickly.
- Page 59: *Core Vision – Paragraph 1*: Fix-It First is commonly associated with the SHOPP program; suggest mentioning it here.
- *Planning for 2045* – typos in Line 1
- Page 69 - Active Transportation - "Walking and bicycling are accessible forms of transportation for people of all ages, abilities and socioeconomic backgrounds." This is not technically for certain abilities. Line could be read as exclusionary.
- Page 77 – Express Lanes Table Line 3 - Los Angeles – I-405 – Add I-*105* Express Lane (Should be add I-*405* Express Lane?)
- Page 163 – Measure R – Measure R has no sunset as of Measure M's approval.

Caltrans District 7 – Forecasting and Modeling

Draft Connect SoCal

- The goal of maintaining and rehabilitating the existing system is a laudable goal. The goal, according to SB-1, is to have 98% of the state highway system in each county operating at *Good* or *Better* condition by 2045. Table 1 on page 9 gives 47.9% of the statewide interstate highway system operating at *Good* in 2017. The only data in the report on pavement condition suggests a 3.4% drop over 2017-2022. How does the region intend to achieve the statewide level of performance when the current trend is downward?

Transit Technical Report

- Over the past 30 years, the SCAG region has made an unprecedented investment in transit infrastructure. Between 2007 and 2017, however, transit ridership has gone down by 19%. The projected goal of 1.6 billion transit trips in 2045, reflecting a 245% increase in transit ridership since 2015, seems rosy.

- A common perception that transit is for the underclass seems to be an element here, but it isn't addressed.

- Calling for diligence against encroaching gentrification and good intentions regarding economic and environmental equity do not seem to have been enough so far to establish housing opportunities for all income levels. Relying upon the market forces that generated the current inequities to somehow solve them seems unrealistic. Markets prefer building housing for the higher income.

- There is a claim that you will get there from here, but the battle to provide affordable housing in Southern California is being lost, as witnessed by the tented encampments throughout the region, as well as the collapse every 20 years or so of the housing markets in the Antelope Valley, Inland Empire and the Victor Valley during recessions.

- The details on the 2020 RTP/SCS Travel demand modeling efforts in this report are scant. On page 2 of the Transportation Modeling conformity appendix, reference to the model as an Activity Based Model, and mentions that it has met federal requirements, and has been through a peer review process, but there aren't other details to assess the modeling efforts.

- Express Lanes are an important component of SCAG's planning for the highway system. The 2016 RTP assumes very high participation of 3+ Person Carpools on the Express Lane System. Those values are not realistic and give inaccurate estimates of future express lane person throughput, revenues generated and so forth. What are the values being generated in the SCAG 2020 RTP/SCS assignment model?

- The configuration of the No Build Highway Network mostly includes projects that I expected to see. The major changes seem to lay in the land use/transportation system interface which is the appropriate, but don't appear substantive enough to generate the massive behavioral changes envisioned.

- The report notes only one very general impediment to telecommuting. Specifically, it notes that some jobs are simply not amenable to telecommuting. That is true enough, but it reflects almost no examination of any specific impediments to telecommuting, nor how to overcome them. Questions of exercising oversight, handling liability issues are not addressed let alone resolved. No reference to specific financial, legal or social impediments to expanded telecommuting is mentioned. Yet, SCAG expects 9.5% of Home-Work trips to be eliminated through telecommuting.

Caltrans District 7 – LD-IGR/ Mass Transit

- Add an Executive Summary (that's a few pages longer than the summary on page 5)

- In light of SB 743, it seems the following percentages should be reversed:
-
  - 22.8% Decrease in time spent in traffic delay per capita
  - 4.2% Decrease in daily miles driven per capita

Caltrans District 7 – Regional Planning

Draft Connect SoCal

- Page 2, under 'Our Plan'; in this section, commend SCAG for acknowledging the continuous partnership with the State (Department of Transportation) in advocating for implementation and funding for California's Active Transportation Program, resulting in the passage of Senate Bill 1.

- Page 2, SCAG identifies the region's multi-family shares declining from their peak in 2015. However, figure 2.4 illustrates 2017 as the peak year.

- Page 32, 'Present & Future Challenges', this section identifies Technical Reports for Connect SoCal. This section should include a weblink to the Technical Reports for reference purposes.

- Page 8, under 'What is Connect SoCal; in this section, the first paragraph discusses the Plan charting a path toward a more mobile sustainable and prosperous region. This section should include a visual graphic illustrating the connection between the key components.

- Page 20, SCAG identifies the two counties with the largest population growth (Riverside & Los Angeles), however this section should include the population growth throughout the SCAG region, including and identifying counties with disadvantage communities.

- Page 32, under 'Present and Future Challenges'; This section should include a weblink to the Technical Reports so interested parties can more easily see *how* the highlighted issues mentioned below are directly addressed by this plan.

- Page 32-33, under 'Affordable Housing'; This section brings up hurdles such as land use zoning that can make the development process expensive. Perhaps it would be beneficial to include some brief verbiage about how our region's zoning policies generally compare to other areas.

- Page 37, under 'Transportation Safety'; In the last sentence, it does not seem relevant or noteworthy to mention that lower speed crashes translate to a higher pedestrian survival rate. Instead, the plan should elaborate on how we can plan our transportation system in a way that encourages safe speeds since it has established that 30% of collisions result in unsafe speeds.

- Page 38, this section identifies the historic catastrophic events data, however this section should include the effects of the catastrophic events as they corollate to transportation security.

- Page 41, the paragraph regarding funding transportation would have been enhanced by having a graphic showing the existing gap between cost of transportation and available dollars.

- Page 47, this section addresses trends and emerging challenges which must be done to reduce greenhouse gas and meet target goals. Commend SCAG for incorporating this segment as part of Connect SoCal to address additional alternative approaches to address regional challenges.

- Page 66, Table 3.1; Where can interested parties find more information on the listed Transit Capital Projects?

- Page 74, this section identifies the Project List Technical Report of financially constrained and unconstrained lists of projects. This section should include a weblink to the Project List Technical Reports for accessible reference purposes.

- Page 128, under 'VMT Per Capita'; Should verbiage be added to explain why the State is shifting towards VMT as opposed to Level of Service (LOS)? It could tie in with the promotion of in-fill development, multi-modal transportation options, etc.

- Page 150, Commend SCAG for identifying a framework to continue regional partnerships. Together the efforts will address regional challenges and an attempt to meet goals that deem unpredictable.

- SCAG is applauded for explaining Connect SOCAL concept and its connection to the RTP and its long-range goals. SCAG also noted that cities and counties adopting the spirit of the RTP into planning measures for their areas could help their eligibility for future funding grants.

- SCAG did a great job on discussion of the myriad of components that makeup an RTP.

- Suggest making the Environmental Justice/ Public Health Technical Report maps available as interactive maps for the public to view impacts in their communities as well as for comparative analysis.

- We applaud SCAG for considering the importance of an aging population (65+) in the Plan; 1 out of 5 residents in the SCAG region will make up this demographic (Page 17, Connect SoCal Draft). They are more susceptible to impacts in the focus areas listed in the Public Health Technical Report than is the general population.

- Suggest more transparency, inclusion of sources, and studies concerning metrics such as those used to forecast "growth" regarding the job-housing balance (Page 45, EJ Technical Report) and "best practices" for time-based shopping and job accessibility (Page 58, EJ Technical Report).

Technical Reports (General)

- Passenger Rail: How does the Passenger Rail Report integrate CTP 2040 and the California State Rail Plan 2018 with regards to goals, policies and strategies?

- Transit: How does the Transit Technical Report integrate CTP 2040 and the Caltrans 2017 Statewide Transit Strategic Plan with regards to goals, policies, strategies and recommendations?

- Goods Movement: How does the Goods Movement Technical Report integrate CTP 2040 and the California Freight Mobility Plan with regards to goals, policies, strategies and recommendations?

- Aviation and Airport Ground Access: How does the Aviation and Airport Ground Access Technical Report integrate CTP 2040 and the California Aviation System Plan Policy Element 2016 with regards to goals, policies, strategies and recommendations?

- Active Transportation: Caltrans applauds SCAG on its robust and comprehensive commitment to Active Transportation. Caltrans praises SCAG for its many referencing of State of California and Caltrans documents relating to active transportation. Excellent sourcing and listing of CTP 2040, California Bicycle and Pedestrian Plan, various Caltrans District Level Active Transportation Plans, Caltrans State Highway Safety Plan, Caltrans Complete Streets Element Toolbox Guidebook, etc.

- Highways and Arterials: How does the Highways and Arterials Technical Report integrate CTP 2040 and the 2015 Interregional Transportation Strategic Plan and its programmed projects in the Interregional Transportation Improvement Program (ITIP) with regards to purpose, policies and considerations?

Performance Measures Technical Report

- Page 30, The report states that Environmental Quality is measured in terms of criteria air pollutant and GHG emissions. The EPA sets NAAQS for six common criteria pollutants, however only four (transportation related) pollutants are monitored in the SCAG region. What percentage of the overall criteria air pollutants do the other two pollutants contribute?

- In addition to criteria pollutants, the EPA identifies 9 priority air toxic compounds with mobile sources known as Mobile Source Air Toxins (MSAT). The nine priority compounds are: 1,3 – butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM) which have the potential

for adverse health effects. The Performance Measures technical report has no mention of these mobile source air toxins. They should be monitored and strategies for reduction of MSAT be implemented.

- Non-SOV mode share is included in the Environmental Quality outcome category. Would be helpful to have figures that show percent of people who have switched to this method of transport and projections for future conversions to this method and its overall impact on emissions.

- Emissions are estimated using results of the SCAG RTDM which are then inputted to the California Air resources Board (ARB) Emission Factors (EMFAC) model. Information on the accuracy, precision, and uncertainty values of the model would be helpful.

- Page 31 Differentiate between tropospheric ozone (ground/surface-level) which can have adverse health impacts on the community versus stratospheric ozone.

- Clearly define "reactive organic gases (ROG)" and identify which ones are the largest contributors to the formation of surface ozone levels in the SCAG area. Which reactive organic gases are being monitored?

- Ozone concentrations can reach unhealthy levels when the weather is hot and sunny with little or no wind. Tropospheric ozone formation is sunlight/temperature dependent. Report could use information on the effects that future climate change (possible increase in temperature) will have on tropospheric ozone production rates up to the year 2035. It is not clear if this change has been considered when running prediction models.

- Page 31 – Table 10, (SB 375) regional targets were updated by the Air Resources Board in 2018 to ensure consistency with the more stringent statewide reduction goals subsequently introduced by the California legislature and the Governor's office.

- SB 375 Regional Plan Climate Targets through Sept. 20, 2018 for 2020 were -8%, that goal remained the same after the more stringent goals were introduced beginning Oct. 1, 2018. Was this goal met? If so, what strategies were successful in reaching this goal?

- However, for the 2035 goal, the goal before Oct. 1, 2018 was -13% and was changed to -19%. The newly adjusted goal has been made significantly higher. How has this affected planning to meet the 2035 goal now that it has been changed substantially? Is it feasible?

- Page 32, What criteria and associated weights are used in the SCAG Scenario Planning Model (SPM)?

- There is mention that for Connect SoCal. The scenario modeling capabilities have been enhanced. By what methods and criteria?

Transportation Conformity Analysis Technical Report

- Page 3, State Implementation Plans (SIPs) - Connect SoCal must conform to the applicable SIPs [motor vehicle emissions budgets (for all criteria pollutant SIP's) and TCM's (for ozone and CO SIP's only)] in the SCAG region.

- Page 4, Federal Clean Air Act Designations in the SCAG Region - Differentiate between tropospheric and stratospheric ozone formation.

- Address the differences and severity between PM 10 and PM 2.5 health risks.

- It is crucial to provide information about the atmospheric lifetime of the criteria pollutants. Pollutants with long atmospheric lifetimes can survive in the environment for years which can greatly impact modeling efforts.

- Page 28 – end, Tables with ROG - Define Reactive Organic Gases/clarify if they are using the ARB definition along with its exemptions. (ROG usually means any compound of carbon) however the ARB has listed exemptions to ROG which would not be included in emission measurements. Alternatively, specify what compounds are being tested for/monitored and shown in the table under ROG.

Goods Movement Technical Report

- Currently, much of the SCAG region fails to meet federal ozone and fine particulate air quality standards as mandated by the federal Clean Air Act.

- Although zero-emissions vehicles seem to be the goal, the discussion on near-term improvements that can be implemented sooner and at a cheaper cost is appreciated. Zero-emission vehicles for goods movement are still at an early stage and require a lot of money for implementation including the planning and building of new infrastructure to support the energy needs of these technologies.

- It is important to explore other emission reduction strategies that can be implemented right away with relatively lower costs. (e.g. improvements to engine efficiency. Increase efficiency in internal combustion engines through engine technologies such as waste heat recovery which lowers fuel use).

Caltrans District 7 - Active Transportation

Draft Connect SoCal

- Page 54 - Livable Corridors Section:

  - This section focuses on BRT options to qualify an area as a "livable corridor", but consideration should also be given to rail corridors as well.
  - There is no mention of landscaping, green scaping, shade trees or bioswales as a viable improvement for a livable corridor. These types of improvements can also help slow down traffic and improve the conditions for other street users.

- Page 69-70 - Active Transportation Section:

  - It would be helpful if the active transportation improvements section included more specific improvements (like the Transit Improvements section). Improvements to pedestrian facilities are important and should be noted.
  - There were many community concerns regarding the Venice Boulevard Great Streets project. We suggest using a much more successful example of a Great Street in this section.
  - More funding opportunities should be provided for community-based organizations to be "partners" or "co-leaders" with agencies to help ensure the community's active transportation needs will be met.

Active Transportation Technical Report

- The terminology used in this technical report is not well explained or defined; please consider providing a Lexicon.

- We recommend providing more details on "green streets" and the value these offer towards a more sustainable future.

- Page 56 – Safety: The current safety goal (reduce traffic fatalities for all modes by three percent and serious injuries by 1.5 percent by 2050) is extremely conservative relative to the widespread adoption of "Vision Zero" at many federal, state and local agencies to reduce fatalities and serious injuries to zero.

- Page 59 - Pedestrian Infrastructure: Consider adding "reducing driveway conflicts" as part of Strategy 1 or 3 to reduce potential conflicts between pedestrians and drivers.

- Page 59 - Local Bikeway Infrastructure: Specify the types of "low-stress protected bikeway networks" facilities described in Strategy 1 that are preferred (e.g., Class I, II, III, or IV)

- Page 60 - First-Last Mile Infrastructure / SRTS Infrastructure: All policies should include an equity strategy to ensure future investments are going towards improving previously disinvested communities to increase safety for vulnerable road users.

- Page 64 - Safety Strategies: Consider historically disproportionate impact that increased enforcement/ policing has had on low-income communities of color in Safety Strategy 3 and

Strategy 7. Enforcement should be tempered with appropriate, ongoing public engagement to avoid potential alienation and discrimination in these communities.

Caltrans District 7 – Division of Design

- The plan "sounds good" and at the same time very unrealistic.
- Assume reduction in car usages and VMTs, mainly thru "Transit Integration". While in the past 10 to 12 years Transit Ridership has been decreasing in the region and nationwide.
- The use of this Plan/Strategy's numbers will hide/lessen the impacts of Goods Movements mobility projects, Tolling Lanes with assumed future Demand, etc., and boasts the assumed benefits identified below (Region's assumptions). See Regions unsupported/overestimated assumptions below (pushed as future "facts".)
    - SCAG's region projected 19%, or 3.7 Million population increase in the Region over the next 25 years. This projection is likely to be low, if California's economy maintains its strength.
    - According LA based Beacon Economics in the next 30 years, LA County would increase by 3.5 million and Riverside County will increase ~ 3.2 million.
    - https://www.reuters.com/article/us-california-population/californias-population-to-hit-60-million-by-2050-idUSN0930091220070709
- MODE SHIFT: The assumptions are based to a large degree upon the extent to which major mode shifts within the region can be accomplished. No reasonable and/or quantifiable data provided on that insures these shifts are highly probable to materialize, especially as transit ridership has been steadily declining in the past 12 years nationwide and throughout Southern California. With Technology leaps, driverless car sharing options are likely to lead to increases in vehicle miles traveled (VMT).
- The same with all past Plans, this Mobility Plan promises to "fix" the current challenges… With No Accountability, only to repeat in the next one while consuming Billions of tax dollars, which is very good for the economy.
- HIGH OCCUPANCY VEHICLE (HOV) AND TOLLING LANES: It is crucial to transparently address Inequity issues (Title VI, etc.), address the true Corridors' mobilities prior to regional policies to increase the number of persons needed to ride for free in Tolling lanes. Need comprehensive and transparent impacts assessment on traffic congestion and on people impacted by these changes. Currently designed Tolling "Express" Lanes policy papers is skewed towards Tolling ("drives" the operational assessment). The operations should be based on, at a minimum, evaluating all freeway lanes together (included tolling). To be transparent, the operational analysis should address the Corridor (to include parallel arterials/local streets impacts).

A recent example from Metro's I-105, EA 314500 PAED docs., Convert HOV lane and add a lane (for a 2-Tolling Lanes): The 2016 SCAG RTP/Sustainable Communities Strategy (scenarios include: Transit Integration, Livable Corridors, "Neighborhood Mobility Area" - walking/bicycling, Bike and car sharing, etc.). The Travel Demand Model year (2047) shows 17.2 % trip reduction (traffic #s lower than current counts). Metro/" PDT" said this was not a realistic forecast and implemented a strategy that translates into higher vehicle on the I-105 GP and Tolling lanes). Metro selected to use year (2027) TDM projections/congested #s, project opening year, and held these #s constant thru year (2047)! This Strategy justifies implementing the Tolling Project. At the same time to reduce the schedule and cost, it was argued that the Fwy Traffic Noise impacts would be much lower with reduced traffic demand, therefore no need to construct sound walls.

Caltrans District 8

Thank you for the opportunity to review Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. We found the overall document to be generally well written, visually interesting to read and provided the results and finding on an array of regional planning issues from a lot of work that clearly took years of sustained, focused, directed effort.

It is our understanding that the United States currently faces a housing shortage in excess of some 7 million dwelling units. Of that 7 million+ dwelling unit shortage some 3.5 million units of the shortfall exists here in California. Beyond homelessness and increased use of limited existing square footage in our existing housing supply, the unprecedented housing shortage has created a range of social equity issues (lack of personal financial independence, homeownership etc.).

Since some 73 percent of Californians live in Southern California, the housing shortage is an extremely important issue with a range of impacts on the transportation system. The 2012 RHNA indicate a need for 412,000 new housing units. The 2018 RHNA indicates a need for some 1,340,000 million new housing units in Southern California. The draft Connect SOCAL document doesn't seem to indicate what the extent of this worsening crisis is here in Southern California.

As noted in the summary of Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the current severe housing shortage creates jobs/ housing balance issues and the need for longer commutes and increased congestion on the overall transportation system.

On Pages 48-56 under the heading Sustainable Communities Strategies and Housing Supportive Infrastructure Connect SOCAL discusses sustainable development practices such as Center Focused Placemaking, Priority Growth Areas, Job Centers Transit Priority Areas, High Quality Transit Areas and Neighborhood Mobility Areas and discusses the housing crisis

but provides little indication that the types of desired development listed above is happening on a large scale in the region.

Page 49 included a short list of ways Diverse Housing Choices could be encouraged. We commented in bold below on these strategies and recommended additional strategies related to housing and transportation caused by longer commutes and increased congestion caused by new housing.

1) Preserve and rehabilitate housing and prevent displacement. **Wouldn't preservation/rehabilitation occur due to supply and demand? Is displacement good if higher density is proposed?**
2) Identify opportunities for new workforce and affordable housing development. **Not really clear what this means? Do you mean Affordable housing for new members of the workforce?**
3) Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. **Would this be expected to create hundreds of thousands of new units.**
4) Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions. **List ways to do this.**

Suggest policy support and reworking the Diverse Housing Choices section of the plan to include support of ideas like the following:

Support and reference The Ahwahnee Principles. https://www.lgc.org/who-we-are/ahwahnee/principles/
Support long lasting smart mobility decisions that improve the environment, create a vibrant economy and build communities not sprawl.
Support redevelopment of high density residential along transit served corridors.
Support having new housing be originally built with an accessory dwelling unit.
Support an overall trend to reduce of lot size minimums in the region by 20%.
Support the concept of building to the maximum density allowed in a residential zoning district rather to the minimum density.
Support a policy that wherever possible in all new specific plans placement of high density housing residential shall occur near planned schools, employment and retail areas.
Support a regional mode shift to walking and bicycling https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf
Support the provision of designated areas for employment (beyond a few retail commercial and school sites) in all new specific plans.
Support the provision of connected street grid system by limiting cul-de-sac length to no more than 250 feet.
Support minimizing the size of a block, through the use of a block size maximum of 1,600 feet.
Support bike and pedestrian through block connectivity through subdivisions by providing one such connection every 600 feet.

Support allowing 100 percent housing on vacant or abandoned property zoned for commercial retail use to help the viability of existing commercial uses (25 solutions article below).
Support local jurisdictions efforts to provide a temporary 30% reduction on all residential impact fees for (3 -5 years) to encourage housing production.
Support housing policy that provides net zero energy use that would build on the 1 million solar homes California has with a goal of greatly increasing this total (roughly 12.5 million dwelling units exist with a need for 3.5 million more dwelling units)
Support allowing a reduction in setback standards to Uniform Building Code minimums on side yards and limit front and rear yard setbacks to no more than 10 feet.
Support the elimination for any required covered off street parking to support development of more housing units.
Support development of high density housing in unused portions of commercial shopping centers/office etc. parking lot areas.
Support allowing a reduction in local public street width standards and/or to allow reduced width private streets to encourage infill development.
Support increasing residential building height standards in residential zoning districts to allow greater building square footage.
Support any regional efforts to develop the missing middle housing of the past few decades.
https://missingmiddlehousing.com/

In the Measuring our Progress portion of Connect SOCAL Pages 118-147 it seems reasonable to assume that much of the "progress" in congestion relief and other areas has to do with 91,000 people per year leaving the SCAG region due to the high cost of housing and other reasons since 2014 as noted on Page 16 of Connect SOCAL discussion on mega trends. Is this real progress or an abandonment trend that needs to be reversed?

https://www.worldpropertyjournal.com/real-estate-news/united-states/washington-dc-real-estate-news/up-for-growth-national-coalition-econorthwest-holland-government-affairs-housing-underproduction-in-the-us-2018-housing-shortage-data-10842.php

https://www.curbed.com/2019/5/15/18617763/affordable-housing-policy-rent-real-estate-apartment

https://ucreconomicforecast.org/wp-content/uploads/2019/04/SCAG_Housing_White_Paper_Digital_4_11_2019_Revise.pdf

https://urbanize.la/post/25-solutions-builder%E2%80%99s-perspective-fix-california-housing-crisis

Caltrans District 11

Draft Connect SoCal

- Truck Parking/Truck driver shortage: Please address and include truck parking needs in the SCAG region. In addition, the shortage of truck drivers is commonly cited as the number one problem in the trucking industry.

- Freight Projects List: Please include transportation projects that have been identified in the *2014 California-Baja California Border Master Plan* and the *Draft 2020 California Freight Mobility Plan*. Examples of projects that are missing in the Goods Movement Project List are: Forrester Road, Commercial Vehicle Inspection Facility modernization project at Calexico East Port of Entry (POE), bridge and highway realignment to Andrade POE, widen State Route 98 (SR-98) between Dogwood Road and V.V. Williams Ave., widen SR-98 between Ollie Ave. and Rockwood Dr., widen Menvielle Road to four lanes from Carr Road to SR-98, implement Border Wait Times System, and modernize existing truck parking/staging areas for near-zero to zero emission infrastructure truck shore power.

- National Freight Highway Network (NFHN): Please include and identify routes that have been designated as Critical Urban Freight Corridors and Critical Rural Freight Corridors. These are public roads in urbanized and rural areas which provide access and connection to the Primary Highway Freight System and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

- California Sustainable Freight Action Plan (CSFAP): Please describe how the RTP supports the goals and vision of the CSFAP. This State plan provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. Please include the Advanced Technology Corridors at Border POEs CSFAP pilot project as part of the RTP Goods Movement Environmental Conditions and Technology Advancement Strategies.

- Agriculture and Mining: Little is discussed regarding needs and availability of producing agricultural and mining (e.g., aggregate) commodities among border or rural areas of the region (Imperial and Coachella Valleys, Ventura, etc.). Safety, maintenance and asset management (e.g., State Highway Operation and Protection Program [SHOPP]) needs could be mentioned on lower-volume/seasonal routes impacted by heavy machinery movements/emissions.

Technical Reports

- Highways and Arterials Technical Report Page 8 references SB1 in the context of performance measures and Page 14 mentions the Proposition 1B Corridor Mobility Improvement Account (CMIA) requirements for Corridor System Management Plans (CSMP) and components of those documents. SB1s requirement of corridor plans is not addressed nor are the competitive programs such as Solutions for Congested Corridors

Program (SCCP), Trade Corridor Enhancement Program (TCEP) and Local Partnerships. Although not Impactful for the California Environmental Quality Act (CEQA), the discussion is important for future funding opportunities and possible planning efforts.

- Page 10, Transportation Safety & Security: Table 3 - Is Fatality and Injury prediction table approved by Caltrans?
- Table 1 – FTIP Projects – FTIP ID Number IMP140804: Route should be "8", not "999".
- Table 2 – Project Number IMP0042A: The Demo funds identified for this project have been repurposed to a different phase for SR98. As such, this project should be removed.
- Additional project: Please add: SR186 All American Canal Bridge – Replace bridge to accommodate two vehicle lanes, shoulders and pedestrian/bicyclist facilities. Cost $40M; Construction Year 2027.
- Transit: There are no comments related to any specific projects; however, the District would like to recommend that consideration be given to include bicycle and pedestrian facility connections and protection by enhancing visibility of bicyclists and pedestrians as well as to provide wayfinding signage to guide the active transportation population to facilities to help them complete their trip.

Caltrans District 12

Draft Connect SoCal

- The Draft Connect SoCal Plan provides long term guidelines and strategies for the SCAG region. These guidelines and strategies should align with State goals as laid out in State planning documents such as the California Transportation Plan (CTP), California State Rail Plan, California Freight Mobility Plan (CFMP), California Aviation System Plan (CASP), and State Bicycle and Pedestrian Plan. As stated in our previous comment letter during the Notice of Preparation (NOP) process, dated February 22, 2019, we encourage the incorporation of State planning documents to align the 2020-2045 RTP/SCS with State goals.
- The SCAG region has many highly urbanized areas that have increasing traffic demand due to population growth and economic development and have limited available Right-of-Way (ROW) for transportation purposes. To enhance the operability of current facilities, strategies such as Managed Lanes would provide efficient usage of current capacity, improve travel times, reduce vehicle miles traveled (VMT), provide alternative means of transportation and may provide revenue for other transportation improvements. These strategies are consistent with state, regional and local goals and objectives. As stated in comment 10 of our previous comment letter, the Department requests SCAG review and incorporate the Orange County Managed Lanes Feasibility Study (MLFS) and the Orange

County Managed Lanes Network Study (MLNS) in the 2020-2045 RTP/SCS. The recommendations from these studies have not been included in the 2020-2045 RTP/SCS. These studies and the proposed projects, including District 12's I-5 Managed Lanes Project, reflect SCAG's Goals and Guiding Principles found on pages 9 and 10 by placing a high priority on improving mobility and reliability. The Department requests that District 12's I-5 Managed Lanes Project, for the project approval and environmental document (PA/ED) component, be included in the final 2020-2045 RTP/SCS and also amended to the 2019 FTIP, per our October 2019 request to Orange County Transportation Authority (OCTA).

- Climate change impacts have become a major concern for planning agencies at all levels. As required by California Senate Bill 379, many regional and local planning agencies have started developing plans to address climate change issues. While the 2020-2045 RTP/SCS includes climate change considerations in multiple sections of the document, it should incorporate climate change plans from other agencies into the document. Further clarification should also be provided to establish which plans supersede. As requested in our previous comment letter, please review the Vulnerability Assessment for Orange County and coordinate with Caltrans for future implementation.

- Caltrans District 12 appreciates the robust and thorough discussion in the RTP's Active Transportation Technical Report and supports SCAG's efforts in encouraging Complete Streets. This technical report aligns with Caltrans' goals and objectives. Complete Streets infrastructure benefits all roadway users and promotes mobility, equity, accessibility and regional connectivity, all while decreasing congestion and improving air quality.

Active Transportation Technical Report

The following areas of the Active Transportation technical report that accompany the 2020-2045 RTP/SCS require consideration for revision:

- Page 3, first paragraph: under Section "Defining Active Transportation", add walking as part of the examples.

- Page 3, paragraph eight: consider making a distinction between traditional active transportation modes and micro-mobility modes.

- Page 5, Table 1 second row, second column: consider adding increased connectivity as part of the impacts.

- Page 7, paragraph eight: under Regional Significance consider discussing ADA-friendly infrastructure in one of the subsections. Active Transportation infrastructure also benefits ADA-reliant users by increasing these users' mobility and accessibility.

- Page 19, paragraph 4: verify the list of cities that currently have bike share programs. Some of the cities listed may no longer have these programs available. For example, the cities of

Bellflower and Paramount had a partnership with dockless bikeshare company Ofo in 2017. However, Ofo has since backed out of the United States market.

- Page 79 and 85, Bicycle Master Plans, and Pedestrian Master Plans: the City of Irvine is currently developing an Active Transportation Plan and the City of Santa Ana has recently finalized its Active Transportation Plan. Additionally, the Orange County Transportation Authority has bikeway studies on four sub-areas of Orange County--North, West/Central, South and Foothills.

- Page 98, second paragraph and page 99 Exhibit 13: clarify that the City's protected bike lane along Bristol Street is a class IV facility and incorporate it into Exhibit 13.

- Southern California ports are seeing increased demand as trade with the Pacific Region continues to grow. SCAG should continue to plan for increased truck traffic within the region. Additionally, consider a discussion of the lack of available safe, secure and accessible parking for long distance freight vehicles. Projected growth of truck traffic and the demand for truck parking will continue to outpace the supply of public and private parking facilities.

- Due to the high number of residential developments, related functions such as micro-transit and micro-freight, need to be analyzed. Optimizing curb space locations and micro-freight and micro-transit routes may reduce congestion, VMT, and wait times for users. Additional multi-modal transportation options such as bus rapid transit and parallel light rail provide alternative options for travelers.

- The Department supports SCAG's efforts to create an integrated transit payment system, discussed in the Shared Mobility and Mobility as a Service section. Please coordinate with Caltrans since we are currently developing a similar statewide program. These efforts may improve the accessibility and affordability of transit services which may result in reduced emissions, VMT and congestion.

- Consider incorporating discussion of policies of various agencies to promote existing and future Park and Ride lots that may increase carpooling, bicycling and transit use as options for commuters. This would reduce VMT and congestion.

- Due to ROW constraints on the State Highway System (SHS), implementing Intelligent Transportation Systems strategies, as discussed in the core vision of the 2020-2045 RTP/SCS, would allow for enhanced capabilities to protect transportation systems and shorten response times, enhancing operations of the SHS.

- Review of the Project List has highlighted the following inconsistencies:

  - Project FTIP ID – ORA000820 – SR 57 Truck Climbing has a total Cost of $164.2 million

  - Project FTIP ID – ORA131301 – SR 55 Add 1 Mixed Flow Lane from I-5 to SR 91 has a total Cost of $151.1 million

- Project FTIP ID – ORA131303 – SR 57 Orangewood to Katella has a total Cost of $70.6 million
- Project FTIP ID – ORA131304 – I-405 Add 1 Mixed Flow Lane from I-5 to SR 55 has a total Cost of $176 million

Attachment B

Caltrans District 7 – Environmental Planning

- Footnote 75: the hyperlink to the Induced Travel Calculator may need to be corrected by simply removing "on October 25" from the clickable hyperlink. The hyperlink currently includes the phrase "on October 25" when clicked.

- Page 3.17-8, Regional High-Occupancy Vehicle (HOV) System and Park and Ride System: please clarify if the HOV system described in this section includes the High Occupancy Toll (HOT) / express lanes. General information on the HOT lanes in the SCAG region (Los Angeles County in particular) and how HOT/Express and HOV lanes differ may be useful for this section.

- Wildlife Crossing: Besides the Liberty Canyon Wildlife Crossing that connects the Santa Monica Mountains to the open space of Simi Hills and Santa Susana Mountains, there is another opportunity for a different Wildlife Crossing at Conejo Grade around Camarillo and Thousand Oaks that needs to be looked at.

- SCAG, Metro, and Caltrans should fund projects that will improve culverts for wildlife usage, especially in the rural areas of Ventura County.

- There is also opportunity for wildlife crossings, connectivity, and corridor improvements on State Route 2 and Interstate 210 around La Cañada Flintridge, State Route 118, and State Route 126 around the Moorpark and Filmore area.

- Rocky Peak on State Route 118 needs fencing and habitat connectivity including corridor improvements for wildlife.

- Areas along Interstate 5 and State Route 14 at Sylmar, Granada Hills and north of Santa Clarita need open space to be connected (habitat connectivity) for wildlife movement.

- Access to public parks and open spaces need to be improved. Special buses at discount rate (to take people from inner-city to these parks) will be very helpful to inner-city parents and families since many inner-city neighborhoods are far from parks that have interesting resources.

- Besides light-rails and all proposed transportation projects, governmental agencies within Downtown Los Angeles and other large cities should consider alternative working hours and equip their staff to telecommute 3-4 times a month. This will improve lives and air quality.

- Cal-Fire should have fire continues education for areas in the cities that boarders open spaces. Training should be giving to volunteers and people who are willing to assist Fire

Officers and crew. We strongly encourage utility companies to place their utilities line underground (buried) in areas that are prone to wildfires.

- We believe some cities within SCAG's Region collects rainwater and run-off water. Since the average annual rainfall is between 12-22 inches, SCAG should encourage cities to capture rainwater, treat it and release it to our dry ravines.

END OF CALTRANS COMMENT LETTER

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
[redacted]
www.dot.ca.gov

Making Conservation a California Way of Life.

January 23, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California Department of Transportation (Caltrans) wishes to thank the Southern California Association of Governments (SCAG) for the opportunity to review and comment on the Draft Connect SoCal, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR).

Caltrans applauds SCAG's use of innovative techniques and methodologies in engaging constituents within its six-county jurisdiction through its "Bottom-Up Local Input and Envisioning Process". Building upon the previous 2016 RTP/SCS, the Draft Connect SoCal plan boldly implements sustainable planning strategies aimed to increase active transportation plans and products, increase ridership and use of various forms of transit, improve the infrastructure of goods movement, reduce congestion and Vehicle Miles Traveled (VMT), and create more diverse and affordable housing; while reducing greenhouse gases and advancing healthy communities amongst other transformative efforts.

The Draft Connect SoCal plan was distributed to Caltrans' Headquarters and Districts 7 (Los Angeles and Ventura Counties), 8 (San Bernardino and Riverside Counties), 11 (Imperial County), and 12 (Orange County). The offices within each District and Division were given the opportunity to review and comment on the Draft RTP/SCS and Draft PEIR documents according to the California Regional Transportation Plan Guidelines.

Connect SoCal's core vision coupled with its goals and guiding principles helps to further an interconnect region. Moreover, SCAG's commitment to strengthen previous investments in our multi-modal transportation system and with focused direction for future plan investments results in increasing the region's overall resiliency, prosperity and competitiveness.

Specific comments on the Draft RTP/SCS chapters and appendices are included in Attachment A and specific comments on the PEIR are included in Attachment B.

If you should have any questions in regard to the comments, please do not hesitate to contact [redacted]

Sincerely,

Paul Albert Marquez
Deputy District Director for Planning

cc: John Bulinski, D7
Ray Desselle, D8
Ann Fox, D11
Lan Zhou, D12
Marlon Flournoy, DOTP
Jacqueline Kars, ORP
Caleb Brock, ORP

Attachments

Attachment A

Caltrans Headquarters – Office of State Planning

- The introduction is clear and informative on the regulations that guide the RTP development process however, RTP's are also influenced by the policies leveraged by the State. Suggest including additional language on SB 391 (2009) which also requires the California Department of Transportation to prepare the California Transportation Plan (CTP), California's long-range transportation plan. Reference to the CTP would illustrate the interrelationship between regional and statewide transportation objectives – highlighting how major metropolitan areas, rural areas, and state agencies can coordinate planning efforts to achieve critical statewide goals. Consider the following:

  "To better coordinate with the State, Connect SoCal was developed to align with The California Transportation Plan (CTP). The CTP is a long-range statewide level transportation plan that combines regional transportation and land-use plans to produce a unified multimodal strategy to achieve our collective vision of a lasting and well-integrated transportation system that benefits both people and goods over the next 25 years."

- While the plan is visually appealing and easy to read, consider including discussion on other Caltrans modal plans where necessary. With regards to the transportation complexities that exist throughout the State, differentiating the statewide goals from local/regional needs helps emphasize the challenges associated with transportation targets set forth by the State. Doing so also highlights the strategies proposed within the Connect SoCal to address transportation shortfalls within the SCAG region.

Caltrans Headquarters – Aviation & Aeronautics

- Land use and zoning around airports is an important element to consider and guidance can be found in the California Airport Land Use Planning Handbook (Handbook). Land use compatibility with an adopted general plan is the responsibility of each Airport Land Use Commission (ALUC). Airport Land Use Compatibility Plans should be regularly updated and reference current general plans to prevent incompatible land uses that encroach upon or threaten airport operations. Airports enable the movement of people and goods. They allow a community access to the nation's air transportation system. Airports are a valuable community resource enabling public services, such as medical transport and law enforcement. Future uses may include freight and package delivery as the use of Unmanned Aerial Systems (UAS) develops.

- Traffic congestion is one of the leading issues in transportation planning. The emerging concept urban air mobility (UAM) is expected to provide a new solution by making use of the three-dimensional airspace to transport passengers and goods in urban areas. Airport Shuttle and Air Taxi markets are viable markets. We are aware of Uber announcing Los

Angeles as one of the first cities to offer Uber Air flights, with the goal of beginning demonstrator flights in 2020 and commercial operations in 2023. The City of Los Angeles is creating an aerial mobility network integrated with its other transportation systems and investments.

- UAM largely is dependent on vertical takeoff and landing (VTOL) operations in urban areas. UAM application is to build well-distributed infrastructures to support VTOL aircraft operations. Those infrastructures are heliports and vertiports (or sky ports), where VTOL aircrafts take off and land, onboard or disembark passengers, and get charged. The Federal Aviation Administration has Advisory Circular 150/5390-2C to provide guidance on permitting and siting heliports.

- Significant legal/regulatory, certification, permitting/licensing, infrastructure, and weather constraints exist for currently operating aircraft. Vertiport or heliport locations should be carefully reviewed with consideration of its impact on potential UAM demand, safety, environmental impacts, land uses, energy distribution and demand, and transportation system performance.

- Can SCAG's RTP/SCS draw from Air Cargo projections and congestion/demand management strategies to formulate planning for logistics impacts from the growing consumer demand for home deliveries?

Please note below the following Codes for implementation in the Aviation input into the SCAG Draft RTP and its Aviation Technical Appendix:

- PUBLIC UTILITIES CODE – PUC- - -
- DIVISION 9. AVIATION [21001 - 24451]
- (Division 9 added by Stats. 1953, Ch. 151)
- ARTICLE 3.5. Airport Land Use Commission [21670 - 21679.5]
- (Article 3.5 added by Stats. 1967, Ch. 852)

- SCAG also note: 21670.2.
- Sections 21670 and 21670.1 *[These are the sections that require ALUCs in any county with public-use airports—DOC]* do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal. http://planning.lacounty.gov/aluc

- And, to clarify, our Cal. Aviation System Plan (CASP) update is not for the 2016 Policy Element directly. We're following a required 5-year update cycle, but the Plan will embark on a new course without "elements;" instead aligning with CTP 2050 to assist inter-modal goals.

Caltrans Headquarters – Office of Regional Planning

The Office of Regional Planning (ORP) would like to commend SCAG for their vivid and creative approach to demonstrating SCAG's 20-year vision for the future.

Overall, the page references on the RTP Checklist included whole chapters and entire technical reports. We recommend that SCAG reference specific page numbers for each question on the RTP Checklist with their Final RTP submission.

Below are the following comments in reference to the RTP Checklist Contents:

General

- #2. The document identifies several strategies but does not delineate whether they are short-range and long-range strategies/actions (23 CFR 450.324(b)).

- #3. There is mention of the elements required throughout the report, but as a public document this checklist should reference more specific pages instead of whole chapters and technical reports. Also, the report doesn't have specific sections dedicated to each element i.e. policy, action, and financial (California Government Code Section 65080). These elements should be clearly defined and easily accessible by specific page numbers.

- #4(a). The referenced pages are missing the general location of uses and building intensities. (HQ referring to the page numbers that SCAG identified on the RTP Checklist. SCAG should ensure 4(a) of the RTP Checklist is fully addressed, specifically, the general location of uses and building intensities within the region).

- #4(b). There is a lot of information to decipher and it is not clear that SCAG identified areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth.

- #4(h). SCAG identified one map on page 23 of their SCS Technical Report (HQ is referring only to the SCS. It seems that SCAG labeled all of their appendices with "Technical Report," but the specific requirement in RTP Checklist 4(h) refers to the SCS requirement). This does not set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB.

- #7. The outdated RTP Checklist that SCAG provided did not include question 7. Please provide the appropriate page references with an updated checklist.

Consultation/Cooperation

- #3. It is difficult to clearly determine that SCAG consulted with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP (23 CFR 450.316(b)). Please identify the specific pages for reference.

- #4. Please ensure that the final plan includes reference that federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP (23 CFR 450.316(d)).

- #5. It is difficult to determine where the RTP specifies that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation were consulted (23 CFR 450.324(g)).

- #6. Please include specific page reference that the RTP includes a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources (23 CFR 450.324(g)(1&2)).

- #15. It is not clear that the RTP will be adopted on the estimated date provided in writing to State Department of Housing and Community Development to determine the Regional Housing Need Allocation and planning period (start and end date) and align the local government housing element planning period (start and end date) and housing element adoption due date 18 months from RTP adoption date (Government Code 65588(e)(5)).

Programming/Operations

- The outdated RTP Checklist that SCAG provided did not include a *Programming/Operations Section*. Please provide the appropriate page references for each question on the updated checklist.

Financial

- #4. It is difficult to determine which projects are regionally significant. Please ensure that all regionally significant projects are identified (Government Code 65080(4)(A)).

- #9. In the Transportation Finance Technical Report neither TCMs or SIP is mentioned. Please ensure that the final RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented (23 CFR part 450.324(f)(11)(vi)).

Caltrans Headquarters – Office of Freight Planning

Overall, much of the Plan, specifically the Goods Movement Technical Report, includes vague and broad statements that are either not supported directly by data, analysis, or supporting evidence, or are supported with indirect and loosely (at best) related data and analysis. When data is sourced, it is cited in a way that makes it impossible to fact-check it or replicate the analyses. The language is so broad and vague that the plan does not leave the reader with a

clear understanding of how the system works. For example, each goods movement mode is independently discussed within its section, and the plan is missing a section (discussion) that ties together and analyzes all the freight modes for a true multimodal freight system. The Plan's structure, styles, multicolor headings are confusing to read and difficult to identify the section relationships (e.g., main and subsections). We have listed main comments below.

Draft Connect SoCal

- Broad and a Vague Content with Limited Supporting Data and Analysis
- Page 74 through 82, A significant portion of the main body includes broad and sweeping claims with limited, if any supporting data and analysis.
- Page 81, Table 3.3, SCAG Region Airport Passenger Forecast for 2020–2045 (no citation)
- Significant portions of supporting data are either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with multiple data sources, one cannot determine what source is attached to the data.
- Provide professional citations. For example, see page 78, Truck Bottleneck Relief Strategy and Industrial Warehouse & Distribution Centers
- Missing Significant Freight Information
- Chapter 4 is missing a discussion of National Highway Freight Program funding and the Trade Corridor Enhancement Program.

Goods Movement Technical Report (GDPR)

The Goods Movement Technical Report contained very little technical information. We expected to find supporting data, analysis, and methodologies for planning the regional freight system. Instead, the information was only slightly more detailed than what we found within the main document. In fact, the GMTR included very little supporting evidence, and sources are not cited in a way that allowed the reader to fact-check or replicate the analysis.

- A section for Pipelines, a key and critical freight mode recognized by the U.S. Department of Transportation as well as the California Department of Transportation, is not included within this report. Include a Pipeline section with the other freight modal sections (e.g., Rail, Seaports, Airports, Highways)
- Significant portions of the main body and the GMTR include broad and sweeping claims with limited, if any supporting data and analysis. For example, there is no direct supporting data and evidence included in the e-commerce section. We see broad statements such as e-commerce has greatly increased, and that e-commerce has negatively impacted

neighborhoods. However, we did not see any direct supporting evidence. We expected to see the number of increased trips related to e-commerce, but instead, we saw an increase in the dollars spent. This data does not support that there are more trips, as customers may be buying more expensive items or more items that are delivered on the same trip. Also, all forms of e-commerce a lump together. For example, Amazon purchases that are ordered online and delivered directly to the customer are combined with purchases that are ordered online at places like Target, Walmart, and Best Buy, where the customer can choose to pick up their purchase at the store. The store pick-up purchases are similar to the Sears Catalog (started in 1893) when customers ordered out of a catalog via the mail and picked up their purchases at Sears. We recommend separating the different types of "e-commerce" and addressing them individually.

- Page 5, First Paragraph: Define goods movement dependent jobs and provide examples for the industries

- Page 5, First Paragraph, "Jobs in goods movement dependent industries are generally well-paying, with annual average compensation in the construction, manufacturing, and wholesale trade sectors outpacing the average annual compensation for all regional industry sectors.": Support with specific data (not just averages) so that we can see the range in pay to the job. Using averages can greatly skew the results (e.g., low wage jobs offset by CEO salaries). Also, support with more data, including data sources (including reports, data tables) so that the analysis can be replicated.

- Page 6, Maintaining the Long-term Economic Completeness of the Region: Either provide useful information, data, and analysis or delete this section.

- Page 6, Promoting Local and Regional Job Creation and Retention: Provide supporting evidence and data. Provide the specific number of jobs that are created by the ports as well as the number of regional jobs created by "international trade activities." Define International trade activities. Also, link the infrastructure to the economy.

- Page 17, Distribution Centers, Warehousing and Transloading Facilities: This section includes unsupported statements and claims. Include supporting evidence and data, and professionally source and cite the data.

- Page 17, Consumer Base, "This growth in residents and income is expected to drive consumer spending and demand for goods, increasing pressure on the regional transportation network.": Support with evidence and data, and professionally cite the data source(s).

- Page 26, Highlight Area, Trade in the SCAG Region, First Paragraph: Define "current Administration" by giving its name. Also, is it regional, state, or federal?

- Most of the supporting data is either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with

multiple data sources, there is no way to determine what source is attached to the data. Provide professional citations. For example, when using the US Census data, include the Program (American Factfinder), the table (e.g., DP05), and the date(s) or when using the US DOT data, include the Program (FHWA), the report, table, website, and the date(s). This is important so that a reader can fact-check the data and replicate the analysis. Without this critical information, the reader must question the validity of the data and analysis. Examples include but are not limited to:

- Page 4, Table 1
- Page 7, Improving the Safety of Goods Moment Activities and Highlight Area: regional Goods Movement Workforce Development
- Page 14 Exhibit 3
- Page 15, Table 2, footnote 6, 7, and 8
- Page 16, Figure 1, Airports, International Land Ports-of Entrée
- Page 17 Distribution Centers, Warehousing and Transloading Facilities, and footnotes 10 and 11
- Pages 18 and 19, Highlight Area, Seaports and Regional Trade Flows, Figure 2, and footnote 13
- Pages 2020 to 34, Figure 3 to Figure 19, Footnotes 14, 17,18, 19, 20, 21, 2223, 25,26, 30 (FAF Version?), 31,32,33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47,48

Miscellaneous Comments

- Page 3, What is Goods Movement? A pipeline, a key freight mode is missing from this section.

- Page 3, Broad Economic Benefits: As currently written, this section is not understandable. Consider rewriting this section to include a clear introduction, thesis statement, body paragraphs, a restatement of the thesis, and a conclusion.

- Page 3, Broad Economic Benefits - First Paragraph: Who uses "performance" as a proxy: Without a subject, the relevance of this statement is unclear. What is the difference between the performance of the logistics industry and the contributions of the five major industries? Why does SCAG consider contributions of the "five major industry sectors..." more closely associated? Why were the agriculture and service industries (e.g., repairpersons) not included?

- Page 3, Broad Economic Benefits, Second Paragraph: Clearly link this discussion within this paragraph to the introduction above. As it is currently written, it is unclear how the GRP/GDP are connected (or not) with the five major industrial sectors. Also, what is "this economic impact"? Define "this economic impact."

- Page 3, Broad Economic Benefits, Third Paragraph: Clearly link this discussion within this paragraph to the first, introduction paragraph. Are the "good movement dependent

industries" the same as the "five major industry sectors"? If not, how are they different. What is the difference between a sector and an industry? A layperson and technical expert should be able to read this and understand. As this is currently written, neither can.

- Page 4, Table 1- Change in Average Annual Pay for Goods Movement Dependent Industries in the SCAG Region 2012-2016: The introduction sectors reference five sectors; this table includes seven sectors. Why?

- Page 5, First Paragraph: Define freight dependent jobs.

- Page 5, Regional Global Profile: Consider renaming this section the United States Global Profile as the narrative references the U.S. and not the SCAG region. Also, absent from this section is a discussion regarding the impacts of California's climate policies on So Ca Port's competitiveness with other U.S. and international ports.

- Page 5, Regional Global Profile - Second Paragraph: Consider rewriting this paragraph because it is confusing.

- Page 6, First Paragraph: Identity who expects them to grow and by how much? Support this statement with evidence.

- Page 6, Second Paragraph: Replace "recent" with a specific date and identify the specific shift(s) (e.g., percentages) and policies as well as the specific impacts of those shifts. It is not unusual for the federal reserve to adjust, so it is important that this statement is supported with evidence and a citation.

- Page 6, Goods Movement Vision: This vision is focused on freight movement; however, it should also focus on servicing the people (e.g., brings food and clothing to the people in the region). By focusing on throughput and other technical details, the basic needs that freight movement provides for are overlooked. It is helpful to plan for freight movement using a lens of what the region would look like without freight accessibility.

- Page 7, Increasing Freight and Passenger Mobility: Populate this section with useful information like specific strategies for improving goods movement and how the region is going to double rail volumes. Also, include the current freight performance by mode (or reference to a different section that contains that information) and what needs to be done to maintain that performance into the future.

- Page 7, Improving the Safety of Goods Movement Activities: Are there currently issues, if so, what are they?

- Page 7, Mitigating Environmental Impacts of Goods Movement Operations: Explain why and provide cited data, analysis, and evidence supporting this claim.

- Page 7, Highlight Area: Regional Goods Movement Workforce Development, Second Paragraph, First Sentence: "Currently, the U.S. is nearing, or at, full employment": Provide properly cited data supporting this claim. Also, link this to the SCAG region.

- Page 9, First Paragraph: Define "dead-end-jobs."

- Page 9, Seaports First Paragraph: Footnote 2: The WSC is a group. Please include a specific source (interview, report) that is properly cited so that readers can find the documentation of this statement.

- Page 9, Seaports, "percent of all containers in the U.S. moving through the San Pedro Bay Ports.3 Despite some recent modest shifts in container volumes to other U.S., Canadian and Mexican ports, the total container volume for the San Pedro Bay Ports is still expected to grow to over 34 million by 2045, a 120 percent ...": How was this analysis performed. What is the data source (including citation)? Model type, name, version?

- Page 9, Seaports, "35 percent of the San Pedro Bay Ports' total import-related traffic. The other 65 percent is assumed...": Did this data also come from footnote 3? If not, source the data, and provide a professional citation.

- Page 9, Seaports, Third Paragraph – "deconsolidation of the contents": Define for laypersons.

- Page 9, Seaports, Third Paragraph – "Transloading allows for the movement of increased amounts of goods while...": This statement may or may not be correct. For example, it may be that the region has gotten to the point that the transportation system is so congested that there is no capacity to support any more trips (freight or other) regardless of container. So, provide data, analysis, and supporting evidence for this claim as it relates to the current and future SCAG freight system.

- Page 10, Railroads, First Paragraph, First Sentence, "Critical to the growth": Demonstrate how BNSF and UP are critical to SCAG's growth. For example, what functions to they play in SCAG's economy? Support with professionally cited data and evidence.

- Page 12, Second Paragraph: Who reduced the number of times freight itself (?) was handled, how was the freight handled, and what is the base year for the speed, efficiency, damage, and security. What year was the performance assessment developed that measured these items and identified that the efficiency and speed increased, the damage was reduced, and security became greater? Was the same base year and performance year used for all six intermodal terminals? Did all terminals follow the same methodology and use the same data? Support with professionally cited data and analysis.

- Page 12, "In addition to these intermodal terminals, there are railyards that serve carload traffic of various types. UP has a large carload freight classification yard at West Colton (at

the east end.": Does this section capture all the rail yards that serve carload traffic of various types?

- Page 15, Airports, First Paragraph: It appears that multiple data sources and perhaps years were used to produce the number included in this section. With this said, there is a real concern that the analysis is comparing "apples with oranges" or that selective data was used.

- Page 16, Figure 1 Air Cargo Tonnage through SCAG Regional Airports 2000- 2018: It appears that this table was constructed based on a mix of data and analysis that is not consistent. I suspect that this is a comparison of apples and oranges. See my comments regarding the data sources.

- Page 17, Supply Chains and the SCAG Region: Consider rewriting this section so that a layperson can understand. For example, what are product demand forecasting and production planning?

Caltrans District 7 – Freight Planning

Goods Movement Technical Report

- Last mile Delivery—page 2. METRO sponsored a conference in this regard, and it was also a focus in conjunction with INUF Conference in 2019. A more extensive discussion was expected. Additionally, no discussion provided on "First mile."

- Page 16 of 32—Exhibit 3:

    - The "SR-206" shield should be Interstate 215. (same comment on exhibit 6 on page 52 of 132)
    - The "SR-30" shield should be SR-210.
    - The "I-210" shield that is shown to the right of the juncture of SR-57 and 210 should be SR-210 (Interstate 210 becomes SR-210 at the junction with SR-57.
    - Recommend the "county lines" are shown in different color as they are very similar to the highways not identified as part of the "Primary Highway Freight System."
    - What year is the USDOT source?
    - NOTE: To the extent above information occurs in other exhibits, this should be considered a global comment.

- East-West Corridor—page 51. There is no "project scope" information, and no reference to any project(s) in the list of projects.

- Appendix 1 of 1—page 123. Although multiple footnotes are from 2019, the discussion provided does not seem to include the most current information related to POLA (and possibly POLB) in this regard.

Caltrans District 7 – System Planning

- Page 34 - Exhibit 2.5 – There are lots of gradients in the LA/OC region; suggest doing a zoom box to show the land use breakdown in better detail.
- Page 40 - Figure 2.5/2.6 (and other graphs throughout) - Color choices for poor and good are very similar, which makes it hard to read tables quickly.
- Page 59: *Core Vision – Paragraph 1*: Fix-It First is commonly associated with the SHOPP program; suggest mentioning it here.
- *Planning for 2045* – typos in Line 1
- Page 69 - Active Transportation - "Walking and bicycling are accessible forms of transportation for people of all ages, abilities and socioeconomic backgrounds." This is not technically for certain abilities. Line could be read as exclusionary.
- Page 77 – Express Lanes Table Line 3 - Los Angeles – I-405 – Add I-*105* Express Lane (Should be add I-*405* Express Lane?)
- Page 163 – Measure R – Measure R has no sunset as of Measure M's approval.

Caltrans District 7 – Forecasting and Modeling

Draft Connect SoCal

- The goal of maintaining and rehabilitating the existing system is a laudable goal. The goal, according to SB-1, is to have 98% of the state highway system in each county operating at *Good* or *Better* condition by 2045. Table 1 on page 9 gives 47.9% of the statewide interstate highway system operating at *Good* in 2017. The only data in the report on pavement condition suggests a 3.4% drop over 2017-2022. How does the region intend to achieve the statewide level of performance when the current trend is downward?

Transit Technical Report

- Over the past 30 years, the SCAG region has made an unprecedented investment in transit infrastructure. Between 2007 and 2017, however, transit ridership has gone down by 19%. The projected goal of 1.6 billion transit trips in 2045, reflecting a 245% increase in transit ridership since 2015, seems rosy.

- A common perception that transit is for the underclass seems to be an element here, but it isn't addressed.

- Calling for diligence against encroaching gentrification and good intentions regarding economic and environmental equity do not seem to have been enough so far to establish housing opportunities for all income levels. Relying upon the market forces that generated the current inequities to somehow solve them seems unrealistic. Markets prefer building housing for the higher income.

- There is a claim that you will get there from here, but the battle to provide affordable housing in Southern California is being lost, as witnessed by the tented encampments throughout the region, as well as the collapse every 20 years or so of the housing markets in the Antelope Valley, Inland Empire and the Victor Valley during recessions.

- The details on the 2020 RTP/SCS Travel demand modeling efforts in this report are scant. On page 2 of the Transportation Modeling conformity appendix, reference to the model as an Activity Based Model, and mentions that it has met federal requirements, and has been through a peer review process, but there aren't other details to assess the modeling efforts.

- Express Lanes are an important component of SCAG's planning for the highway system. The 2016 RTP assumes very high participation of 3+ Person Carpools on the Express Lane System. Those values are not realistic and give inaccurate estimates of future express lane person throughput, revenues generated and so forth. What are the values being generated in the SCAG 2020 RTP/SCS assignment model?

- The configuration of the No Build Highway Network mostly includes projects that I expected to see. The major changes seem to lay in the land use/transportation system interface which is the appropriate, but don't appear substantive enough to generate the massive behavioral changes envisioned.

- The report notes only one very general impediment to telecommuting. Specifically, it notes that some jobs are simply not amenable to telecommuting. That is true enough, but it reflects almost no examination of any specific impediments to telecommuting, nor how to overcome them. Questions of exercising oversight, handling liability issues are not addressed let alone resolved. No reference to specific financial, legal or social impediments to expanded telecommuting is mentioned. Yet, SCAG expects 9.5% of Home-Work trips to be eliminated through telecommuting.

Caltrans District 7 – LD-IGR/ Mass Transit

- Add an Executive Summary (that's a few pages longer than the summary on page 5)

- In light of SB 743, it seems the following percentages should be reversed:
-
  - 22.8% Decrease in time spent in traffic delay per capita
  - 4.2% Decrease in daily miles driven per capita

Caltrans District 7 – Regional Planning

Draft Connect SoCal

- Page 2, under 'Our Plan'; in this section, commend SCAG for acknowledging the continuous partnership with the State (Department of Transportation) in advocating for implementation and funding for California's Active Transportation Program, resulting in the passage of Senate Bill 1.

- Page 2, SCAG identifies the region's multi-family shares declining from their peak in 2015. However, figure 2.4 illustrates 2017 as the peak year.

- Page 32, 'Present & Future Challenges', this section identifies Technical Reports for Connect SoCal. This section should include a weblink to the Technical Reports for reference purposes.

- Page 8, under 'What is Connect SoCal; in this section, the first paragraph discusses the Plan charting a path toward a more mobile sustainable and prosperous region. This section should include a visual graphic illustrating the connection between the key components.

- Page 20, SCAG identifies the two counties with the largest population growth (Riverside & Los Angeles), however this section should include the population growth throughout the SCAG region, including and identifying counties with disadvantage communities.

- Page 32, under 'Present and Future Challenges'; This section should include a weblink to the Technical Reports so interested parties can more easily see *how* the highlighted issues mentioned below are directly addressed by this plan.

- Page 32-33, under 'Affordable Housing'; This section brings up hurdles such as land use zoning that can make the development process expensive. Perhaps it would be beneficial to include some brief verbiage about how our region's zoning policies generally compare to other areas.

- Page 37, under 'Transportation Safety'; In the last sentence, it does not seem relevant or noteworthy to mention that lower speed crashes translate to a higher pedestrian survival rate. Instead, the plan should elaborate on how we can plan our transportation system in a way that encourages safe speeds since it has established that 30% of collisions result in unsafe speeds.

- Page 38, this section identifies the historic catastrophic events data, however this section should include the effects of the catastrophic events as they corollate to transportation security.

- Page 41, the paragraph regarding funding transportation would have been enhanced by having a graphic showing the existing gap between cost of transportation and available dollars.

- Page 47, this section addresses trends and emerging challenges which must be done to reduce greenhouse gas and meet target goals. Commend SCAG for incorporating this segment as part of Connect SoCal to address additional alternative approaches to address regional challenges.

- Page 66, Table 3.1; Where can interested parties find more information on the listed Transit Capital Projects?

- Page 74, this section identifies the Project List Technical Report of financially constrained and unconstrained lists of projects. This section should include a weblink to the Project List Technical Reports for accessible reference purposes.

- Page 128, under 'VMT Per Capita'; Should verbiage be added to explain why the State is shifting towards VMT as opposed to Level of Service (LOS)? It could tie in with the promotion of in-fill development, multi-modal transportation options, etc.

- Page 150, Commend SCAG for identifying a framework to continue regional partnerships. Together the efforts will address regional challenges and an attempt to meet goals that deem unpredictable.

- SCAG is applauded for explaining Connect SOCAL concept and its connection to the RTP and its long-range goals. SCAG also noted that cities and counties adopting the spirit of the RTP into planning measures for their areas could help their eligibility for future funding grants.

- SCAG did a great job on discussion of the myriad of components that makeup an RTP.

- Suggest making the Environmental Justice/ Public Health Technical Report maps available as interactive maps for the public to view impacts in their communities as well as for comparative analysis.

- We applaud SCAG for considering the importance of an aging population (65+) in the Plan; 1 out of 5 residents in the SCAG region will make up this demographic (Page 17, Connect SoCal Draft). They are more susceptible to impacts in the focus areas listed in the Public Health Technical Report than is the general population.

- Suggest more transparency, inclusion of sources, and studies concerning metrics such as those used to forecast "growth" regarding the job-housing balance (Page 45, EJ Technical Report) and "best practices" for time-based shopping and job accessibility (Page 58, EJ Technical Report).

Technical Reports (General)

- Passenger Rail: How does the Passenger Rail Report integrate CTP 2040 and the California State Rail Plan 2018 with regards to goals, policies and strategies?

- Transit: How does the Transit Technical Report integrate CTP 2040 and the Caltrans 2017 Statewide Transit Strategic Plan with regards to goals, policies, strategies and recommendations?

- Goods Movement: How does the Goods Movement Technical Report integrate CTP 2040 and the California Freight Mobility Plan with regards to goals, policies, strategies and recommendations?

- Aviation and Airport Ground Access: How does the Aviation and Airport Ground Access Technical Report integrate CTP 2040 and the California Aviation System Plan Policy Element 2016 with regards to goals, policies, strategies and recommendations?

- Active Transportation: Caltrans applauds SCAG on its robust and comprehensive commitment to Active Transportation. Caltrans praises SCAG for its many referencing of State of California and Caltrans documents relating to active transportation. Excellent sourcing and listing of CTP 2040, California Bicycle and Pedestrian Plan, various Caltrans District Level Active Transportation Plans, Caltrans State Highway Safety Plan, Caltrans Complete Streets Element Toolbox Guidebook, etc.

- Highways and Arterials: How does the Highways and Arterials Technical Report integrate CTP 2040 and the 2015 Interregional Transportation Strategic Plan and its programmed projects in the Interregional Transportation Improvement Program (ITIP) with regards to purpose, policies and considerations?

Performance Measures Technical Report

- Page 30, The report states that Environmental Quality is measured in terms of criteria air pollutant and GHG emissions. The EPA sets NAAQS for six common criteria pollutants, however only four (transportation related) pollutants are monitored in the SCAG region. What percentage of the overall criteria air pollutants do the other two pollutants contribute?

- In addition to criteria pollutants, the EPA identifies 9 priority air toxic compounds with mobile sources known as Mobile Source Air Toxins (MSAT). The nine priority compounds are: 1,3 – butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM) which have the potential

for adverse health effects. The Performance Measures technical report has no mention of these mobile source air toxins. They should be monitored and strategies for reduction of MSAT be implemented.

- Non-SOV mode share is included in the Environmental Quality outcome category. Would be helpful to have figures that show percent of people who have switched to this method of transport and projections for future conversions to this method and its overall impact on emissions.

- Emissions are estimated using results of the SCAG RTDM which are then inputted to the California Air resources Board (ARB) Emission Factors (EMFAC) model. Information on the accuracy, precision, and uncertainty values of the model would be helpful.

- Page 31 Differentiate between tropospheric ozone (ground/surface-level) which can have adverse health impacts on the community versus stratospheric ozone.

- Clearly define "reactive organic gases (ROG)" and identify which ones are the largest contributors to the formation of surface ozone levels in the SCAG area. Which reactive organic gases are being monitored?

- Ozone concentrations can reach unhealthy levels when the weather is hot and sunny with little or no wind. Tropospheric ozone formation is sunlight/temperature dependent. Report could use information on the effects that future climate change (possible increase in temperature) will have on tropospheric ozone production rates up to the year 2035. It is not clear if this change has been considered when running prediction models.

- Page 31 – Table 10, (SB 375) regional targets were updated by the Air Resources Board in 2018 to ensure consistency with the more stringent statewide reduction goals subsequently introduced by the California legislature and the Governor's office.

- SB 375 Regional Plan Climate Targets through Sept. 20, 2018 for 2020 were -8%, that goal remained the same after the more stringent goals were introduced beginning Oct. 1, 2018. Was this goal met? If so, what strategies were successful in reaching this goal?

- However, for the 2035 goal, the goal before Oct. 1, 2018 was -13% and was changed to -19%. The newly adjusted goal has been made significantly higher. How has this affected planning to meet the 2035 goal now that it has been changed substantially? Is it feasible?

- Page 32, What criteria and associated weights are used in the SCAG Scenario Planning Model (SPM)?

- There is mention that for Connect SoCal. The scenario modeling capabilities have been enhanced. By what methods and criteria?

Transportation Conformity Analysis Technical Report

- Page 3, State Implementation Plans (SIPs) - Connect SoCal must conform to the applicable SIPs [motor vehicle emissions budgets (for all criteria pollutant SIP's) and TCM's (for ozone and CO SIP's only)] in the SCAG region.

- Page 4, Federal Clean Air Act Designations in the SCAG Region - Differentiate between tropospheric and stratospheric ozone formation.

- Address the differences and severity between PM 10 and PM 2.5 health risks.

- It is crucial to provide information about the atmospheric lifetime of the criteria pollutants. Pollutants with long atmospheric lifetimes can survive in the environment for years which can greatly impact modeling efforts.

- Page 28 – end, Tables with ROG - Define Reactive Organic Gases/clarify if they are using the ARB definition along with its exemptions. (ROG usually means any compound of carbon) however the ARB has listed exemptions to ROG which would not be included in emission measurements. Alternatively, specify what compounds are being tested for/monitored and shown in the table under ROG.

Goods Movement Technical Report

- Currently, much of the SCAG region fails to meet federal ozone and fine particulate air quality standards as mandated by the federal Clean Air Act.

- Although zero-emissions vehicles seem to be the goal, the discussion on near-term improvements that can be implemented sooner and at a cheaper cost is appreciated. Zero-emission vehicles for goods movement are still at an early stage and require a lot of money for implementation including the planning and building of new infrastructure to support the energy needs of these technologies.

- It is important to explore other emission reduction strategies that can be implemented right away with relatively lower costs. (e.g. improvements to engine efficiency. Increase efficiency in internal combustion engines through engine technologies such as waste heat recovery which lowers fuel use).

Caltrans District 7 - Active Transportation

Draft Connect SoCal

- Page 54 - Livable Corridors Section:

  - This section focuses on BRT options to qualify an area as a "livable corridor", but consideration should also be given to rail corridors as well.
  - There is no mention of landscaping, green scaping, shade trees or bioswales as a viable improvement for a livable corridor. These types of improvements can also help slow down traffic and improve the conditions for other street users.

- Page 69-70 - Active Transportation Section:

  - It would be helpful if the active transportation improvements section included more specific improvements (like the Transit Improvements section). Improvements to pedestrian facilities are important and should be noted.
  - There were many community concerns regarding the Venice Boulevard Great Streets project. We suggest using a much more successful example of a Great Street in this section.
  - More funding opportunities should be provided for community-based organizations to be "partners" or "co-leaders" with agencies to help ensure the community's active transportation needs will be met.

Active Transportation Technical Report

- The terminology used in this technical report is not well explained or defined; please consider providing a Lexicon.

- We recommend providing more details on "green streets" and the value these offer towards a more sustainable future.

- Page 56 – Safety: The current safety goal (reduce traffic fatalities for all modes by three percent and serious injuries by 1.5 percent by 2050) is extremely conservative relative to the widespread adoption of "Vision Zero" at many federal, state and local agencies to reduce fatalities and serious injuries to zero.

- Page 59 - Pedestrian Infrastructure: Consider adding "reducing driveway conflicts" as part of Strategy 1 or 3 to reduce potential conflicts between pedestrians and drivers.

- Page 59 - Local Bikeway Infrastructure: Specify the types of "low-stress protected bikeway networks" facilities described in Strategy 1 that are preferred (e.g., Class I, II, III, or IV)

- Page 60 - First-Last Mile Infrastructure / SRTS Infrastructure: All policies should include an equity strategy to ensure future investments are going towards improving previously disinvested communities to increase safety for vulnerable road users.

- Page 64 - Safety Strategies: Consider historically disproportionate impact that increased enforcement/ policing has had on low-income communities of color in Safety Strategy 3 and

Strategy 7. Enforcement should be tempered with appropriate, ongoing public engagement to avoid potential alienation and discrimination in these communities.

Caltrans District 7 – Division of Design

- The plan "sounds good" and at the same time very unrealistic.
- Assume reduction in car usages and VMTs, mainly thru "Transit Integration". While in the past 10 to 12 years Transit Ridership has been decreasing in the region and nationwide.
- The use of this Plan/Strategy's numbers will hide/lessen the impacts of Goods Movements mobility projects, Tolling Lanes with assumed future Demand, etc., and boasts the assumed benefits identified below (Region's assumptions). See Regions unsupported/overestimated assumptions below (pushed as future "facts".)
    - SCAG's region projected 19%, or 3.7 Million population increase in the Region over the next 25 years. This projection is likely to be low, if California's economy maintains its strength.
    - According LA based Beacon Economics in the next 30 years, LA County would increase by 3.5 million and Riverside County will increase ~ 3.2 million.
    - https://www.reuters.com/article/us-california-population/californias-population-to-hit-60-million-by-2050-idUSN0930091220070709
- MODE SHIFT: The assumptions are based to a large degree upon the extent to which major mode shifts within the region can be accomplished. No reasonable and/or quantifiable data provided on that insures these shifts are highly probable to materialize, especially as transit ridership has been steadily declining in the past 12 years nationwide and throughout Southern California. With Technology leaps, driverless car sharing options are likely to lead to increases in vehicle miles traveled (VMT).
- The same with all past Plans, this Mobility Plan promises to "fix" the current challenges… With No Accountability, only to repeat in the next one while consuming Billions of tax dollars, which is very good for the economy.
- HIGH OCCUPANCY VEHICLE (HOV) AND TOLLING LANES: It is crucial to transparently address Inequity issues (Title VI, etc.), address the true Corridors' mobilities prior to regional policies to increase the number of persons needed to ride for free in Tolling lanes. Need comprehensive and transparent impacts assessment on traffic congestion and on people impacted by these changes. Currently designed Tolling "Express" Lanes policy papers is skewed towards Tolling ("drives" the operational assessment). The operations should be based on, at a minimum, evaluating all freeway lanes together (included tolling). To be transparent, the operational analysis should address the Corridor (to include parallel arterials/local streets impacts).

A recent example from Metro's I-105, EA 314500 PAED docs., Convert HOV lane and add a lane (for a 2-Tolling Lanes): The 2016 SCAG RTP/Sustainable Communities Strategy (scenarios include: Transit Integration, Livable Corridors, "Neighborhood Mobility Area" - walking/bicycling, Bike and car sharing, etc.). The Travel Demand Model year (2047) shows 17.2 % trip reduction (traffic #s lower than current counts). Metro/" PDT" said this was not a realistic forecast and implemented a strategy that translates into higher vehicle on the I-105 GP and Tolling lanes). Metro selected to use year (2027) TDM projections/congested #s, project opening year, and held these #s constant thru year (2047)! This Strategy justifies implementing the Tolling Project. At the same time to reduce the schedule and cost, it was argued that the Fwy Traffic Noise impacts would be much lower with reduced traffic demand, therefore no need to construct sound walls.

Caltrans District 8

Thank you for the opportunity to review Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. We found the overall document to be generally well written, visually interesting to read and provided the results and finding on an array of regional planning issues from a lot of work that clearly took years of sustained, focused, directed effort.

It is our understanding that the United States currently faces a housing shortage in excess of some 7 million dwelling units. Of that 7 million+ dwelling unit shortage some 3.5 million units of the shortfall exists here in California. Beyond homelessness and increased use of limited existing square footage in our existing housing supply, the unprecedented housing shortage has created a range of social equity issues (lack of personal financial independence, homeownership etc.).

Since some 73 percent of Californians live in Southern California, the housing shortage is an extremely important issue with a range of impacts on the transportation system. The 2012 RHNA indicate a need for 412,000 new housing units. The 2018 RHNA indicates a need for some 1,340,000 million new housing units in Southern California. The draft Connect SOCAL document doesn't seem to indicate what the extent of this worsening crisis is here in Southern California.

As noted in the summary of Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the current severe housing shortage creates jobs/ housing balance issues and the need for longer commutes and increased congestion on the overall transportation system.

On Pages 48-56 under the heading Sustainable Communities Strategies and Housing Supportive Infrastructure Connect SOCAL discusses sustainable development practices such as Center Focused Placemaking, Priority Growth Areas, Job Centers Transit Priority Areas, High Quality Transit Areas and Neighborhood Mobility Areas and discusses the housing crisis

but provides little indication that the types of desired development listed above is happening on a large scale in the region.

Page 49 included a short list of ways Diverse Housing Choices could be encouraged. We commented in bold below on these strategies and recommended additional strategies related to housing and transportation caused by longer commutes and increased congestion caused by new housing.

1) Preserve and rehabilitate housing and prevent displacement. **Wouldn't preservation/rehabilitation occur due to supply and demand? Is displacement good if higher density is proposed?**
2) Identify opportunities for new workforce and affordable housing development. **Not really clear what this means? Do you mean Affordable housing for new members of the workforce?**
3) Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. **Would this be expected to create hundreds of thousands of new units.**
4) Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions. **List ways to do this.**

Suggest policy support and reworking the Diverse Housing Choices section of the plan to include support of ideas like the following:

Support and reference The Ahwahnee Principles. https://www.lgc.org/who-we-are/ahwahnee/principles/
Support long lasting smart mobility decisions that improve the environment, create a vibrant economy and build communities not sprawl.
Support redevelopment of high density residential along transit served corridors.
Support having new housing be originally built with an accessory dwelling unit.
Support an overall trend to reduce of lot size minimums in the region by 20%.
Support the concept of building to the maximum density allowed in a residential zoning district rather to the minimum density.
Support a policy that wherever possible in all new specific plans placement of high density housing residential shall occur near planned schools, employment and retail areas.
Support a regional mode shift to walking and bicycling https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf
Support the provision of designated areas for employment (beyond a few retail commercial and school sites) in all new specific plans.
Support the provision of connected street grid system by limiting cul-de-sac length to no more than 250 feet.
Support minimizing the size of a block, through the use of a block size maximum of 1,600 feet.
Support bike and pedestrian through block connectivity through subdivisions by providing one such connection every 600 feet.

Support allowing 100 percent housing on vacant or abandoned property zoned for commercial retail use to help the viability of existing commercial uses (25 solutions article below).
Support local jurisdictions efforts to provide a temporary 30% reduction on all residential impact fees for (3 -5 years) to encourage housing production.
Support housing policy that provides net zero energy use that would build on the 1 million solar homes California has with a goal of greatly increasing this total (roughly 12.5 million dwelling units exist with a need for 3.5 million more dwelling units)
Support allowing a reduction in setback standards to Uniform Building Code minimums on side yards and limit front and rear yard setbacks to no more than 10 feet.
Support the elimination for any required covered off street parking to support development of more housing units.
Support development of high density housing in unused portions of commercial shopping centers/office etc. parking lot areas.
Support allowing a reduction in local public street width standards and/or to allow reduced width private streets to encourage infill development.
Support increasing residential building height standards in residential zoning districts to allow greater building square footage.
Support any regional efforts to develop the missing middle housing of the past few decades.
https://missingmiddlehousing.com/

In the Measuring our Progress portion of Connect SOCAL Pages 118-147 it seems reasonable to assume that much of the "progress" in congestion relief and other areas has to do with 91,000 people per year leaving the SCAG region due to the high cost of housing and other reasons since 2014 as noted on Page 16 of Connect SOCAL discussion on mega trends. Is this real progress or an abandonment trend that needs to be reversed?

https://www.worldpropertyjournal.com/real-estate-news/united-states/washington-dc-real-estate-news/up-for-growth-national-coalition-econorthwest-holland-government-affairs-housing-underproduction-in-the-us-2018-housing-shortage-data-10842.php

https://www.curbed.com/2019/5/15/18617763/affordable-housing-policy-rent-real-estate-apartment

https://ucreconomicforecast.org/wp-content/uploads/2019/04/SCAG_Housing_White_Paper_Digital_4_11_2019_Revise.pdf

https://urbanize.la/post/25-solutions-builder%E2%80%99s-perspective-fix-california-housing-crisis

Caltrans District 11

Draft Connect SoCal

- Truck Parking/Truck driver shortage: Please address and include truck parking needs in the SCAG region. In addition, the shortage of truck drivers is commonly cited as the number one problem in the trucking industry.

- Freight Projects List: Please include transportation projects that have been identified in the *2014 California-Baja California Border Master Plan* and the *Draft 2020 California Freight Mobility Plan*. Examples of projects that are missing in the Goods Movement Project List are: Forrester Road, Commercial Vehicle Inspection Facility modernization project at Calexico East Port of Entry (POE), bridge and highway realignment to Andrade POE, widen State Route 98 (SR-98) between Dogwood Road and V.V. Williams Ave., widen SR-98 between Ollie Ave. and Rockwood Dr., widen Menvielle Road to four lanes from Carr Road to SR-98, implement Border Wait Times System, and modernize existing truck parking/staging areas for near-zero to zero emission infrastructure truck shore power.

- National Freight Highway Network (NFHN): Please include and identify routes that have been designated as Critical Urban Freight Corridors and Critical Rural Freight Corridors. These are public roads in urbanized and rural areas which provide access and connection to the Primary Highway Freight System and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

- California Sustainable Freight Action Plan (CSFAP): Please describe how the RTP supports the goals and vision of the CSFAP. This State plan provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. Please include the Advanced Technology Corridors at Border POEs CSFAP pilot project as part of the RTP Goods Movement Environmental Conditions and Technology Advancement Strategies.

- Agriculture and Mining: Little is discussed regarding needs and availability of producing agricultural and mining (e.g., aggregate) commodities among border or rural areas of the region (Imperial and Coachella Valleys, Ventura, etc.). Safety, maintenance and asset management (e.g., State Highway Operation and Protection Program [SHOPP]) needs could be mentioned on lower-volume/seasonal routes impacted by heavy machinery movements/emissions.

Technical Reports

- Highways and Arterials Technical Report Page 8 references SB1 in the context of performance measures and Page 14 mentions the Proposition 1B Corridor Mobility Improvement Account (CMIA) requirements for Corridor System Management Plans (CSMP) and components of those documents. SB1s requirement of corridor plans is not addressed nor are the competitive programs such as Solutions for Congested Corridors

Program (SCCP), Trade Corridor Enhancement Program (TCEP) and Local Partnerships. Although not Impactful for the California Environmental Quality Act (CEQA), the discussion is important for future funding opportunities and possible planning efforts.

- Page 10, Transportation Safety & Security: Table 3 - Is Fatality and Injury prediction table approved by Caltrans?
- Table 1 – FTIP Projects – FTIP ID Number IMP140804: Route should be "8", not "999".
- Table 2 – Project Number IMP0042A: The Demo funds identified for this project have been repurposed to a different phase for SR98. As such, this project should be removed.
- Additional project: Please add: SR186 All American Canal Bridge – Replace bridge to accommodate two vehicle lanes, shoulders and pedestrian/bicyclist facilities. Cost $40M; Construction Year 2027.
- Transit: There are no comments related to any specific projects; however, the District would like to recommend that consideration be given to include bicycle and pedestrian facility connections and protection by enhancing visibility of bicyclists and pedestrians as well as to provide wayfinding signage to guide the active transportation population to facilities to help them complete their trip.

Caltrans District 12

Draft Connect SoCal

- The Draft Connect SoCal Plan provides long term guidelines and strategies for the SCAG region. These guidelines and strategies should align with State goals as laid out in State planning documents such as the California Transportation Plan (CTP), California State Rail Plan, California Freight Mobility Plan (CFMP), California Aviation System Plan (CASP), and State Bicycle and Pedestrian Plan. As stated in our previous comment letter during the Notice of Preparation (NOP) process, dated February 22, 2019, we encourage the incorporation of State planning documents to align the 2020-2045 RTP/SCS with State goals.
- The SCAG region has many highly urbanized areas that have increasing traffic demand due to population growth and economic development and have limited available Right-of-Way (ROW) for transportation purposes. To enhance the operability of current facilities, strategies such as Managed Lanes would provide efficient usage of current capacity, improve travel times, reduce vehicle miles traveled (VMT), provide alternative means of transportation and may provide revenue for other transportation improvements. These strategies are consistent with state, regional and local goals and objectives. As stated in comment 10 of our previous comment letter, the Department requests SCAG review and incorporate the Orange County Managed Lanes Feasibility Study (MLFS) and the Orange

County Managed Lanes Network Study (MLNS) in the 2020-2045 RTP/SCS. The recommendations from these studies have not been included in the 2020-2045 RTP/SCS. These studies and the proposed projects, including District 12's I-5 Managed Lanes Project, reflect SCAG's Goals and Guiding Principles found on pages 9 and 10 by placing a high priority on improving mobility and reliability. The Department requests that District 12's I-5 Managed Lanes Project, for the project approval and environmental document (PA/ED) component, be included in the final 2020-2045 RTP/SCS and also amended to the 2019 FTIP, per our October 2019 request to Orange County Transportation Authority (OCTA).

- Climate change impacts have become a major concern for planning agencies at all levels. As required by California Senate Bill 379, many regional and local planning agencies have started developing plans to address climate change issues. While the 2020-2045 RTP/SCS includes climate change considerations in multiple sections of the document, it should incorporate climate change plans from other agencies into the document. Further clarification should also be provided to establish which plans supersede. As requested in our previous comment letter, please review the Vulnerability Assessment for Orange County and coordinate with Caltrans for future implementation.

- Caltrans District 12 appreciates the robust and thorough discussion in the RTP's Active Transportation Technical Report and supports SCAG's efforts in encouraging Complete Streets. This technical report aligns with Caltrans' goals and objectives. Complete Streets infrastructure benefits all roadway users and promotes mobility, equity, accessibility and regional connectivity, all while decreasing congestion and improving air quality.

Active Transportation Technical Report

The following areas of the Active Transportation technical report that accompany the 2020-2045 RTP/SCS require consideration for revision:

- Page 3, first paragraph: under Section "Defining Active Transportation", add walking as part of the examples.

- Page 3, paragraph eight: consider making a distinction between traditional active transportation modes and micro-mobility modes.

- Page 5, Table 1 second row, second column: consider adding increased connectivity as part of the impacts.

- Page 7, paragraph eight: under Regional Significance consider discussing ADA-friendly infrastructure in one of the subsections. Active Transportation infrastructure also benefits ADA-reliant users by increasing these users' mobility and accessibility.

- Page 19, paragraph 4: verify the list of cities that currently have bike share programs. Some of the cities listed may no longer have these programs available. For example, the cities of

Bellflower and Paramount had a partnership with dockless bikeshare company Ofo in 2017. However, Ofo has since backed out of the United States market.

- Page 79 and 85, Bicycle Master Plans, and Pedestrian Master Plans: the City of Irvine is currently developing an Active Transportation Plan and the City of Santa Ana has recently finalized its Active Transportation Plan. Additionally, the Orange County Transportation Authority has bikeway studies on four sub-areas of Orange County--North, West/Central, South and Foothills.

- Page 98, second paragraph and page 99 Exhibit 13: clarify that the City's protected bike lane along Bristol Street is a class IV facility and incorporate it into Exhibit 13.

- Southern California ports are seeing increased demand as trade with the Pacific Region continues to grow. SCAG should continue to plan for increased truck traffic within the region. Additionally, consider a discussion of the lack of available safe, secure and accessible parking for long distance freight vehicles. Projected growth of truck traffic and the demand for truck parking will continue to outpace the supply of public and private parking facilities.

- Due to the high number of residential developments, related functions such as micro-transit and micro-freight, need to be analyzed. Optimizing curb space locations and micro-freight and micro-transit routes may reduce congestion, VMT, and wait times for users. Additional multi-modal transportation options such as bus rapid transit and parallel light rail provide alternative options for travelers.

- The Department supports SCAG's efforts to create an integrated transit payment system, discussed in the Shared Mobility and Mobility as a Service section. Please coordinate with Caltrans since we are currently developing a similar statewide program. These efforts may improve the accessibility and affordability of transit services which may result in reduced emissions, VMT and congestion.

- Consider incorporating discussion of policies of various agencies to promote existing and future Park and Ride lots that may increase carpooling, bicycling and transit use as options for commuters. This would reduce VMT and congestion.

- Due to ROW constraints on the State Highway System (SHS), implementing Intelligent Transportation Systems strategies, as discussed in the core vision of the 2020-2045 RTP/SCS, would allow for enhanced capabilities to protect transportation systems and shorten response times, enhancing operations of the SHS.

- Review of the Project List has highlighted the following inconsistencies:

  - Project FTIP ID – ORA000820 – SR 57 Truck Climbing has a total Cost of $164.2 million

  - Project FTIP ID – ORA131301 – SR 55 Add 1 Mixed Flow Lane from I-5 to SR 91 has a total Cost of $151.1 million

- Project FTIP ID – ORA131303 – SR 57 Orangewood to Katella has a total Cost of $70.6 million
- Project FTIP ID – ORA131304 – I-405 Add 1 Mixed Flow Lane from I-5 to SR 55 has a total Cost of $176 million

Attachment B

Caltrans District 7 – Environmental Planning

- Footnote 75: the hyperlink to the Induced Travel Calculator may need to be corrected by simply removing "on October 25" from the clickable hyperlink. The hyperlink currently includes the phrase "on October 25" when clicked.

- Page 3.17-8, Regional High-Occupancy Vehicle (HOV) System and Park and Ride System: please clarify if the HOV system described in this section includes the High Occupancy Toll (HOT) / express lanes. General information on the HOT lanes in the SCAG region (Los Angeles County in particular) and how HOT/Express and HOV lanes differ may be useful for this section.

- Wildlife Crossing: Besides the Liberty Canyon Wildlife Crossing that connects the Santa Monica Mountains to the open space of Simi Hills and Santa Susana Mountains, there is another opportunity for a different Wildlife Crossing at Conejo Grade around Camarillo and Thousand Oaks that needs to be looked at.

- SCAG, Metro, and Caltrans should fund projects that will improve culverts for wildlife usage, especially in the rural areas of Ventura County.

- There is also opportunity for wildlife crossings, connectivity, and corridor improvements on State Route 2 and Interstate 210 around La Cañada Flintridge, State Route 118, and State Route 126 around the Moorpark and Filmore area.

- Rocky Peak on State Route 118 needs fencing and habitat connectivity including corridor improvements for wildlife.

- Areas along Interstate 5 and State Route 14 at Sylmar, Granada Hills and north of Santa Clarita need open space to be connected (habitat connectivity) for wildlife movement.

- Access to public parks and open spaces need to be improved. Special buses at discount rate (to take people from inner-city to these parks) will be very helpful to inner-city parents and families since many inner-city neighborhoods are far from parks that have interesting resources.

- Besides light-rails and all proposed transportation projects, governmental agencies within Downtown Los Angeles and other large cities should consider alternative working hours and equip their staff to telecommute 3-4 times a month. This will improve lives and air quality.

- Cal-Fire should have fire continues education for areas in the cities that boarders open spaces. Training should be giving to volunteers and people who are willing to assist Fire

Officers and crew. We strongly encourage utility companies to place their utilities line underground (buried) in areas that are prone to wildfires.

- We believe some cities within SCAG's Region collects rainwater and run-off water. Since the average annual rainfall is between 12-22 inches, SCAG should encourage cities to capture rainwater, treat it and release it to our dry ravines.

END OF CALTRANS COMMENT LETTER

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
[redacted]
www.dot.ca.gov

Making Conservation a California Way of Life.

January 23, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California Department of Transportation (Caltrans) wishes to thank the Southern California Association of Governments (SCAG) for the opportunity to review and comment on the Draft Connect SoCal, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR).

Caltrans applauds SCAG's use of innovative techniques and methodologies in engaging constituents within its six-county jurisdiction through its "Bottom-Up Local Input and Envisioning Process". Building upon the previous 2016 RTP/SCS, the Draft Connect SoCal plan boldly implements sustainable planning strategies aimed to increase active transportation plans and products, increase ridership and use of various forms of transit, improve the infrastructure of goods movement, reduce congestion and Vehicle Miles Traveled (VMT), and create more diverse and affordable housing; while reducing greenhouse gases and advancing healthy communities amongst other transformative efforts.

The Draft Connect SoCal plan was distributed to Caltrans' Headquarters and Districts 7 (Los Angeles and Ventura Counties), 8 (San Bernardino and Riverside Counties), 11 (Imperial County), and 12 (Orange County). The offices within each District and Division were given the opportunity to review and comment on the Draft RTP/SCS and Draft PEIR documents according to the California Regional Transportation Plan Guidelines.

Connect SoCal's core vision coupled with its goals and guiding principles helps to further an interconnect region. Moreover, SCAG's commitment to strengthen previous investments in our multi-modal transportation system and with focused direction for future plan investments results in increasing the region's overall resiliency, prosperity and competitiveness.

Specific comments on the Draft RTP/SCS chapters and appendices are included in Attachment A and specific comments on the PEIR are included in Attachment B.

If you should have any questions in regard to the comments, please do not hesitate to contact [redacted]

Sincerely,

Paul Albert Marquez
Deputy District Director for Planning

cc: John Bulinski, D7
Ray Desselle, D8
Ann Fox, D11
Lan Zhou, D12
Marlon Flournoy, DOTP
Jacqueline Kars, ORP
Caleb Brock, ORP

Attachments

Attachment A

Caltrans Headquarters – Office of State Planning

- The introduction is clear and informative on the regulations that guide the RTP development process however, RTP's are also influenced by the policies leveraged by the State. Suggest including additional language on SB 391 (2009) which also requires the California Department of Transportation to prepare the California Transportation Plan (CTP), California's long-range transportation plan. Reference to the CTP would illustrate the interrelationship between regional and statewide transportation objectives – highlighting how major metropolitan areas, rural areas, and state agencies can coordinate planning efforts to achieve critical statewide goals. Consider the following:

  "To better coordinate with the State, Connect SoCal was developed to align with The California Transportation Plan (CTP). The CTP is a long-range statewide level transportation plan that combines regional transportation and land-use plans to produce a unified multimodal strategy to achieve our collective vision of a lasting and well-integrated transportation system that benefits both people and goods over the next 25 years."

- While the plan is visually appealing and easy to read, consider including discussion on other Caltrans modal plans where necessary. With regards to the transportation complexities that exist throughout the State, differentiating the statewide goals from local/regional needs helps emphasize the challenges associated with transportation targets set forth by the State. Doing so also highlights the strategies proposed within the Connect SoCal to address transportation shortfalls within the SCAG region.

Caltrans Headquarters – Aviation & Aeronautics

- Land use and zoning around airports is an important element to consider and guidance can be found in the California Airport Land Use Planning Handbook (Handbook). Land use compatibility with an adopted general plan is the responsibility of each Airport Land Use Commission (ALUC). Airport Land Use Compatibility Plans should be regularly updated and reference current general plans to prevent incompatible land uses that encroach upon or threaten airport operations. Airports enable the movement of people and goods. They allow a community access to the nation's air transportation system. Airports are a valuable community resource enabling public services, such as medical transport and law enforcement. Future uses may include freight and package delivery as the use of Unmanned Aerial Systems (UAS) develops.

- Traffic congestion is one of the leading issues in transportation planning. The emerging concept urban air mobility (UAM) is expected to provide a new solution by making use of the three-dimensional airspace to transport passengers and goods in urban areas. Airport Shuttle and Air Taxi markets are viable markets. We are aware of Uber announcing Los

Angeles as one of the first cities to offer Uber Air flights, with the goal of beginning demonstrator flights in 2020 and commercial operations in 2023. The City of Los Angeles is creating an aerial mobility network integrated with its other transportation systems and investments.

- UAM largely is dependent on vertical takeoff and landing (VTOL) operations in urban areas. UAM application is to build well-distributed infrastructures to support VTOL aircraft operations. Those infrastructures are heliports and vertiports (or sky ports), where VTOL aircrafts take off and land, onboard or disembark passengers, and get charged. The Federal Aviation Administration has Advisory Circular 150/5390-2C to provide guidance on permitting and siting heliports.

- Significant legal/regulatory, certification, permitting/licensing, infrastructure, and weather constraints exist for currently operating aircraft. Vertiport or heliport locations should be carefully reviewed with consideration of its impact on potential UAM demand, safety, environmental impacts, land uses, energy distribution and demand, and transportation system performance.

- Can SCAG's RTP/SCS draw from Air Cargo projections and congestion/demand management strategies to formulate planning for logistics impacts from the growing consumer demand for home deliveries?

Please note below the following Codes for implementation in the Aviation input into the SCAG Draft RTP and its Aviation Technical Appendix:

- PUBLIC UTILITIES CODE – PUC- - -
- DIVISION 9. AVIATION [21001 - 24451]
- (Division 9 added by Stats. 1953, Ch. 151)
- ARTICLE 3.5. Airport Land Use Commission [21670 - 21679.5]
- (Article 3.5 added by Stats. 1967, Ch. 852)

- SCAG also note: 21670.2.
- Sections 21670 and 21670.1 *[These are the sections that require ALUCs in any county with public-use airports—DOC]* do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal. http://planning.lacounty.gov/aluc

- And, to clarify, our Cal. Aviation System Plan (CASP) update is not for the 2016 Policy Element directly. We're following a required 5-year update cycle, but the Plan will embark on a new course without "elements;" instead aligning with CTP 2050 to assist inter-modal goals.

Caltrans Headquarters – Office of Regional Planning

The Office of Regional Planning (ORP) would like to commend SCAG for their vivid and creative approach to demonstrating SCAG's 20-year vision for the future.

Overall, the page references on the RTP Checklist included whole chapters and entire technical reports. We recommend that SCAG reference specific page numbers for each question on the RTP Checklist with their Final RTP submission.

Below are the following comments in reference to the RTP Checklist Contents:

General

- #2. The document identifies several strategies but does not delineate whether they are short-range and long-range strategies/actions (23 CFR 450.324(b)).

- #3. There is mention of the elements required throughout the report, but as a public document this checklist should reference more specific pages instead of whole chapters and technical reports. Also, the report doesn't have specific sections dedicated to each element i.e. policy, action, and financial (California Government Code Section 65080). These elements should be clearly defined and easily accessible by specific page numbers.

- #4(a). The referenced pages are missing the general location of uses and building intensities. (HQ referring to the page numbers that SCAG identified on the RTP Checklist. SCAG should ensure 4(a) of the RTP Checklist is fully addressed, specifically, the general location of uses and building intensities within the region).

- #4(b). There is a lot of information to decipher and it is not clear that SCAG identified areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth.

- #4(h). SCAG identified one map on page 23 of their SCS Technical Report (HQ is referring only to the SCS. It seems that SCAG labeled all of their appendices with "Technical Report," but the specific requirement in RTP Checklist 4(h) refers to the SCS requirement). This does not set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB.

- #7. The outdated RTP Checklist that SCAG provided did not include question 7. Please provide the appropriate page references with an updated checklist.

Consultation/Cooperation

- #3. It is difficult to clearly determine that SCAG consulted with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP (23 CFR 450.316(b)). Please identify the specific pages for reference.

- #4. Please ensure that the final plan includes reference that federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP (23 CFR 450.316(d)).

- #5. It is difficult to determine where the RTP specifies that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation were consulted (23 CFR 450.324(g)).

- #6. Please include specific page reference that the RTP includes a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources (23 CFR 450.324(g)(1&2)).

- #15. It is not clear that the RTP will be adopted on the estimated date provided in writing to State Department of Housing and Community Development to determine the Regional Housing Need Allocation and planning period (start and end date) and align the local government housing element planning period (start and end date) and housing element adoption due date 18 months from RTP adoption date (Government Code 65588(e)(5)).

Programming/Operations

- The outdated RTP Checklist that SCAG provided did not include a *Programming/Operations Section*. Please provide the appropriate page references for each question on the updated checklist.

Financial

- #4. It is difficult to determine which projects are regionally significant. Please ensure that all regionally significant projects are identified (Government Code 65080(4)(A)).

- #9. In the Transportation Finance Technical Report neither TCMs or SIP is mentioned. Please ensure that the final RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented (23 CFR part 450.324(f)(11)(vi)).

Caltrans Headquarters – Office of Freight Planning

Overall, much of the Plan, specifically the Goods Movement Technical Report, includes vague and broad statements that are either not supported directly by data, analysis, or supporting evidence, or are supported with indirect and loosely (at best) related data and analysis. When data is sourced, it is cited in a way that makes it impossible to fact-check it or replicate the analyses. The language is so broad and vague that the plan does not leave the reader with a

clear understanding of how the system works. For example, each goods movement mode is independently discussed within its section, and the plan is missing a section (discussion) that ties together and analyzes all the freight modes for a true multimodal freight system. The Plan's structure, styles, multicolor headings are confusing to read and difficult to identify the section relationships (e.g., main and subsections). We have listed main comments below.

Draft Connect SoCal

- Broad and a Vague Content with Limited Supporting Data and Analysis
- Page 74 through 82, A significant portion of the main body includes broad and sweeping claims with limited, if any supporting data and analysis.
- Page 81, Table 3.3, SCAG Region Airport Passenger Forecast for 2020–2045 (no citation)
- Significant portions of supporting data are either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with multiple data sources, one cannot determine what source is attached to the data.
- Provide professional citations. For example, see page 78, Truck Bottleneck Relief Strategy and Industrial Warehouse & Distribution Centers
- Missing Significant Freight Information
- Chapter 4 is missing a discussion of National Highway Freight Program funding and the Trade Corridor Enhancement Program.

Goods Movement Technical Report (GDPR)

The Goods Movement Technical Report contained very little technical information. We expected to find supporting data, analysis, and methodologies for planning the regional freight system. Instead, the information was only slightly more detailed than what we found within the main document. In fact, the GMTR included very little supporting evidence, and sources are not cited in a way that allowed the reader to fact-check or replicate the analysis.

- A section for Pipelines, a key and critical freight mode recognized by the U.S. Department of Transportation as well as the California Department of Transportation, is not included within this report. Include a Pipeline section with the other freight modal sections (e.g., Rail, Seaports, Airports, Highways)
- Significant portions of the main body and the GMTR include broad and sweeping claims with limited, if any supporting data and analysis. For example, there is no direct supporting data and evidence included in the e-commerce section. We see broad statements such as e-commerce has greatly increased, and that e-commerce has negatively impacted

neighborhoods. However, we did not see any direct supporting evidence. We expected to see the number of increased trips related to e-commerce, but instead, we saw an increase in the dollars spent. This data does not support that there are more trips, as customers may be buying more expensive items or more items that are delivered on the same trip. Also, all forms of e-commerce a lump together. For example, Amazon purchases that are ordered online and delivered directly to the customer are combined with purchases that are ordered online at places like Target, Walmart, and Best Buy, where the customer can choose to pick up their purchase at the store. The store pick-up purchases are similar to the Sears Catalog (started in 1893) when customers ordered out of a catalog via the mail and picked up their purchases at Sears. We recommend separating the different types of "e-commerce" and addressing them individually.

- Page 5, First Paragraph: Define goods movement dependent jobs and provide examples for the industries

- Page 5, First Paragraph, "Jobs in goods movement dependent industries are generally well-paying, with annual average compensation in the construction, manufacturing, and wholesale trade sectors outpacing the average annual compensation for all regional industry sectors.": Support with specific data (not just averages) so that we can see the range in pay to the job. Using averages can greatly skew the results (e.g., low wage jobs offset by CEO salaries). Also, support with more data, including data sources (including reports, data tables) so that the analysis can be replicated.

- Page 6, Maintaining the Long-term Economic Completeness of the Region: Either provide useful information, data, and analysis or delete this section.

- Page 6, Promoting Local and Regional Job Creation and Retention: Provide supporting evidence and data. Provide the specific number of jobs that are created by the ports as well as the number of regional jobs created by "international trade activities." Define International trade activities. Also, link the infrastructure to the economy.

- Page 17, Distribution Centers, Warehousing and Transloading Facilities: This section includes unsupported statements and claims. Include supporting evidence and data, and professionally source and cite the data.

- Page 17, Consumer Base, "This growth in residents and income is expected to drive consumer spending and demand for goods, increasing pressure on the regional transportation network.": Support with evidence and data, and professionally cite the data source(s).

- Page 26, Highlight Area, Trade in the SCAG Region, First Paragraph: Define "current Administration" by giving its name. Also, is it regional, state, or federal?

- Most of the supporting data is either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with

multiple data sources, there is no way to determine what source is attached to the data. Provide professional citations. For example, when using the US Census data, include the Program (American Factfinder), the table (e.g., DP05), and the date(s) or when using the US DOT data, include the Program (FHWA), the report, table, website, and the date(s). This is important so that a reader can fact-check the data and replicate the analysis. Without this critical information, the reader must question the validity of the data and analysis. Examples include but are not limited to:

- Page 4, Table 1
- Page 7, Improving the Safety of Goods Moment Activities and Highlight Area: regional Goods Movement Workforce Development
- Page 14 Exhibit 3
- Page 15, Table 2, footnote 6, 7, and 8
- Page 16, Figure 1, Airports, International Land Ports-of Entrée
- Page 17 Distribution Centers, Warehousing and Transloading Facilities, and footnotes 10 and 11
- Pages 18 and 19, Highlight Area, Seaports and Regional Trade Flows, Figure 2, and footnote 13
- Pages 2020 to 34, Figure 3 to Figure 19, Footnotes 14, 17,18, 19, 20, 21, 2223, 25,26, 30 (FAF Version?), 31,32,33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47,48

Miscellaneous Comments

- Page 3, What is Goods Movement? A pipeline, a key freight mode is missing from this section.

- Page 3, Broad Economic Benefits: As currently written, this section is not understandable. Consider rewriting this section to include a clear introduction, thesis statement, body paragraphs, a restatement of the thesis, and a conclusion.

- Page 3, Broad Economic Benefits - First Paragraph: Who uses "performance" as a proxy: Without a subject, the relevance of this statement is unclear. What is the difference between the performance of the logistics industry and the contributions of the five major industries? Why does SCAG consider contributions of the "five major industry sectors..." more closely associated? Why were the agriculture and service industries (e.g., repairpersons) not included?

- Page 3, Broad Economic Benefits, Second Paragraph: Clearly link this discussion within this paragraph to the introduction above. As it is currently written, it is unclear how the GRP/GDP are connected (or not) with the five major industrial sectors. Also, what is "this economic impact"? Define "this economic impact."

- Page 3, Broad Economic Benefits, Third Paragraph: Clearly link this discussion within this paragraph to the first, introduction paragraph. Are the "good movement dependent

industries" the same as the "five major industry sectors"? If not, how are they different. What is the difference between a sector and an industry? A layperson and technical expert should be able to read this and understand. As this is currently written, neither can.

- Page 4, Table 1- Change in Average Annual Pay for Goods Movement Dependent Industries in the SCAG Region 2012-2016: The introduction sectors reference five sectors; this table includes seven sectors. Why?

- Page 5, First Paragraph: Define freight dependent jobs.

- Page 5, Regional Global Profile: Consider renaming this section the United States Global Profile as the narrative references the U.S. and not the SCAG region. Also, absent from this section is a discussion regarding the impacts of California's climate policies on So Ca Port's competitiveness with other U.S. and international ports.

- Page 5, Regional Global Profile - Second Paragraph: Consider rewriting this paragraph because it is confusing.

- Page 6, First Paragraph: Identity who expects them to grow and by how much? Support this statement with evidence.

- Page 6, Second Paragraph: Replace "recent" with a specific date and identify the specific shift(s) (e.g., percentages) and policies as well as the specific impacts of those shifts. It is not unusual for the federal reserve to adjust, so it is important that this statement is supported with evidence and a citation.

- Page 6, Goods Movement Vision: This vision is focused on freight movement; however, it should also focus on servicing the people (e.g., brings food and clothing to the people in the region). By focusing on throughput and other technical details, the basic needs that freight movement provides for are overlooked. It is helpful to plan for freight movement using a lens of what the region would look like without freight accessibility.

- Page 7, Increasing Freight and Passenger Mobility: Populate this section with useful information like specific strategies for improving goods movement and how the region is going to double rail volumes. Also, include the current freight performance by mode (or reference to a different section that contains that information) and what needs to be done to maintain that performance into the future.

- Page 7, Improving the Safety of Goods Movement Activities: Are there currently issues, if so, what are they?

- Page 7, Mitigating Environmental Impacts of Goods Movement Operations: Explain why and provide cited data, analysis, and evidence supporting this claim.

- Page 7, Highlight Area: Regional Goods Movement Workforce Development, Second Paragraph, First Sentence: "Currently, the U.S. is nearing, or at, full employment": Provide properly cited data supporting this claim. Also, link this to the SCAG region.

- Page 9, First Paragraph: Define "dead-end-jobs."

- Page 9, Seaports First Paragraph: Footnote 2: The WSC is a group. Please include a specific source (interview, report) that is properly cited so that readers can find the documentation of this statement.

- Page 9, Seaports, "percent of all containers in the U.S. moving through the San Pedro Bay Ports.3 Despite some recent modest shifts in container volumes to other U.S., Canadian and Mexican ports, the total container volume for the San Pedro Bay Ports is still expected to grow to over 34 million by 2045, a 120 percent ...": How was this analysis performed. What is the data source (including citation)? Model type, name, version?

- Page 9, Seaports, "35 percent of the San Pedro Bay Ports' total import-related traffic. The other 65 percent is assumed...": Did this data also come from footnote 3? If not, source the data, and provide a professional citation.

- Page 9, Seaports, Third Paragraph – "deconsolidation of the contents": Define for laypersons.

- Page 9, Seaports, Third Paragraph – "Transloading allows for the movement of increased amounts of goods while...": This statement may or may not be correct. For example, it may be that the region has gotten to the point that the transportation system is so congested that there is no capacity to support any more trips (freight or other) regardless of container. So, provide data, analysis, and supporting evidence for this claim as it relates to the current and future SCAG freight system.

- Page 10, Railroads, First Paragraph, First Sentence, "Critical to the growth": Demonstrate how BNSF and UP are critical to SCAG's growth. For example, what functions to they play in SCAG's economy? Support with professionally cited data and evidence.

- Page 12, Second Paragraph: Who reduced the number of times freight itself (?) was handled, how was the freight handled, and what is the base year for the speed, efficiency, damage, and security. What year was the performance assessment developed that measured these items and identified that the efficiency and speed increased, the damage was reduced, and security became greater? Was the same base year and performance year used for all six intermodal terminals? Did all terminals follow the same methodology and use the same data? Support with professionally cited data and analysis.

- Page 12, "In addition to these intermodal terminals, there are railyards that serve carload traffic of various types. UP has a large carload freight classification yard at West Colton (at

the east end.": Does this section capture all the rail yards that serve carload traffic of various types?

- Page 15, Airports, First Paragraph: It appears that multiple data sources and perhaps years were used to produce the number included in this section. With this said, there is a real concern that the analysis is comparing "apples with oranges" or that selective data was used.

- Page 16, Figure 1 Air Cargo Tonnage through SCAG Regional Airports 2000- 2018: It appears that this table was constructed based on a mix of data and analysis that is not consistent. I suspect that this is a comparison of apples and oranges. See my comments regarding the data sources.

- Page 17, Supply Chains and the SCAG Region: Consider rewriting this section so that a layperson can understand. For example, what are product demand forecasting and production planning?

Caltrans District 7 – Freight Planning

Goods Movement Technical Report

- Last mile Delivery—page 2. METRO sponsored a conference in this regard, and it was also a focus in conjunction with INUF Conference in 2019. A more extensive discussion was expected. Additionally, no discussion provided on "First mile."

- Page 16 of 32—Exhibit 3:

    - The "SR-206" shield should be Interstate 215. (same comment on exhibit 6 on page 52 of 132)
    - The "SR-30" shield should be SR-210.
    - The "I-210" shield that is shown to the right of the juncture of SR-57 and 210 should be SR-210 (Interstate 210 becomes SR-210 at the junction with SR-57.
    - Recommend the "county lines" are shown in different color as they are very similar to the highways not identified as part of the "Primary Highway Freight System."
    - What year is the USDOT source?
    - NOTE: To the extent above information occurs in other exhibits, this should be considered a global comment.

- East-West Corridor—page 51. There is no "project scope" information, and no reference to any project(s) in the list of projects.

- Appendix 1 of 1—page 123. Although multiple footnotes are from 2019, the discussion provided does not seem to include the most current information related to POLA (and possibly POLB) in this regard.

Caltrans District 7 – System Planning

- Page 34 - Exhibit 2.5 – There are lots of gradients in the LA/OC region; suggest doing a zoom box to show the land use breakdown in better detail.
- Page 40 - Figure 2.5/2.6 (and other graphs throughout) - Color choices for poor and good are very similar, which makes it hard to read tables quickly.
- Page 59: *Core Vision – Paragraph 1*: Fix-It First is commonly associated with the SHOPP program; suggest mentioning it here.
- *Planning for 2045* – typos in Line 1
- Page 69 - Active Transportation - "Walking and bicycling are accessible forms of transportation for people of all ages, abilities and socioeconomic backgrounds." This is not technically for certain abilities. Line could be read as exclusionary.
- Page 77 – Express Lanes Table Line 3 - Los Angeles – I-405 – Add I-*105* Express Lane (Should be add I-*405* Express Lane?)
- Page 163 – Measure R – Measure R has no sunset as of Measure M's approval.

Caltrans District 7 – Forecasting and Modeling

Draft Connect SoCal

- The goal of maintaining and rehabilitating the existing system is a laudable goal. The goal, according to SB-1, is to have 98% of the state highway system in each county operating at *Good* or *Better* condition by 2045. Table 1 on page 9 gives 47.9% of the statewide interstate highway system operating at *Good* in 2017. The only data in the report on pavement condition suggests a 3.4% drop over 2017-2022. How does the region intend to achieve the statewide level of performance when the current trend is downward?

Transit Technical Report

- Over the past 30 years, the SCAG region has made an unprecedented investment in transit infrastructure. Between 2007 and 2017, however, transit ridership has gone down by 19%. The projected goal of 1.6 billion transit trips in 2045, reflecting a 245% increase in transit ridership since 2015, seems rosy.

- A common perception that transit is for the underclass seems to be an element here, but it isn't addressed.

- Calling for diligence against encroaching gentrification and good intentions regarding economic and environmental equity do not seem to have been enough so far to establish housing opportunities for all income levels. Relying upon the market forces that generated the current inequities to somehow solve them seems unrealistic. Markets prefer building housing for the higher income.

- There is a claim that you will get there from here, but the battle to provide affordable housing in Southern California is being lost, as witnessed by the tented encampments throughout the region, as well as the collapse every 20 years or so of the housing markets in the Antelope Valley, Inland Empire and the Victor Valley during recessions.

- The details on the 2020 RTP/SCS Travel demand modeling efforts in this report are scant. On page 2 of the Transportation Modeling conformity appendix, reference to the model as an Activity Based Model, and mentions that it has met federal requirements, and has been through a peer review process, but there aren't other details to assess the modeling efforts.

- Express Lanes are an important component of SCAG's planning for the highway system. The 2016 RTP assumes very high participation of 3+ Person Carpools on the Express Lane System. Those values are not realistic and give inaccurate estimates of future express lane person throughput, revenues generated and so forth. What are the values being generated in the SCAG 2020 RTP/SCS assignment model?

- The configuration of the No Build Highway Network mostly includes projects that I expected to see. The major changes seem to lay in the land use/transportation system interface which is the appropriate, but don't appear substantive enough to generate the massive behavioral changes envisioned.

- The report notes only one very general impediment to telecommuting. Specifically, it notes that some jobs are simply not amenable to telecommuting. That is true enough, but it reflects almost no examination of any specific impediments to telecommuting, nor how to overcome them. Questions of exercising oversight, handling liability issues are not addressed let alone resolved. No reference to specific financial, legal or social impediments to expanded telecommuting is mentioned. Yet, SCAG expects 9.5% of Home-Work trips to be eliminated through telecommuting.

Caltrans District 7 – LD-IGR/ Mass Transit

- Add an Executive Summary (that's a few pages longer than the summary on page 5)

- In light of SB 743, it seems the following percentages should be reversed:
-
  - 22.8% Decrease in time spent in traffic delay per capita
  - 4.2% Decrease in daily miles driven per capita

Caltrans District 7 – Regional Planning

Draft Connect SoCal

- Page 2, under 'Our Plan'; in this section, commend SCAG for acknowledging the continuous partnership with the State (Department of Transportation) in advocating for implementation and funding for California's Active Transportation Program, resulting in the passage of Senate Bill 1.

- Page 2, SCAG identifies the region's multi-family shares declining from their peak in 2015. However, figure 2.4 illustrates 2017 as the peak year.

- Page 32, 'Present & Future Challenges', this section identifies Technical Reports for Connect SoCal. This section should include a weblink to the Technical Reports for reference purposes.

- Page 8, under 'What is Connect SoCal; in this section, the first paragraph discusses the Plan charting a path toward a more mobile sustainable and prosperous region. This section should include a visual graphic illustrating the connection between the key components.

- Page 20, SCAG identifies the two counties with the largest population growth (Riverside & Los Angeles), however this section should include the population growth throughout the SCAG region, including and identifying counties with disadvantage communities.

- Page 32, under 'Present and Future Challenges'; This section should include a weblink to the Technical Reports so interested parties can more easily see *how* the highlighted issues mentioned below are directly addressed by this plan.

- Page 32-33, under 'Affordable Housing'; This section brings up hurdles such as land use zoning that can make the development process expensive. Perhaps it would be beneficial to include some brief verbiage about how our region's zoning policies generally compare to other areas.

- Page 37, under 'Transportation Safety'; In the last sentence, it does not seem relevant or noteworthy to mention that lower speed crashes translate to a higher pedestrian survival rate. Instead, the plan should elaborate on how we can plan our transportation system in a way that encourages safe speeds since it has established that 30% of collisions result in unsafe speeds.

- Page 38, this section identifies the historic catastrophic events data, however this section should include the effects of the catastrophic events as they corollate to transportation security.

- Page 41, the paragraph regarding funding transportation would have been enhanced by having a graphic showing the existing gap between cost of transportation and available dollars.

- Page 47, this section addresses trends and emerging challenges which must be done to reduce greenhouse gas and meet target goals. Commend SCAG for incorporating this segment as part of Connect SoCal to address additional alternative approaches to address regional challenges.

- Page 66, Table 3.1; Where can interested parties find more information on the listed Transit Capital Projects?

- Page 74, this section identifies the Project List Technical Report of financially constrained and unconstrained lists of projects. This section should include a weblink to the Project List Technical Reports for accessible reference purposes.

- Page 128, under 'VMT Per Capita'; Should verbiage be added to explain why the State is shifting towards VMT as opposed to Level of Service (LOS)? It could tie in with the promotion of in-fill development, multi-modal transportation options, etc.

- Page 150, Commend SCAG for identifying a framework to continue regional partnerships. Together the efforts will address regional challenges and an attempt to meet goals that deem unpredictable.

- SCAG is applauded for explaining Connect SOCAL concept and its connection to the RTP and its long-range goals. SCAG also noted that cities and counties adopting the spirit of the RTP into planning measures for their areas could help their eligibility for future funding grants.

- SCAG did a great job on discussion of the myriad of components that makeup an RTP.

- Suggest making the Environmental Justice/ Public Health Technical Report maps available as interactive maps for the public to view impacts in their communities as well as for comparative analysis.

- We applaud SCAG for considering the importance of an aging population (65+) in the Plan; 1 out of 5 residents in the SCAG region will make up this demographic (Page 17, Connect SoCal Draft). They are more susceptible to impacts in the focus areas listed in the Public Health Technical Report than is the general population.

- Suggest more transparency, inclusion of sources, and studies concerning metrics such as those used to forecast "growth" regarding the job-housing balance (Page 45, EJ Technical Report) and "best practices" for time-based shopping and job accessibility (Page 58, EJ Technical Report).

Technical Reports (General)

- Passenger Rail: How does the Passenger Rail Report integrate CTP 2040 and the California State Rail Plan 2018 with regards to goals, policies and strategies?

- Transit: How does the Transit Technical Report integrate CTP 2040 and the Caltrans 2017 Statewide Transit Strategic Plan with regards to goals, policies, strategies and recommendations?

- Goods Movement: How does the Goods Movement Technical Report integrate CTP 2040 and the California Freight Mobility Plan with regards to goals, policies, strategies and recommendations?

- Aviation and Airport Ground Access: How does the Aviation and Airport Ground Access Technical Report integrate CTP 2040 and the California Aviation System Plan Policy Element 2016 with regards to goals, policies, strategies and recommendations?

- Active Transportation: Caltrans applauds SCAG on its robust and comprehensive commitment to Active Transportation. Caltrans praises SCAG for its many referencing of State of California and Caltrans documents relating to active transportation. Excellent sourcing and listing of CTP 2040, California Bicycle and Pedestrian Plan, various Caltrans District Level Active Transportation Plans, Caltrans State Highway Safety Plan, Caltrans Complete Streets Element Toolbox Guidebook, etc.

- Highways and Arterials: How does the Highways and Arterials Technical Report integrate CTP 2040 and the 2015 Interregional Transportation Strategic Plan and its programmed projects in the Interregional Transportation Improvement Program (ITIP) with regards to purpose, policies and considerations?

Performance Measures Technical Report

- Page 30, The report states that Environmental Quality is measured in terms of criteria air pollutant and GHG emissions. The EPA sets NAAQS for six common criteria pollutants, however only four (transportation related) pollutants are monitored in the SCAG region. What percentage of the overall criteria air pollutants do the other two pollutants contribute?

- In addition to criteria pollutants, the EPA identifies 9 priority air toxic compounds with mobile sources known as Mobile Source Air Toxins (MSAT). The nine priority compounds are: 1,3 – butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM) which have the potential

for adverse health effects. The Performance Measures technical report has no mention of these mobile source air toxins. They should be monitored and strategies for reduction of MSAT be implemented.

- Non-SOV mode share is included in the Environmental Quality outcome category. Would be helpful to have figures that show percent of people who have switched to this method of transport and projections for future conversions to this method and its overall impact on emissions.

- Emissions are estimated using results of the SCAG RTDM which are then inputted to the California Air resources Board (ARB) Emission Factors (EMFAC) model. Information on the accuracy, precision, and uncertainty values of the model would be helpful.

- Page 31 Differentiate between tropospheric ozone (ground/surface-level) which can have adverse health impacts on the community versus stratospheric ozone.

- Clearly define "reactive organic gases (ROG)" and identify which ones are the largest contributors to the formation of surface ozone levels in the SCAG area. Which reactive organic gases are being monitored?

- Ozone concentrations can reach unhealthy levels when the weather is hot and sunny with little or no wind. Tropospheric ozone formation is sunlight/temperature dependent. Report could use information on the effects that future climate change (possible increase in temperature) will have on tropospheric ozone production rates up to the year 2035. It is not clear if this change has been considered when running prediction models.

- Page 31 – Table 10, (SB 375) regional targets were updated by the Air Resources Board in 2018 to ensure consistency with the more stringent statewide reduction goals subsequently introduced by the California legislature and the Governor's office.

- SB 375 Regional Plan Climate Targets through Sept. 20, 2018 for 2020 were -8%, that goal remained the same after the more stringent goals were introduced beginning Oct. 1, 2018. Was this goal met? If so, what strategies were successful in reaching this goal?

- However, for the 2035 goal, the goal before Oct. 1, 2018 was -13% and was changed to -19%. The newly adjusted goal has been made significantly higher. How has this affected planning to meet the 2035 goal now that it has been changed substantially? Is it feasible?

- Page 32, What criteria and associated weights are used in the SCAG Scenario Planning Model (SPM)?

- There is mention that for Connect SoCal. The scenario modeling capabilities have been enhanced. By what methods and criteria?

Transportation Conformity Analysis Technical Report

- Page 3, State Implementation Plans (SIPs) - Connect SoCal must conform to the applicable SIPs [motor vehicle emissions budgets (for all criteria pollutant SIP's) and TCM's (for ozone and CO SIP's only)] in the SCAG region.
- Page 4, Federal Clean Air Act Designations in the SCAG Region - Differentiate between tropospheric and stratospheric ozone formation.
- Address the differences and severity between PM 10 and PM 2.5 health risks.
- It is crucial to provide information about the atmospheric lifetime of the criteria pollutants. Pollutants with long atmospheric lifetimes can survive in the environment for years which can greatly impact modeling efforts.
- Page 28 – end, Tables with ROG - Define Reactive Organic Gases/clarify if they are using the ARB definition along with its exemptions. (ROG usually means any compound of carbon) however the ARB has listed exemptions to ROG which would not be included in emission measurements. Alternatively, specify what compounds are being tested for/monitored and shown in the table under ROG.

Goods Movement Technical Report

- Currently, much of the SCAG region fails to meet federal ozone and fine particulate air quality standards as mandated by the federal Clean Air Act.
- Although zero-emissions vehicles seem to be the goal, the discussion on near-term improvements that can be implemented sooner and at a cheaper cost is appreciated. Zero-emission vehicles for goods movement are still at an early stage and require a lot of money for implementation including the planning and building of new infrastructure to support the energy needs of these technologies.
- It is important to explore other emission reduction strategies that can be implemented right away with relatively lower costs. (e.g. improvements to engine efficiency. Increase efficiency in internal combustion engines through engine technologies such as waste heat recovery which lowers fuel use).

Caltrans District 7 - Active Transportation

Draft Connect SoCal

- Page 54 - Livable Corridors Section:

  - This section focuses on BRT options to qualify an area as a "livable corridor", but consideration should also be given to rail corridors as well.
  - There is no mention of landscaping, green scaping, shade trees or bioswales as a viable improvement for a livable corridor. These types of improvements can also help slow down traffic and improve the conditions for other street users.

- Page 69-70 - Active Transportation Section:

  - It would be helpful if the active transportation improvements section included more specific improvements (like the Transit Improvements section). Improvements to pedestrian facilities are important and should be noted.
  - There were many community concerns regarding the Venice Boulevard Great Streets project. We suggest using a much more successful example of a Great Street in this section.
  - More funding opportunities should be provided for community-based organizations to be "partners" or "co-leaders" with agencies to help ensure the community's active transportation needs will be met.

Active Transportation Technical Report

- The terminology used in this technical report is not well explained or defined; please consider providing a Lexicon.

- We recommend providing more details on "green streets" and the value these offer towards a more sustainable future.

- Page 56 – Safety: The current safety goal (reduce traffic fatalities for all modes by three percent and serious injuries by 1.5 percent by 2050) is extremely conservative relative to the widespread adoption of "Vision Zero" at many federal, state and local agencies to reduce fatalities and serious injuries to zero.

- Page 59 - Pedestrian Infrastructure: Consider adding "reducing driveway conflicts" as part of Strategy 1 or 3 to reduce potential conflicts between pedestrians and drivers.

- Page 59 - Local Bikeway Infrastructure: Specify the types of "low-stress protected bikeway networks" facilities described in Strategy 1 that are preferred (e.g., Class I, II, III, or IV)

- Page 60 - First-Last Mile Infrastructure / SRTS Infrastructure: All policies should include an equity strategy to ensure future investments are going towards improving previously disinvested communities to increase safety for vulnerable road users.

- Page 64 - Safety Strategies: Consider historically disproportionate impact that increased enforcement/ policing has had on low-income communities of color in Safety Strategy 3 and

Strategy 7. Enforcement should be tempered with appropriate, ongoing public engagement to avoid potential alienation and discrimination in these communities.

Caltrans District 7 – Division of Design

- The plan "sounds good" and at the same time very unrealistic.
- Assume reduction in car usages and VMTs, mainly thru "Transit Integration". While in the past 10 to 12 years Transit Ridership has been decreasing in the region and nationwide.
- The use of this Plan/Strategy's numbers will hide/lessen the impacts of Goods Movements mobility projects, Tolling Lanes with assumed future Demand, etc., and boasts the assumed benefits identified below (Region's assumptions). See Regions unsupported/overestimated assumptions below (pushed as future "facts".)
    - SCAG's region projected 19%, or 3.7 Million population increase in the Region over the next 25 years. This projection is likely to be low, if California's economy maintains its strength.
    - According LA based Beacon Economics in the next 30 years, LA County would increase by 3.5 million and Riverside County will increase ~ 3.2 million.
    - https://www.reuters.com/article/us-california-population/californias-population-to-hit-60-million-by-2050-idUSN0930091220070709
- MODE SHIFT: The assumptions are based to a large degree upon the extent to which major mode shifts within the region can be accomplished. No reasonable and/or quantifiable data provided on that insures these shifts are highly probable to materialize, especially as transit ridership has been steadily declining in the past 12 years nationwide and throughout Southern California. With Technology leaps, driverless car sharing options are likely to lead to increases in vehicle miles traveled (VMT).
- The same with all past Plans, this Mobility Plan promises to "fix" the current challenges… With No Accountability, only to repeat in the next one while consuming Billions of tax dollars, which is very good for the economy.
- HIGH OCCUPANCY VEHICLE (HOV) AND TOLLING LANES: It is crucial to transparently address Inequity issues (Title VI, etc.), address the true Corridors' mobilities prior to regional policies to increase the number of persons needed to ride for free in Tolling lanes. Need comprehensive and transparent impacts assessment on traffic congestion and on people impacted by these changes. Currently designed Tolling "Express" Lanes policy papers is skewed towards Tolling ("drives" the operational assessment). The operations should be based on, at a minimum, evaluating all freeway lanes together (included tolling). To be transparent, the operational analysis should address the Corridor (to include parallel arterials/local streets impacts).

A recent example from Metro's I-105, EA 314500 PAED docs., Convert HOV lane and add a lane (for a 2-Tolling Lanes): The 2016 SCAG RTP/Sustainable Communities Strategy (scenarios include: Transit Integration, Livable Corridors, "Neighborhood Mobility Area" - walking/bicycling, Bike and car sharing, etc.). The Travel Demand Model year (2047) shows 17.2 % trip reduction (traffic #s lower than current counts). Metro/" PDT" said this was not a realistic forecast and implemented a strategy that translates into higher vehicle on the I-105 GP and Tolling lanes). Metro selected to use year (2027) TDM projections/congested #s, project opening year, and held these #s constant thru year (2047)! This Strategy justifies implementing the Tolling Project. At the same time to reduce the schedule and cost, it was argued that the Fwy Traffic Noise impacts would be much lower with reduced traffic demand, therefore no need to construct sound walls.

Caltrans District 8

Thank you for the opportunity to review Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. We found the overall document to be generally well written, visually interesting to read and provided the results and finding on an array of regional planning issues from a lot of work that clearly took years of sustained, focused, directed effort.

It is our understanding that the United States currently faces a housing shortage in excess of some 7 million dwelling units. Of that 7 million+ dwelling unit shortage some 3.5 million units of the shortfall exists here in California. Beyond homelessness and increased use of limited existing square footage in our existing housing supply, the unprecedented housing shortage has created a range of social equity issues (lack of personal financial independence, homeownership etc.).

Since some 73 percent of Californians live in Southern California, the housing shortage is an extremely important issue with a range of impacts on the transportation system. The 2012 RHNA indicate a need for 412,000 new housing units. The 2018 RHNA indicates a need for some 1,340,000 million new housing units in Southern California. The draft Connect SOCAL document doesn't seem to indicate what the extent of this worsening crisis is here in Southern California.

As noted in the summary of Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the current severe housing shortage creates jobs/ housing balance issues and the need for longer commutes and increased congestion on the overall transportation system.

On Pages 48-56 under the heading Sustainable Communities Strategies and Housing Supportive Infrastructure Connect SOCAL discusses sustainable development practices such as Center Focused Placemaking, Priority Growth Areas, Job Centers Transit Priority Areas, High Quality Transit Areas and Neighborhood Mobility Areas and discusses the housing crisis

but provides little indication that the types of desired development listed above is happening on a large scale in the region.

Page 49 included a short list of ways Diverse Housing Choices could be encouraged. We commented in bold below on these strategies and recommended additional strategies related to housing and transportation caused by longer commutes and increased congestion caused by new housing.

1) Preserve and rehabilitate housing and prevent displacement. **Wouldn't preservation/rehabilitation occur due to supply and demand? Is displacement good if higher density is proposed?**
2) Identify opportunities for new workforce and affordable housing development. **Not really clear what this means? Do you mean Affordable housing for new members of the workforce?**
3) Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. **Would this be expected to create hundreds of thousands of new units.**
4) Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions. **List ways to do this.**

Suggest policy support and reworking the Diverse Housing Choices section of the plan to include support of ideas like the following:

Support and reference The Ahwahnee Principles. https://www.lgc.org/who-we-are/ahwahnee/principles/
Support long lasting smart mobility decisions that improve the environment, create a vibrant economy and build communities not sprawl.
Support redevelopment of high density residential along transit served corridors.
Support having new housing be originally built with an accessory dwelling unit.
Support an overall trend to reduce of lot size minimums in the region by 20%.
Support the concept of building to the maximum density allowed in a residential zoning district rather to the minimum density.
Support a policy that wherever possible in all new specific plans placement of high density housing residential shall occur near planned schools, employment and retail areas.
Support a regional mode shift to walking and bicycling https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf
Support the provision of designated areas for employment (beyond a few retail commercial and school sites) in all new specific plans.
Support the provision of connected street grid system by limiting cul-de-sac length to no more than 250 feet.
Support minimizing the size of a block, through the use of a block size maximum of 1,600 feet.
Support bike and pedestrian through block connectivity through subdivisions by providing one such connection every 600 feet.

Support allowing 100 percent housing on vacant or abandoned property zoned for commercial retail use to help the viability of existing commercial uses (25 solutions article below).
Support local jurisdictions efforts to provide a temporary 30% reduction on all residential impact fees for (3 -5 years) to encourage housing production.
Support housing policy that provides net zero energy use that would build on the 1 million solar homes California has with a goal of greatly increasing this total (roughly 12.5 million dwelling units exist with a need for 3.5 million more dwelling units)
Support allowing a reduction in setback standards to Uniform Building Code minimums on side yards and limit front and rear yard setbacks to no more than 10 feet.
Support the elimination for any required covered off street parking to support development of more housing units.
Support development of high density housing in unused portions of commercial shopping centers/office etc. parking lot areas.
Support allowing a reduction in local public street width standards and/or to allow reduced width private streets to encourage infill development.
Support increasing residential building height standards in residential zoning districts to allow greater building square footage.
Support any regional efforts to develop the missing middle housing of the past few decades.
https://missingmiddlehousing.com/

In the Measuring our Progress portion of Connect SOCAL Pages 118-147 it seems reasonable to assume that much of the "progress" in congestion relief and other areas has to do with 91,000 people per year leaving the SCAG region due to the high cost of housing and other reasons since 2014 as noted on Page 16 of Connect SOCAL discussion on mega trends. Is this real progress or an abandonment trend that needs to be reversed?

https://www.worldpropertyjournal.com/real-estate-news/united-states/washington-dc-real-estate-news/up-for-growth-national-coalition-econorthwest-holland-government-affairs-housing-underproduction-in-the-us-2018-housing-shortage-data-10842.php

https://www.curbed.com/2019/5/15/18617763/affordable-housing-policy-rent-real-estate-apartment

https://ucreconomicforecast.org/wp-content/uploads/2019/04/SCAG_Housing_White_Paper_Digital_4_11_2019_Revise.pdf

https://urbanize.la/post/25-solutions-builder%E2%80%99s-perspective-fix-california-housing-crisis

Caltrans District 11

Draft Connect SoCal

- Truck Parking/Truck driver shortage: Please address and include truck parking needs in the SCAG region. In addition, the shortage of truck drivers is commonly cited as the number one problem in the trucking industry.

- Freight Projects List: Please include transportation projects that have been identified in the *2014 California-Baja California Border Master Plan* and the *Draft 2020 California Freight Mobility Plan*. Examples of projects that are missing in the Goods Movement Project List are: Forrester Road, Commercial Vehicle Inspection Facility modernization project at Calexico East Port of Entry (POE), bridge and highway realignment to Andrade POE, widen State Route 98 (SR-98) between Dogwood Road and V.V. Williams Ave., widen SR-98 between Ollie Ave. and Rockwood Dr., widen Menvielle Road to four lanes from Carr Road to SR-98, implement Border Wait Times System, and modernize existing truck parking/staging areas for near-zero to zero emission infrastructure truck shore power.

- National Freight Highway Network (NFHN): Please include and identify routes that have been designated as Critical Urban Freight Corridors and Critical Rural Freight Corridors. These are public roads in urbanized and rural areas which provide access and connection to the Primary Highway Freight System and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

- California Sustainable Freight Action Plan (CSFAP): Please describe how the RTP supports the goals and vision of the CSFAP. This State plan provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. Please include the Advanced Technology Corridors at Border POEs CSFAP pilot project as part of the RTP Goods Movement Environmental Conditions and Technology Advancement Strategies.

- Agriculture and Mining: Little is discussed regarding needs and availability of producing agricultural and mining (e.g., aggregate) commodities among border or rural areas of the region (Imperial and Coachella Valleys, Ventura, etc.). Safety, maintenance and asset management (e.g., State Highway Operation and Protection Program [SHOPP]) needs could be mentioned on lower-volume/seasonal routes impacted by heavy machinery movements/emissions.

Technical Reports

- Highways and Arterials Technical Report Page 8 references SB1 in the context of performance measures and Page 14 mentions the Proposition 1B Corridor Mobility Improvement Account (CMIA) requirements for Corridor System Management Plans (CSMP) and components of those documents. SB1s requirement of corridor plans is not addressed nor are the competitive programs such as Solutions for Congested Corridors

Program (SCCP), Trade Corridor Enhancement Program (TCEP) and Local Partnerships. Although not Impactful for the California Environmental Quality Act (CEQA), the discussion is important for future funding opportunities and possible planning efforts.

- Page 10, Transportation Safety & Security: Table 3 - Is Fatality and Injury prediction table approved by Caltrans?

- Table 1 – FTIP Projects – FTIP ID Number IMP140804: Route should be "8", not "999".

- Table 2 – Project Number IMP0042A: The Demo funds identified for this project have been repurposed to a different phase for SR98. As such, this project should be removed.

- Additional project: Please add: SR186 All American Canal Bridge – Replace bridge to accommodate two vehicle lanes, shoulders and pedestrian/bicyclist facilities. Cost $40M; Construction Year 2027.

- Transit: There are no comments related to any specific projects; however, the District would like to recommend that consideration be given to include bicycle and pedestrian facility connections and protection by enhancing visibility of bicyclists and pedestrians as well as to provide wayfinding signage to guide the active transportation population to facilities to help them complete their trip.

Caltrans District 12

Draft Connect SoCal

- The Draft Connect SoCal Plan provides long term guidelines and strategies for the SCAG region. These guidelines and strategies should align with State goals as laid out in State planning documents such as the California Transportation Plan (CTP), California State Rail Plan, California Freight Mobility Plan (CFMP), California Aviation System Plan (CASP), and State Bicycle and Pedestrian Plan. As stated in our previous comment letter during the Notice of Preparation (NOP) process, dated February 22, 2019, we encourage the incorporation of State planning documents to align the 2020-2045 RTP/SCS with State goals.

- The SCAG region has many highly urbanized areas that have increasing traffic demand due to population growth and economic development and have limited available Right-of-Way (ROW) for transportation purposes. To enhance the operability of current facilities, strategies such as Managed Lanes would provide efficient usage of current capacity, improve travel times, reduce vehicle miles traveled (VMT), provide alternative means of transportation and may provide revenue for other transportation improvements. These strategies are consistent with state, regional and local goals and objectives. As stated in comment 10 of our previous comment letter, the Department requests SCAG review and incorporate the Orange County Managed Lanes Feasibility Study (MLFS) and the Orange

County Managed Lanes Network Study (MLNS) in the 2020-2045 RTP/SCS. The recommendations from these studies have not been included in the 2020-2045 RTP/SCS. These studies and the proposed projects, including District 12's I-5 Managed Lanes Project, reflect SCAG's Goals and Guiding Principles found on pages 9 and 10 by placing a high priority on improving mobility and reliability. The Department requests that District 12's I-5 Managed Lanes Project, for the project approval and environmental document (PA/ED) component, be included in the final 2020-2045 RTP/SCS and also amended to the 2019 FTIP, per our October 2019 request to Orange County Transportation Authority (OCTA).

- Climate change impacts have become a major concern for planning agencies at all levels. As required by California Senate Bill 379, many regional and local planning agencies have started developing plans to address climate change issues. While the 2020-2045 RTP/SCS includes climate change considerations in multiple sections of the document, it should incorporate climate change plans from other agencies into the document. Further clarification should also be provided to establish which plans supersede. As requested in our previous comment letter, please review the Vulnerability Assessment for Orange County and coordinate with Caltrans for future implementation.

- Caltrans District 12 appreciates the robust and thorough discussion in the RTP's Active Transportation Technical Report and supports SCAG's efforts in encouraging Complete Streets. This technical report aligns with Caltrans' goals and objectives. Complete Streets infrastructure benefits all roadway users and promotes mobility, equity, accessibility and regional connectivity, all while decreasing congestion and improving air quality.

Active Transportation Technical Report

The following areas of the Active Transportation technical report that accompany the 2020-2045 RTP/SCS require consideration for revision:

- Page 3, first paragraph: under Section "Defining Active Transportation", add walking as part of the examples.

- Page 3, paragraph eight: consider making a distinction between traditional active transportation modes and micro-mobility modes.

- Page 5, Table 1 second row, second column: consider adding increased connectivity as part of the impacts.

- Page 7, paragraph eight: under Regional Significance consider discussing ADA-friendly infrastructure in one of the subsections. Active Transportation infrastructure also benefits ADA-reliant users by increasing these users' mobility and accessibility.

- Page 19, paragraph 4: verify the list of cities that currently have bike share programs. Some of the cities listed may no longer have these programs available. For example, the cities of

Bellflower and Paramount had a partnership with dockless bikeshare company Ofo in 2017. However, Ofo has since backed out of the United States market.

- Page 79 and 85, Bicycle Master Plans, and Pedestrian Master Plans: the City of Irvine is currently developing an Active Transportation Plan and the City of Santa Ana has recently finalized its Active Transportation Plan. Additionally, the Orange County Transportation Authority has bikeway studies on four sub-areas of Orange County--North, West/Central, South and Foothills.

- Page 98, second paragraph and page 99 Exhibit 13: clarify that the City's protected bike lane along Bristol Street is a class IV facility and incorporate it into Exhibit 13.

- Southern California ports are seeing increased demand as trade with the Pacific Region continues to grow. SCAG should continue to plan for increased truck traffic within the region. Additionally, consider a discussion of the lack of available safe, secure and accessible parking for long distance freight vehicles. Projected growth of truck traffic and the demand for truck parking will continue to outpace the supply of public and private parking facilities.

- Due to the high number of residential developments, related functions such as micro-transit and micro-freight, need to be analyzed. Optimizing curb space locations and micro-freight and micro-transit routes may reduce congestion, VMT, and wait times for users. Additional multi-modal transportation options such as bus rapid transit and parallel light rail provide alternative options for travelers.

- The Department supports SCAG's efforts to create an integrated transit payment system, discussed in the Shared Mobility and Mobility as a Service section. Please coordinate with Caltrans since we are currently developing a similar statewide program. These efforts may improve the accessibility and affordability of transit services which may result in reduced emissions, VMT and congestion.

- Consider incorporating discussion of policies of various agencies to promote existing and future Park and Ride lots that may increase carpooling, bicycling and transit use as options for commuters. This would reduce VMT and congestion.

- Due to ROW constraints on the State Highway System (SHS), implementing Intelligent Transportation Systems strategies, as discussed in the core vision of the 2020-2045 RTP/SCS, would allow for enhanced capabilities to protect transportation systems and shorten response times, enhancing operations of the SHS.

- Review of the Project List has highlighted the following inconsistencies:

  - Project FTIP ID – ORA000820 – SR 57 Truck Climbing has a total Cost of $164.2 million

  - Project FTIP ID – ORA131301 – SR 55 Add 1 Mixed Flow Lane from I-5 to SR 91 has a total Cost of $151.1 million

- Project FTIP ID – ORA131303 – SR 57 Orangewood to Katella has a total Cost of $70.6 million
- Project FTIP ID – ORA131304 – I-405 Add 1 Mixed Flow Lane from I-5 to SR 55 has a total Cost of $176 million

Attachment B

Caltrans District 7 – Environmental Planning

- Footnote 75: the hyperlink to the Induced Travel Calculator may need to be corrected by simply removing "on October 25" from the clickable hyperlink. The hyperlink currently includes the phrase "on October 25" when clicked.

- Page 3.17-8, Regional High-Occupancy Vehicle (HOV) System and Park and Ride System: please clarify if the HOV system described in this section includes the High Occupancy Toll (HOT) / express lanes. General information on the HOT lanes in the SCAG region (Los Angeles County in particular) and how HOT/Express and HOV lanes differ may be useful for this section.

- Wildlife Crossing: Besides the Liberty Canyon Wildlife Crossing that connects the Santa Monica Mountains to the open space of Simi Hills and Santa Susana Mountains, there is another opportunity for a different Wildlife Crossing at Conejo Grade around Camarillo and Thousand Oaks that needs to be looked at.

- SCAG, Metro, and Caltrans should fund projects that will improve culverts for wildlife usage, especially in the rural areas of Ventura County.

- There is also opportunity for wildlife crossings, connectivity, and corridor improvements on State Route 2 and Interstate 210 around La Cañada Flintridge, State Route 118, and State Route 126 around the Moorpark and Filmore area.

- Rocky Peak on State Route 118 needs fencing and habitat connectivity including corridor improvements for wildlife.

- Areas along Interstate 5 and State Route 14 at Sylmar, Granada Hills and north of Santa Clarita need open space to be connected (habitat connectivity) for wildlife movement.

- Access to public parks and open spaces need to be improved. Special buses at discount rate (to take people from inner-city to these parks) will be very helpful to inner-city parents and families since many inner-city neighborhoods are far from parks that have interesting resources.

- Besides light-rails and all proposed transportation projects, governmental agencies within Downtown Los Angeles and other large cities should consider alternative working hours and equip their staff to telecommute 3-4 times a month. This will improve lives and air quality.

- Cal-Fire should have fire continues education for areas in the cities that boarders open spaces. Training should be giving to volunteers and people who are willing to assist Fire

Officers and crew. We strongly encourage utility companies to place their utilities line underground (buried) in areas that are prone to wildfires.

- We believe some cities within SCAG's Region collects rainwater and run-off water. Since the average annual rainfall is between 12-22 inches, SCAG should encourage cities to capture rainwater, treat it and release it to our dry ravines.

END OF CALTRANS COMMENT LETTER

CALIFORNIA
High-Speed Rail Authority

January 23, 2020

Kome Ajise
Executive Director
Southern California Association of Governments (SCAG)
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California High-Speed Rail Authority (Authority) received the Public Notice of Availability letters from SCAG for the Connect SoCal Draft Plan and the Connect SoCal Draft Program Environmental Impact Report (PEIR), dated November 14, 2019 and December 9, 2019 respectively. Connect SoCal is SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the Southern California region, covering the timeframe from 2020 to 2045.

The Authority has reviewed both the Connect SoCal Draft Plan and the Connect SoCal Draft PEIR, and respectfully provides SCAG with the following comments:

- Draft Plan, page 69: The Authority will release its Draft 2020 Business Plan in February 2020 for public review and comment. Final adoption of the 2020 Business Plan is expected at CHSRA's April 2020 Board meeting, for submittal to the State Legislature by May 1, 2020.
- Draft Plan, page 69: The Authority has not yet executed a Proposition 1A funding agreement with Los Angeles Metro for the LINK US project. The Authority, Metro, and the California State Transportation Agency (CalSTA) did execute a Memorandum of Understanding (MOU) in September 2019 which established a commitment for these agencies to work together cooperatively towards taking the necessary steps for this funding agreement to be established.
- Draft Plan, Passenger Rail Technical Report, page 13: The Authority 2018 Business Plan does include discussion of the Phase 2 system from Los Angeles to San Diego.
- Draft Plan, Passenger Rail Technical Report, page 14: Current schedules for the Authority's Southern California sections are as follows:
  - Bakersfield to Palmdale – Draft EIR/EIS documents are expected in early 2020, and Final EIR/EIS documents are expected in 2021.
  - Palmdale to Burbank – Draft EIR/EIS documents are expected in 2020, and Final EIR/EIS documents are expected in 2021.

  - Burbank to Los Angeles – Draft EIR/EIS documents are expected in early 2020, and Final EIR/EIS documents are expected in 2021.
  - Los Angeles to Anaheim – Draft EIR/EIS documents are expected in 2020, and Final EIR/EIS documents are expected in 2021.

- Draft Plan, Passenger Rail Technical Report, page 31: Same comment as the Draft RTP/SCS, page 69 regarding the LINK US project.
- Draft Plan, Passenger Rail Technical Report, page 34: There is no high-speed rail station planned in Sylmar.
- Draft Plan, Passenger Rail Technical Report, page 42: Same comment as the Draft RTP/SCS, Passenger Rail Technical Report, page 13 regarding the HSR Phase 2 system. Also, remove Madera and replace with Merced.
- Draft Plan, Project List Technical Report, page 128: The projected cost to complete California High-Speed Rail Phase 1 – ENV/PE is $332 million for the Southern California project sections. This is consistent with the CHSRA 2019 Project Update Report (PUR), released in May 2019. COMPLETION YEAR – 2021, not 2017.
- Draft Plan, Project List Technical Report, page 242: The projected cost to complete the California High-Speed Rail Phase 1 system is $38.96 billion for the Southern California project sections. This is consistent with the Authority 2018 Business Plan Capital Cost Basis of Estimate Report, released in June 2018.
- Draft Plan, Project List Technical Report, page 242: California High-Speed Rail Phase 2 – ENV/PE can be removed from the financially constrained RTP/SCS project list.
- Draft PEIR, Financially-Constrained RTP/SCS Projects, page 128: Same comment as the Draft RTP/SCS, Project List Technical Report, page 128. In addition, the Completion Year should be changed from 2017 to 2021.
- Draft PEIR, Financially-Constrained RTP/SCS Projects, page 243: Same two comments as the Draft RTP/SCS, Project List Technical Report, page 242.

In addition, we want to highlight related work that the Authority and SCAG have done in partnership with the City of Palmdale and the City of Burbank to help fund Station Area Planning efforts that will result in infrastructure and land use changes near future HSR stations and existing Metrolink stations, including the Palmdale Transit Area Specific Plan, and the Burbank Golden State Specific Plan. Both these efforts are ongoing and are related to Connect SoCal.

Thank you for your consideration of these comments. If you have any questions, please contact me by e-mail at [redacted]ov or by phone at [redacted].

Sincerely,

Margaret (Meg) Cederoth
Director of Planning and Sustainability
California High-Speed Rail Authority

Cc: Noopur Jain, Ben Lichty

CALIFORNIA NATIVE PLANT SOCIETY

ORANGE COUNTY CHAPTER

January 24, 2020

Submitted through the Connect SoCal website:
https://www.connectsocal.org/Pages/Connect-SoCal-Comment-System.aspx

Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

RE: Comments on the 2020 Draft Connect SoCal

Dear Connect SoCal Team,

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS), collectively called Connect SoCal.

The **California Native Plant Society (CNPS)** has advocated since 1965 for California vegetation from rare plants to ecosystems. We bring together science, conservation, education, and gardening to support native plants and their benefits. Benefits include ecosystem services (for example clean air and water), biodiversity, wildlife and pollinator support, aesthetics, and human recreation and enjoyment. State-wide programs are based in Sacramento and local activities based in 35 chapters across the state. More information is available at cnps.org.

The **CNPS Orange County Chapter** continues to be part of the growing **coalition coordinated by Friends of Harbors, Beaches and Parks** that supports the inclusion of natural lands mitigation and policies within the SCAG plan.

We offer the following comments on the Natural and Farmland policy, goals, and next steps.

1. **We support your adding Conservation of Our Natural and Agricultural Lands as one of the ten main policies of Connect SoCal**. This action is appropriate given the cumulative impacts to the environment and losses of nature's benefits from past and future transportation and other development actions. The Green Print project with The Nature Conservancy is exciting work within this policy area.

2. **We support mitigation strategies of ecosystem restoration, protection of wildlife and native vegetation and riparian corridors, and permanently conserved lands**. Long term to permanent preservation requires acquisition, easement, and/or a state or federally adopted Conservation Plan. These strategies are at levels appropriate for balance with environmental challenges associated with mass transportation networks in mega-metropolitan regions.
3. **Consider aligning residents with Connect SoCal Natural Lands projects by using simple messages, signage, and education.** Describe tangible improvements and benefits.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this Plan, especially as it relates to the conservation policy and Natural and Farmlands Appendix.

We request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, **please send information to**[redacted]

Sincerely,
Brad Jenkins
President, Orange County Chapter
California Native Plant Society

Strategic Initiatives for Inland Movement of Containerized Imports at San Pedro Bay

Robert C. Leachman
Institute of Transportation Studies
University of California at Berkeley
January 12, 2017

Executive Summary

In 2015, the Ports of Los Angeles and Long Beach (the "SPB Ports") handled more containers of imported cargo than any other port complex in the United States. Over three-quarters of the contents of those containers were destined to points far beyond the LA Basin and the Ports' economic hinterland, yet these shipments resulted in significant intra-regional truck and rail shipments with significant negative environmental impacts. Mitigating those impacts is the focus of this paper and proposal.

In the recent past a significant trend has emerged, and is accelerating, that will increase the amount of highway-borne movement of imports within the Basin. Fewer international containers are being shipped "intact" to US inland points by rail while an increasing percentage are drayed to points within the Basin for de-vanning, sorting or inventorying, and finally re-loading the imported goods into domestic containers or trailers. This paper explores the forces driving the trend away from the intact shipment of international containers by rail (known as inland point intermodal or "IPI" service), identifies public-private initiatives that should be taken to mitigate its effects, and quantifies the associated air quality and congestion benefits for the LA Basin.

Of the 7.8 million TEUs (twenty-foot equivalent units) of waterborne, containerized imports through the SPB Ports in 2015:

- Less than one quarter of these imports (about 21.3%) were actually consumed in the broad local region defined to include Southern California, all of Arizona and New Mexico, and the southern portion of Nevada.
- 36.5% moved to other regions intact in marine containers using IPI service versus 47% in 2001,
- 42.2%, up from 32% in 2001, was de-vanned from marine containers in Southern California and re-shipped to other regions in domestic containers and trailers.

The intense logistics activity associated with re-allocation, re-sale and re-shipment of imports to other regions generates considerable truck traffic and associated emissions in LA Basin. It is estimated that in 2015 import supply chains generated 8.5 million dray trips, 3.9 million lifts at marine and rail terminals, and more than 700 million kilograms of CO_2 emissions within the Basin, not counting dray trips and emissions associated with transportation between regional distribution centers and retail outlets located within the broad local region nor side trips to/from chassis supply terminals or terminals for dray tractors. Supply chains involving re-shipment of imports using domestic vehicles were responsible for about 80% of the aforementioned dray trips, 52% of the lifts and 76% of the CO_2 emissions.

Four potential initiatives are discussed in this paper to significantly reduce these impacts:

- Full eastbound domestic intermodal service from the Intermodal Container Transfer Facility (ICTF),
- Short-haul intermodal service between the SPB Ports and the Inland Empire,
- Infill relocation of national distribution centers and import warehouses to closer proximity to the Ports,
- "Dray-off" from marine terminals of marine containers moving in store-door service.

The potential benefits of the first three initiatives are:

- Reduction of truck trips by more than 50% in terms of distance driven: 0.8 million, 2.9 million, and 4.6 million trips per year, respectively. The number of 8,000-foot double-stack trains per day added to the Alameda Corridor would be 4.0, 14.4, and 12.3, respectively.
- Reduction of CO_2 emissions: 13 million, 308 million, and 257 million kilograms per year, respectively.

The fourth potential initiative (Dray-off) does not reduce truck trips but reduces emissions at the marine terminals by enabling increased use of top-picker container-handling equipment in lieu of rubber-tired gantry cranes. The estimated potential reduction in CO_2 emissions from the Dray-off initiative is 51 million kilograms per year.

It is important to note that the reported potential benefits from the Infill initiative are not additive to benefits afforded by the first two initiatives. The Infill initiative subsumes the initiative for Full eastbound domestic intermodal service at ICTF. Moreover, the Infill initiative obviates some of the reductions attributed to the Short-Haul Intermodal initiative because under Infill a significant portion of Inland Empire facilities are relocated closer to the Ports, thereby eliminating the need for transportation to the Inland Empire. The benefits of the Dray-off initiative are additive to benefits derived from pursuing any combination of Infill and Short-Haul Intermodal.

Considering the extraordinary scale of the potential reductions in truck traffic and emissions, these initiatives could generate substantial public benefits. However, given the current structure of the logistics industry, such initiatives at full potential cannot be profitably undertaken by private enterprise acting alone. Public-private partnerships likely would be required, involving some level of public investment or subsidy, coupled with changes in contractual terms between supply-chain participants, and leadership in bringing the relevant stakeholders together to strike a deal.

OVERVIEW OF THE INITIATIVES

The ITCF has surplus capacity that could be utilized to provide full eastbound domestic container service. At present, domestic container loads generated at cross-docks and import warehouses located in close proximity to the ICTF are largely driven to the downtown rail intermodal terminals. Availability of full domestic container service at the ICTF would provide an opportunity to shorten the round-trip drays of these domestic containers. Unfortunately, there are very few receivers of westbound domestic container shipments in the general vicinity of the ICTF, necessitating re-positioning empty domestic containers from either City of Industry, East Los Angeles or Los Angeles Transportation Center rail terminals to the ICTF, thereby generating extra

lifts of the containers by diesel-powered rubber-tired gantry (RTG) cranes. This traffic imbalance discourages the Union Pacific Railroad from developing the ICTF as a domestic container facility. Public assistance for investments in hybrid RTGs or all-electric rail-mounted cranes (RMCs) to replace the diesel-powered RTGs could help to make the development of full eastbound domestic container service from ICTF economically viable for Union Pacific as well as provide significant environmental benefits.

Most import warehouses operated by large, nationwide retailers and most national distribution centers operated by large original equipment manufacturers (OEMs) distributing imported goods to retailers nationwide are located in the Inland Empire of the Los Angeles Basin, roughly extending from Chino to San Bernardino. Regional distribution centers for certain smaller retailers also are located in the Inland Empire. International containers loaded with imports are drayed from the SPB ports to these warehouses, then drayed back to the ports after unloading. A Short-Haul Intermodal service hauling these containers in double-stack trains between the SPB ports and a suitable rail terminal in the Inland Empire would substantially shorten a large number of dray trips. Short-Haul Intermodal is typically not a viable business for the railroads, in that there is insufficient transportation (in terms of distance) sold to overcome the terminal costs. Moreover, existing terminals at City of Industry and San Bernardino do not have surplus capacity to accommodate such a service. Public assistance for investment in a new terminal in the Inland Empire equipped with hybrid RTGs or electric RMCs, support trackage at the Ports for assembling and disassembling such trains, coupled with contractual innovations to ensure the railroad enjoys subsequent long-haul transport of re-shipped imports could make Short-Haul Intermodal a viable business proposition for the railroad as well as provide a dramatic reduction in truck traffic and emissions.

While there is a significant number of warehouses located in the general vicinity of the ICTF, most of these warehouses were not designed to handle large-scale import volumes. They are generally too small to serve as national distribution centers for large OEMs or as import warehouses or e-commerce fulfillment centers for large nationwide retailers. Razing the small warehouses, performing environmental remediation and securing necessary permits to replace them with much larger facilities is generally not a viable business strategy for commercial real estate developers, compared to the alternative of developing new, large facilities on open ground much further away from the SPB ports.

The Infill initiative is envisioned as a broad partnership involving public agencies, commercial real estate developers, railroads, and major nationwide OEMs or retailers who would become tenants of large, new warehousing facilities. Public assistance would be provided to fund the razing of obsolete, small warehouses, perform environmental remediation, close streets and provide permits as may be required to provide open ground for the construction of large-scale warehousing facilities. One or more commercial real estate companies would commit to build the facilities. A number of major nationwide OEMs or retailers would commit to leasing or purchasing the new facilities. One or both railroads would commit to provide full eastbound domestic container service from the ICTF and/or a repurposed Southern California Intermodal Gateway (SCIG), perhaps re-titled Southern California Multi-modal Gateway. Public assistance also may

be required to equip the rail terminals with hybrid RTGs or all-electric RMCs. Logistics activity now taking place in the Inland Empire would be shifted back closer to the ports, sharply reducing dray transportation and associated emissions.

At present, dray transportation of import containers outbound from marine terminals is typically controlled by the cargo receivers, who dispatch their draymen to retrieve import containers from the terminals. Although under the terms of "store-door" service the steamship line provides for dray movement of the import container from marine terminal to destination, the common practice is for receivers to use their own draymen and apply for a refund of their dray costs. Once a receiver's drayman shows up at a marine terminal, diesel-powered RTGs sift through stacked containers to find the desired box. This generates significant emissions. The Dray-off initiative envisions provision of an alternative service, priced at a discount to store-door service, whereby the marine terminal controls and dispatches the outbound drays. In lieu of multiple RTG lifts, a top-picker would be used to retrieve the nearest, topmost import box, whereupon the outbound dray of the box would be dispatched. This scheme would reduce required lifting activity and emissions at the terminal.

These initiatives are developed more fully towards the end of this paper (please refer to pages 38 – 55).

BACKGROUND

Containerization and intermodal transportation dramatically lowered the costs of international shipping, enabling American companies to tap low-cost Asian manufacturing. The resulting improvement in international supply chain efficiency and reliability facilitated the outsourcing of American manufacturing that began in the early 1980s and accelerated through the 1990s. From 1980 to 2006 the total waterborne, containerized imports from Asia to North America via West Coast ports grew rapidly. Figure 1 displays the total containerized imports through major US and Canadian West Coast ports during the period 1999 – 2015.[1] Volume doubled from about 6 million twenty-foot equivalent units (TEUs) in 1999 to almost 12 million TEUs in 2006 before a deep recession arrested import growth. While imported container volumes declined for several years following 2006, by 2015 imports via West Coast ports surpassed the 2006 peak. In 2015, there were about 15 million TEUs of containerized imports from the Far East, of which 51% passed through the San Pedro Bay ports, 33% passed through East Coast or Gulf Coast ports, and 16% passed through the other West Coast ports.

Figure 2 displays the shares (TEU basis) by port of total containerized imports through major US and Canadian West Coast ports during the period 2001 – 2015.[2] The San Pedro Bay Ports (Los Angeles and Long Beach) enjoy a dominant share of imports, although their share eroded from about 73% of total containerized imports via West Coast ports in 2001 to about 66% at present.

[1] Includes only inbound loaded international containers. Ports included: Long Beach, Los Angeles, San Francisco, Oakland, Portland, Tacoma, Seattle, greater Vancouver metro area, and Prince Rupert. *Source*: Port websites.
[2] Includes inbound loaded international containers only. *Source*: Port websites.

Figure 1: Total Containerized Imports through US and Canadian West Coast Ports 1994-2015 (TEUs)

Sources: Port web sites.

Oakland's share remained flat during this period at about 7%. The US Pacific Northwest ports' share declined from a peak in 2005 of 15% to about 11% at present, while Western Canada ports have surged from only about a 7% share in 2001 to almost 17% at present largely at the expense of US West Coast ports. Enabled by provisions of the North American Free Trade Agreement (NAFTA) allowing imports to disembark from vessels at Western Canada ports and proceed intact in marine containers by rail into the USA in bond, without paying any Canadian import duties, the Canadian ports and railroads have successfully marketed their economic and transit time advantages largely at the expense of the US West Coast ports. Container vessels embarking from Asian origins can reach Prince Rupert or Vancouver about two days faster than they can reach the SBP Ports. Thus the Western Canada ports have picked up share of imports moving in the steamship lines' inland-point intermodal (IPI) service.[3]

[3] Under IPI service, shipments move intact in marine containers from Asian origins to inland USA destinations using a combination of modes: initial dray by truck from Asian origin to Asian port, vessel from Asian port to North American port, double-stack train from North American port to inland rail terminal, and then final dray by truck from rail terminal to destination. Railroads and dray companies serve as subcontractors to the steamship lines.

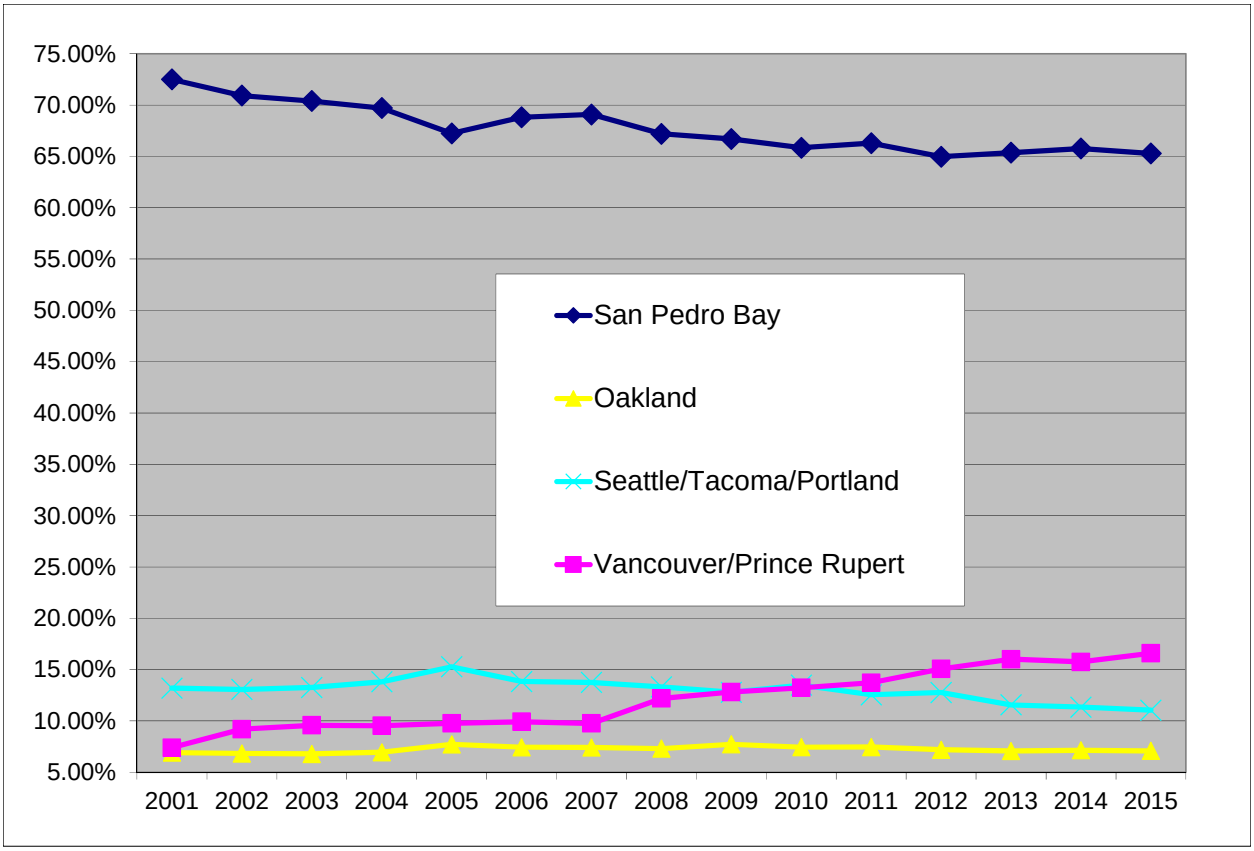


Figure 2: Port Shares of Total Containerized Imports Via US and Canadian West Coast Ports

Sources: Port web sites.

DECLINE IN MOVEMENT OF MARINE CONTAINERS ON RAIL

The investments made by the SPB ports, the railroads and marine terminal operators facilitated rapid growth in the movement of international shipments by rail through the SPB Ports for over two decades. However, changes in the nature of retailing in the US, along with increases in the size of domestic containers and the commercial incentives to use the large domestic containers provided by railroads, have shifted the growth vector in international containerized transportation from intact to trans-loaded shipments. This trend has enormous implications for the SPB Ports and the transportation infrastructure in the LA Basin.

The cubic capacity of domestic intermodal containers paced the increase in size of highway trailers, growing from 45 feet to 48 feet to 53 feet in length. Combined with aggressive pricing spurred by modal competition, low-cost domestic container service would drive a major shift away from intact international container shipments. By the mid-2000s, virtually the entire domestic container fleet in the Continental USA consisted of 53-foot containers. Their cubic capacity is about 4,000 cubic feet, compared to about 2,700 cubic feet for a “high-cube” 40-foot marine container that is nine feet, six inches tall, and compared to about 2,400 cubic feet for an ISO 40-foot marine container that is eight feet, six inches tall. For “cube” freight, i.e., freight that reaches

space limits before reaching highway weight limits, the contents of three marine containers fit in two domestic containers. Some importers report that, considering the edge losses associated with packing irregular cartons into containers or trailers, they find that the contents of five marine containers will fit in three domestic containers or trailers.

Demand for larger domestic containers was driven by an evolution in the mix of importers and an associated increase in the sophistication of supply chain management. The 1980s and 1990s saw the rise of nation-wide "big-box" retailers such as K Mart, Wal-Mart, Target and Home Depot. The big-box firms have steadily taken more and more market share from small and regional retailers. These large, nation-wide retailers enjoy economies of scale and scope that enable a new and more efficient kind of supply chain to be embraced, a supply chain in which goods do not move intact in marine containers from Asian factories to stores or regional distribution centers (RDCs), but instead are de-vanned, sorted and re-allocated to RDCs in the hinterlands of the ports of entry. This re-allocation happens subsequent to the long lead time to book vessel passage and move goods from an interior point in Asia to a USA port of entry, with only the shorter lead times remaining to move the goods from port of entry to the RDCs across the USA. Much more accurate projections of sales in various regions are available over these shorter horizons than for the long horizon facing the importer before vessel passage was booked. Re-allocation of goods by RDC destination after arriving at port of entry enables a much better match-up of supply and demand to be made.[4]

The average time until sale of goods is thereby reduced, and consequently, the average pipeline inventory is reduced, and the required safety stocks at RDCs are sharply reduced. Thus this sort of supply chain is especially attractive for goods with high inventory costs or rapid price erosion.[5] Better yet, if the imported goods at the time of arrival at port of entry are not yet in demand at any RDC, they can be stored in an import warehouse in the hinterland of the port of entry and shipped later once demand materializes, in lieu of immediate, speculative shipment to what could turn out to be the wrong RDC (wrong in the sense that, if the items had been shipped to a different RDC, they could have been sold much earlier, perhaps at higher prices.)

Considering the cubic capacity advantage of domestic over international containers, the transportation cost savings associated with the reduced number of inland container shipments afforded by domestic containers partially offsets the extra handling costs associated with de-vanning marine containers, sorting and re-allocating the goods, and reloading them in domestic containers. This savings extends the portfolio of goods for which supply chains that re-allocate goods after arrival at port of entry and re-ship them in domestic containers and trailers are superior to supply chains involving intact shipment in marine containers to inland distribution centers. The economies large nationwide retailers derive from such supply chains are not

[4] Wal-Mart was the first champion of widespread application of *cross-docking* in its supply chains, whereby a fleet of inbound containers or trailers from multiple origins is brought to a dock where their contents are unloaded, sorted and re-allocated to a fleet of outbound containers or trailers heading to multiple destinations. This technique enables better management of pipeline inventories by fine-tuning the alignment of supplies with demands. The technique is now intensely practiced by all of the nation-wide "big-box" retailers. A similar strategy is practiced by original equipment manufacturers (OEMs) bringing imported goods into the USA and re-selling them to US retailers, whereby the imports may be inventoried for some time pending sale and domestic re-shipment.

[5] Inventory costs are high when the declared value of the goods is high, when the retail price erodes very quickly (such as for fashion goods or electronics), and/or when sales are difficult to forecast (such as new toys).

available to a retailer operating retail outlets in only one region (because there are not multiple RDCs in multiple regions with offsetting sales fluctuations whose inventories can be re-balanced by re-allocation of imports), nor are they available for small retailers (because the need to re-load from marine containers into domestic containers of a different size requires sufficient, sustained import volumes so that the result is not half-empty containers or trailers shipped domestically).

DISTRIBUTION OF FAR EAST - USA IMPORTS BY COMMODITY AND VALUE

The factors driving the distribution of importers of Far East-manufactured goods are the same ones driving the shift from IPI/intact container shipments to trans-loaded shipments:

1. High value goods, such as electronics, imported by large scale OEMs continue to grow in volume and in share of imports.
2. Large-scale e-commerce firms such as Amazon also are rapidly growing their shares of imports.
3. Large-scale retailers continue to take market share from small and regional retailers who were the primary users of IPI/intact shipments.
4. The supply chain characteristics of the large-scale OEM, e-commerce and retailing importers drive toward trans-loading rather than IPI/intact shipments.

To comprehend the relative volumes in trans-loading supply chains vs. direct-shipment supply chains, we will review the distribution of Far East – USA imported goods by commodity and inventory value, the volumes of such imports by importer type. After that, we will elaborate the characteristics of the supply chains practiced by the various types of importers.

Port Import-Export Reporting Services – Trade Intelligencer (PIERS-TI) and Global Trade Atlas (GTA)[6] summaries of US Customs transactions on waterborne, containerized imports from Asia to the United States for calendar 2015 were secured by the author. Table 1 classifies these imports by commodity. Customs utilizes 99 commodity types in order to assess duties. Shown in the table are the top twelve commodity types (top twelve in terms of volume). These twelve account for almost three fourths of total imports. As may be seen, by a wide margin, the largest import commodity (in terms of cube or TEUs) is furniture and bedding; the next largest, with less than half the volume, is electronics.

There are three important take-aways from Table 1. First, the lion’s share of containerized imports from the Far East to the USA is accounted for by retail-ready goods or goods that are very close to retail-ready goods. Even the auto parts category in Table 1 consists much more of spare parts flowing to the dealer network and to auto parts retailers than of components for use in vehicle assembly. The other 86 commodity types not shown in the table are largely retail-ready goods as well. Second, while there are a few weight-freight commodities such as steel goods, imports from the Far East are largely cube freight, not weight freight. Inland transportation economies are afforded by trans-loading to domestic vehicles. And third, there is a wide variation in the average

[6] PIERS-TI and GTA are commercial data service products of IHS Markit.

declared value of these commodities. As will be discussed, the least costly supply chain for furniture and bedding, at about $15,000 declared value per TEU of container space, is very different from the least costly supply chain for electronics, with declared values averaging almost $65,000 per TEU.

Table 1. Distribution of Far East – USA Containerized Imports

Commodity (Two-digit US Customs HS code)	Percent of Total Volume	Average Declared Value ($ per TEU)
Furniture, bedding, lamps	16.2%	$15,338
Machinery	9.0	59,092
Electronics, electrical appliances	7.8	64,743
Toys, games, sporting goods	6.9	24,192
Auto parts, motorcycles	6.7	36,078
Plastic goods	6.1	26,673
Apparel	5.6	66,815
Rubber goods	4.2	21,834
Steel goods	4.2	29,489
Footwear	3.6	32,092
Wooden goods	2.5	13,495
Leather goods (e.g., handbags)	2.5	30,469
All others (86 types)	24.9	33,214

Source: PIERS-TI data for March, July and October, 2015 for imports to USA from 17 Far East nations. PIERS-TI reports volumes in terms of twenty-foot equivalent units (TEUs).

Table 2 lists the top ten importers of waterborne, containerized imports from Asia to the USA in 2015 (by volume). As may be seen, the top importers include familiar “big-box” nation-wide retailers. General broad-category stores such as Wal-Mart, Target and Family Dollar are represented, as are home improvement and furnishing chains such as Home Depot, Ikea, and Lowe’s. Large original equipment manufacturers selling to these and other retailers also appear in the top ten, such as Samsung, LG, Philips Electronics and Nike.

Table 2: Import Volumes by Importer

Importer	**2015 Volume in TEUs**
Wal-Mart	796,000
Target	537,000
Home Depot	353,000
Lowe’s	262,000
Samsung	159,000
Family Dollar/Dollar Tree	153,000
LG	142,000
Ikea	136,000
Philips Electronics	130,000
Nike	106,000

Source: Journal of Commerce. Figures rounded to nearest thousand.

Figure 3 aggregates all 99 commodity types of Far East – USA waterborne, containerized imports in 2015 as a cumulative distribution over declared value. Note the curve rises steeply at low declared values and much more slowly at high declared values, i.e., there are considerable low-value imports and much less high-value imports. Imports are classified as inexpensive, moderate-value and expensive, for reasons that will become clear below. Up to about $15,000 in declared value per TEU accounts for about 20% of imports ("inexpensive imports"); from $15,000 per TEU to about $40,000 per TEU accounts for about 50% of total imports ("moderate-value imports"); and above $40,000 in declared value per TEU accounts for about 30% of total imports ("expensive imports"). Generally, expensive imports are not sourced directly from Asian factories by USA retailers as they refuse to buy such expensive items in Asia. Instead, the retailers insist that the original equipment manufacturers (OEMs) bring such goods to the USA, whereby retailers can procure such items from the OEMs much closer to the time they can sell them and avoid risky inventory investment.

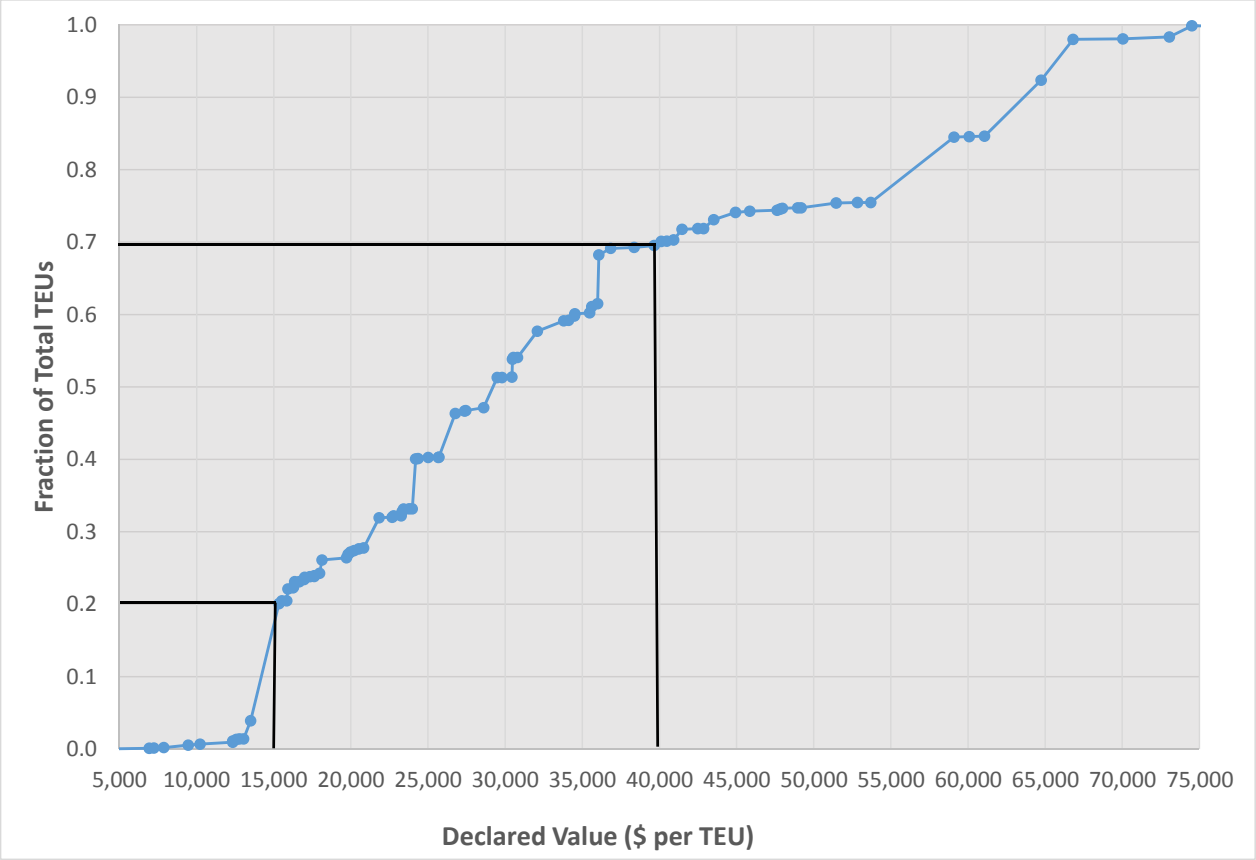


Figure 3: Value Distribution of 2015 Asia-USA Waterborne Containerized Imports

Source: PIERS-TI data for March, July and October, 2015.

Comparing to the value distribution for Far East imports to the USA in 2005, the inexpensive category has declined from 25 to 20%, the moderate-value category has held steady at 50%, and the expensive category has increased from 25 to 30% of total imports. That is, imports in the

expensive category have grown the fastest, and those in the inexpensive category have grown the least.

OVERVIEW OF ASIA – USA SUPPLY CHAINS

There are three types of supply chains that dominate Asia-US logistics: Push, Push-Pull-All-at-San-Pedro-Bay, and Push-Pull-3, 4 or 5-Corners. The Push-Pull supply chains featuring trans-loading are growing in application while Push supply chain associated with IPI is diminishing in use.

A typical large US retailer operates Regional Distribution Centers (RDCs) that restock its retail outlets or its retail customers. A large, nation-wide retailer operates on the order of 20-40 RDCs across the Continental United States. Typically such RDCs are located within an overnight drive of the stores they serve with in-house or dedicated-contract-service trucking used to replenish stores from the RDCs. Most of the retail goods inventory is held at the RDCs or further upstream in the supply chain where the impacts of store-level fluctuations in sales can be pooled. Whether sourced directly from Asian factories or from the import warehouse of an OEM, imports flow from factories in Asia to the RDCs. Broadly speaking, a fundamental decision in designing the supply chain for flows of containerized imports from Asia to RDCs in the Continental United States concerns whether to make intact container shipments directly from Asian supplier factories to RDCs, or, alternatively, to re-allocate and re-bundle factory shipments in the hinterland of the port of entry before re-shipment to RDCs. The former strategy is termed a *Push Supply Chain*, while the latter is termed a *Push-Pull Supply Chain*, explained in more detail as follows.

Push Supply Chains: The name “push” reflects the fact that imports are forwarded to RDCs before replenishment of RDC inventories is required. Importers purchase transportation of marine containers from Asian factories to their regional distribution centers (RDCs). Allocation of container-sized quantities to RDCs is decided by the importer before booking vessel passage. Landside movement to RDCs distant from ports of entry is typically made using IPI service. Landside movement is made via dray of the marine container direct from port terminal to a local RDC or by over-the-road trucking to RDCs in regions not as distant as the regions for which IPI service is utilized.

Push-Pull Supply Chains: The name “Push-Pull” reflects the fact that imports are “pushed” as far as the ports of entry to North America, but “pulled” from facilities near the ports to the RDCs only if and when required to replenish RDC inventories. A set of one up to five ports for handling all imports to the Continental USA is selected by the importer. In the hinterland of each selected port the importer maintains an import warehouse for storing goods that are imported much in advance of demands at its RDCs and for which it desires to delay making the decision to allocate goods to regions until regional demand forecasts become more reliable. Nearby each selected port the importer also contracts a trans-loader/de-consolidator (third-party logistics firm) to unload the contents of marine boxes, sort the imported goods by destination, and re-load the goods into domestic rail containers and highway trailers. Under Push-Pull, the decision is made before booking vessel passage as to how to allocate marine containers to the selected ports of entry (if

there is more than one), but the decision as to how to allocate port volumes to RDCs is deferred. Just before vessel arrival, the retailers makes an allocation of the marine boxes to the trans-loader/de-consolidator in the hinterland of the port, the import warehouse in the hinterland of the port, and the local RDC. Most containers are routed via the trans-loader/de-consolidator; a smaller fraction is routed directly to the import warehouse. In the case of high-volume importers, a small fraction of import containers may be routed directly to the local RDC. Drays of the marine boxes from the port terminal to these three destinations are made accordingly. For boxes routed to the trans-loader/de-consolidator, the retailer makes decisions just before the time of vessel arrival about how to allocate the contents of each marine box into domestic rail containers and highway trailers destined to various inland RDCs, the local RDC and the import warehouse. The trans-loader/de-consolidator processes the contents of the marine boxes and dispatches domestic rail containers and highway trailers accordingly. The domestic rail containers loaded by the trans-loader/de-consolidator are drayed to a nearby rail terminal, moved by train to a ramp in the general area of the destination RDC, then re-loaded onto chassis for final dray movement to the RDC. The highway trailers loaded by the trans-loader/de-consolidator are drayed to the local RDC, drayed to the import warehouse, or trucked to RDCs is regions not as distant as the regions for which domestic rail service is utilized. For boxes routed to the import warehouse, the goods in those boxes are unloaded and placed in storage. At some future times decisions will be made to allocate those goods to RDCs. For goods allocated to the local RDC, there is local dray movement. For goods allocated to distant regions, domestic rail containers are brought to the import warehouse, loaded and drayed to a nearby rail intermodal ramp. The domestic containers are moved by domestic double stack train to a rail terminal in the same area as the destination RDC, then re-loaded onto chasses for final dray movement to the RDC. For goods allocated to other regions for which rail intermodal service is not available or is not economical, the goods are loaded into highway trailers for truck movement to the RDCs in those regions.

For "cube freight" (i.e., imports that reach space capacities of containers before reaching weight limits), the contents of three marine containers fit in two domestic containers or trailers.[7] As noted above, the lion's share of imports from Asia is cube freight. For trans-loading to be cost-effective, the import volumes need to be at a scale of at least ten TEUs per week per RDC (i.e., five marine containers per RDC per week) or perhaps more. Importers operating at a scale smaller than this are generally restricted to Push supply chains.

A special case of Push-Pull supply chains concerns the case where goods from Asia are imported by the original equipment manufacturer (OEM) and brought to the OEM's national distribution center (NDC), typically located in the hinterland of a single port of entry. The imported goods are sold by the OEM to nationwide retailers and re-shipped from the NDC to the retailers' RDCs in domestic containers and trailers, typically at the retailers' expense. Figures 4 and 5 depict these strategies in terms of the stages of transit and inventory and the types of transportation vehicles employed (marine container, line-haul domestic container or trailer, and in-house or dedicated-service domestic trailer). Figures 6, 7 and 8 interpret the alternative supply chain strategies geographically. Figure 6 depicts a Push supply chain for a nation-wide retailer operating RDCs spread across the Continental USA. Typically, all or nearly all ports of entry are used,

[7] Some importers report that they find the contents of five marine containers fit into three domestic containers. Others say the ratio is three to two.

thereby minimizing land transportation costs. A line roughly passing through Pittsburgh and Atlanta divides RDCs served by West Coast ports from those served by East Coast ports. Texas RDCs might be served by the Port of Houston, a Mexican port of entry or the San Pedro Bay Ports (Southern California). This supply chain strategy minimizes transportation and handling costs, but experiences relatively high inventory costs because goods must be "pushed" on RDCs from Asian factories before it is known at which RDC they would sell the earliest. Figure 7 depicts the other extreme, a Push-Pull supply chain in which all imports are passed through a cross dock or national distribution center located in the hinterland of the Ports of Los Angeles – Long Beach. This supply chain permits inventory to be managed as tightly as possible, in exchange for increased transportation and handling expenses. Figure 8 depicts a "Four Corners" Push-Pull supply chain, in which RDCs are allocated to cross-docks and import warehouses in the hinterlands of the Ports of Seattle-Tacoma, Los Angeles – Long Beach, Savannah and New York – New Jersey. This is a compromise strategy in the sense that both transportation and inventory expenses are intermediate to the Push strategy and the Push-Pull-All-at-San-Pedro-Bay strategy.

Variants of the Four-Corners Strategy include Three-Corners Strategy (in which only one West Coast or only one East Coast port is utilized) and the Five-Corners Strategy (in which Houston is added as a port of entry to the Four-Corners Strategy.

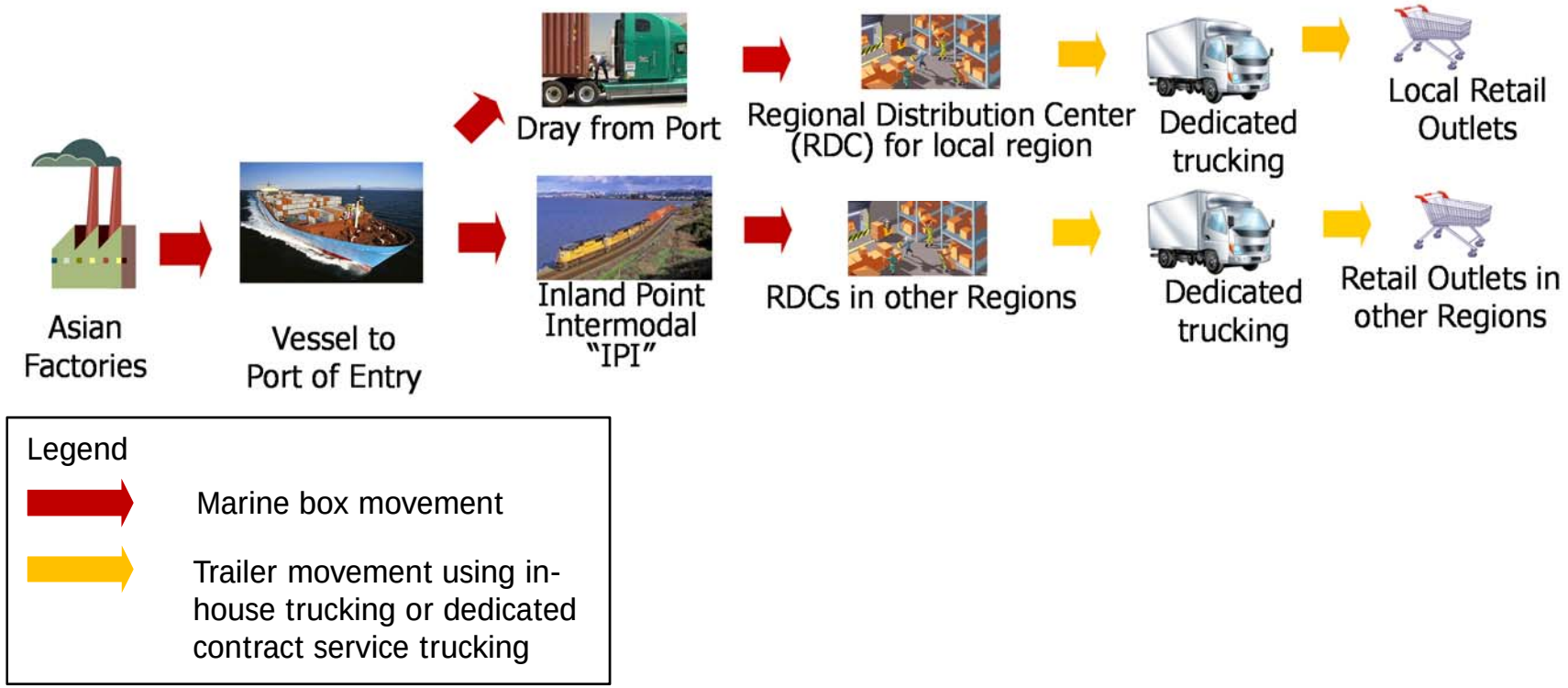


Figure 4: Push Supply Chain

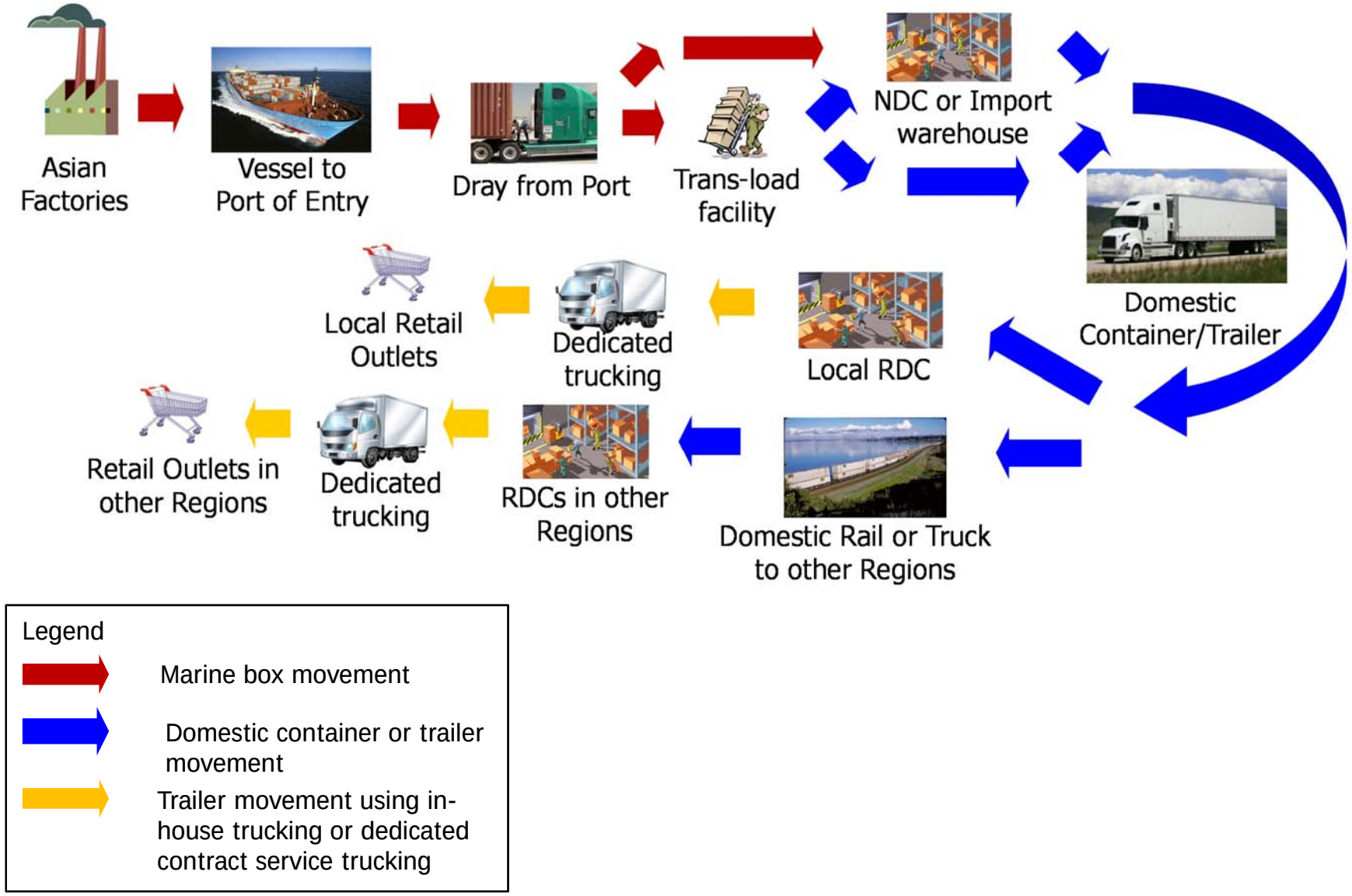


Figure 5: Push-Pull Supply Chain

Figure 6: Push Supply-Chain Strategy

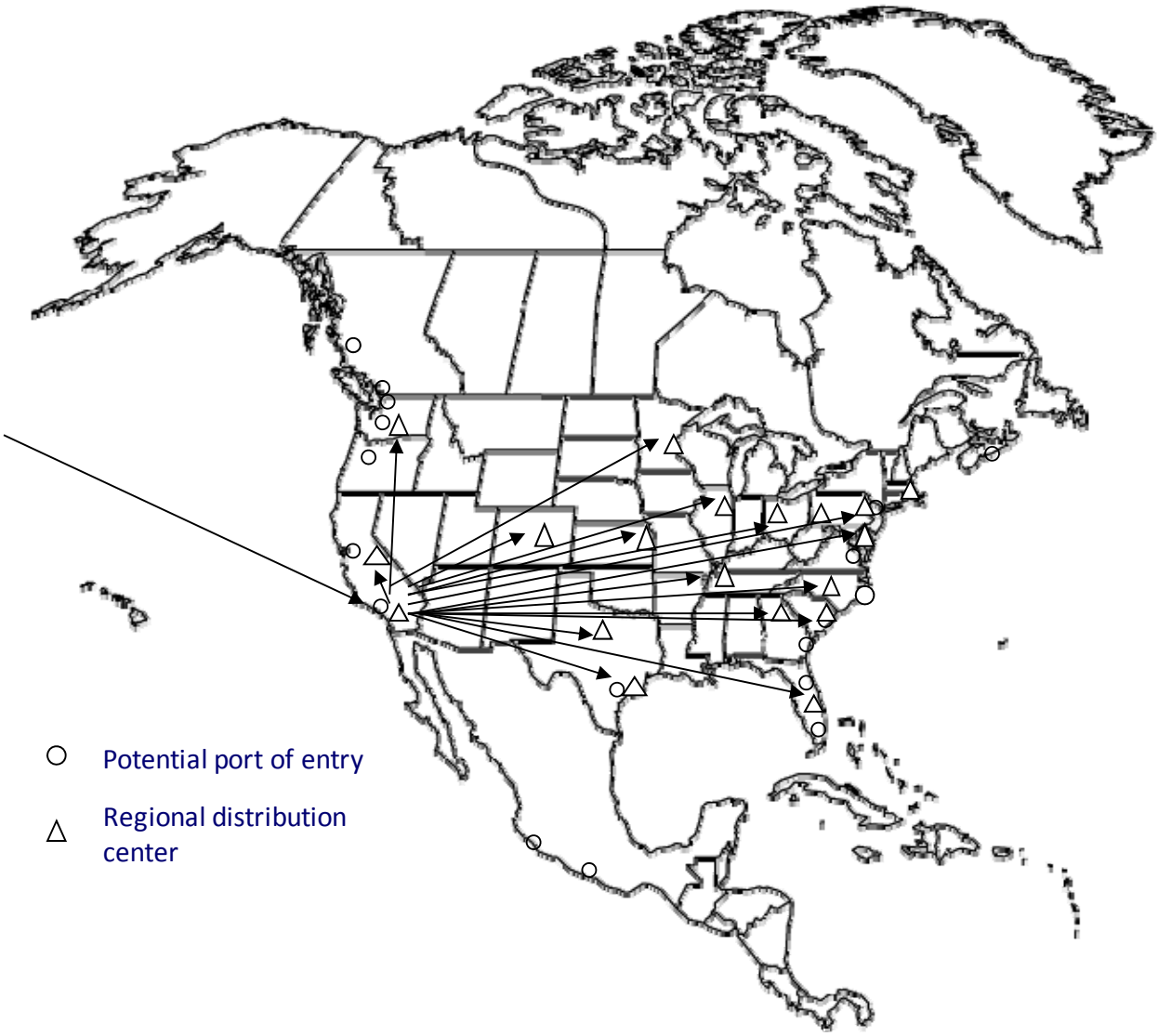


Figure 7: Push-Pull-All-at-San-Pedro-Bay Supply Chain Strategy

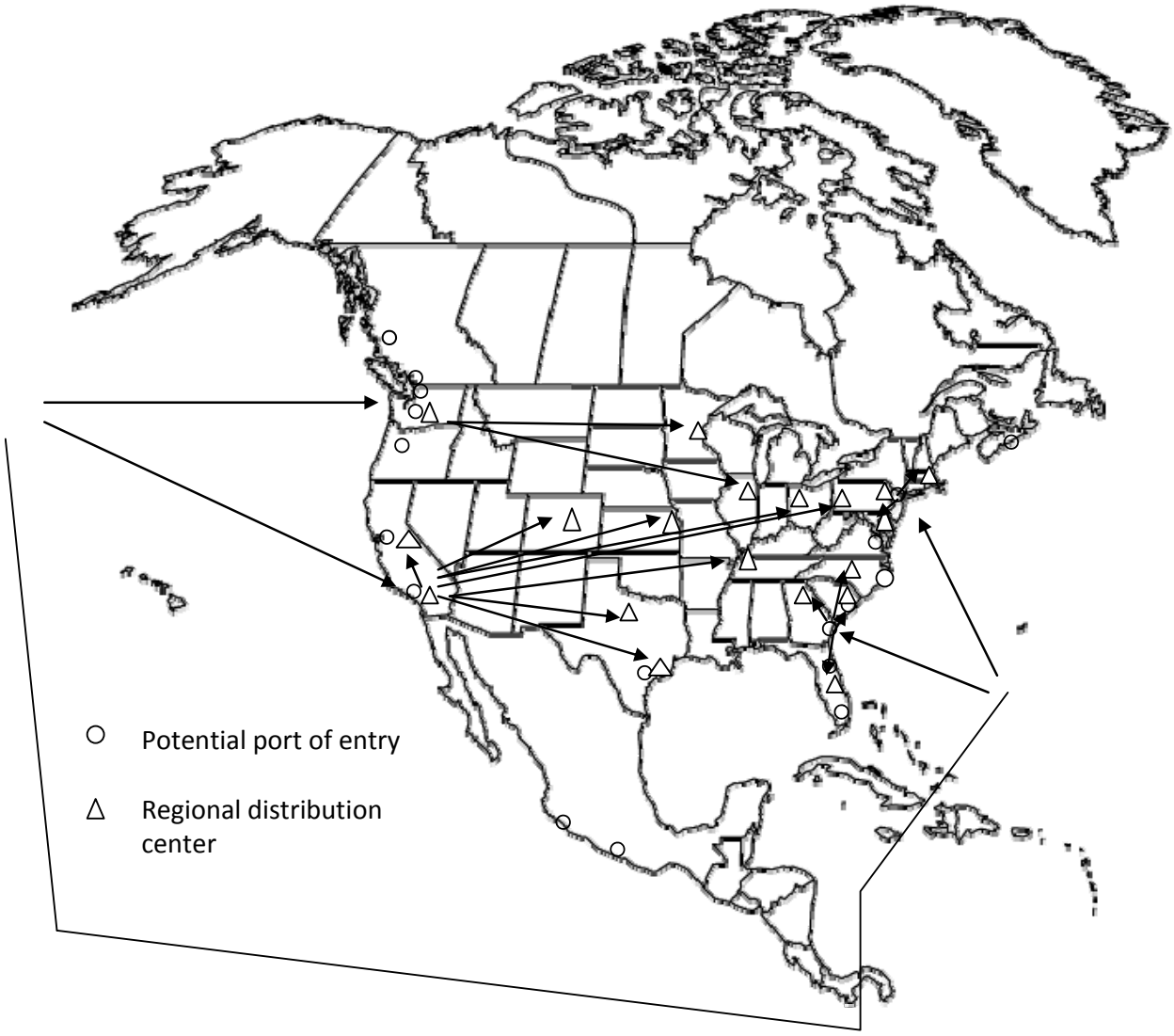


Figure 8: Four-Corners Push-Pull Supply Chain Strategy

SUPPLY-CHAIN STRATEGIES FOR VARIOUS IMPORTERS

The most effective supply chain for a given importer depends on (1) whether the importer possesses the scale and scope to effectively practice trans-loading, and (2) the opportunity for reducing inventory expense and risk associated with the goods being imported. Small-scale and regional importers typically cannot benefit from trans-loading; only large-scale importers distributing goods nation-wide can. For goods imported in sufficiently high volumes and distributed nation-wide, the Push-Pull supply chains achieve lower inventory costs and higher

average retail prices than Push supply chains, but in exchange for increased handling and transportation expenses.

The general distribution of optimal supply-chain strategies calculated by the author in his research is summarized in Table 3. Push-Pull using Three, Four or Five Corners is the best strategy for large, nationwide retailers importing broad portfolios of goods with a moderate average declared value. Such strategies are used by large importers such as Wal-Mart, Target, Home Depot and Sears/K-Mart. This segment accounted for approximately 30% of total imports in 2015. A Push-Pull 1 Corner supply chain is the best strategy for OEMs importing expensive goods re-sold to retailers throughout the Continental USA, and the lowest-cost supply chain of this type is realized if the Corner is located at San Pedro Bay. We refer to such a supply chain serving this segment as Push-Pull-All-at-San-Pedro-Bay. This segment accounted for approximately 15% of total imports in 2015 and includes commodities such as electronics, fashion, auto parts, and shoes.

Table 3: Optimal Supply Chains for Various Types of Importers

Push	**Push-Pull 3, 4 or 5 Corners**	**Push-Pull All at San Pedro Bay**
Nation-wide Importers of One-Time-Sale Goods (5%)	Large Nation-wide Importers of Moderate-value Goods (30%)	Original Equipment Manufacturers of Expensive Goods with Nation-wide Sales (15%)
Small and Regional Importers (50%)		

The Push supply chain strategy is used to some extent by large nation-wide retailers for those goods marketed in one-time sales events, such as patio furniture at Memorial Day or back-to-college refrigerators in late August. In addition, the Push supply chain strategy must be practiced by all small and regional importers, as they do not possess the scale or scope to practice Push-Pull strategies. The segment for which a Push supply chain is most suitable accounted for approximately 55% of total imports in 2015.

INCREASED USE OF PUSH-PULL SUPPLY CHAINS

During the period 2005-2015, the use of Push-Pull supply chains grew while the use of Push supply chains declined. Nation-wide, it is estimated that in 2006 total Push imports to Continental USA from Asia were 64% and total Push-Pull imports were 36%, whereas in 2015 the split was 55% Push and 45% Push-Pull. That is, the share of Push-Pull climbed nine points over a decade. The effect of this change is most pronounced in Southern California, because the San Pedro Bay ports are utilized in both Push-Pull-All-at-San-Pedro-Bay supply chains and Push-Pull- 3, 4, or 5-Corner supply chains. It is estimated that total import volume in 2006 at San Pedro Bay was 53%

Push and 47% Push-Pull, whereas in 2015 it was 43% Push and 57% Push-Pull. That is, the Push-Pull share at San Pedro Bay rose by 10 points over a decade. At the present time, more imports leave the Los Angeles Basin for inland USA points in domestic containers and trailers than leave the Basin in marine containers.

Figure 9 displays trends in volumes handled at rail intermodal terminals in the Los Angeles Basin since the 2006 import peak. Volumes are expressed in "lifts," i.e., containers or trailers placed in rail cars or removed from rail cars, normalized as a percentage of 2006 peak-volumes. Displayed are trends in lifts at three groups of terminals. "Inland Empire Ramps" include the BNSF San Bernardino intermodal terminal and the UP City of Industry intermodal terminal. They serve the OEM national distribution centers as well as import warehouses and e-commerce fulfillment centers for large retailers located in the Inland Empire and are exclusively for domestic containers and trailers. "Port Area Ramps" include the ICTF and a number of on-dock and near-dock terminals at the ports. This group of terminals handles very few domestic containers; and almost all of their business is in marine containers. "Downtown" ramps include BNSF's Hobart and Commerce terminals and UP's East Los Angeles and Los Angeles Transportation Center terminals; this group includes a mixture of marine containers and domestic containers and trailers. As may be seen, in 2015, the port area terminals and the downtown terminals were still about 5% below the peak volumes they experienced in 2006. In contrast, the Inland Empire terminals, serving exclusively domestic containers and trailers, were 15% above the 2006 peak. These trends demonstrate the shift from Push to Push-Pull supply chains and the consequent increase in truck traffic in the Basin.

There are several reasons for this change in supply-chain mix. First, large nation-wide importers have been learning to manage their supply chains better and re-engineering them accordingly. They are realizing the "Power of Postponement" afforded by waiting to commit destinations for imports until after regional and local store demands materialize. By routing goods to where they can be sold first, cash flow is accelerated, and high selling prices are maintained.

Second, the product portfolios of certain importers include both "weight freight" imports and "cube freight" imports sourced from different factories in Asia, perhaps from different countries. For example, a home improvement retailer imports marine containers loaded with hardware (heavy) and other marine containers loaded with furniture or bedding (light). The marine boxes of these imports may be routed to the same cross-dock, where the contents can be blended into domestic container loads that weight-out exactly when the cubic capacity is reached, thereby significantly reducing inland transportation requirements. The low-value loads of furniture and bedding, which otherwise might have been shipped directly to inland RDCs in IPI service, are trans-loaded to domestic containers drayed from cross-docks to domestic rail terminals.

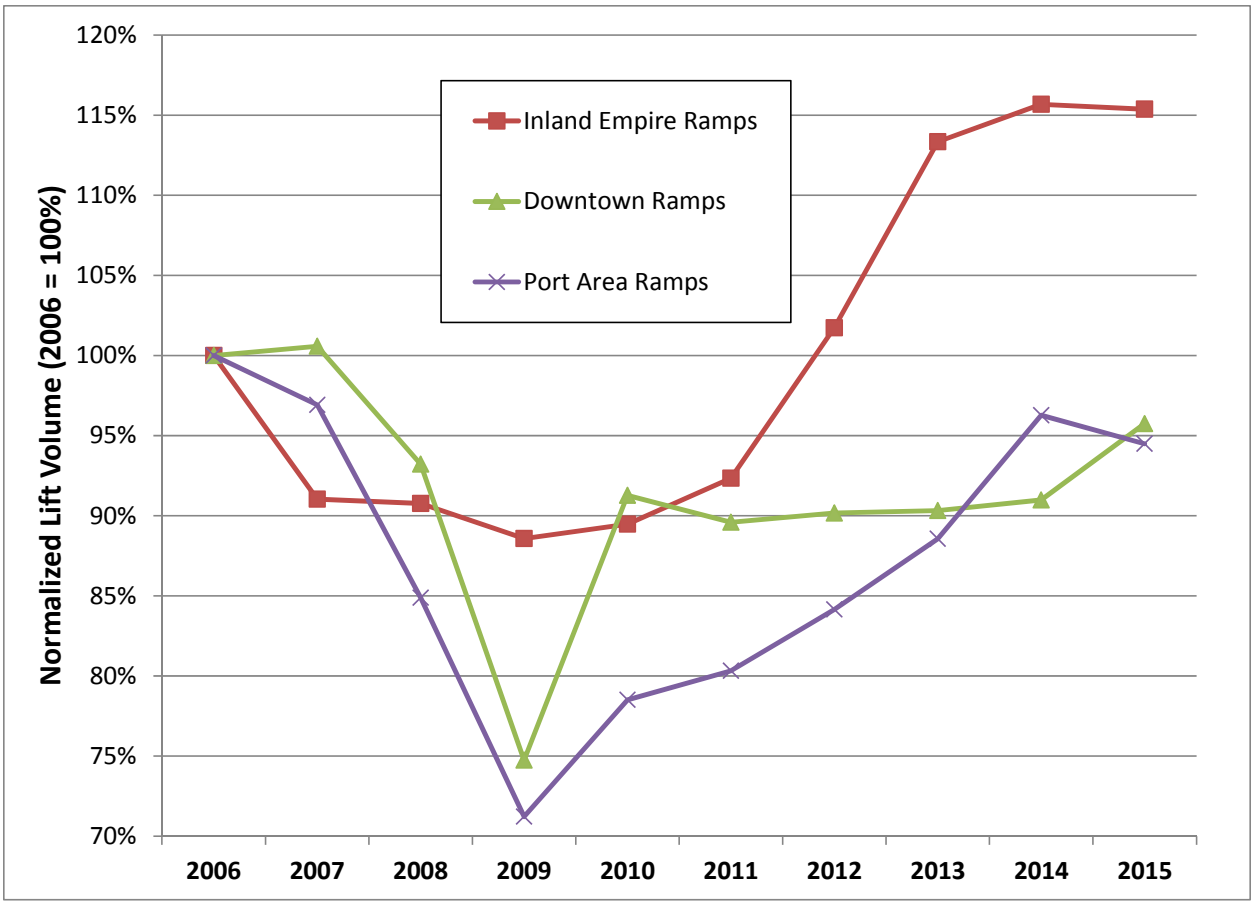


Figure 9: Evolution of Lift Volumes at Los Angeles Basin Intermodal Terminals

Source: Private communications from BNSF and UP.

Third, the cost advantages of large, nation-wide retailers enable them to undercut small and regional retailers and drive them out of the market. From calculations made using the model, the large nation-wide importers practicing Push-Pull supply chain strategies enjoy a 18-20% cost advantage (in terms of total transportation and inventory costs for imports from Asia) over small and regional importers unable to effectively adopt such strategies. This explains the increasing dominance of retailing by the large nation-wide retailers and the steady decline of small and regional retailers. The 2008-2009 recession was particularly hard on many small and regional retailers. For example, in California, the Mervyn's and Gottschalk's chains closed down. Their market shares were taken by the likes of Wal-Mart, Target and Sears/K-Mart, and thus their import volumes moved from Push supply chains to Push-Pull supply chains.

Finally, the steamship lines enjoyed long-term (e.g., 10-year) contracts from the railroads for IPI service to haul marine boxes inland at attractive rates. These legacy contracts started to expire in 2007; the last of them expired in the spring of 2011. They have been replaced by shorter contract terms at much (typically 25-35%) higher rates. Thus rail rates on marine boxes have risen more

than have rail rates on domestic boxes. This serves to offset the extra handling costs associated with cross docking, thereby making Push-Pull more attractive and Push less attractive than otherwise.[8]

EXAMPLE OF DRAY VOLUMES GENERATED BY A PUSH-PULL SUPPLY CHAIN

While most people imagine that an international shipment might generate one or two drays in the LA Basin, the reality is startling different: Counting all the necessary trips with loaded and empty containers and trailers, the number of drays can vary from 0 to 6.

The sophistication and complexity of contemporary supply chains as practiced by large, nation-wide importers is illustrated by the hypothetical example in Figure 10. Actual volumes in the various channels illustrated in the figure vary by time of year and from day to day, so this example is simply representative but nonetheless realistic.

Consider the case of a 10,000-TEU vessel arriving at the Port of Los Angeles. "Big-Box Stores, Inc." accounts for 10% of total Asia – USA waterborne, containerized imports; accordingly, 500 out of the 5,000 forty-foot boxes on this vessel contain imports that will ultimately be sold in Big-Box Stores' retail outlets. However, only 400 of the 500 boxes are imported with bills of lading showing Big-Box as the importer; the other 100 boxes contain expensive goods imported by OEMs, and Big-Box will purchase these goods from the OEMs sometime after clearing customs.

Tracing the 400 boxes for which Big-Box is the importer, 140 of these boxes contain inexpensive imports or one-time-sale imports that are passed through a Push supply chain. Thirty of these are drayed from the port terminal to the RDC serving the Southern California region (the "local RDC"). The other 110 are loaded into rail double-stack well cars for inland movement under IPI service.

The 260 boxes containing moderate-value goods are passed through a Push-Pull supply chain. The entire contents of five of these boxes are in current demand in Southern California, so they are drayed directly to the local RDC. Another 130 boxes contain goods not in demand in any region yet, so they are drayed to the import warehouse operated by (or on behalf of) Big-Box stores in the Inland Empire region of the Los Angeles Basin. The other 125 boxes contain goods that are being routed to multiple destinations, so they are drayed to a cross-dock. The 125 marine boxes routed to the cross-dock generate domestic-box loads as follows: 27 trailer loads to the local RDC, 11 trailer loads trucked to the Northern California RDC, and 48 domestic container loads drayed to domestic rail intermodal ramps in downtown Los Angeles or the Inland Empire.

The contents of the 130 marine boxes routed to the import warehouse are unloaded and stored. But later they will become in demand at various RDCs. When they do, the breakout of the corresponding outbound volume from the import warehouse is as follows: 28 trailer loads will be

[8] The rise in IPI rates also promoted a shift in imports from IPI via West Coast ports to "all-water" service via the Panama Canal to East and Gulf Coast ports of entry.

drayed to the local RDC; 11 trailer loads will be trucked to the Northern California RDC; and 48 domestic container loads will be drayed to the domestic container rail terminals.

Finally, we turn to the 100 boxes of expensive goods imported by OEMs. They are drayed to the OEM's national distribution center, pending sale to Big-Box Stores. As they are sold, they generate truck trips as follows: 8 trailer loads drayed to the local RDC, 3 trailer loads trucked to the Northern California RDC, and 54 domestic container loads drayed to the domestic container rail intermodal terminals.

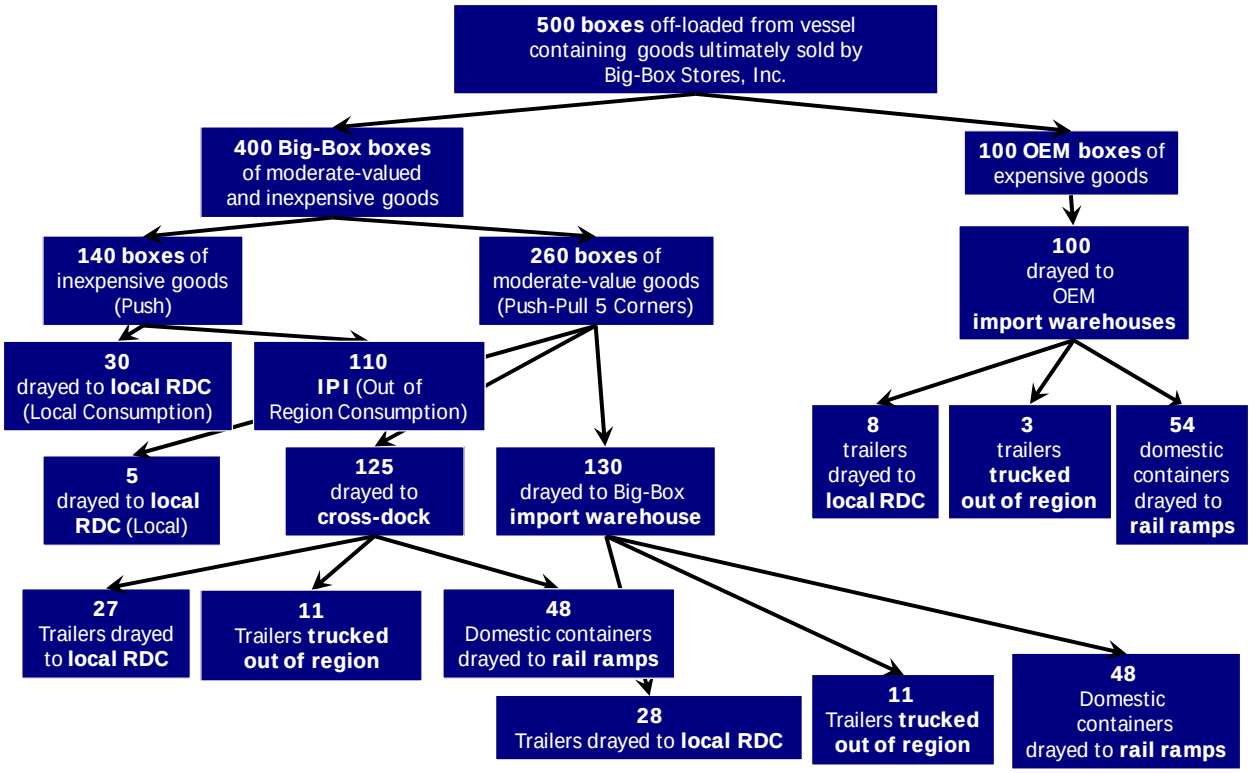


Figure 10: A Big-Box Stores Example

Re-capping this example, for the 500 marine boxes arriving at the port terminal, 110 went IPI (loaded in rail cars), 35 were drayed to the local RDC, 230 were drayed to import warehouses or national distribution centers, and 125 were drayed to a cross-dock facility. From the import warehouses, national distribution centers and the cross-dock, truck trips were generated as follows: 63 trailer loads to Big-Box's local RDC, 22 trailer loads trucked to Northern California, and 150 domestic containers drayed to domestic rail intermodal ramps.

Even if all 110 IPI boxes were loaded at an on-dock rail terminal (and thus there are no truck trips outside the port terminal for these boxes), the other 390 boxes generated *1,350 truck trips* in

the Los Angeles Basin (675 loaded container movements plus 675 return movements of empty boxes or chasses), not counting distribution from the local RDC to retail outlets.

The Alameda Corridor project was very effective in providing efficient and completely grade-separated access to the San Pedro Bay ports for IPI service. It reduced railroad impacts on the urban area, and it was dramatically more cost effective than the traffic and sound mitigation measures that would have been required had the railroads serving the ports not been consolidated into a single corridor. But the train volumes in the Alameda Corridor never reached projections used in planning or environmental assessment of the project. While total imports at the San Pedro Bay ports reached or surpassed projections (up until 2006, anyway), the IPI volumes did not. And this is precisely because a larger and larger share of imports moved into the hands of nation-wide retailers and OEMs practicing the managed supply chains as described above.

At present, rail terminal capacity for domestic containers near the San Pedro Bay Ports is negligible. Most cross-docks handling inbound marine containers are located near the ports, and so the outbound domestic containers are drayed on the freeways from domestic rail terminals located near downtown Los Angeles and then drayed back. Moreover, the OEM warehouses are mostly located in the Inland Empire, so that marine containers containing goods imported by the OEMs are drayed on LA Basin freeways from the ports to the Inland Empire, and then the subsequent domestic container shipments to the OEM's retail customers are drayed to rail intermodal terminals bracketing the Inland Empire in City of Industry or San Bernardino.

In terms of truck traffic and emissions, the hardship from Push-Pull supply chains on the Los Angeles Basin cities located between the San Pedro Bay ports and the Inland Empire domestic-box rail intermodal terminals is severe. But it should be noted that the trans-loading to domestic boxes significantly reduces the required transportation further inland. Considering the lengths of marine and domestic double-stack well cars, and considering the cubic capacity of marine and domestic containers, total train length to move a given import volume inland is reduced by 17% (i.e., 17% less trains are needed to move the cargo inland), the weight of the trains hauling the imports is reduced by 1.3 tons per TEU, and dray trips at the destination end of the rail trip are reduced by 40% (because two domestic containers do the work of three marine containers).

THE STRUCTURE OF SAN PEDRO BAY IMPORTS

For the purposes of transportation and emissions analysis it is useful to stratify San Pedro Bay containerized imports by supply chain channel. In this section, the overall San Pedro Bay import volume is broken out by channel and mode. This is accomplished by first determining a stratification of import volumes by supply chain type, then breaking out supply chain volumes by distribution channels and transportation modes.

As discussed in the previous section, there are three basic types of supply chains for Far East – Continental USA imports:

- Push supply chains
- Push-Pull 3[4][5] Corners supply chains

- Push-Pull 1 Corner supply chains

As noted above, the author estimates that Push supply chains account for about 55% of total Far East – USA imports, Push-Pull 3[4][5] Corner supply chains account for about 30%, and Push-Pull 1 Corner supply chains account for the remaining 15%. In the following analysis we shall adopt these shares as a starting assumption. As developed below, there are certain known local volumes concerning San Pedro Bay imports, and these local volumes serve as boundary conditions to be satisfied for San Pedro Bay imports and thereby facilitate the estimation of import volumes at San Pedro Bay moving in each type of supply chain.

We divide the Continental USA into twenty-two retailing regions, as shown in Table 4.[9] The last column of the table provides data on purchasing power (population multiplied by income per capita, both extracted in September, 2016 from the US Census web site). Note that the Southern California region, including all of Arizona and New Mexico plus the southern portion of Nevada, accounts for just 10.8% of total Continental USA purchasing power. Moreover, for the months of March, July and October, 2015, the share for San Pedro Bay of total waterborne containerized imports from Far East countries to the United States was 50.7%.[10] Assuming this figure applies to the entire year, and considering that imports from the Far East to USA are nearly all retail goods, this suggests that *about 10.8/50.7 = 21.3% of San Pedro Bay imports were ultimately consumed in the local region, whereas 78.7% where shipped landside to other regions*.

Next, the Alameda Corridor Transportation Authority reports that in 2015, there were 2,843,549 TEUs in eastbound inland point intermodal (IPI) service from San Pedro Bay, including 2,530,775 loaded TEUs moving through the Corridor and 312,774 loaded TEUs drayed from the ports to downtown Los Angeles rail terminals (Hobart on BNSF and East Los Angeles and LATC on UP).[11] This compares against 7,784,725 total loaded TEUs discharged at San Pedro Bay in 2015,[12] making for a ratio of 2,843,549/7,784,725 = 0.365. Thus, in 2015, *the total San Pedro Bay percentage of imports moving in IPI service was about 36.5%*. Comparing against the 78.7% figure derived above for total shipping of imports to other regions, this means *about 42.2% of San Pedro Bay containerized imports were ultimately shipped to other regions in domestic containers and trailers*.

While most Push-Pull 1 Corner supply chains for Far East – USA imports utilize San Pedro Pay as the single port of entry, there are some counterexamples, such as Recreational Equipment Inc. distributing its imported sportswear imports from Puget Sound, or Limited Brands, Inc. distributing its imported fashion items from Columbus, OH. It is assumed herein that 80% of Push-Pull 1 Corner supply chains utilize a national distribution center located in Southern California.

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[9] Leachman (2008) uses twenty-one regions to stratify Far East – Continental USA imports. One more region is incorporated here, an Intermountain region, reflecting purchasing power growth in Utah and Colorado.
[10] Source: PIERS-TI extracts. PEIRS-TI is a commercial data product of IHS Markit.
[11] Source: Private communication to the author from ACTA.
[12] Source: Port of Long Beach and Port of Los Angeles web sites.

Table 4. Purchasing Power in Retailing Regions of the Continental USA

Region	**Assumed Location of RDC**	**Assumed Geographical Extent** (expressed percentages of states apply to total purchasing power in those states)	**Fraction of Cont. USA Purchasing Power**
Southern California	Ontario, CA	60.1% of CA, all of AZ and NM, 67% of NV	0.108
Northern California	Lathrop, CA	39.9% of CA, 33% of NV	0.054
PNW	Kent, WA	WA, OR, 50% of ID, 50% of MT	0.041
Intermountain	Salt Lake City, UT	UT, WY, CO, 50% of ID, 50% of MT	0.033
Houston	Baytown, TX	50% of TX, all of LA and MS	0.059
Dallas	Midlothian, TX	50% of TX, all of OK	0.051
Kansas City	Lenexa, KS	KS, NE, MO, IA	0.041
Minneapolis	Rosemount, MN	MN, SD, ND, 50% of WI	0.033
Memphis	Millington, TN	KY, TN, AR	0.037
Chicago	Joliet, IL	50% of WI, all of IL, IN and MI	0.099
Atlanta	Duluth, GA	50% of GA, 50% of FL, all of AL	0.056
Columbus	Springfield, OH	50% of OH	0.017
Cleveland	Chagrin Falls, OH	50% of OH, 25% of NY	0.035
Pittsburgh	Beaver Falls, PA	50% of PA, all of WV	0.025
Savannah	Garden City, GA	50% of GA, 50% of FL	0.044
Charleston	Summerfield, SC	50% of SC	0.007
Charlotte	Salisbury, SC	50% of SC and all of NC	0.035
Norfolk	Suffolk, VA	VA	0.030
Baltimore	Frederick, MD	MD, DE, DC	0.030
Harrisburg	Allentown, PA	50% of PA	0.020
New Jersey	East Brunswick, NJ	NJ, CT, 75% of NY	0.103
Boston	Milford, MA	MA, VT, NH, ME	0.042

Source: Purchasing power figures from the US Census web site.

In typical Push-Pull 4 Corners supply chains, regions assigned to San Pedro Bay for inventory replenishment include Southern California, Northern California, Houston, Dallas, Kansas City, and Memphis. The Chicago, Columbus, Cleveland and Pittsburgh regions comprise the "Neutral East," i.e., regions which might be assigned to either the Puget Sound corner or to the San Pedro Bay corner, because rail rates from the two ports to Neutral East regions are competitive. Considering the purchasing power of the regions involved, we expect that, at a minimum, the San Pedro Bay corner handles 37.9% of USA imports moving in such supply chains, and up to 55.5% if the entire Neutral East is assigned to San Pedro Bay. For Push-Pull 3 Corners supply chains, the range would move up; for Push-Pull 5 Corners supply chains, the range would move down.

We have the following boundary conditions matching data on actual San Pedro Bay import flows for calendar 2015:

- 50.7% of total Far East – USA waterborne containerized imports move through San Pedro Bay;
- 10.8% of total Far East – USA waterborne containerized imports are consumed in the "Sou Cal" local region, assumed to have been entirely imported via San Pedro Bay;
- 36.5% of Far East – USA waterborne containerized imports via San Pedro Bay moved in IPI service.

Taken with the assumptions of shares for supply chain type expressed above, it turns out that these boundary conditions make the amounts of imports moving through San Pedro Bay in each supply chain type determinate (see equations in Appendix 1). The results are:

- 48.2% of San Pedro Bay imports move in Push supply chains
- 28.1% of San Pedro Bay imports move in Push-Pull 3[4][5] Corners supply chains
- 23.7% of San Pedro Bay imports move in Push-Pull 1 Corner supply chains

For the assumed nationwide shares and the local boundary conditions, the fraction of total USA Push supply chain imports moving through San Pedro Bay is 44.5%. Moreover, for the assumed shares and the boundary conditions, the fraction of total USA Push-Pull 3[4][5] Corners supply chain imports moving through San Pedro Bay implied by the boundary conditions is 47.5%. These results are consistent with the 37.9% - 55.5% range – depending on the extent to which Neutral East regions are assigned to the San Pedro Bay corner – as discussed above.

These figures result in precise satisfaction of the boundary conditions, i.e. 21.3% of total imports are consumed locally, 36.5% of imports move eastward in IPI service, and 42.2% of total imports move out of region in domestic containers or trailers.

Stratification of Import Volumes by Supply Chain Channels

The key facilities utilized in import supply chains are located as follows:

- *Regional Distribution Centers (RDCs)* – These facilities are used by retailers to distribute imports to their retail outlets within the local region. It is assumed that the RDCs serving

the Southern California region for all large, nation-wide retailers utilizing Push-Pull 3[4][5] Corners supply chains are located in the Inland Empire (Chino – San Bernardino) or adjacent areas. For small or regional importers practicing Push supply chains, it is assumed that only 30% of such importers have RDCs located in the Inland Empire, and the rest are located elsewhere in the region.

- *National Distribution Centers (NDCs)* – These are used by OEMs located in Southern California to distribute goods nation-wide to their retailing customers. Generally, the retailing customers pay for the outbound freight from the OEM's NDC to the retailer's RDC. We assume 85% of Southern California NDCs are located in the Inland Empire or adjacent areas, while 15% are located in the general vicinity of the ICTF (i.e., the communities surrounding the San Pedro Bay ports).
- *Cross-docks* – These are used by large, nation-wide retailers utilizing Push-Pull 3[4][5] Corners supply chains to re-allocate multiple type of goods from multiple origins arriving in marine containers into mixed shipments in domestic containers or trailers. It is assumed that 90% of such facilities processing imports via San Pedro Bay are located in the general vicinity of the ICTF and 10% are located closer to the downtown rail terminals (Hobart on BNSF and East Los Angeles and LATC on UP).
- *Import Warehouses* – These facilities also are used by large, nation-wide retailers utilizing Push-Pull 3[4][5] Corners supply chains. Imported goods arriving well in advance of retail demand are temporarily stored in import warehouses, then re-dispatched as shipments in domestic containers or trailers closer to the time retail demands will materialize. It is assumed that 100% of such facilities warehousing imports in such supply chains moving via San Pedro Bay are in the Inland Empire or adjacent areas.

While there is considerable warehousing near the San Pedro Bay ports, these are smaller, older facilities, generally on the order of 80,000 – 120,000 square feet. They are too small to be useful as import warehouses or regional distribution centers for large nation-wide retailers, which are typically on the order of 1 million square feet. They also are too small to be useful as national distribution centers for most OEM importers; their facilities are typically on the order of 250,000 – 800,000 square feet. A few OEMs have found suitable buildings to serve as their NDC in the general vicinity of the ICTF, but the lion's share occupy facilities in the Inland Empire or adjacent areas. To the author's knowledge, all major Big-Box retailers have located their Southern California import warehouses and RDCs in the Inland Empire or adjacent areas.

Cross-dock facilities used for processing imports of the large, nation-wide retailers are ideally located close to the ports; locating them further out may engender back-tracking of certain outbound shipments. For example, if the cross-dock were located in the Inland Empire, goods allocated to the Northern California RDC will have further to travel than if the cross-dock were located close to the ports. Cross-docks generally are sized around 80,000 – 100,000 square feet; the old warehouses in the general vicinity of the San Pedro Bay ports are suitable for conversion to cross-docks, provided enough truck doors can be cut into the sides and provided there is enough parking space. For these reasons, virtually all cross-docks utilized by the large,

nation-wide retailers are located close to the ports, i.e., in the general vicinity of the ICTF, or in a broadly-defined corridor stretching from the ICTF up to the downtown rail terminals.

Imports to be processed at the cross-docks are drayed from marine terminals. Outbound shipments from cross-docks to regions east of the Rockies are generally loaded into domestic containers drayed up to the downtown rail intermodal terminals. Shipments from the cross-docks to the Northern California RDCs are loaded into domestic trailers for truck movement. Shipments from the cross-docks to Southern California RDCs or import warehouses also are loaded into trailers for dray movement to the Inland Empire or adjacent areas. We assume that for every 6 TEUs of imports, two domestic container or trailer outbound loads are generated. The same ratio applies to inbound and outbound shipments at NDCs and import warehouses.

At the other end of the supply chain spectrum, the small and regional retailers serving the Southern California region do not require large facilities; many of the facilities in the Inland Empire warehouse parks are too large for their purposes. For this reason, it is assumed only 30% of such importers have RDCs located in the Inland Empire; the rest are located elsewhere in the region.

We now proceed to delineate import flows through these facilities. We consider all movements from departure from the ports to arrival at local RDC or departure from the Southern California region:

- 36.5% of import boxes get on a train (IPI service). In 2015, 73.0% were loaded into well cars at on-dock terminals, 16.0% were loaded at ICTF, and 11.0% at the downtown rail terminals.[13] All of this volume is moving in Push supply chains. Over time, the fraction downtown is diminishing, although it will probably never completely go away, as some Push supply chain importers on occasion pay for premium train service not available at on-dock terminals or the ICTF.
- We assume the Northern California region and the PNW region are not served by the San Pedro Bay ports for imports moving in Push supply chains. Thus the remaining San Pedro Bay import volume moving in Push supply chains is for consumption in the Southern California region and therefore moves to the RDCs serving the region. Considering that total Push supply chain volume through San Pedro Bay comprises 48.2% of total Far East imports through San Pedro Bay, this is (0.482)*(0.108/0.445) = 11.7% of the San Pedro Bay imports. As discussed above, we assume 30% of this volume is drayed to RDCs located in the Inland Empire and the rest drayed to RDCs located elsewhere. Thus 3.5% of San Pedro Bay imports are drays to RDCs located in the Inland Empire for Push supply chain importers and 8.2% are drays to RDCs located elsewhere.
- 23.7% of import boxes are drayed from the ports to OEM NDCs. Considering the current locations for such facilities, this breaks down into 20.1% drayed to NDCs in the Inland Empire and 3.6% drayed to NDCs in the general vicinity of the ICTF.

[13] Source: The figure for downtown rail terminals is a private communication from ACTA. The split between on-dock and ICTF is the author's estimate based on lift data.

- From NDCs, truck shipments to the retailing customers' RDCs serving the Northern California region are generated. Considering that the Northern California region comprises 5.4% of the purchasing power in the Continental USA, we conclude that 5.4% of the outbound volume from NDCs in the Inland Empire or the general vicinity of the ICTF are trailer shipments to RDCs serving the Northern California region.
- From NDCs, shipments to the retailing customers' RDCs serving the PNW region are generated. We assume 100% of these shipments move in domestic rail containers. Considering that the PNW region comprises 4.1% of the purchasing power in the Continental USA, we conclude that 4.1% of the outbound volume from NDCs in the Inland Empire or the general vicinity of the ICTF are domestic container shipments drayed to downtown rail terminals (East Los Angeles or LATC).
- From NDCs, shipments to the retailing customers' RDCs serving the Intermountain region are generated. We assume 100% of these shipments move in domestic rail containers. Considering that the Intermountain region comprises 3.3% of the purchasing power in the Continental USA, we conclude that 3.3% of the outbound volume from NDCs in the Inland Empire or the general vicinity of the ICTF are domestic container shipments drayed to downtown rail terminals (East Los Angeles or LATC).
- From NDCs, truck shipments to the retailing customers' RDCs serving the Southern California region are generated. For the purposes of this analysis, we assume 100% of these RDCs serving Southern California are in the Inland Empire. Considering that the Southern California region comprises 10.8% of the purchasing power in the Continental USA, we conclude that 10.8% of the outbound volume from NDCs in the Inland Empire is trailer movements within the Inland Empire. For the NDCs in the general vicinity of the ICTF, 10.8% of the outbound volume is trailer movements to the Inland Empire.
- The remaining outbound volume from NDCs is destined to regions east of the Rockies. We assume 100% of this volume is handled in domestic rail containers. For NDCs in the Inland Empire, we assume the domestic containers move via the rail terminals serving the Inland Empire (City of Industry on UP and San Bernardino on BNSF). For NDCs locates in the general vicinity of the ICTF, we assume the domestic containers move via the downtown rail terminals (Hobart on BNSF and East Los Angeles and LATC on UP). We conclude that 76.4% of the outbound volume from NDCs in the Inland Empire are domestic container drays to the Inland Empire rail terminals. Similarly, we conclude 76.4% of the outbound volume form NDCs in the general vicinity of the ICTF are domestic container drays to the downtown rail terminals.
- For the nation-wide Big-Box retailing importers utilizing Push-Pull 3[4][5] Corners supply chains, the split of their imports routed to cross-docks vs. import warehouses varies by time of year. For most, the split favors the import warehouses in the spring and early summer but shifts to favor the cross-docks in late summer and the fall. A small portion of their import volumes is drayed directly from the ports to their RDCs serving the Southern California region. A portion of the imports routed via the cross-dock are drayed from the cross-dock to the import warehouse before allocation and re-shipment to

an RDC; again, this fraction diminishes towards the end of the year. For the purposes of this analysis, it is assumed the yearly average split is 35% to the import warehouse, 63% to the cross-dock, and 2% direct from port to the RDC serving the Southern California region. It is further assumed that 12% of the import volume is first routed to the cross-dock and then drayed from the cross-dock to the import warehouse for temporary storage before allocation to RDCs served by the San Pedro Bay Corner. (This 12% is included in the 63% routed to the cross-dock.)

- We assume none of the PNW region is assigned to the San Pedro Bay corner for Push-Pull 3[4][5] Corners supply chains.
- From import warehouses, truck shipments to the RDCs serving the Northern California region are generated. Considering that the Northern California region comprises 5.4% of the purchasing power in the Continental USA, and considering that 47.5% of total Continental USA imports in Push-Pull 3[4][5] Corners supply chains move through San Pedro Bay, then assuming the Northern California region is 100% assigned to the San Pedro Bay corner, we may conclude that 11.4% of the outbound volume from import warehouses in the Inland Empire are trailer shipments to RDCs serving the Northern California region.
- From import warehouses, shipments to replenish the RDCs serving the Intermountain region are generated. We assume 100% of these shipments are made in domestic rail containers. Considering that the Intermountain region comprises 3.3% of the purchasing power in the Continental USA, and considering that 47.5% of total Continental USA imports in Push-Pull 3[4][5] Corners supply chains move through San Pedro Bay, then assuming the Intermountain region is 100% assigned to the San Pedro Bay corner, we may conclude that 7.0% of the outbound volume from import warehouses in the Inland Empire are domestic-box rail shipments to RDCs serving the Intermountain region.
- Considering that the Southern California region comprises 10.8% of the purchasing power in the Continental USA, and considering that 47.5% of total Continental USA imports in Push-Pull 3[4][5] Corners supply chains move through San Pedro Bay, then assuming the Southern California region is 100% assigned to the San Pedro Bay corner, we may conclude that 22.7% of the outbound volume from import warehouses in the Inland Empire are trailer shipments to RDCs serving the Southern California region, i.e., truck trips within the Inland Empire.
- The remaining outbound volume from import warehouses is destined to regions east of the Rockies assigned to the San Pedro Bay corner. We assume 100% of this volume moves in domestic intermodal containers via the rail terminals serving the Inland Empire (City of Industry on UP and San Bernardino on BNSF). This is 59.0% of the outbound volume from the import warehouses.
- From cross-docks, on average, 0.12/0.63 = 19.0% of outbound volume are trailer shipments to the import warehouses located in the Inland Empire or adjacent areas. Considering shipments direct from the ports to RDCs and shipments from import warehouses to RDCs serving the Southern California region 0.108/0.475 – 0.02 – (0.35 +

0.12)*0.227 = 10.1% of San Pedro Bay imports in Push-Pull 3[4][5] Corners supply chains move from cross-docks as trailer shipments to the RDCs serving the Southern California region, also located in the Inland Empire or adjacent areas. This corresponds to 0.101/0.63 = 16.0% of outbound shipments from cross-docks.

- As derived above, 11.4% of the volume in Push-Pull 3[4][5] Corners supply chains should end up as trailer shipments to RDCs serving the Northern California region. Considering the import volume in these supply chains not routed to import warehouses, this is 0.114*(0.63 – 0.12 + 0.02)/0.63 = 9.6% of the volume departing the cross-docks.
- As derived above, 7.0% of the volume in Push-Pull 3[4][5] Corners supply chains should end up as domestic-container rail shipments to RDCs serving the Intermountain region. Considering the import volume in these supply chains not routed to import warehouses, this is 0.07*(0.63 – 0.12 + 0.02)/0.63 = 5.8% of the volume departing the cross-docks.
- The remaining volume departing the cross-docks is destined to regions east of the Rockies. It is assumed 100% of this volume moves in domestic rail containers via the downtown rail terminals (Hobart on BNSF and East Los Angeles and LATC on UP). Therefore, 1.00 – 0.19 – 0.16 – 0.096 – 0.058 = 49.6% of the volume departing the cross-docks is comprised of domestic container drays to the downtown rail terminals destined east of the Rockies.

Figure 11 provides a pie chart summarizing San Pedro Bay import flows by mode and general destination. As may be seen, 21.3% of imports are consumed in the Southern California region; 36.5% leave the region in IPI service; 4.8% are trucked to Northern California; and 37.4% move out of region in domestic rail service.

The flow factors by channel developed in this section are depicted in Figure 12 below. The 2015 import volume at San Pedro Bay, 7,784,725 TEUs, is applied to the percentages to indicate the number of dray trips per year by channel. While not all import volume at San Pedro Bay is from the Far East, the lion's share is, so the volume figures are representative. Red boxes indicate dray movements of marine boxes ("FEU" stands for forty-foot equivalent unit); light blue boxes indicate dray movements of 53-foot domestic containers; dark blue boxes indicate over-the-road trucking of 53-foot trailers; and yellow boxes indicate dray movements of 53-foot trailers, typically performed by dedicated contract service vendors or in-house trucking staff of the importer. All percentages appearing in the figure are of total Far East imports entering the USA via San Pedro Bay. Summarizing the flows in the figure, in 2015 imports at San Pedro Bay resulted in about 2.9 million FEUs of dray trips hauling loaded marine boxes within the Los Angeles Basin, 1.3 million dray trips of 53-foot domestic containers and trailers hauling trans-loaded or re-shipped imports within the Los Angeles Basin, and about 100,000 long-haul truck trips with 53-foot trailers hauling trans-loaded or re-shipped imports from the Los Angeles Basin to Northern California.

It is interesting to compare the predicted domestic intermodal flows to actual 2015 lifts reported at Southern California intermodal terminals. These lift volumes were as follows:[14]

BNSF Hobart/Commerce: 1,149,085

UP East Los Angeles: 448,574

UP LATC: 230,052

BNSF San Bernardino: 604,633

UP City of Industry: 272,289

The subtotal for downtown rail terminals above is 1,827,711 lifts. From this we need to subtract marine-box traffic. According to ACTA, the TEUs of marine boxes handled at downtown rail terminals in 2015 amounted to 446,553.[15] Applying the average TEUs/lift for all marine box traffic in the Alameda Corridor in 2015, the estimated lifts of marine boxes at downtown rail terminals was 278,080. Therefore:

- Subtotal, domestic intermodal lifts at downtown rail terminals: 1,549,631
- Subtotal, intermodal lifts at Inland Empire rail terminals: 876,922

If we assume domestic traffic was perfectly balanced westbound and eastbound, then domestic intermodal units should amount to half the number of lifts:

- Estimated 2015 eastbound domestic intermodal units, downtown rail terminals: 774,816
- Estimated 2015 eastbound domestic intermodal units, Inland Empire terminals: 438,461
- Total eastbound domestic intermodal units from Southern California: 1,213,277

In Figure 12, the eastbound trans-loaded or re-shipped import volume from Inland Empire ramps is 642,000 and from downtown ramps is 353,000, for a total of 995,000. This comparison suggests that (1) about 82% of total eastbound domestic intermodal units from Southern California in 2015 were shipments of imports, and (2) at present, there are destinations served or intermodal services provided (e.g., premium-service trains) from downtown rail terminals that are not available from Inland Empire rail terminals, and so a significant number of trans-loaded imports are being drayed from Inland Empire distribution centers or import warehouses to downtown rail terminals in order to reach such destinations or utilize premium intermodal services.

[14] Source: Private communications from UP and BNSF.
[15] Source: Private communication from ACTA.

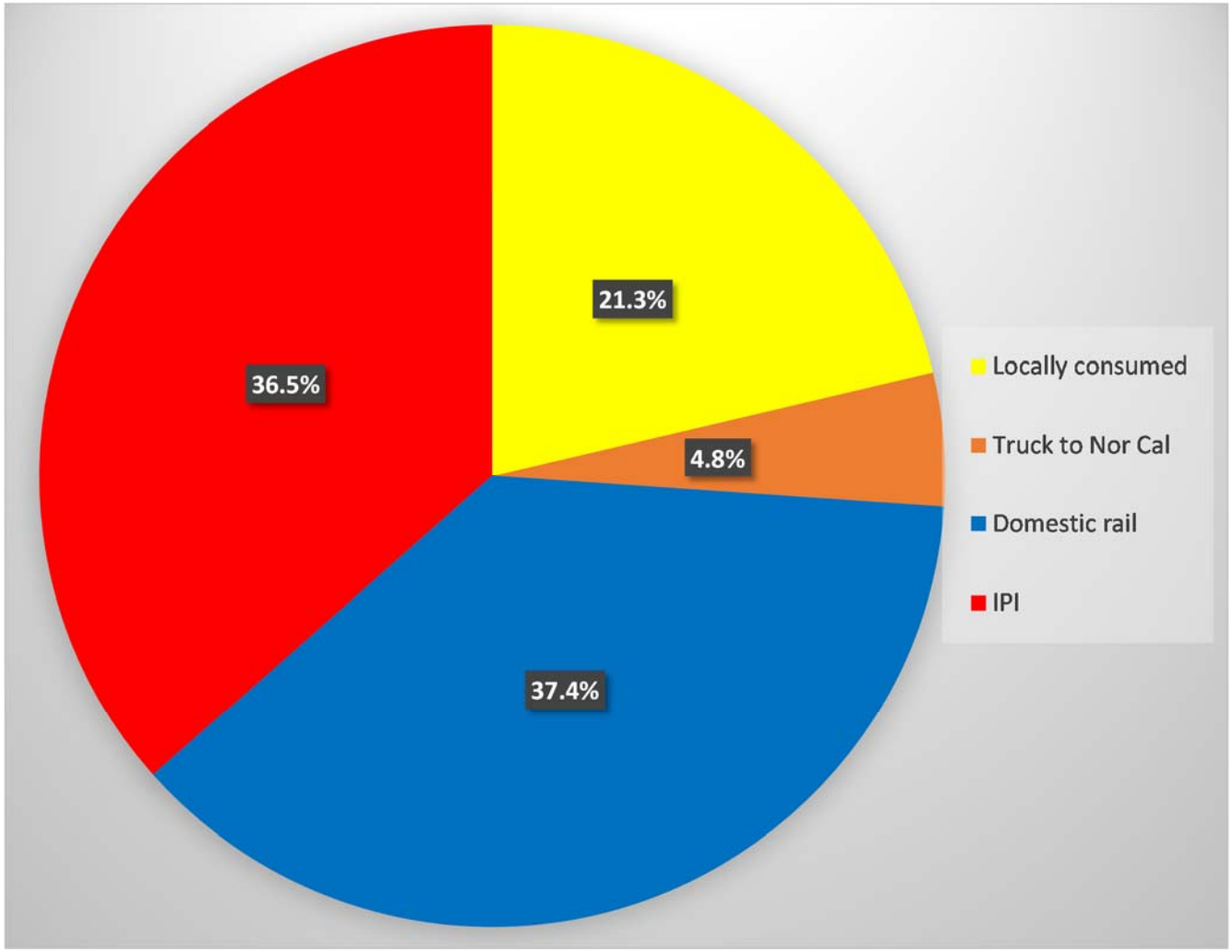
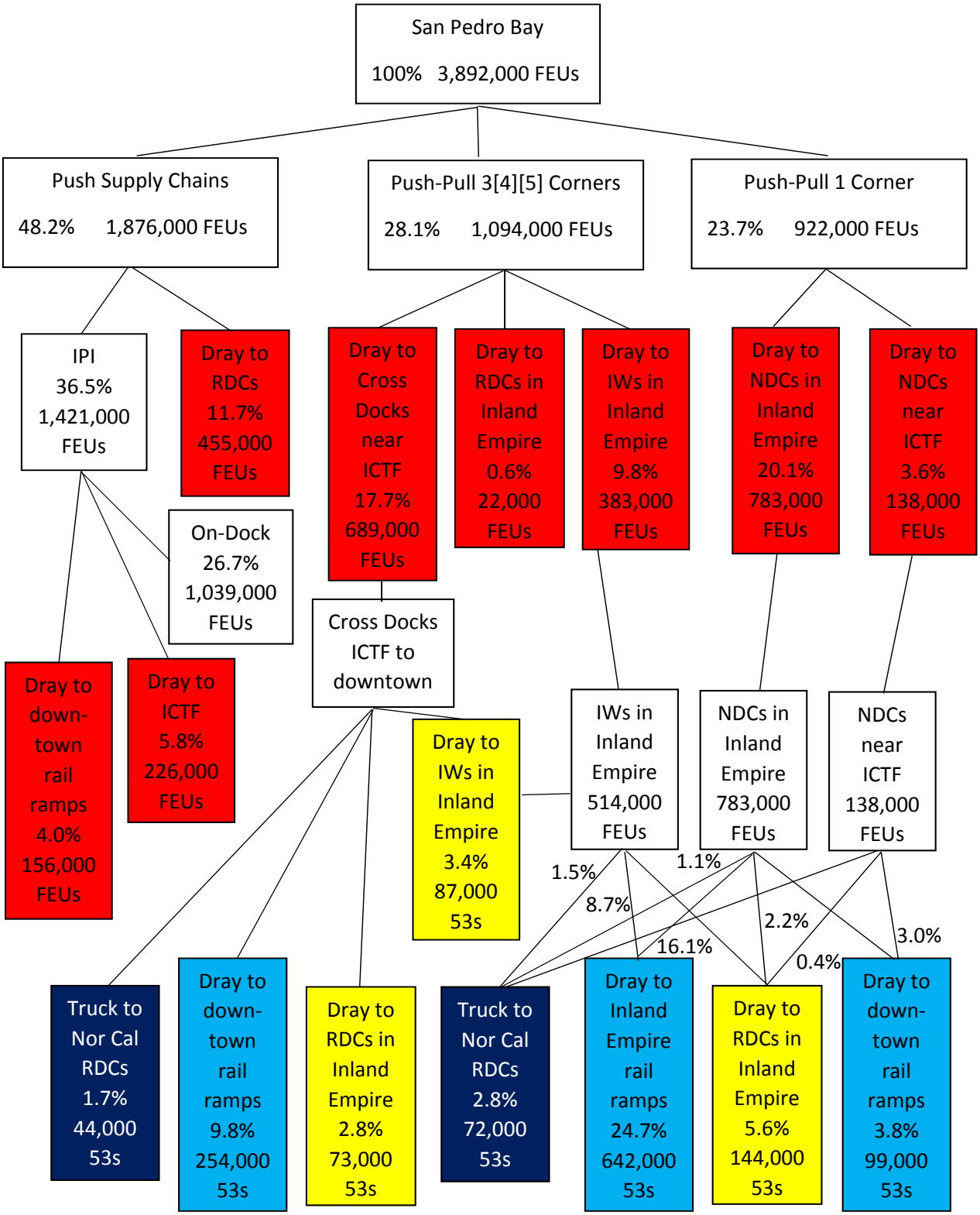


Figure 11. Distribution of San Pedro Bay Imports

Figure 12. Import Flows at San Pedro Bay



COST SAVINGS AND ENVIRONMENTAL BENEFITS TO DATE

As shown in Table 8 below, in 2015, the on-dock rail terminals at the San Pedro Bay ports made 2,203,294 lifts of containers on or off railroad well cars, while the ICTF made 482,882 lifts. About 95% of the ICTF lifts were for marine containers. Had the Alameda Corridor, the ICTF and the on-dock rail terminals not been built, the containers experiencing these lifts all would have been drayed between the Ports and the rail terminals near downtown Los Angeles.

Table 5 provides estimates of emissions for various container transport and handling activities. As may be seen in the table, it is estimated that an average dray of a marine box between the Ports and the downtown rail terminals emits 52,743 grams of CO_2; an average dray between the Ports and the ICTF emits 17,062 grams; a marine-box double-stack train from an on-dock terminal to downtown (20 miles) emits 7,449 grams per marine container; and a marine-box double-stack train from the ICTF to downtown (15 miles) emits about 5,587 grams per marine container.

Table 5: Assumed Emissions Inventory (grams)

Activity	CO_2	HC	CO	NOx	PM2.5
Top-picker lift	7114.06	2.92	12.11	64.93	1.53
Diesel RTG lift	13871.51	3.64	22.95	106.46	2.68
Hybrid RTG lift	3963.29	1.04	6.56	30.42	0.77
Marine-box double-stack train, per container-mile	372.43	0.28	0.97	5.40	0.14
Empty marine-box train, per container-mile	266.24	0.199	0.69	3.859	0.102
Domestic-box double-stack train, per container-mile	497.76	0.37	1.29	7.21	0.19
Empty domestic-box train, per container-mile	320.23	0.240	0.83	4.641	0.123
Dray ports to downtown rail	52743.43	13.11	72.79	311.33	18.27
Dray ports to ICTF	17062.20	5.57	29.01	95.82	6.22
Dray ports to nearby cross-dock or warehouse	18105.36	5.62	29.81	104.42	6.51
Dray ports to Inland Empire (IE)	143983.72	34.21	193.44	855.72	49.52

warehouse or rail terminal					
Dray IE warehouse to IE rail terminal or warehouse	15458.67	5.080	26.75	87.3	5.65
Dray IE warehouse to downtown	80231.61	19.21	108.36	476.19	27.64
Dray cross-dock to downtown rail terminal	26054.3	6.710	37.35	153.46	9.06
Dray cross-dock to ICTF	5056.51	1.89	8.93	28.87	1.93
Dray cross-dock to warehouse in ICTF area	4994.43	1.57	8.33	28.62	1.79
Dray ICTF area warehouse to IE warehouse	89591.97	21.45	121	531.74	30.87

Notes: A top-picker crane can lift a container off a chassis or off the top of a pile of containers. A rubber-tired gantry (RTG) crane can retrieve a container buried beneath other containers. Typically, lifts at port terminals of rail-borne marine boxes are made by top-pickers, while lifts of dray-borne marine boxes are made by RTGs. Lifts at off-dock rail terminals are typically made by RTGs. A marine-box double-stack train assumed to consist of 290 forty-foot containers in 29 well cars drawn by 4 Tier 3 locomotives. A domestic-box double-stack train assumed to consist of 222 fifty-three-foot containers in 37 well cars drawn by 4 Tier 2 locomotives.
Source: *Port of Los Angeles Inventory of Air Emissions – 2011*, published by the Port of Los Angeles. Total emissions for various dray movements from author's calculations.

Table 6 calculates emissions savings using these figures. As may be seen, *the investments in the Alameda Corridor, the ICTF and the on-dock terminals served to reduce 2015 emissions of CO_2 from import and export container movements by about 143 million kilograms.* The last row of the table shows potential additional savings in emissions if the marine containers using ICTF and downtown rail terminals were shifted to on-dock rail terminals at the Ports.

Alternatively, if the rail service to and from the Ports had not been consolidated into the Corridor and if grade separations providing an equivalent level of mitigation of vehicular delays had been made to all the railroad routes to the Ports proposed for use by the railroads, the additional public investment in grade separations would have been at least $5 billion.

Table 6: Estimated 2015 Emissions Savings (kilograms) Afforded by the Alameda Corridor, the Intermodal Container Transfer Facility, and On-Dock Rail Terminals at the San Pedro Bay Ports

	CO_2	HC	CO	NOx	PM2.5
Actual	143.4 million	26,100	181,200	741,100	44,200
Additional Potential	10.6 million	1,800	15,100	46,200	2,800

Notes: Savings calculated as follows: Actual 2015 lift volumes of marine boxes at the various rail terminals are considered. For lifts at on-dock terminals, a dray from the port to the downtown rail terminals plus a diesel RTG lift at downtown is replaced by movement via marine-box double stack train from port terminal to downtown. For lifts at the ICTF, a dray from the port to the downtown rail terminals replaced by a dray from the port terminal to the ICTF, a diesel RTG lift at the ICTF, and movement via marine-box double stack train from the ICTF to downtown. The "additional potential" savings is calculated assuming all ICTF and downtown terminal marine-box lifts are shifted to on-dock terminals.

PROPOSED INITIATIVES FOR FURTHER IMPROVEMENTS IN HANDLING SAN PEDRO BAY IMPORTS

As the San Pedro Bay ports continue development of on-dock rail capacity, there will be a continuing reduction in drays of IPI traffic between the ports and the ICTF or downtown rail terminals. The last row of Table 6 shows the potential, at 2015 import levels, for additional reductions in emissions from these development efforts, i.e., about 11 million kilograms of CO_2 per year.

Considering IPI's declining share of imports at San Pedro Bay, there will be surplus capacity at the ICTF and in the Alameda Corridor for the foreseeable future. One strategy for pursuing further reductions in emissions is to make use of this capacity by developing a full program of outbound domestic stack-train service from the ICTF. The primary customers for this service are the large, nationwide retailers cross-docking their imports in the general vicinity of the ICTF. At present, domestic-box intermodal loads generated at these cross-docks must be drayed up to the downtown rail terminals. Were comparable domestic-box intermodal service available at ICTF, these drays could be replaced by much shorter drays to the ICTF and rail movement of the domestic boxes through the Alameda Corridor. Offsetting this savings is the cost of re-positioning empty domestic boxes from downtown rail terminals to the ICTF, required because there are very few westbound domestic loads destined to receivers in the general area of the ports.

An estimate of the emissions reductions afforded by full domestic-rail service from the ICTF is summarized in Table 7. As may be seen, for the lift equipment presently in use at rail terminals, the potential reduction in CO_2 emissions is about 600,000 kilograms per year, but there would be increases in HC, CO and NOx emissions. This is due to the need for two extra lifts of empty domestic boxes plus extra rail movement of empty domestic boxes from downtown rail terminals

to the ICTF to accommodate the traffic. If diesel RTGs currently in use at the rail terminals were replaced by hybrid RTGs, then CO_2 savings rises to 6.7 million kilograms per year and adverse trends in the emissions of all other factors except HC would be reversed. If diesel RTGs were replaced by rail-mounted cranes (RMCs) affording all-electric operation (i.e., zero emissions), then CO_2 savings rises to above 9 million kilograms per year and the adverse trends in the emissions of all other factors would be reversed. About 612,000 domestic-box dray trips per year between the downtown rail terminals and the general vicinity of the ICTF would be replaced by a like number of shorter dray round trips between the ICTF and cross-docks in the vicinity of the ICTF. An additional 3.8 8,000-foot domestic double-stack trains per day in each direction per day would be added to the Alameda Corridor.

Table 7: Potential Emissions Savings (kilograms) Afforded by Full Domestic-Box Rail Service at ICTF

	CO_2	HC	CO	NOx	PM2.5
Savings	0.6 million	-2,100	-6,400	-43,000	1,300
Savings with hybrid RTGs at rail terminals	6.7 million	-501	3,700	3,000	2,500
Savings with electric RMCs at rail terminals	9.1 million	100	7,700	22,000	3,000
Savings if cross-docks near downtown re-locate near ICTF	4.1 million	-1,600	-2,900	-26,000	2,500
Savings with re-location and electric RMCs at rail terminals	13.3 million	800	12,300	45,000	4,300
Savings including other lifts at ICTF	48.2 million	9,200	59,000	252,000	16,300
Savings including other lifts at both ICTF and East LA	52.2 million	10,100	65,000	275,000	17,700

Note: Savings calculated as follows: An estimated 11.8% of 2015 San Pedro Bay imports moved from the ports to cross-docks in the general vicinity of the ICTF or to OEM distribution centers in the general vicinity of the ICTF where the imports were trans-loaded to domestic containers drayed to downtown rail terminals. An additional 1.0% of 2015 San Pedro Bay imports moved from the ports to cross-docks closer to downtown rail terminals where the imports were trans-loaded to domestic containers drayed to the downtown rail terminals. It is assumed that three inbound FEUs (forty-foot equivalent unit marine containers) generated two outbound domestic container moves from the cross-docks or OEM distribution centers. A round-trip dray of a domestic box from a cross-dock to

downtown rail terminal is replaced by an RTG lift of an empty domestic box at a downtown rail terminal, rail movement of the empty domestic box from downtown to ICTF, RTG lift of the empty domestic box at ICTF, round-trip dray of the box from ICTF to cross-dock located in the general vicinity of the ICTF, and rail movement of the box in a domestic double-stack train from ICTF to downtown.

Cross-docks typically operate in leased buildings. If cross-docks currently located closer to the downtown rail terminals were motivated by the new ICTF service to terminate leases and re-locate closer to the ICTF (and thereby reduce total dray distance from ports to cross-docks to RDCs or import warehouses located in the Inland Empire), the number of dray trips reduced and the emissions savings would rise substantially. In addition to the savings above, about 138,000 marine-box dray trips between the ports and cross-docks near downtown rail terminals would be replaced by a like number of shorter marine-box dray trips between the ports and cross-docks located in the general vicinity of the ICTF. About 32,000 domestic-box dray trips made between cross-docks near the downtown rail terminals and import warehouses or RDCs located in the Inland Empire would be replaced by longer domestic-box dray trips between cross-docks located near the ICTF and import warehouses or RDCs located in the Inland Empire, and about 4,000 truck trips from downtown cross-docks to Northern California RDCs would be extended to originate at cross-docks in the general vicinity of the ICTF. But because of the reduced number of drays required for domestic boxes in lieu of the same imports hauled in marine boxes, and because of the reduced circuity to reach Inland Empire warehouses, total truck-miles and consequent emissions would decline substantially. CO_2 emission reductions would rise by 3.5 million kilograms per year. If lifts at rail terminals were performed with electric RTGs, CO_2 reductions would rise to 13.3 million kilograms per year. Additional trains in the Alameda Corridor would rise to 4.0 8,000-foot double-stack trains in each direction per day.

The alternatives incorporating emissions reductions from use of hybrid RTGs or all-electric RMCs involve the introduction of such equipment at both ICTF and East Los Angeles rail intermodal terminals. Introduction of such equipment might involve simply a supplement to existing diesel-powered RTGs in order to handle the proposed additional intermodal traffic, or it could involve complete replacement of the existing RTG equipment. If marine-box lifts performed at the ICTF also were performed by electric RMCs, the emissions reductions climb dramatically, reaching 48.2 million kilograms of CO_2 per year. If an additional 50,000 domestic-box lifts of non-cross-dock traffic at East Los Angeles also are performed using electric RMCs, the emissions savings climbs to about 52.2 million kilograms of CO_2 per year.

It must be remembered that the railroad bears the cost of operating intermodal terminals but does not operate the drays for intermodal service nor does it bear the dray costs. A scheme that increases rail costs while reducing dray costs decreases margin for the railroad, even if it reduces overall supply chain costs. In this case, extending domestic container service to the ICTF increases railroad-borne costs (it adds two more lifts plus train operating costs to re-position empty domestic boxes to the ICTF) in exchange for 15 more miles of line haul of trans-loaded imports. This is unlikely to be a value proposition to the railroad without public subsidy.

Hybrid RTGs and electric RMCs offer a lower operating cost than diesel RTGs, but in exchange for significantly higher investment cost. Public assistance in such investments could provide operating savings to the railroad while at the same time reducing emissions.

Before discussing further proposals, it is helpful to understand the concerns of the various stakeholders in import supply chains. There are multiple participants in import supply chains, all with different incentives arising from the business contracts and governmental regulations that enable the chains. These incentives are not always aligned, in the sense that each participant's efforts to optimize its scope of the chain might not be best for the overall chain.

- **The large nationwide retailers:** For most of their product portfolios, they wish to practice supply chains utilizing cross-docking and import warehouses, re-shipping in domestic containers and trailers from cross-dock or import warehouses located in the hinterlands of ports of entry. This sort of supply chain enables them to manage inventories as tightly as possible, minimizing the time from purchase of goods in Asia until sale in a store and thereby minimizing price erosion and working capital outlay. The large retailers refuse to import expensive items, requiring the OEMs to import such items and purchasing the items much closer to the time of sale. (In effect, the same sort of supply chain applies to expensive goods; it's just that part of the chain is administered by the OEM and part is administered by the retailer.) Only one-time-sales-event goods (e.g., patio furniture, back-to-school personal refrigerators, Halloween costumes) and inexpensive goods (under $15,000 in declared value per TEU) are shipped intact in marine containers all the way to RDCs (because it is impossible to achieve any inventory economies for the one-time-sale goods and the inventory economies are insufficient to justify the additional handling expenses for cross-docking). The large retailers do not want their goods cross-docked inside the ports (because longshore labor is much more expensive than labor outside the port). They would like their cross-dock and import warehouse facilities to be situated close to the ports and to domestic rail terminals (to minimize dray expenses), but not be located where property is very expensive or regulation is excessive or local government is unwelcoming to logistics.

  The internet sales ("e-commerce") of large retailers are growing much faster than are in-store sales. Goods imported from Asia and sold on the web present a different supply-chain challenge. As internet sales grow, the large nation-wide retailers are implementing very-large distribution centers known as "e-commerce fulfillment centers," located in the hinterland of ports of entry. Replacing shipments to RDCs and thence to stores, some e-commerce sales to customers generate shipments from the fulfillment centers direct to customers via package express carriers such as UPS. For inexpensive goods sold in e-commerce instead of stores, this represents yet another reduction of IPI volume, replacing it by trans-loaded volume and associated drayage.

  For their import warehouses and e-commerce fulfillment centers, the big-box retailers desire warehouses on the order of 1,000,000 square feet in size.

- **The large nationwide OEMs:** Similar to the retailers, the OEMs would like their national distribution centers to be located close to the ports (to minimize inbound dray costs), but not be located where property is very expensive or regulation is excessive or local government is unwelcoming to logistics. Normally, outbound transportation is paid for and arranged by their retailing customers, who may arrange for full-domestic-container or full-trailer shipments, or may order smaller quantities and arrange for cross-docking of pick-ups from multiple OEMs into full outbound domestic containers and trailer shipments to their RDCs. The large OEMs desire warehouses serving as their nationwide distribution centers to be 500,000 – 1,000,000 square feet in size.

- **The ocean carriers:** The steamship lines struggle to compete in a business with few barriers to entry. Capacity outstrips demand, keeping prices low. Lines survive by moving to larger and larger vessels, pushing cross-ocean costs down. This trend works to the advantage of the San Pedro Bay ports, because the lines are desirous of making fewer ports of call with the very-large vessels. Lines not able to make the investments in larger vessels must retreat to niche markets or go out of business.

  The lines solicit IPI business in preference over trans-load business, because the lines can make a margin over the inland haul if done as IPI in lieu of solely a margin on the ocean haul and port-area dray if the imports are trans-loaded. However, after the initial 10-year contracts with the railroads expired and the railroads successfully drove up their contract prices for IPI service, the lines have generally reduced their IPI networks to serve a smaller number of high-volume inland points.

  Perhaps as a response to competitive pressures, the lines have been generous in allowances of free time until large importers are required to pick up their container loads at US port terminals before per diem charges ensue, as well as allowing importers to arrange their own dray services to come and pick up their import containers in lieu of the steamship line arranging the dray. Thus the marine terminals serving the ocean carriers have lost the ability to schedule the departure of drays from their terminals and instead must cope with large and variable container inventories.

- **The commercial real estate developers:** Typically, import warehouses and national distribution centers are constructed by commercial real estate companies. They may build-to-suit for certain large customers, or search for customers to which to lease facilities they build at risk. The real estate company wants minimum delay from decision to go forward with a development until a lease or bill of sale is signed (because its capital is expended and at risk until then). They do not want to be troubled with long delays to get governmental approvals for a project, nor with environmental clean-up costs, let alone with local governments unwelcoming to logistics or local governments insisting the developer pay

for road network improvements in order to gain project approval. The developer thus prefers a "greenfield" or "desert patch" project away from urban areas in order to maximize its return and cash flow.

The railroads: The railroads' role in intermodal transportation has been reduced to the wholesale trainload aspect, with no responsibility for the origin or destination drays or retail pricing. They prefer a few very large terminals to achieve economies of scale to better utilize cranes, chassis and terminal crews as well as reduce risks of underutilized investment. Over time, the number of intermodal terminals operated by the railroads has been reduced, to the point that at present the two railroads operate four intermodal terminals in Northern California and six in Southern California. See Table 8.

Because the railroads outsourced the retailing and pricing of the overall service, their profitability for various services depends on the outcomes of negotiations with their retailing partners. For the first decade of IPI service, the railroad margins were rather thin on IPI traffic as they sought to develop the traffic. As contracts with steamship lines expired, the railroads exploited their market power and raised the rates substantially. Meanwhile, they negotiated flat prices with their retail partners for all shipments in domestic containers independent of the commodity shipped and independent of end customer. Shipments of very truck-competitive domestic products, such as wine, are priced the same as re-shipments of imports from OEM distribution centers and from retailer cross-docks, yet the latter are much less susceptible to truck competition. As a result, the railroads' margins on IPI trains are generally higher than their margins on double-stack domestic container re-shipments of imports. The railroads have promoted investment in IPI infrastructure near the ports but have not promoted investment in domestic container terminal infrastructure near the ports. Because of their capital intensity and their lack of control over marketing and pricing, the railroads are risk-averse and are therefore change-followers rather than change-leaders. For example, they are loath to locate a new intermodal terminal until there are existing traffic levels and/or shipper commitments to fill the terminal.

- **The ports**: The ports are basically landlords; their tenants are the marine-terminal-operator subsidiaries of the steamship lines, or independent terminal operators providing terminal services for multiple lines. The ports sign long-term contracts to lease waterfront to the terminal operators, typically structured so that payments are made to the ports per unit container volume, but with volume incentives in the form of reduced unit payments as volume climbs. The ports seek success and contentment of their tenants. They seek labor stability, good relations with the community, and good services from the various suppliers to their tenants, including the railroads and draymen. Given that their ocean carrier clients prefer IPI service, the ports generally promote investment in same.

Table 8: Rail Intermodal Terminals in California

Terminal	2015 Lifts	Railroad	Notes
Oakland (near dock)	158,568	UP	Marine containers, domestic containers and trailers
Oakland International Gateway (near dock)	98,471	BNSF	Marine containers only
North Bay (Richmond)	51,629	BNSF	Operated by UPS, for UPS domestic containers and trailers
Stockton	368,474	BNSF	Predominantly domestic containers and trailers
Lathrop	258,052	UP	Domestic containers and trailers only
Subtotal, Northern California	**935,194**		
Ports of LA-LB On dock and near-dock	2,203,294	BNSF & UP	Operated by marine terminal companies, marine containers only
Intermodal Container Transfer Facility (Carson)	482,882	UP	Predominantly marine containers
Hobart/Commerce	1,149,085	BNSF	Mostly domestic containers and trailers
East Los Angeles	448,574	UP	Predominantly domestic containers and trailers
Los Angeles Transportation Center	230,052	UP	Predominantly domestic containers and trailers
City of Industry	272,289	UP	Domestic containers and trailers only
San Bernardino	604,633	BNSF	Domestic containers and trailers only
Subtotal, Southern California	**5,390,809**		

Sources: Private communications from BNSF and UP.

- **Third-party logistics companies (3PLs):** Most cross-docks are not owned and operated by large retail importers or large OEM importers. Instead, the retailers and OEMs contract annually with 3PLs to perform their cross-docking work. Virtually any warehouse or large covered dock can be adapted for cross-docking work, provided enough doors can be cut into the warehouse to simultaneously accommodate a large number of inbound and

outbound vehicles. Typically, large retailers and OEMs put their cross-docking work up for bid annually. The lion's share of cross-docks handling inbound marine containers are located in fairly close proximity to the San Pedro Bay ports, in the adjacent communities such as Long Beach, Carson, Wilmington, Compton, Lynwood and Torrance. With little barriers to entry and little facility expense, cross-docking is generally a commodity and margins are thin. In a few instances, mostly automated cross-dock facilities have been developed using networks of conveyors and scanners to route cartons from inbound vehicles to outbound vehicles. However, software interfaces with clients take on the order of six months to implement, so longer-term contracts between importer and 3PL are required. This inhibits more widespread adoption of automation.

- **Large nationwide retail importers:** The large nationwide retailers typically own and operate their own import warehouses, and large OEM importers with customers nationwide typically own and operate their own national distribution center. But moderate- and smaller-scale retailers and OEMs typically rely on 3PLs to operate warehouses for them. Again, 3PL services tend to be contracted for a relatively short term such as one or several years, and then put up for bid again. Given their short contractual horizons and limited responsibilities, 3PLs are typically not in a position to lead or promote longer-term strategic change, and typically they are reluctant to make long-term facility investments.

- **Operators of import warehouses, cross-docks and national distribution centers:** The operators of such facilities could be nationwide retailers, OEMs, or 3PLs. The operators or their customers are basically managing inventory systems. Some marine boxes arriving at port terminals contain goods that are urgently needed, while the goods in other boxes may be quite the opposite. To manage inventory well, they wish to dispatch drays to claim the urgently-needed boxes as soon as possible, while delaying the pick-up of boxes containing goods not yet in demand. To an alarming extent, they have been successful in moving the push-pull boundary out of their facilities and back into the marine terminals. The irony of this is arresting: The most expensive property on earth (created by filling in the ocean at San Pedro Bay), manned by the most expensive labor on earth (the longshoremen), utilizing awkward rubber-tired gantry cranes to sort huge indivisible chunks of inventory (marine containers) on behalf of the American retailers, yet under terms of service from the ocean carriers whereby storage is partially or completely free.

- **The dray operators:** Dray companies typically have no assets. Their drivers are independent contractors who own or lease their own dray tractor. They work for a dray company because the company has agents and relationships that find them business. The draymen wish to work five-day-a-week jobs. They wish to be able to complete trips in a reasonable amount of time rather than get stuck in traffic or stuck in congested terminals. Dray companies and dray operators do not have much market power. Their margins are thin.

- **The marine terminal operators.** The terminal operators must cope with very-expensive longshore labor, restrictive work rules, and very limited space. They have little or no control over when consignees will pick up boxes; typically they only find out when the consignee's drayman shows up at their gate and informs them of the box they have come to pick up.[16] They have no control over the terms for free time and for per diem charges placed on boxes not picked up, as those terms are set by their parent or client steamship line.

- **The local governments.** The city governments for the small cities surrounding the San Pedro Bay ports are generally unwelcoming to logistics activity. They view warehouse development as something offering a low density of employment and relatively low-paying jobs, and as a generator of traffic and pollution. Their plans for development in their communities include things like shopping malls, sports stadiums, and software companies (in order to secure good tax revenues and well-paying jobs).

Possible Solution Sets

The situation in Southern California is an example of what can happen in multi-participant supply chains: Given of the typical contractual terms among the participants, with each participant acting to optimize its profits, the result is not the most efficient overall supply chain. To move towards a more efficient supply chain requires changes in the contractual terms between the participants. In particular, public-private partnerships could be key enablers of such changes. We discuss three possible initiatives in this regard: Short-Haul Intermodal, Infill, and Dray-Off.

There is considerable warehouse development in the communities surrounding the San Pedro Bay ports. But this is largely older development, not intended to accommodate the needs of today's large-scale importers. Instead it was primarily built to support inbound logistics for the large defense contractors, whose businesses were booming in the Los Angeles Basin during the 1960s and 1970s Cold War period. The large defense firms were basically systems integrators, outsourcing fabrication of components to many small specialized machine shop firms located in the Basin. The warehouses located near the ports are mostly in the size range of 50,000 – 120,000 square feet. They were very suitable for the storage of machined components pending integration into missiles, fighter planes and other defense systems. But military-aerospace production in Southern California is much smaller now, and so the warehouse space has been repurposed for handling imported goods. Some were converted to cross-docks; others are operated by 3PLs as import warehouses for small- or medium-sized importers and OEMs. Unfortunately, these relatively small warehouses are of little or no use to large nationwide retailers and OEMs. As

[16] Some terminals have implemented a reservation system with two-hour windows for pick-up of import containers, providing terminal management with a near-term, rough idea of when boxes will be demanded.

described above, the large importers need facilities that are an order-of-magnitude larger. Many of these facilities are now vacant or under-utilized.

The commercial real estate companies are reluctant to knock down the older, small warehouses and merge lots to build larger facilities. It is difficult to secure permits from local governments generally unwelcoming to logistics development. It is much more cost effective to secure space for the development of new large-scale facilities much further away from the ports. While distant locations increase transportation expenses for the importers, at least they are feasible in a timely manner, and the lower property taxes and possibly less expensive labor can partially offset the increased transportation costs.

Thus, as imports grew through the 1980s and 1990s, the Inland Empire became the preferred locale for commercial development of warehouses supporting import logistics. Property suitable for warehousing in the Inland Empire is largely built out now, so more recent development of modern large-scale distribution facilities is moving further out, to places like Perris, Apple Valley and the Tejon Ranch. At the same time, the vacancy rate of the smaller warehouses located close to the ports continues to grow. See Figure 13. As may be seen, there is a huge surplus of facilities smaller than 250,000 square feet, while no facilities were available to meet lease requests for facilities larger than 750,000 square feet. For the latter demand, new facilities were required.

This is an alarming trend. But it’s predictable, as all participants are acting to optimize their aspect of the supply chain.

Short-Haul Intermodal

The huge flow of imports from the San Pedro Bay ports to downtown rail terminals and to warehouses in the Inland Empire has given rise to several proposals for constructing expensive infrastructure to cope with the burgeoning goods movement demand. These proposals include double-decking freeways with dedicated truck lanes, building all-new truck corridors, and even magnetically-levitated trains hauling the import containers.

A much less costly proposal that has been advanced envisions conventional double-stack trains making a short run from a near-dock rail terminal or on-dock terminals in the ports area to a rail terminal or terminals located in the Inland Empire. While this proposal is much less capital-intensive than others cited above, it is not economically viable without public assistance. In marine terminals at the San Pedro Bay ports, assuming marine boxes are staged by vessel unloading crews close to the on-dock rail tracks, a lift of a marine box into a well car using a one-man top-picker costs about $100. Another lift out at the Inland Empire terminal to put the box on a chassis would be required, probably using a more expensive RTG crane. A dray from the Inland Empire rail terminal to a local consignee would cost $150 - $200. These costs should be compared to a direct dray from the marine terminal to the consignee, which costs in the range $300 - $400 (plus $140 for PierPass if the box is picked up during the day shift on a weekday, free if picked up on second

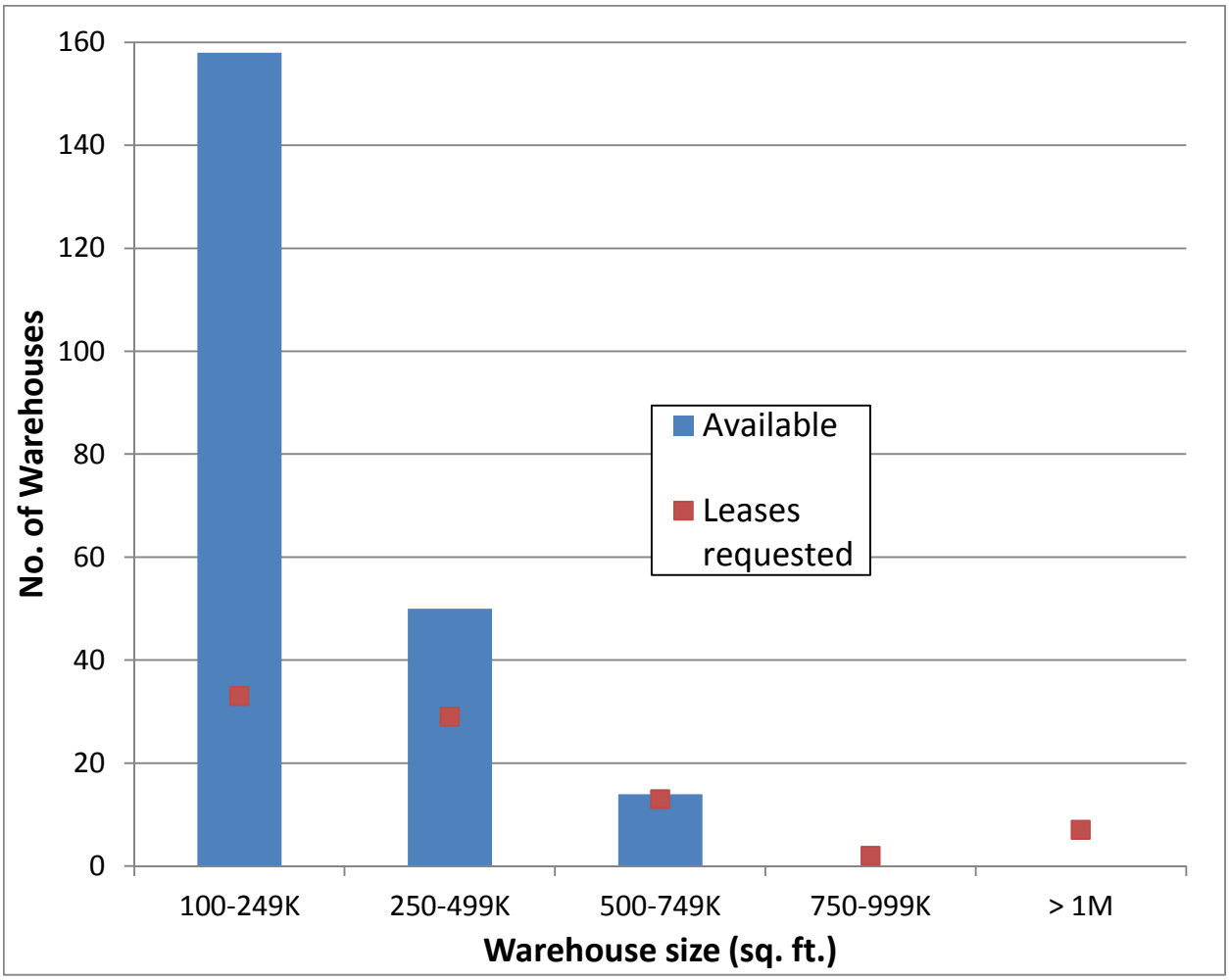


Figure 13: Supply vs. Demand for Warehouse Facilities in Greater Los Angeles, as of Sept. 2013

Source: Jones Lang LaSalle "Big Box Outlook Fall 2013" http://www.us.jll.com/united-states/en-us/research/industrial-and-logistics

shift or on Saturday).[18] Required rail operations would include switching to assemble a train from well cars loaded at various on-dock and near-dock terminals, line haul to the Inland Empire terminal, line haul to bring the empty boxes back to the ports, and switching to distribute the empties to the port terminals.

While short-haul intermodal has not been not been a commercially attractive business for the Western railroads under traditional market conditions, there is a unique opportunity to make it viable and attractive in Southern California, whereby the short-haul movement of international containers is coupled with re-shipping the imported goods long-haul in domestic rail containers.

[18] These figures are from private communications with marine terminal and dray companies.

Previous studies have indicated a subsidy on the order of $150 per container would be required.[20] As dray costs rise and as the PierPass fee rises, the economics of short-haul intermodal become more favorable, but it seems likely that some level of public subsidy still would be required to develop an intermodal terminal in the Inland Empire, plus an on-going subsidy for the operations. Public subsidy of short-haul intermodal could well be in the public interest, considering the reductions in freeway traffic and emissions. The primary customers for such a service would be the large nationwide OEMs operating national distribution centers in the Inland Empire. Another group of potential customers is comprised of retailers operating import warehouses and/or RDCs in the Inland Empire. While a portion of the large nationwide retailers' volumes moving to the import warehouses must be cross-docked and re-loaded in domestic trailers for movement to the import warehouses, another portion moves intact in marine boxes from the ports to the Inland Empire import warehouses. Imports by smaller, regional retailers also move intact in marine containers from the ports to Inland Empire RDCs.

Estimates of the potential for emissions reductions from short-haul rail intermodal are provided in Table 9. As may be seen, the potential emissions reductions from short-haul intermodal are impressive, about 180% of the current contribution of the Alameda Corridor for a short-haul service for only marine boxes, and more than twice the current Alameda Corridor contribution if in addition the Inland Empire rail terminal equipped with electric RMCs. About 2.6 million drays per year between the ports and the Inland Empire would be replaced by rail movement to the Inland Empire and much shorter dray trips in the Inland Empire, adding about 12.6 8,000-foot marine-box double-stack trains each way per day to the Alameda Corridor.

An option for the short-haul intermodal initiative is to also offer domestic-container rail transportation for imports moving from cross-docks located in the general vicinity of the ICTF to Inland Empire warehouses. This option has the potential to replace about 290,000 dray trips per year between the general vicinity of the ICTF and Inland Empire warehouses with much shorter dray trips between cross-docks and the ICTF and between an Inland Empire rail terminal and Inland Empire warehouses. This option provides only minor additional reductions in CO_2 emissions, but the potential port area – Inland Empire dray trips that could be replaced by rail movement plus much shorter dray trips would rise to more than 2.9 million per year. The total double-stack trains required to accommodate the combined market potential would rise to about 14.4 8,000 foot double stack trains per day in each direction.

The main impediments to the short-haul intermodal initiative would be (1) securing adequate rail intermodal terminal capacity in the Inland Empire, (2) provision of adequate staging trackage in the ports complex and/or adjacent to the ICTF to assemble/disassemble trains of well cars moving from/to multiple port terminals, and (3) negotiation of an agreement with a railroad to provide the service with a politically-feasible public subsidy.

[20] Mongelluzzo, Bill, "Shippers await short-haul rail option to San Pedro Bay ports," *Journal of Commerce*, April 27, 2016.

Table 9: Potential Emissions Savings (kilograms) Afforded by Short-Haul Intermodal Service

	CO_2	HC	CO	NOx	PM2.5
Savings – marine boxes only	256.6 million	17,600	233,000	871,000	86,000
Savings – marine boxes only, with hybrid RTGs at rail terminals	282.8 million	24,500	276,000	1,072,000	91,000
Savings – marine boxes only, with electric RMCs at rail terminals	293.3 million	27,200	293,000	1,153,000	93,000
Savings – marine boxes plus domestic boxes	263.2 million	13,800	226,000	812,000	89,000
Savings – marine boxes plus domestic boxes, with electric RMCs at rail terminals	308.0 million	25,500	300,000	1,156,000	97,000

Note: Savings calculated as follows: An estimated 23.7% of 2015 San Pedro Bay imports were made by large, nationwide OEMs or e-Commerce firms; it is assumed 85% of them operate distribution facilities located in the Inland Empire. In addition, an estimated 10.4% of 2015 San Pedro Bay imports were moved intact in marine containers by large, nationwide retailers from port terminals to their import warehouses or regional distribution centers (RDCs), assumed to be 100% located in the Inland Empire. In addition, an estimated 11.7% of 2015 San Pedro Bay imports for consumption in the local region made by small and regional importers; it is assumed 30% of them operate distribution centers in the Inland Empire. Two RTG lifts at the port terminals (an average of one to clear a box in the way and one to retrieve the desired box) and a round trip dray from the port terminals to the Inland Empire are replaced by a top-picker lift at the port terminal, movement via marine-box double-stack train from port terminal to an Inland Empire rail intermodal terminal, RTG lift of loaded box at the Inland Empire rail terminal, round trip dray from Inland Empire rail intermodal terminal to Inland Empire warehouse, RTG lift of empty box at the Inland Empire rail terminal, and movement via empty marine-box double-stack train from Inland Empire to port terminal. Not included in this estimation are emissions associated with rail switching to assemble/disassemble trains of well cars originating/terminating at multiple port terminals. For the option including domestic boxes, an estimated 5.8% of 2015 San Pedro Bay imports are cross-docked in the general vicinity of the ICTF and then drayed in domestic trailers to import warehouses or regional distribution centers in the Inland Empire operated by large, nationwide retailers. For such imports, a round trip dray of a domestic trailer from cross-dock to Inland Empire warehouse is replaced by an RTG lift of empty domestic container at Inland Empire rail terminal, double-stack rail movement of empty domestic container from Inland Empire rail terminal to ICTF, two RTG lifts at ICTF (one of empty box and one of loaded box), round trip dray of domestic container from ICTF to cross-dock, double-stack rail

movement of loaded domestic container from ICTF to Inland Empire rail terminal, and an RTG lift of loaded domestic container at an Inland Empire rail terminal.

Infill

The standard paradigm for transportation planning is to take origin-destination travel demand as a given, and then plan infrastructure and/or traffic control systems to accommodate this demand. In contrast to the standard paradigm for transportation planning, we could consider re-engineering the import supply chains in ways that reduce the need for dray transportation. A more informed perspective, cognizant of the larger supply chains, makes one realize that the current locations for distribution centers – intermediate points in the supply chains – perhaps could be changed and need not be taken as a given. In terms of total supply chain cost, it might be cheaper to relocate those facilities than to build transportation infrastructure to serve them. Put another way, an outside-the-box approach to reducing the trucking impacts in the Los Angeles Basin involves *reducing the need for freight transportation instead of building infrastructure to accommodate it.*

While the Inland Empire is a sensible location for regional distribution centers, enabling ease of distribution to San Diego, Las Vegas and Phoenix, it is less sensible as the site for the national distribution centers and import warehouses making heavy use of rail intermodal. Were such facilities located closer to the ports, with intermodal loads entrained in the vicinity of the ports, a dramatic reduction in dray transportation could be realized.

If there was only one party controlling all aspects (both public and private) of the supply chains, a very different and much better solution could be engineered, as follows.

- The old warehouses near the ports that are vacant or underutilized would be knocked down. Perhaps in some instances, low-volume streets running between them would be closed. Environmental clean-up of the sites would be done as required. Lots would be merged to realize suitable lots for development of large start-of-the-art distribution facilities.
- The commercial real estate companies would develop modern, large distribution facilities on these new sites.
- The large big-box retailers and OEMs would site their import warehouses, e-commerce fulfillment centers, and national distribution centers in these new facilities, close to the ports instead of at sites far away from the ports. Cross-docks located near downtown rail terminals would be abandoned in favor of sites closer to the ports, freeing up central warehouse space for local distribution activity.
- Union Pacific's underutilized Intermodal Container Transfer Facility (ICTF), currently handling marine containers and only a very small volume of domestic containers, would be re-purposed to handle a large volume of domestic containers, and UP would offer frequent domestic stack train service from the ICTF to major points east of the Rockies.
- Instead of an exclusively-marine-box facility, BNSF's proposed SCIG (Southern California Intermodal Gateway) rail terminal would be repurposed to handle a large volume of domestic containers, and BNSF would offer frequent domestic stack train service from SCIG to major points east of the Rockies.

If all the supply-chain stakeholders were brought to the table, an agreement might be achievable whereby all parties could be made better off, and supply chains could be rationalized as suggested above. We call this initiative *Negotiated Infill with Domestic Rail.* The terms of such a deal might include the following items:

- The government of at least one and preferably several of the small cities near the ports must support logistics development in its municipality. An insightful leadership would recognize that a community located right next to a port is the logical site for logistics activities related to international trade, and this is an aspect to be leveraged, not discouraged. For example, software companies specializing in automation of warehouses and cross-docks cold be encouraged to locate in the city. An insightful leadership would recognize that if no development occurs, the drays to and from the ports will not go away, they will simply pass through their community on the freeway network, generating more noise and more pollution that if the drays ended their trips in their community. If instead of passing by on the freeways, the drays from the ports used city streets to make trips to warehouses or cross-docks located in their municipality and then subsequent trips on city streets from those facilities to the nearby rail terminals, it would result in a reduction in noise and emissions in their community as well as in the Basin as a whole. Moreover, the new facilities and expanded rail terminals would generate blue-collar jobs for their community, and such jobs would be preferable to jobs at new software companies because such companies likely would bring in educated workers from elsewhere rather than hire the underemployed current citizens in the community.

- Local governmental agencies and the state government would recognize that a proposal to eliminate the need for freight transportation could be far more environmentally beneficial and far less costly than proposals to expand freeways with truck lanes and proposals to develop subsidized conventional or advanced-technology trains to haul containers from the ports area to the Inland Empire warehouse district. Bureaucratic and legal barriers would be eased so that monies earmarked for transportation infrastructure could be reallocated to raze obsolete small warehouses near the ports and perform environmental remediation as required. The commercial real estate owners or developers would be invited to agree to build on these cleared sites modern, large distribution facilities attractive to the large retailers and OEMs.

- Given the commitment of commercial developers to build new facilities, large nationwide retailers and OEMs would agree to buy or lease the new facilities, perhaps with the proviso that one or both of the railroads would implement significant domestic stack train service from nearby rail terminals. Moreover, large nation-wide retailers utilizing cross-docks near the downtown rail terminals would agree to shift such activity to cross-docks in the general vicinity of the ICTF.

- Given a commitment of large retailers and OEMs to shift their distribution activity to facilities in the general vicinity of the ICTF, the Union Pacific would agree to re-purpose and expand the ICTF[21] to offer attractive domestic stack train service.

- Given the commitment of large retailers and OEMs to facilities in the general vicinity of the ICTF, the Port of Los Angeles and BNSF would agree to revise the SCIG[22] proposal to feature significant and attractive domestic stack train service. The proposal would note that, because of the repurposing, the revised SCIG would engender a much larger reduction in Los Angeles Basin truck traffic than the previously proposed facility.

If a large-scale public-private-partnership deal as envisioned above could be reached, the potential reduction in truck traffic in the Los Angeles Basin is significant. Estimates of the potential emissions reductions for such an initiative are provided in Table 10. As may be seen the potential reductions in emissions amounts to about 238 million kilograms per year, or about 70% more than the current contribution of the Alameda Corridor. The potential rises to 257 million if rail terminals are equipped with electric cranes. If implemented to its maximum potential, the Negotiated Infill with Domestic Rail initiative would replace almost 4.6 million dray trips per year with shorter dray trips, mostly replacing trips between the ports or the general area of the ICTF and the Inland Empire with shorter trips within the general area of the ICTF and the ports. However, about 248,000 existing dray trips within the Inland Empire (between retailer import warehouses or OEM national distribution centers and retailer regional distribution centers) would be replaced by trips between the general vicinity of the ICTF and the Inland Empire, making for a potential net number of reduced dray trips of about 4.3 million per year. At maximum potential, about 12.3 8,000-foot domestic double-stack trains per day in each direction would be added to the Alameda Corridor. This is much less than the number of additional trains associated with short-haul intermodal because of the efficiencies associated with transportation in the 33% larger domestic boxes.

The reader is cautioned that the potential savings for Short-Haul Intermodal and for Infill are not additive because shifting distribution activity from the Inland Empire to the general vicinity of the ICTF, as envisioned under Infill, reduces the potential traffic for Short-Haul Intermodal. Moreover, the Infill alternative includes full domestic intermodal service at the ICTF, whereas the benefits of ICTF domestic intermodal service and short-haul intermodal service are additive.

Were either the Short-Haul Intermodal initiative or the Negotiated Infill with Domestic Rail proposal fully implemented, or if some combination were implemented, the Alameda Corridor finally could become fully utilized and fulfill its promise. In fact, it could exceed its originally-envisioned promise because of the increased environmental efficiency afforded by shipping in domestic containers in lieu of marine containers. Truck traffic on the 110, 710 and 60

[21] Efforts to seek environmental approval to expand the ICTF were initiated but then tabled when marine container volumes did not meet expectations.

[22] A recent ruling denied environmental approval for SCIG. As of this writing, BNSF and the Port of Los Angeles are re-assessing whether to go forward with further efforts to gain approval.

Table 10: Potential Emissions Savings (kilograms per year) Afforded by the Negotiated Infill with Domestic Rail Initiative

	CO_2	HC	CO	NOx	PM2.5
Savings	238.4 million	30,700	248,000	988,000	83,600
Savings if rail terminals equipped with hybrid RTGs	251.7 million	34,200	270,000	1,089,000	86,300
Savings if rail terminals equipped with electric RMCs	256.7 million	35,500	278,500	1,128,000	87,200

See Appendix 2 below for calculated savings methodology.

freeways could be dramatically reduced. Considering that imports trans-loaded to domestic containers and trailers already exceed imports moving inland intact in marine containers from San Pedro Bay, and are likely to account for an increasingly larger share of imports in the future, these initiatives would seem to be promising directions for public policy.

Dray-Off

Steamship lines offer three basic kinds of rates for containerized imports through California ports: IPI (discussed above), Store-Door (SD), and Container Yard (CY). For an SD rate, the line quotes a rate including vessel passage plus a dray to a customer dock in the hinterland of the port of entry. For a CY rate, the customer must pick up the box at the port terminal and separately arrange for a dray from the port terminal to destination.

In the early years, the steamship lines subcontracted dray companies to make SD deliveries on their behalf. But a number of large import customers became dissatisfied with this service, and requested that the customer's in-house dray staff or customer-subcontracted dray companies be allowed to perform the dray from port terminal, whereby the line refund the dray portion of the SD rate. Over time, this became the dominant practice for SD import traffic. In effect, the SD import volume morphed into CY volume.

This transition is significant from an emissions point of view because the port terminals lost control of drays of imports. Before the transition, import boxes could be dispatched by the terminal based on nearest-box dispatched first. The box on top of the front stack could be dispatched first. A top-picker crane is sufficient for loading the box on a chassis under such a protocol. After the transition, for a given import box, at the time a vessel is unloaded, the terminal management does not know how long a given box will reside in the terminal. In the tight confines of port terminals, the import boxes must be stacked. Once the customer-contracted drayman arrives to pick up a desired box, typically there are one or more boxes on top of, or in front of, the desired box. These other boxes must be lifted out of the way in order to retrieve the desired box. This requires use of

a rubber-tired gantry (RTG) crane. An RTG crane requires a larger crew and generates more emissions per lift than a top-picker. And more lifts are required.

At present, the average number of lifts to retrieve a desired box at a port terminal for an SD or CY dray is about 2.0. However, if the terminal becomes very congested, this figure can grow to 2.5 or more. As more and more lifting work is required to retrieve boxes, the terminal can fall further and further behind, leading to a terminal "melt-down" crisis.

To protect themselves from melt-down, as well as in an effort to control terminal costs, some San Pedro Bay marine terminals have implemented a practice known as *dray-off*. Under dray-off, import boxes awaiting customer dray are placed on chassis by a top-picker. A terminal-contracted dray company immediately drays the boxes to an off-terminal lot, leaving the boxes resting on chassis at this lot. Customer-contracted draymen coming to pick up their box are directed to the off-terminal lot to claim their box.

The practice is popular with some customers because their draymen can pick up boxes with much less terminal delay than experienced at port terminals. Moreover, the PierPass fee can be avoided if boxes are drayed to the off-site lot during off-peak periods.

Generally, three working days of storage at port terminals free of charge are allowed for import containers, after which demurrage charges are assessed for all time in excess of the free time.[23] Thus the transition in SD service from dray performed by the steamship line to dray performed by the importer has provided the importers with up to three free days of storage for imports moving under SD rates. This free time can be used by importers for inventory management purposes, i.e., boxes whose contents are urgently needed are picked up first while boxes whose contents are not in near-term demand can be left at the port terminals to use up the free storage time.

The transition in SD service results in a significant increase in emissions for imports, and arguably results in more investment in the expensive marine terminals than otherwise required (because of the increased population of import boxes on the terminal).

Given the potential cost savings to terminals and the potential for emissions reduction, it is suggested that importers ought to be given an economic incentive to change their import policy. We envision a new SD rate, lower than the current SD rate, in which the importer is required to accept a terminal-controlled dray in lieu of the importer-controlled dray as at present. Instead of draying to an off-terminal lot, the terminal-contracted draymen would dray directly to consignee dock. Terminal-contracted drays would be loaded by a top-picker, in the order most convenient for terminal operation. (A variant of this initiative works as follows: Customers participating in the new lower-rate service agree to pool their draymen with the draymen of other participating customers. Loads are assigned to the pooled draymen at the convenience of the terminal, independent of which customer employs the draymen.) The estimated potential for emission savings per year from such a dray-off program at the San Pedro Bay ports is provided in Table 11 below.

[23] Reportedly, some large importers are granted additional free time under terms of their confidential contracts with the lines.

Table 11: Potential Emissions Savings (kilograms) Afforded by the Dray-Off Initiative

	CO2	HC	CO	NOx	PM2.5
Savings	51.0 million	11,000	83,000	366,000	9,000

Note: Savings calculated as follows: An estimated 63.5% of San Pedro Bay imports are not moving in Inland Point Intermodal service and require a dray from marine terminals. An average of two RTG lifts per FEU (forty-foot equivalent unit) for this traffic are replaced by one top-picker lift.

As may be seen, if all non-IPI imports were shifted from customer-controlled dray to terminal-controlled dray, about 51 million kilograms of CO2 emissions per year could be avoided. The reader is cautioned that these savings are not additive to the savings from the Short-Haul Intermodal initiative, because that initiative also shifts imports from RTG lifts to top-picker lifts at the port terminals.

The reader may wonder, if dray-off would save port terminals money and reduces emissions, why is it not more prevalent? It should be recognized that steamship lines must compete for the business of larger importers, and so the lines are reluctant to provide less attractive terms of business to such customers. Requiring customers to participate in a dray pool or accept terminal-controlled drays might be seen as an affront to important customers. Raising SD rates also would be seen as an affront. Moreover, at a time when all lines are losing money, it is probably difficult for the lines to consider a new dray service offered at a discounted price. Public intervention may be required to enforce a price difference between a new dray-off service and the currently-allowed random customer pick-up service.

In summary, given current contractual relationships, it is difficult for the private enterprise system to achieve further reductions in emissions. But there are several very promising avenues for public-private partnerships that could make dramatic reductions in emissions and truck traffic associated with imports through San Pedro Bay, including short-haul intermodal, infill and dray-off.

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Appendix 1. Analysis of Boundary Conditions to Deduce Import Flows at San Pedro Bay

In the text it is asserted that, given the total share of Far East – USA imports at San Pedro Bay, given the IPI fraction at San Pedro Bay, given the fraction of total Far East – USA imports

consumed in the local region, given the shares of total Far East – USA imports moving in Push-Pull 3[4][5] Corners supply chains and in Push-Pull 1 Corner supply chains, and given the fraction of Push-Pull 1 Corner importers whose national distribution center is located in Southern California, then the fraction of imports in Push-Pull 3[4][5] Corners supply chains moving through San Pedro Bay, the fraction of imports in Push supply chains moving through San Pedro Bay, and the overall fraction of Far East – USA imports moving in Push supply chains may be deduced. This appendix develops the equations proving this assertion.

Notation

SPB – fraction of total Far East – USA imports moving through San Pedro Bay

L – fraction of total Far East – USA imports consumed in the Southern California region

IPI – fraction of San Pedro Bay imports from the Far East moving in inland point intermodal service

s_R – fraction of total Far East – USA imports moving in Push supply chains. Such chains are utilized by small and regional retailers for all of their imports as well as by large, nation-wide retailers for their “one-off” goods that are not re-stocked.

s_M – fraction of total Far East – USA imports moving in Push-Pull 1 Corner supply chains. Such chains are utilized by large, nation-wide original equipment manufacturers.

s_B – fraction of total Far East – USA imports moving in Push-Pull 3[4][5] Corners supply chains. Such chains are utilized by large, nation-wide “Big-Box” retailers.

x_R – fraction of total Far East – USA imports moving in Push supply chains that pass through San Pedro Bay.

x_M – fraction of total Far East – USA imports moving in Push-Pull 1 Corner supply chains that pass through San Pedro Bay.

x_B – fraction of total Far East – USA imports moving in Push-Pull 3[4][5] Corners supply chains that pass through San Pedro Bay.

Initial Conditions

Suppose we are given *SPB*, *L*, *IPI*, s_M, s_B, and x_M. We now proceed to solve for s_M, x_B and x_R.

Derivation

The shares of the three supply chain types account for all Far East – USA imports:

(1) $s_M + s_B + s_R = 1$; therefore, $s_R = s_M + s_B$.

Considering the Push supply chain, we have:

(2) $x_R s_R = s_R * L + IPI * SPB$.

Considering San Pedro Bay's share of overall Far East – USA imports, we have:

(3) $x_R s_R + x_M s_M + x_B s_B = SPB$.

Equations (1) and (3) imply

$x_R = [1/(1 - s_M - s_B)]*IPI*SPB + L$.

Substituting this result into equation (3), we have:

$x_M s_M + x_B s_B = SPB - x_R s_R = SPB - x_R(1 - s_M - s_B) = SPB - IPI*SPB - (1 - s_M - s_B)*L$.

Solving for x_B, we have:

$x_B = (1/s_B)[\ (SPB - IPI*SPB - L) - (x_M - L)*s_M\ ] + L$.

Numerical Results

For $SPB = 0.507$, $L = 0.108$, $IPI = 0.3653$, $s_M = 0.15$, $s_B = 0.3$, and $x_M = 0.8$, we obtain $s_R = 0.55$, $x_B = 0.475$ and $x_R = 0.445$. The shares of imports by supply chain type at San Pedro Bay become $x_R s_R/SPB = 48.2\%$ for Push supply chains, $x_B s_B/SPB = 28.1\%$ for Push-Pull 3[4][5] Corners supply chains, and $x_M s_M/SPB = 23.7\%$ for Push-Pull 1 Corner supply chains, as reported in the text.

Appendix 2. Footnotes to Table 10

Savings were calculated as follows: It is assumed that no regional distribution centers would move from the Inland Empire to the infill area, i.e., only relocation of national distribution centers, e commerce fulfillment centers and import warehouses is considered. It is assumed that three inbound FEUs (forty-foot equivalent units) generated two outbound domestic container moves from OEM distribution centers or retailer import warehouses. An estimated 23.7% of 2015 San Pedro Bay imports were made by nationwide OEMs or e-commerce firms; it is assumed that 85% of such firms operate national distribution centers located in the Inland Empire. For such importers, it is assumed that 83.8% of their imports are re-shipped from the distribution centers to retailing customers using domestic rail containers, 10.8% are trucked to regional distribution centers located in the Inland Empire, and 5.4% are trucked to regional distribution centers located in Northern California. A round trip dray of the marine box from the port terminals to the Inland Empire is replaced by a round trip dray from the port terminals to a distribution center located in the general vicinity of the ICTF. Considering outbound shipments from the distribution center, a round trip dray of a domestic container from Inland Empire rail terminal to Inland Empire warehouse is replaced by an RTG lift of empty domestic container at Inland Empire rail terminal, movement in empty-container double-stack train from Inland Empire rail terminal to ICTF, RTG lift of empty container at ICTF, round trip dray of domestic container from ICTF to nearby warehouse, and movement in loaded double-stack train from ICTF to the Inland Empire. A round trip dray of a domestic trailer from OEM warehouse in the Inland Empire to retailer RDC in the Inland Empire is replaced by a round trip dray of domestic trailer from OEM warehouse in the general vicinity of the ICTF to retailer RDC in the Inland Empire. A one-way domestic trailer movement from Inland Empire warehouse to downtown en route to Northern California is replaced by a one-way trailer movement from a warehouse in the general vicinity of the ICTF to downtown. In addition, an estimated 9.8% of 2015 San Pedro Bay imports were moved by nationwide retailers intact in marine containers to their import warehouses, also assumed to

be located in the Inland Empire. Of this amount, it is assumed 65.9% were re-shipped in rail domestic containers; 22.7% were drayed in domestic trailers to the local RDC in the Inland Empire, and 11.4% were trucked to Northern California distribution centers. A round trip dray of the marine box from port terminals to Inland Empire warehouses is replaced by a round trip dray from port terminals to a warehouse in the general vicinity of the ICTF. Considering outbound shipments from the import warehouse, a round trip dray of a domestic container from Inland Empire rail terminal to Inland Empire warehouse is replaced by an RTG lift of empty domestic container at Inland Empire rail terminal, movement in empty-container double-stack train from Inland Empire rail terminal to ICTF, RTG lift of empty container at ICTF, round trip dray of domestic container from ICTF to nearby warehouse, and movement in loaded double-stack train from ICTF to the Inland Empire. A round trip dray of a domestic trailer from import warehouse in the Inland Empire to the retailer's RDC in the Inland Empire is replaced by a round trip dray of domestic trailer from import warehouse in the general vicinity of the ICTF to retailer RDC in the Inland Empire. A one-way domestic trailer movement from Inland Empire warehouse to downtown en route to Northern California is replaced by a one-way trailer movement from a warehouse in the general vicinity of the ICTF to downtown. In addition, an estimated 8.8% of San Pedro Bay imports were made on behalf of large nationwide retailers and moved to cross-docks in the general vicinity of the ICTF where the imports were trans-loaded to domestic rail containers drayed to downtown rail terminals. Another estimated 3.0% of San Pedro Bay imports were made on behalf of large nationwide OEMs operating national distribution centers in the general vicinity of the ICTF that were re-shipped from the distribution centers in domestic rail containers drayed to downtown rail terminals. A round-trip dray of a domestic box from downtown rail terminals to cross-docks in the general vicinity of the ICTF is replaced by an RTG lift of an empty domestic container at a downtown rail terminal, movement of empty box in double-stack train from downtown to ICTF, RTG lift of empty domestic box at ICTF, round trip dray of domestic container from ICTF to cross-dock in the general vicinity of the ICTF, and movement of loaded domestic box in double-stack train from ICTF to downtown. In addition, an estimated 3.0% of San Pedro Bay imports were made by large, nationwide retailers, drayed in marine boxes to cross-docks in the general vicinity of the ICTF, and then drayed in domestic trailers from cross-docks to import warehouses located in the Inland Empire. Of this amount, from the import warehouse, an estimated 65.9% was re-shipped in domestic rail containers drayed to an Inland Empire rail terminal, 22.7% were drayed in domestic trailers to the local RDC in the Inland Empire, and 11.4% were trucked up to Northern California RDCs. A round trip dray of a domestic container from Inland Empire rail terminal to Inland Empire warehouse is replaced by an RTG lift of empty domestic container at Inland Empire rail terminal, movement in empty-container double-stack train from Inland Empire rail terminal to ICTF, RTG lift of empty container at ICTF, round trip dray of domestic container from ICTF to nearby warehouse, and movement in loaded double-stack train from ICTF to the Inland Empire. A round trip dray of a domestic trailer from import warehouse in the Inland Empire to the retailer's RDC in the Inland Empire is replaced by a round trip dray of domestic trailer from import warehouse in the general vicinity of the ICTF to retailer RDC in the Inland Empire. A one-way domestic trailer movement from Inland Empire warehouse to downtown en route to Northern California is replaced by a one-way trailer movement from a warehouse in the general vicinity of the ICTF to downtown. Another estimated 1.0% of San Pedro Bay imports were made on behalf of large nationwide retailers and moved to cross-docks in the general vicinity of the downtown rail terminals where the imports were trans-loaded to domestic rail containers and trailers. Outbound from the downtown cross-docks in domestic containers and trailers, 55.4% are drays to downtown rail terminals, 19.0% are drays to an import warehouse in the Inland Empire, 16.0% are drays to an RDC in the Inland Empire, and 9.6% are truck movements to Northern California RDCs. These would be replaced by corresponding moves from a cross-dock located in the general vicinity of the ICTF. The drays to downtown rail terminals would be replaced by a round trip dry from the ICTF or SCIG to a cross-dock in the general vicinity of the ICTF, an RTG lift of an empty domestic container at both a downtown rail terminal and at the ICTF or SCIG, and round trip rail movement of a domestic container between the downtown rail terminals and the ICTF or SCIG.

Attachment D

San Pedro Bay Ports
Short Haul Rail Summary Report

Prepared for:

Port of LONG BEACH
The Green Port

By:

J. M. Holmes

In Conjunction with Strategic Mobility 21

June 2016

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I. Introduction

The purpose of this report is to provide an update on the economic viability of using short haul rail to move cargo between the San Pedro Bay ports and the Inland Empire. This has been examined in a number of previous studies. They include the "2004 Alameda Corridor Intermodal Container Distribution Study, Inland Empire Rail Shuttle Concept Analysis" conducted by Moffat & Nichol, BST Associates and GR Fetty Associates, and the 2008 "Inland Port Feasibility Study" conducted by The Tioga Group, Railroad Industries, and Iteris.

In these reports, the shift from trucking to short haul rail to move cargo to the Inland Empire, and the development of an "Inland Port" concept were found to be operationally feasible but not cost effective. This report revisits these concepts in order to re-evaluate the economic viability and the value provided by using short haul rail to move cargo between San Pedro Bay and the Inland Empire.

The successful expansion of short haul rail has the potential of being a game changer for both liner shipping and rail operations. It could provide a means for resolving long term inefficiencies in marine terminal operations. In addition, the current circumstances in the San Pedro Bay Ports suggest a tipping point in the short haul rail versus short haul trucking cost equation.

Drayage costs to and from the Port Complex have continued to increase. Information gathered for this study indicates that truck drayage costs from the Port Complex to Inland Empire warehouses and distribution facilities are currently more than the cost to transport the same container from the Port Complex by rail. It is also important to note that this differential is occurring in a logistic system that is not optimized for the use of rail as a means to move a container from the Port Complex to the Inland Empire.

In this analysis, pricing comparisons had to include the cost of a short truck dray from a rail facility in the Inland Empire to and from a nearby warehouse or distribution facility. If these facilities could be built adjacent to rail lines the rail costs would decrease substantially, further widening the cost gap between truck and rail.

The information collected for this report also indicates that a substantial value proposition exists in shifting the movement of cargo to and from the Port Complex from truck drayage to rail. Rail is not only an efficient and reliable means to move cargo, but this shift could ease port congestion, save wear and tear on the roads, and reduce harmful emissions. Developing rail facilities in the Inland Empire could also provide a more efficient conduit for the movement of cargo to and from the Las Vegas, Phoenix, and Tucson areas and create well-paying logistic jobs in the region.

1. Current Situation

The San Pedro Bay Ports have been at the forefront of both containerization and intermodal (IM) goods movement since the 1960s. In the midpoint of the second decade of the 21st century, the ports once again find themselves facing multiple challenges. These include:

(1) Projected cargo increases;
(2) The challenge of efficiently handling mega container vessels;
(3) Terminal capacity issues;
(4) Traffic redistribution from shipping industry consolidation;
(5) Truck dray driver service hour restrictions and labor pool contraction;
(6) Chassis availability following carrier equipment divestiture;
(7) Traffic congestion; and
(8) Air quality and carbon footprint concerns.

The number one reported cause of port terminal congestion is capacity constraints associated with truck access limitations. At even minimal additional throughput short haul rail can provide a safety valve, offering an immediate measurable impact mitigating chronic port congestion and relieving the threat of gridlock.

In addition, port fees, fuel costs, truck prices and other factors have significantly increased the cost of truck drayage since the implementation of the Clean Truck Program (CTP) on October 1, 2008. These post CTP increases have continued to rise over the past eight years, far outpacing the increases in rail costs.

2. Desire to Better Utilize Untapped Rail Capacity

The San Pedro Bay ports, like so much of the aging infrastructure in the United States are running out of land for expansion. The ports can no longer simply build their way out of bottlenecks. The existing untapped rail line capacity, assisted by near-term port rail system improvements provides a means to increase system capacity while at the same time reducing traffic congestion and providing environmental benefits.

Ports can enhance on dock rail and address terminal deficiencies by reallocating land and encouraging marine terminal tenants to enhance rail system configurations and operations. The major challenge to the successful introduction of the short hail rail concept, and its injection into the current marine terminal business operational model, is the required harmonization, integration and synchronization of vessel to terminal, and terminal to intermodal rail planning and execution.

3. Background

Rail has always played a major role in the San Pedro Bay Ports. Early efforts to shift cargo from truck to rail were encouraged by the redesign of terminals to provide on dock rail capability and the development of the Alameda Corridor. The corridor was built to speed the movement of rail cargo and to help increase the percentage of cargo entering and leaving the port by rail.

While most cargo destined for areas more than 500 miles from the port travels by rail, cargo traveling shorter distances or going directly to stores, to distribution facilities and to cross dock packing facilities almost exclusively travels by truck. This method is used because it has traditionally been the most cost effective means to get the cargo to these facilities.

The rapid growth of the San Pedro Bay Ports has raised concerns with respect to port congestion and efficiency. These concerns, along with continuing concerns regarding port growth and its impact on the environment, continue to drive efficiency and environmental initiatives. One such initiative is using short haul rail as an alternative to truck drayage, particularly to areas in the Inland Empire.

Over the past twenty years a number of studies have been conducted in an effort to evaluate the feasibility of enhancing short haul rail as a means to reduce truck trips and generate other benefits in Southern California. This short haul rail or "Inland Port" concept involves the use of rail to deliver cargo to or within short distances of warehouse, distribution and cross-dock repacking facilities.

In each of the previous studies conducted this concept has been deemed to be operationally feasible. Each of the studies has also been determined that there is substantial value in shifting cargo from truck drayage to rail. This shift has been determined to have air quality benefits, reduce traffic congestion, reduce the wear on road infrastructure, and increase the capacity of the ports, and enhance the efficiency of the freight transportation system.

Although these benefits are significant, potential implementation of the Inland Port concept has been hampered by the cost effectiveness of short haul rail as compared to drayage by truck. In each of the previous studies, the notional cost to transport a container to the Inland Empire by rail has been found to exceed the cost by truck. As a result it has always been determined that unless a subsidy is provided, the concept would not be cost effective.

Most recently it was felt that the Inland Port concept should once again be examined. As cargo numbers rise, the short haul rail concept has been identified as a possible means to alleviate terminal congestion and improve terminal efficiency as a means to prepare for the substantial cargo growth that is expected. Other factors that have come into play are:

- Substantial increases in truck drayage costs,
- The growing percentage of cargo transported to Inland Empire cross-dock facilities for repacking and shipping by rail,
- The growing amount of cargo being transported to Inland Empire distribution facilities,
- Available on-dock rail capacity, and
- The desire by rail operators to find new and expand existing markets.

As a result, this study has been commissioned. If a determination is made that short haul rail is cost effective for cargo that moves to or through the Inland Empire, the Port of Long Beach should examine this as a means to increase the current 28% on dock rail cargo and achieve a goal of 50% or greater by 2020. This will only happen if the economic viability of the Inland Port Short Haul Rail concept is proven.

4. Previous Studies

Earlier studies provided indications of the necessity of evaluating short haul rail to meet increases in port throughput. The first such forecast was the 1998 Mercer San Pedro Bay Ports Long Term Cargo Forecast which assumed a 1000 mile radius for effective strategic competition between long haul line truck and intermodal rail. The study forecasted a great intermodal share of total freight volume if distances between 300, 500 and 1000 miles were considered.

a. The 1998 Mercer Study called for the adoption of a 50% throughput cargo by intermodal (IM) rail as the primary method of reducing unnecessary truck gate moves. The Study forecasted a 2010 overall throughput demand of 16.7 million Twenty Foot Equivalent Units (TEU).

   The study forecasted on dock rail yard capacity of 4.7 MTEU or 28%, and off dock rail yard capacity of 3.5M TEU (including near dock ICTF capacity of 1.5M TEU) or overall 22% to meet total intermodal rail (IM) demand of 50% or 8.4 M TEU. The study implications are still valid today in that at the 16.5 M TEU level there is a net shortfall of 2M TEU or 1 million 40-foot containers that cannot be absorbed by off dock yards which are at or near capacity.

b. The 2002 POLB Master Rail Planning Study released in September 2002 coincided by a matter of months with the long awaited opening of the Alameda Corridor on April 15, 2002. The Alameda Corridor Transportation Authority (ACTA) throughput capacity with 2 tracks is 120 trains per day, and 3 tracks is 150 trains per day. To date average daily throughput is 39 trains per day (and a historic high of 55 trains when they were considerably shorter 6,000 feet). ACTA's current operations below its design capacity are significant in that the San Pedro Bay Ports have guaranteed to pay 40% of any revenue shortfalls if traffic is insufficient to meet debt obligations.

   The infrastructure recommendations called for in the study included: (1) construction of a Pier B rail yard enabling 8,000 foot trains by 2010; (2) Double track mainline to Pier J and a single track from Pier G by 2010; (3) adequate storage tracks to enable full train-length departure and arrival tracks; (4) intermodal rail yard leads to allow landing and building of trains off rail mainlines (5) Provide additional track from Terminal Island to ACTA CP Mole to CP West Thenard 2020; and (6) the Extension of manual dispatch block to Centralized Traffic Control to the last turnout mainline onto yard leads by 2015.

c. The 2004 ACTA Inland Empire Rail Concept Analysis was commissioned to specifically examine the operational feasibility and economic viability of the Inland Port Concept. The report found the concept operationally feasible and identified the growth in cargo destined for the Inland Empire as a principal reason that a rail shuttle service should be considered. The report estimated that at the 2004 rail versus truck pricing the 25 year project life of a rail shuttle would

operate at a deficit of $148 million. A large portion of this deficit would be due to the differential between the costs to move a container to the Inland Empire on rail versus draying it by truck. The study estimated that round trip drayage by rail would cost over a hundred dollars more than by truck.

The report also indicated that an Inland Empire rail shuttle would generate $177 million in net public benefits including reductions in air pollution, pavement wear, prevention of accidents, and reduction of noise and removal of congestion. The report indicated that 280,000 truck trips per year could initially be eliminated growing to over 1.3 million truck trips per year in 2020.

The report indicated that a capital investment of $190 million would be required to expand the rail infrastructure to implement the rail shuttle concept. Based on the level of investment required, the report recommended that the best strategy would be to conduct a limited scope demonstration project. Such a project was planned but never occurred.

a. In 2008 Tioga conducted an Inland Port Feasibility Study for the Southern California Association of Governments (SCAG). Like the 2004 ACTA analysis, the 2008 study was commissioned to determine whether and how an inland port concept could be implemented to reduce truck drayage. The study was designed to provide cost data on an inland rail shuttle service and determine the public benefits that an inland shuttle service could provide in the SCAG region.

   Like its predecessor, the 2008 study indicated that the inland port concept was operationally feasible and that a rail shuttle service would benefit the region. The report indicates that rail shuttle service to the central part of the Inland Empire would reduce net truck vehicle miles traveled. The study went on to indicate that the benefits would be limited because the rail shuttle would still require local drayage when the containers arrived in the Inland Empire.

   The study went on to indicate that a rail shuttle could be used to divert up to 33% of the 3,500 daily truck trips between the port and the Inland Empire. This would equate to over 425,000 containers per year (or over 800,000 TEU's) being shifted from truck drayage to rail shuttle.

   The report indicated that the cost of an inland port rail shuttle would be substantial, and like its 2004 predecessor, a substantial subsidy would be required. The report went on to indicate that although State and Federal infrastructure fund could be used to assist in paying these costs, the cost of round trip truck drayage to the Inland Empire was still at least $100 dollars per round trip per container less than the cost of shuttle by rail.

   The report did acknowledge that with the advent of new security regulations and the implementation of the Clean Truck Program, truck drayage costs would

increase substantially. A number of scenarios were outlined. A scenario was indicated where the cost of a round trip truck dray could be in excess of $500, which would still put the cost of truck drayage below short haul rail but much closer to parity (less than $100 difference).

b. Each of the four studies indicated that the inland port concept was operationally feasible. Every report also indicated that a large capital investment would be required to implement the inland port concept. The most recent report, which was published by Tioga in 2008, identified the possibility of using Federal Infrastructure and State Proposition 1B funding to defer the capital costs of the required rail infrastructure.

Although none of the reports anticipated the growth in the amount of cargo that would eventually be transported to distribution or cross dock facilities in the Inland Empire, the 2008 Tioga Report was prescient when it indicated;

> *"The one event that might make a difference is the outcome of the Port's Clean Truck Program. If that program results in reduced truck capacity and higher truck costs, the demand for rail shuttles might grow. The capacity and terminal issues would remain."*

Given the current landscape, many of the barriers to implementation of a short haul rail / inland port concept that were identified in the four reports may no longer be applicable.

5. Study Objectives

The principal objective of this study is to determine if a business case exists for the implementation of short haul rail from the Ports of San Pedro Bay to the Inland Empire and/or beyond. This determination will include the development of both the cost data and the value proposition of shifting containerized cargo from truck to rail. The value proposition is necessary because, as has been the case in past efforts, the cost data may not indicate that rail costs are in the range of truck costs in the near term, or that the cost differential alone is significant enough to change shipping methods.

If it appears that the cost data and/or value proposition warrant consideration of the establishment of short haul rail to the Inland Empire, the next step in the study would be to provide recommendations of the actions to be taken along with a recommendation on program implementation, including potential locations and the viability of implementing a pilot program to test the viability of the operational concept.

II. Approach

A number of studies have been conducted that examined the relative cost to owners to move cargo from the San Pedro Bay Port Complex to the Inland Empire by truck and rail. For the purpose of this analysis these studies were reviewed in order to get a sense of the approach that

was taken, the data that was gathered and the conclusions that were developed. Once this review was completed, the analysis was used to frame interviews with port and supply chain stakeholders. Approximately 300 stakeholder interviews were conducted to update the findings and conclusions in the previous reports. Interviews of the following stakeholders were confidentially conducted:

- Port Staff (POLB and POLA),
- Railroads,
- Cargo Owners,
- Drayage Motor Carriers,
- Ocean Carriers,
- Marine Terminal Operators,
- Longshore Union,
- Warehouses and Distribution Centers,
- Federal, State and Local Agencies,
- Developers, and
- Others.

Although the principal focus of this effort was a cost comparison of trucking versus rail, interviews also focused on the current and future market size of cargo movement to or through the Inland Empire, and the broader value proposition in shifting San Pedro Bay Ports Cargo from truck to rail.

1. Demand

What has evolved over time is a velocity driven hierarchy of freight flows across marine terminals. At present, regional dray predominates over on-dock rail, terminal container yard space, and on-dock rail efficiency. In this current velocity driven hierarchy, there seems to be a lack of a systematic view of freight movement.

Rail cargo handling takes many forms. It may be offloaded from crane to UTR (utility tractor rig) or "bomb" cart and taken directly to the rail yard for loading. Multi-destination blocks of cars are then pulled from numerous terminals to form unit trains. Together these on dock rail moves constituted 25.7% of all San Pedro Bay Port (SPBP) moves in 2014 (see Figure 1).

This does not include the near dock Union Pacific Railroad (UP) Intermodal Container transfer Facility (supported by UP's Dolores storage yard) which involves both a short haul dray, and rail switch to form unit trains constituting 4.3 % (including front haul and empty container backhaul) of all SPBP moves.

In addition, another 3.5% of the SPBP total volume (including front and empty backhaul) is drayed to off dock conventional rail ramps east of downtown Los Angeles (Hobart Yard in the case of the BNSF and LATC/Commerce in the case of the UP).

Another 16.4 % or 2.48 million TEU's of cargo are represented by 40 foot containers, which are trucked to trans-load facilities and unloaded/transferred. This cargo then leaves the Basin

in 53 foot domestic intermodal containers. As a result, a reverse flow of 16.4% of empty 40 foot containers makes a non-revenue move from these facilities back to the ports.

A large number (33.7%) of containers are trucked to warehouse and distribution centers in the Inland Empire as warehouse or fulfillment center cargo. As a result, a potential target market exists for the 66.5% of distribution center (33.7%), trans-load and empty containers (32.8%) that could be moved to and from the ports using an Inland Empire short haul rail service.

Figure 1 illustrates that 66.5% of SPBP containers are not dedicated long haul rail cargo. An analysis of this cargo indicates that a large percentage is handled by Inland Empire distribution centers, fulfillment centers, and trans-loading facilities. This provides an opportunity to capture and potentially divert a large percentage of import containers along with backhaul empties and exports from single truck drays to short haul rail.

Cargo growth, coupled with the continuing increase in truck drayage costs and the increasing need for port efficiency, will continue to increase the attractiveness of short haul rail. This will fuel demand for short haul rail, and the Ports must be prepared to work closely with stakeholders to meet this demand.

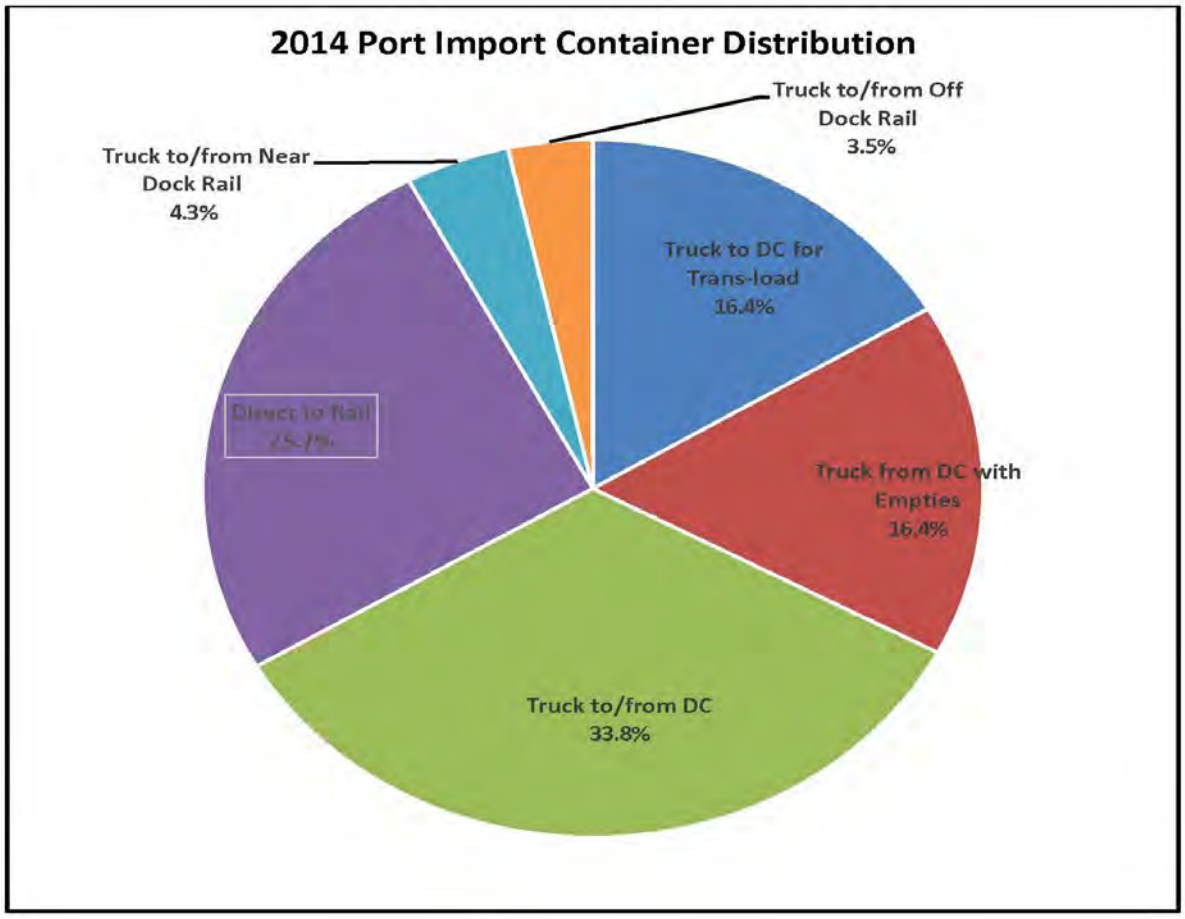


Figure 1: Port Import Container Distribution

2. Meeting the Demand

Meeting the increased demand for short haul rail must be accomplished through a number of short and long term actions, all of which must look systematically at optimizing the supply chain and developing solutions in a "systems of systems" approach. The short term strategic goals of short haul rail should be to maximize use of current near-term on-dock rail capacity and to incentivize the modal shift from road to rail. It will also be necessary to revisit terminal land use and rail system track geometry to maximize use of on dock rail and minimize gate movements.

The ideal business and operational model for short haul rail is one that combines the following elements:

- Simple "hook and haul" train operations,
- All-inclusive dedicated equipment,
- Single origin and destination pair,
- Efficient refueling, and
- Dedicated lift capability at both ends.

An excellent use case for short haul rail in Southern California is the Steel Slab shuttle to and from the California Steel (formerly Kaiser Steel) facility located in Fontana and the Pasha terminal in the Port of Los Angeles.

In the longer term, it will be necessary to examine the entire supply chain, analyzing and even altering operations including: how the ships are loaded; how, what, and when information on the cargo is communicated to various parties; how terminal operations are conducted; and how the regional and national rail systems can be optimized. For the purpose of this report, we will focus on short term approaches in as much as long term approaches need to be the subject of comprehensive planning and coordination efforts.

III. Results

Focus group and individual sessions with Beneficial cargo Owners (BCO's), Third Party Logistics Providers (3PLs), warehouse and distribution center operators, trans loaders, and domestic Intermodal Marketing Companies identified the key strategic parameters for short haul intermodal to prove both feasible and competitive. This includes:

- An all-inclusive hook and haul ramp to door price of $650-800 per round trip;
- Comparable service level 1-2 days (not 4 days or longer) from vessel arrival; and
- Service reliability in the top quarter percentile or better.

1. Cost Analysis of Truck Drayage Versus Short Haul Rail

A cost analysis between truck drayage and short haul rail was developed as a result of data collected previous reports and stakeholder interviews. The analysis used historical data on truck and rail costs to develop a price a Beneficial Cargo Owner (BCO) would pay to deliver a container to the Inland Empire with a return trip to the port. Efforts were made to use the

same cost components in current pricing that were used in earlier reports. These costs were then vetted by stakeholders. It should be noted that comparisons like this are hampered by a number of factors including:

- It is difficult to determine all cost components;
- These components change and new ones are added;
- Many of the cost components are bundled into the overall cost;
- Some involve complex calculations involving unknown variables;
- Some costs are proprietary information; and
- Not all customers pay the same amount.

It is important to reiterate that the analysis compares the cost to the BCO, and it does not include all costs to move a container. The movement of a container also involves costs to the terminal and railroad or trucking company that may not be included in the price to the cargo owner. It should also be noted that the cost of delivering a container to an Inland Empire facility also includes a short truck dray to and from the Inland Empire rail facility to the distribution or trans-loading facility. As such, the costs identified in the table represent a dock to destination cost to the BCO.

The cost to the BCO were used in our analysis for a simple reason. It is these costs that affect the BCO's decision to use truck or rail and it is the BCO who has the principal influence on the transportation system. Ports may influence this system as well, although this influence is typically in the form of either a tariff or an incentive to a stakeholder.

The first data point in the cost analysis was taken from the 2004 Alameda Corridor Intermodal Container Distribution Study Report. On page 7 of this report the drayage price to the Inland Empire (Ontario) was listed as $250 ($290 for companies with unionized drivers). These prices were derived in the same manner that the prices in the most recent analysis were derived, through interviews with stakeholders. For the purpose of this analysis point a figure of $250 was used.

For the short haul rail price the analysis was much more complex, and a number of factors were considered. Section 7.1 on page 12-13 of the report lists the factors considered and indicates that the cost to move the same container to the Inland Empire by rail would cost $372 (including the ACTA fee). This report also indicates that a number of capital improvements would be needed to enhance the rail infrastructure, but these costs were not considered.

The second data point used in the cost analysis was derived from the 2008 Southern California Association of Governments Inland Port Feasibility Study. This report was issued before the Transportation Workers Identification Program and the Clean Truck Program was initiated. Exhibit 98 on page 128 of the report listed a number of drayage costs to the Inland Empire ranging from $300 to $540 depending on the circumstances of the company. The report also anticipated the trucking cost increases caused by programs being implemented at the time of the study.

As predicted in the report the cost of truck drayage did increase as a result of new programs. In this instance the data point used is the $446 figure for a dray by a trucking company whose drivers are Independent Owner Operators with Transportation Workers Identification (TWIC) cards, and trucks that are in compliance with the Clean Truck Program. This number was used in this analysis because it describes the vast majority of companies providing drayage in the Port Complex.

As was the case in the 2004 report, and analysis of rail rates was also conducted. Exhibit 97 on page 127 lists various round trip costs for rail. These costs ranged from $679.18 per car for a 50 car train to $514.33 per car for a 200 car train. In this instance the cost of $514.33 was used.

Current pricing data was derived in a number of ways. Truck drayage pricing to the Inland Empire was derived using a survey of several trucking companies. Once identified, this data was vetted through interviews with Beneficial Cargo Owners (BCO's). In these interviews the BCO's indicated that the historical and current data points were accurate and that there had been a significant increase in drayage costs due to a number of factors. They include:

- The TWIC requirements;
- The Clean Truck Program (including increased cost of trucks);
- Pier Pass requirements;
- Fuel cost changes.

The number used for this data point is $705 dollars for the current cost of a truck dray to the Inland Empire. This number is consistent with the assertion by the BCO's that truck drayage prices have tripled since 2004.

With respect to rail pricing, the components of previous studies were used as a baseline. Pricing for the transport of steel to Fontana was also analyzed, and rail managers provided input. Based on these data points a figure of $564 was used as an estimate for the current cost of delivering a container to an Inland Empire facility and returning it to the port. This cost reflects a port to facility cost, including a short dray by truck to and from the Inland Empire railhead. The data points developed are included in figure 2.

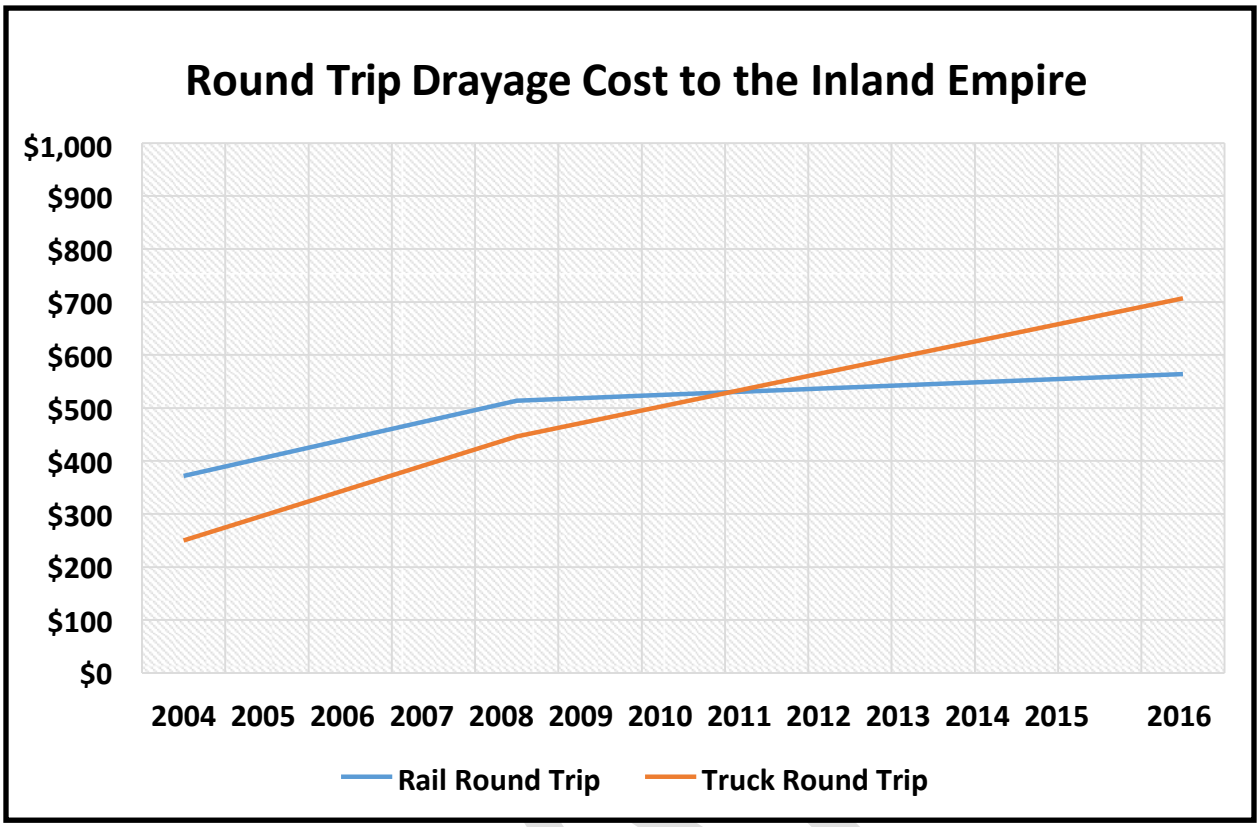


Figure 2: Round Trip Drayage Cost

As can be seen from the graph, it would appear that at some point in the post TWIC, post Clean Truck Program and post PierPass environment there has been an inflection point where short haul rail has not only become competitive but has become a more cost effective alternative to move cargo to the Inland Empire than drayage by truck. The graph shows a current difference in cost to the BCO of well over $100 to move a container to an Inland Empire Facility and return a container to the port.

2. Port Rail Operations

For the average marine terminal, advance planning of on dock rail operations begins one week in advance of vessel arrival with ocean carrier projections of traditional long-haul Inland Points Intermodal (IPI) on-dock rail cargo (including both near-dock ICTF and off-dock truck dray moves). This data is revalidated two days before arrival.

The rail plan itself is an internal document not shared with the rail carrier in advance and is prepared on an evening before basis. Rail planning is a terminal specific process with little external visibility to the class one rail, road or switching carriers except through the EDI 322 message prior to time of release.

The process is executed on the first shift beginning at 0800 (0700 flex time) and continues uninterrupted through 1300. This is the first of the release times in which the railroads can

pull loaded blocks of cars assembled by individual terminals for destinations east of the ports. In the case of one terminal, as many as 16 different destinations are identified.

The average terminal first conducts primary consolidation of destinations through the use of temporary logistics buffers or zones. When railroad business rules have been met, a train or part of a train is generally released for movement to its destination. The second shift beginning at 1800 (1700 flex) is a repeat of first shift rail loading operations. No loading or unloading of rail bound containers are conducted on the third shift.

The Ports of Los Angles and Long Beach are served by two Class I railroads. They are The Union Pacific Railroad (UP) and The Burlington Northern Santa Fe Railway (BNSF). The ports are also served by Pacific Harbor Line, Inc. (PHL) a switch carrier, who provides rail transportation, track maintenance and dispatch services within the immediate harbor area as far north as the Alameda Corridor. PHL provides services on behalf of class one railroads including:

- Conducting selected train moves on port rail facilities;
- Handling all carload (non-intermodal) railroad traffic within the port complex;
- Switching unit trains for railroads on request;
- Switching intermodal cars within terminals on request; and
- Performing track maintenance of port rail facilities.

PHL services are shown in the Harbor Rail Map in figure (3).

Figure 3: Harbor Rail Map (Courtesy of Pacific Harbor Line)

North of the harbor area, rail traffic is routed over the Alameda Corridor for connection to the UP and BNSF transcontinental lines. In an emergency, the former Harbor Line of UP can be used. This line is now owned by the SPB Ports

Access to the BNSF and UP transcontinental lines begins in Vernon at the northern terminus of the Alameda Corridor. The BNSF operates east on their San Bernardino subdivision while UP operates on two rail routes through the Los Angeles Basin. These are the Los Angeles Subdivision and the Alhambra Line.

To access the west end of the Alhambra Line, the UP operates over Metrolink's East Bank line, which runs parallel to the Los Angeles River. The UP Los Angeles Subdivision ends at West Riverside Junction, where UP operates for 102.1 miles, on tracks owned by BNSF. The Alhambra Line joins the Yuma Line at Colton and thence the Sunset route to New Orleans and other eastern destinations including Memphis and Chicago. These routes are shown on the Regional and Port Area Rail Maps in Figures (4) and (5).

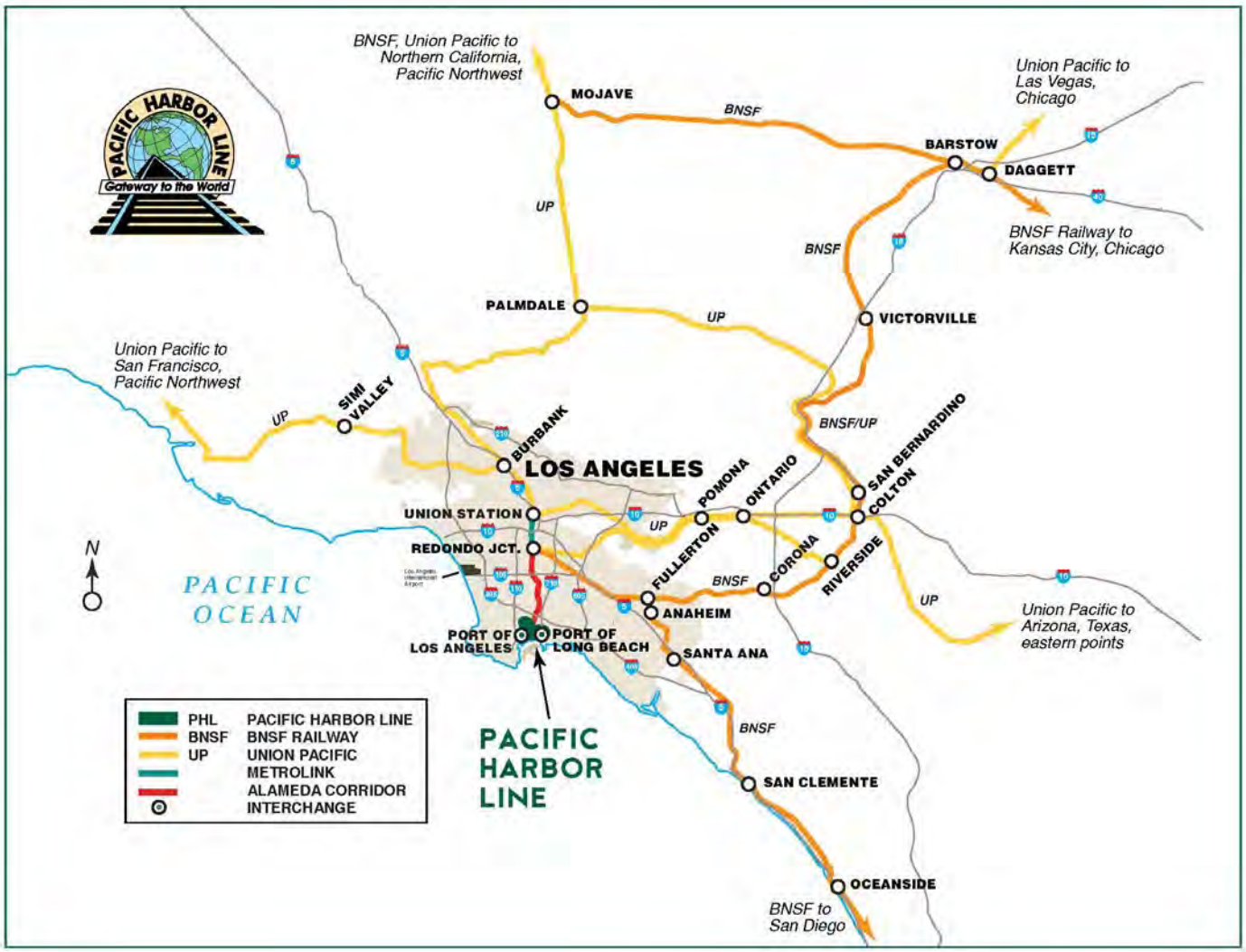


Figure 4: Regional Rail Map (Courtesy of Pacific Harbor Line)

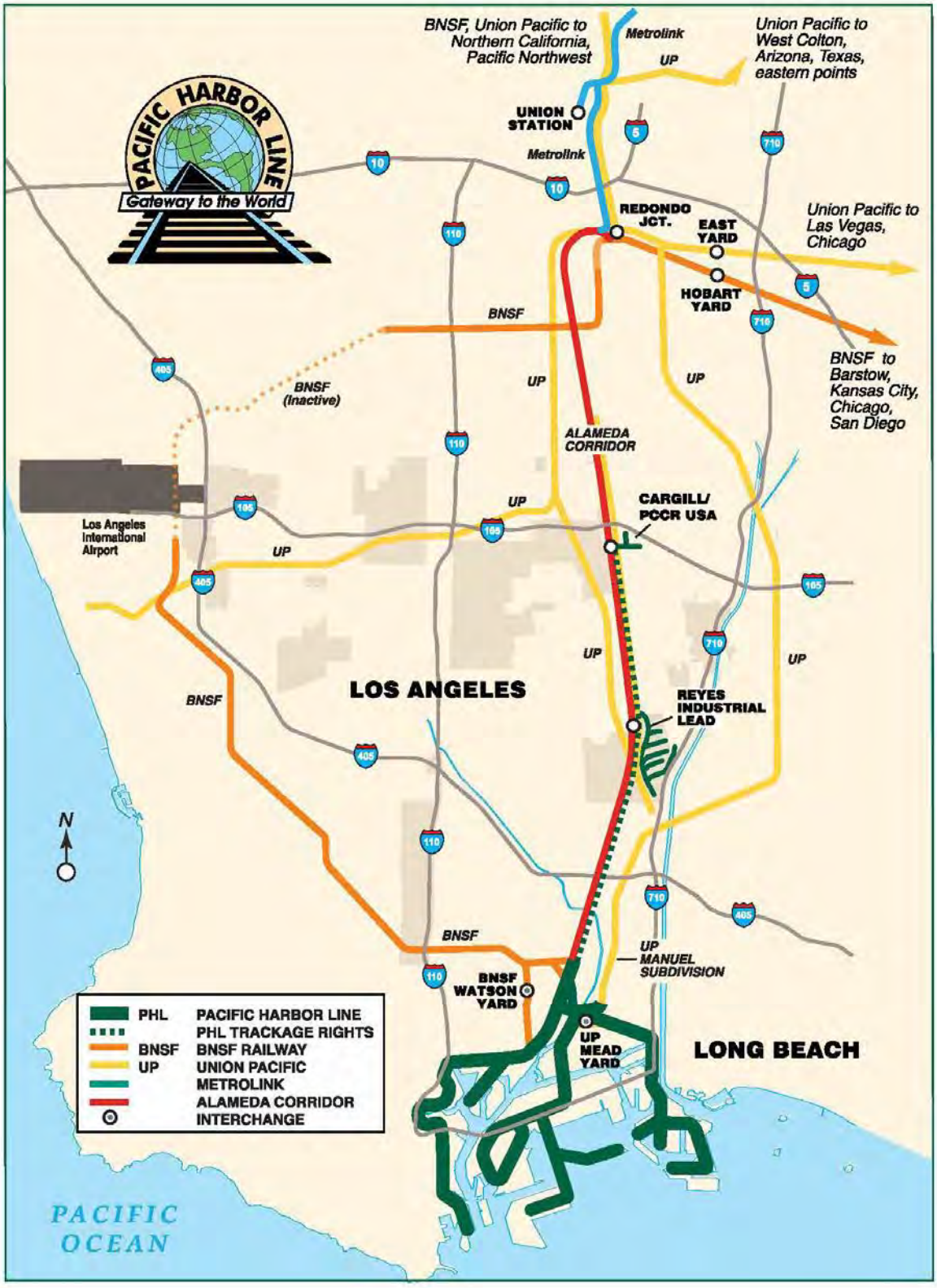


Figure 5: Port Area Rail Map (Courtesy of Pacific Harbor Line)

3. Short Haul Options

In considering Short Haul Rail Options, it is necessary to examine a more efficient means to use existing rail capabilities to move containers out of the Port Complex. This can largely be accomplished by more efficient scheduling at the terminals. Initial efforts would require participation by a least one terminal or group of terminals to facilitate both block pulling and return empty backhaul. Single destination consolidation to the Inland Empire would be the basis for pulling by the Class One Railroads with necessary switching by PHL.

Short Haul Rail Operations should also be structured to minimize initial impact upon the current release time schedule and IPI on dock rail freight flow distribution and encourage throughput expansion by encouraging initial participation by all three clusters of on dock rail terminals: (1) Port of LA East and West Basin; (2) Terminal Island; and (3) Port of Long Beach Pier B.

The San Pedro Bay ports 2006 Rail Study Update discussed the introduction of a three shift on dock rail operation with modified working conditions as necessary to enable around the clock rail operations. This should also be considered in any short haul rail planning.

Inland Empire Short Haul Intermodal Rail Inland Port Site options were developed based on a number of criteria. These criteria are listed below. They include

- Developed vs Undeveloped site;
- Overall size and site layout;
- Physical proximity and access to rail lines;
- Dual class one service potential;
- Inland Empire warehouse distribution center location;
- Truck dray route road access and traffic density;
- Land use compatibility and use restrictions; and
- Temporal use restrictions.

A number of candidate sites were identified. They include sites on or near:

- The Morongo Indian Reservation;
- Ontario Airport;
- The Ontario Landfill;
- Fontana;
- City of Industry/Marne;
- Vernon LA Junction Railway; and
- San Bernardino.

The list includes an undeveloped site at the Morongo Reservation and six developed sites, including one at Fontana. The sites ranged from the smallest represented by Vernon LA Junction (100 acres) and the largest at Morongo (8000-9000 acres).

Based on the factors previously identified, the Morongo site would appear to be in a class by itself. It has the advantage of being located east of the Ontario fulcrum point for truck traffic and hence has the advantage of potential counter flow access by either the heavily truck

traveled SR-60 or I10 routes. It also represents a potential "hub" for containers to and from Arizona.

Ontario Airport includes at least two potential sites each of which is accessible to one of the two UP main lines. Either of these would be an ideal strategic location. Unfortunately, there are current Federal Aviation Administration (FAA) restrictions over non-aviation related land uses. An opportunity may arise in that control over the property is in the process of being shifted from LA Airports to a new regional airport authority.

The nearby closed Ontario landfill site is controlled by San Bernardino County. This site and the Ontario Airport areas are nearby to the UP's LA Subdivision Line.

Fontana is served by both railroads and would be an ideal site. Because of its strategic location California Steel is in an expansion mode and intends to make a long term commitment to continued development of the site.

City of Industry-Marne has adjacent track and ground storage space and is already a hub for domestic intermodal. Truck drivers serving Orange County liked the site as an alternative to driving to the port complex.

LA Vernon Junction is owned and managed by the BNSF. It is the farthest west site and is accessible to both main lines requiring only concrete pads adjacent to each track for loading and discharge purposes.

BNSF's San Bernardino intermodal facility is the sole site currently being operated in the Inland Empire. Unfortunately, it presently operates near its capacity of 650,000 lifts per year. It is also constrained by surrounding residential land and expansion is unlikely.

There may be other sites available that are not identified in this analysis.

IV. Discussion

Each of the previous studies assessed the viability of short haul rail to the Inland Empire. In each case, short haul rail was determined to be operationally feasible. These studies also determined that short haul rail had other benefits which provided significant value to the San Pedro Bay Ports, port stakeholders and the surrounding communities. The value short haul rail provides includes; reduced emissions from trucks, decreased port and road congestion, reduced damage to road infrastructure, increased port efficiency, and increased port capacity.

These prior studies also determined that although feasible, short haul rail to the Inland Empire was not economically viable. In each study, the price for a Beneficial Cargo Owner to move a container to a destination in the Inland Empire was significantly more when moved by short haul rail than by truck

Circumstances have changed since the last study. Post TWIC and CTP Program costs and other factors have dramatically increased the cost of truck drayage. One Beneficial Cargo Owner

interviewed indicated that truck drayage costs have tripled since the first study was conducted in 2002. This increase has elevated the cost to move a container to the Inland Empire past the cost of short haul rail. Our analysis indicates that it currently costs a Beneficial Cargo Owner over $100 more to move a container to a facility in the Inland Empire by truck than it would to move the same container by rail.

It should be noted that this price differential exists in a logistics system that is currently not optimized for short haul rail. With the benefit of capital investment aimed at Inland Port development or line-haul capacity improvements, much of which could be funded by State or Federal Programs, short haul rail could become even more cost effective.

It is now clearly not only operationally feasible, but also economically viable to move cargo to the Inland Empire by rail. Current analysis also indicates that due to the growth in cross dock and trans-loaded cargo processed at Inland Empire facilities, there is a large percentage of cargo that could use short haul rail as a means of transport. Based on these factors it would seem that short haul rail currently provides a cost effective and more environmentally friendly alternative to truck drayage at a significantly lower cost. As such, a valid business case does exist for short haul rail transport to the Inland Empire.

1. Short Haul Rail Successes

There have been a number of recent successful efforts by ports to move cargo from truck to rail and to embrace the Inland Port Concept. A number of these are discussed in a recent report by the Department of Infrastructure and Regional Development, Bureau of Infrastructure, Transport and Regional Economics of the Government of Australia. This report titled “Why short haul intermodal rail services succeed” published in March of this year provides a comprehensive international study of short haul rail.

The study indicates that there have been a number of successes in using short haul rail around the world. These have occurred in U.S. Ports including the Port of Savannah in Georgia and at the Virginia Port Authority, and internationally at Ports including Rotterdam in the Netherlands and Ningbo in China. The study also discusses the use of short haul rail in Canadian Ports, such as the Port of Montreal where 50% of the cargo currently leaves the port on rail.

2. The Short Haul Rail Value Proposition

A previous section discussed the cost to the Beneficial Cargo Owner of short haul rail to the Inland Empire versus truck drayage. The data gathered indicates that a short haul rail versus truck drayage inflection point occurred at some point after 2008, when a number of trucking initiatives were implemented. Although it is difficult to determine exactly when this inflection point occurred, indications are that rail transport to the Inland Empire has now become less expensive to the Beneficial Cargo Owner than truck drayage.

It is difficult to determine the accuracy of the costs used for a number of reasons discussed earlier in this report. Whether or not these numbers are entirely accurate is not as important as the fact that stakeholders interviewed agree that trucking costs have risen far more rapidly than rail cost and that the inflection between short haul rail and trucking costs has occurred. Cost however is only one factor in the decision-making process. The other key factor is the value provided by the move to short haul rail. It is this value proposition that encourages ports, public agencies and other stakeholders to encourage changes such as this.

Since the value proposition for the encouragement of short haul rail is different for each stakeholder, each of major stakeholder will be discussed separately. The value proposition for each stakeholder is listed below:

a. **Ports:** for ports there is significant value in increasing the amount of cargo that moves from the port by short haul rail. Not only is it significantly more environmentally friendly than moving cargo by truck, reducing emissions substantially, it also represents a reliable and efficient means to move cargo from the port. It also frees up capacity and allows cargo growth. For the port, an increase in rail traffic through the Alameda Corridor will also reduce or possibly eliminate any future subsidy being paid for ACTA debt service.
b. **Terminal Operators:** for Terminal Operators, rail represents a reliable and efficient means to move cargo. If done properly it will free up terminal space, relieve terminal congestion, and reduce truck queues.
c. **Shipping Companies**: reduced congestion offers shipping companies the ability to improve efficiency and move cargo more rapidly and reliably. The potential also exists to increase revenues on certain types of cargo.
d. **Railroads:** for the railroads this increases revenues and opens a new line of business. In addition, facilities in the Inland Empire provide avenues for expansion to move cargo to cities such as Phoenix and Las Vegas, and may open new routes for export cargo.
e. **Trucking Companies:** For trucking companies the shift to rail would allow port terminal gates to become less congested resulting in greater efficiency and reduced turn times for truckers. While total drayage trips to/from port terminals would be reduced, the loss would be offset by drayage between the inland port(s) and trans-load/distribution facilities. Additionally, key drayage routes (freeways) would become less congested resulting in reduced transit times on those routes.
f. **Beneficial Cargo Owners**: short haul rail will provide BCO's with an efficient, reliable and faster alternative to drayage trucking, saving them money on the cost of transporting goods, increasing profits and optimizing supply chains.
g. **State and Local Governments**: in addition to substantial environmental gains, the development of short haul rail will provide logistics jobs in the Inland Empire, make the transportation system more efficient, and relieve road congestion and wear.
h. **Communities**: for communities the increase in short haul rail will reap significant environmental benefits, particularly with respect to air quality. These benefits

will also include reduced traffic congestion and road wear, elimination of trucks from port neighborhoods, and reduced truck queues.

The number one reported cause of terminal congestion is capacity constraints associated with truck access limitations. This is buttressed by interviews with trucking companies. Based on this information, short haul rail is the only true safety valve offering an immediate measurable impact to mitigate port congestion and relieve system stress.

In terms of energy efficiency, intermodal rail is four times more efficient than trucks. Studies have shown that the reduction of truck trips resulting from increasing the use of on-dock rail from current levels of approximately 30% to 50% would save eight billion gallons of fuel per year and reduce greenhouse emissions by 75%. This is equal to 90 million tons or the equivalent of removing 18 million cars off the road.

It is hard to find a party that does not gain value from the shift of cargo to short haul rail. Clearly the big winners are the communities near the ports and near the distribution facilities. If the appropriate actions are taken, a significant number of truck trips can be eliminated, reducing emissions and congestion substantially.

3. Short Haul Rail Challenges

The San Pedro Bay on dock rail system is highly compromised in design and operation, and sub-optimized for optimal rail throughput. The current system is configuration constrained. As a result, there are a number of challenges associated with the expansion of short haul rail. Principal to this is trying to get efficiency and reliability out of a system that was not developed for short haul rail. The challenges include:

a. The current ocean to intermodal import cycle planning and operational business processes do not include a sufficient level of collaboration and data exchange across all stakeholder channel partners;
b. The complexity of inbound and outbound export moves from different origins, including empties must be balanced. Successful Short Haul Rail (SHR) requires following a system of systems rather than an engineering centric approach;
c. SHR requires motivated intermodal railroad(s) i.e. BNSF and UP committed to Just in Time (JIT) scheduling to work efficiently using the main line density for system efficiency with the potential of utilizing the Inland Port as an intermediate rail ramp on the existing network;
d. SHR requires committed port authorities to work efficiently as a part of an overall strategy;
e. SHR requires collaboration and close coordination among and across stakeholders in order to succeed;
f. The ultimate challenge and opportunity is to make short haul rail work in a bi-directional manner with both importer and exporter stakeholder participation.

4. Next Steps

The next steps are to encourage the shift to short haul rail in any way possible and to include this dynamic in all planning efforts. In addition, it is recommended that a Pilot Program be developed in one of the locations recommended in this report. The proposed Pilot Project should be designed in concert with participating stakeholders. There are a number of benefits to a pilot project including:

a. Initiation of an early short haul pilot project responds to State of California Sustainable Freight Action Plan and Federal FAST freight legislation recently enacted by Congress;
b. It would demonstrate the use case and business case for short haul rail within the existing multi-modal (ocean, terminal, rail, truck) system;
c. It would capture lessons learned in real time while affording sufficient lead time for the ports to revise port facility plans to enter into appropriate institutional arrangements with private land owners to build out facilities;
d. It would complement system modeling and simulation to validate operational scenarios and use case/ business cases;
e. It would also provide an opportunity to test the viability of balancing inbound front haul import and backhaul empty repositioning:
f. It would provide a key incentive for integrating data from both ocean line haul and class one rail carriers and filling large alliance vessel load factors:
g. It would allow BCO's to assess supply chain benefits in real time; and;
h. It would allow stakeholders to take advantage of current Federal, State and local funding programs that are available for green and/or efficient transportation.

V. Conclusion

This report, like the ones that preceded it, has determined that short haul rail is an operationally feasible alternative to truck drayage to the Inland Empire. Unlike the previous reports however, the recently collected data indicates that not only is short haul rail a feasible operational alternative, it is an economically viable means to move cargo to the Inland Empire.

The cost analysis conducted as part of this report has noted that the growth of trucking costs to the Inland Empire has far outpaced the growth of short haul rail costs. This has occurred to the point that in the post Clean Truck Program (Phase 1) and PierPass period it now costs less to move a container to the Inland Empire by rail than it does to dray it by truck. It is important to note that this cost inflection has occurred in a system that:

(1) Is not optimized for short haul rail;
(2) Has yet to absorb the costs of the second phase of the Clean Truck Program; and
(3) Will be significantly impacted by future increases in freeway congestion.

If rail costs to the Inland Empire can be reduced through system improvements, it will not only be possible to better compete with the cost of drayage trucking, it will also be possible to

enhance competition on both a cost and time basis with the movement of cargo to Chicago and other Midwest cities by the Canadian and Mexican Railways, and to the U.S. East Coast via transport by vessel through the Panama Canal due to overall system efficiency and capacity improvements.

In addition, if the cost of rail transport to a facility or facilities in the Inland Empire continues to remain competitive, the resulting inland port facilities can serve as additional nodes in a national rail network further adding to the capacity, flexibility, and efficiency of the system. This would allow for increased on-dock rail utilization and consequent reductions in inbound and outbound truck traffic, further reducing congestion at the ports.

The data gathered for this report also indicates that a great deal more cargo than previously anticipated moves to or through the Inland Empire. This is due not only to the rapid growth of Inland Empire distribution and fulfillment facilities, but also due to the significant increase in cross dock and trans-load facilities where cargo is moved from one container to others for transport by rail and trucks.

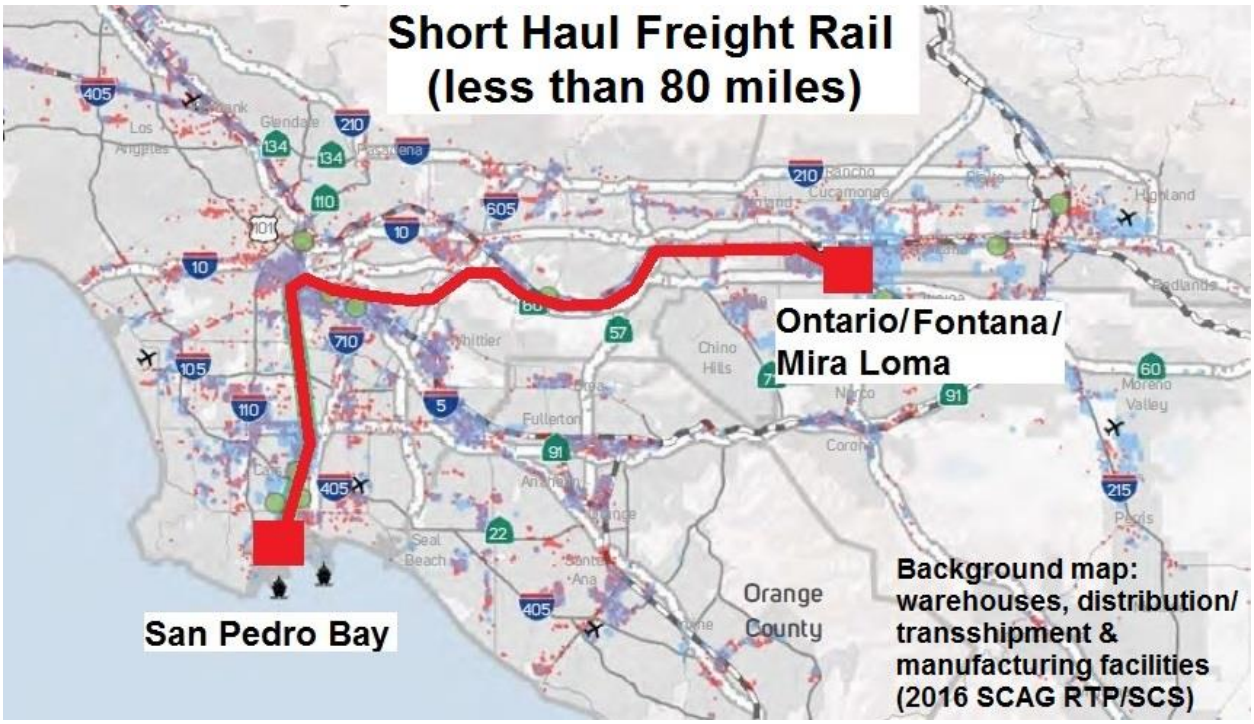
The factors listed above have created a significant market for short haul rail to the Inland Empire, and an opportunity to reduce congestion. As a result, it is recommended that this market should be further explored. Although this exploration will require adjustments in the logistic system, it is highly recommended that a pilot program be conducted. A number of suggested locations are evaluated in this report. A Pilot Program such as this will provide proof of concept and identify system improvements.

Most notably, the move from drayage trucking to the Inland Empire to short haul rail is not only cost effective to the Beneficial Cargo Owners, it also presents significant value to other transportation system stakeholders. Ports, Terminal Operators, Shipping Companies, Trucking Companies, and Cargo Owners will benefit from a shift from trucking to short haul rail. Most importantly, the public benefits to port constituencies will be significant, reducing emissions, traffic congestion and providing numerous other benefits.

The shift of cargo movement from truck to rail is a key means to ease congestion at the port. Based on the information presented in this report it is recommended that the Port of Long Beach should not only prepare for the continued transition of cargo movement from truck to short haul rail, it should encourage this transition by every means possible.

Demonstration of a Short-Haul Freight Rail service between San Pedro Bay and the Inland Empire

Brian Yanity
Californians for Electric Rail
info@calelectricrail.org



This is a proposal to use a Flexiwaggon intermodal 'truck-train' for a pilot intermodal service, between the San Pedro Bay Ports and an intermodal terminal in the Inland Empire.

The Need for Short-Haul Freight Rail in Southern California-

There is a great need to reduce both air pollution and highway congestion in the greater Los Angeles metropolitan area. Emissions from goods movement, (majority from diesel trucks) is a significant part of Southern California's air pollution.

Alternatives to truck transportation are much needed in the Los Angeles metro area, which is afflicted by the worst highway congestion and air quality in the nation. To address pollution and congestion, a mode shift of more freight from truck to rail is critical in Southern California. There will be major environmental and energy-savings benefits to short-haul freight rail service. Moving a ton-mile of freight by rail uses 1/3rd to 1/5th the energy (and resulting pollution) compared to truck. This is true whether you are comparing diesel truck to a diesel train, or an electric truck to electric train. California's goals to reduce greenhouse gas emissions are dependent on cleaner freight transport, and more rail must be part of the solution.

The Ports of Los Angeles and Long Beach together the busiest container port in North America, handle about 40% of all containerized U.S. imports. Nearly 17 million twenty-foot-equivalent units (TEUs) of intermodal container traffic passed throught the San Pedro Bay ports in 2017. This is predicted to increase to over 30 million TEUs by 2040.

In 2016, 28% of containerized import cargo moving through the San Pedro Bay ports left the docks by rail, and 72% by truck. In 2012, the San Pedro Bay Ports were responsible for approximately 55,000 direct daily regional truck trips, many of which are for moving containers.

The Southern California region has about 1.5 billion square feet of warehouse and distribution space, or roughly 1/8th that of the entire U.S. About a third of all containerized imports that move through the Los Angeles and Long Beach harbors, go by truck to warehouses and distribution centers in the "Inland Empire" region of San Bernardino and Riverside counties. This represents thousands of daily truck trips of a distance less than 80 miles one-way.

If the Inland Empire (San Bernardino and Riverside Counties) were its own container port, the region would rank 4th busiest in the U.S. (just behind combined Port of New York and New Jersey), and in the top 25 in the world.

UC Berkeley Prof. Robert Leachman's 2017 white paper, "Strategic Initiatives for Inland Movement of Containerized Imports at San Pedro Bay", estimated that there are approximately 6.8 million annual dray trips generated by the transloading and reshipping of imports in Southern California. This results in an average of nearly 20,000 regional truck trips per weekday. Leachman recommended a short-haul freight rail service to take a good portion of these trips, with the primary group of potential customers being large nationwide OEMs and retailers operating large warehouses and distribution centers in the Inland Empire.

Important for San Pedro Bay imports are transloading or transshipment facilities, where goods are typically taken out of 40' international containers arriving from the port, sorted, repackaged or placed in storage, then moved to a 53' container for domestic shipping to the rest of the U.S. Transloading drives much of the demand for short-haul drayage between the ports and facilities

in the Inland Empire. Southern California has become the transloading capitol of the United States. The boom in ecommerce in particular has resulted in the construction of very large distribution centers across the Inland Empire.

With fast, frequent short-haul freight rail shuttle trains between San Pedro Bay and the Inland Empire, much of this freight presently moved by truck can be shifted to rail, to reduce highway congestion and pollution. Moving freight by rail is also much safer, with far fewer accidents per mile travelled compared to road transportation. Another competitive advantage for moving containers from San Pedro Bay to the Inland Empire is that it is much less likely that the container moved would be involved in an accident. The smoother ride of steel wheels on rails also results in less likelihood of damage to goods than shipment by truck.

A demonstration of short-haul freight rail service, with intermodal railcar technology, is needed in Southern California. Short-haul freight rail within the region (particularly between San Pedro Bay and the Inland Empire), has long been discussed as a strategy shift freight transport from truck to rail to reduce congestion and pollution in Southern California. Several major studies of the past two decades by the Southern California Association of Governments (SCAG) and others, found short-haul freight rail in Southern California to be operationally feasible, but not yet cost-effective. These previous studies from years past also assumed that the short-haul freight trains would be conventional double-stacked container trains with convention intermodal yards using overhead gantry cranes. According to the 2008 SCAG *Inland Port Feasibility Study*, there were at the time about 3,500 daily truck trips between the Ports and Riverside and San Bernardino countries combined. This study concluded that two daily round trip intermodal trains could divert up to about 35% of these trips.

The 2008 SCAG study identified some necessary implementing steps for an inland port/rail shuttle system, each with significant barriers to overcome[1]:

> *Target Markets*- The primary near-term market identified in the 2008 study was an area in the Inland Empire centered on Mira Loma, due the large number of existing distribution and transshipment facilities in that area which receive cargo trucked from the Ports. The Barstow and Victorville markets are developing and would likely be candidates for future logistics parks served by inland ports.
>
> *Choose and Secure Terminal Sites*- The study identified a small number of candidate sites for Inland Empire terminals serving Mira Loma, as well as the Southern California Logistics Airport in Victorville and an open area [Lenwood] west of the BNSF yard in Barstow. Locating new intermodal facilities in populated areas have proven to be extremely difficult for freight railroads, due to local community opposition over pollution, traffic and noise concerns.
>
> *Provide Port-Area Rail Capacity*- Substantial improvements to the port-area rail network would be required.

[1] *Inland Port Feasibility Study, Project No. 06-023 Final Report*, Prepared by the Tioga Group Inc., Railroad Industries, Inc. and Iteris for the Southern California Association of Governments, August 2008, pg. 2: http://tiogagroup.com/docs/Tioga_Grp_SCAGInlandPortReport.pdf

Rail Service Agreement- The railroad(s) would agree to operate a fixed schedule of rail shuttle trains, or allow a contractor to do so, in return for operating payments and capacity funding. This arrangement would be similar to existing agreements with Amtrak and Metrolink passenger rail in the region.

Substantial improvements to the region's main line rail network were also deemed necessary by the 2008 report. Since then, both port and mainline rail capacity improvements funded by government agencies and Class I railroads have been completed, and more are under construction or planned.

From the ports, many shippers have historically found that trucking containers to the Inland Empire for transloading from 40' international containers to 53' domestic containers to be cheaper than paying the fee to use the Alameda Corridor. However, in recent years drayage trucking costs have increased due to highway congestion, tightened port security, higher driver wages and other factors. Increased road congestion and trucking costs, particularly near the Ports of Los Angeles and Long Beach, have renewed interest in short-haul freight rail service to the Inland Empire.

The 2008 SCAG study was most recent comprehensive study on short-haul freight rail service in the region. Conditions have changed in the past decade, with increased highway congestion, pollution and trucking costs. Benefits which also may have been undervalued in past studies include reduced diesel emissions from trucks resulting in less public health impacts, decreased port and road congestion, reduced wear on road infrastructure, and increased port capacity and efficiency. The ports' Clean Air Action Plan will also increase trucking costs by requiring newer, cleaner trucks and eventually fees for non-zero emissions vehicles. Road congestion in the Los Angeles-Inland Empire area now costs the trucking industry greater than $2 billion per year in added operational costs, the most of any metropolitan area in the nation[2]. The cost of diesel fuel will also increase in the years ahead. Petroleum is a finite resource, and will be subject to future carbon taxes.

In addition to investing in more on-dock rail access, the Ports of Long Beach and Los Angeles announced in late 2015 that they were launching a joint feasibility study of short-haul rail service to move containers from the ports to a cluster of new intermodal distribution facilities located in the Inland Empire[3]. While a draft report was produced in June 2016[4], the study was not completed.

The study effort was motivated by the need to reduce truck congestion at the ports and on highways by shifting of more freight from truck to rail[5]:

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[2] *2019 Urban Mobility Report*, Texas A&M Transportation Institute: https://static.tti.tamu.edu/tti.tamu.edu/documents/mobility-report-2019.pdf

[3] "LA-LB ports revisit short-haul rail to beat congestion", *Journal of Commerce*, December 22, 2015: http://www.joc.com/port-news/us-ports/port-los-angeles/la-lb-ports-revisit-short-haul-rail-beat-congestion_20151222.html

[4] San Pedro Bay Ports Short Haul Rail Summary Report [Draft Document 7/25/2016], prepared by J.M Holmes in conjunction with Strategic Mobility 21 for the Port of Long Beach, June 2016.

[5] "Shippers await short-haul rail option to LA-LB ports", *Journal of Commerce*, April 27, 2016:

> The concept has been studied periodically over the past two decades, but the economics always fell short and the logistical challenges could not be overcome. However, growing port congestion the past two years, increased drayage costs and a desire by beneficial cargo owners in Southern California's Inland Empire to avoid sending their truckers to the harbor offer financial encouragement. Shippers in the Inland Empire will have the advantage of sending their trucks only a short distance to the new rail hub rather than all the way to the harbor and back.
>
> "It saves money throughout the supply chain," said John Husing, an economist in the Inland Empire who is contributing data to a study being conducted as part of the ports's supply chain optimization efforts. "In an economic sense, I think the numbers are there."
>
> ..The key to success may be held by the importers that operate warehouses in the sprawling Inland Empire east of Los Angeles who would ultimately pay for the service through their freight rates. Husing has been talking to the shippers, and he said they are "quite enthused." Warehouses in the Inland Empire would significantly reduce the distance trucks would have to travel if a short-haul service was established there from the ports. Also, there are a number of shippers with operations in Phoenix and Las Vegas that would be much happier sending their trucks to the Inland Empire rather than to the harbor, Husing said.
>
> …developing short-haul rail in Southern California will require support from the UP and BNSF railroads, which own the tracks and much of the rolling stock and equipment in the region. The railroads could work out an agreement with Pacific Harbor Line, which performs switching in the harbor on behalf of the railroads, to pull the trains to the Inland Empire, but that would be a new venture for PHL in its relationship with UP and BNSF.
>
> UP spokesperson Justin Jacobs said the railroad is in early discussions with the various parties about opportunities that exist for on-dock and short-haul rail at the ports, but any project that moves forward must "make sense from a commercial and business perspective." BNSF spokesperson Lena Kent noted that historically there has not been a compelling business case for a short-haul rail service to the Inland Empire. Therefore, BNSF has concentrated its efforts on attempting to secure environmental clearance for construction of its proposed near-dock Southern California International Gateway five miles from the harbor, which would provide sufficient staging acreage for trains that cannot be built on dock. However, a California court recently found the SCIG environmental impact report to be inadequate, so the future of the near-dock facility is uncertain.

Then-Port of Long Beach CEO Jan Slangerup was quoted in a 2016 press release saying that "short-haul rail is a key component of a broader Port rail expansion strategy to enable our regional supply chain partners to achieve significant gains in velocity, throughput and environmental improvements… We're taking a comprehensive look at the feasibility of this concept"[6]. Slangerup went on to say that "taking the lead on short-haul rail reflects our ongoing commitment to leveraging our position as a world-class seaport to advance solutions that strengthen our entire regional supply chain".

BNSF coninued to have difficulty siting the SCIG. Earlier, BNSF could not find any Inland Empire sites it deemed suitable (and permitable) for a new conventional intermodal rail yard, by

http://www.joc.com/rail-intermodal/shippers-await-short-haul-rail-option-la-lb-ports_20160427.html

[6] http://www.polb.com/news/displaynews.asp?NewsID=1542

the time of the 2008 SCAG report. As descrbed in a 2017 *Journal of Commerce* article, UC Berkeley Prof. Robert Leachman discussed a formula for profitable short-haul rail[7]:

> BNSF for years has attempted to secure approval to build its own international rail facility adjacent to the ICTF, but the effort is tied up in litigation, and prospects that the Southern California International Gateway will be built are dim.
>
> Leachman's short-haul rail proposal to transport marine containers to a new ramp that would be built close to the huge concentration of transloading facilities that already exist in the Inland Empire "would be easier to accomplish [than constructing new transloading facilities close to the ports]," said Ron Sucik, principal at RSE Consulting and former executive who performed transloading studies for TTX Co. in the 1990s and the early 2000s. He added, though, that a formula has yet to be developed by which the railroads can make enough money on short-haul services to cover the crew, transportation and terminal costs that are involved.
>
> BNSF spokesperson Amy Casas said that despite discussions about a rail shuttle to the Inland Empire over the years, the railroad has yet to see a viable business plan.
>
> Leachman suggests that he has one. Referring back to the rail transit rates for box cars that were in use in the 1970s, he said railroads married short-haul services to long-haul services as long as they were able to keep the cargo to themselves individually. In the case of a rail shuttle to the Inland Empire, a railroad would carry the containers of particular shippers to a ramp in the Inland Empire, with a guarantee that when the merchandise was transloaded into domestic containers, the same railroad would be guaranteed it would transport those shipments cross-country. The charge for the short-haul move could be billed as a credit toward the total rail cost.
>
> Since the Class I railroads do not like to manage such details but rather prefer to just "hook and haul" complete unit trains, this operation would probably have to be turned over to a third-party firm, Leachman said. If it could be properly arranged, such an operation could be conducted with the support of just one railroad, or both if they are both interested, he said. If the necessary buy-in could be secured from the communities that would be impacted in the Inland Empire, the ports, a railroad or railroads, and the retailers, "it's a win-win for everybody," he said.
>
> Proponents of a rail shuttle still have a lot of work to do, though, to convince the necessary components of the supply chain to support the concept. Sucik wonders how the railroads can be convinced they need the short-haul shuttle move of marine containers in order to retain the more lucrative long-haul domestic move. "They're getting that business already," he said.
>
> The ports, meanwhile, are open to all options that will improve the efficiency of cargo flow through the Southern California gateway while at the same time reducing transportation costs and diesel emissions. "The ports are looking at the bigger picture, end-to-end supply chain solutions," said Mike Christensen, senior executive lead for supply chain optimization in Long Beach.

The San Pedro Bay Ports 2017 Clean Air Action Plan has a goal of increasing the amount of cargo leaving the port complex by rail to 50% by 2030, up from less than 30% today. To help achieve this goal, the plan stated that "the Ports will explore the potential of short-haul rail in

[7] https://www.joc.com/port-news/us-ports/port-los-angeles/paths-slash-la-lb-drayage-costs-emerge-transloads-rise_20170127.html

inland sorting facilities about 60 to 80 miles away from the Port area". The 2018 California State Rail Plan also described the potential benefits of short-haul freight shuttle trains[8]:

> Short-haul rail shuttles connecting ports with inland regions hosting substantial international trade-related distribution activity offer the opportunity to improve the velocity of the flow of goods into and out of the densely populated regions of Southern California and San Francisco Bay Area. With sufficiently high volumes, short-haul rail shuttles transfer the volume of freight truck traffic away from the already congested highways, particularly in and around the major ports. The capital investment in short-haul rail shuttle improvement can be made using the Traffic Congestion Relief Program funds, given a clear analysis of how the rail shuttle can help relieve congestion on roadways. The feasibility of short-haul rail shuttles is highly sensitive to the differential in costs between rail and highway transportation, and would require efficient operation to maximize their viability, and to capture a better rate of return on the investment of public funds.

UP's proposed expansion of the Intermodal Container Transfer Facility (ICTF) in Long Beach, and BNSF's proposed new near-dock Southern California International Gateway (SCIG) project nearby in the Wilmington neighborhood of Los Angeles, have met significant community opposition largely due to air pollution concerns. Further inland, the off-dock intermodal facilities include BNSF's San Bernardino and Hobart (the busiest in the country) yards, and UP's LA Transportation Center (LATC) and City of Industry yards continue to be a major source of diesel emissions which harm neighboring communities.

In May 2018, the governing board of the South Coast Air Quality Management District voted to craft rules to reduce vehicle emissions at warehouses, distribution centers and rail yards[9]. This action by the region's chief air quality regulating authority could put pressure on the freight railroads to consider electrification in some form. This move could also provide impetus for shippers to move more freight in the region by rail instead of truck.

Short-haul freight rail service would build upon, and add value to, the large freight rail infrastructure investments that the ports and regional/state governments are making to shift more freight from truck to rail. More specifically, short-haul freight rail would increase the economic value of publicly-owned rail infrastructure within Port property and the Alameda Corridor. These include ongoing and planned public investments in rail capacity expansions at the Ports of LA (Alameda Corridor southern terminus gap closure and Terminal Island railyard enhancement) and Long Beach (Pier B, Pier G/J, Terminal Island wye improvement), and rail-road grade separation projects going on throughout the region. In addition, Metrolink's Southern California Optimized Rail Expansion (SCORE) 10-year, $10 billion capital program will not only greatly increase the capacity, reliability and frequency of passenger service in the region, but will help do the same for freight movement by increasing the overall capacity of rail corridors. Other ongoing and planned passenger rail infrastructure investments by the California High Speed Rail Authority and the LOSSAN Corridor Agency could also have a benefit for future short-haul rail trains.

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[8] California State Department of Transportation, *2018 California State Rail Plan*, Public Release Draft, November 2017, section 5.2.6 Short-Haul Rail Improvements), pg. 168: http://www.dot.ca.gov/californiarail/docs/CSRP_PublicReleaseDraft_10112017.pdf

[9] http://www.latimes.com/local/lanow/la-me-freight-pollution-20180504-story.html

Alameda Corridor-

Completed in 2002, the Alameda Corridor is owned by the Alameda Corridor Transportation Authority (ACTA), a public joint powers authority formed by the cities of Long Beach and Los Angeles. The project's main goal is the shifting of more freight to rail instead of truck. Almost all of the freight trains to and from the Ports of LA and Long Beach go through the 20-mile-long, triple-tracked grade-separated Alameda Corridor. It is Southern California's existing example of public investment in supporting freight rail infrastructure. Unlike the 710 and other freeways, the Alameda Corridor is very under-utilized, with tremendous surplus capacity which could be used for innovative freight services such as short-haul 'truck shuttle' trains. With a capacity of 150 trains per day, the actual number is about a third of this. The Alameda Corridor needs more trains running through it to remain financially viable. As described by Jim Blaze in a November 2019 article in *Railway Age*[10]:

> Many proponents of the corridor project expected a much larger rail share, perhaps up to … 50% of the total [movement of containers from the San Pedro Bay ports]. That didn't happen. Trucks continue to dominate because of the basic high load-on/load-off lift costs for rail when the movement is a short haul between the port and the southern or central California distribution processing and holding centers. Trucks rule on short distances until those terminal rail costs are somehow lowered.

Key to the success of short-haul service would be lowering the cost of rail intermodal terminals. Fast, frequent short-haul rail service, if it could be provided at a competitive price, would provide increased revenues for ACTA, while increasing drayage capacity to/from San Pedro Bay ports. The ACTA itself conducted a short-haul rail study back in 2004, which recommended a pilot project that was never implemented.

Short-haul freight rail and inland ports-

Many major ports around the world, including several in the U.S., have dedicated short-haul rail service from the docks to special intermodal freight railroad yards known as 'inland ports'. Successful inland ports in the U.S. can be found in Virginia and Georgia.

The Virginia Inland Port (VIP) is an intermodal container transfer facility owned by the Virginia Port Authority, and opened in 1989[11]:

> VIP occupies 161 acres of land and is approximately 60 miles west of Washington, D.C. The terminal brings The Port of Virginia 220 miles closer to inland markets and enhances service to the Washington D.C. / Baltimore Metro Region by providing rail service to the terminals in Hampton Roads. VIP also consolidates and containerizes local cargo for export.
>
> The terminal is serviced by 17,820 feet of rail track that runs adjacent to Norfolk Southern's Crescent Corridor. Intermodal rail cars arrive at VIP and gain access via Norfolk Southern rail to Harrisburg, PA and New York/New Jersey region. The facility is a U.S. Customs-designated port of entry, and the full range of customs functions is available to customers.
>
> Containerized rail service is provided five days a week to VIP from both Norfolk International Terminals and the VIG in Portsmouth. Well-known companies such as Home Depot, Kohl's, Rite

[10] Jim Blaze, "Is the Alameda Corridor in Trouble?", in Railway Age, November 2019: https://www.railwayage.com/intermodal/is-the-alameda-corridor-in-trouble

[11] http://www.portofvirginia.com/facilities/virginia-inland-port-vip/

Aid and Red Bull have opened up new distribution centers in the Front Royal area to utilize VIP, bringing jobs and economic benefits to the region.

Virginia Inland Port in Front Royal, Virginia (photo: Port of Virginia)

A critical part of the Georgia Ports Authority's *Network Georgia* and *Rapid Routes* initiatives is using inland ports to reduce truck traffic in the state of Georgia by shifting containers to rail[12]. The Cordele Inland Port, in collaboration with the Norfolk Southern Railroad, offers a direct 200-mile rail route to the Georgia Ports Authority's Garden City Terminal at the deepwater Port of Savannah. The Cordele Inland Port offers an efficient option to reduce the VMT of drayage truck trips to southwest Georgia, southern Alabama, and western Florida. The Appalachian Regional Inland Port offers exclusive CSX freight rail service on a direct 388-mile rail route to/from Port of Savannah (for target markets in Georgia, Alabama, Tennessee and Kentucky), with each roundtrip offsetting 710 truck miles per container on Georgia highways. The Northeast Georgia Inland Port, the state's third, is set to open in 2021.

It is worth noting that both the Georgia Ports Authority and the Ports of Virginia are growing as competitors to the San Pedro Bay Ports, especially given the Panama Canal expansions. The Ports of Los Angeles and Long Beach stand to lose more business to these East Coast competitors, who are already benefiting from the decongestion and capacity advantages of short-haul freight rail service to inland intermodal terminals. The Port of New Orleans is also seeking to develop an inland port served by short-haul rail[13].

[12] http://gaports.com/intermodal-rail

[13] https://www.portnola.com/assets/pdf/Gateway-Action-Plan.pdf

"Rolling-Road" Short-Haul Freight Rail Service-

A 'rolling highway' or 'rolling road' train enables complete tractor-trailer trucks to drive on or off train cars quickly. This roll-on/roll-off intermodal transport practice is similar to how a truck would drive on and off a ferry boat as part of a longer journey, and has rapidly grown in Europe over the past two decades.

The business model of a 'rolling-road' train is to provide an alternative to road trucking within a dense and congested region with a high amount of traffic delay. However, it is both an alternative to trucking, and an enabler of a more efficient truck haul. The beginning and ending of the journey of the shipping container or other load would still be on a truck. However, trucking would only be for a short parts of the overall journey, where it makes the most sense. This enables truck tractors to move more loads per day over shorter drayage trips, instead of wasting much of the day idling in traffic jams.

With the latest technology, such a service can use existing rail sidings and intermodal facilities, or new ones with a relatively small land footprint, without the need for heavy machinery to load or unload the train. Rolling road trains can carry the tractor and trailers together, with the drivers riding in a passenger car, or as trailers alone like conventional 'piggyback' intermodal rail cars.

A conventional U.S. intermodal terminal typically requires at least 300 acres of land alongside a rail line. It is therefore very unlikely that a new intermodal railyard of this size could be built in the central Inland Empire, where the vast majority of land has already been developed. New types of rail freight service must be explored for the region, which do not depend on slow freight trains which take hours to load or unload at large, conventional intermodal facilities. There are European innovations in intermodal freight rail which could serve as an example for California. Such trains use innovative intermodal terminals with short loading and unloading times, which do not require large amounts of land. Fast electric 'land ferry' freight trains, running on regular schedules like a passenger train, designed to be competitive with highway trucking for distances less than 500 miles.

Austria and Switzerland have long had policies which encourage trucks ride through the Alps via electric 'rolling highway' train, to reduce pollution, congestion and accidents on mountain highways. Swiss company RAlpin (http://www.ralpin.ch/), operator of the all-electric Rolling highway trans-mountain train shown below, is one of several freight rail operators which carry trucks travelling between France, Germany and Italy. These trains typically have a set schedule, similar to a ferry or passenger rail service.

RAlpin 'rolling road' electric train carrying trucks in Switzerland
(Photo: RAlpin AG, http://www.ralpin.ch/media/)

A viable proposal for rolling-road short-haul rail for Southern California will draw upon the experience of European commercial service experience of intermodal drive-on/drive-off railcars. This study involves consulting with European vendors of specialized 'rolling-road' railcars, and developing a demonstration site in the U.S. of this technology, in collaboration with freight railroad and trucking companies. The end goal of the study is a pilot project, as well as developing strategies to optimize utilization of the existing Southern California regional freight rail system for short-haul service, and fully integrated with line-haul freight and passenger rail trains. To be competitive with trucking, the short-haul rail service needs to be fast, frequent and flexible.

The FlexiWaggon innovation-

The Swedish company FlexiWaggon (www.flexiwaggon.se) is particularly interested in bringing its "Mobile Truckstop" roll-on/roll-off railcar solution to Southern California. The FlexiWaggon drive-on/drive-off intermodal cars need no lifting machinery, while enabling quick loading and unloading. In Europe, FlexiWaggon rail cars can fit at least 22 trucks, and up to 120, in one train trip. Its smart design makes it possible to drive on and off without the need of terminals, which simplifies the overall transport service and makes it less costly. A FlexiWaggon train can also carry one or more passenger cars for the drivers.

A FlexiWaggon can load and unload without an overhead gantry crane, and under overhead electric wire. The terminal cost of a truck shipment by rail will be very low compared to the same for double stack intermodal. These cars can be carried on passenger trains, thus increasing passenger service at the same time as adding rail freight service.

The person who operates the train can load and unload directly from the train cabin. Or, the truck driver can load and unload by him / her self.

The FlexiWaggon innovation

Rolling road trains can carry the tractor and trailers together, with the drivers riding in a passenger car, or as trailers alone like conventional U.S. 'piggyback' intermodal rail cars. "Trailers-alone" roll-on/roll-off may be more appropriate for Southern California regional freight rail.

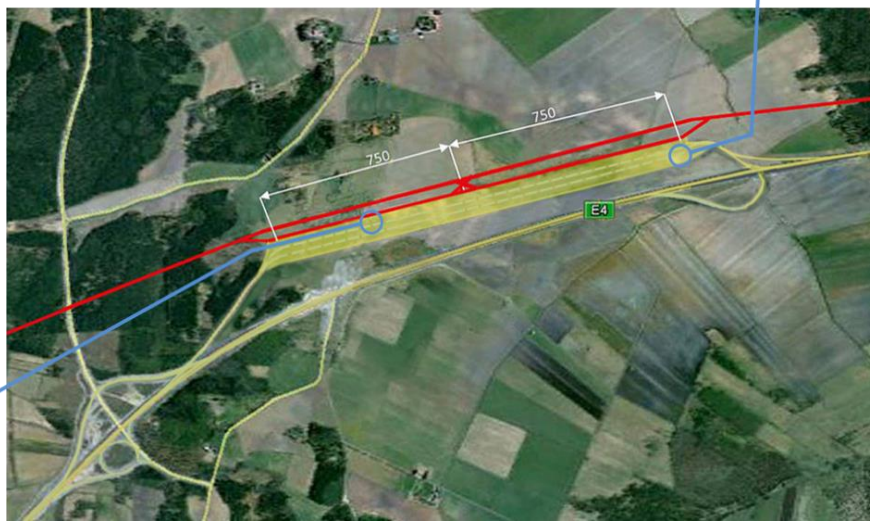
Inland terminal sites:

Available land in Southern California next to rail lines tends to be scarce and expensive. With the FlexiWaggon, a new intermodal facility could have a much smaller land footprint and minimal capital costs- requiring maybe some gravel or asphalt concrete road and a securing gate built at an existing railroad siding.

The minimal infrastructure required for innovative European-style roll-on/roll-off rail cars makes adding new short-haul intermodal rail service more feasible at existing freight facilities in California. The capital cost/lack of available land is not as big an issue with new roll-on/roll-off intermodal, which only requires a flat surface next to the tracks.

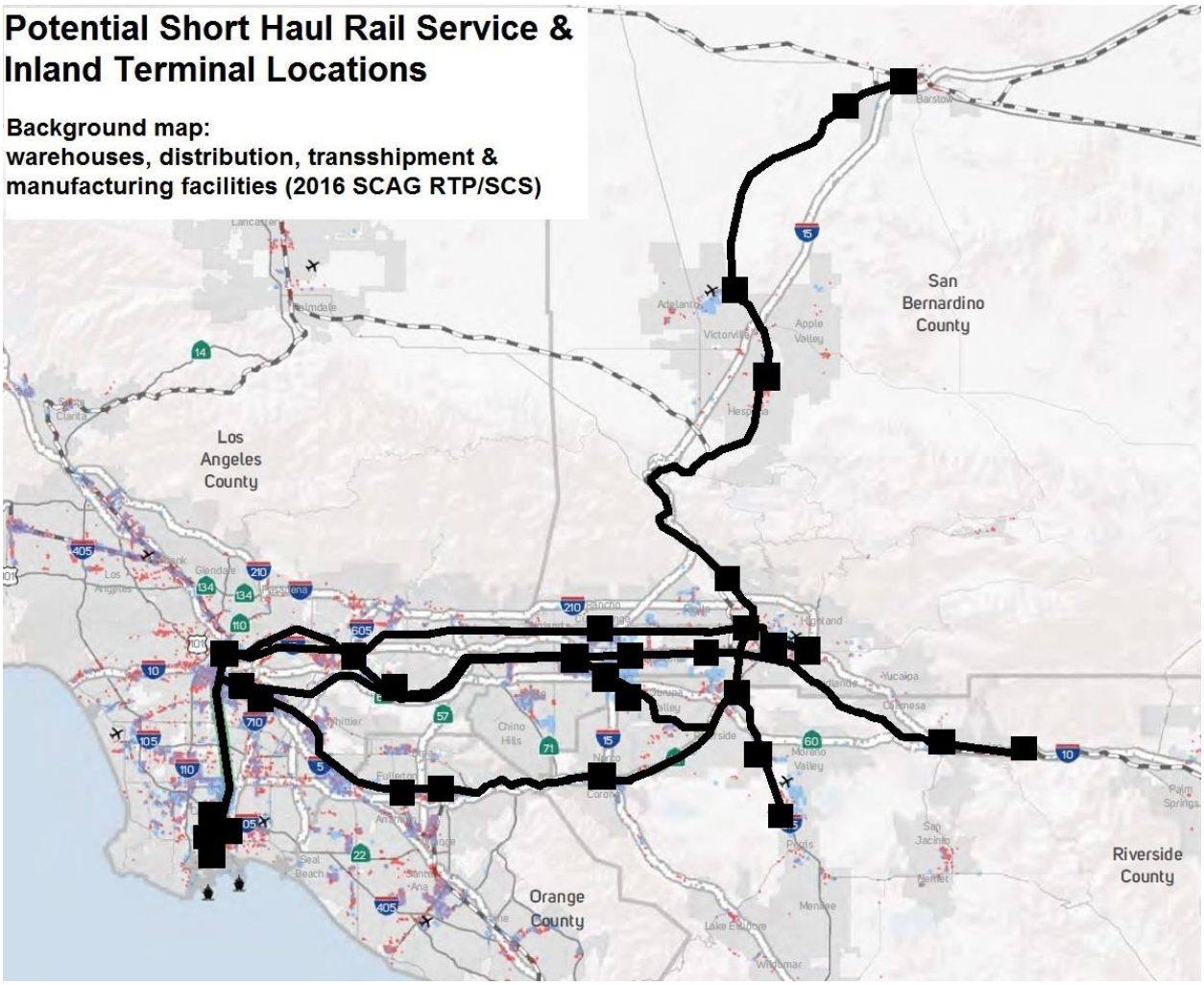
Southern California has potential for European-style “Rolling Highway” or roll-on/roll-off intermodal sites at existing railyards and sidings, minimal new infrastructure required. A number of possible inland terminal sites will be studied during this project. The first pilot project will have one inland destination. Full deployment would have many Inland Terminals, perhaps as many as 20. Potential inland terminal sites are described in the appendices.

Very fast load and unload for a whole train set = 7 min with two 750 m tracks every 15 min a train arrives with 25 trucks. Totally 100 trucks/hour/loadingarea. Gotthard Tunnel: traffic 19 hours/day = 3800 trucks/day can be transported



Flexiwaggon roll on/roll off facility in Sweden

Rolling road trains could carry trucks between the San Pedro Bay ports and inland locations such as the Inland Empire, Barstow and Indio, from where they would continue their journey. One the concept is proven at one inland location, more inland terminals and routes could be developed throughout the region, as shown on the map below:



Also possible would be rapid-loading rolling road trains to carry trucks or trailers from Southern California on “medium-haul” trips to inland terminals in Central Valley, Northern California, Nevada, Arizona, and Baja California (shown on the map below). Intermodal logistics centers already exist or are under construction in these areas. Shipping of agricultural products within California is overwhelming done by truck. The distances betweent the major agriculural centers of the Central and Imperial Valleys to markets in population centers (or interstate rail terminals) is less than several hundred miles. Thus it is less than distances that Class I railroads have found profitable under their existing business model and railcars/infrastructure. However, instrastate agricultural shipping via rail would reduce heavy truck congestion on the I-5, 99 and I-10 and reduce pollution in the Central and Imperial Valleys, which face chronic air quality problems.

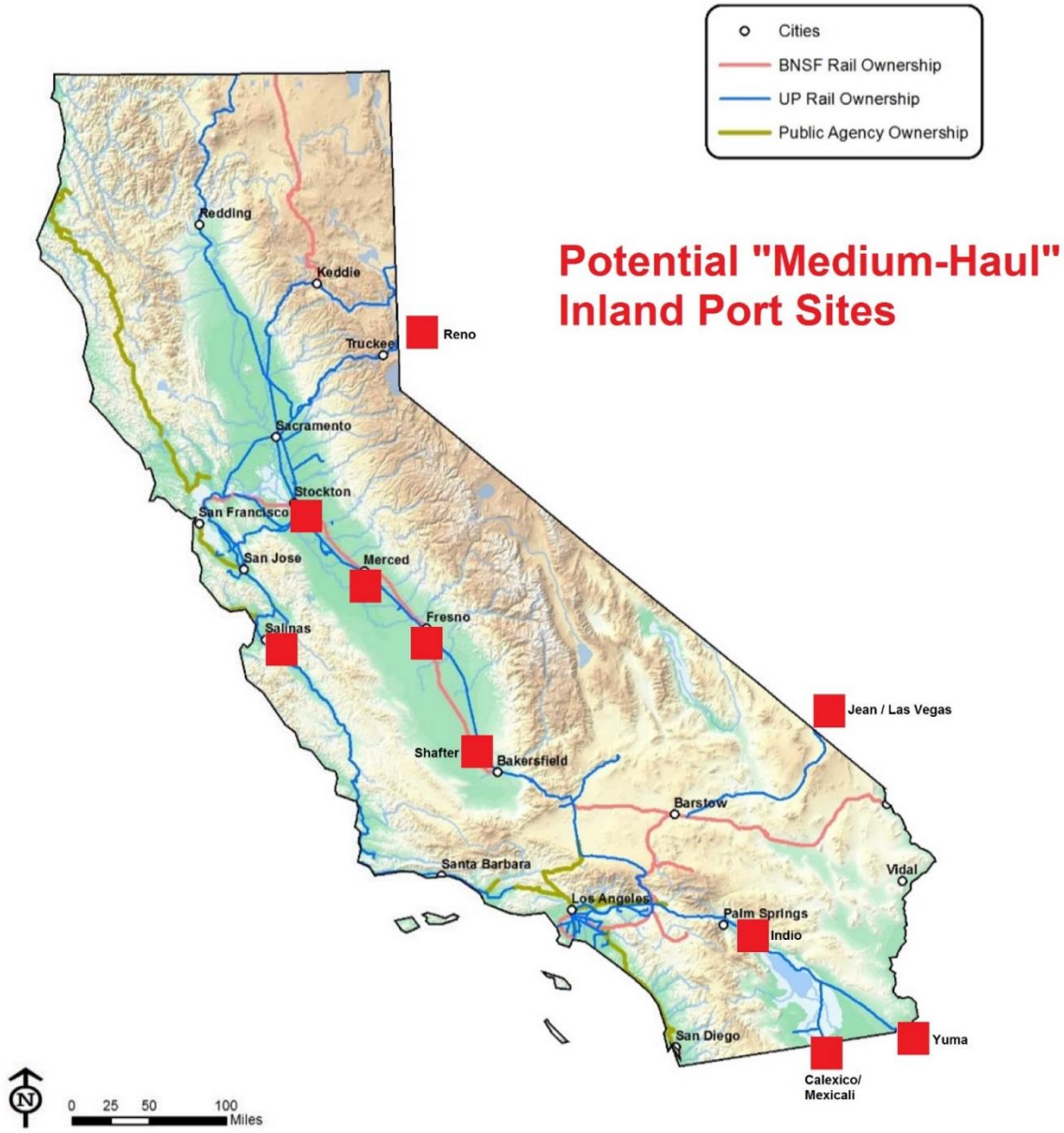


Exhibit 2.5: Class I and Public Agency Owned Rail System (from 2018 California State Rail Plan)

Benefits of short-haul freight service to the Southern California region:

Short-haul freight rail would advance the stated goals of the "Goods Movement System Vision" of the SCAG Connect SoCal 2020 Regional Transportation Plan:

- Maintaining the long-term economic competitiveness of the region
- Promoting local and regional job creation and retention
- Increasing freight and passenger mobility
- Improving the safety of goods movement activities
- Mitigating environmental impacts of goods movement operations

Economic benefits to the region-

The short-haul freight rail service will create new jobs at inland terminal sites, preferably with good union pay and benefits. Stimulation of economic development and private capital invested around intermodal terminal sites has been demonstrated at locations such as the Virginia Inland Port.

Congestion-reduction benefits-

Each truck taken off the highway between San Pedro Bay and the Inland Empire takes up the space of several cars. Reducing the vehicle-miles driven by trucks reduces not only traffic congestion but also the potential for accidents.

A roundtrip train trip carrying 5 Flexiwaggons in a pilot service will take 10 truck trips off the road. A full-scale regional short-haul freight service has the potential to take thousands of trucks off the road in the LA metro area each day.

Environmental benefits-

Rolling-road short-haul freight rail service, combined with zero-emissions electric locomotives, would be a great benefit to the Southern California region, where air pollution remains a great problem. Mode shift of more freight movement from truck to train will reduce overall diesel engine pollution.

UC Berkeley Prof. Robert Leachman in his 2017 white paper "Strategic Initiatives for Inland Movement of Containerized Imports at San Pedro Bay", estimated that the emissions benefits of San Pedro Bay-Inland Empire short haul rail service would be impressive, even with conventional diesel locomotives. Assuming it displaced 2.6 million San Pedro Bay-Inland Empire dray truck trips per year (and all-electric terminal equipment on both ends) the annual emissions reductions would be over 300,000 metric tons of CO_2, 300 tons CO, 1,156 tons NOx, and 97 tons of $PM_{2.5}$. The entire Southland has an opportunity to be ahead of the curve on future zero-emissions freight movement. The rest of the nation will seek expertise from California in this area.

While a short-haul freight rail service is a prime candidate for zero-emissions electric locomotives (described below), it also will aid the deployment of electric trucks and yard tractors. Electric 'yard hostlers' or road tractors can ride with the FlexiWaggon, and be charged while en-route. The utilization of the 'down time' for charging the truck or yard tractor batteries while riding on the train with greatly reduce the need to put it out of service at the intermodal facility for battery charging. This would result in more efficient utilization of the electric trucks. Since the range of electric trucks is limited, it is best to use them for short-haul trips of around 10 miles roundtrip, which would be reasonable distance within the port areas and between an inland terminal and distribution/transloading/warehouses in the Inland Empire.

Benefits to marine terminal operators-

Short-haul rail offers a reduction of truck congestion around the docks, and an opportunity for better utilization of terminal capacity. Increased throughput of containers, especially as container vessels keep getting larger, will lead to pressure for alternatives to conventional drayage trucking. Containers that can quickly moved off the docks by train to an inland terminal will not take up space at the docks.

Benefits to beneficial cargo owners-

More reliable shipments are possible when trucks don't have to travel through the most congested areas of the LA metro area. Short-haul freight shuttle service offers the advantage of sending trucks only a short distance between an Inland Empire distribution center and a nearby rail terminal. Faster drayage priority containers, which need to be drayed as fast as possible from the docks to an inland facility, would be the first to use such a service.

With less delays due to road congestion and lower fuel cost of transport, short haul freight rail will save shippers money.
Short-haul rail also offers beneficial cargo owners a lower carbon footprint of shipments, and less likelihood of accidents/damage to goods.

Benefits to freight railroads-

Short-haul freight rail offers a new line of business, and new sources of revenue for railroad companies.

Class I railroads (UP and BNSF) have traditionally not seen short-haul freight service to be profitable enough to pursue. They also do not want it to interfere with existing operations of profitable long-haul trains. For the past several decades, the preferred business model of Class I freight railroads has focused on long-haul bulk shipments over 500 miles in length, and not short-haul trains that would compete more directly with truck. However, the decline of bulk commodity shipments of coal and oil in the past several years have made U.S. freight railroads more open to exploring new business opportunities such as short-haul rail. Today, increasing road traffic congestion is making short-haul rail look more competitive with trucks for drayage between San Pedro Bay and the Inland Empire, and builds a business case for the service. Short-haul and medium-haul intermodal traffic is perhaps the greatest opportunity for railroad freight traffic growth in North America.

A major challenge of short-haul freight rail that has been cited by Class I is the availability of land and capital needed to construct an “inland port”. However, Flexiwaggon’s rapid load/unload technology offers a way to dramatically cut the cost of an intermodal rail facility.

The short-haul freight trains would be scheduled similarly to existing Metrolink passenger trains in the region, which the freight railroads are accustomed to, and have been for the past several decades. Each day in Southern California, both UP and BNSF accomodate about 200 regularly sceduled Metrolink and Amtrak passenger trains.

Success of a short-haul freight rail service will require project design that ensures the private freight railroad companies involved are appropriately paid for the use of their property, and that they will have a clear economic benefit for hosting the short-haul freight trains. They are not going to let others use their tracks for free. Since the short-haul freight rail is not passenger service, the host railroads are not under the same obligation to allow a short-haul freight operator low-cost access. The track use fees for short-haul rail will thus likely be higher than that paid by passenger trains.

The short-haul rail movements could also offer Class I long-distance trains a convenient connection. Preference on short-haul rail trips could be assigned to containers that will be transferred to Class I intermodal long-distance trains at an inland intermodal yard. A guarantee of future container traffic volume from short-haul trains would lower the balance sheet risk of Class I railroads.

Benefits to trucking companies-

One trucker can make multiple short-distance drays between an Inland Empire intermodal terminal and warehouse/distribution/transshipment center destinations in the time it would take to make one roundtrip between the Inland Empire and San Pedro Bay. Less VMT per load means a trucker can stay closer to home and earn more net revenue per load. Less time wasted in traffic means better utilization of trucks and drivers.

Trucking companies connecting California to Arizona or Nevada would prefer to pick up a container in the Inland Empire, instead of driving on congested highways to San Pedro Bay and back.

Electrification of rail (zero-emissions)-

The short-haul rail service would begin with conventional diesel-powered locomotives, then later move on to lower- and zero-emissions electric locomotives. However, serious planning efforts for the inevitable electrification of rail must begin now. The long-term vision is that the electric short-haul rail service would carry trailers between the two, with electric trucks handling the relatively short drayage trips, with electric trucks, on either end.

The only proven zero-emissions heavy freight movement technology is a fully electric railroad. Electric trains are the most energy efficient way to move freight on land, moving a ton with typically one-tenth the energy used by diesel-powered road trucks. The electrification of freight rail in California would reduce the public health impacts to local communities affected by diesel-

powered locomotives, and reduce the greenhouse gas emissions of freight movement. Electric locomotives also improve the speed of travel with better acceleration, quieter operation, and twice as energy efficient as diesel locomotives. . Used successfully all over the world for over a century, electric freight locomotives have many advantages.

Advantages of electric locomotives include:

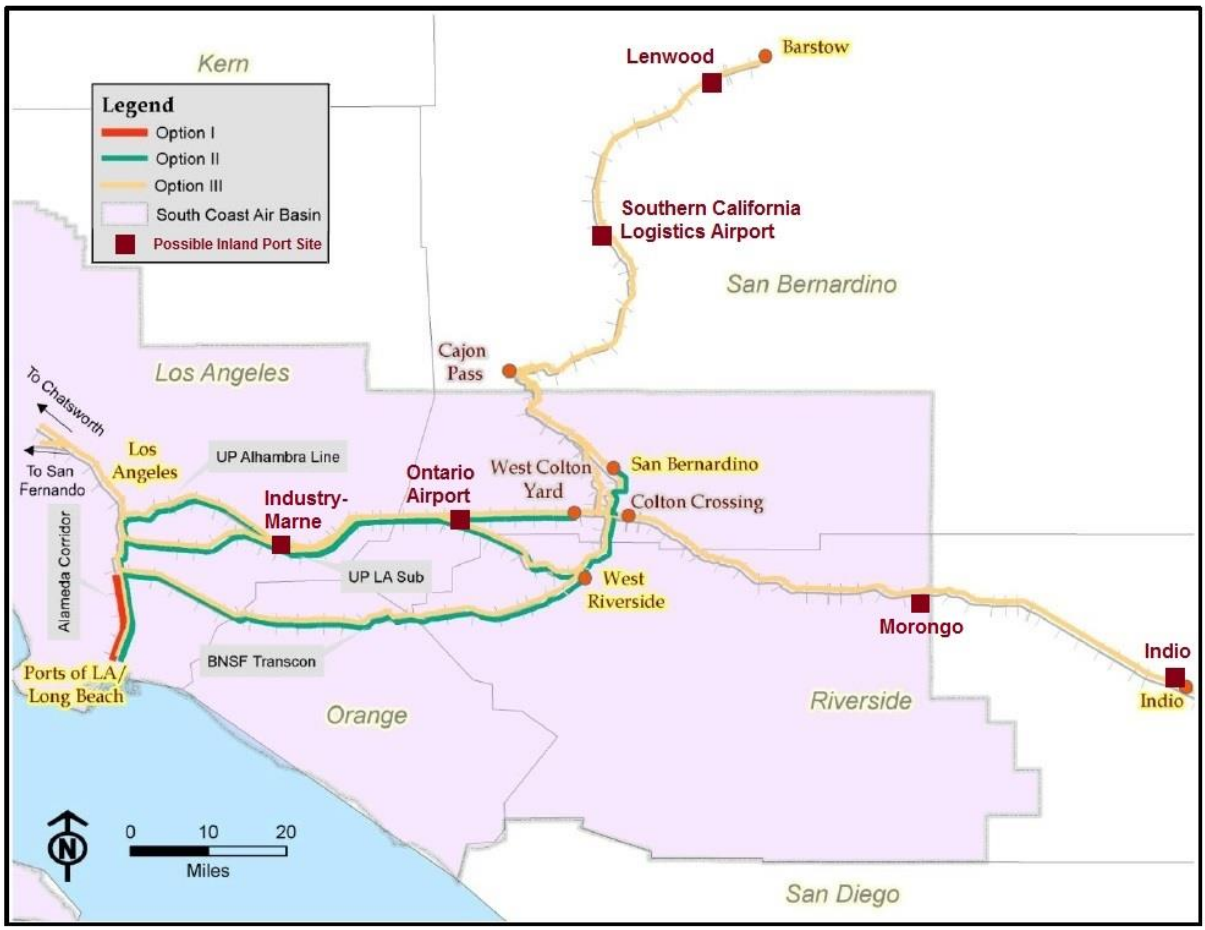
- Zero emissions
- Quieter than diesel locomotives
- More energy-efficient and lower energy cost, can be powered by renewable energy via the power grid
- Simpler locomotives, lower O&M costs
- Established, proven technology

Innovative intermodal-truck technology combined with electric rail could offer great benefits to the Southern California region. The short-haul freight rail service in California can begin with existing diesel locomotives, which would still greatly reduce pollution and fuel consumption compared to truck. However, the faster acceleration and zero-emissions track miles of electric locomotives will greatly enhance the environmental and de-congestion benefits of short-haul freight rail, increasing its competitive advantage over highway trucking. With electric locomotives, energy-efficiency of rail transport is greatly increased while emissions drop to zero. Electrified freight shuttles could also utilize the same overhead catenary and/or charging infrastructure used by future electric passenger trains planned for the Southern California region. Different scenarios and technologies for California freight rail electrification need to be evaluated.

There have been several studies over the past three decades of regional freight rail electrification in Southern California, including a 2012 report by SCAG. The last time that a regional, comprehensive rail electrification task force existed was for the 1992 Southern California Accelerated Rail Electrification Program study. Such a regional task force should be created again, with committees for planning, engineering, analysis, operations & maintenance, environmental analysis, funding, legislative and regulatory issues.

Electrification of the Alameda Corridor, combined with other infrastructure projects and policies which encourage shifting of port freight movement from truck to rail, is a superior environmental and socially-acceptable alternative to adding more lanes to the I-710 freeway.

Regional Electrification Options and the SCAB Boundary



Source: ***Task 8.3: Analysis of Freight Rail Electrification in the SCAG Region (Final Technical Memorandum)*****, prepared by Cambridge Systematics, Inc. for Southern California Association of Governments, April 2012, pg. 4-24.**

Freight car switching on either end of electrified track segments could be performed by zero emissions battery-electric switcher locomotives, which would not require overhead catenary. Electrification of the Pacific Harbor Line could be implemented with battery-electric switcher locomotives to complement an overhead catenary system, a scenario shown on the map below.

Possible operating scenario of Alameda Corridor electrification using catenary/battery hybrid locomotives, overlaid on map of existing electric utility transmission lines and substations
(Background map: California Energy Commission)

Outside of North America, electric freight trains are very common. Almost every industrialized country, from Europe to Asia to South Africa, has an extensive electric rail network that includes freight service. Several notable, pioneering electric freight rail lines existed in the U.S. during the first half of the 20th Century, particularly for steep mountain grades. In the Washington

Cascades, the Great Northern Railway electrified its Cascade Tunnel in 1909. The Milwaukee Road electrified 645 route miles of its Pacific Extension in two long sections of the Rocky and Cascade mountain ranges between 1914 and 1920, the longest electric railroad in the world at the time. The Pennsylvania Railroad had electrified nearly 2,700 miles of its track by the end of the 1930s. In Northern California, the Sacramento Northern Railway, which ran between Oakland, Sacramento and Chico, ran electric freight locomotives until 1965. The Pacific Electric Railway had electric freight locomotives for small freight trains on its inter-urban electric rail transit system across Southern California (see photo below).

Electric freight trains were once common in Southern California:
Pacific Electric Railway all-electric local freight train in South LA, 1953
(Photo: Pacific Electric Railway Historical Society)

Zero Emissions Electric Short-Haul Freight Rail and Intermodal Terminals-

U.S. freight rail companies have long resisted converting from diesel to electric locomotives, as well as neglecting the short-haul freight market. However, public support for rail electrification, and getting trucks off of the highways, is growing due to the environmental benefits of all-electric, zero-emissions freight rail. A Port-to-Inland Empire short haul freight rail service would be a logical first phase for freight rail electrification in Southern California. It should be noted that such short-haul rail service in the greater Los Angeles metropolitan area could be started before electrification, although all-electric locomotives would be best from an emissions perspective.

Electric trucks and electric trains, both serving an 'all-electric' intermodal facility or Inland Port-

Electrification is possible for all land movements of a shipping container, from unloading off a ship with an electric crane, drayed by an electric truck to a nearby transshipment facility or intermodal yard, moved around at that facility with an electric forklift, and carried away on an electric train. A new intermodal facility, such as BNSF's proposed Southern California International Gateway (SCIG) project, or a proposed Inland Port served by short haul rail, could be designed from the ground up as all-electric, utilizing both electric trucks and electric trains along with electric freight movement equipment. It is technically feasible for such a facility to have cranes, forklifts, trucks, and locomotives that are 100% electric. The local community and environmental opposition to the SCIG or inland terminal site could be mitigated if the facility would be required to utilize a significant fraction, or even entirely, all-electric trucks and all-electric shuttle and long-haul freight trains. Perhaps a solution to the current SCIG impasse could be found in the form of a 21st century intermodal facility based entirely on electrified modes of transport- both trains and trucks.

BNSF has already started testing electric trucks at its Southern California intermodal facilities. The several miles between the port docks and the proposed SCIG site in Wilmington would be easily managed by battery-powered electric container drayage trucks that exist today. Similarly, the relatively short distances between an inland terminal and warehouses and distribution facilities in the Inland Empire would be well within the economical and practical range of battery electric trucks.

Electrification of intrastate line-haul freight lines operating within California-

Intrastate freight rail, trips typically less than 500 mile between regions within California, has been largely ignored by Class I railroads in the U.S. along with other types short-haul and medium-haul rail. Of the more than 1 billion freight tons moved entirely within California in 2012 (not including pipelines), 94% was by truck and 1% was by rail[14]. Increasing the amount of intrastate freight shipped by rail would reduce air pollution, fuel consumption and reduce North-South truck traffic on Interstate 5 and State Route 99 in the Central Valley. A 2017 article by Michael Setty in *California Rail News* proposed electrifying a new freight rail line over Tejon Pass, paralleling Interstate 5[15]. In order to be competitive with truck for distances less than 500 miles, intrastate trains would be have to be much faster than a conventional U.S. line-haul freight train. Electric intrastate freight trains can be faster than truck over mountain grades such as Tejon Pass, due to the higher tractive effort of electric locomotives. Light, fast and relatively short (10 to 50 car) trains carrying intermodal container or roll on/off trailers could share electrified passenger tracks.

[14]California State Transportation Agency, California Freight Mobility Plan, December 2014, pg. 145: http://www.dot.ca.gov/hq/tpp/offices/ogm/CFMP/Dec2014/CFMP_010815.pdf

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Tioga

INLAND PORT FEASIBILITY STUDY

Project No. 06-023
Final Report

The Tioga Group, Inc.

Railroad Industries, Inc.

Iteris

Prepared for:

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

818 W. 7th Street, 12th Floor
Los Angeles, CA 90017-3435

August, 2008

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I. Summary and Conclusions

Project Overview

The purpose of this project was to determine whether and how inland port concepts could be implemented to reduce truck VMT and generate other public benefits in the SCAG region. From project inception through analysis of technical feasibility and potential benefits it was generally anticipated that the answer would depend on technical findings. As the study team progressed through Inland Empire site selection, implementation analysis, and community acceptance issues a very different picture emerged.

Feasibility and Benefits

The study team's overall conclusion is that the inland port/rail shuttle concept is sound and would benefit the region if it could be implemented. Rail shuttle service to the heavily developed central part of the Inland Empire is technically feasible and would reduce net truck VMT. The reductions, however, are not large because the 60-mile rail movement still requires local drayage inland, offsetting the rail savings.

According to port survey results, there are about 3,500 daily truck trips between the Ports and Riverside and San Bernardino Counties combined. Two daily round trip intermodal trains could divert a maximum about 33% of these trips. While analytically significant and a net reduction in congestion, such diversions would not be noticeable to the general public. There would, however, be a noticeable increase in truck activity in the immediate vicinity of the inland port terminal. In the Mira Loma area, where the level of truck activity is already objectionable to some community members and a concern to regional planners, a noticeable concentration of "new" trucking activity would be politically unpalatable.

The net change in truck VMT within the Inland Empire would be small, as most of the VMT savings would be between the Ports and the Inland Empire. Truck trips would be diverted from I-710, I-605, I-10, SR-60, and SR-91. To serve a point in Ontario, for example, a truck trip from the Ports on I-710/I-10 would be replaced by a shorter trip on I-10 (or perhaps on surface streets) from the inland port. Regional truck VMT would decline, but truck VMT within the Central Inland Empire would increase.

The inland port concept faces a paradoxical planning barrier in attempting to serve the existing Inland Empire traffic base. The model results clearly indicate, as expected, that a terminal location in the Mira Loma area would maximize the VMT reductions and generate the most benefits. Such locations are scarce, however, and would also meet the most local opposition. Sites farther from Mira Loma are somewhat easier to find and may be more acceptable to local communities and regional agencies, but would not yield the same near-term VMT reductions.

Implementing Steps

As the Task 1 and 2 report points out, there is no current organization with a charter to develop or run a rail shuttle/inland port service. Advocates would thus face a substantial effort to organize a shuttle service.

Implementing an inland port/rail shuttle system would require several steps, each with significant barriers to be overcome.

Target Markets. The primary near-term geographic market is the Mira Loma area in the Inland Empire. The Barstow and Victorville markets are developing and would be likely candidates for future logistics parks served by inland ports.

Choose and Secure Terminal Sites. The study team identified a small number of candidate sites for Inland Empire terminals serving Mira Loma. Given volatile Inland Empire real estate conditions however, these sites may be committed to other uses on short notice. The SCLA site at Victorville and the open site west of Barstow appear relatively secure but will not remain open indefinitely.

Provide Port-Area Rail Capacity. At the Port end of the system, Pacific Harbor Lines must be able to efficiently gather railcars with eastbound import containers and distribute railcars with westbound empty and export containers. Substantial improvements in the port rail network will be required, eventually over and above current rail improvement plans.

Rail Service Agreement. A rail service agreement in likely to resemble a commuter rail operating agreement. In return for operating payments and capacity funding, the railroad(s) would agree to operate a fixed schedule of rail shuttle trains, or to allow a contractor to do so. The agreement would encompass locomotive and rail equipment supply, operating windows, etc.

Port Area Rail Capability

The port area rail system is not currently capable of efficiently supporting a rail shuttle service. If, as expected, rail shuttle trains must be assembled from multiple on-dock terminals, the process would be slow and costly due to lack of yard capacity and inefficient legacy connections. Besides handicapping a rail shuttle in competing with trucks, force-fitting rail shuttle operations would hinder the assembly and operation of higher-priority long-haul container trains.

The Ports have engaged in ambitious rail improvement planning. Implementation of those plans is stalled however. Delays in rail improvements mean that when new capacity is finally added it will be quickly filled with long-haul business.

Mainline Rail Capacity

If a rail shuttle of any kind is to become operationally feasible, the region will likely need to engage either or both railroads in a partnership to expand rail capacity. The SCAG Region as a whole is experiencing enormous pressure on its rail capacity, creating an implementation barrier for rail shuttle service.

- Growth of container traffic at the ports is rapidly escalating the demand for double-stack rail service.

- The region's domestic economy generates an increasing volume of domestic rail traffic, both intermodal and conventional carload. The domestic intermodal business competes with international intermodal business for terminal capacity as well as main line capacity.

- Growth in commuter and regional rail passenger operations coincides with using freight demand on many lines.

A rail container shuttle between the San Pedro Bay ports and an inland port in the Inland Empire or beyond would therefore have low priority within the region's overall rail needs..

Each container truck on the highway is the congestion equivalent of 2-4 passenger cars, with the higher equivalence corresponding to more congested conditions (as on Interstate 710) or steeper grades (as on Interstate 15 over Cajon Pass). At an average passenger car occupancy of about 1.2, each diverted container trip is therefore the equivalent of diverting 2.4-4.8 commuter trips. The region is presently subsidizing regional and commuter rail passenger service. Whether a rail shuttle/inland port combination can be as effective in reducing congestion as rail passenger service depends on the volume of "customers" each can divert from the highways and the relative subsidies required for each. In terms of VMT avoided, the region would probably be better off using the available rail capacity for longer haul, interstate container movements that might otherwise have been trucked.

Inland Empire Terminal Sites

The window of opportunity for an inland port in the Mira Loma area has closed. There are few remaining sites for a terminal in the immediate Inland Empire (e.g. Mira Loma), and they are going fast. There is vehement local community opposition to an inland port development in the Mira Loma area. With the current scarcity of terminal sites and county priorities for job creation, there is now no realistic opportunity to implement an inland port/rail shuttle concept in the Mira Loma area.

A decade ago there would have been multiple terminal sites, less community sensitivity, and reserve rail capacity. If a rail shuttle had been put in place serving a Mira Loma terminal at that time, that service would have diverted at least some of the port truck traffic that has since developed. While the opportunity might have existed then, the public sector demand for such a solution probably did not. Port trucks were not then viewed as a major source of congestion. While the concept of subsidizing freight operations to reduce congestion is a major implementation barrier now, it would have been an even greater barrier ten years ago.

Current Inland Empire planning priorities do not favor an inland port. As the detailed terminal site discussion indicates, there are few suitable sites remaining in the central portion of the Inland Empire. Regional planning priorities are focused on job creation for the remaining sites. On the basis of jobs per acre, an inland port cannot compete with value-added logistics, conventional distribution centers, manufacturing, or offices. Even though an intermodal rail terminal may be consistent with zoning in some areas, it would not be consistent with local planning strategies.

Should an inland port be proposed for a central site, it is likely to face political, procedural, and even legal challenges from community groups, local jurisdictions, and regional planning agencies.

Beyond the Inland Empire

As future inland port candidates, the key question facing both Victorville and Barstow is the emergence of a market for port container movements. Not every distribution center has a significant volume of port container traffic. Many of the early facilities at SCLA are associated with the aircraft and air transport industry, and others primarily ship and receive domestic goods (or imports that have already passed through another supply chain and are no longer linked to the Ports). While these customers can benefit from a conventional intermodal facility and the transportation options it provides, they would not be customers for an inland port/rail shuttle combination.

For both Victorville and Barstow the question is one of timing. Establishment of a rail shuttle/inland port service would encourage development of port-oriented import and export facilities in either or both locations. Clustering future port-oriented development around an inland port facility would tend to rationalize land use patterns and minimize long-term VMT consistent with SCAG's goals.

Costs and Funding

The costs of an inland port/rail shuttle would be substantial: operating subsidies that could exceed $200 per round trip, and multi-million-dollar capital investments in rail terminals and line haul capacity. The service could never be financially self-sustaining, regardless of fuel prices or other economic developments.

Capital costs, while substantial, are probably not a major barrier to implementation. State and Federal infrastructure funding takes many forms, ranging from the Proposition 1b infrastructure bonds to TIFIA loans.

The service would require a permanent operating subsidy, for which there is no current source. The State of California is engaged in a massive bond funding effort for major goods movement infrastructure projects. It is clear that the statewide need greatly exceeds the $20 billion in bond funds. Funds for inland port implementation are very unlikely to come from the current bonds, and there is no follow-up bond initiative on the horizon.

The operating subsidy required to divert truck trips to the rail shuttle would be determined by the cost gap in Exhibit 97. The estimates suggest that the required subsidy would be at least $200 per container at current cost levels.

Exhibit 1: Rail Shuttle and Truck Costs for Inland Empire Round Trips

	RT Cost
50-container train	$ 679.18
100-container train	$ 587.85
200-container train	$ 514.33
Truck	$ 300.00

The 100-container train scenario would move 50,000 round trips per year (2 round trip trains per day, 250 days per year), and would require a nominal annual subsidy of $14.4 million at a unit cost difference of $287.85 per unit (Exhibit 2). Increasing truck costs due to the Port's Clean Truck Plans (CTP) could narrow the cost differential and thus reduce the subsidy requirements. Analysis of likely trucking cost impacts yields the comparisons in Exhibit 98.

Exhibit 2: Truck Cost Scenarios and Subsidies

Impact Source	*Inland Empire Truck Cost*[i]	*Nominal Subsidy per Unit*	*Annual Subsidy for 50,000 Units*
Current	$300	$287.85	$14.4 million
TWIC	$373	$214.85	$10.7 million
TWIC + LMC/IOO CTP	$446	$141.85	$7.1 million
TWIC + Employee CTP	$540	$47.85	$2.4 million

The Transportation Worker's Identification Card (TWIC) requirement is expected to increase labor costs. The Clean Truck Plan (CTP) with Licensed Motor Carrier/Independent Owner-Operator (LMC/IOO) or Employee Driver options would increase both labor and capital costs further. At the extreme, the annual subsidy for 50,000 units on a rail shuttle might be reduced from $14.4 million at current price levels to $2.4 million. These comparisons must be approached with caution, however, as the estimated impacts of drayage industry changes are highly uncertain and the same changes will also increase the cost of inland drayage for the rail shuttle operation.

There is a significant political barrier to be passed in creating a subsidy plan for rail freight operations of any kind. There are *no* current funding programs to subsidize freight operations. Rail passenger services are routinely subsidized, but freight subsidies are rare. A rail shuttle/inland port sponsor agency would have to create an entirely new subsidy system, without precedent. Given the current and controversial port container fee proposals, any subsidy proposal is likely to meet with commercial, political, and community objections. An operating subsidy for a relatively small reduction in truck traffic would not receive much local support.

Given multiple unmet funding needs for regional transportation of all kinds, Herculean efforts to funding the capital and operating needs for an inland port/rail shuttle service seem unwarranted.

The potential for large drayage cost increases due to TWIC requirements and the Ports' Clean Truck Program may eventually reduce the amount of subsidy and should be monitored, but are unlikely to eliminate the need for subsidy.

Institutional Barriers

None of the major stakeholder groups are enthusiastic about the rail shuttle/inland port concept.

- The Ports are justifiably more concerned about implementing their master rail plans and adding both on-dock and off-dock terminal capacity for long-haul inland rail movements.

[i] Ibid.

- The railroads do not see near-term business opportunities for rail shuttles, and are wary of public subsidy and public intervention in rail freight operations. Their highest priorities are conventional intermodal terminals and mainline capacity for long-haul business.

- The ocean carriers have minimal interest in rail shuttle/inland port operations and are skeptical of its success. They are far more concerned over port capacity and fees.

- Potential customers likewise have minimal interest and are skeptical.

- Regional planning agencies have other priorities and do not see the benefits of a rail shuttle/ inland port concept as justifying major investments of political capital or funding.

- Some Mira Loma community organizations are vehemently opposed to an inland port (at least as they imagine it) and have begun organizing resistance in advance of a definite inland port proposal.

- There is interest in an inland port in Victorville (SCLA), in Barstow, and in Antelope Valley, but those markets have yet to develop.

Conclusions

The study team was forced to conclude that while an inland port/rail shuttle service had intrinsic merit and would benefit the region, the concept also faced daunting implementation barriers while ranking low on the list of regional priorities. While an inland port/rail shuttle is a good idea, the efforts required to overcome the implementation barriers would not be justified, especially when the region has other, more pressing needs for goods movement resources.

Regional planning agencies should, however, monitor the development of port-related distribution businesses in Victorville (SCLA), Barstow, and the Antelope Valley to determine if markets for an inland port/shuttle service could or would develop there. SCAG should also monitor the status of available rail capacity on the main lines (as SCAG is already doing) and at the ports.

The one event that might make a difference is the outcome of the Port's Clean Truck Program. If that program results in reduced truck capacity and higher truck costs, the demand for rail shuttles might grow. The capacity and terminal issues would remain.

The conflicting demands on the regional rail system argue for further development of a regional rail plan encompassing both freight and passenger operations. Current and previous studies of rail capacity and the forthcoming multi-jurisdiction goods movement action plan address some of the issues and should supply a good foundation for additional analysis.

II. Background and Scope

Project Objectives

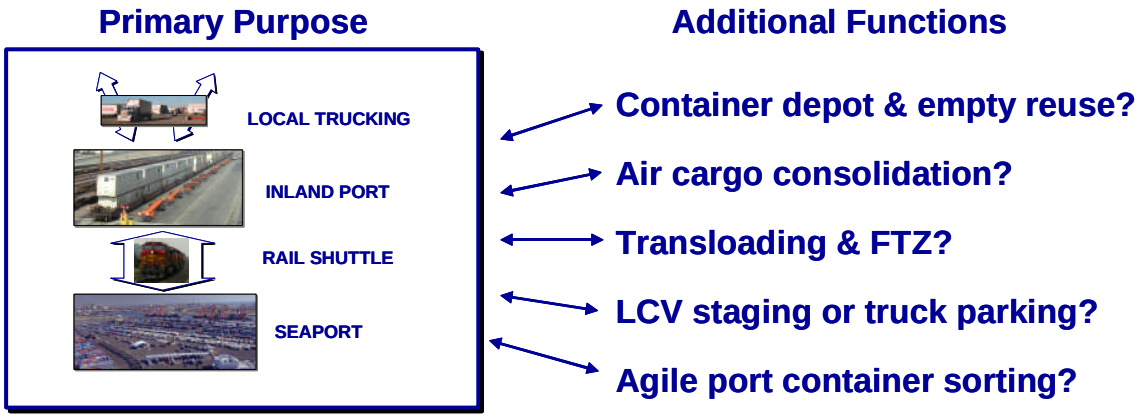
SCAG and other agencies are confronting serious long-term freight mobility issues in Southern California. Straightforward capacity increases that worked in the past – more highways, larger ports – are not enough for the future. Moreover, capacity increases that compromise the environment, tax the budget, and impinge on sensitive communities may no longer be possible or desirable.

Inland Ports and related initiatives have been proposed as solutions to freight mobility issues. The basic form of the inland port concept is illustrated in Exhibit 3. As originally implemented in the Virginia Inland Port, the concept calls for a rail shuttle linking a seaport with an inland terminal functioning as a satellite.

Exhibit 3: Basic Inland Port Concept

As Exhibit 4 suggests, the concept has been expanded to include other transportation and logistics functions, and could be expanded further.

Exhibit 4: Expanded Inland Port Concept



These concepts in their many forms appear to hold considerable promise as part of a comprehensive regional strategy. The limited experience with inland ports in the US, however, does not by itself provide SCAG and other agencies with sufficient guidance to determine which inland port facilities and functions would be feasible and cost-beneficial in Southern California.

SCAGs set the following major goals for this study.

- Determine the relevant purpose and benefits of an inland port for the SCAG Region and the various functions it might usefully include.
- Identify the potential utility of an inland port to users and stakeholders in the goods movement system.
- Identify the potential for freight traffic congestion relief, emissions mitigation, and rationalization of regional land use patterns.

A rail shuttle connecting the seaports with an inland facility could have the potential to simultaneously reduce truck traffic and congestion and promote jobs and economic growth inland. Intermodal transportation offers attractive flexibility to planners seeking long-term solutions to goods movement problems. A rail shuttle connecting major ports with nearby inland destinations would be a logical extension of the success enjoyed by long-haul double-stack container trains and landbridge services.

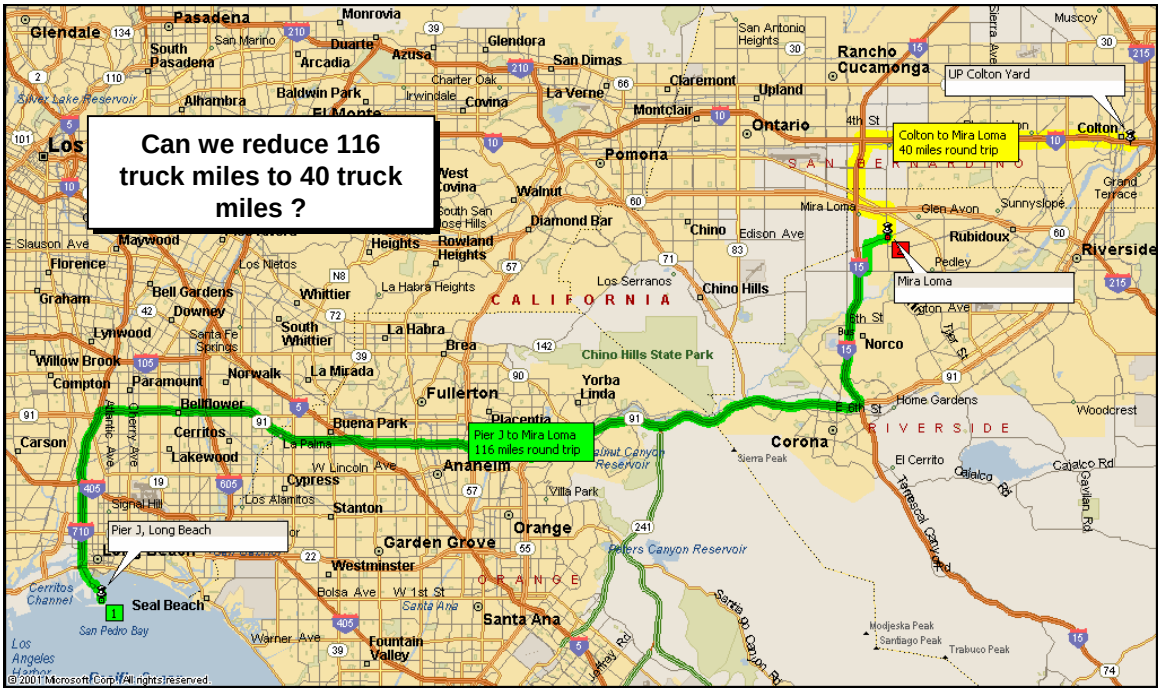
- From a public transportation policy and planning perspective there may be opportunities to either decrease total VMT associated with these functions or manage tradeoffs between transportation and other considerations.
- From port throughout perspective, development of an inland port and implementation of "agile port" concepts may allow the Ports to handle expected growth more efficiently.
- From an economic development perspective there may be opportunities to locate new types of businesses inland and expand the scope of others.

- From a land-use perspective there may be opportunities to rationalize legacy development patterns near ports. Container depots and the truck trips they generate, for example, are unpopular with residential and commercial users.

With new federal funding becoming available for intermodal projects, new interest in freight issues on the part of California state government, and ongoing debate over the regional impact of trade growth, the time is right to take the inland port/rail shuttle concept to the next level of analysis and potential implementation.

The key to success is truck VMT reduction. For example, to serve the concentration of distribution centers in Mira Loma, the industry currently trucks containers about 58 miles from the ports and 58 miles back, a total of 116 truck miles (Exhibit 5). If a rail shuttle could take those containers to a nearby point such as Colton by rail, it would incur only 40 round trip truck miles between Colton and Mira Loma.

Exhibit 5: Example of Mira Loma Trip VMT Savings



Tasks 1-2 established the underlying traffic flows, economic factors, and potential reductions in truck VMT and emissions. The focus in the final stage of the project was on operating strategies, implementation issues, and community acceptance for a rail shuttle and terminal sites in the Inland Empire or beyond.

Scope of Work

The broad potential benefits of an inland port include facilitating goods movement, encouraging economic development, reducing traffic congestion, and otherwise promoting the regional objectives of the 2004 RTP. The overall study objective was to determine which of these benefits can be realized, in which kinds of facilities, and at which sites.

To attain this objective the study scope covered the following Tasks.

- Task 1: Define the concept and purpose of an Inland Port facility. As the Technical Approach explains, the study team developed multiple Inland Port scenarios to allow for multiple feasible combinations of functions.

- Task 2: Describe existing Inland Port concepts in the SCAG Region. The study team expanded the scope of Task 2 to also consider: 1) existing regional facilities performing "inland port" functions; and 2) inland ports and related facility examples in other regions.

- Task 3: Conduct interviews and surveys to determine feasibility, potential demand, and community acceptance. In this phase, the study team determined the operational, physical, and economic feasibility of the concepts and scenarios developed in Task 1, separately and in combination.

- Task 4: Estimate the costs and benefits. The study team estimated the full range of capital and operating costs for the feasible concepts and scenarios emerging from Task 3. The costs were compared with the public and private benefits to identify and prioritize cost-effective inland port approaches.

- Task 5: Final Report and Site Evaluation. The study team matched viable cost-beneficial inland port concepts with appropriate sites in the SCAG Region. The study team developed site requirements for successful inland port implementation and then evaluate specific proposed sites against those requirements. The findings, evaluations, and conclusions were compiled in a fully documented final report and associated data.

The completed feasibility study will enable SCAG and other agencies to navigate through the myriad possible inland port concepts and focus on those with the best chance of real world implementation and concrete public benefits.

Summary of Task 1& 2 Findings

Inland Port Purposes and Benefits

Study Tasks 1 and 2 concluded that an inland port following one or more of the models established elsewhere could serve the following purposes in the SCAG Region.

- **Freight Traffic Congestion Reduction.** By diverting port-related truck trips to rail, development of an inland port could reduce the net truck VMT required to transport future cargo volumes.

- **Emissions Reduction.** By diverting port-related truck trips to rail, development of an inland port could also reduce the net emissions (especially diesel particulate matter) associated with future freight flows.

- **Economic Development.** By encouraging efficient patterns of logistics-related business development, the presence of an inland port could assist in achieving long-term land use policy goals for inland areas.

- **Increasing Port Capacity**. By reducing the dwell time of those import and export containers it handles, and inland port can increase the effective throughput capability of port facilities.

Matching Inland Port Strategy With Locations

Early in the project the team looked at 29 case studies of inland ports and related developments and classified them by type. The two that show the most promise for the SCAG region are the Logistics Park and Satellite Marine Terminal models.

- "Logistics Park" – e.g. Alliance, Victorville, Quincy, Joliet, Richards-Gebaur, Huntsville

- "Satellite Marine Terminal" – e.g. Virginia Inland Port

The Logistics Park approach, typified by Alliance, Texas, uses a core of transportation and logistics facilities to encourage adjacent development of distribution centers and other truck trip generators. It is a long-term strategy to influence land use and rationalize goods movement patterns.

The Satellite Marine Terminal approach links an inland point, such as the Virginia Inland Port, to a specific seaport, such as Norfolk. This would be a single-purpose facility designed to serve an existing customer base and function as an extension of the Los Angeles and Long Beach marine terminals.

The different types have different functions and site requirements.

- Satellite Marine Terminals, Logistics Parks, and Agile Port terminals all provide potential benefits in different ways.

- Different possible Inland Port sites would serve different purposes.

- Sites closest to current markets offer near-term potential as satellite marine terminals.

- More distant sites in developing areas have greater potential as logistics parks.

- Strategic rail sites offer potential as agile port terminals.

A satellite marine terminal should be close to existing customers. A logistics park to influence land uses needs a site in a developing area.

To incorporate agile port functions, what counts is the strategic location within the rail network.

- The objective of agile port operations is to reduce container dwell time at port terminals and increase their throughput capacity.

- The core of the concept is rail transfer of unsorted inland containers from vessel to an inland point where sorting takes place.
- The agile port concept trades off additional cost (handling) and inland space for increased port throughput.

Project team analysis suggest that agile port concepts have limited near-term potential in Southern California, partly due to implementation barriers and partly due to reduced need.

- **Complexity.** The complexity of a port system with two ports, 14 terminals, multiple on-dock rail facilities, four off-dock terminals, and two line-haul railroads presents formidable operational and management challenges for an agile port system.
- **On-Dock Capacity.** Ironically, the intensive use of current on-dock facilities for long-haul intermodal trains leaves little, if any, capacity for agile port operations.
- **PierPass.** PierPass and the OffPeak program have successfully shifted 30-40% of the marine terminal truck trips to evening or early morning hours, thereby reducing terminal congestion and reducing the need for agile port operations.
- **Vessel Stowage Improvements.** The use of information to reduce the need for extra handling is a key component of the agile port concept, but is already being used to advantage.

Agile port operations are untested[ii], and a system as large and complex as the San Pedro Bay ports would be a difficult first application. Neither the Ports nor the railroads see a near-term need for agile port operations.

Sites in the Central Inland Empire (e.g. Mira Loma) would be poor choices for an agile port terminal. Sites such as SCLA at Victorville or the potential site mentioned near Barstow would be far better. The Barstow site, in particular, offers the kind of open land and rail access desirable for agile port implementation.

Site/VMT Tradeoffs

A key goal of Tasks 1 and 2 was to estimate the potential VMT savings from different rail shuttle/inland port scenarios.

- MMA developed preliminary estimates of the truck VMT reduced by the construction of an inland port facility.
- MMA used detailed port truck origin and destination data based on trucker surveys that were conducted at each port terminal in 2004.
- Three inland port facility locations were analyzed: Colton, San Bernardino International Airport (SBIA) and the Southern California Logistics Airport (SCLA).

[ii] Although a demonstration at the Port of Tacoma did highlight the improvements possible through better use of information

The sites nearer to Mira Loma (Colton and SBIA) offer a more favorable ratio of truck VMT saved per locomotive mile. The SCLA site shows a much lower ratio of VMT saved due to:

- Longer truck trips between Victorville and Mira Loma
- Longer rail trips between the Ports and SCLA.
- Additional locomotive power required to climb Cajon Pass.

Tasks 3-5 Objectives

Having established technical feasibility and estimated potential benefits in Tasks 1 and 2, the study team turned to issues of relative costs, institutional feasibility, and community acceptance. Specific issues addressed in this report include:

- Matching inland port strategy with potential locations.
- Site/VMT tradeoffs.
- Alternatives for Inland Empire sites.
- Rail capacity constraints.

III. Inland Port Goals and Purposes

Reducing Truck VMT and Emissions

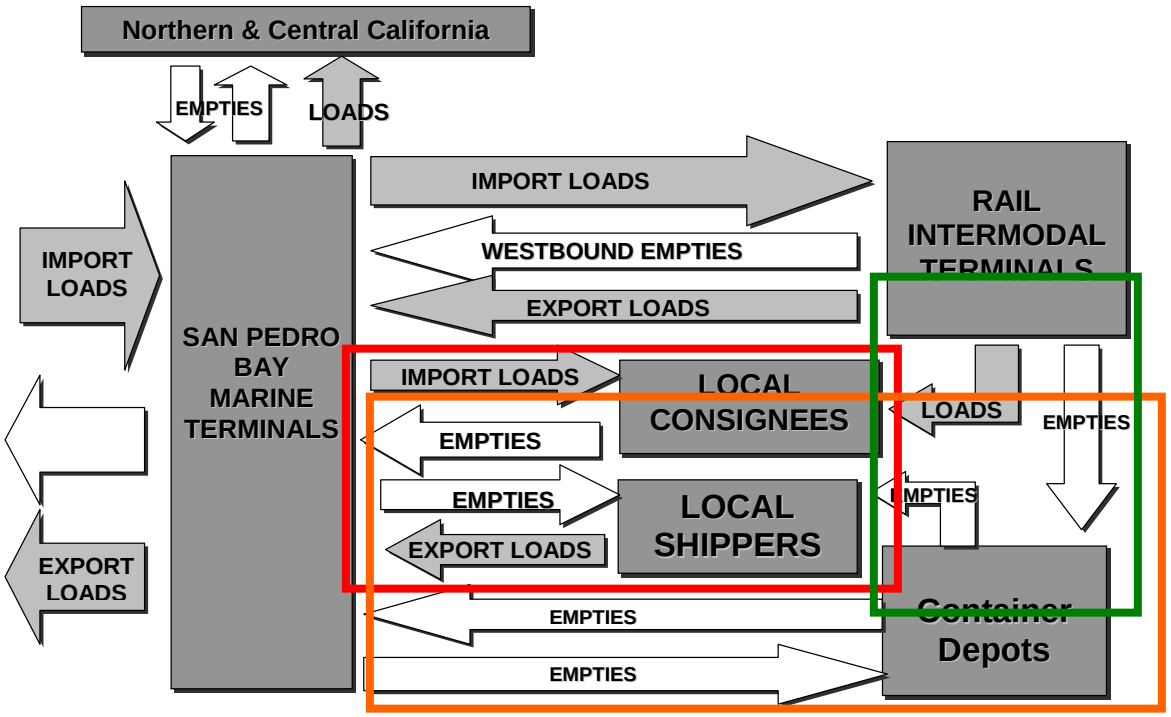
From most perspectives the primary goal of inland port development would be net reductions in truck VMT and total emissions for port traffic. The idea of an intermodal rail shuttle (or possibly an alternative line haul technology) between the ports and the inland port is an integral part of the concept.

Southern California Regional Container Flows

The ability of an inland port/rail shuttle combination to reduce net truck VMT and regional emissions depends, first and foremost, on the container flows it can transport and divert from over-the-road (OTR) trucking.

As Exhibit 6 (taken from the SCAG *Empty Ocean Container Logistics Study*) illustrates, there is not just one container flow, but a number of individual flows.

Exhibit 6: SCAG Region International Container Flows



The primary object of implementing a rail shuttle is to shift some of the local import and export moves now made by truck (outlined in red in Exhibit 6) to rail/truck combinations. The potential contribution of an inland port/rail shuttle combination, however, may be significantly greater.

As the *Empty Ocean Container Logistics Study* established, there is a very substantial movement of empty containers between local consignees, local shippers, port-area container depots, and marine terminals (outlined in orange). Diverting some of these flows to rail, and encouraging the relocation of depots to an inland port, would also serve SCAG's goals and objectives.

Finally, there are also a number of westbound domestic "backhaul" movements in marine containers into the SCAG region from points east, mostly by rail. These flows (outlined in green) result in empty marine containers in the Inland Empire and other regional concentrations. Some of these marine containers are currently returned to BNSF's San Bernardino intermodal terminal and periodically moved to Hobart by rail and trucked to the ports. To the extent that more of these containers could be returned by rail or their drayage trips shortened, SCAG's objectives would also be served.

Local Port Truck Trips

Most of the flows discussed above are linked to the ports, and were the subject of recent truck driver surveys. The results of these surveys were made available by the ports for use in this study.

Exhibit 7 displays daily and annual estimated 2005 and 2010 port truck trips derived from the driver surveys and port forecasts.

Exhibit 7: Estimated Truck Trips from Port Driver Surveysiii

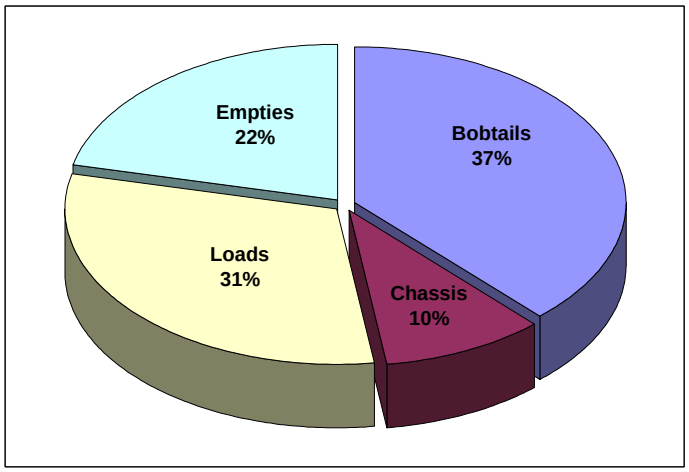
2005 Truck Trips	Bobtails		Chassis		Loads		Empties		Total	
	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports
Per Day Totals	10,507	10,023	3,148	2,179	4,840	11,740	8,384	3,242	26,878	27,185
Annual Total	2,927,114	2,792,536	877,145	607,128	1,348,437	3,270,873	2,335,643	903,269	7,488,340	7,573,806

2010 Truck Trips	Bobtails		Chassis		Loads		Empties		Total	
	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports	Arrival/ Export	Departure/ Imports
Per Day Totals	12,527	11,879	3,639	2,717	5,562	16,097	12,397	3,962	34,125	34,655
Annual Total	3,489,976	3,309,494	1,013,952	756,854	1,549,450	4,484,659	3,453,861	1,103,899	9,507,238	9,654,906
Share of Total	19%	19%	6%	4%	9%	22%	16%	6%	50%	50%

As Exhibit 8 shows, the loaded moves that drive the system account for a little less than a third of the total. It is therefore imperative to account for the empty container, bare chassis, and bobtail moves in both designing the system and estimating its impacts.

[iii] Note the nomenclature conventions, which are based on the marine terminal gate perspective. "Arrivals" are inbound at the gate and include export loads, export empties, inbound empty chassis, and inbound bobtails. "Departures" are outbound from the gate and include import loads, empty containers for export loading, outbound empty chassis, and outbound bobtails.

Exhibit 8: Truck Trip Shares



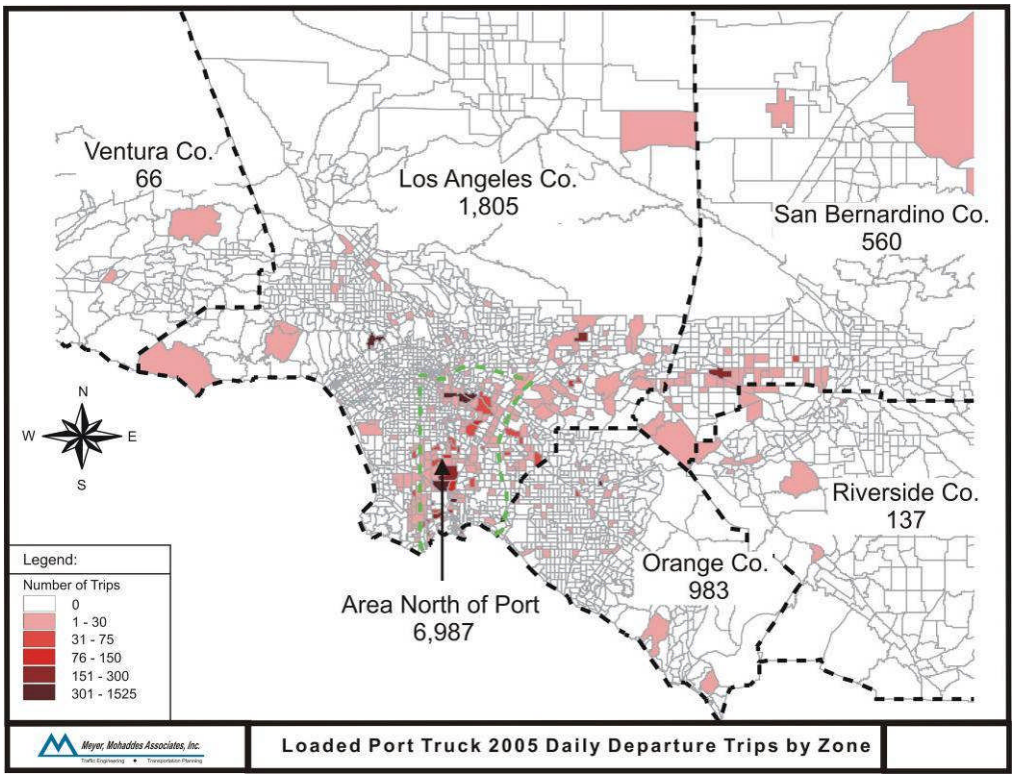
Previous port trucking studies have divided the flows by county, with the area immediately north of the ports separated out from the rest of Los Angeles County. This study follows that convention. The data for daily loaded container truck trips are summarized accordingly in Exhibit 73.

Exhibit 9: Regional Loaded Port Truck Shares

2005 Loaded Trucks	Port Area	Other LA Co.	Inland Empire	Ventura & Orange Cos.	Total
Import Loads (Departures)	66%	17%	7%	10%	100%
Export Loads (Arrivals)	58%	20%	8%	14%	100%
Total Loads	**64%**	**18%**	**7%**	**11%**	**100%**

Exhibit 10 shows the port survey data for loaded truck moves allocated to Transportation Analysis Zones. The concentration of activity immediately north of the ports is obvious. Within the Inland Empire of San Bernardino and Riverside Counties, port truck traffic is concentrated around the Ontario Airport and in the adjacent Mira Loma area. Exhibit 11 displays the same data for total trips, including empty containers, bare chassis, and bobtails. Exhibit 12 and Exhibit 13 are parallel tables for estimated 2010 trips.

Exhibit 10: 2005 Loaded Truck Departures (Imports) and Arrivals (Exports)



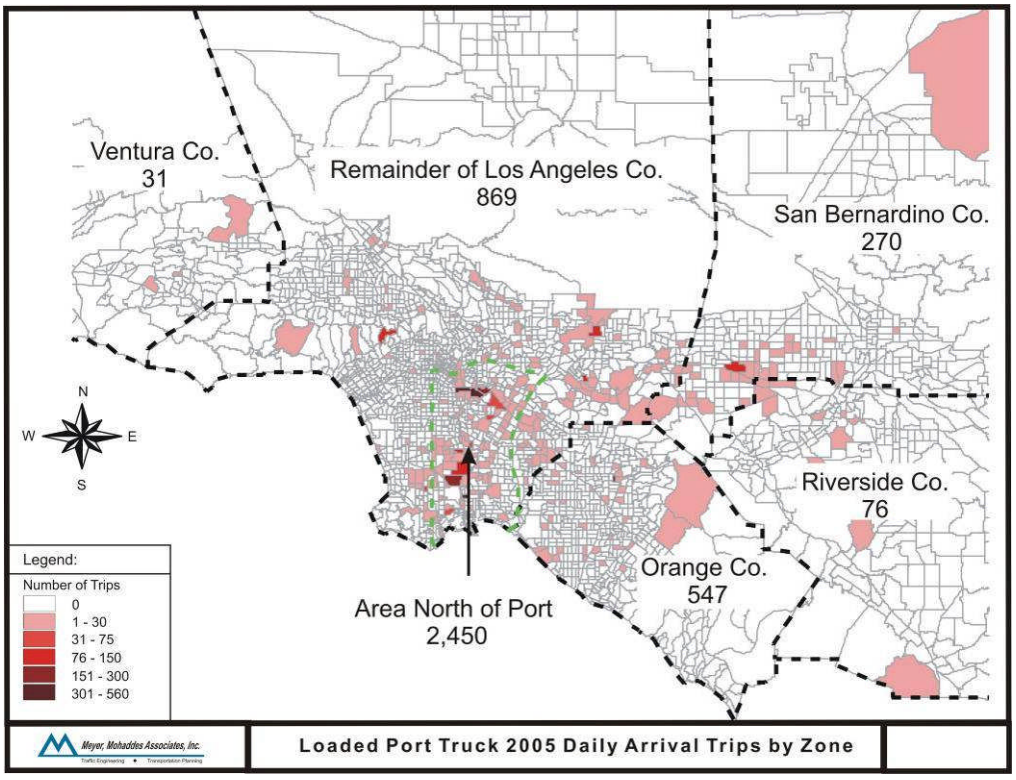
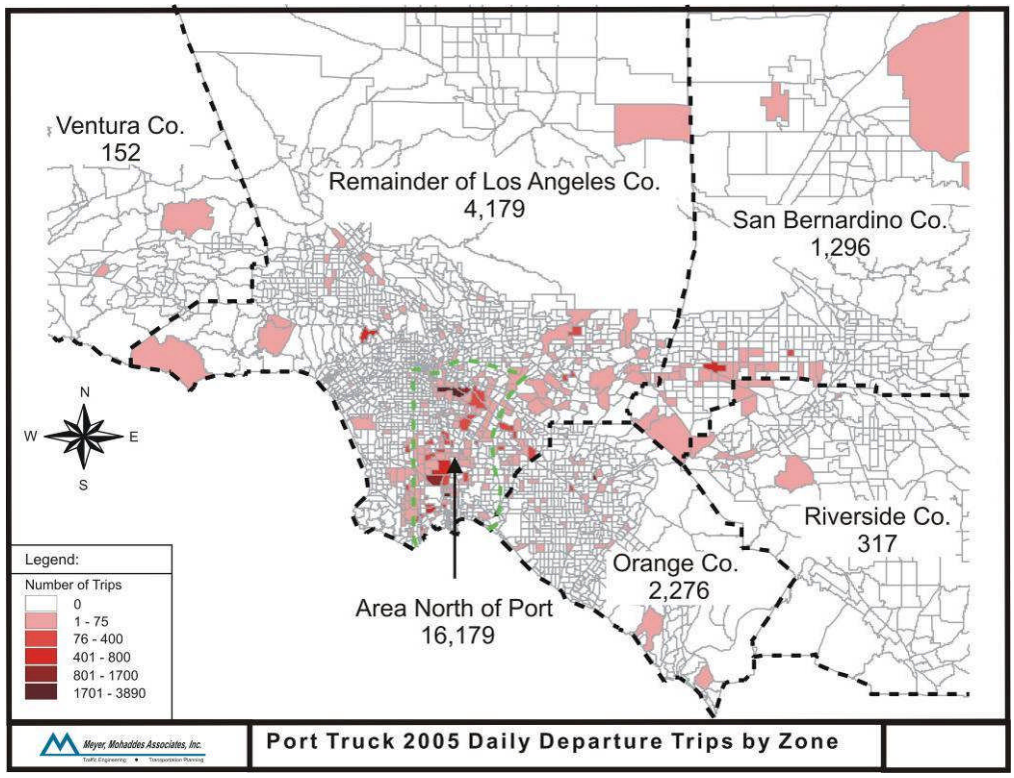


Exhibit 11: 2005 Total Departures (from Port Gates) and Arrivals (to Port Gates)



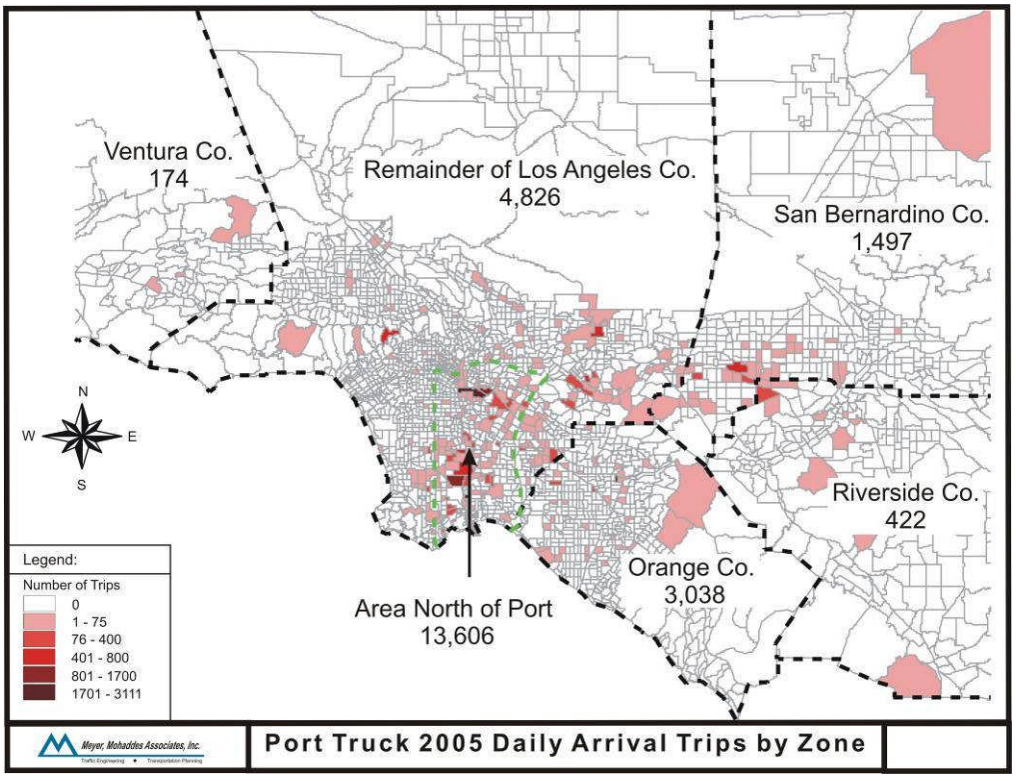
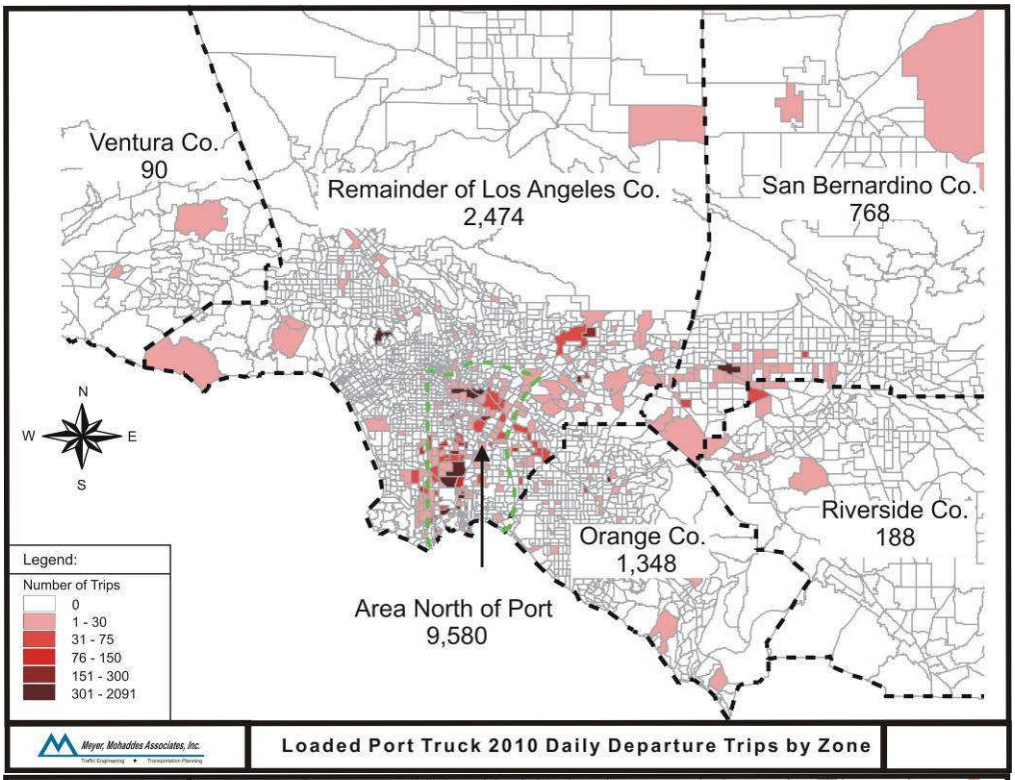


Exhibit 12: 2010 Loaded Truck Departures (Imports) and Arrivals (Exports)



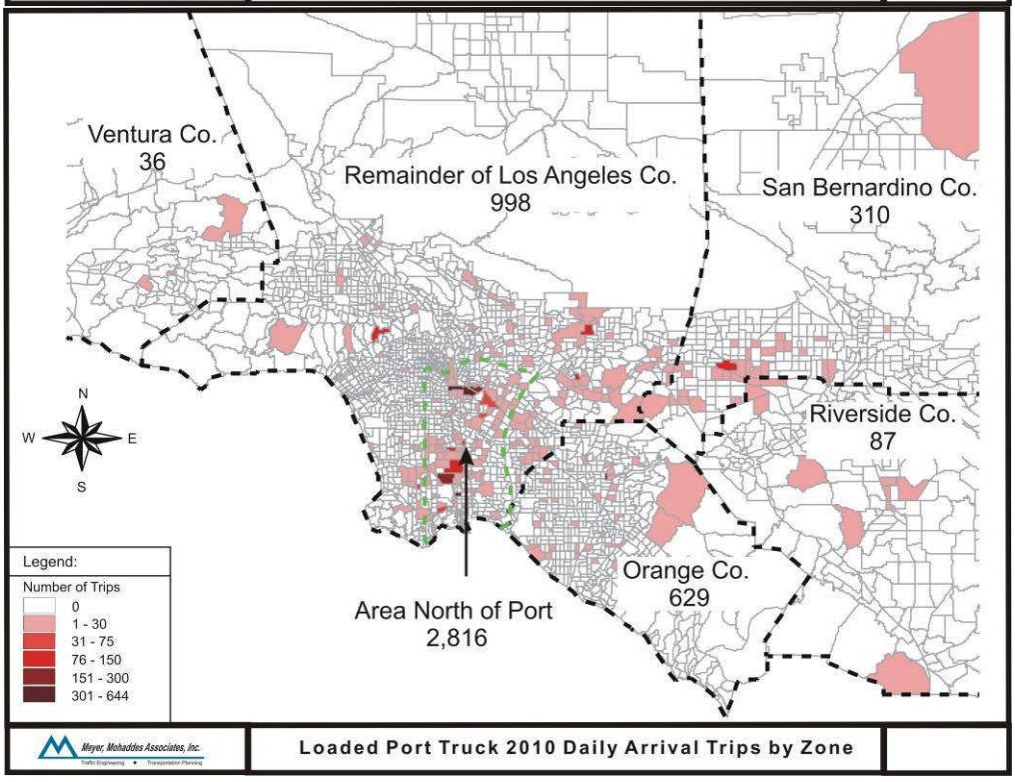
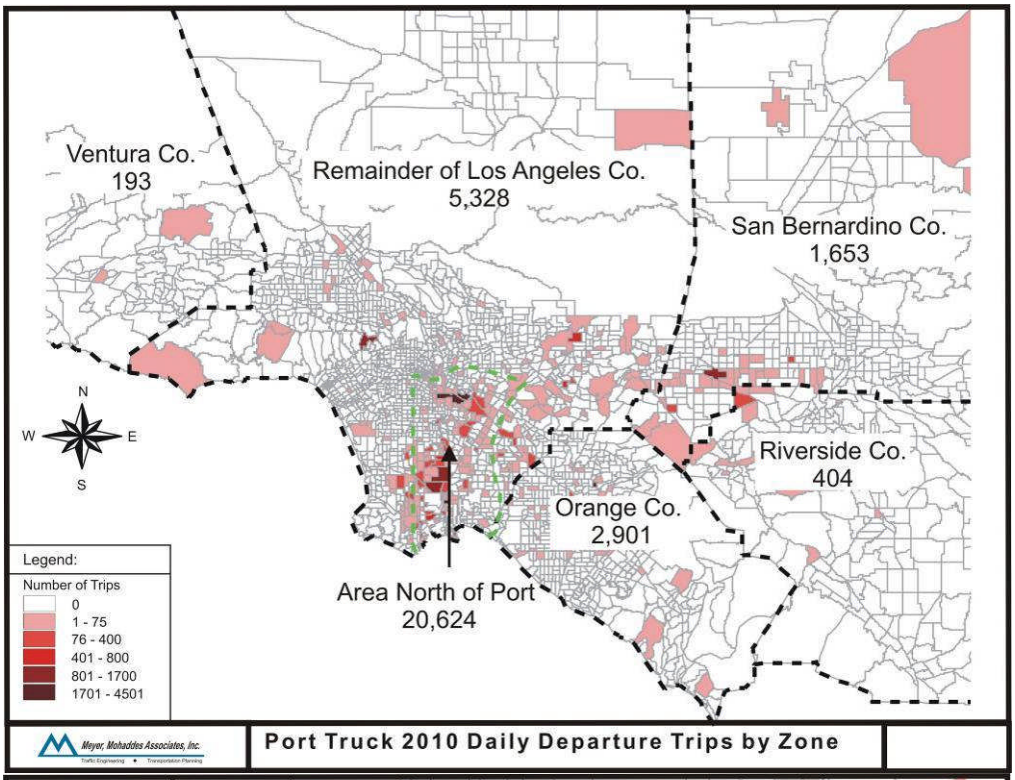
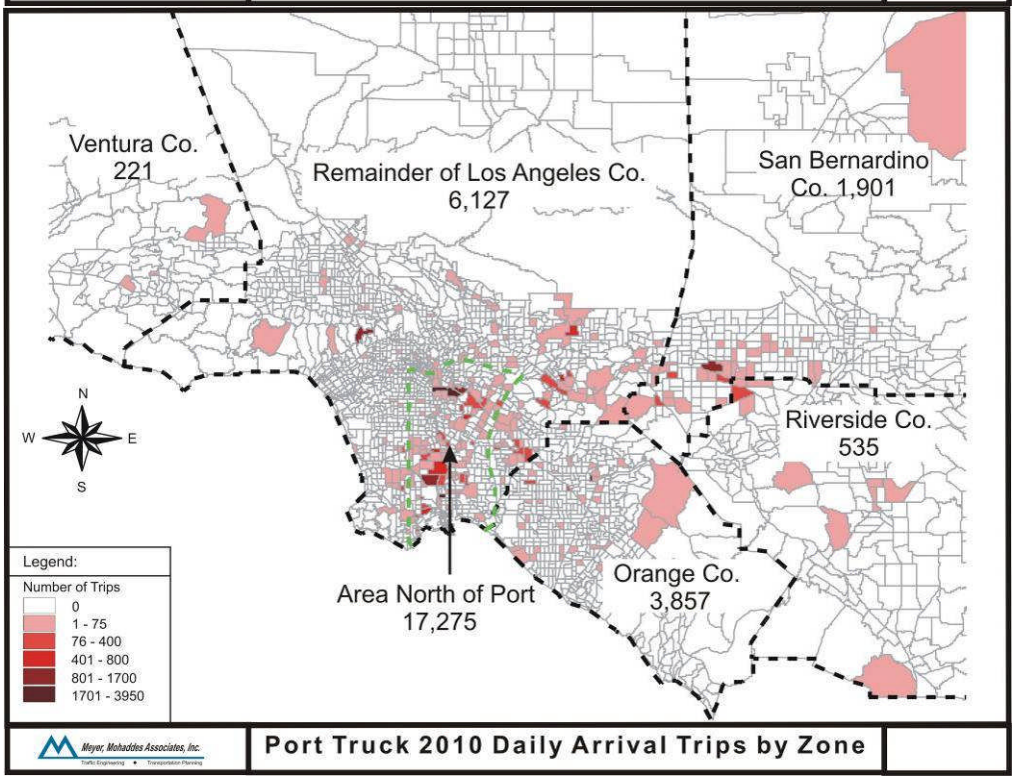


Exhibit 13: 2010 Total Departures (from Port Gates) and Arrivals (to Port Gates)





The truck trip data shown in Exhibit 10 through Exhibit 13 are summarized for the Inland Empire counties in Exhibit 14 and expanded to annual equivalents. In 2005, there were an estimated daily total of 3,532 truck trips between the Ports and the Inland Empire counties, of which 1,613 were port to region (eastbound) and 1,919 were region to port (westbound).

Exhibit 14: Estimated 2005 and 2010 Port Truck Trips to Inland Empire Counties

2005 Truck Flows	Daily			Annual		
	San Bernardino	Riverside	Total	San Bernardino	Riverside	Total
Port to Region						
Import Loads	560	137	697	156,016	38,168	194,184
Empties, Chassis, Bobtails	736	180	916	205,050	50,148	255,198
Subtotal	1,296	317	1,613	361,066	88,316	449,382
Region to Port						
Export Loads	270	76	346	75,222	21,174	96,396
Empties, Chassis, Bobtails	1,227	346	1,573	341,842	96,396	438,238
Subtotal	1,497	422	1,919	417,064	117,569	534,633
Total						
Loads	830	213	1,043	231,238	59,342	290,580
Empties, Chassis, Bobtails	1,963	526	2,489	546,892	146,544	693,435
Grand Total	**2,793**	**739**	**3,532**	**778,130**	**205,885**	**984,015**
2010 Truck Flows	**Daily**			**Annual**		
	San Bernardino	Riverside	Total	San Bernardino	Riverside	Total
Port to Region						
Import Loads	768	188	956	213,965	52,377	266,342
Empties, Chassis, Bobtails	885	216	1,101	246,561	60,178	306,739
Subtotal	1,653	404	2,057	460,526	112,554	573,080
Region to Port						
Export Loads	310	87	397	86,366	24,238	110,604
Empties, Chassis, Bobtails	1,591	448	2,039	443,253	124,813	568,065
Subtotal	1,901	535	2,436	529,619	149,051	678,670
Total						
Loads	1,078	275	1,353	300,331	76,615	376,946
Empties, Chassis, Bobtails	2,476	664	3,140	689,814	184,990	874,804
Grand Total	**3,554**	**939**	**4,493**	**990,144**	**261,605**	**1,251,750**

The underlying Inland Empire market appears to be large enough for rail service. By current standards a full double-stack container train carries between 200 and 300 containers, with the railroads attempting to increase the average total in a quest for efficiency and capacity utilization. If 50 containers is envisioned as a start-up or demonstration train size and 100 containers can be envisioned as a short shuttle train, there is enough business in the market to support a short daily train each way for each railroad (200 containers each way) with a small initial market share.

While loaded and empty containers are clearly part of the potential rail shuttle market, bare chassis movements will require additional study to determine which, if any, would be candidates for a rail shuttle. Many bare chassis are trucked between port terminals, rail terminals, and container

depots, but there would rarely be a reason to move a bare chassis to or from a customer location. Bobtail movements will also require additional study. Bobtail tractors will not move on the rail shuttle, but some of their activity will be transferred to the inland locations.

Preliminary Inland Port Potential

Exhibit 15 shows the locations of over 1000 regional distribution centers (DCs). The same Ontario/Mira Loma concentration shown in the port survey data is apparent in this map. The study team developed a preliminary analysis of the potential for an inland port/rail shuttle serving this DC concentration as an indication of the overall potential of the inland port concept in reducing truck VM and emissions.

Exhibit 15: Regional Distribution Centers

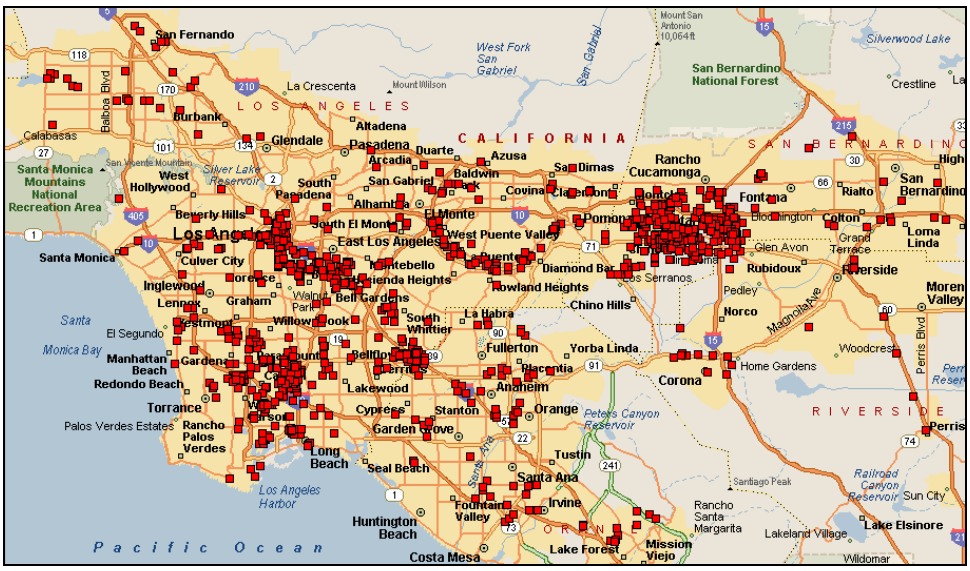


Exhibit 16 shows estimated drayage times to inland areas under congested highway conditions (30 mph on highways and 20 mph on surface streets). Under those conditions, the 56.5-mile drayage times to the large concentration of DCs in the Ontario Airport/Mira Loma area are 120-150 minutes.

Exhibit 16: Port to DC Congested Travel Times

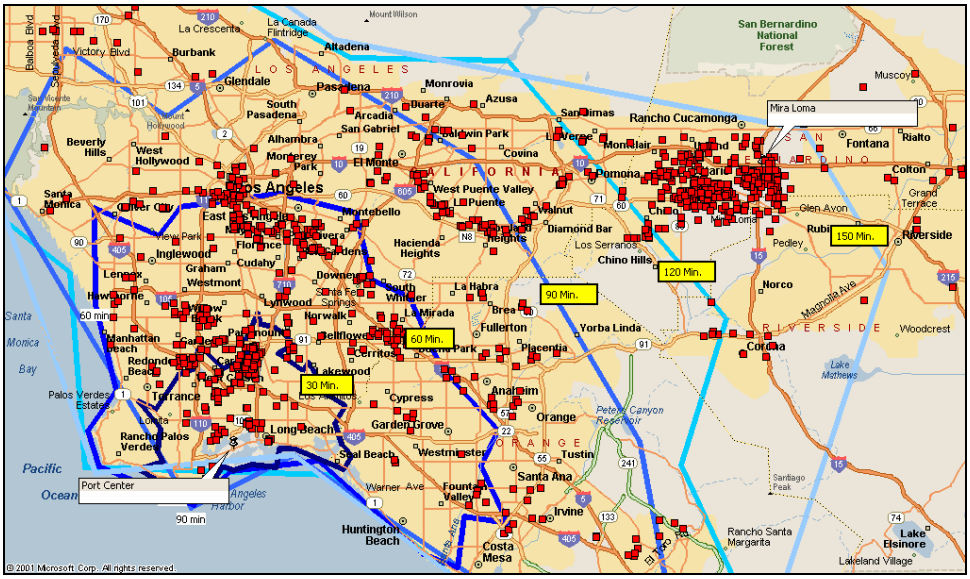
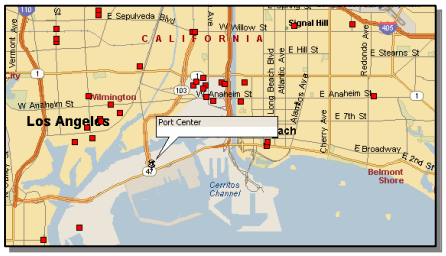


Exhibit 17 provides a rough estimate of drayage time and distance between selected locations and Mira Loma (defined as the junction of I10 and I15) under those congested conditions.

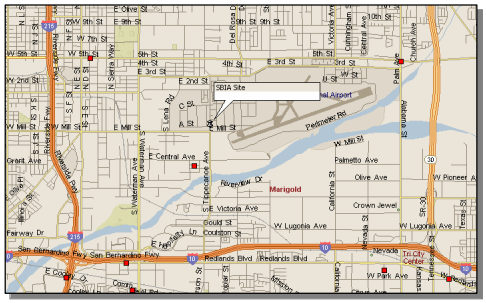
Exhibit 17: Mira Loma Round-Trip Drayage

Activity	Port Center		Colton		SBIA		SCLA	
	Minutes	VMT	Minutes	VMT	Minutes	VMT	Minutes	VMT
Terminal Pickup	30	1	15	1	15	1	15	1
Outbound Driving	140	56.5	13	10.6	23	18.4	50	44.3
Container Drop/Pick	30	1	30	1	30	1	30	1
Inbound Driving	140	56.5	13	10.6	23	18.4	50	44.3
Terminal Return	30	1	15	1	15	1	15	1
Round Trip Total	**370**	**116**	**86**	**24.2**	**106**	**39.8**	**160**	**91.6**
Time savings			**284**		**264**		**210**	
VMT Savings				**91.8**		**76.2**		**24.4**



"Port Center" (defined as the junction of the Terminal Island Freeway and West Ocean Blvd. on Terminal Island) is about halfway between the two ports. The round trip drayage move between there and Mira Loma would require a little more than 6 hours and cover 116 miles.

Colton (defined as the intersection of Riverside Ave. and East Slover) has been mentioned as a possible site for a demonstration inland facility. The round trip drayage move between there and Mira Loma would require about 86 minutes and cover 24.2 miles. About 30 minutes of the time savings is due to the faster truck turns (15 minutes) assumed for an inland facility, versus 30 minutes at a marine terminal.



San Bernardino International Airport (SBIA) was one site previously considered for a new BNSF terminal in the Inland Empire. The round trip drayage move between there and Mira Loma would require about 106 minutes and cover 39.8 miles. Here too, about 30 minutes of the time savings is due to the faster truck turns (15 minutes) assumed for an inland facility, versus 30 minutes at a marine terminal. VMT savings would be 76.2 miles per trip.

The Southern California Logistics Airport (SCLA) at Adelanto near Victorville has also been promoted as an inland port site. The round trip drayage move between there and Mira Loma would require about two hours forty minutes and cover 91.6 miles. Again, about 30 minutes of the time savings is due to the faster truck turns (15 minutes) assumed for an inland facility, versus 30 minutes at a marine terminal. VMT savings a would be 24.4 miles per trip.

These are by no means all the possible inland port locations or trips, but these examples do serve to illustrate the potential VMT savings and associated tradeoffs.

Exhibit 18 shows an analyses of the rail-truck tradeoffs involved in serving the Mira Loma area from three examples of possible inland port locations, assuming that all rail moves originate on-dock.

Exhibit 18: Analysis of Rail-Truck Tradeoffs

	Inland Port Location Example		
	Colton	**SBIA**	**SCLA**
Approx. One-way Rail Miles from Port	91	83	113
Approx. RT Rail Miles	182	166	226
Est. Locomotives per train	2	2	3
Est. Locomotive Miles per Train	364	332	678
Est. Rail Switching Miles Per Train	10	10	10
Est. Total Locomotive Miles per Train	**374**	**342**	**688**
VMT Savings Per Truck Trip	91.8	76.2	24.4
VMT Savings: 50-Container trains	4,590	3,810	1,220
VMT Saved per Locomotive Mile	**12**	**11**	**2**
VMT Savings: 100-Container Trains	9,180	7,620	2,440
VMT Saved per Locomotive Mile	**25**	**22**	**4**
VMT Savings: 200-Container Trains	18,360	15,240	4,880
VMT Saved per Locomotive Mile	**49**	**45**	**7**

- The sites nearer to Mira Loma (Colton and SBIA) offer a more favorable ratio of truck VMT saved per locomotive mile required, as should be expected.
- The SCLA site shows a much lower ratio of VMT saved per locomotive mile for three reasons:
  - Longer truck trips between Adelanto and Mira Loma
  - Longer rail trips between the Ports and SCLA.
  - Additional locomotive power required to climb Cajon Pass.
- Adding drayage trips between marine terminals and a central departure point for a rail shuttle would reduce the advantages.

This analysis suggests that there is a real potential for VMT and emissions reductions if a nearby inland port serving the Inland Empire passes more detailed economic, commercial, and operational tests. The scale advantages of rail service are also evident, as the longer train lengths divert more truck trips in each movement.

While the SCLA site does not initially appear well-suited to reduce VMT for trips between the ports and Mira Loma, the comparison would obviously be different for trips between the ports and Victorville, or for inbound intermodal movements from other regions.

Directing Economic Development

Case studies of inland ports suggest that successful developments in appropriate locations can have a powerful influence on the pattern of economic development. The SCAG region is both the

beneficiary and the victim of robust economic development, making the location and pattern of that development a chief concern to local and regional planning agencies.

The ability of logistics-based development to act a magnet for the more transportation-dependent businesses implies that inland ports and logistics ports could be tools to influence the future development patterns at infill sites in the Inland Empire and elsewhere, but even more so in undeveloped areas such as the Victor Valley.

Exhibit 19 lays out the relationship between conventional economic development programs, logistics-based developments, and inland ports. The table is cumulative from left to right: logistics-based developments have all the issues and tools of general economic development, plus their own more specific items. Inland ports also have all the considerations of general economic development and logistics-based development

Exhibit 19: Economic Development and Inland Ports

Economic Development	Logistics-based Development	Inland Ports
Goal: Attract beneficial businesses and organizations to the region. **Message:** The region is an attractive, low-cost, and high-yield place to do business.	**Goal:** Attract logistics-based businesses. **Message:** The region/site offers specific logistical advantages (beyond its general business advantages).	**Goal:** Attract trade-based businesses. **Message:** The region/site offers specific advantages for handling international trade (beyond its general business and logistical advantages).
Anchor Tenants: Any business, but often manufacturers.	**Anchor Tenants:** Distribution centers, carrier facilities.	**Anchor Tenants:** Carriers, Customs, FTZ, transloaders.
Issues & Tools • Location assistance • Zoning & Permitting • Telecom & Utilities • Basic roads • Tax Incentives • Labor pool • Marketing assistance • Financial incentives • Cost of doing business • Local business climate	**Issues & Tools** • Freight transportation infrastructure (truck, rail, air, water) • Location on trade lanes & corridors • Role in supply chains • Freight carrier participation • Regional & national market access • Cost of logistics • Local receptivity to freight & logistics	**Issues & Tools** • Customs functions • Port of Entry status • Foreign Trade Zone • Security • Location on trade lanes • Distance to border • Cost of trade movements • Local receptivity to trade

Conventional Economic Development

The mission of most economic development and planning agencies is expressed in terms of regional competitiveness, jobs, well being, etc. Here are typical examples of economic development mission statements.

- SCAG: *Leadership, vision and progress, which promote economic growth, personal well-being, and livable communities for all Southern Californians.*
- Mid-Ohio Regional Planning Commission: *To enhance the quality of life and competitive advantages of the region by working through local governments and other constituents.*
- Kansas City Port Authority: *To enhance the economic vitality of Kansas City, Mo., through transportation, trade, commerce, and riverfront development within the statutory authority granted by the State of Missouri and the City of Kansas City.*

Economic development agencies ordinarily try to attract all kinds of beneficial businesses and organizations. Their major roles are promotion and facilitation. The promotion is carried out through advertising, liaison with developers, brochures, informational campaigns, etc. Facilitation commonly covers site selection, tax incentives, zoning, permits, utilities, and other "checklist" requirements for any kind of business. Economic development agencies basically try to sell the city or region as a low-cost, high-yield, and attractive place to do business. The core of their approach is the same whether they are trying to attract a major international manufacturer or a small entrepreneurial start-up.

Economic development agencies will address transportation issues but tend to emphasize passenger transportation and access to regional markets. Economic development agencies use a wide range of regulatory and financial tools, as shown in Exhibit 19. Most states have trade promotion functions, usually within the State Department of Commerce. These efforts are intended to attract importers and exporters and to promote exports from businesses in the state. These efforts can employ some of the same tools as economic development – advertising, tax incentives, technical assistance – but they are rarely site-specific and do not ordinarily deal with freight and trade infrastructure.

Logistics-based Development

One of SCAG's applicable objectives is:

> *Developing long-range regional plans and strategies that provide for efficient movement of people, goods and information; enhance economic growth and international trade; and improve the environment and quality of life.*

DCs used to be located to serve a given local or regional market at the least cost, usually by locating them at or near the center of the market. A category of DCs is emerging, however, intended for forward distribution of transloaded or sorted goods to more distant points in a corridor. The two Wal-Mart DCs at Joliet (see Appendix) are reportedly intended primarily to receive import loads from the West Coast and distribute sorted goods to points Chicago and east. By focusing on the *freight transportation and logistics* advantages of a candidate site, logistics-based

developers bring additional tools and leverage to bear on location decisions. The Alliance Texas development discussed as one of the case studies in the Appendix is the earliest and best-known logistics-based development.

Inland Ports

On the spectrum in Exhibit 19, inland ports take the concept of logistics-based development one step further. By conceptualizing an inland location as a "port", with all the ancillary port facilities and services that can be translated inland, this approach focuses on trade-based businesses for which conventional economic development and logistics-based development may not be enough. An inland port will not thrive in a poor economic location or with poor logistics, so the other two functions are still necessary. The presence of Customs and FTZ services can be regarded as thresholds for an inland port. Inland port initiatives should also be contrasted with efforts to attract individual importers and exporters. Locating an individual importer or exporter does not ordinarily require establishing Customs functions (as those are performed at the actual seaport or elsewhere), nor does it require establishing a broad-based logistics infrastructure. Both logistics parks and inland ports would be tools for attracting importers and exporters, but most such location decisions are made on a company-by-company basis.

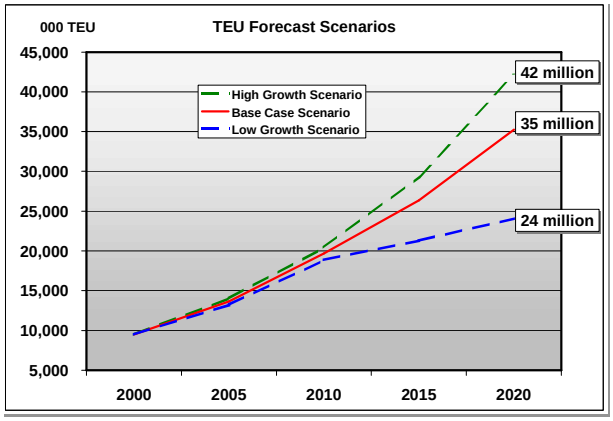
Some authors have perhaps cast the "inland port" net too widely, defining "inland port" to include major clusters of distribution centers and logistics businesses such as the whole Inland Empire, even though there is no uniting initiative or planning effort, no Customs functions, little or no interaction between the facilities, and no emphasis on international trade. Defining the term "inland port" so loosely can be confusing and does not help us create an inland port identity or strategy for Southern California.

Increasing Port Throughput

If a rail shuttle/inland port combination can provide a more efficient way to move container between the ports and regional customers, perhaps the system can also improve total port throughout.

Long-term cargo growth expectations (Exhibit 20) have put pressure on San Pedro Bay port facilities.

Exhibit 20: Long-term Port Container Cargo Forecasts



- Terminals are becoming space-constrained.
- Highway congestion and gate queues are increasing.
- Empty containers are clogging terminals.
- Chassis logistics consume time and space.

These conditions are prevalent, in varying degree, at all West Coast ports. Existing terminals are primarily wheeled operations (containers parked on chassis) wherever possible, with empty containers and excess chassis stored on-dock. Where land is readily available and relatively inexpensive, this is a low-cost, high-performance system. As land become scarce and expensive, terminals will eventually have to shift to systems that use land more productively to handle the volume and accept the higher operating cost and increased complexity. (Exhibit 21)

Exhibit 21: Container Terminal Operating System Progression

	Terminal System	Gate System	Chassis System	Empty Storage	Rail Transfer
Past	Wheeled	Manual, paper	Individual lines	On-dock	Off-dock
Present	Mostly wheeled, some stacked	Manual, paper & computer	Individual lines, some pooling	Mostly on-dock, some depots	Half on-dock, half off-dock
Transition	Mostly stacked, some wheeled	Semi-automated& paper	Steamship line chassis pools	Mostly depots, some on-dock	Mostly on-dock
Long-term	Stacked	Automated	Customer or trucker chassis	Off-dock depots	Primarily on-dock

In the peak season of 2004, congestion in the Southern California ports made world headlines and sent ocean carriers and customers searching for alternatives. That congestion was due to multiple factors, including the inability of rail connections to move all the cargo being tendered as quickly as required and the inability of the marine terminals to move containers through the port and accommodate more ships. The 2005 peak season passed without serious congestion problems, but the issue of port network capacity and throughout remains.

The potential to increase port throughput in an inland port development lies in the possibility of reducing on-terminal container dwell time. Container yard capacity and fluidity is the major factor in overall throughout capability, so a given reduction in average container dwell time translates almost directly into a comparable increase in terminal capacity. There are two avenues to be explored:

- **Reductions in dwell for on-dock rail shuttle containers that would otherwise have been drayed.** At present, there are some indications that on-dock rail containers may have *longer* average dwell times that trucked containers, presenting a challenge for new rail operations. The analysis will have to encompass import loads, export loads, and empties, since the three groups have dramatically different dwell time issues.

- **Reductions in dwell through application of agile port concepts**. As Chapter VIII discusses in more detail, the objective of the various agile port ideas is to significantly decrease vessel turn time and container dwell time through applications of operations and information technology.

Rationalizing Port-Area Land Use

Existing marine terminals are primarily "wheeled" operations (containers parked on chassis) wherever possible, with empty containers and excess chassis stored on-dock. As land becomes scarce and expensive, terminals will eventually have to shift non-essential functions off terminal, potentially to inland locations.

Ports have always been more than simply locations where ships were loaded and unloaded. The commerce passing through seaports attracts a wide variety of warehousing, processing facilities, and ancillary services. Exhibit 22 shows the locations of over 200 intermodal trucking firms and 10 container depots extending over 20 miles inland from the Ports of Long Beach and Los Angeles. This diagram does not include many other kinds of port-related businesses or airport-related businesses.

Exhibit 22: LA/LB Port-related Businesses

The expanded "inland port" concept (Exhibit 4) incorporates the idea that some port facilities could be duplicated or complemented at inland locations, thus promoting economic development and logistics integration inland while reducing the demands on scarce space at the seaport. The concept is intuitively attractive as port-area land values have risen, and warehousing and distribution facilities have sprung up in Southern California's Inland Empire and other areas increasingly distant from the seaports.

For the first 30 years of containerization marine terminals tended to include ancillary non-revenue functions, such as container storage, cleaning, preparation, maintenance, and repair. In the last 20 years, however, such functions have been increasingly shifted to off-terminal locations for cost and capacity reasons.

- The former "50 mile rule" required all cargo and container handling functions to use longshore labor. When that rule was relaxed, shipping lines began relocating and outsourcing ancillary functions to avoid the high cost of longshore labor.

- The physical expansion of marine container terminals slowed while cargo volumes continued to grow, placing a premium on terminal space. Non-revenue functions and other activities that did not require water for vessel access were increasingly shifted off-terminal.

In most areas ancillary operational functions remain clustered near the port to minimize total cost, to facilitate container logistics, or out of simple inertia. Locational decisions for these functions incorporate the same factors as other commercial location choices. From a commercial cost perspective there may be opportunities to reduce total cost or increase capacity by relocating to lower-cost property. From a public policy perspective there may be opportunities to rationalize land uses in the vicinity of the ports.

The potential for inland location will vary with the details of the operation. Depots for refrigerated container maintenance and preparation might remain close to the seaport because of the multiple trips between the "reefer" depots and the marine terminals themselves. Ordinary container depots for storage, maintenance, and repair of dry containers can often be relocated inland as land uses and economics dictate.

Summary Inland Port Purposes and Benefits

From the preceding discussion it appears that an inland port following one or more of the models established elsewhere could serve the following purposes in the SCAG Region.

- **Freight Traffic Congestion Reduction.** By diverting port-related truck trips to rail (or, conceivably, another non-highway technology), the development and operation of an inland port could reduce the net truck VMT required to transport future cargo volumes between the ports and regional destinations. Most specifically, an inland port has the potential to reduce the truck congestion on I710 and other routes connecting the ports with inland locations. The amount of the reduction will depend on the volume of container trips that can be attracted, and the location of the inland port relative to the seaports and their customers. The reductions could be increased if the inland port can also accommodate domestic intermodal movements.

- **Emissions Reduction.** By diverting port-related truck trips to rail, the development and operation of an inland port could also reduce the net emissions (especially diesel particulate matter) associated with future freight flows. The net reduction will be a function of the line haul technology used between the seaports and the inland port as well as the net change in truck VMT. Emissions from terminal handling equipment will also have to be factored into the assessment.

- **Influencing Economic Development.** By encouraging efficient patterns of logistics-related business development in the vicinity, the presence of an inland port could assist in achieving long-term land use policy goals for inland areas. Encouraging freight traffic generators to group around intermodal hubs will increase overall system efficiency and mitigate the adverse impacts on adjacent land uses.

- **Increasing Port Capacity.** By reducing the dwell time of those import and export containers it handles, and inland port can increase the effective throughput capability of port facilities. Also, by providing and inland location for some ancillary port services, the inland port can make additional near-port land available for priority port needs.

In other regions inland ports and logistics parks are intended to expand the market reach of specific ports or facilitate new logistics-related development of the type already occurring in the Inland Empire. As the major challenge facing the SCAG Region is accommodating the economic and goods movement growth already anticipated, neither extending market reach or spurring even more development are considered appropriate inland port objectives for this study.

IV. Case Study Findings

The Appendix presents 29 case studies of inland ports, logistics parks, and other related developments. The study team has attempted to draw out a few broad conclusions with implications for this project.

A Realistic Market Assessment Is Critical

The lack of a market assessment was a critical factor in the failure of the Neomodal project, and was probably a significant factor in the failure of the Port of Montana and Shelby, Montana projects. While a market assessment was prepared for the Albany, NY barge service, the large disparity between expectation and results suggests that the assessment was not realistic. The Kingman, Yuma, and Shafter efforts appear to lack formal market assessments. Unless remedied, this shortfall greatly increases the risk associated with those projects.

A realistic market assessment takes on additional significance when one goal of the project is to encourage new customer behavior, i.e. using a rail shuttle to the Inland Empire or locating a DC at an inland port.

A thorough and realistic market assessment is the foundation for a reliable business plan. Such a market assessment should cover at least these basic points.

- **Identification** of the customer base for the services to be offered. In a complex field such as intermodal freight transportation, it is particularly important to establish exactly who would buy the services or use the facilities, how many such customers exist, and where they are located.

- **Estimation** of total market size. If every potential customer took every opportunity to use the services offered, what would be the total volume?

- **Documentation** of customer decision factors and priorities. How do customers make their choices, and what is important to them? How do they balance cost, speed, reliability, convenience, simplicity, etc.?

- **Analysis** of competition and competitive response. What other choices does the customer have? What are the competition's strengths and weaknesses? How will the competition respond to the project?

- **Estimation of market share and volume growth.** Any new service or facility must progress from startup to maturity, gradually fulfilling its market potential. Implicitly assuming that the new service or facility will serve the entire potential market is a common mistake. It is also easy to ignore the adverse scale economies of small start-up volumes in large new facilities.

- **Identification of outside influences and risk factors.** Exogenous factors affecting the success of an "inland port" project could include fuel prices, ocean carrier routing practices, shipper relocation, competing projects, etc. Sensitivity analysis is the most common technique for this task.

Reality Checks Should Be Made Early In The Project Development Process

The commercial world of freight transportation and logistics is complex and changing. Even the most rigorous staff or consultant analytic efforts must be subjected to "reality checks" through contacts with potential customers, contractors, vendors, competitors, and other stakeholders. "Ivory tower" plans are inherently risky.

Involving commercial entities from the start is one way of maintaining contact with commercial realities. Several case studies note the importance of willing railroad participation. If railroads, ocean carriers, or other key participants are unwilling to participate the project sponsors should find that out at the beginning of the planning stage, not after a facility has been built.

Examples of analytic steps that require reality checks include:

- The use of averages for distances, costs, rates, or other key variables when the distribution of real-world values is skewed or divided.
- The use of past data that do not reflect significant recent real world changes.
- Assuming that competitors and other outside influences will maintain current business patterns and practices.

In each case, the lack of a reality check can set the project up for failure.

Project "Champions" Are Needed To Implement An Inland Port Initiative

Public agencies are rarely structured to initiate, build, and manage projects that must compete in the commercial world. The exceptions are usually port and airport authorities, and the case studies for VIP, Huntsville, and Metroport illustrate the successful "championing" of such agencies in inland port projects.

Public agencies created for the express purpose of developing and promoting an inland port or logistics airport have often been less successful. The Neomodal, Port Montana, Shelby, and Shafter projects are, so far, unsuccessful. It cannot be said with certainty whether the project concept was flawed, the organization was unable to carry out the project, or more time is required for ultimate success.

The most successful logistics park projects to date are the Alliance Texas and Joliet developments, both of which were "championed" by major business park development firms (Hillwod Group and CenterPoint). These and similar firms have a track record of assessing and acting on commercial opportunities and the "staying power" required for multi-year development efforts. Whether acting as master developers or in some other role, major development firms have other capabilities that public agencies typically lack.

- National and international marketing and sales staff.
- A portfolio of properties and projects.
- Contacts and credibility with major national firms (e.g. manufacturers, retail chains, 3PLs).

Successful Inland Ports Require Willing Carrier Participation

Early and willing railroad participation was a key factor in the success of the VIP, Huntsville, Joliet, and Alliance projects. The Shafter project lacks willing railroad participation and is attempting to force the railroads to participate. Other projects that anticipate rail service, such as SCLA, may find that service difficult to secure.

Service by cargo or parcel air carriers distinguish the airport projects with substantial cargo activity (Huntsville, Alliance, Rickenbacker) from those that have primarily attracted aircraft industry or ancillary businesses (SCLA, SBD, March).

The major factors in service decisions by all carriers in all modes are basically the same.

- **Volume.** The potential business volume must be sufficient to justify capital investment, equipment and labor time, and management attention. Whether the unit of service is a train, an airplane, or a delivery truck, there is a minimum volume threshold to engage the carrier's interest. The volume also determines service frequency and the possibility of attracting more than one carrier to obtain the benefits of competition. The central role of volume is one reason why market assessments are so critical.
- **Profit Potential.** Profitability may be influenced by volume, length of haul, balance, commodity, shipment size, and other factors. Profitability must be gauged in both an absolute sense (e.g. a minimum return on investment or operating margin) and relative to other carrier opportunities (e.g. compared to other business on the same railroad line or other stops for the same airplane).
- **Capacity.** Any carrier will want to insure that capacity used to serve the inland port project is not taken from more lucrative business, and that there remains a margin of capacity for foreseeable growth.
- **Network fit.** Railroads, airlines, and trucking firms are all network business, although the nature and flexibility of the network varies.

Railroads have a fixed network of lines, terminals and connections, and an operating strategy for using that network. A new proposed service that fits neatly into the network is much easier than a service that requires changes in the network, changes in other operations, or changes beyond the network. For example:

- The Keary-Worcester shuttle can accommodate small volumes of short-haul intermodal business because much of it moves as added cars on existing trains.
- The Detroit Intermodal Freight Terminal (DIFT) project stalled over the reluctance of Contrail to share Livornois Yard.
- The Neomodal terminal was located on the Wheeling and Lake Erie regional railroad, off the CR, CSX, or NS networks.

In the air cargo case, the issue is whether or not a flight to and from the proposed facility fits within the carrier's hub and spoke network. Specific factors might include:

- Distance and flying time between the project airport and existing hubs.
- Appropriate cutoff, departure, arrival, and delivery times.
- The schedules of existing multi-stop flights.

For rail intermodal, air cargo, and LTL trucking, the operative question is whether the relevant market is best served through the proposed new facility or via truck from an existing facility in the same region.

For a truckload carrier the decision is simpler. If profitable westbound loads from the project site can be matched with profitable inbound loads to customers nearby (or vice versa), truckload carriers who operate in the region will usually want the business. The balance of outbound and inbound loads is the critical factor. Where loads are imbalanced or the carrier must reposition the empty unit farther to obtain a balancing load, the carrier will demand a higher rate.

Long Development Times Should Be Anticipated

Most of the successful inland port developments described in the case studies have had long gestation periods. Of these examples, some appear to have been successful from the beginning and increased in scope over time while others took a long time – decades – to reach a sustainable business volume.

- Virginia Inland Port—planning began in 1984, opened in 1989, reached target volume in 1999.
- Alliance Texas—planning began in 1988, airport opened in 1989.
- Port of Huntsville—airport began operations in 1967, international air cargo service began in 1991.

For this reason it is difficult to label any existing project a permanent failure. A project may indeed be "ahead of its time", as Huntsville was, and eventually succeed as the market develops or other necessary changes take place. For a project to be a decade or more "ahead of its time", however, means that the land, capital investment, and other resources are unproductive for a long period and generating no public or private benefits.

The market assessment and business forecast are critical in deciding whether and when to start a project. Where project sponsors engage in overly optimistic "aspirational forecasting" public resources can be ill-spent. Forecasting is not an exact science, however, and project plans and financing should be sufficiently robust to sustain the effort through a slower than anticipated startup.

The Project Should Have A Clear, Valid Value Proposition

To complement the market assessment there needs to be a clear understanding of how the project proposes to create value for its customers. That "value proposition" must be verified in the marketplace, just as market assessments must be subjected to reality checks.

In the case of the all-cargo airports, some may have confused capability (i.e. a long runway and hanger space) with a value proposition (which must specify how those assets can be used to benefit the target customer).

Some of the inland port projects that seem to have stalled for commercial rather than regulatory reasons have vague or questionable value propositions. The Montana, Neomodal, and Battle Creek projects are examples.

The value proposition is a significant issue for proposed "Inland Trade Processing Centers" such as the Richards-Gebaur, Kingman, and Yuma efforts.

- Most "processing" is simply clearance by Customs though electronic systems with little or no onsite presence or employment.
- Most importers and exporters seek to minimize "processing", which they view as a cost factor rather than as source of value.
- The notion of trade processing as a source for employment or value might more narrowly include physical Customs inspection, FTZ operation, Customs broker-age, freight forwarding, etc.
- Security functions will not move inland.

Importers would prefer faster Customs clearance and the flexibility of in-bound or secured movement to inland alternatives to congested ports or borders. Customs and Border Protection would likewise appreciate additional processing capacity and flexibility. Neither importers nor CBP, however, are likely to pay for the use of inland facilities. Unless CBP can be induced to pay rent, ITPCs will not generate any revenue for their developers.

V. Inland Port Concepts

Review of the case studies presented in the Appendix reveals a wide variety of projects, facilities, and initiatives in the "inland port" field with varied relevance to SCAG's inland port goals. A set of proposed categories is presented below.

Satellite Marine Terminals

These facilities offer the key commercial and operational functions of a seaport at an inland location. Shippers, consignees, truckers, brokers, and other commercial entities interact with the satellite terminal just as they would with a marine terminal.

- Import containers are released from steamship line/stevedore custody to customers or their representatives, with Customs clearance or forward movement in bond.

- Export containers are received from customers or their agents for steamship line booking.

In both cases the customer has no responsibility for movement between the satellite terminal and the seaport. All such movement is accomplished under the steamship bill of lading or equivalent.

The Virginia Inland Port (VIP) is the only North American satellite terminal of this kind, and is the pioneering inland port facility. No other North American "inland port" accepts or delivers containers under steamship bills of lading in the same fashion as a marine container terminal. VIP was not a congestion relief effort, an economic development initiative, or an effort to increase the terminal capacity at Norfolk. VIP may have eventually filled some of these functions, but VIP was begun as an effort by the Port of Norfolk to expand its market reach in competition with Baltimore.

Metroport Auckland, in New Zealand, is very similar in concept to VIP. Metroport is linked by rail to the Port of Tauranga, and helps the port balance its cargo and compete with the Port of Auckland. Metroport is linked to Tauranga by frequent rail shuttles.

There are no other known inland ports connected to a specific seaport, or operated by a "deepwater" port authority (some are operated by specialized inland port authorities or river port authorities).

All-Cargo Logistics Airports

Closure of military bases across the country has led to the establishment of several logistics-based industrial developments around former military airports. Examples described in the case studies appendix include Vatry, March, San Bernardino, Rickenbacker, Kelley, and the Southern California Logistics Airport (Victorville). In each case, promoters are attempting to attract tenants based on air cargo capabilities. SCAG's 2004 RTP also documents some of these same cases in Appendix D-6. Success of all-cargo airports has been mixed, for several reasons.

The air cargo field can be divided into three segments.

- **Air express and parcel.** The overnight express business was the building block for the development of FedEx, DHL, UPS Airborne, and other "integrated" air carriers providing door-to-door delivery of time-sensitive documents and small parcels. This segment of the industry has continued to grow rapidly and has been the beneficiary of the e-commerce boom. These carriers dominate the air cargo field in terms of both tonnage and number of flights.

- **"Heavy" Air Cargo.** True "all-cargo" air operations focused on moving commercial goods rather than documents and parcels are limited in scope. Before the development of integrated parcel and express carriers, "air freight" was identified with all-cargo aircraft operated by specialist firms such as Flying Tigers, Emery Air Freight, and Cargolux, and by a few passenger airlines that had freighters (Northwest being a prominent example). This business now overlaps with the express carriers who carry a wide range of shipment types and sizes.

- **"Belly Cargo".** A substantial part of all air cargo travels in the baggage or "belly" space on passenger flights. For many years belly cargo accounted for the majority of air cargo tonnage. As shown in Exhibit 23, however, this percentage varies widely by airport and now averages around 30% in Southern California. As the RTP Appendix notes, the availability of passenger flights and belly cargo capability can significantly increase the ability of an airport to offer more air cargo destinations and capacity, especially in the international market.

Exhibit 23: Dedicated and Belly Cargo Shares at Regional Airports

		1994 Tons	%	2000 Tons	%	2002 Tons	%
LAX	Dedicated	783,585	46%	1,173,947	60%	1,224,182	62%
	Belly	919,860	54%	782,631	40%	747,144	38%
ONT	Dedicated	353,317	93%	448,902	97%	538,069	98%
	Belly	26,593	7%	13,884	3%	9,391	2%
LGB	Dedicated	27,454	99%	51,483	99%	58,531	>99%
	Belly	277	1%	520	1%	75	<1%
BUR	Dedicated	24,801	80%	29,629	95%	40,815	95%
	Belly	6,200	20%	7,407	5%	2,274	5%
JWA	Dedicated	12,360	78%	13,770	76%	13,312	85%
	Belly	3,418	22%	4,349	24%	2,334	15%
PSP	Dedicated	0	0%	0	0%	0	0%
	Belly	297	100%	144	100%	82	100%
TOTAL	Dedicated	1,201,517	**59%**	1,717,731	**68%**	1,874,909	**71%**
	Belly	956,645	**41%**	808,461	**32%**	761,300	**29%**
	Combined	2,158,162		2,524,692		2,636,209	

Source: SCAG 2004 RTP, Appendix D-6

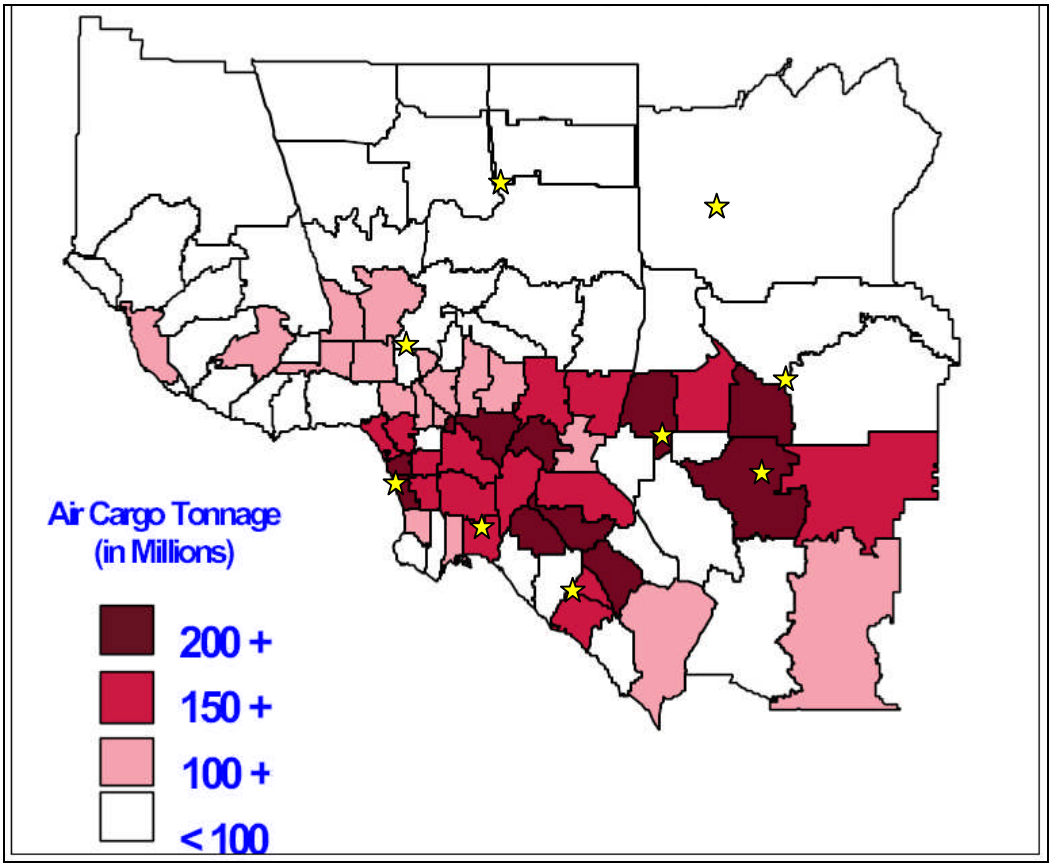
Developers of all-cargo airports hope to attract clusters of air cargo customers, what the RRTP Appendix refers to as "catalytic demand". Relatively few manufacturers and distributors have such a great reliance on air cargo that they would locate at an all-cargo airport unless that location also had good highway and market access. Classic examples of air-dependent firms include those dealing in high-value perishables (e.g. flowers, seafood). Many of the firms with such heavy air cargo or express needs are located at major existing air express hubs such as Memphis. Examples include distributors of computer parts (e.g. IBM or Dell). The RTP Appendix notes that the combination of ground and air access at March and San Bernardino has attracted major distribution centers for Kohl's, Phillips Electronics, and Walgreen's.

Study team review suggests that air-focused developments have been more successful in attracting tenants in the aircraft industry itself whose need for runway access is paramount (e.g. executive aircraft firms, aircraft maintenance firms, flight schools). SCLA, for example, has the following tenants:

- The Boeing Company
- General Electric
- Pratt & Whitney
- Leading Edge Aviation Services
- Southern California Aviation
- Victorville Aerospace
- Mercy Air Services

Almost all of the all-cargo airport projects are at former military bases. Military bases, however, were most often built away from major cities and isolated from major cargo markets. Two exceptions to the pattern of military base closures have been successes. The Huntsville airport is a former general aviation facility. The Alliance Texas Logistics park has a purpose-built cargo airport as a key component, but it was also built around rail intermodal and auto service facilities. In both cases, the emergence of a local air cargo market base was critical to success. Exhibit 24 shows the approximate location of the major regional airports in relation to projected air cargo demand.

Exhibit 24: Projected 2025 Total Air Cargo Demand



Source: SCAG 2004 RTP, Appendix D-6

Multi-Modal Logistics Parks

Multi-modal logistics parks such as Alliance Texas, Joliet Arsenal, and Huntsville have been the most successful "inland ports" at attracting economic development. Location is a major factor in their success: Alliance is just north of Ft. Worth along a major trade corridor, Joliet is just west of Chicago, and Huntsville waited 30 years for its location to eventually develop. In the Alliance and Joliet cases, the master developers had a major role in their success.

A critical distinction is that logistics-based advantages can complement and strengthen the basic attractions of a city, region, or site, but cannot override poor location. This distinction is evident in some of the case studies, notably in the Neomodal and Global TransPark developments that have so far failed to attach the expected volume of business or development. Logistics-based development is much more likely to succeed with the involvement of a specialized master developer such as CenterPoint Properties (Joliet) or the Hillwood Group (Alliance Texas, Alliance California). Another key factor in successful logistics development is willing long-term commitments from the railroads, air cargo operators, or other carriers. The difference between logistics-based development and market-based development is illustrated by the emergence of trade and transportation corridors as distribution center (DC) candidates.

Rail Intermodal Developments

Examples of "inland ports" built around rail intermodal terminals without air or other modes (except truck, which is ubiquitous) include Quincy, Port of Montana, and Neomodal. Rail intermodal service was one of several key elements in the Alliance development. The Shafter, California proposal is also based on a proposed intermodal terminal. Rail intermodal terminals have strong economies of scale. Railroads, therefore, are highly selective about the markets in which they locate terminals, and they usually have only one terminal in a relatively large market. Rail intermodal service also has strong scale economies, and railroads may not be willing to extend service to speculative developments.

While many different industries use rail intermodal service to some degree, virtually none of them do so as direct railroad customers. The actual railroad intermodal customers are truckload motor carriers, (e.g. Schneider National, JB Hunt, Swift), LTL motor carriers (e.g. UPS, Roadway), intermodal marketing companies (IMCs, e.g. Hub City Alliance), and the international steamship lines.

The most successful rail intermodal-based developments start with an intermodal facility serving an existing market rather than having the scale economies of intermodal operations dependent on future development success. Serving an existing market avoids the classic "chicken and egg" situation in which competitive intermodal service requires a minimum volume and the minimum volume requires competitive service. Alliance Texas is also example of a successful rail intermodal approach. The core BNSF facility was built as a replacement for a previous facility serving the Dallas-Ft. Worth market. The Alliance terminal could therefore operate on an efficient scale and offer competitive service options and frequency from the beginning. The proposed Shafter development faces the chicken-and-egg problem; there is little or no existing customer base or demand to justify a terminal there, and such demand is unlikely to emerge without either terminal or service.

Trade-processing Centers

The Kingman, Yuma, and Richards-Gebaur initiatives base a large part of their strategy on relocating various "trade-processing" activities from congested and costly border gateways to inland points. A key issue for these initiatives is the definition of "trade processing" and their ability to define and market a value proposition.

Given a broad commercial goal of moving imports and exports as quickly and economically as possible, "trade processing' functions would generally be regarded as sources of cost and delay to be avoided or minimized. In an important sense, trade prefers not to be processed.

Unavoidable trade processing steps are primarily related to Customs and other government regulatory and security functions. For most containerized cargo Customs clearance is accomplished electronically through the CBP Automated Manifest System (AMS), with no physical cargo or container contact. There is no relationship between the AMS data entry and cargo location. A significant part of the carrier and NVOCC data entry and processing is actually outsourced to foreign companies. For the great majority of containerized cargo, therefore, there are no "trade processing" functions that could be relocated inland from the seaport.

Networks, Corridors, and Shuttle Services

The case studies also discuss three network and corridor projects: the Port Authority of New York and New Jersey, Port Inland Distribution Network (PIDN), the Heartland Corridor, and the North American Inland Ports Network. The growing use of the corridor concepts is evident in the CANAMEX and River of Trade Corridors. None of these projects are "inland ports", but they attempt to link and network inland ports and seaports in various ways.

There have been a handful of rail and barge shuttles operated between seaports and inland ports. Success has been mixed. One prominent demonstration project, the barge service between the Port of New York/New Jersey and Albany, New York has recently been discontinued.

Economic Development Initiatives

The KC SmartPort program is an economic development initiative, not an inland port at a fixed site. As such, the SmartPort program illustrates the potential economic development value of logistics-based and inland port approaches without being tied to the features of any one facility.

VI. Matching Inland Port Goals and Concepts

A major objective for Task 1 and 2 of this study was to identify promising inland port concepts to be carried forward into detail feasibility and implementation analysis. The study team's review of case studies, SCAG objectives, and the regional context indicates that different but overlapping inland port concepts can serve the full range of SCAG's objectives and should be carried for ward into the balance of this study.

Truck VMT and Emissions Reduction

For the primary purpose of reducing net truck VMT – and therefore highway congestion and emissions – the "satellite marine terminal" model is the applicable inland port concept. The available data on port truck trips indicate an adequate market size to consider an Inland Empire rail shuttle linking a new inland port to the ports of Los Angeles and Long beach.

To determine the detailed feasibility of an inland port/rail shuttle development the remaining project tasks will need to analyze the following issues.

Location and site. BNSF has been frustrated in trying to expand their existing San Bernardino intermodal terminal or finding a site for a new one. BNSF is looking at the potential of SCLA for the future, but the SCLA location is not advantageous for a rail shuttle from the ports. Union Pacific has a candidate site at West Colton for the proposed demonstration project, but further analysis will be required to determine if the site is suitable for long-term development. If alternative line haul technologies (e.g. maglev or LIM) can provide access to suitable sites off the main railroad lines the choice of possible sites might be broadened.

Capacity. Both railroads are facing capacity limits on trackage between the ports and the Inland Empire, specifically on lines east of the Alameda Corridor. Grade separation projects as part of the Alameda Corridor East effort will increase safety but not rail capacity. The same routes are also involved in plans for increased regional rail passenger service. A public-private program to increase total rail capacity between the ports and the Inland Empire will almost certainly be a requirement for railroad participation in a rail shuttle.

Bobtail, empty chassis, and container depot trips. The effect of an inland port/rail shuttle combination on bobtail, empty chassis, and off-dock depot trips is not clear and will require more detailed analysis in subsequent study tasks.

Port rail operations and infrastructure requirements. Under both the "satellite marine terminal" and "agile port" concepts there is a presumption that the appropriate inland port trains can be efficiently assembled from two ports and multiple terminals. At a minimum, these operations will add time and cost that must be analyzed and incorporated in the feasibility assessment. At a maximum, there may be a need for additional rail infrastructure to accomplish this purpose.

Institutional issues. If operational and economic issues can be favorably resolved there are still institutional issues to be addressed. Such issues include the form and implementation of operating subsidies, jurisdiction and governance of an inland port, and the marketing and management of both rail shuttle and inland port facilities.

Market appeal and potential. The key question is how many container trips could be diverted to a rail shuttle. Contact with ocean carriers and customers who control the container movements will be required to assess the market potential and the rate and service combinations required to achieve target volumes.

Truck VMT and truck/rail tradeoffs. The potential for net VMT and emissions reductions depends on the relationship of inland port location to shipment origins and destinations. The net emissions reduction also depends on the tradeoff between reductions in truck miles and additional rail miles, including any port area switching needed to make up shuttle trains and inland port switching needed at the other end of the movement. The study team will develop a spreadsheet model of the tradeoffs and link it to the geospatial distribution of origins and destinations by TAZ.

Inland port/railroad relationship. Most discussions of inland port have implicitly assumed that there would be one such facility. There are, however, two competing railroads serving the Ports of Los Angeles and Long Beach. An inland port developed and served by BNSF would not be accessible to UP or to UP's customers, and vice versa. There are multiple possible scenarios to be considered in the balance of the project, including:

- Single inland port, single railroad access.
- Single inland port, dual railroad access with neutral terminal operator.
- Dual inland ports, one for each railroad.
- Single inland port served by contractor-operated rail shuttle over Class 1 tracks.
- Single inland port with maglev or LIM access.

Directing Economic Development

The operative questions for economic development goals are:

- What inland port features would be required to favorably influence economic development (beyond the expected influence of SBIA, March, and SCLA)?
- What would be an appropriate mechanism to provide such inland port features and to direct economic development accordingly?

Key elements identified from the case studies include:

- Realistic market assessment.
- Locations.
- The role of a development "champion."

The case studies also imply that significant shifts in economic development may occur slowly, over a decade or more.

VII. Inland Port and Rail Shuttle Issues

Railroad Participation and Capacity Requirements

The willing participation of either or both railroads is a prerequisite for development of an inland port and rail shuttle. Plans for rail participation in either start-up or long-term operations must encompass rail operating, pricing, and equipment options, and, most importantly, capacity.

Capacity will be the primary issue in railroad participation, not cost. Long-term railroad participation in a short-haul rail shuttle will be contingent on public funding for increased capacity. The situation is parallel to that of passenger rail services in California, whose expansion has been facilitated by strategic state investments in additional track capacity, signaling, and other measures to expand total rail capacity.

Studies consistently indicate that unsubsidized short-haul rail shuttles in the 50-100 mile range will not be commercially viable or attractive business propositions for the railroads. It is equally clear that developing and operating intermodal facilities is unlikely to be a profitable stand-alone venture. Both will require subsidies or other forms of financial support to succeed in a competitive environment.

Both Class 1 railroads are experiencing traffic growth, driven by transcontinental intermodal movements that generate far more revenue than short-haul intermodal movements such as regional shuttle trips. An operating subsidy to make up the difference between commercial rail intermodal rates and the trucking competition will not be nearly enough to interest the railroads if they have to turn away higher-yield business due to capacity constraints.

Recent national discussions of public-private partnerships for freight have included the possibility of public investment in rail capacity in return for rail service and rate commitments on target movements. The scope for direct public investment in inland port and rail shuttle operations facilities has expanded since the inception of the inland concept as traffic growth has brought both BNSF and UP closer to their trackage and terminal capacity limits in both Northern and Southern California. A multi-jurisdictional or comprehensive public-private agreement for rail freight projects in California could have great advantages to both parties and facilitate progress on many pending issues.

Inland Terminal Planning Factors

Physical Considerations

When a new terminal site must be developed, the site should be evaluated based on the following characteristics:

- **Proper Size.** The terminal must be sized appropriately to handle the anticipated customers and volume. Intermodal terminals can exceed 300 acres. The requirement to economically assemble large parcels of land for new intermodal terminals severely limits the number of available site options, particularly in highly developed metropolitan areas.

- **Proper Shape.** The ideal site is very long (for large terminals, more than a mile in length), relatively narrow, and parallel to the railroad's main line. This parallel orientation permits an efficient facility design that minimizes operating costs. The length of the facility is driven by the expected volume and train sizes, while its width is driven primarily by trailer and container storage requirements.

- **Low-Cost Development.** The cost of developing terminal capacity varies dramatically. There are no returns or profits associated with intermodal terminal land ownership. Terminal contractors make their money from providing lifts, and the railroads make their money by providing train service.

- **Expandability.** Experience indicates that demand for terminal capacity will grow significantly over the anticipated life of a successful facility. Therefore, the availability of additional land nearby for development, to support future growth, is highly desirable.

- **Highway Access.** Efficient, uncongested highway access to customers is a critical element in site selection and will strongly influence the projected volume forecast for a proposed new terminal. Local drayage is relatively expensive, typically $40 to $60 per hour. Accordingly, available highway infrastructure and associated congestion levels define the market area that is practically available to the projected terminal. Road condition is also important, as heavy tractors, trailers, and containers will inflict damage on light-duty roads and will suffer damage on poorly maintained roads.

- **Rail Access.** New intermodal terminals are most often developed along existing intermodal railroad main lines, thereby avoiding capital requirements to develop additional railroad main lines. Access should also be complementary to existing or emerging local operating patterns.

- **Local Community Considerations.** The attitude of the local community and various associated government agencies is a very important consideration for an intermodal terminal. Where attitudes are cooperative and supportive, the new site can often be easily developed and the related public infrastructure can be improved to expedite access to the terminal. Where there is community opposition the process may proceed, but at much greater cost both in terms of time and money. Infill sites are often disadvantaged in this respect.

An ideal site for the development of a intermodal terminal has high quality access to both the railway and highway networks, is near a large cluster of customers, is big enough to support the expected volume and to allow for expansion, is inexpensive to develop, and is in a friendly community.

Planning Guidelines

Tioga has developed the following information as an aid for intermodal terminal planning conceptual stage. The guidelines presented are based on industry norms and are general in nature. The fact that makes this kind of analysis reliable is that intermodal terminals in North America are similar enough that practical guidelines for development of new facilities can be determined

by observation of existing operations. Practical exceptions abound, but can generally be understood in terms of unique, case specific factors that should be incorporated in planning as they are identified.

The guidelines have been used and refined over the past decade as The Tioga Group has performed capacity and benchmarking studies for Class I railroads and the AAR. The AAR published some of the results in 1993. An additional set of findings was published by the Eno Foundation in 1999.

- **Capacity Measure** – Production at intermodal terminals is most commonly measured in lifts. A lift is the transfer of a trailer or container from a rail car to the ground or from the ground to rail car. Secondary lifts are defined as lifts between the ground and a chassis and are not counted in the measures below.

- **Lifts Per Acre** – The general guideline is 2000 annual lifts per acre. One caution is necessary with this guideline. Terminal operators tend to be very inconsistent in the manner in which they measure and report terminal acreage. A facility planned at 2000 lifts per acre should be able to incorporate common intermodal functions including car storage. The land does not need to be a regularly shaped parcel. 2000 lifts per acre is a relatively conservative guideline and particularly well-operated and well-designed facilities on regularly shaped parcels can do much better.

- **Loading Track Length** – This is the track that is accessible to sideloaders or cranes. The planning factor that is recommended is 1500 annual lifts per 100 ft of track. The guideline implies that there will be regular resets of the loading tracks, particularly on busy days. Most facilities do not achieve this level of use and have surplus capacity. Those that exceed this level of use, typically do so at a service penalty. Facilities that successfully exceed this level typically service a relatively large number of trains throughout the day.

- **Rail Car Storage Requirement** – The terminal must have enough track to buffer the operation and the imbalances imposed by the weekly operating cycle. In some locations this means track lengths 2.5 times the loading track length.

- **Parking Requirement** – The range for this guideline is relatively wide 100-300 annual lifts per trailer parking spot. In making a planning estimate a judgment must be made regarding the operation and character of the traffic. International traffic tends to move much more slowly than domestic. Also some terminals are designed to offer container yard services for international shippers; this guideline does not apply in that case and any land reserved for long-term storage purposes should not be considered as available for general use by the terminal. Parking space accounts for most of a terminal's footprint and is often the limiting factor in terminal capacity.

- **Gate Transactions Per Lift** – The planning assumption is 1.5 per lift. Theoretically this number could be as low as one gate move per lift or as high as four. Exceptions might include terminals that are performing car-to-car transfers and facilities that are also serving as container yards. Clearly one move per lift is much

more efficient than four and the draymen will be working to produce the most efficient case.

Operational Cycles

There are common operational cycles implied in these relationships as follows:

- **Daily Cycle** – Terminals typically strive to match shipper practices. For most facilities this means handling inbound trains in the morning and outbound traffic in the afternoon or evening.

- **Weekly Cycle** – Most customers ship five or six days per week. This means that intermodal terminals handle most outbound traffic Monday through Friday; a small minority is handled Saturday and an even smaller portion of the outbound is handled Sunday. For an inland port the shipper cycle will be combined with the marine transportation schedules of the ships loading in the nearby ports. In Los Angeles and Long Beach much of this activity happens on the weekend. The combination of shippers being closed on the weekend and large volumes of import marine cargo being handled on the weekend implies that there will be a very large requirement to receive and unload cargo over the weekend that will not be dispatched by truck until Monday or Tuesday (when there is often a shortage of drivers).

- **Annual Cycle** – Generally, intermodal terminals have relatively small seasonal peaks in March and October and have a significant low period in late December and early January.

Inland Empire Intermodal Terminal Projects

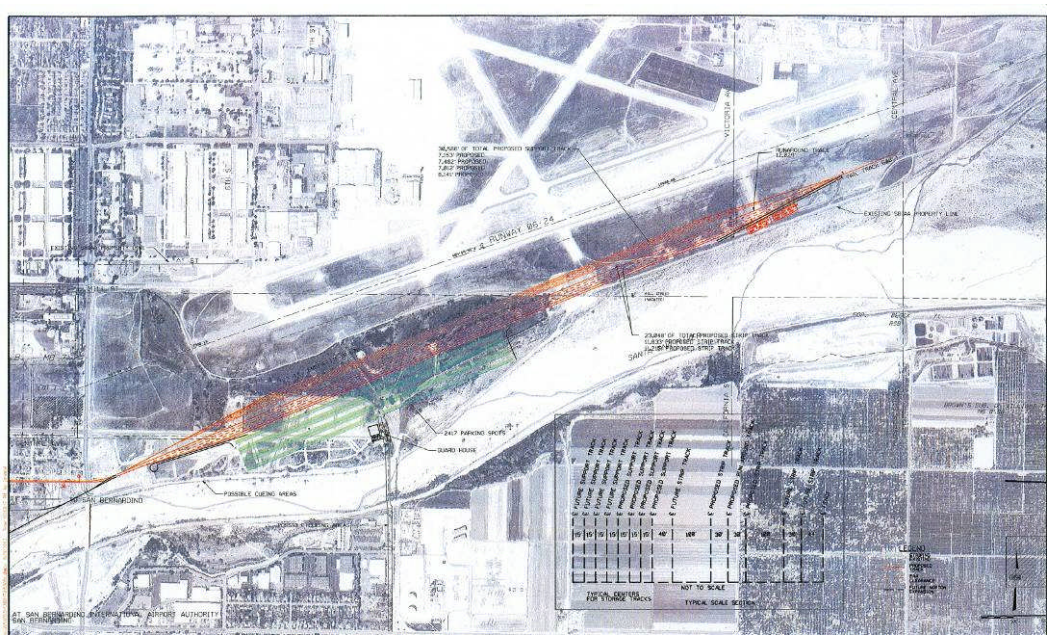
Expanding intermodal terminal capacity in an existing market is ordinarily not accomplished until there are obvious capacity-related operating problems and a clear justification for capital investment. Most often, additional terminal capacity is developed by expanding an existing terminal. Terminals are typically designed taking into account long-term development plans, and it is generally more efficient to fully exploit an existing site before developing new sites. This is certainly true considering the complexity of permitting and other regulatory processes. It is also very likely that an existing terminal is already in a commercially and operationally satisfactory location within the metropolitan area.

BNSF Railway has sought to develop a second intermodal terminal in the Inland Empire because its San Bernardino terminal is at capacity. Previous sites considered are discussed below.

San Bernardino Airport Site

Closure and reuse of Norton AFB as San Bernardino International Airport presented an opportunity to assemble a large enough parcel of land to build a new intermodal terminal (Exhibit 25). BNSF, SANBAG, and the City of San Bernardino cooperated in a series of traffic studies to determine the traffic impacts such a facility would have on the area.

Exhibit 25: Preliminary Intermodal Terminal Plans for Norton/SBIA Site

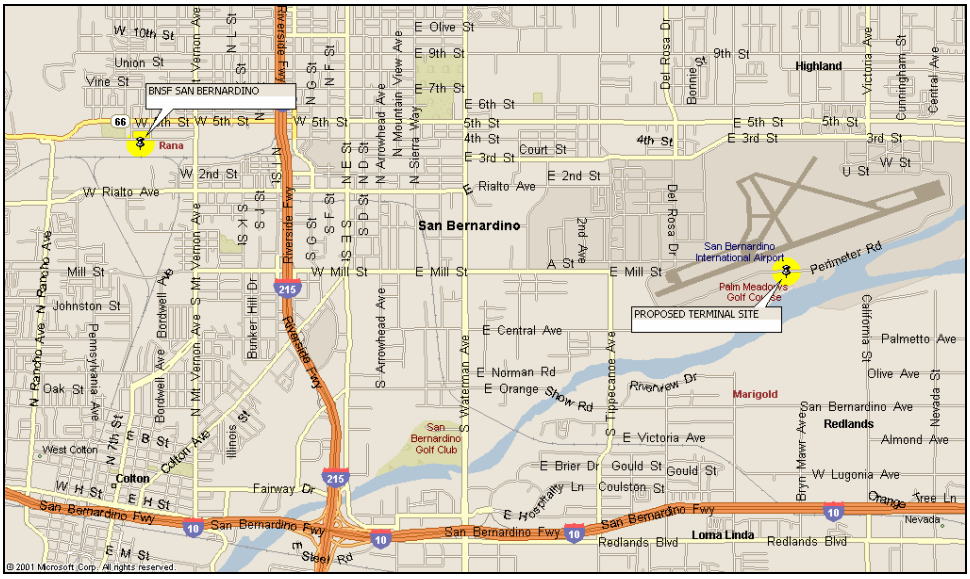


BNSF eventually elected not to pursue the project. The project faced typical barriers found in most large developments:

- Assembly of parcels from multiple owners, and the timing related to assembly;
- Minor environmental concerns with on-site species impacts; and
- Capital and operating costs.

The disruption of running trains through downtown San Bernardino to connect the existing BNSF facilities with a new terminal at Norton (Exhibit 26) turned out to be the most difficult and decisive barrier to the project. While the assembly, cost, and environmental problems might have been manageable, the difficulty of creating an acceptable, efficient rail connection across developed areas of San Bernardino was considered impractical to mitigate.

Exhibit 26: BNSF Norton/SBIA Site Access



This access problem highlights the difficulty of creating new intermodal facilities in developed urban areas. This instance is a specific example of the larger problem facing the SCAG region, and all urban areas: the industrial and population growth that creates the demand for freight transportation simultaneously creates barriers to meeting that demand.

Note that by locating adjacent to SBIA, such a new BNSF facility would have created a multi-modal development.

Devore Site

Consideration was been given to potential intermodal terminal sites along the rail corridor between San Bernardino and Cajon Pass, specifically at Devore (Exhibit 27). One site that was investigated is a privately held parcel west of I-215. As shown in the aerial photo, however, the parcel is constrained by geography, wedged between the hillsides and the floodplain. Analysis by BNSF concluded that an efficient intermodal terminal on the site was not feasible for two reasons.

- Site configuration would force much of the available land to be devoted to approach trackage, reducing the potential terminal space.

- The prevalent grades of 2.2% on adjacent trackage would raise serious operating, cost, and congestion issues.

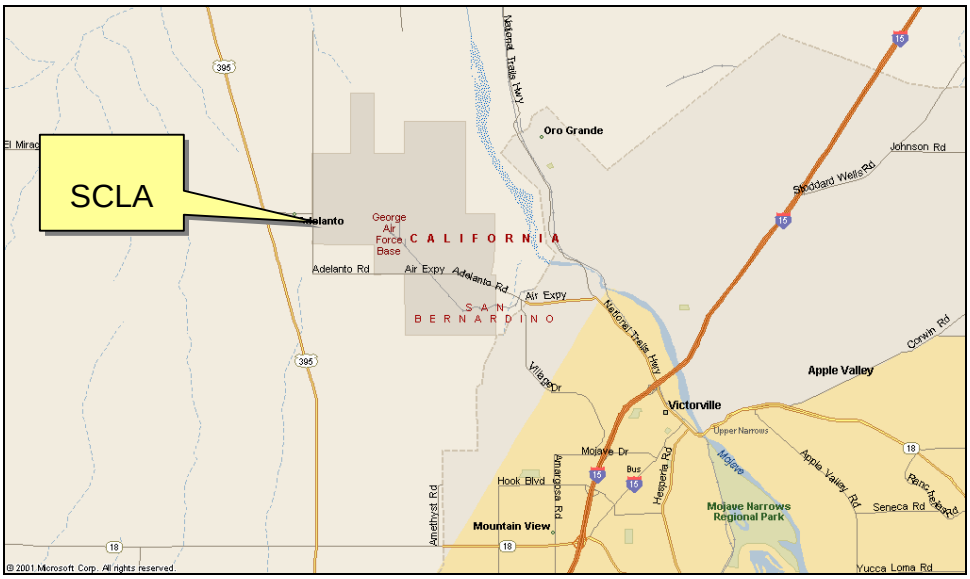
Accordingly, the site is considered impractical as an intermodal terminal.

Exhibit 27: Proposed Devore Terminal Area

Southern California Logistics Airport Site (Victorville)

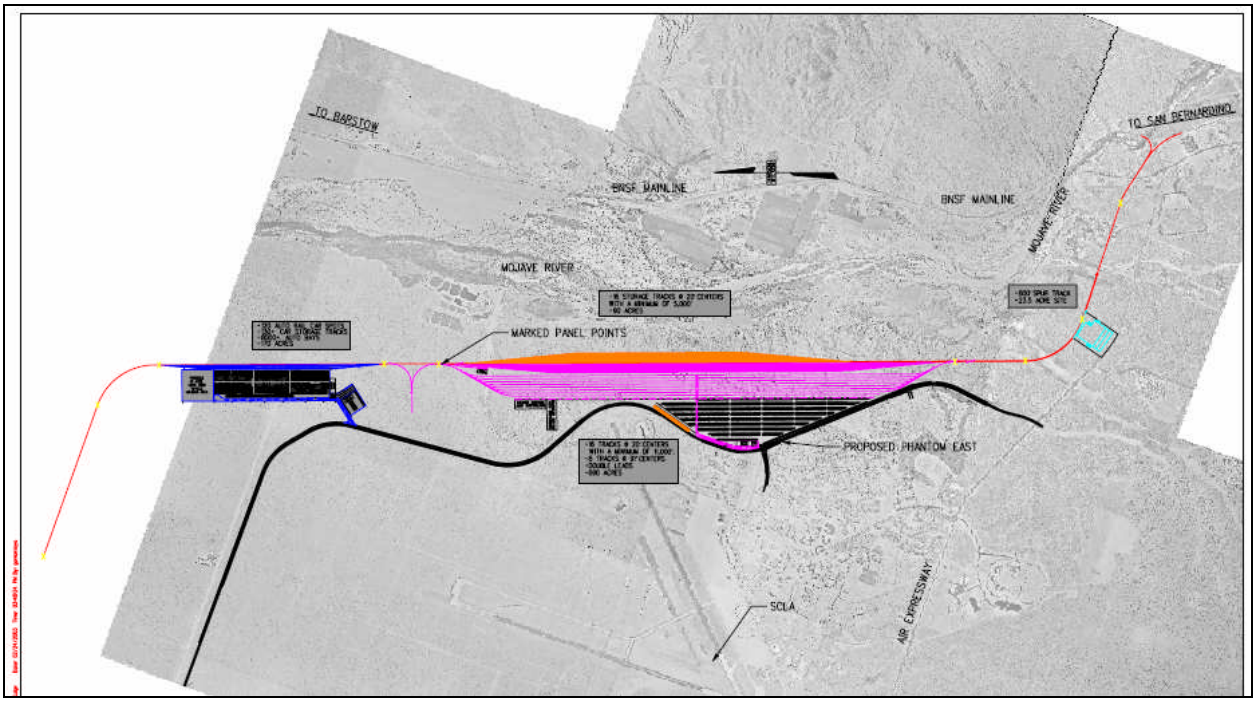
Conceptual plans for the Southern California Logistics Airport (SCLA) near Victorville (Exhibit 28) have always included the possibility of a rail intermodal terminal.

Exhibit 28: SCLA Site



BNSF has investigated the location and has worked with SCLA to suggest conceptual plans to SCLA (Exhibit 118) that differ from the original conceptual plans shown in many SCLA publications.

Exhibit 29: Preliminary Intermodal Terminal Plans for SCLA Site



The Victorville area is a less-than-optimal choice as a rail intermodal terminal for BNSF as it is much farther from the Inland Empire intermodal customer base than the existing San Bernardino terminal.

The major issue with the SCLA site as a near-term "inland port" site is, likewise, its location. Lying north of Cajon Pass, SCLA is not an efficient hub site for trucking to and from Inland Empire port customers. The SCLA site is only 3 miles closer to the Mira Loma area than is the Port of Long Beach, so any VMT savings would be minimal, and would also be offset by the difficulty and cost of trucking up and down Cajon Pass. Any rail shuttle to and from the ports would likewise have to operate over Cajon Pass, a congested and high-cost route.

In the long term, as the Victor Valley area develops into a separate market, the SCLA site may become more attractive. As noted above, serving a *developed* area with new intermodal facilities sis inherently difficult. Serving a *developing* area such as Victorville allows the customer base to grow up around the facility.

Inland Empire Planning Cases

Tioga considered three planning cases for an inland port rail intermodal terminal based on volumes of thirty, sixty, and one hundred twenty thousand annual lifts. The planning factors above drive the following very preliminary requirements. (Exhibit 81)

Exhibit 30: Sample Intermodal Terminal Planning Cases

Planning Factor	Small	Medium	Large
Annual Lifts	30,000	60,000	120,000
Minimum Acreage	15	30	60
Loading Track Length	2,000	4,000	8,000
Storage Track Length	5,000	10,000	20,000
Parking Slots	300	600	1200
Annual Gate Volume	45000	90000	180000
Estimated Cost	$3.0-$ 7.5 Million	$6.0-$15 Million	$12-$30 Million

In addition to the facilities required, terminal equipment would be required. The number of machines is dependant upon the number of primary and secondary lifts to be provided as well as the schedule of both trains and the gates.

Exhibit 81 also has implications for site selection, as the minimal size shown for a large facility is 60 acres. The track length of 8000 feet implies the need for a long, narrow site.

Roles and Responsibilities

The following roles and responsibilities are crucial for the successful development of an inland port via rail intermodal service. These functions are all required to provide the necessary railway, highway, vehicle, and terminal assets necessary to establish intermodal freight transportation services.

- **Real estate.** The entity that owns the land on which the intermodal terminal is developed.
- **Terminal improvements.** The entities that make the capital investment in the highway and rail infrastructure improvements necessary to provide efficient access to the site, and on-site improvements that provide the necessary terminal infrastructure.
- **Financing.** The entities that will finance the various elements of the project.
- **Provide the terminal equipment.** The entity that provides the equipment necessary to operate the terminal. This may include lift machines, yard tractors, boilers, or any kind of specialized terminal equipment.
- **Line haul rail equipment.** The entity that provides the line haul equipment (railcars, trailers, etc.) to support the proposed services. Establishment of these new services may necessitate equipment owners to either invest in new equipment or redeploy existing equipment from less lucrative services or locations.
- **Operating systems.** The entity, usually the terminal contractor, that provides the information and operating systems required to ensure an efficient flow of data between the parties.

- **Terminal operations.** The entity that performs the day-to-day operation of the facility, usually a specialized contractor.

- **Railroad operations.** The entity that provides and operates the rail service. Ordinarily a major railroad but exceptions are possible and should be considered.

- **Marketing.** The entities that market the rail intermodal services.

As these and other responsibilities are assigned, the interrelationship between governance, operational control, and financing can be anticipated to become quite complex. For example the use of public money tends to increase development expenses, particularly those associated with the public process, and gives the public a greater say in the governance of the facility. This is a point resisted by most railroads, which typically desire full operational control, can be expected to be more efficient operators, and do not want to pay (or repay) for the public process. There are several similar issues to be resolved in the development of an effective public-private partnership in the development of an intermodal facility.

Rail Intermodal Terminal Services

Besides the basics of modal transfer, a rail intermodal terminal may provide additional services, either as a stand-alone facility or as part of an inland port. Some of the menu choices are shown in Exhibit 31 along with an estimate of their commonality. Obviously, the more services provided the greater the land requirement, capital cost, and operating cost.

Exhibit 32 lists additional services that might be provided within the terminal.

Exhibit 31: Menu of Rail Intermodal Terminal Services

Function	All	Most	Some
Modal Transfer (Lift)	✓		
Control Point—Trucks Check In/Out	✓		
Immediate storage for containers in loading process	✓		
Lift Equipment Servicing	✓		
Administrative Support	✓		
Rail Car Storage		✓	
Lift Equipment Maintenance		✓	
Running Repairs for Containers & Chassis		✓	
Rail Car Maintenance		✓	

Exhibit 32: Menu of Additional On-Terminal Services

Function	All	Most	Some
Loaded Container Storage		✓	
Locomotive Storage and Servicing		✓	
Long Term Container Storage			✓
Customs Inspection Facility			✓
Heavy Repair for Trailers, Containers, & Chassis			✓
Cross Dock Facility			✓
Warehouse Facility			✓
Motor Carrier Terminal on Site			✓

VIII. Agile Port Concepts

Background

The term "agile port" has taken on many shades of meaning from a precise definition tied to military deployment to a generalized notion of increased port efficiency linked to inland transport. For the proposes of this project the study team endeavored to identify those elements of the broader agile port concept that would promote greater port throughput consistent with reduced VMT and emissions. In this connection:

- The objective of agile port operations is to reduce container dwell time at port terminals and increase their throughput capacity.
- The core of the concept is rail transfer of unsorted inland containers from vessel to an inland point where sorting takes place.
- The agile port concept trades off additional cost (handling) and inland space for increased port throughput.

Port of Hong Kong West Rail Concept

Exhibit 33 shows one of the original concepts later incorporated in the broader agile port idea. The West Rail plan was developed by TranSystems and Mercer Management Consulting in 1995-1997 for the Kowloon-Canton Railway Corporation (KCRC) to provide efficient intermodal rail service between the Port of Hong Kong at Kwai Chung and inland China. The design challenge was to maximize throughput at the only available near-port rail terminal site, a 37-acre parcel shown in Exhibit 33 as the Port Rail Terminal (PRT). To eventually handle up to 4 million annual TEU though this very small facility it would be necessary to transfer every container from the drayage trucks to the first available train slot with no sorting at all at the PRT. All trains would leave the PRT with a random assortment of containers. At the Northern Freight Yard (NFY) 30-35 miles north near the Chinese border, the containers would be transferred directly from PRT trains to one of several China-bound trains whenever possible, and stacked in a buffer area as needed.

The Northern Freight Yard was envisioned as the core of what could be come an "inland port", a concept that was then embodied only in the Virginia Inland Port.

"The NFY could become the nucleus of an "inland port" complex.

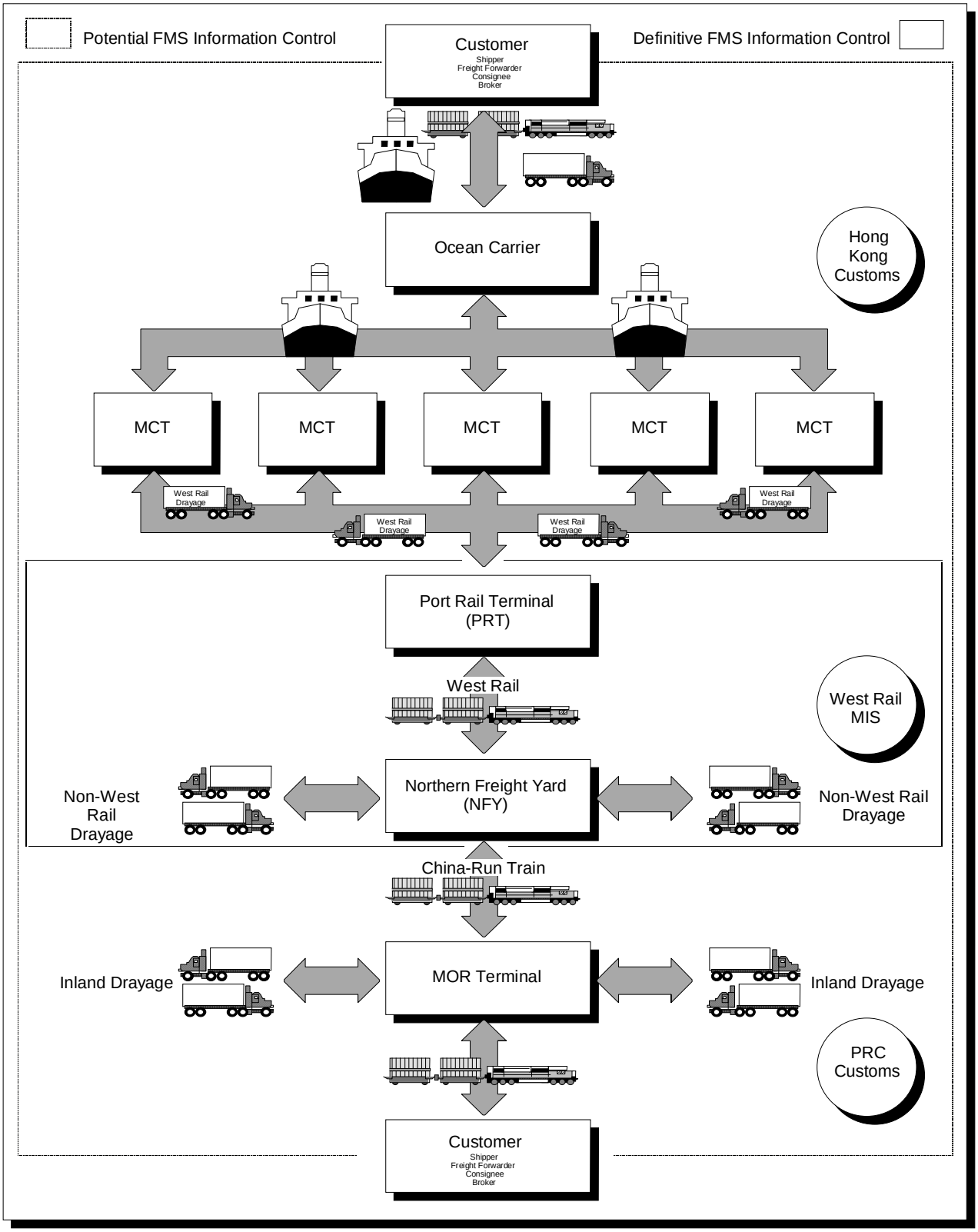
- *Development of Container Freight Stations (CFS) and container depots surrounding the NFY would generate additional volume and revenue for KCRC.*
- *Encourage rail movement of full containers from Guangdong Province and the Shenzhen Special Economic Zone to and from Kwai Chung instead of piecemeal truck moves.*
- *Container depots that distribute empties to Guangdong Province would be a source of northbound fill-in traffic for KCRC*

- *By adding CFS and depot capacity, and staging containers for movement to and from Kwai Chung, the activity surrounding the NFY would effectively add capacity to the Kwai Chung terminals and extend their reach inland.*

- *The NFY could likewise become a marshaling point for rail traffic to and from Shekou and Yantian."*

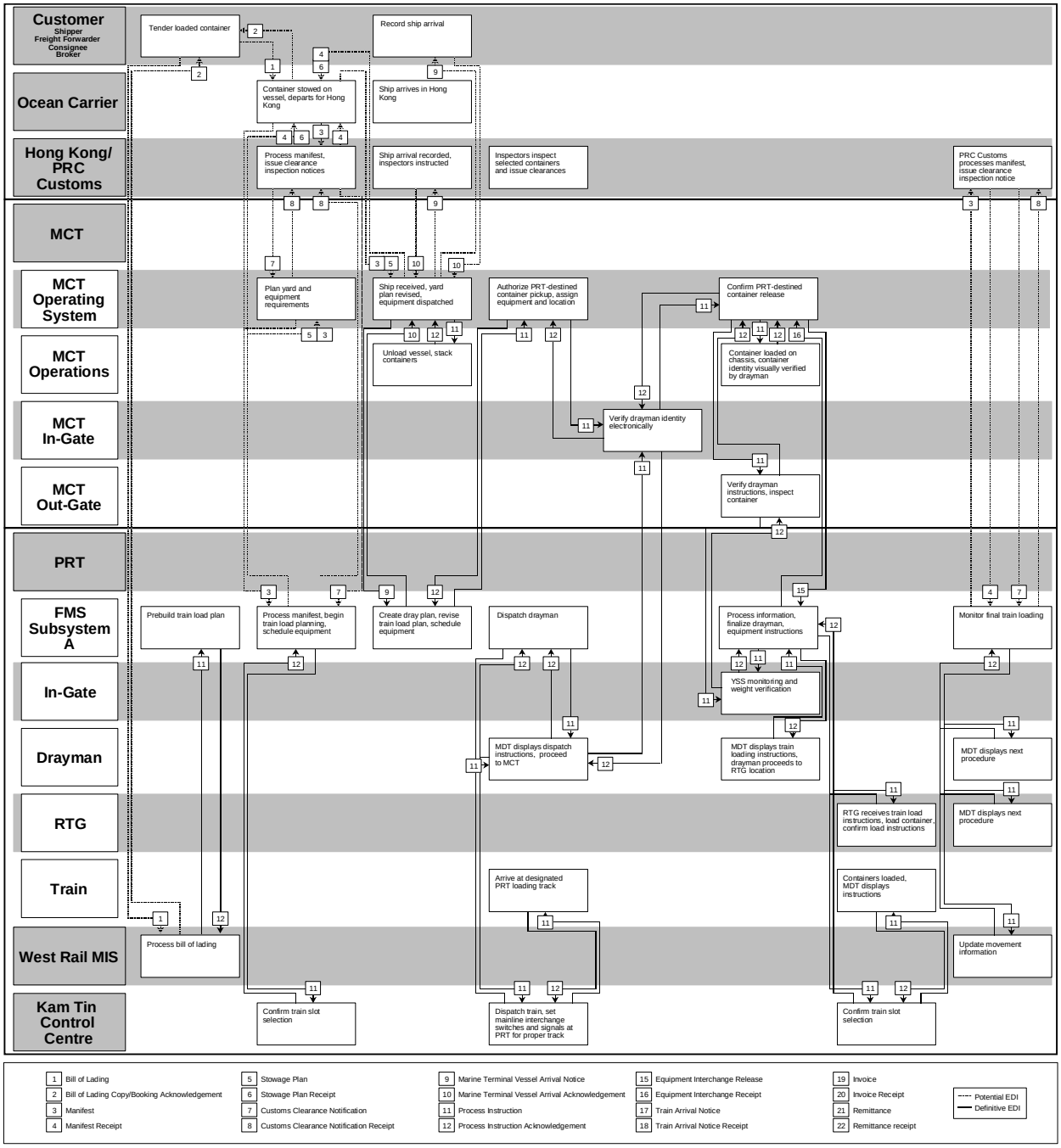
This proposed system was advanced through feasibility assessments and preliminary planning studies before being set aside with the transfer of Hong Kong to mainland Chinese governance. Its major operating philosophy, however, was incorporated in the agile port idea.

Exhibit 33: Port of Hong Kong West Rail Concept



A critical part of the West Rail proposal was the Freight Management System (FMS) alluded to in Exhibit 33. Exhibit 34 shows the flow of information through the proposed Freight Management System. Although the diagram may be most impressive for its complexity, the critical functions are applicable to agile port applications in Southern California.

Exhibit 34: West Rail Freight Management System



- Pre-arrival use of bill of lading and stowage plan information to create trip plans for import containers.

- Dispatch of drayage vehicles triggered by container availability information in the marine terminal operating system.
- Communication between the management information system (FMS) and drayage vehicles via Mobile Data Terminals, including direction to specific train slots for loading.
- Development of Northern Freight Yard transfer plans based on actual real-time container loadings at the PRT.

The West Rail plan and the FMS were designed to *"substitute superior information and operation control for scarce land area and capital equipment"*. In short, the ability of the system to move 4 million TEU through a 37-acre terminal was contingent on maximizing the availability and use of information at every step of the process.

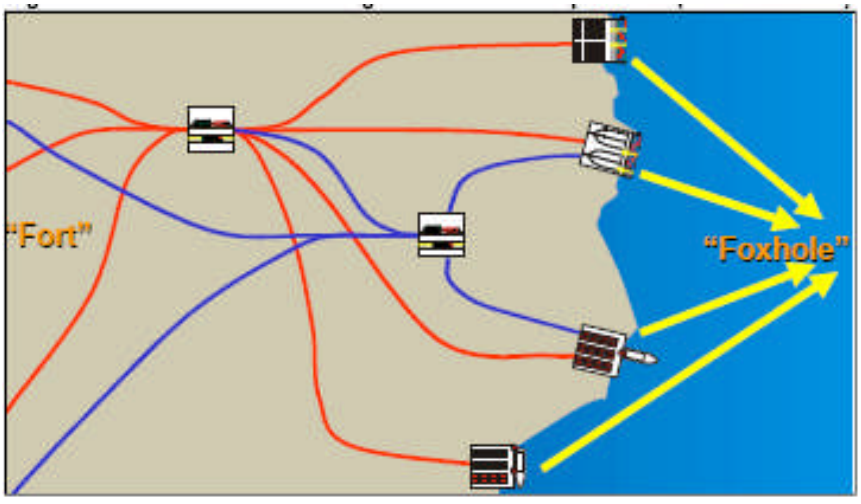
Military Deployment Definition

Within the realm of rapid military deployment, port agility is defined as *the ability of a marine terminal to accommodate military load out operations while minimizing disruption to commercial operations.* (CCDoTT) This implies that an Agile Port either has unused capacity or can change its operations to accommodate military surge cargo without significantly impacting commercial operations. To the extent that this latent capacity is the result of changed/improved operations it may have commercial impact.

As defined this way, an Agile Port System (APS) has all the elements of any transportation system; terminals, ways, conveyance equipment (ships or vehicles), systems, and management.

Exhibit 35 illustrates a Agile Port System and its major components in a "fort to foxhole" system for rapid deployment of military materials. (Note that the agile port system in this manifestation is focused on outbound or export movements.)

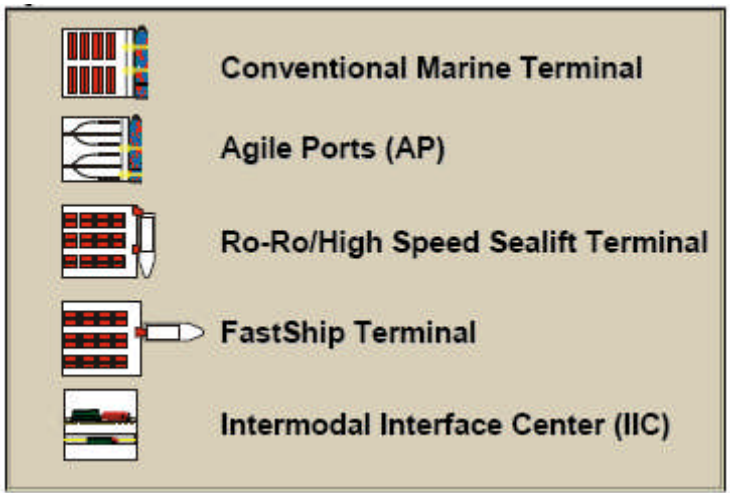
Exhibit 35: Agile Ports in Military Deployment



Source: TransSystems, Inc. Presentation

The system as envisioned for military application defines five different kinds of terminals (Exhibit 36).

Exhibit 36: Agile Port Terminal Types



- Conventional marine container terminals are the terminals that are in place today.
- Ro-Ro (Roll-on Roll-off) marine terminals are also in place today for maritime auto carriers and barges, although they do not have the High Speed Sealift characteristics (which are not relevant for this study).
- Agile Port terminals, also called Efficient Marine Terminals, are optimized for on-dock rail transfer. The concept was demonstrated successfully in Tacoma, but no terminals have been built or operated on this basis.
- Fast Ship Terminal is a concept that uses a Container Platform Train (CPT) optimized for the proposed Fast Ship technology. These terminals have been designed in concept, but not built.
- The Intermodal Interface Center (IIC) is an inland port that serves as the "front door" of the port, providing as large a menu of required marine intermodal terminal services as possible.

These functions involve both an information warehouse linked to the marine container terminals as well as rail, marine and motor carriers and integration of various optimization systems to produce highly automated and optimized land side access solutions. This use of information to maximize system performance is the same idea embedded in the West Rail Freight Management System proposal (Exhibit 34).

In the conventional system that we have today both rail and highway corridors are used to bring cargo to/from the marine facility. The notional elements of the APS system involving the IIC and the EMT are conceived as being connected by a dedicated freight corridor. The Alameda Corridor is given as the first (and only) example of this kind of facility.

One goal is to take work out of the marine terminal where land and labor are expensive and move it inland where land and labor are less costly by moving as many conventional marine ter-

minal functions to an inland port where land is less expensive, and objective consistent with rationalization of port-area land uses.

Applying the Agile Port Concept in Southern California

How might elements of the Agile Port concept be used to accomplish two goals?

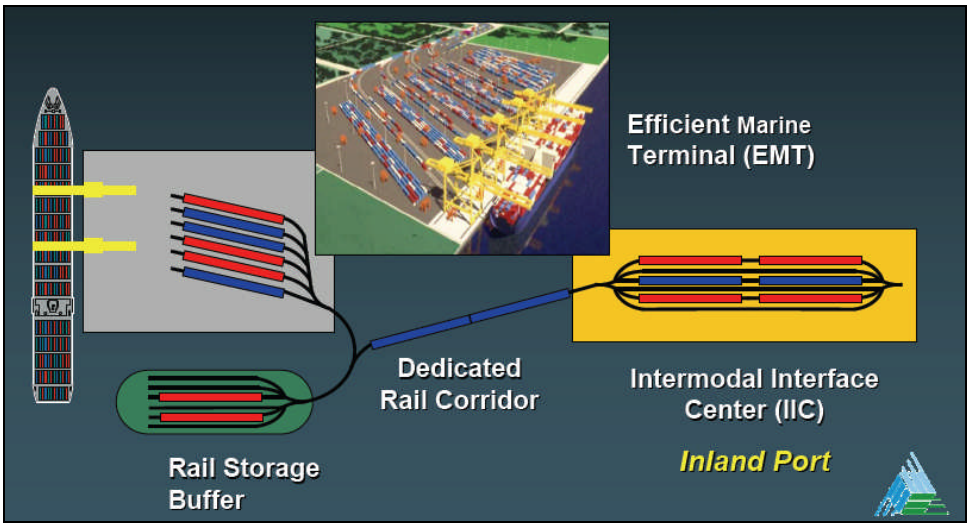
- Move truck traffic off congested Southern California highways.
- Increase the throughput of existing marine terminals.

These questions are relevant to public decision makers to the extent that they seek both growth in the port operations and employment while conserving capacity on the highway system. Also, in spite of the fact that a significant portion of the Agile Port system is designed to support military surge *export* operations without disrupting commercial (primarily import) operations, there are elements that can be helpful in accomplishing Southern California's goals.

To take trucks off Southern California highways an agile port operation would have to substitute rail moves for drayage to off-dock rail yards, for drayage to the Inland Empire, or for drayage to markets west of the Rockies (since markets east of the Rockies are already served predominantly by rail).

Exhibit 37 shows the key elements of the agile port concept as potentially applied within Southern California.

Exhibit 37: Agile Port System Elements



In principle:

- Existing marine container terminals would implement as much of the EMT concept as possible, chiefly the use of information and operational refinements to load import containers to rail as quickly and efficiently as possible.
- Adequate storage and support trackage would be available in the port area to facilitate building and blocking trains as required.

- While the rail corridor would not be dedicated, dedicated rail shuttles would connect the ports with one or more inland ports.
- At the inland port, additional sorting and blocking of rail cars and containers would yield outbound trains that could proceed intact to inland destinations.
- Westbound, the process would be reversed, with the inland port splitting, blocking, and sorting railcars and containers as needed to create trains to move intact to individual marine terminals.

As Exhibit 38 suggests, marine container terminals now do a significant amount of sorting to build trains that can move intact to inland points.

Exhibit 38: Conventional On-Dock Rail Operation

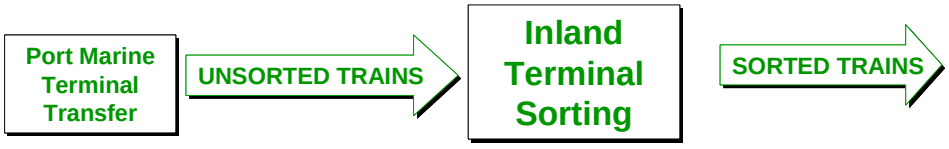
The disadvantages of this system are that:

- Inland-bound rail containers that are not put on the first trains often have longer dwell times.
- Where rail volume is insufficient to make up an train or a block to a specific inland destination, those containers will usually be trucked to a near-dock intermodal yard.

At present, less than 20% of the rail volume is handled on-dock, the rest being trucked to intermodal terminals north of the ports.

In the kind of agile port operations commonly envisioned for inland ports (**Error! Reference source not found.**), the marine terminals would load trains on a first-come, first served basis, regardless of destination. It is commonly supposed that this operating strategy would free up scarce marine terminal space by reducing dwell times and eliminate the need to dray containers to rail terminals.

Exhibit 39: Agile Port Operations



As implied in **Error! Reference source not found.**, this concept would require additional handling at the inland port. It is implicitly assumed that this task could be done efficiently at an inland port that was designed for the purpose. This concept does, however, entail additional handling, cost, and delay as the price for improved marine terminal fluidity.

Terminals

Southern California marine terminals become more like Efficient Marine Terminals (EMTs) to the degree that they:

- move as many conventional marine terminal functions (particularly functions which require boxes to be held for a time) to an inland port; and
- maximize uninterrupted movement between ship and train based on improving real time data management capabilities.

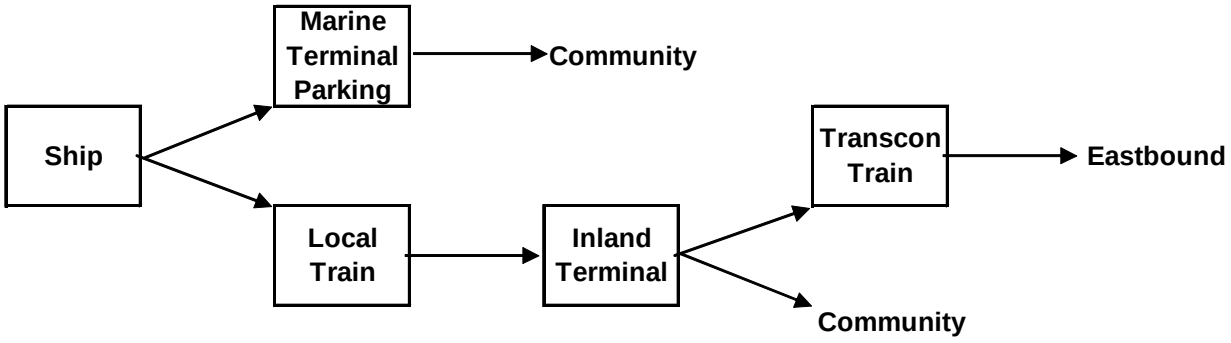
The first objective requires an inland port terminal. Both tasks require systems and management which has been demonstrated and described in the Tacoma EMT project.

Basic Operational Concept

In the most basic operational concept (**Error! Reference source not found.**) imported cargo that is unloaded from the ship would be segregated into two categories at the time of unloading:

- Local cargo would be parked in the marine terminal to await release to customers.
- Inland Empire and long-haul intermodal cargo would be immediately loaded onto rail cars and moved to the inland port. There it would be resorted into Inland Empire cargo (for local drayage) and into various blocks for eastbound movement (for onward rail movement). The local containers would move in bond and wait at the inland location for the various releases necessary prior to dispatch to the community.

Exhibit 40: Basic Agile Port Operational Concept



Conceptually, the simplest operation would be to unload every container from the shuttle train and reload those headed further inland by rail. This practice would permit optimum slot utilization of rail equipment. To the extent that intelligent blocking decisions can be make quickly in the marine terminal it may be possible avoid double handling some of the containers at the inland terminal, thereby permitting more sophisticated management of cost trade offs.

Actual operational complexity is increased because there are multiple origins in the port area. The simple solution and the one that optimizes the use of the marine facilities is to operate trains from each facility to the inland terminal as they become available for movement. That solution,

however, does not optimize rail efficiency or make good use of rail track capacity. In practice some scheduling and block combination efficiencies are likely to be available to local management.

Further complexity is added because there are several railroads involved in the movement

- **Switching railroad –** Pacific Harbor Lines serving the port area
- **Passenger railroad –** sharing the railway with the Class I railroads
- **Class I railroads –** Union Pacific and BNSF each have individual commercial and operational considerations.

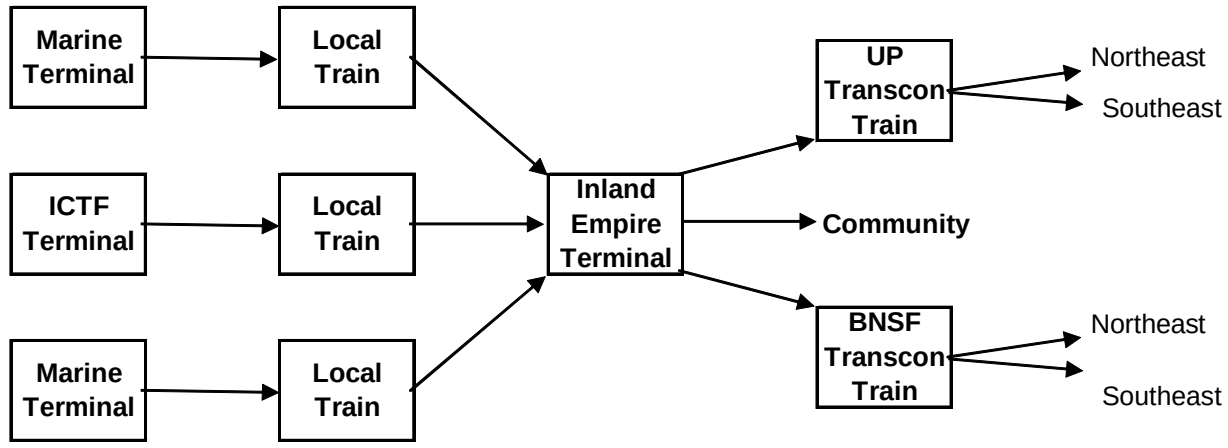
The complexity raises at least two important questions:

- Do the Class I rail carriers have sufficient common interests to agree with a single common user inland port terminal as a practical solution, or are separate terminals required for each rail carrier?
- Is additional capacity required on the lines that serve the Inland Empire and points east to handle the increased rail traffic associated with the improvement in marine terminal productivity and support of Inland Empire business,? Increased passenger demand may also require increased capacity.

Multiple Marine Terminal Scenario

Exhibit 41 illustrates the situation in which multiple marine and near-dock ICTFs generate local trains to a single inland terminal in the Inland Empire area. The main advantages of this option is that it only requires one common user facility and maximizes the traffic eligible for this new service benefiting both ports and both Class I railroads. The disadvantages include the complexity of joint operations and the number of trains required.

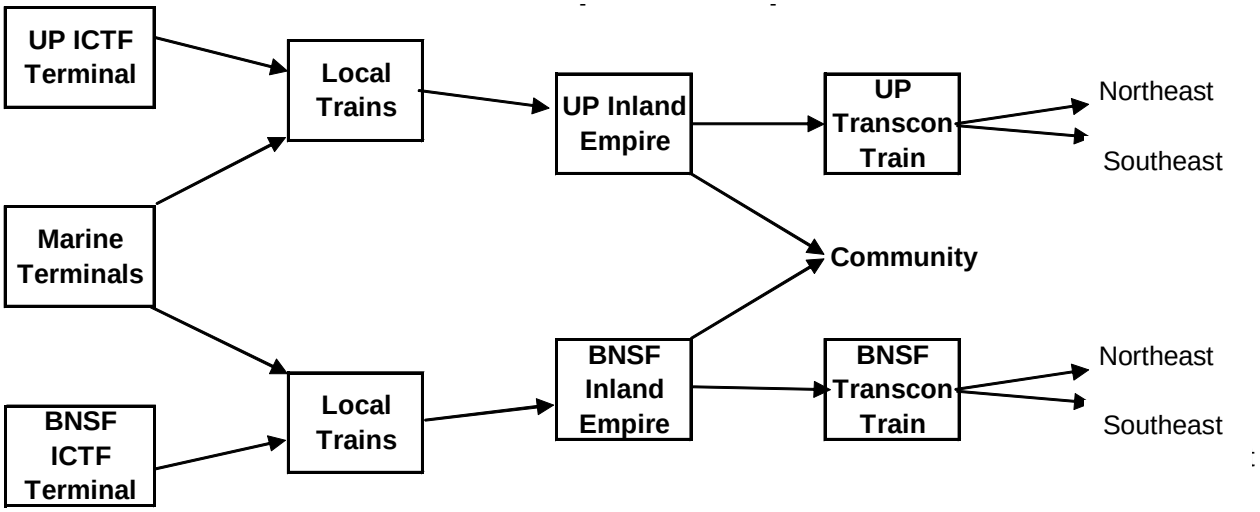
Exhibit 41: Multiple Marine Terminal Scenario



Multiple Inland Ports Scenario

Exhibit 42 illustrates the option in which multiple marine and near dock ICTFs generate local trains to a separate Inland Empire terminal for each Class I rail carrier. The advantages of this option are that it maximizes the traffic eligible for this new service benefiting both ports and both Class I railroads. As each railroad has its own facility it can structure the operation to meet its own needs. In addition this option allows the flexibility for one railroad to pick this concept and the other to pick a different concept. Presumably the railroads would be willing to contribute a bigger share of the up front capital to achieve this kind of flexibility. The disadvantages are the land cost and the need for two separate facilities.

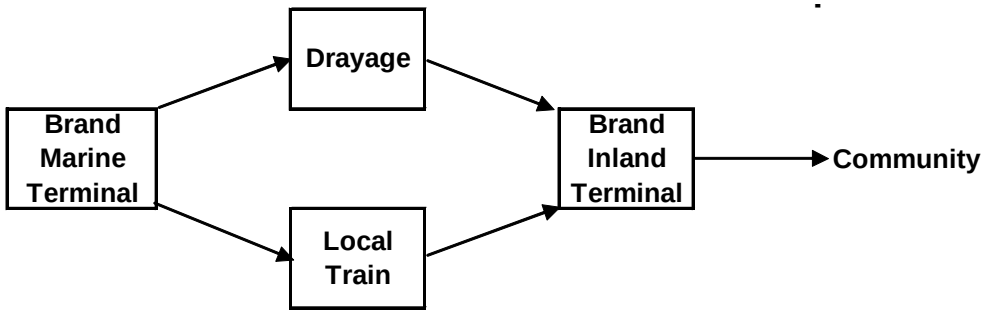
Exhibit 42: Multiple Inland Ports Scenario



Satellite Terminal Scenario

Exhibit 43 illustrates the option in which a particular marine carrier or terminal establishes an inland satellite terminal to relieve port congestion, akin to the Virginia Inland Port or the Metro-Port terminal cited in the case studies. This facility may or may not be rail served. This type of facility could be served by alternate rail technologies, such as RailRunner over less congested rail routes. The disadvantage is that this kind of operation is that absent significant public investment/subsidies it might only be initiated after the marine carrier rerouted all possible discretionary cargo to other ports, and would only serve one carrier or marine terminal rather than all the terminals at both ports.

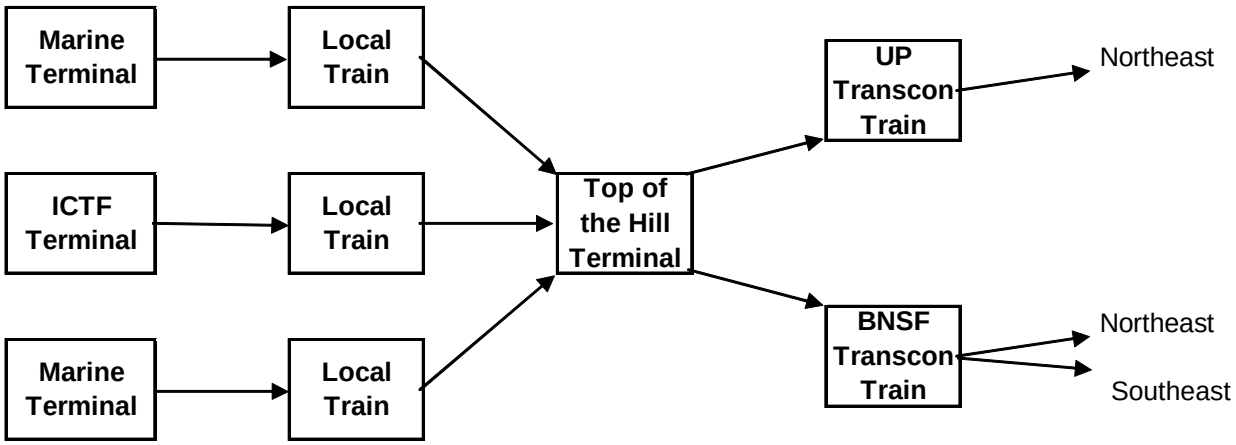
Exhibit 43: Satellite Terminal Scenario



"Top of the Hill" Scenario

Exhibit 44 illustrates a common user facility located at the east end of Cajon Pass, in the vicinity of Victorville. This facility would likely be cheaper to build than an Inland Empire facility and could increase the efficiency of not only the marine facilities but also rail use of the Cajon Pass. This facility could function as an agile port sorting point, but would not be an efficient inland port to serve the Inland Empire. The main disadvantage of the option is that there is no LA Basin traffic congestion improvement and Union Pacific's southeastern traffic does not move over Cajon Pass. This concept is likely to be perceived more favorably by BNSF than UP and might be developed as a BNSF terminal in conjunction with a UP inland empire terminal.

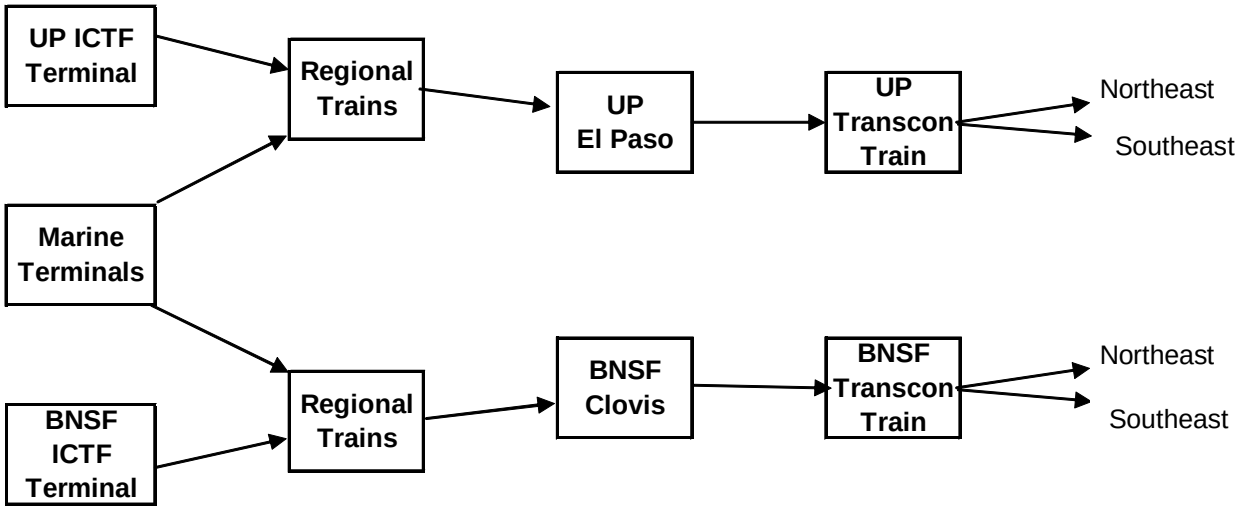
Exhibit 44: "Top of the Hill" Scenario



Far Inland Port Scenario

Exhibit 45 illustrates a scenario in which BNSF and UP move the intermodal "front door" of the port far inland, as far east as Clovis, NM or El Paso, TX. In the case of BNSF this is occurring today to a degree at Clovis, NM, where BNSF traffic to the southeast and northeast splits. BNSF is working to simplify and manage certain aspects of the movement between Clovis and Los Angeles. The matter is much more complex for Union Pacific. The closest UP equivalent point to BNSF's Clovis NM is El Paso TX. In order for this concept to have any validity for UP they would need to take the unlikely step of re-routing northeast-bound trains away from their preferred route through Salt Lake City for the purpose of optimizing marine terminal operations in Los Angeles.

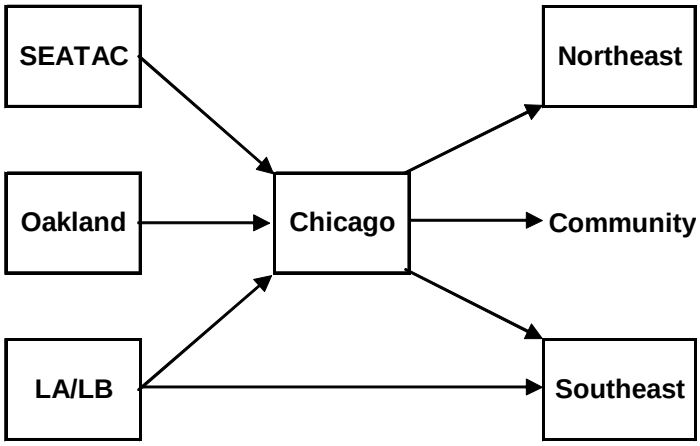
Exhibit 45: Far Inland Port Scenario



West Chicago Hub Scenario

Exhibit 46 illustrates the fact that Chicago is the next major sorting hub along the way east for most of the intermodal cargo leaving not only the LA basin, but all the major west coast ports. It should also be noted that there are far more destinations east of Chicago than west and the population/consumption is both large and dispersed.

Exhibit 46: West Chicago Hub Scenario



To the extent that terminals in Chicago are able to efficiently sort cargo bound for points east of Chicago, that function does not need to be performed in Southern California and LA/LB marine terminals can gain more throughput per acre. To the extent that a Southern California inland terminal can make blocks for locations east of Chicago, then the work required in Chicago is reduced. No analysis has been done to optimize this obvious tradeoff.

Exports

The movement of export, westbound cargo through this system is largely the mirror image of the preceding import discussion except in at least three respects.

- In order to optimize the marine terminal the inland port is expected to hold export cargo and deliver it "just in time" for the ship departure.

- There are a large number of empty containers moving in the system and the inland port may be required to hold these boxes for an extended length of time. It is likely to be the location that serves as the storage buffer for business cycles.

- Empty rail cars move into Southern California from points north, mainly via Cajon Pass. A likely function for the inland port is to be the buffer storage location for these cars and to the extent that inland locations east of Cajon are selected additional car storage is required. With an inland facility this storage does not need to take either potential marine terminal property or space at other congested city rail locations.

Reducing Truck Traffic to Off-dock Terminals

Marine container terminals now do a significant amount of sorting to build trains that can move intact to inland points such as Chicago or Atlanta. The disadvantages of this system are that:

- Inland-bound rail containers that are not put on the first trains often have longer dwell times.

- Where rail volume is insufficient to make up an train or a block to a specific inland destination, those containers will usually be trucked to a near-dock intermodal yard.

At present, less than half of the rail volume is handled on-dock, the rest being trucked to intermodal terminals north of the ports.

A completely successful agile port operation would, in theory, bypass the off-dock rail intermodal terminals (e.g. the ICTF and Hobart) by moving directly from on-dock terminals to a sorting point outside the LA basin. In principle:

- Existing marine container terminals would use information and operational refinements to load import containers to rail as quickly and efficiently as possible.

- Adequate storage and support trackage would be available in the port area to facilitate building and blocking trains as required.

- While the rail corridor itself (e.g. the Alameda Corridor) would not be dedicated, dedicated rail shuttles would connect the ports with one or more inland sorting points.

- At the inland sorting point, additional sorting and blocking of rail cars and containers would yield outbound trains that could proceed intact to inland destinations.

- Westbound, the process would be reversed, with the inland sorting point splitting, blocking, and sorting railcars and containers as needed to create trains to move intact to individual marine terminals.

Inland Empire Potential

Were an agile port system to be implemented there may be advantages to combining it with inland port operations to build scale economies. For example, until the local markets have grown substantially it would be difficult to justify shuttle service to inland ports at Victorville or Barstow. If such points became agile port sorting centers, however, it may be possible to serve local customers with the same trains.

In this respect the concept inland sorting concept could be merged with inland port functions, but the combination may not be practical. If the inland sorting point were located at an inland port serving regional customers, the same trains that took unsorted containers to be resorted into inland trains would also take containers to be delivered locally. In the near term, however, locating enough rail-served land to build a large terminal for both sorting and loading/unloading is not likely in an area already populated with potential customers – witness the difficulty of locating such a terminal in the Inland Empire. A combined facility would be more feasible in a developing market area such as Barstow or Victorville, but it would be longer before the local market developed.

An Agile Port sorting terminal would require both the ability to sort loaded and empty rail cars, and the ability to transfer containers between cars.

- The ability to efficiently sort cars requires a classification yard with many more tracks than the proposed intermodal terminal.

- Sorting containers between cars would best be accomplished with very large wide-span rail-mounted gantry cranes.

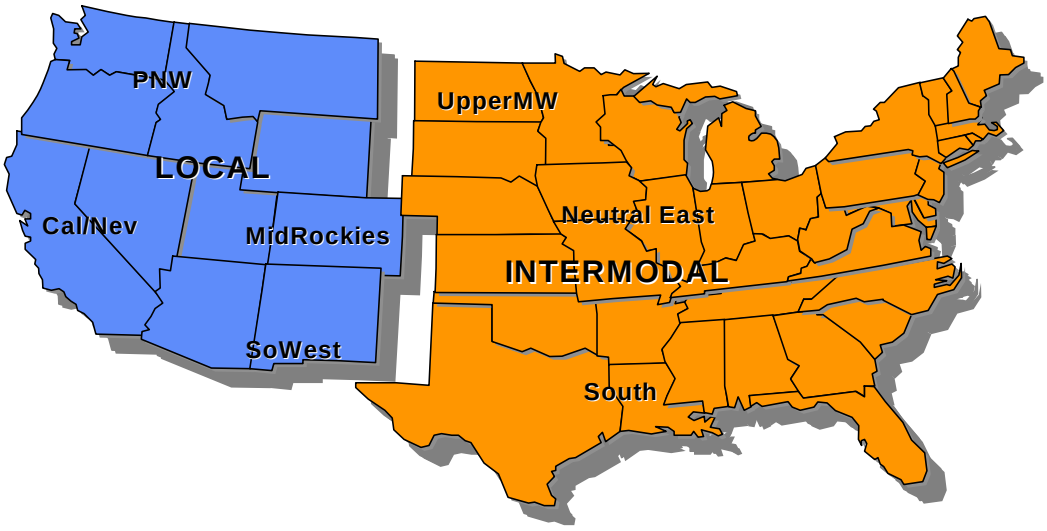
Barstow may be a suitable location for an Agile Port sorting facility, if one were to be built in California. Barstow has lots of room outside of town along the BNSF line, giving BNSF the flexibility to develop a purpose-built Agile Port sorting yard. The railroad would not want to commingle the functions of Agile Port sorting with terminal loading/unloading.

Short-Haul Potential

Agile port concepts would not be conducive to short-haul rail service west of the Rockies. The basic stumbling block of short-haul intermodal service is the cost and delay inherent in intermodal terminal operations that motor carriers avoid.

In a conventional intermodal operation the cost and time penalties of terminal operations must be spread over at least 600–800 miles of economical linehaul operations to be price and time competitive with trucks. Intermodal has very little presence in lanes of less than 750 miles, and almost none under 500 miles. The busiest intermodal lane in between Los Angeles and Chicago, about 2000 miles. From Southern California, intermodal is typically competitive for traffic moving to or from points East of the Rockies (Exhibit 47

Exhibit 47: Local versus Intermodal Markets



With additional terminal handling steps, agile port operations would face even greater handicaps in trying to compete in short-haul markets. As Exhibit 48 and Exhibit 49 suggest, the major California, Nevada, and Arizona markets are less than 500 miles from Los Angeles, and there are only a few smaller markets in the 500- to 1,000-mile range.

Exhibit 48: Rail Market Geography

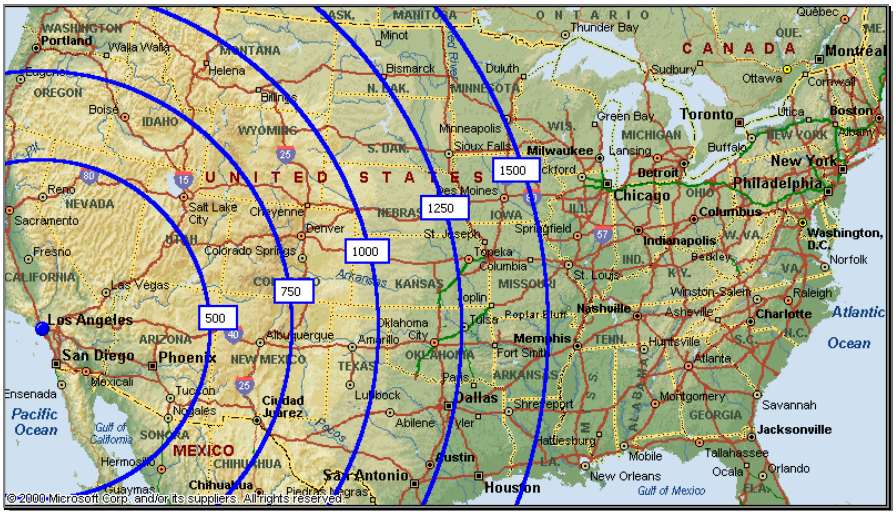
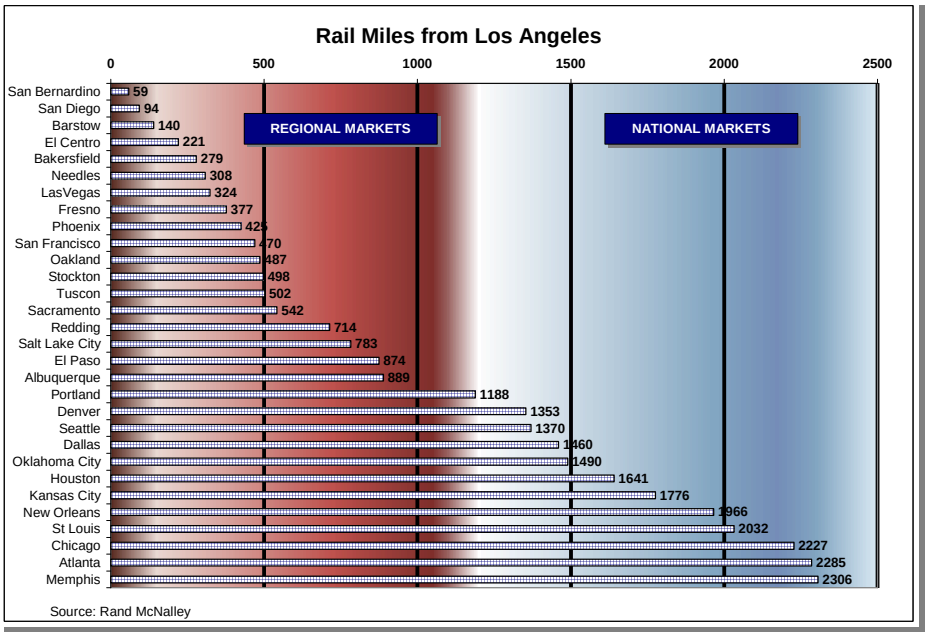


Exhibit 49: Distances to Rail Markets



An agile port system would not be effective in serving such markets and does not have the potential to take trucks to those markets off the highway.

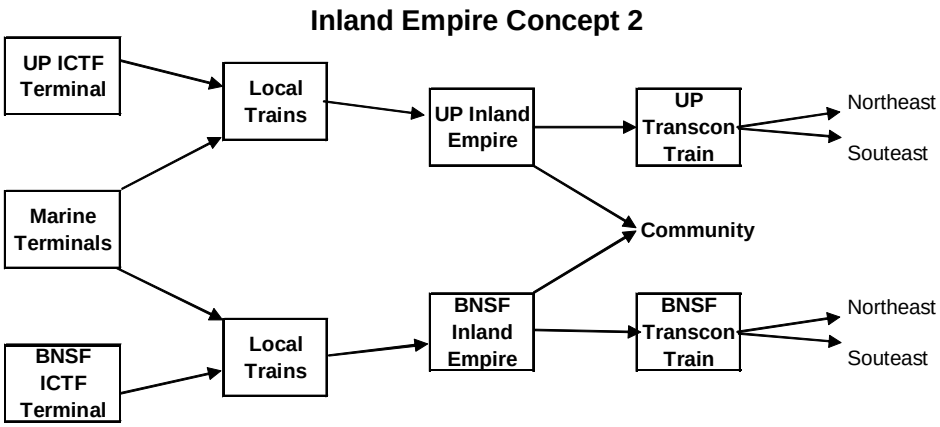
Complexity

Implicit in **Error! Reference source not found.** are some key simplifying assumptions: one marine terminal, one railroad, and one inland sorting point. Actual operational complexity is increased because there are multiple origins in the port area – twelve marine terminals with several on-dock facilities – and multiple railroads involved in the movement.

- **Switching railroad –** Pacific Harbor Lines serving the port area
- **Class I railroads –** Union Pacific and BNSF each have individual commercial and operational considerations.

As Exhibit 50 suggests, under these circumstances the simple agile port concept quickly becomes a complex network. Moreover, as the port container flows are split into multiple segments the economies of scale can evaporate.

Exhibit 50: Complex Agile Port Network



Agile Port vs. EMT

The agile port concept is closely related to the "efficient marine terminal" (EMT) concept, which also uses information to speed the flow of containers and reduce dwell time. The two concepts are complementary, but EMT operations can reduce the need for agile port functions. The key factor in the ability to reduce dwell time in an EMT is vessel storage. If an arriving vessel has been stowed in the correct order for quick transfer to rail, the need for sorting anywhere is greatly reduced. Ideally, rail-bonded containers should come off the vessel grouped by inland destination, enabling the on-dock terminal to create entire trains for specific inland points without time-consuming sorting at the port. Such trains could bypass any inland sorting point.

Cooperation between ocean carriers and railroads has led to pioneering EMT operations at San Pedro Bay. BNSF reports, for example, that OOCL vessels now arrive pre-blocked for rail transfer and that the resulting trains can move intact to Midwest points. Such strategies obviate the need for agile port operations.

Both railroads serving the ports are attempting to run longer trains with greater utilization and less intermediate handling – in direct contrast to the agile port concepts. BNSF, in particular, has been increasingly insistent that trains from the port reach the maximum desired length and have an absolute minimum of empty container slots. Besides making for more efficient line hauls, this strategy makes maximum use of scarce track and line capacity. BNSF's objective is to load eastbound trains on-dock or off-dock so that they require no additional handling before Clovis, NM. UP's parallel strategy is to avoid handling before El Paso, TX.

Implementation Barriers

Conventional on-dock operations, future shuttle trains, and agile port operations all come up against the same barrier: port rail infrastructure. At present, containers bound for lower-volume inland destinations are usually drayed to off-dock rail terminals because there is no way for PHL or the marine terminals to build efficiently sized trains for such traffic. The on-dock rail facilities may generate solid trains of containers for Chicago, but containers for Kansas City might be drayed. To build a Kansas City train, PHL would have to combine cars from multiple on-dock

terminals. The port rail infrastructure, however, lacks the capacity and flexibility to do so efficiently.

As noted in the Inland Port Study reports, rail shuttle trains to the Inland Empire – or rail shuttle trains to an agile port terminal – face the same obstacles. Contacts with PHL suggest that neither Port's rail system is set up to combine cars from multiple terminals. Proposed rail capacity improvements would add some flexibility. Delays in implementing those improvements, however, mean that the new capacity will be filled almost immediately with growing long-haul rail traffic.

Conversely, the same port-area rail improvements required to facilitate agile port or rail shuttle operations would also facilitate expanded EMT operations. If PHL had the ability to combine small blocks of BNSF or UP cars from multiple terminals efficiently, those cars could then be sorted as needed at existing inland terminals before their final destination.

Agile Port Findings

Agile port operations appear to have limited applicability to Southern California's issues. The agile port approach is not necessarily an easier solution to off-dock drayage than conventional intermodal strategies. Agile port operations will not help penetrate short-haul intermodal markets. The encouraging observation, however, is that Efficient Marine Terminal operations are providing some of the same benefits and reducing the need to implement agile port concepts.

Southern California's ports are a complex system of terminals and rail carriers, making detailed agile port operations difficult to imagine or implement. The port-area rail system at Los Angeles and Long Beach is heavily burdened with existing and anticipated intermodal traffic already, and planned improvements have been delayed. Agile port operations would require the same capacity and flexibility improvements needed to handle port growth in a conventional rail system. Agile port operations would perhaps be best suited to new or reconstructed marine terminals whose rail infrastructure could be designed to suit.

IX. Additional Inland Port Functions

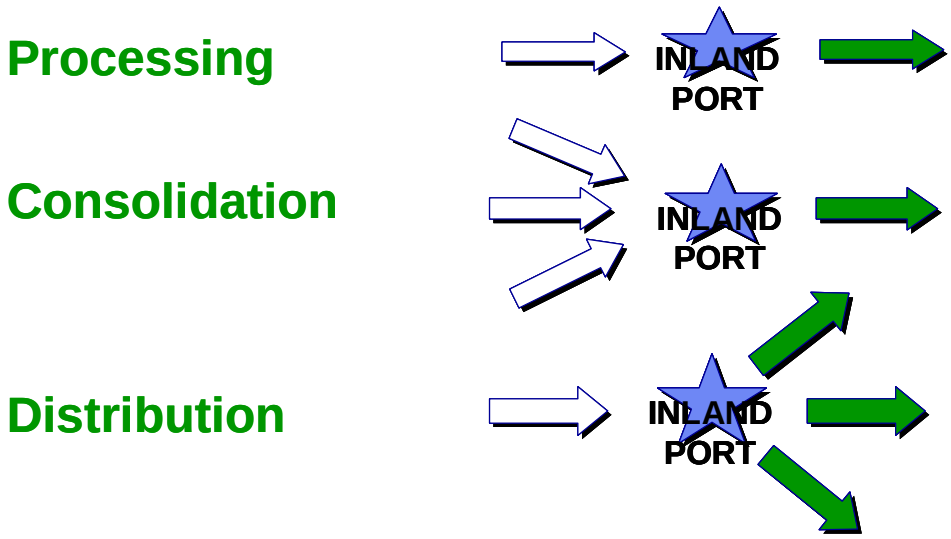
Overview

University of Texas studies have defined an inland port as a facility "located away from traditional coastal borders with the vision to facilitate and process international trade through strategic investments in multi-modal transportation assets and by promoting value-added services as goods move through the supply chain." As the case studies demonstrate, inland ports can take many forms and offer a varying range of services. This chapter describes functions that have been incorporated in inland ports and related projects.

Value-Added Functions

For an inland port or logistics park to prosper its facilities and tenants must be able to create value for their customers. To create value, either the facility itself or the tenants must ordinarily do one or more of three basic things shown in Exhibit 51.

Exhibit 51: Value-added Basics



Process the goods to increase their value. "Processing" in the broadest sense could include refining, sorting, packaging, testing, assembling, or any other operation that increases the value of the goods to the customer. Classic examples include milling grain into flour or packaging bulk goods for retail sale. Completion of regulatory requirements such as Customs clearance or agricultural inspection can, in some sense, be regarded as increasing the value of the goods by making them legal to sell, but the importers, carriers, and customers do not willingly pay for those types of "processing."

Consolidation. Consolidation is a second means of adding value. Consolidation can include:

- consolidation of multiple small shipments into a single, more efficient large shipment; or
- consolidation of multiple items into a single delivered product.

The first type of consolidation is typical of LTL trucking, air freight forwarding, export containers, freight stations, or outbound truck/rail transloading. The second type, also called "kitting" is typical of computer retailers (e.g. Dell) or retail packages of seasonal promotions (e.g. end-of-aisle Christmas card displays).

Distribution. Distribution in its simplest sense is the act of splitting large shipments into smaller shipments for local delivery. This simple sort of distribution is also called "deconsolidation". Typical examples include:

- wholesale-to-retail distribution centers (DCs);
- inbound rail/truck transloading for local delivery;
- inbound air freight forwarding;
- inbound LTL trucking; and
- import container freight stations.

Combinations. Most facilities host a combination of these basic value-added steps. For example:

- LTL truck terminals receive inbound consolidated loads from other hubs, deconsolidate them, resort them, and send them out as consolidated loads to be distributed along a local route. The process is reversed for outbound shipments.
- Retail chain distribution centers receive truckload lots from multiple vendors and create consolidated loads for individual stores. They also receive returned merchandise and shipping containers from individual stores and consolidate them for return to vendors.
- Import distribution centers receive consolidated container loads of merchandise. They sort the merchandise into new consolidated loads for regional DCs or stores, and often "process" imports by packaging and pricing.
- Air freight forwarders may function like LTL truck terminals but may also offer export crating or Customs brokerage services.

Adding value at inland ports. With these basic types of value creation as building blocks, it is possible to ask how different types of inland ports propose to add value. Most inland ports combine modal transfer (including consolidation/deconsolidation of trainload or planeloads) with providing facilities for processing/consolidation/deconsolidation by tenants. The modal transfer and consolidation/deconsolidation of shipments is analogous to a seaport handling vessels with multiple shipments, hence the "inland port" nomenclature. The business of providing land or facilities for processing/consolidation/deconsolidation by tenants is basically the same as industrial park development, with an emphasis on logistics rather than manufacturing.

The balance of this chapter considers a number of different possible ways in which value could be created in an inland port.

Cargo Handling Functions

Cargo-handling functions for containerized freight include consolidation, deconsolidation, and transloading. Historically, these functions were provided at a Container Freight Station (CFS) as part of a marine container terminal. These facilities were operated by longshore labor to serve less-than-containerload customers and as a transition between traditional break-bulk cargo handling and containerization. Container Freight Stations were relocated off-terminal for the same reasons as other ancillary functions: cost and capacity.

Consolidation, deconsolidation, and transloading facilities are now almost exclusively located off-terminal. There are several generic reasons why international cargo would pass through one of these facilities instead of moving as a single container shipment from door to door.

- **Less-than-containerload shipments.** Multiple small shipments with common origin and destination ports can be combined as a single containerload. This type of service is increasingly provided by NVOCCs, ocean freight forwarders, or 3PLs rather than by the container shipping line itself.

- **Specialized handling**. Some commodities require specialized handling that is not available at the point of origin. One example is cotton, which has typically been mechanically compressed at near-port facilities before being loaded into containers for export. Some cargo handling facilities have specialized in the complex blocking and bracing requirements for shipping machinery. Others are equipped to handle "super bags" of plastic pellets.

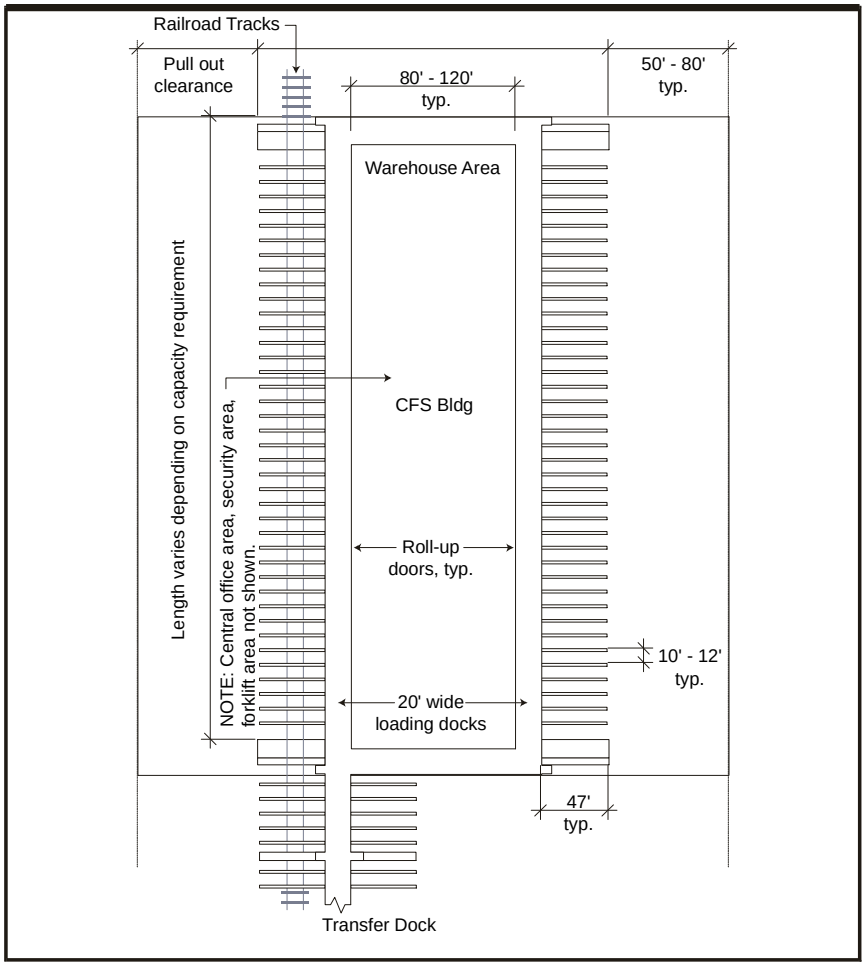
- **Refrigerated commodities.** Refrigerated ("reefer") containers are 10 – 20 times more expensive than dry containers, have significant maintenance requirements, and move empty back to origin more often than dry containers. Some ocean carriers avoid sending refrigerated containers inland, preferring to transload the cargo to domestic refrigerated equipment.

In practice, consolidation, deconsolidation, and transloading are so co-mingled with each other and with other handling functions as to make clear distinctions impossible. Current logistics practices integrate deconsolidation, transloading, sorting, and packaging functions in the same facilities as part of a carefully managed distribution network. The location and function of each node in the network is a company-by-company decision and tends to evolve over time to accommodate shifting company needs.

Transloading

"Transloading" is the practice of transferring cargo between international and domestic transportation equipment, typically to take advantage of the large cubic capacity of U.S. trucks. Until marine containers began moving inland efficiently by rail and truck, transloading was the norm. As a practice, transloading dwindled in favor of full-container shipments until the 1990s. A typical transloading facility configuration is shown in Exhibit 52. The floor space typically ranges from 40,000 to 200,000 square feet. There are several other varieties of cargo-handling services, and few of the operators have single-purpose facilities.

Exhibit 52: Typical Transloading Facility



International transloading facilities are the most numerous in Southern California due to the dominance of import trade. The reasons for such activities can include the following.

- For light and bulky articles, the goods can be transferred from an international 40-foot container to a 53-foot over-the-road domestic trailer or domestic container.
- The portion of the cargo for Los Angeles and west coast consumption can be unloaded, and locally produced goods can be mixed with those arriving from the Asia and/or Central and South America to create an eastbound domestic load.
- Final destinations, quantities and mixes of goods can be changed from the original intent and/or customized for a specific destination based on fresher, better market knowledge.
- Unsold goods can be held at the first port of arrival until their ultimate destination is determined.

Originally such facilities were located close to the ports in the Carson and Compton areas. However, today they are increasingly being located in the Inland Empire or even further into Southern California to mix import cargoes with Southern California domestic distribution.

Commercial Customs Functions

Customs Inspections. As has been widely documented only a small percentage of all import containers are opened or otherwise inspected by Customs and Border Protection (CBP). Containers are inspected for contraband (e.g. drugs), undeclared or mis-declared cargo (e.g. commodities banned, governed by quotas, or subject to higher duties than the declared contents), or stowaways. CBP relies primarily on the Automated Targeting System (ATS), which identifies shipments to be physically inspected based on origin, destination, commodity, shipper/consignee, and other factors. Containers declared to contain handicrafts from Columbia, for example, are much more likely targeted than auto parts from Japan.

Containerized cargo may be inspected via remote sensors, x-rays, cursory examination, or complete unloading for an item-by-item examination. Cargo is cleared for delivery or transport inland only after any necessary CBP inspections are complete.

In-bond transport. Imported goods must be "cleared" by Customs before the consignee can take possession. To be "cleared", the consignee or his agent (a Customs Broker) must complete electronic or paper forms, pay any applicable duties, and make the cargo available for inspection if required. If the only issue involving the cargo is payment of applicable duties, cargo owners or their agents (e.g. a Customs House Broker) may post a bond and transport the container "in bond" to an inland location pending Customs clearance. A large portion of the minilandbridge container traffic moves in bond, with Customs clearance completed before the container is released from the inland rail terminal. In this case, the cargo "enters" the U.S. in the inland Customs District where it was released. The "processing" function is minimal, and is frequently completed without CBP personnel on site.

Customs bonded warehouse. Once "bonded" a shipment can also be moved to a Customs Bonded Warehouse to await final clearance.

Security Functions

Security-related functions *cannot* be relocated inland from the seaports. Containers suspected of containing contraband, weapons, or stowaways cannot be transported inland for any reason without unacceptable security and safety risks. Thus, the increased port activity and investment related to cargo security will not directly benefit inland ports. There may, however, be an indirect benefit if security functions and capital investments squeeze out other functions that could be performed inland.

Foreign Trade Zones

A Foreign Trade Zone (FTZ), also known as a Free Trade Zone, is a federally sanctioned site where foreign and domestic goods are considered to be outside of the U.S. customs territory. Foreign Trade Zones operate at the intersection of regulatory and commercial interests. Cargo received into a Free Trade Zone has not technically entered the U.S. in a regulatory sense and is therefore not yet subject to duties, quotas, or other regulations. Importers can leave inventory in an FTZ (at some cost) until it is advantageous to actually receive it. Under carefully prescribed conditions, cargo can be packaged, combined or otherwise processed in an FTZ and re-exported without U.S. duties or limits. Merchandise can be brought into an FTZ to be stored, exhibited,

repackaged, assembled, or used for manufacturing free of customs duty, quota and other import restrictions until the decision is made to enter the goods into the U.S. market. Foreign Trade Zones are used for a variety of purposes and commodities within complex global supply chains. For example:

- **Cash Flow**. Customs duties are paid only when imported merchandise is shipped into the U.S. Customs territory. Merchandise may be held in inventory in the FTZ without Customs duty payment. Merchandise Processing Fees are owed only when and if merchandise is transferred out of the FYTZ.

- **Exports**. No customs duties are paid on merchandise exported from a FTZ.

- **Spare Parts**. To service many products, spare parts must be on hand in the United States for prompt shipment. Spare parts may be held in the FTZ without Customs duty payment.

- **Quota Management.** Merchandise may be held in a FTZ even if it is subject to U.S. quota restriction. When the quota opens, the merchandise may be immediately shipped into U.S. Customs territory.

- **Quality Control.** The FTZ may be used for quality control inspections to insure that only merchandise that meets specifications is imported and duty paid. All other materials may be repaired, returned to the foreign vendor, or destroyed under Customs supervision.

- **Inventory Control.** The FTZ is subject to U.S. Customs Service supervision and security requirements. Operations in a FTZ require careful accounting of receipt, processing, and shipment of merchandise. Firms have found that the increased accountability cuts down on inaccurate inventory, receiving and shipping concerns, and waste and scrap. Merchandise consumed in processing in a FTZ generally is not subject to U.S. Customs duties.

- **Exhibition.** Merchandise may be held for exhibition without Customs duty payment.

- **Reduced Insurance Costs**. The insurable value of merchandise held in a FTZ need not include the Customs duty payable on the merchandise. Some users of FTZs have negotiated a reduction in cargo insurance rates because imported merchandise is shipped directly to a FTZ without the opportunity for potential pilferage at deepwater ports or major international airports.

The advantages of a Foreign Trade Zone are, of course, highly specific to the import flows and company circumstances involved. Most of all, and FTZ offers flexibility and potential savings to creative shippers and receivers who can take advantage of these opportunities.

Southern California has several FTZs, including:

- FTZ 50 – Long Beach
- FTZ 202 – Los Angeles

- FTZ 205 – Port Hueneme
- FTZ 236 – Palm Springs
- FTZ 243 – Victorville
- FTZ 244 – Riverside County
- FTZ 257 – Imperial County

The hierarchy of FTZs is complex. These regional FTZs are managed and authorized by the federal government. Each FTZ can have many Sub Zones, of which there are 439 in the U.S. also administered by the federal government. Each Sub Zone can have many operators, and each operator can have many locations. For instance, Alps Manufacturing is an FTZ operator at a location in Garden Grove and at another in Compton. Operators frequently change, and the locations each operator sets up as an FTZ change depending on need. There is a constant stream of applications to set up new Sub Zones and another stream of applications to become FTZ operators. Most of the facilities discussed it the case studies offer Foreign Trade Zones.

Container Depots

Containers are stored, maintained, and interchanged at two principal locations: the marine terminal container yards (CYs), and the off-dock container depots. The marine terminal CYs are part of the port terminal complex and operated by the marine terminal operators on behalf of the ocean carriers. Container depots are usually owned and operated by separate, specialized firms.

Existing off-dock container depots already handle large numbers of empty containers. Many empty containers are already stored off-dock in container depots operated by Container-Care, Global Intermodal Services, Shippers' Transport, FastLane, and other firms. These depots handle both carrier-owned containers and leasing company containers, and have the capability of accepting containers from one trucker and releasing them to another.

Container depots have three major functions: storing containers that are currently surplus, acting as a supply point for empty containers, and servicing/repairing containers under contract.

Refrigerated container depots service, maintain, and store refrigerated ("reefer") containers. Reefer containers are heavily insulated ocean-going boxes with refrigeration equipment. The power supply for refrigeration is either a portable diesel-powered generator ("genset") that can travel with the container or electrical power from a fixed outlet in a container yard. Reefer containers are used for produce, meat, dairy products, frozen foods, and other import or export commodities requiring refrigeration or temperature control. These commodities are sensitive, so the containers must be clean, in good operating condition, and often chilled before loading. Collectively, the activities required before loading are called "pre-tripping." After the container is loaded, the container may be returned to the depot to adjust the operation, make repairs, add controlled-atmosphere gasses (often nitrogen), or maintain the generator set that supplies mobile electrical power. In the past, all these functions were typically performed in the marine terminal. Off-terminal reefer container depots emerged to perform these functions more efficiently, conserve terminal space, and give truckers more flexible access to reefer services.

Reefer depots also typically store containers for longer periods (e.g. more than a week and up to several months) between peak season demands, or while awaiting repair or disposition. Longer-term storage does not have the same need for port proximity, and more closely resembles the storage of dry containers without routine servicing or frequent truck trips. The bulk of the longer-term storage functions could be relocated inland.

There are some potential advantages to locating a container depot inland.

- Container depots need inexpensive space away from sensitive residential and commercial development, where inland points have an advantage.

- The availability of a container depot could be a step in encouraging reuse of empty containers.

- Were the container depot to become a source of "pre-tripped" refrigerated containers as well as dry vans, truckers could reduce the need to dray pre-tripped reefers from other sources.

Depot capacity is a function of size (acreage) and stacking height.

- Depot operators have reported difficulty in expanding at existing locations or securing new sites in the same general area. The alternative to site expansion is higher stacking.

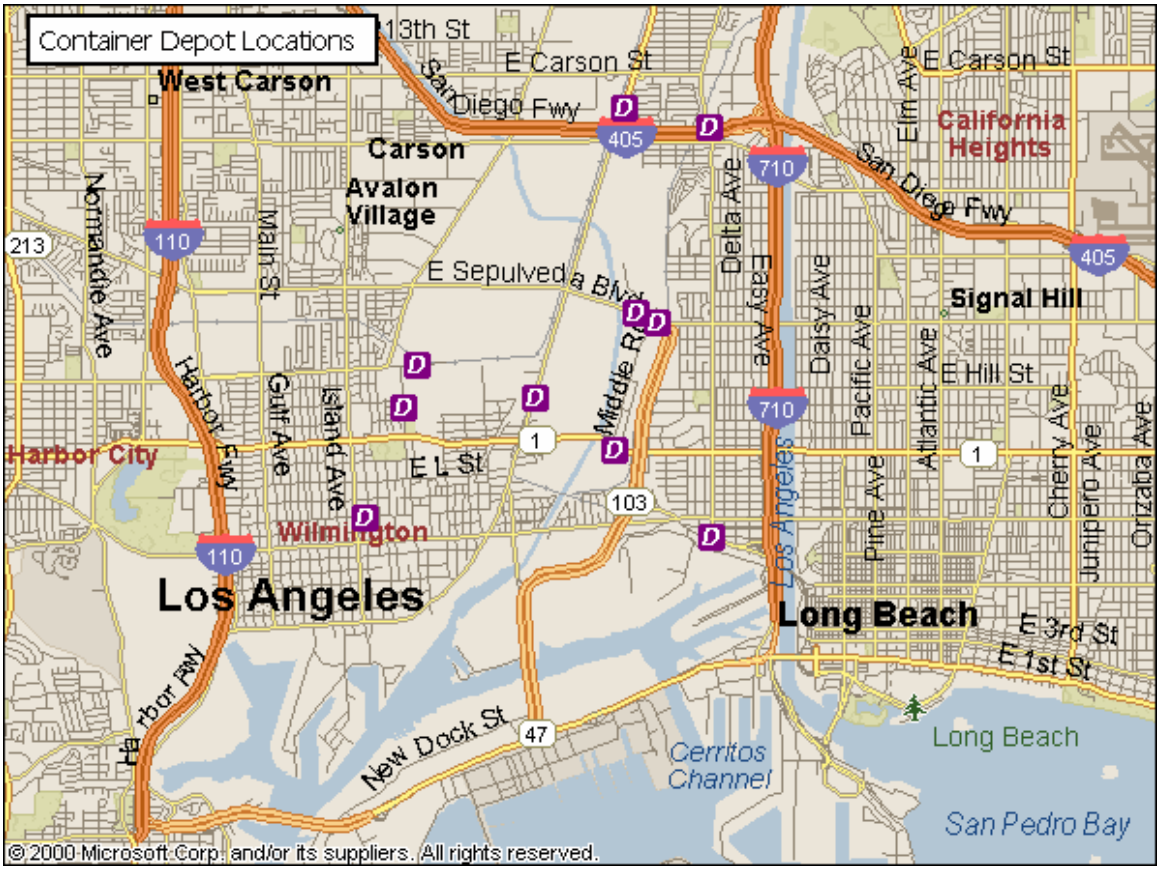
- Where permitted, North American depot operators prefer to stack containers six-high (seven-high stacking is used overseas), although the average is lower. A stack of six containers is 48-57 feet high, the rough equivalent of a six-story building. Many communities object to such large container stacks, and there has been community pressure in Southern California and elsewhere to limit the height of container stacks.

The aerial photo in Exhibit 53 shows a container depot on East Opp Street in a mixed commercial/industrial area of Wilmington. The prominence of the depot is obvious (note the shadows of the container stacks), as is the tightly constrained site. The expansion ability of this heavily used depot, like other depots in similar circumstances, depends on the willingness of local planning authorities to allow such land uses on adjacent parcels.

Exhibit 53: Container Depot

Exhibit 54 shows the approximate locations of container depots in the port area (actual locations may have changed since the data were gathered). Most are clustered in the area north of the ports bounded by I-110, I-405, and I-710. This area has historically been home to numerous light and heavy industrial uses.

Exhibit 54: Container Depot Locations



The ability of container depots to offer adequate capacity near the ports is critical to any increase in depot-direct off-hiring or any long-term potential development of off-dock empty return depots. As noted in the section that follows, the economics of depot-direct off-hiring are not so compelling as to justify significant detours by draymen, and the longer the detour the more the drayman must be compensated. In addition, the VMT and emissions savings associated with depot strategies depend on the detour length: the farther the drayman must go out of his way, the less the VMT and emissions savings.

Most existing depot capacity is about 4 miles from the ports, and 1-2 miles from the nearest I710 exit. This defines a fairly narrow area in which to locate more depot capacity to accommodate cargo growth and changes in empty container logistics. Communities in this area, like communities elsewhere, are becoming increasingly sensitive to industrial development and truck traffic. Container depots have become the focal points of public land-use planning and zoning controversies in San Pedro, Oakland, Chicago, and elsewhere.

Heavy Commodities and "Overweights"

A major reason for transloading or consolidation is the opportunity to load an international container with more net weight than can be legally handled over the highway. Since ocean rates are typically based on the containerload rather than the cargo weight, customers have an incentive to maximize the amount of heavy cargo they can pack into each container.

As Exhibit 55 shows, the state highway gross weight limit of 80,000 lbs. limits the load capacity of a typical 40' ISO container to around 47,300 lbs. An intermodal rail option would allow the container to be loaded to its full maximum load of 59,000 lbs., a 25% advantage. Exhibit 55 also shows that there is no real advantage for 20' containers since the highway limit permits loading them to their full capacity.

Exhibit 55: Highway and Rail Weight Limits

Category	40' ISO Box Typical	20' ISO Box Typical
Tractor Weight	18,000	18,000
Chassis Weight	6,500	6,600
Container Weight	8,200	4,890
Total Tare	**32,700**	**29,490**
Highway Max	80,000	80,000
Highway Load Max	**47,300**	**50,510**
Container Load Limit	**59,000**	**48,020**
Rail Weight Advantage	11,700	-
% Rail Advantage	**25%**	**0%**

Exhibit 56 shows the resulting 5:4 ratio for highway versus rail shipment and the implied consolidation opportunity.

Exhibit 56: Consolidation Ratios

40' ISO Container	By Highway	By Rail
Load Limit	47,300	59,000
Containers to Ship 236,000 lbs	5	4
Shipment capacity	236,500	236,000

A concrete, real-world example of the potential economic leverage of overweight commodities and consolidation can be found in wine or other beverage exports. Information from one shipper indicates that existing containers can be loaded to an average of about 45,000 lbs. to be consistently within highway weight limit due to variations in tractor and chassis weight. If the customer could load the same container to 55,000 lbs. in an intermodal service there would be substantial savings in both drayage and ocean carriage.

One such shipper currently exports about 560 annual loads through Oakland from a single Northern California location. Round trip port drayage is about $625 per container for an annual cost of $350,000. At 55,000 lbs. each the shipper would move only 457 containers for the same export volume. If the shipper paid a total intermodal rate equal to the drayage cost ($625), the company would save $64,205 annually, some of which would have to cover the cost of consolidation near one of the intermodal terminals. There would also be savings on the ocean freight. Each container load costs roughly $4,000 to ship to its European destination. The 560 containers shipped at present cost about $2.24 million. Shipping 457 loads at 55,000 lbs. each instead would save the company $410,909 annually.

Regulatory agencies can designate highway and surface street routes with higher weight capacities, so-called "overweight" routes. In the vicinity of the some ports, a network of such routes connects transloading and consolidation facilities to the marine terminals allowing legal movement of "overweight" containers.

Options for inland ports include developing such routes or developing suitable transloading facilities adjacent to the intermodal terminals. As the role of international trade in the Southern Arizona grows, it will become increasingly advantageous to handle overweight containers in a safe and controlled manner within the region. Creating overweight corridors linking other areas to an inland port would extend this capability to more of the region.

Empty Container Supply

Most export loads require draying in an empty container, and each import load generates an empty to be returned to a port. If the need for empty movements can be reduced or rationalized, total cost can be reduced.

There are at least three possibilities for rationalizing empty container flows.

- **Using rail shuttle service to position empties at inland port depots.** Ocean carriers may be able to use their negotiating position with the railroads to obtain favorable rates for moving empties to inland supply points.

- **Reusing import empties for export loads.** As the import traffic to Southern California distribution centers grows, an increasing number of international empties will be generated in the SCAG Region. Some truckers hold on to a handful of containers for potential reuse, but the effort is piecemeal and impact is small. If these empties could be turned in to an inland depot and accumulated in significant numbers, truckers would reduce the need for empty returns and gain a local source of supply.

Each of these possibilities is an opportunity to reduce the total costs of moving containers by rail between an inland port and the seaports, and an opportunity to improve regional container supply.

The latter consideration is particularly important for some potential businesses. Empty container supply is a key factor in encouraging "urban ore" export businesses such as waste paper, recycled plastic, and scrap metal. In the course of interviews with businesses of these kinds in other studies, it became apparent to the Tioga team that the ready availability of suitable ISO boxes is a major consideration in locating these businesses and in turning a local supply of waste products into containerized exports. To the extent that depots or other arrangements in Southern California can insure a supply of empty containers, such businesses would be more inclined to locate there.

LTL Terminals

Terminals for less-than-truckload (LTL) motor carriers are sometimes considered as candidates for inclusion in an inland port/logistics park development. LTL terminal location choices reflect market demand, operational needs, and labor rules.

Market demand. LTL terminals exhibit scale economies. The decision on if and where to locate a terminal is a function of both total demand and density. In the absence of natural barriers, LTL motor carriers typically operate pickup and delivery service over a 20–50 mile radius from a terminal. A locality with sufficient potential business in such a service area could be a candidate

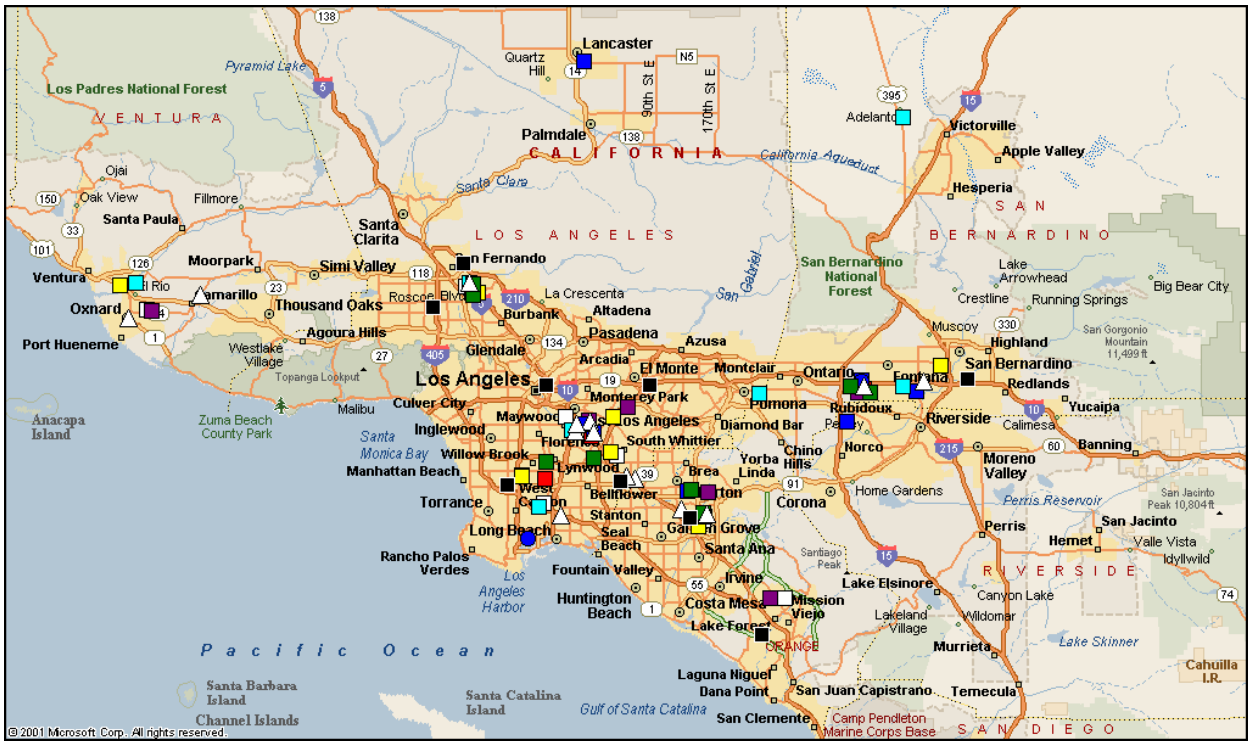
for a terminal. If the potential demand is denser, the target market may be served by a larger terminal or multiple small terminals. If the available freight is not enough to justify a terminal the region might be served through an agent relationship with a local operator.

Operations Requirements. Within a given market region, LTL terminal location choices are driven by:

- Availability of low-cost land
- Freeway access and route configuration.
- Driving distance and time to serve the market

While it might initially seem that LTL terminals should be centrally located in the urban area, , central urban locations are less likely to have large tracts of available low-cost land or easy access to interstate highways. Exhibit 57 shows reported LTL terminals in the SCAG region.

Exhibit 57: LTL Terminal Locations



As Exhibit 57 shows, the LTL terminals tend to concentrate near major freeways in a handful of regional market areas.

- Central Los Angeles
- Long Beach/Gateway Cities
- Orange County
- The Inland Empire

- Ventura County
- San Fernando Valley

Regional LTL terminals reported in directories and websites are listed in Exhibit 58. Note that this list is probably not completely accurate, as terminal closures and relations can happen quickly.

Exhibit 58: Reported LTL Terminals

Company Name	Address	City	State	ZIP
ABF	8001 Telegraph Road	Pico Rivera	CA	90660
ABF	405 E Alondra Blvd	Compton	CA	90220
ABF	12200 Montague St.	Pacoima	CA	91331
ABF	1601 North Batavia	Orange	CA	92867
ABF	10744 Almond Ave.	Fontana	CA	92337
ConWay	1955 E Washington Blvd	Los Angeles	CA	90023
ConWay	12903 Lakeland Road	Santa Fe Springs	CA	90670
ConWay	20805 S. Fordyce Avenue	Long Beach	CA	90812
ConWay	12466 Montague Street	Pacoima	CA	91331
ConWay	2102 North Batavia Avenue	Orange	CA	92867
ConWay	20697 Prism Place	Lake Forest	CA	92632
ConWay	2900 Camino Del Sol	Oxnard	CA	93030
Di Salvo Trucking	6121 Randolph St.	City of Commerce	CA	90040
FedEx Freight	853 S Maple	Montebello	CA	90640
FedEx Freight	3200 Workman Mill Rd	Whittier	CA	90061
FedEx Freight	15200 S Main St	Gardena	CA	90248
FedEx Freight	11911 Branford St	Sun Valley	CA	91352
FedEx Freight	1379 N. Miller St	Anaheim	CA	92806
FedEx Freight	56 Fairbanks Rd	Irvine	CA	92618
FedEx Freight	11153 Mulberry Ave	Fontana	CA	92337
FedEx Freight	3501 Sturgis Rd	Oxnard	CA	93030
GI Trucking	14727 Alondra Blvd.	La Mirada	CA	90638
GI Trucking	1849 W. Valley Blvd.	Colton	CA	92324
GI Trucking	1555 Flynn Rd.	Camarillo	CA	93012
GI Trucking	45 W. 5th St.	Calexico	CA	92231
Motor Cargo	7754 Paramount Blvd.	Pico Riviera	CA	90660
Motor Cargo	1260 Saviers Rd.	Oxnard	CA	93033
Old Dominion Freight Line	1225 Washington Blvd.	Montebello	CA	90640
Overnite	2747 Vail Ave	Commerce	CA	90040
Overnite	7754 Paramount Blvd	Pico Rivera	CA	90660
Overnite	650 S Acacia Ave	Fullerton	CA	92831
Overnite	12455 Harvest Dr	Mira Loma	CA	91752
Overnite	9880 Banana Ave	Fontana	CA	92335
Overnite	2650 S Willow Ave	Bloomington	CA	92316
Overnite	43857 Sierra Highway	Lancaster	CA	93534
Roadway	4700 South Eastern Avenue	Los Angeles	CA	90040
Roadway	21300 Wilmington Ave.	Carson	CA	90810
Roadway	12200 Montague St.	Pacoima	CA	91331
Roadway	640 West Taft	Orange	CA	92865
Roadway	1130 S. Reservoir St.	Pomona	CA	91766
Roadway	18298 Slover Ave.	Bloomington	CA	92316
Roadway	237 Lambert St.	Oxnard	CA	93030
Roadway	17401 Adelanto Rd.	Adelanto	CA	92301
Roadway	1392 Engineer St.	Vista	CA	92083
Silver Eagle Freight	3363 Linden Ave.	Long Beach	CA	90807
Swift	221 E. D St	Wilmington	CA	90744
Swift	9951 Banana Ave	Fontana	CA	92335
UPS	1800 N Main St	Los Angeles	CA	90031
UPS	13233 Moore St	Cerritos	CA	90703
UPS	1100 Baldwin Park Blvd	Baldwin Park	CA	91706
UPS	17111 S Western	Gardena	CA	90247
UPS	1331 S Vernon St	Anaheim	CA	92085
UPS	16000 Arminta St	Van Nuys	CA	91406
UPS	12745 Arroyo	Sylmar	CA	91342
UPS	22 Brookline Dr	Aliso Viejo	CA	92656
UPS	1457 E Victoria Ave	San Bernardino	CA	92408
USF Bestway	575 East Weber Ave	Compton	CA	90222
USF Bestway	12100 Montague St	Pacoima	CA	91331
USF Bestway	2200 North Batavia St	Orange	CA	92865
USF Bestway	10661 Etiwanda Ave	Fontana	CA	92337
USF Reddaway	11937 Regentview Ave	Downey	CA	90241
USF Reddaway	9120 San Fernando Rd	Sun Valley	CA	91352
USF Reddaway	300 S State College	Fullerton	CA	92831
USF Reddaway	10646 Almond Ave	Fontana	CA	92337
Watkins Motor Lines	4500Bandini Blvd.	Los Angeles	CA	90040
Watkins Motor Lines	12200 Montague St.	Pacoima	CA	91331
Watkins Motor Lines	310 W. Grove Ave.	Orange	CA	92865
Watkins Motor Lines	14251 Slover Ave.	Fontana	CA	92337
West Ex	13901 Mica St.	Santa Fe Springs	CA	90670
Yellow	9933 East Beverly Blvd	Pico Rivera	CA	90660
Yellow	12250 Clark St	Santa Fe Springs	CA	90670
Yellow	15400 South Main St	Gardena	CA	90248
Yellow	11300 Peoria St	Sun Valley	CA	95407
Yellow	700 N Eckhoff St	Orange	CA	92868
Yellow	1500 West Rialto Ave	San Bernardino	CA	92410
Yellow	2685 Sherwin Ave	Ventura	CA	95963
Yellow	4313 Atlas Ct	Bakersfield	CA	93308

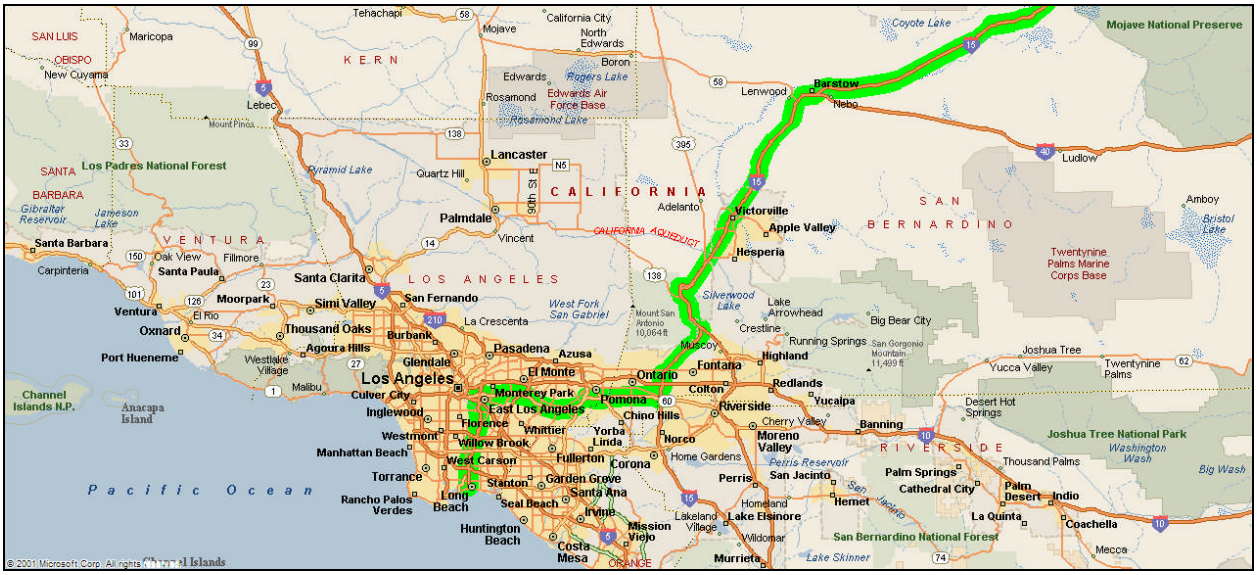
Labor rules. The largest LTL carriers are unionized. The way in which large markets are divided into terminal service territories is dictated in part by union rules. Changes in terminal location or territory definition entail union negotiations. Tioga verified through the in-depth interviews that LTL carriers typically have precisely defined market territories for each terminal.

Inland port potential. Co-location of LTL terminals with inland ports would be most advantageous when a large portion of the long-haul LTL trailers moved via rail intermodal. The location of the Yellow Freight terminal in San Bernardino adjacent to the BNSF intermodal terminal is a case in point. The share of OTR trips that can be shifted to rail, however, is limited by the Master Freight Agreement between the major LTLs and the driver's union. Any LTL terminal must therefore be located to best serve the majority of the OTR and pick up and delivery truck trips. Location near an intermodal terminal can be decisive in a choice between two good markets, but cannot override a market–based decision.

LCV Trucking

Regional infrastructure proposals include a system of "truckways" between the Ports of Long Beach and Los Angeles and Barstow. The route under discussion is a combination of I710, SR60, and I15 as depicted in Exhibit 59.

Exhibit 59: LCV Truckway Route (Approximate)

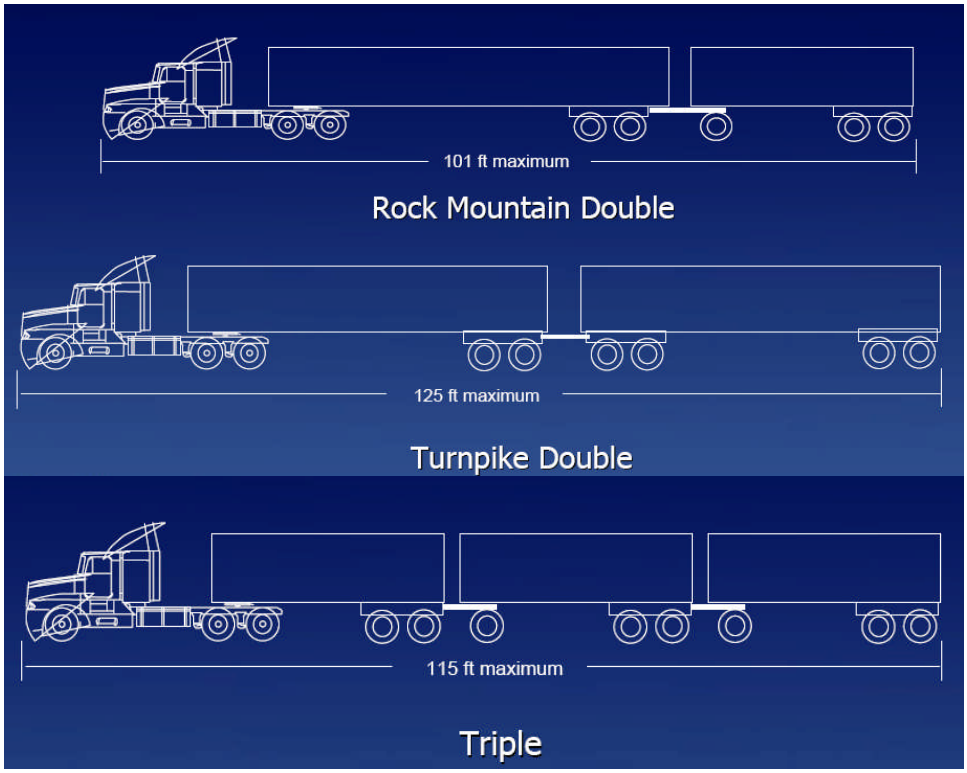


One option for funding truckways is to allow the truckers to operate longer combination vehicles (LCVs). Longer combination vehicles, are tractor-trailer combinations with two or more trailers that may exceed 80,000 pounds gross vehicle weight (GVW). The ability to operate LCVs increases the productivity of the tractor and driver. It is thought that truckers would be willing to incur the incremental cost of tolls to obtain the productivity benefits.[iv]

[iv] An analysis of LCV economics is beyond the scope of this project. The study team has therefore assumed that development of LCV tollways themselves would lead to a demand for LCV staging areas.

LCVs typically include three vehicle types. (Exhibit 60)

Exhibit 60: Longer Combination Vehicles



As pictured, LCVs equipment involved usually include one or more *converter gear units* (also known as *dollies*) used to connect multiple trailers. The possibilities are:

- Rocky Mountain doubles – formed by adding a 28' trailer to a long single semi trailer.
- Turnpike doubles – formed by adding a second long semi trailer behind the first long semi trailer.
- Triples – formed by adding a third 28' trailer to a set of two.

Operation of LCVs is prohibited in California, but operations are relatively common in certain other circumstances in other states contiguous to California, including Nevada and Oregon (but not Arizona) .

LCVs need space available at the start of the trip to hook up the "extra" converter gear and trailer in the combination and again at the end of the trip to detach the extra converter gear and trailer. Traditionally that has been done in a "break-up area" furnished by the state highway department or toll road authority immediately before entering a toll booth.

The driver requires sufficient space to uncouple his existing combination and reposition the trailers and converter gears into the correct sequence. There is also a space requirement for dropped

trailers and dropped converter gears to be temporarily stored awaiting their next use. The number of dropped trailers and converters is related to level of activity and business cycles. Each company has its own converter gears, they are not a common user pool.

The entrance to the lot has to be positioned such that it is prior to toll collection when making up a LCV and after toll collection when breaking up a LCV. Perimeter lighting of the area is mandatory, and depending on the local situation, a certain level of security may be required. Ultimately, the level of LCV patronage on the truckway determines the size of the breakup lot.

Getting the LCV equipment to/from the truckway is the single most important consideration. There are three possible scenarios:

- Normal – the LCV operates on the truckway only. The vehicles that assemble into the LCV are separately shuttled between the breakup lot and the truckers nearest facility.
- Operate to/from an adjacent common user freight terminal or drop lot.
- Operate over local streets – the LCV does not make up or break up at the break up lot, instead it drives over local streets to a nearby private facility at which it is assembled or disassembled.

Originally, all LCV operations on toll roads were required to use the break up areas at the entrance to the toll road to assemble/disassemble the LCV combination so that operations over roadways off the toll road were "highway legal" – meaning that they were as allowed by state regulations. That practice resulted in lower toll road patronage than if the LCVs could operate between the entrance/exit to the toll road and a nearby facility. It is significantly more efficient if the "extra" box does not have to be separated and then separately shuttled by another truck and driver to/from the toll road breakup area. LCVs can be allowed to operate only on city and country roads that are not a part of the federal National Highway System (basically all Interstate and State designated routes).

It is now common for LCVs to enter/exit from the toll road at interchanges that are situated at city streets or county roads and to operate over such local streets for a short distance, generally only one to two miles, to the carrier's private facility. Often they can access the toll road on either a private road or over a short distance on city streets that permit LCVs.

The idea of being located in closer proximity to the entrance/exit to the toll road is critical. The more efficient the shuttle to/from the breakup area, the more probable it is that truckers will use the toll road either with LCVs or with normal truck configurations. If, for other reasons, it is not advantageous for the trucker to locate at or near the entrance/exit to the toll road, it is less probable that the trucker will use the toll road. The lesser probability is more common with private trucking than with commercial trucking. That is because usually the private trucking is appended to the shipper's manufacturing or distribution facility and it is not probable that it is advantageous to relocate the entire manufacturing or distribution facility.

LCV staging lots could be beneficially co-located with LTL terminals. It is likely, in fact, that at least some LTL carriers would locate terminals at staging lots or at approved LCV access routes once an LCV system was developed.

Feasibility of an LCV breakup lot as part of an inland port or logistics park depends, of course, on the existence of an LCV highway or tollway system.

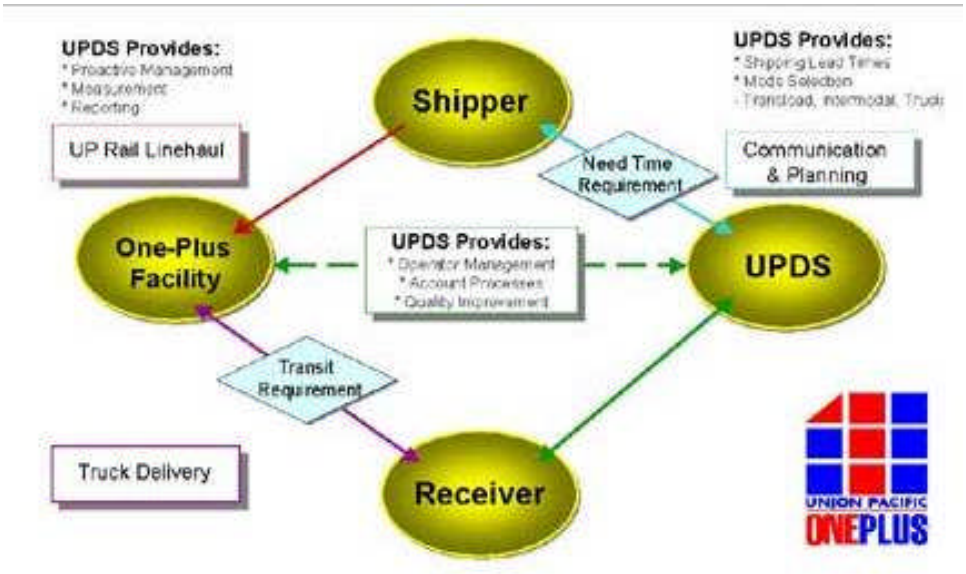
Experience to date suggests that LTL carriers would be the primary users of an LCV system. Most LTL carriers have fleets of 28' trailers and converter units that already operate as triples where possible (e.g. Oregon and Nevada). To take advantage of LCV routes, LTL carriers will need to either establish operations at staging lots, establish approved LCV routes to existing terminals, or establish new terminals on LCV surface routes.

Co-locating an LCV staging area with LTL terminals or various inland port functions would require a large site at an LCV highway exit. The availability of such sites will depend on the final location and configuration of the LCV highways or tollways.

Rail-Truck Bulk Transfer Facilities

Rail-truck bulk transfer facilities typically receive bulk commodities in carload lots by rail, store them in the railcars, and transfer them from the railcar to a truck for final delivery**.** Exhibit 61 illustrates a generic transload process.

Exhibit 61: Sample Rail Transload Process



Source: Union Pacific Distribution Services

For most commodities, there are 3 to 4 truckload equivalents in a single rail car carrying 70 to 125 tons. These facilities tend to be located close to railroad freight yards to enable local rail switching crews to move railcars in and out of the site. These facilities handle bulk commodities for consignees who either lack a rail siding or who place orders for less than a full carload. Often, multiple producers of the same commodity with have rail carloads of competitive products on site at the same facility. The goods are either liquids such as asphalt, alcohol, ethanol, specialty chemicals, or acids, dry bulk such as flour, plastic pellets, catalysts, or fertilizers, or gases such as propane, anhydrous ammonia, or nitrogen. Exhibit 62 below shows a transfer facility moving liquid bulk commodities between rail tank cars and tank trailers.

Exhibit 62: Liquid Bulk Transloading

When transloading lumber (and other building materials such as wallboard, decorative stone, and roofing), transload facilities typically mix shipments that arrive in full carloads to create outbound truck shipments to construction sites. Where these facilities are part of a major wholesale operation, the railcar is not used for storage (Exhibit 63 below).

Exhibit 63: Lumber Transloading

Local steel and other metal fabricators and wholesalers draw their supply of coils, bars and other shapes from manufacturers, often by rail. Depending on the economics of the supply chain and the demand for a given product, the manufacturer will use a rail/truck transfer facility to supply a given clientele. Steel transfer facilities often have an enclosed site and an overhead crane bay (Exhibit 64 below) to lift heavy shipments out of coil cars and low-sided gondola rail cars.

Exhibit 64: Coil Steel Transloading

Auto Ramps

Autos and light trucks (finished vehicles) are usually moved from assembly plants to destination regions via special bi-level and tri-level railcars. At destination, no auto dealer or group of dealers is set up to receive an entire railcar. Instead, the manufacturers use rail distribution centers, often called "auto ramps".

There are three types of auto ramps in Southern California.

- Most auto ramps in the Los Angeles region are destination preparation and delivery centers that transload the vehicles to trucks equipped with auto racks for dealer delivery. There are two on the UP, one at Mira Loma (Exhibit 65). There are two on the BNSF in the Los Angeles area, including one in San Bernardino (Exhibit 66), and BNSF is looking for space for more.

- Imports through Port Hueneme and Long Beach are transferred to trucks and also to railcars at both ports. The import facility can have a large amount of outbound trucking, and some or a lot of rail. UP has two such facilities; BNSF has one.

- Exports are transferred from railcar to ocean vessels at Long Beach. The export facility usually has very little inbound trucking.

Exhibit 65: UP Auto Distribution Facility at Mira Loma

Exhibit 66: BNSF Auto Facility, San Bernardino

Given the existence of several auto ramps in the region, including the major facilities at Mira Loma and San Bernardino, the need for additional auto facilities in the Inland Empire appears minimal. The SCLA site at Adelanto has been considered for an auto distribution facility to serve the expanding Victor Valley region.

Air Cargo Handling

There are three basic types of air cargo service.

- "Integrated" carriers such as UPS, FedEx, and DHL provide pickup and delivery and cover the full spectrum of services, from envelopes and parcels through large freight shipments.

- Passenger airlines such as United, American, and Southwest carry freight as "belly cargo" in the baggage area of passenger planes. Some airlines also operate all-cargo planes. These carriers market their cargo service directly to customers who provide their own pickup and delivery, and also market to air freight forwarders.

- All-cargo carriers, such as Panalpina or BAX, concentrate on freight rather than parcels or letters and usually rely on customers and air freight forwarders for pickup and delivery service.

These three types of carriers operate planes and require on-airport sites with runway access. The integrated carriers also have a network of "retail" counter locations linked to the airport by regular truck trips.

Air freight forwarders are a critical group of intermediaries that purchase service wholesale from the three types of carriers and sell service retail to customers. Air freight forwarders, such as Excel may also offer other services or operate as 3PLs. They are located either on-airport or near the airport, and truck freight to and from the carriers as individual items or loaded "igloo" containers.

An inland port with air cargo capabilities (e.g. a logistics or all-cargo airport) might therefore have both air carriers and air freight forwarders on-site. An inland port that is not also an airport may have air freight forwarders and "counter" offices of air cargo carriers on-site.

Major airports such as LAX or Ontario are typically surrounded by air cargo handing facilities. These facilities include some operated by major airlines to handle "belly cargo' on passenger flights, some operated by all-cargo carriers, some operated by FedEx, UPS, and other parcel and express companies, and some operated by air cargo forwarders and others who do not have their own aircraft. The basic function of these facilities is to transfer air cargo between the aircraft and trucks. An important distinction can be made between air cargo handled loose or on pallets, and air cargo handled in specialized containers (sometimes called "igloos") for specific aircraft.

Air cargo facilities tend to be either single-user terminals for large carriers such as FedEx or UPS, or smaller multi-user facilities used by carriers with less air cargo (e.g. airlines handling only belly cargo) and air freight forwarders.

As the case studies point out, logistics or all-cargo airports also attract aviation businesses that require runway access but that do not handle cargo for others. These businesses typically include flight schools, business aircraft leasing or maintenance, and suppliers to the aircraft industry. These business types fall outside the purview of this study as their location or operation does not appreciably affect the movement of freight at issue. Moreover, they are almost always located at an airport, so there is no overriding economic development purpose in influencing their location decisions.

Many of the all-cargo/logistics airports discussed in case studies have been largely unsuccessful at attracting large-scale economic development on the basis of air cargo services (although some have attracted DCs on the basis of economical land and advantageous location). The reason is simple: very few shippers or consignees of any size move enough of their freight by air to make an airport location attractive. Most DCs, for example, move the bulk of their business by truck, making locations with freeway access more desirable.

The case studies point out that relatively few shippers or consignees rely so heavily on air freight that they prefer to locate near or at an airport. For most businesses, shipping by air is an adjunct to trucking, and air freight is typically minimized due to its high cost. The three Inland Empire

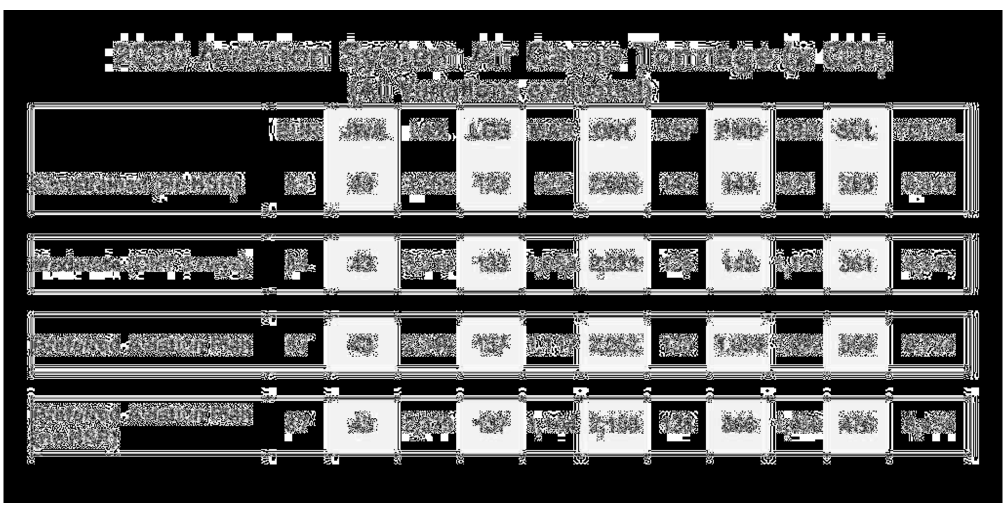
logistics airports already compete for those few shippers or consignees looking for an airport location, so there would be little benefit to creating yet another competitor in this limited market.

Most air cargo moving to or from the Inland Empire is handled at LAX or Ontario, both of which face long-term capacity issues. The Inland Empire has three logistics airports: San Bernardino International, March GlobalPort, and the Southern California Logistics Airport at Victorville. (Exhibit 67)

Exhibit 67: Inland Empire Cargo Airports

The air cargo element of the Regional Transportation Plan anticipates substantial air cargo growth, but concludes that the existing airport system as a whole provides adequate capacity through 2030. (Exhibit 68)

Exhibit 68: SCAG 2004 RTP Air Cargo Element



There appears, therefore, to be no need for additional air cargo capacity at another inland port location. Should there eventually emerge a need, the first choice would ordinarily be to expand capacity at one of the existing airports rather than to establish yet another in the crowded South-

ern California airspace. The three regional logistics airports likewise appear to have sufficient development space for air freight forwarders, and would be the preferred locations for future development of this kind.

All these considerations suggest that an additional inland port development in the Inland Empire area would not benefit from an air cargo component. Likewise, adding air cargo capabilities would not further SCAG's objectives for the study or SCAG's regional goals.

X. Container Flows and Market Segments

Market Estimates

This section lays out the total flow of port containers and estimates the portions moving to and from the Inland Empire in the study context.

Exhibit 69 displays the total LA/LB container traffic for 2006 in TEU and estimated containers (at 1.85 TEU/container). The trade is roughly balanced in terms of container movements, with 4.4 million inbound loaded boxes and a mix of 4.1 million loaded and empty boxes outbound. The other boxes are considered "leakage" – units that come in through LA/LB and ultimately leave via some other port.

Exhibit 69: 2006 Los Angeles/Long Beach Container Trade

Container Trade in TEU

	Loaded Inbound	Loaded Outbound	Total Loaded	Empties	Total TEU
LB	3,719,680	1,290,843	5,010,523	2,279,842	7,290,365
LA	4,408,185	1,423,620	5,831,805	2,638,048	8,469,853
LA/LB	**8,127,865**	**2,714,463**	**10,842,328**	**4,917,890**	**15,760,218**

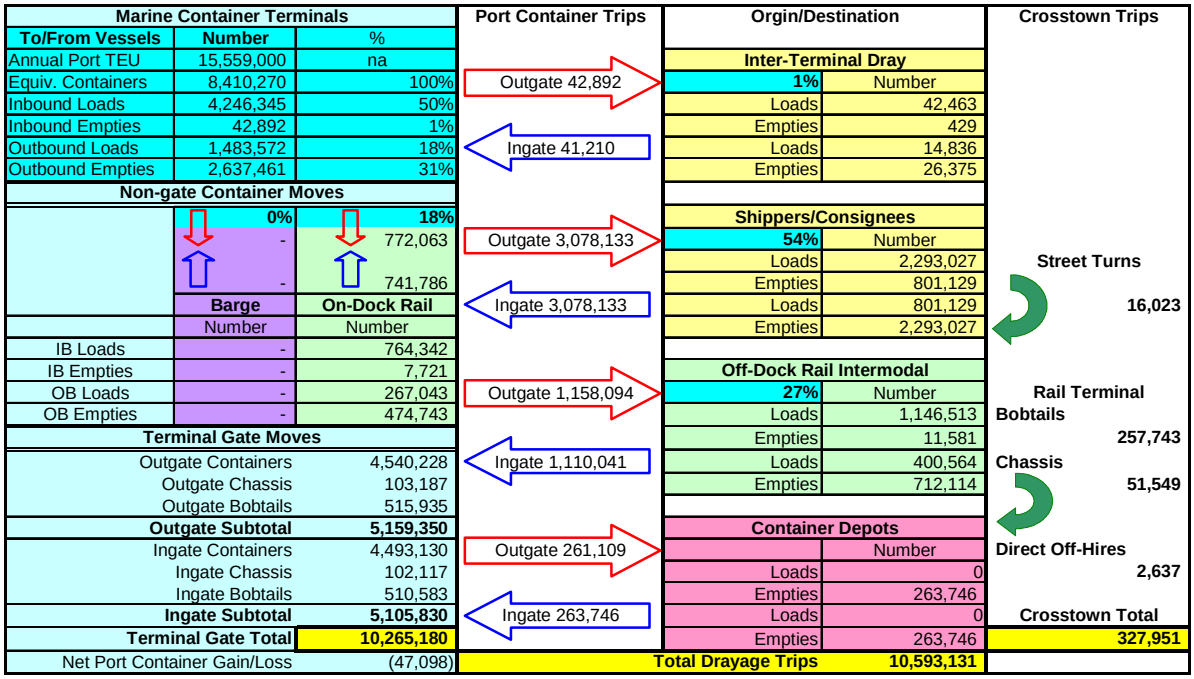
Container Trade in Containers*

	Loaded Inbound	Loaded Outbound	Total Loaded	Empties	Total Containers
LB	2,010,638	697,753	2,708,391	1,232,347	3,940,738
LA	2,382,803	769,524	3,152,327	1,425,972	4,578,299
LA/LB	**4,393,441**	**1,467,277**	**5,860,718**	**2,658,319**	**8,519,037**

Souce: Port websites * at 1.85 TEU/container

Exhibit 70, prepared in draft for a current EPA drayage activity modeling effort, shows what happens to those containers. (Note that the numbers are slightly different, due to different sources.) The pattern is obviously complex, and most of the numbers shown are estimated through various means since there exist no definitive. Of the flows shown under "Origin/Destination" three are contained in the immediate vicinity of the port: inter-terminal drays, off-dock rail terminal drays, and container depot moves. Only the shipper/consignee movements would extend to the Inland Empire or beyond.

Exhibit 70: LA/LB Container Flow Chart



Another perspective is given in Exhibit 71, derived from the TTX Trade Flow Study. That study contains the most recent estimates of rail and transload volumes. The 2005 total for truck movements (including local truck customer plus transloaders who eventually reship by rail) is estimated at 54.3%, almost exactly the same as the 54% shown for actual shippers and consignees in Exhibit 70.

Exhibit 71: Southern California Port Container Market Segments – Percent

Segment	2000	2001	2002	2003	2004	2005es*t
Local/Highway	25.8	23	26.6	25.8	30.0	31.6
Transload/Rail	26.6	27	25.9	26.6	24.3	22.7
Truck Total**	**52.4**	**50**	**52.5**	**52.4**	**54.3**	**54.3**
Intact Rail**	47.6	50	47.5	47.6	45.7	45.7

Source: TTX Trade Flow Study, 2006 * based on data through 3Q05

** Excludes rail terminal trips

The "transload" estimate used in the TTX study is narrower than that used in the Leachman Port Elasticity study. The TTX definition yields a combined rail and transload-to-rail estimate of 67.7%, smaller than the roughly 75% attributed to the Leachman study. Note, however, that the transload share shown in Exhibit 71 has been declining, which explains part of the difference. The Inland Empire share would be drawn from the 54.3% trucked, since none of the intact rail goes to Inland Empire facilities. (The BNSF San Bernardino terminal handles only domestic freight, although some westbound movements arrive in international containers that are moved to the ports when empty.)

Using the TTX estimates and the 2006 container data, Exhibit 72 estimates the loaded container volume sin each segment.

Exhibit 72: Port Segment Estimates

Segment	2006 estimated port container loads		2006 estimated port container truck trips*	
	Import	**Export**	**Import**	**Export**
Local/Highway	1,388,969	463,874	2,777,938	927,748
Transload/Rail	995,577	332,493	1,991,153	664,985
Truck Total	**2,384,546**	**796,367**	**4,769,091**	**1,592,733**
Intact Rail	2,008,895	670,911	Excludes rail terminal trips	

* Assume no container reuse; does not include bobtail or chassis moves

All figures for port truck trips to inland points are estimates from various sources, leading to a range of values depending on the underlying data and the estimation method. Previous port trucking studies have divided the flows by county, with the area immediately north of the ports separated out from the rest of Los Angeles County. The data for daily loaded container truck trips are summarized accordingly in Exhibit 73.

Exhibit 73: Regional Loaded Port Truck Shares

2005 Loaded Trucks	Port Area	Other LA Co.	Inland Empire	Ventura & Orange Cos.	Total
Import Loads (Departures)	66%	17%	7%	10%	100%
Export Loads (Arrivals)	58%	20%	8%	14%	100%
Total Loads	**64%**	**18%**	**7%**	**11%**	**100%**

A manual compilation of the port driver survey data is given in Exhibit 74. For this estimate an effort was made to assign and correct city names based on addresses and other descriptors. Exhibit 74 also includes the east Los Angeles County cities of Pomona and San Dimas in a functional definition of the Inland Empire (Exhibit 75).

Exhibit 74: Alternate Estimate of Inland Empire Share

City	State	Count	Share
BLOOMINGTON	CA	2	0.1%
CHINO	CA	18	1.1%
COLTON	CA	3	0.2%
CORONA	CA	5	0.3%
FONTANA	CA	32	2.0%
MIRA LOMA	CA	38	2.4%
MONTCLAIR	CA	2	0.1%
ONTARIO	CA	63	4.0%
POMONA	CA	13	0.8%
RANCHO CUCAMONGA	CA	4	0.3%
REDLANDS	CA	3	0.2%
RIALTO	CA	2	0.1%
RIVERSIDE	CA	8	0.5%
SAN BERNARDINO	CA	4	0.3%
SAN DIMAS	CA	1	0.1%
Inland Empire Total		**198**	**12.6%**
ADELANTO	CA	1	0.1%
BORON	CA	8	0.5%
LUCERNE VALLEY	CA	1	0.1%
VICTORVILLE	CA	1	0.1%
Victor Valley Total		**11**	**0.7%**
Other Total		**1364**	**86.7%**
Grand Total		**1573**	**100.0%**

Exhibit 75: Inland Empire Cities with Relative Port Truck Volumes

This approach yields an upper bound estimate of 12.6%, versus 7%. Exhibit 76 applies these shares to the data in Exhibit 72 to estimate Inland Empire loads.

Exhibit 76: Estimates of Inland Empire Port Container Trips

Loaded Containers

Segment	Estimated Inland Empire at 7%			Estimated Inland Empire at 12.6%		
	Import	**Export**	**Total**	**Import**	**Export**	**Total**
Local/Highway	194,456	64,942	259,398	349,671	116,779	466,450
Transload/Rail	139,381	46,549	185,930	250,635	83,704	334,339
Truck Total	**333,836**	**111,491**	**445,328**	**600,305**	**200,484**	**800,789**
Intact Rail	Excludes rail terminal trips			Excludes rail terminal trips		

Loaded and Empty Containers

Segment	Estimated Inland Empire at 7%			Estimated Inland Empire at 12.6%		
	Import	**Export**	**Total**	**Import**	**Export**	**Total**
Local/Highway	388,911	129,885	518,796	699,341	233,559	932,900
Transload/Rail	278,761	93,098	371,859	501,269	167,409	668,678
Truck Total	**667,673**	**222,983**	**890,655**	**1,200,610**	**400,968**	**1,601,578**
Intact Rail	Excludes rail terminal trips			Excludes rail terminal trips		

The estimate of the Inland Empire market made by Moffat & Nichol for the ACTA rail shuttle study in 2002 used data on *domestic* shipments from the BNSF San Bernardino intermodal terminal to infer the number of international shipments that must have come from the Ports. That method yielded an estimate of about 700,000 containers each direction, or 1.4 million total trips, exclusive of empties, bobtails, and chassis moves. This estimate lies roughly in the same range.

To provide context to this issue, at SR-71 trucks account for five percent of traffic on I-210, seven percent of traffic on I-10, twelve percent of traffic on SR-60 and seven percent of traffic on SR-91. On an average day 70,000 trucks use these four freeways to travel between the Los Angeles basin and the Inland Empire.[v] The annual weekday total would be roughly 17.5 million. The port container share would be 5-9% of the total.

The port truck share is much smaller than is often imagined. There are at least three reasons why the public might imagine that port traffic accounts for more than 5-9% of the trucks.

- Port traffic is widely publicized, estimated, and discussed, unlike the thousands of relatively anonymous trips that comprise the bulk of the truck traffic.
- International containers are readily identified by their uniform appearance, distinctive colors, and often their steamship line logos. Other types of truck traffic are harder to identify or categorize.
- The public does not readily differentiate between international containers moving to and from the ports and domestic containers moving to and from rail intermodal terminals. The additional domestic container traffic may be attributed to the ports.

[v] 2005 Caltrans Data

Potential Rail Diversions

Exhibit 77 provides a perspective on potential rail diversions in an Inland Port scenario. Assuming two round trips per day (one form each Port) with each train carrying 200 containers, the rail shuttle would divert 12-22% of the estimated port truck traffic in loaded and empty containers.

Exhibit 77: Rail Diversion Perspective

Segment	Estimated Inland Empire at 7%			Estimated Inland Empire at 12.6%		
	Import	Export	Total	Import	Export	Total
Total	667,673	222,983	890,655	1,200,610	400,968	1,601,578
Rail Diversions at 800/day (two round trip trains of 200 containers each)						
Total	15%	45%	22%	8%	25%	12%

The diversions of 800 daily trips would be 1.1% of the 70,000 daily total trucks.

XI. Inland Port/Rail Shuttle Strategy

Original Concept

The original concept for the rail shuttle/inland port combination entailed a conventional railroad intermodal train connecting the Ports with a conventional intermodal terminal in the Inland Empire. Were this combination feasible it would be attractive for its familiarity to the organizations involved and its relatively simple implementation. As the study progressed, however, it became apparent to the study team that many of the implicit assumptions in the conventional model were not true in Southern California, and that a conventional solution was not feasible.

Railroads maximize the length and utilization of conventional double-stack container trains to exploit their economies of scale and make maximum use of crew, locomotive, rail car, and track capacities. Conventional double-stack trains routinely have 30 five-platform cars with a combined capacity of 300 forty-foot containers. Such trains are nearly a mile long and require extensive terminal trackage for efficient loading and unloading at both ends of the trip.

Most such trains are assembled at individual on-dock rail terminals from either a single ocean carrier's import containers or from the combined containers of a consortium or vessel sharing agreement. Where individual terminals do not have enough containers with a common inland destination to create an efficient train, the containers are drayed to an off-dock terminal and combined there with containers from other terminals. For the foreseeable future it appears doubtful that individual terminals could generate frequent, efficient conventional trains to the Inland Empire. To avoid draying containers to a common location and reducing the VMT savings, it would probably be necessary to accept smaller, less efficient shuttle trains that can be assembled at one or a very few on-dock terminals. Inland port rail shuttles are therefore likely to be much smaller than conventional intermodal trains.

It is very unlikely that a large conventional intermodal terminal can be built in the central part of the Inland Empire. BNSF has tried without success for several years to either expand its San Bernardino intermodal terminal or locate a new site. Conventional intermodal terminals typically approach 300 acres, and require both main line access and an appropriate site configuration (essentially a long rectangle).

BNSF previously examined sites at SBIA, Devore, and other locations but found those sites unsuitable or inaccessible. This frustration accounts in part for BNSF's interest in an intermodal terminal at SCLA.

The study team's findings echoed BNSF's results: there are no near-term sites available for a large conventional intermodal facility in the Inland Empire.

- Sites easily accessible from UP and BNSF are heavily developed, with no available parcels large enough for a conventional intermodal terminal.
- Large sites are either inaccessible from the railroads, inappropriately zoned, or physically unsuitable as intermodal terminals.

With obvious difficulties in port rail operations and no feasible terminal sites, conventional rail intermodal operations to a conventional inland Empire intermodal terminal appear infeasible. These roadblocks to a conventional approach led the study team to consider alternative approaches.

The "Commuter" Shuttle Concept

The problems with a conventional approach led the study team to reformulate the concept. The team found the regional passenger and commuter systems offered a familiar template that could be adapted for container shuttles.

In regional or commuter rail systems such as Metrolink, relatively short trains (Exhibit 78) are operated between small terminals or stations. The smaller commuter trains can accelerate and brake faster than longer, heavier conventional freight trains (freight trains made up of either intermodal cars or ordinary freight cars, Exhibit 79).

Exhibit 78: Metrolink Commuter Train

Source: Metrolink Photo Archive, Los Angeles Metrolink Historical Society

Exhibit 79: Double-Stack Freight Train

Source: The Tioga Group

This ability allows shorter trains to stick closer to schedule, reduce interference with other trains, and recover better from delays. Smaller trains can also use short station or terminal sidings to clear the main line for other trains.

Commuter and regional trains are often operated by regional transportation authorities (such as LAMTA) or contractors (often Amtrak) over trackage owned by private railroads (e.g. BNSF or UP). The passenger train operator pays to use the mainline trackage ("trackage rights") and may separately share in capital or maintenance costs.

In discussions with the railroads, introducing the commuter train paradigm was a significant breakthrough. Both BNSF and UP have experience working with commuter and regional passenger agencies, such as Metrolink, Amtrak, and the Capital Corridor. Thinking of a rail shuttle as a "commuter train for containers" facilitated comparisons with known operations rather than a hypothetical "publicly controlled freight train".

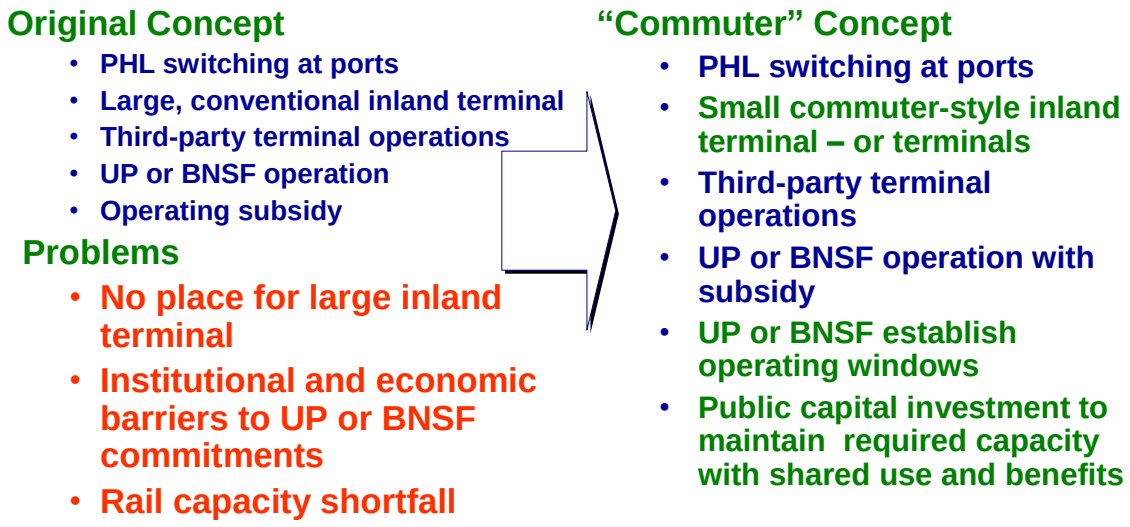
The commuter train paradigm opens the door to public-private partnership options. Where commuter trains are operated by public agencies (either directly or by contractors), the railroad is essentially charging rental for track space. This arrangement insulates the private railroad from the finances of the train operation. The operating subsidy would be going to the sponsoring agency, not to the private railroad – a significant political distinction. The commuter concept also facilitates shared capital investment for capacity improvements (trackage, signaling, control system, etc.). The California State Rail Plan is, in fact, heavily focused on improvements needed to facilitate more and better passenger service.

It must be noted, however, that railroads have rarely "rented out" their trackage to outside *freight* operators. Trackage rights agreements between railroads are common and familiar, although they can take years to negotiate and can cause day-to-day friction between host and operator. One option in Southern California may be to contract with Pacific Harbor Lines (PHL) as the shuttle operator. PHL will, in any case, perform the port-area switching for the rail shuttle. PHL already has trackage rights agreements with both railroads in the Port area. It is usually easier to extent existing relationships than to start anew.

There would likely be some resistance from the railroads and rail unions While passenger train jobs have long since shifted to Amtrak or regional transportation agencies, freight operating jobs are jealously guarded.

As Exhibit 80 suggests, the conventional and commuter paradigms have some elements in common: PHL switching at the Ports, third-party terminal operations inland, and subsidized shuttle operation by BNSF or UP.

Exhibit 80: Changing Gears: The "Commuter" Shuttle Concept



The keys to success are the working relationship, the provision of scheduling "windows," public agency station development and operation, and joint investment in the required line capacity with shared benefits.

Basing a rail intermodal shuttle on the commuter model may be the best way to serve an inland port.

- Public agencies are comfortable with commuter/regional rail operations and economics.
- Both Class 1 railroads cooperate with commuter and regional rail operations in multiple locations.
- Railroads make a fixed number of operating "windows" available
- Sponsor agencies develop stations and administer subsidies
- Sponsor agencies invest in line capacity, and benefits are shared

There are several interrelated elements to a successful rail shuttle strategy.

- Improvements in port-area rail network to facilitate PHL train assembly.
- Selected public-private capital investments to increase network capacity, e.g. additional trackage, longer sidings, signaling, etc.
- Terminal location to minimize mainline conflicts.
- Joint planning to schedule shuttles in available operating windows.
- Negotiated limits on number and length of daily trains.

- Negotiated operating subsidy.

Finally, there would need to be an agreed implementation timeline and criteria for a successful service. The railroads are understandably concerned about open-ended commitments if the service does not attract enough traffic to yield the expected benefits.

With daily trips, the assembly time required at the ports, the wait for an operating window on the main line, and the time required to unload the train at the inland port terminal indicate that the service will be effectively "next morning" (e.g. containers ready to leave the marine terminal on Monday would be delivered in the Inland Empire on Tuesday morning.) "Next morning" service is not a fatal flaw. The heavy influx of import containers unloaded at vessel arrival – particularly with growing vessel sizes and multiple daily arrivals – often exceeds the aggregate port drayage capacity. In busy periods it is common for customers to designate "hot boxes" that must be delivered the same day as vessel arrival, and then allow the chosen drayage firm to stretch out delivery of the remaining boxes as needed. Thus, "next morning" delivery is already common. Daily train service would have to establish a high degree of reliability but would not be at a transit time disadvantage.

An alternative is for major ocean carriers (or consortia using the same on-dock terminals) to assemble one or two weekly rail shuttle trains corresponding to major vessel arrivals. If, for example, Ocean Carrier A has vessels arriving Monday and Thursday, its rail shuttle trains would depart the port Monday night and Thursday night for inland port delivery Tuesday and Friday mornings. On Wednesday it is unlikely that Ocean Carrier A would have sufficient Inland Empire container volume to warrant another departure. A similar system on a much larger scale is already in place for long-haul double-stack trains with departures keyed to vessel arrivals.

Empty containers could be returned to the ports on an entirely different schedule – again in parallel with long-haul train practices. By accumulating empties in an inland depot or buffer, the system could send full cars of empties, or conceivably full trains of empties, to each on-dock terminal.

Commuter-Sized Terminal Operations

In Tasks 1 and 2 Tioga considered three planning cases for an inland port rail intermodal terminal based on volumes of 30,000, 60,000, and 120,000 annual lifts. The planning factors above drive the following conceptual requirements. (Exhibit 81)

Exhibit 81: Sample Intermodal Terminal Planning Cases

Planning Factor	Small	Medium	Large
Annual Lifts	30,000	60,000	120,000
Minimum Acreage	15	30	60
Loading Track Length	2,000	4,000	8,000
Storage Track Length	5,000	10,000	20,000
Parking Slots	300	600	1200
Annual Gate Volume	45,000	90,000	180,000
Estimated Cost	$3.0-$ 7.5 Million	$6.0-$15 Million	$12-$30 Million

Terminal lift equipment would also be required. The number of machines is dependant upon the number of primary and secondary lifts to be provided as well as the schedule of both trains and the gates.

Exhibit 81 also has implications for site selection, as the minimal size shown for a large facility is 60 acres. The track length of 8000 feet implies the need for a long, narrow site.

In a conventional intermodal terminal most of the space is used for parking trailers, containers on chassis, and empty chassis. The parking space requirement is determined by traffic volume (the number of units inbound and outbound) and dwell time (the average time a unit remains parked). Multi-day dwell times create the need for large parking lots. Units arriving by train are parked until picked up by the customer or the customer's drayage carrier, and many units may wait in the yard for 3-5 days. Units arriving by truck for outbound movement by rail may also wait 1–2 days. Loaded units have the shortest dwell times, but it is still common for inbound units to be parked for 1-3 days. A small portion of the loads can be parked longer, at which time they begin accumulating storage charges. Empty units can remain parked much longer, especially when the terminal is being used as a source of empty equipment for local outbound loads.

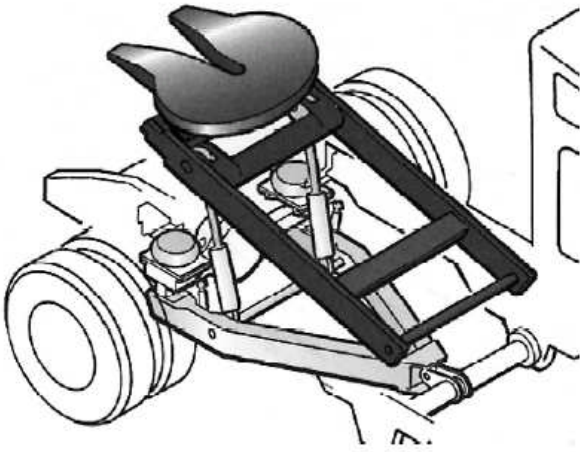
To maximize the throughput of small commuter-sized inland port terminals, the study team recommends implementation of one or more strategies to move bare chassis storage off-site and minimize on-site parking of all kinds. Bare container chassis can be particularly troublesome. At terminals without neutral chassis pools each ocean carrier must maintain its own pool of chassis, and utilization of chassis and terminal space suffers. There is a strong industry trend toward neutral chassis pools in which the bare chassis are used by multiple member carriers. Neutral chassis pools have been established by Maher Terminals, Trac-Lease, and OCEMA (the Ocean Container Equipment Management Association). Neutral chassis pools typically reduce on-terminal chassis fleet size by about 25%, but they still store chassis on-site.

Remote parking lots are one option. Congestion at SCAG region intermodal terminals has led the railroads to establish remote parking lots. BNSF has remote parking lots for different purpose and customers at both Hobart and San Bernardino. At an inland port, one or more remote parking lots could be used for bare chassis supply or storage of empty containers. Without valuable merchandise inside, these units do not require the level of security demanded for loaded units.

The key to efficient operation of a remote lot is access for terminal yard tractors so that units can be moved between sites without time-consuming equipment inspection and interchange procedures. Yard tractors (Exhibit 82 and Exhibit 83) have powered "fifth wheel" hitches to raise trailers and chassis without retracting the landing gear.

Exhibit 82: Yard Tractor

Exhibit 83: Powered Yard Tractor "Fifth Wheel"



Yard tractors usually move trailers and chassis without connecting the trailer air brakes. These two practices dramatically reduce the time and cost of moving units around the terminal. Ideally, these movements should take place on a private, dedicated road between the sites with no access for public vehicles.

There are two alternatives where private access roads are not feasible.

- Permitted operation on designated public streets, perhaps in designated lanes. This alternative may encounter local opposition on safety grounds.

- Inter-site movement by licensed highway tractors with trailer landing gear raised and brakes connected. This alternative would increase the time and cost.

A key attraction of a remote lot strategy is its flexibility. Remote parking lots can use smaller, odd-shaped parcels unsuitable for the intermodal terminal itself. Sites under electric power lines or elevated freeways would be ideal. Remote lots could also be established as interim land uses, since all that would be required is a level gravel surface and a chain link fence.

Ideally, the small inland port terminal should be a "live lift" operation. In live lift operations inbound containers are transferred from the train to waiting chassis already attached to the drayage tractor for delivery and are never parked in the terminal. Outbound containers would be drayed directly to trackside and transferred from the road chassis to the train, again without parking in the terminal.

At conventional terminals live lifts are usually performed only for high priority inbound loads and occasional outbound loads. The dominant practice is to unload the inbound containers to bare chassis that are parked for later drayage. This method disconnects the drayage and train operations and allows the railcars to be moved out of the way so the loading tracks are free for another train.

The proposed shuttle operation would change that paradigm. All inbound containers would be coming from the ports on either the same day or the previous day, making it possible to plan the delivery drayage and set customer appointments for many of the inbound loads. With a neutral chassis pool it should be possible to stage bare chassis at trackside for the inbound train.

Drayage drivers would pick up inbound loads from trackside, avoiding the cost of moving them to a parking lot whenever possible. There will inevitably be exceptions for which a small parking area will be needed.

Outbound units being returned to the ports – predominantly or exclusively empty containers – will need to be loaded according to the on-dock terminal of destination. To utilize train capacity efficiently each rail car headed back to the port should be full. Depending on the rail cars used, meeting this goal would require that outbound 40' units be accumulated and loaded in groups of two (for single-platform double-stack cars), five (for five-platform sets of single-level cars), or ten (for five-platform double-stack cars). In all likelihood this need would be met by using a remote lot to stage the empty units.

An alternative approach would be to establish empty container depots near the inland port terminal. Empties would be returned to the depots, and the depots would manage the flow of empties back to port terminals. This approach could have multiple benefits.

- Container depot capacity in the port area is becoming tight. Locations in the Inland Empire or beyond would add needed capacity.
- By holding more empties outside the port marine terminals, this strategy would increase the port capacity for loads and reduce empty dwell time. Currently, empties typically accumulate and take up terminal space until they are either loaded on an outbound vessel or drayed to a depot.

Off-terminal "buffer" sites have been proposed as a means of increasing port capacity and shifting some of the container traffic volume to off-peak hours. PierPass has addressed the off-peak issue, but off-terminal "buffers" in the form of Inland Empire depots linked by a rail shuttle might still contribute to net port capacity.

XII. Port Area Rail Operations

Overview

The logistics of a rail shuttle/inland port combination are seriously complicated by the fact that Southern California has two ports and multiple container terminals served by two railroads. It is perhaps too easy to refer to "the Port" and sketch movement diagrams as if the Ports of Los Angeles and Long Beach were a single location. In fact, as Exhibit 84 shows, the port complex includes fourteen terminals which are served by several on-dock rail terminals.

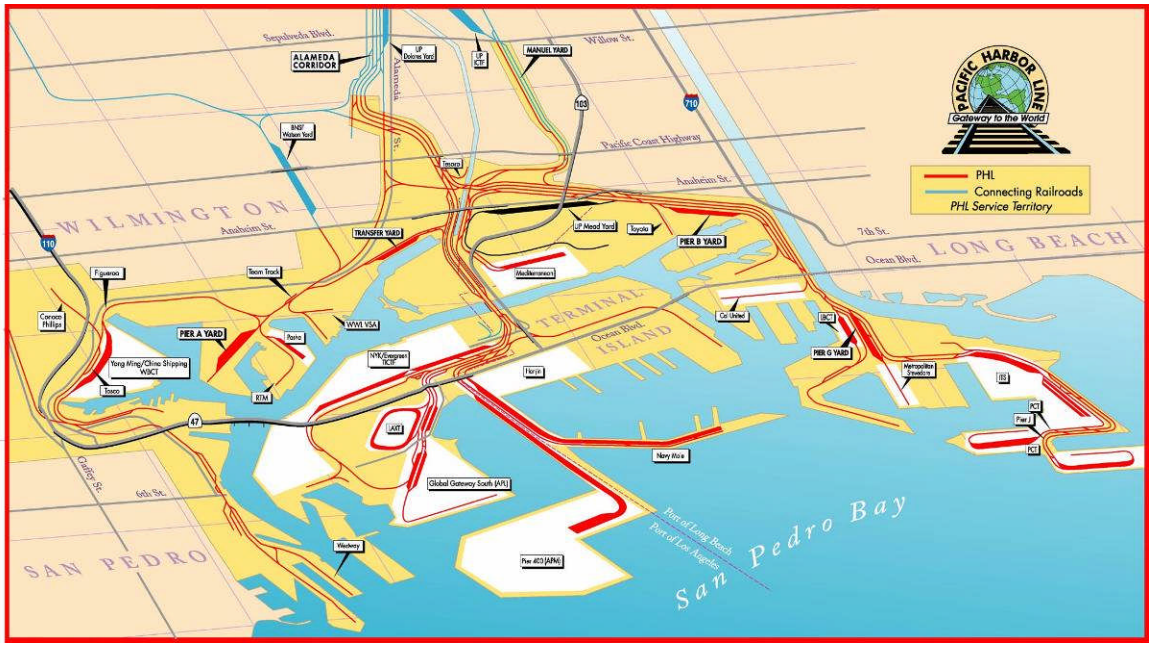
Exhibit 84: LA/LB Container Terminals

The multiple on-dock terminals at the two ports significantly increase the time and cost required to assemble rail shuttle trains and would force a tradeoff. If individual on-dock terminals cannot generate efficiently sized daily rail shuttle trains, then either PHL will experience greater time and cost of assembly or the system will not be able to offer daily service.

Pacific Harbor Line

Pacific Harbor Line (Exhibit 85) serves the on-dock terminals and connects them to UP and BNSF. Discussions with PHL have revealed serious infrastructure barriers to efficient port-area assembly of rail shuttle trains.

Exhibit 85: PHL Service to Ports



Ordinarily, entire intermodal trains are loaded and unloaded within individual on-dock terminals. Rarely does PHL attempt to make up an outbound train by assembling cars from multiple terminals, or breakup an incoming train between multiple export terminals. To do so PHL would need substantially more off-dock yard trackage in strategic locations. Newer purpose-built intermodal facilities such as TICTF at Los Angeles have more yard trackage than older, legacy facilities such as LBCT at Long Beach. Basically, the legacy port rail network was not designed to assemble intermodal trains from multiple terminals and does not work well for that purpose.

The Port's rail infrastructure development plans would add substantially to the switching capacity of PHL. Implementation of those plans, however, is not imminent. By the time the new capacity is built it will be largely full with higher priority long-haul intermodal traffic.

Each on-dock terminal operator who participates in the shuttle train operation may need to set aside space within their operation to load a block of one, two, or three double-stack cars. The cars could be pulled by a PHL switch crew to assemble a train within the port area. This alternative would work in the LA portion on Terminal Island, and at the Hanjin Terminal at the Port of Long Beach. The remainder of the terminals in the Port of Long Beach accessed by rail beyond 9th Street in Long Beach are presently too congested and lack run-around tracks to allow access without disrupting on-dock loading operations. There are several capital improvement projects in the Port infrastructure plan that would, when completed, change the operation to allow for an inland terminal shuttle train operation within the Port of Long Beach. However, until these changes are made it is not feasible to consider a shuttle train service that builds the train by pulling loaded cars from individual terminals within the Port of Long Beach.

In addition to not being able to access the on-dock facilities in the Port of Long Beach, pulling cars from the Yang Ming facility by the same switch crew that assembles the train by switching the Terminal Island on-dock facilities may not be possible given the location and the volume of long haul intermodal trains on the Alameda Corridor. The terminals that could be readily ac-

cessed as part of a container shuttle train service are Pier 400, Global Gateway South, NYK/Evergreen, and Hanjin.

The operation of the shuttle train described above could be accomplished by a new PHL crew that would come on duty based on the time the finished shuttle train would depart on the Alameda Corridor. They would start from Pier A Yard by pulling an inbound group of double stack cars loaded with empty containers returned from the inland terminal. These cars would need to be held in PHL's Pier A Yard from the time of arrival of the inland shuttle train until it is pulled by the PHL switch crew. Depending on the timing of the arrival of this train, PHL may have some difficulty holding the train given the need to pull loaded cars from the on-dock facilities before placing the returning cars with the empty containers. Once the outbound shuttle train is assembled it will need to depart for the inland terminal.

The crew that operates the shuttle to the inland terminal would probably not be able to make a return trip within the hours of service requirements. A second crew would then be necessary to operate the train from the inland terminal to the port area. This crew will need to be timed to allow it to pull the cars of empty containers prior to the arrival of the shuttle from the port. While a second crew would add to the operating cost, the necessity of constructing inland terminals that can hold two sets of cars – the inbound loads as well as the outbound empties – will be eliminated. This will allow for either a smaller footprint for the terminal or more throughput capacity because more loaded cars can be spotted with once-a-day service.

The staging of the empty container train in Pier A Yard would not be not as disruptive to current PHL operations as would be the case if the loaded outbound train needed to be staged in the yard. The PHL classification operation starts at 4:00 PM and, given that more track space is required during carload classification operations, making one or two tracks unavailable in the evening could interfere with carload operations. Also, the carload jobs that service non-intermodal customers pull cars from Pier A Yard early in the day, freeing up space in the yard.

The observation that two "line haul" crews would likely be required for the inland terminal shuttle is based on experience. There is a daily non-container shuttle train operation between the Port and the Inland Empire that has existed for years. BNSF and PHL operate a Slab Train Shuttle between Pasha Yard on PHL and California Steel in Fontana on BNSF. This operation consists of a daylight operation loading of imported steel slabs onto railcars for a 7:00 PM shuttle train departure for Fontana. At the same time, a train of empty cars departs Fontana with a scheduled arrival at PHL no later than 6:00 AM. This service operates seven days a week, as needed, depending on import steel delivery at the port.

BNSF local operating personal agree with the PHL observation that a single crew cannot make the turn-around, and that two crews would be necessary. They confirm that the Slab Train is a two-crew operation and that on occasion the inbound crew returning the empty cars cannot complete the move within the 12 hours of service allowed, due to congestion in the area. They also confirm the PHL observation that a shuttle operation at on-dock facilities in the Port of Long Beach are not feasible at present, but could be once infrastructure changes in the Port plan are funded and made.

Assembly of rail shuttle trains at the Ports is thus less feasible and more costly than assumed at the outset of the study. For the near term PHL and the Ports are hamstrung by lack of capacity. There is likely to be a perpetual capacity limit, with that capacity (justifiably) taken up with long-haul traffic.

The long-term limitations on port-area rail capacity is a serious barrier to implementation of a rail shuttle. Cost aside, it appears unlikely that the port-area rail network will ever be able to support assembly and breakup of multi-terminal rail shuttles without disruption to higher-priority movements.

XIII. Main Line Rail Operations

Mainline Rail Capacity

The emerging shortage of mainline rail capacity between the Ports and the Inland Empire is a second major implementation barrier to a rail shuttle. The BNSF and UP lines are faced with mounting demands from multiple sources of traffic growth, most of which have higher private and public priority than a rail shuttle. While an aggressive regional rail expansion plan might create sufficient capacity to meet these multiple needs, it is not clear that the benefits of a rail shuttle would justify the incremental cost.

Through the early 1990s railroads typically had reserve capacity and sought to rationalize their physical plant by retiring the unproductive excess. Since then, however, rising rail freight levels and increased demand for publicly sponsored passenger service has exhausted the reserve rail capacity in many places. Railroads facing capacity constraints understandably prefer to use that capacity for the most attractive long-haul business.

There are three sources of escalating demand for rail capacity between the Ports and the Inland Empire.

- **Trade growth.** Continued growth in intermodal container traffic through the Ports is probably the single most important factor.
- **Domestic freight growth.** The expanding population, production, and consumption of the SCAG region is resulting in domestic intermodal and carload freight growth.
- **Passenger Rail.** Portions of the same rail routes traveled by freight are used for regional and interstate passenger service. Passenger service growth in the form of new routes and more trains on existing routes increases the pressure on mainline capacity.

Public policy is closely aligned with the railroads' preferences in this regard. Rail transportation is more efficient on longer trips. It would not be in the public interest for short-haul rail shuttles to displace long-haul container trains. Long-haul trains eliminate thousands of truck miles regionally and nationally. The congestion and emissions relief benefits of moving a container 2000 miles to Chicago clearly outweigh the benefits of moving one to the Inland Empire. The public and the railroads have a common need to maintain capacity for existing and expected long-haul trains, while providing sufficient capacity for the rail shuttles.

UP Operations Perspective

The UP operates two main lines between Colton and Los Angeles in the area of interest for this study. The Los Angeles Subdivision operates from East Redondo to Colton via Riverside and the Alhambra Sub operates from Yuma Jct. to Colton. The LA Subdivision connects with the Alameda Corridor at East Redondo.

UP is working toward increasing capacity in this corridor by double tracking the Alhambra Subdivision, scheduled to be completed in 2009 and is working with the Ontario Airport Authority to locate what will be a mile long connection between the LA and Alhambra Subdivision just west of the expanded airport. The combination of these two UP capital investment projects will increase operating flexibility and thus capacity for trains in and out of the LA Basin. A third capital investment project (Colton Crossing) involves improving efficiency for UP and BNSF operations in Colton where currently the two railroads cross each other at grade. The growth in traffic on both railroads has resulted in delays while one train is held short of the crossing diamond waiting for a train of the other railroad to clear the crossing. The project involves building a railroad fly-over to grade separate the two railroad thus eliminating the need to hold trains on account of the other railroad. The final design of the fly-over is still being negotiated, and more than likely will not be operational until 2010 at earliest.

The UP local operating staff agreed that there is not a large plot of land upon which a intermodal terminal, as typically configured, can be located west of Colton. They also understand the need to focus on congestion mitigation and air quality improvement in the entire LA Basin, not just to move the problems out of the ports to another point further inland. As a result they understand the project focus on VMT as the measure of improvement.

The idea of basing a container shuttle operation on commuter operations has appeal for to the local UP operating officers interviewed; however they quickly point out that UP headquarters in Omaha has the final authority. The local officers even express a possible interest in operating the shuttle trains with UP crews, although they would entertain the idea of PHL operations or other qualified train operation. They are concerned about the impact any new operation would have on long haul train operations and capacity. They point out that the expansion projects that are planned or ongoing are to meet anticipated growth in current volume, not new operations such as the container shuttle. They are also concerned that public officials do not have an adequate understanding on how new operations, no matter how modest they may seem, can have on the entire rail network.

BNSF Local Operations Comments on the Inland Shuttle Train Concept

The local BNSF officers have the same concerns about capacity as has been raised by UP. They also state, as have others, that short haul container moves of this nature do not break even for the railroads and that spending line capacity for these short moves at the expense of long haul is not a sound business decision for the railroads. Thus they make the same observation as others have, in order to operate the shuttle train service capacity must be increased and, given the growth projection for the region, it must be beyond what is planned to meet the long haul growth demand.

Alternative Line Haul Systems

One obvious conceptual alternative is use of a different line haul technology to move containers between the seaports and one or more inland terminals. There are conceptual proposals for maglev and linear induction motor (LIM) systems currently under study by the ports for their feasibility between port terminals and near-dock rail facilities (ICTF and the proposed SCIG). A brief discussion of these systems and the challenges they face is presented in Appendix A.

The port study now in progress should help answer these questions.

1. **How are containers moved from vessel to system loading point (and vice versa)?** At present, every container in North America is moved on chassis between the apron under the crane and the container yard or on-dock rail terminal.

2. **How are containers loaded and unloaded to/from system vehicles?** At present, marine terminals in North America use gantry cranes, side loaders, reach stackers, or straddle carriers to handle containers or chassis, on rail cars, or on the ground.

3. **How does the system get into, through, and out of the marine (and inland) terminal?** Conventional rail tracks embedded in pavement allow trucks to pass over. No terminals have rail loading at ship side.

4. **How does the system link multiple marine and/or inland terminals?** As noted elsewhere, the Los Angeles and Long Beach terminals are scattered over 20 square miles of waterfront and separated by water, highway, rail, and development barriers.

5. **What right-of-way does the system use to link terminals?** Absent a feasible right-of-way other system features are irrelevant.

6. **How are system movements planned and controlled?** The system must correctly identify each container, move it to the correct terminal, position it for loading/unloading, and hand-off control to terminal gate (inland) or vessel (marine) systems.

7. **How does the system recover from disruptions?** The full range of potential disruptions might include vehicle failure or malfunction; central system failure or error; guideway failure or damage; power shortage or loss; and accidental or malicious damage.

8. **Where will import containers be sorted and forwarded to final destination by truck or rail?** The agile port concept on which all the systems implicitly rely shifts the sorting function to the inland terminal. The inland terminal must be sized, planned, equipped, and operated accordingly.

9. **What are the full capital costs of the system?** The capital costs must encompass the right-of-way, the guideway, the vehicles, the control system, the terminals, and any ancillary facilities or systems.

10. **What are the full vessel-to-destination operating costs?** The operating cost estimates would have to include every step: unloading the vessel, operating the terminals, loading and unloading, sorting, linehaul, transfer to another mode, overhead, etc.

11. **What is the system throughput capability?** The system will be limited by its slowest link, which is likely to be in the terminals rather than on the line-haul. The system will need to cope with volume peaks and valleys, and comparisons should be based on reliable, day-in/day-out throughput rather than optimized conditions.

12. **What impact will the system have on communities, highways, and other urban features?** The existing proposals point out the potential emissions advantages but do not discuss the potential neighborhood division and diminished property values associated with elevated systems, displacement of truck drivers, or exposure to hazardous/objectionable cargo.

As most of the proposed systems are highly conceptual, there is a long way to go before these systems can be evaluated with any confidence.

XIV. Rail Shuttle Economics

Overview of Cost Estimates

This analysis draws on standard railroad costing techniques and rules-of-thumb to estimate the operating cost per container for a rail shuttle service linking the ports with a terminal in the Inland Empire. These estimates should not be regarded as precise or definitive, as there are many potential variations in actual operations that would affect costs. Moreover, there are virtually no precedents for short-haul intermodal operations of this type. The estimates developed below should be regarded as guidelines for relative rail and truck costs, as indications of how cost might vary with volume, and as indications of potential subsidy requirements.

All estimates assume 5-day service, 260 working days per year, 2 roundtrips per 24 hours from both LA and LB to Mira Loma, Ontario and Fontana.

Terminal Lift Costs

The rail shuttle operation will incur costs for lifting container on and off the rail cars at the port, and at the inland terminal.

The rates charged by terminal operating companies for loading and unloading at on-dock rail facilities vary widely, and most are contained in confidential contracts. Since some of the largest terminal operating companies are owned by their ocean carrier "customers" (e.g. Eagle Marine, owned by APL, and APM Terminals, owned by Maersk), information on the actual rate charged is closely held. The study team used estimates published in previous studies of $90 per lift.

Exhibit 86 provides estimates of inland rail terminal operating costs, based on a 70-acre terminal and three different annual lift volumes.

Exhibit 86: Inland Rail Terminal Cost Estimates

Cost Category	Case 1	Case 2	Case 3	Comments and Cost Factors
Volume	26,000	52,000	135,200	
Mangement	1	2	4	
Lift Labor	4	6	10	$ 20/Hour
Clerical Labor	3	5	8	$ 15/Hour
Mechanical Labor	1	2	4	$ 25/Hour
Lift Machines	1	2	4	Side loaders, Mixed new/used
Yard Tractors	2	4	9	Mixed new/used
Switch Engine	1	1	1	Owner function (could be contractor)
Crews	1	2	2	Shifts per day
Acres	70	70	70	Purchase total acrage at start
Land	$ 17,500,000	$ 17,500,000	$ 17,500,000	$250,000 per acre
Construction	$ 6,500,000	$ 13,000,000	$ 33,800,000	$500K per acre and 2000 lifts per acre
Estimates				
Contractor's Lift Rate	$ 23.77	$ 22.70	$ 19.71	
Gate Cost per Lift	$ 9.24	$ 6.16	$ 7.37	
Owner Operating Cost	$ 15.47	$ 14.35	$ 5.98	Mainly the switch engine
Annual Facility Cost	$ 26.37	$ 26.37	$ 26.37	Construction
Annual Land Cost	$ 67.31	$ 33.65	$ 12.94	Return on land
Total Annual Cost per Lift	$ 142.16	$ 103.23	$ 72.37	
Average Operating Cost per Lift	**$ 48.49**	**$ 43.21**	**$ 33.06**	

The three different average costs per lift correspond to the volume scenarios and are used in the overall cost estimates below. Note that each round trip requires two lifts: a loaded lift off on arrival inland, and a lift on for return to the ports.

Rail Line Haul and Switching Costs

Exhibit 87 shows the rail line distances from the Ports to various Inland Empire points used for analysis.

Exhibit 87: Rail Distances

	Los Angeles	Long Beach
To Mira Loma	128	128
To Ontario	112	112
To Fontana	185	182

Exhibit 88 and Exhibit 89 show the requirements and costs for double-stack rail cars at various train capacities. TTX is a car pooling organization owned by the major railroads, and supplies most cars used in U.S. intermodal service. TTX charges by the day and by the mile, allowing the shuttle operation to vary car supply as needed.

Exhibit 88: Rail Car Requirements

	Assuming all double stack, 5 platforms per car:	
Containers Per Train	**# of Cars Per set**	**Total # of Cars**
50	5	15
100	10	30
200	20	60

Exhibit 89: TTX Rail Car Costs

TTX Double-Stack Car Costs	
Per Car Per Day	Per Mile
$ 48.00	$ 0.075

Exhibit 90 shows locomotive requirements. Locomotive costs included the following assumptions.

- Locomotive cost was assumed to be $2,500,000 per unit
- Ownership cost was based on the replacement cost at 7% interest rate and 15-year depreciation life.
- Locomotive maintenance cost was assumed at $50,000 per locomotive per year.
- Fuel Cost was calculated based 8 operating hours per locomotive per day, 14 gallons consumption per locomotive per operating, hour, $2.50 per gallon.

Exhibit 90: Locomotive Requirements

Containers Per Train	Locomotives for 3 Train Sets
50	4
100	6
200	8

A total of four 2-person crews were required for two roundtrips every 24 hours (Exhibit 91).

Exhibit 91: Annual Rail Crew Costs

Crew		Annual Salary and Benefits
Engineer	$	120,000
Conductor	$	100,000
Crew Total	**$**	**220,000**

Maintenance of Way (track) cost was estimated $1,000 per track mile, an industry standard, and pro-rated across the container volume. Other costs, including overhead, loss and damage, etc., were estimated at 6% of the total container cost.

Exhibit 92 gives the overall rail line-haul estimates at three mark-up levels: a low revenue/cost ratio of 1.5, a high ratio of 2.0, and a mid-range average. The average of the mid-range 100-unit estimates in Exhibit 92 is $168.10.

Exhibit 92: Rail Line-Haul Cost Estimates

Los Angeles **Units Per Roundtrip (All Double Stack, 5 Platforms Per Car.)**				
UP - Mira Loma		**Low (R/C:1.5)**	**Mid-Range**	**High: (R/C:2.0)**
	50	**$205.44**	**$239.68**	**$273.92**
	100	**$146.81**	**$171.28**	**$195.75**
	200	**$106.24**	**$123.95**	**$141.66**
UP - Ontario				
	50	**$204.37**	**$238.43**	**$272.49**
	100	**$146.27**	**$170.65**	**$195.03**
	200	**$105.98**	**$123.64**	**$141.31**
BNSF - Fontana				
	50	**$209.24**	**$244.11**	**$278.99**
	100	**$148.72**	**$173.50**	**$198.29**
	200	**$107.20**	**$125.06**	**$142.93**
Long Beach **Units Per Roundtrip (All Double Stack, 5 Platforms Per Car.)**				
UP - Mira Loma		**Low (R/C:1.5)**	**Mid-Range**	**High: (R/C:2.0)**
	50	**$205.39**	**$229.35**	**$253.31**
	100	**$146.78**	**$163.90**	**$181.02**
	200	**$106.24**	**$118.64**	**$131.03**
UP - Ontario				
	50	**$204.32**	**$228.15**	**$251.99**
	100	**$146.25**	**$163.32**	**$180.38**
	200	**$105.96**	**$118.33**	**$130.69**
BNSF - Fontana				
	50	**$209.00**	**$233.38**	**$257.76**
	100	**$148.60**	**$165.93**	**$183.27**
	200	**$107.14**	**$119.64**	**$132.14**

Exhibit 93 provides a comparable estimate for port-area switching costs.

Exhibit 93: Port-Area Switching Costs

Units per Train	Cost per Unit
50	$ 26.68
100	$ 13.34
200	$ 6.67

Total Rail Shuttle Operating Costs

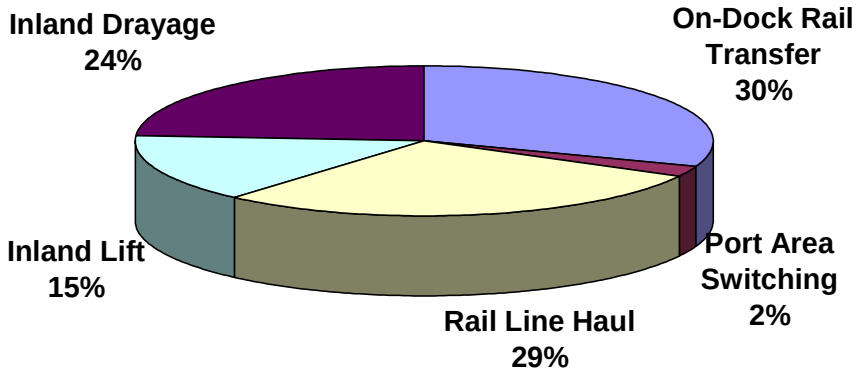
Exhibit 94 summarizes the cost categories discussed above for 100-container trains. Comparable results were obtained for 50-container and 200-container trains.

Exhibit 94: Total Inland Empire Rail Shuttle Cost per Container – 100-Container Trains

Item	Inbound	Outbound	Total
On-Dock Rail Transfer	$ 90.00	$ 90.00	$ 180.00
Port Area Switching	$13.34		$ 13.34
Rail Line Haul	$168.10		$ 168.10
Inland Lift	$ 43.21	$ 43.21	$ 86.41
Inland Drayage	$140.00		$ 140.00
Round-Trip Total			**$ 587.85**

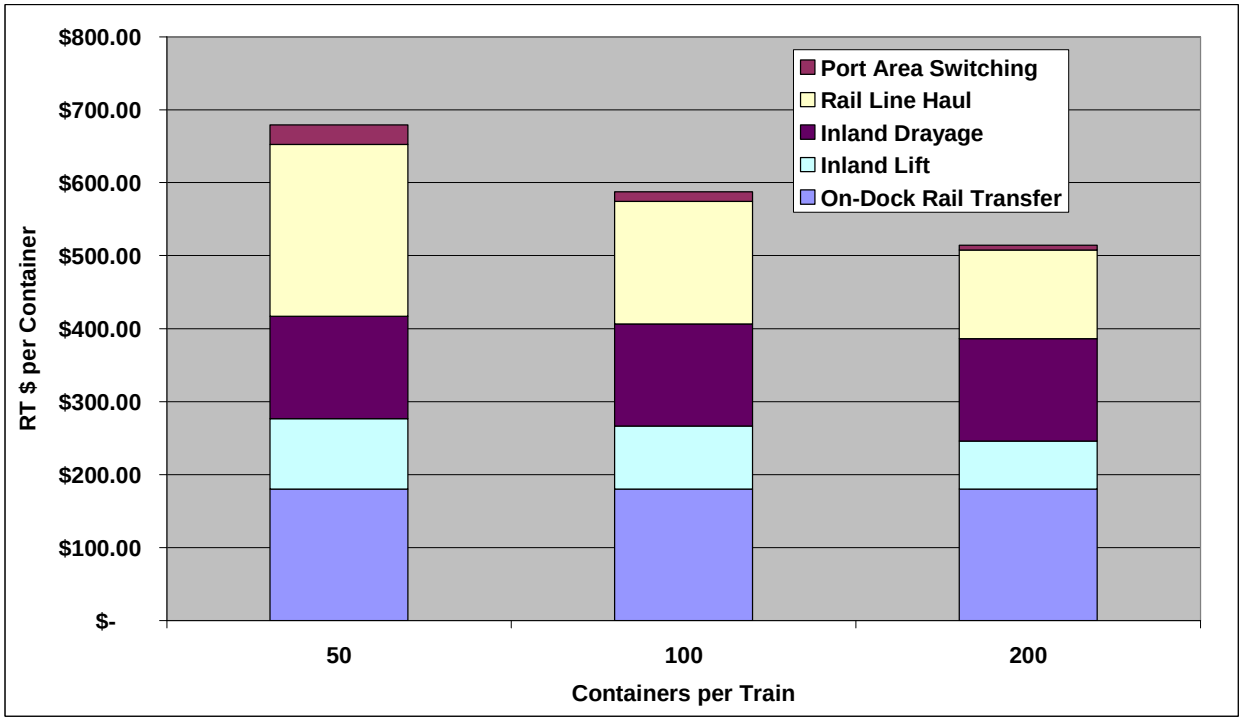
As Exhibit 95 illustrates, the rail line haul cost is less than 30% of the total operating cost. Over 70% of the cost is in lift-on/lift-off at marine or inland terminal, ports area switching, and inland drayage. When these costs – totaling over $400 – are spread out over a 2,000 cross-country line haul, rail intermodal service is not only competitive but less costly than truck. Over the 60-mile trip to the Inland Empire, however, it is impossible to be directly cost-competitive with truck.

Exhibit 95: Rail Shuttle Cost Shares – 100-Container Trains



The on-dock and drayage costs exhibit no economies of scale (Exhibit 96), so the composite cost does not decline appreciably with volume.

Exhibit 96: Total Rail Shuttle Cost Comparison – RT $ per Unit



Rail-Truck Comparisons and Operating Subsidies

Exhibit 97 compares rail costs for three train sizes with estimated truck drayage costs.[vi] Note that drayage cost estimates vary considerable depending on the customer's volume commitment, current operating conditions, fuel surcharges, etc. As the comparison indicates, however, the gap between truck and rail shuttle costs is large – $200 to $300 for larger train sizes, and even more at start-up levels. Small variations in either cost estimate would have little impact on the overall comparison.

Exhibit 97: Rail Shuttle and Truck Costs for Inland Empire Round Trips

	RT Cost
50-container train	$ 679.18
100-container train	$ 587.85
200-container train	$ 514.33
Truck	$ 300.00

The operating subsidy required to divert truck trips to the rail shuttle would be determined by the cost gap in Exhibit 97. The estimates suggest that the required subsidy would be at least $200 per container at current cost levels. The 100-container train scenario would move 50,000 round trips per year (2 round trip trains per day, 250 days per year), and would require a nominal annual subsidy of $14.4 million at a unit cost difference of $287.85 per unit.

[vi] From San Pedro Bay Ports Clean Air Action Plan, Economic Analysis; Husing, Brightbell, and Crosby, September 2007

Increasing truck costs due to the Port's Clean Truck Plans (CTP) could narrow the cost differential and thus reduce the subsidy requirements. Analysis of likely trucking cost impacts yields the comparisons in Exhibit 98.

Exhibit 98: Truck Cost Scenarios and Subsidies

Impact Source	*Inland Empire Truck Cost*[vii]	*Nominal Subsidy per Unit*	*Annual Subsidy for 50,000 Units*
Current	$300	$287.85	$14.4 million
TWIC	$373	$214.85	$10.7 million
TWIC + LMC/IOO CTP	$446	$141.85	$7.1 million
TWIC + Employee CTP	$540	$47.85	$2.4 million

The Transportation Worker's Identification Card (TWIC) requirement is expected to increase labor costs. The Clean Truck Plan (CTP) with Licensed Motor carrier/Independent Owner-Operator (LMC/IOO) or Employee driver options would increase both labor and capital costs further. At the extreme, the annual subsidy for 50,000 units on a rail shuttle might be reduced from $14.4 million at current price levels to $2.4 million. These comparisons must be approached with caution, however, as the estimated impacts of drayage industry changes are highly uncertain and the same changes may also increase the cost of inland drayage for the rail shuttle operation.

[vii] Ibid.

XV. Inland Empire Terminal Analysis

Barriers to Conventional Terminals

There appear to be no opportunity to create a conventional large-scale rail intermodal terminal in the central part of the Inland Empire. BNSF, as noted earlier, spent several years searching for sites without success. The study team reviewed BNSF's findings, examined maps and aerial photos, and consulted regional planning agencies with the same result; there are no suitable rail-served parcels for a conventional rail intermodal terminal in the central part of the Inland Empire. Most rail-accessible property along UP or BNSF lines has already been developed, although most adjacent land uses are not rail-related.

Large parcels somewhat removed from the rail lines would be attractive and suitable, but would need rail connections built through developed areas. The need to build rail connections, and the resulting community opposition, are formidable obstacles to terminal development. The difficulty of connecting a new site to the existing network was the major stumbling block for BNSF's effort to establish a new terminal near SBIA.

Public agency stakeholders in this project have enquired if there would be a value in efforts to assemble a large parcel as an economic development or redevelopment initiative. The answer may be "yes," but not solely for an inland port. Large intermodal terminals are built to accommodate multiple intermodal origins and destinations, and often for a mix of domestic and international business. There would likely be a significant benefit to an additional large intermodal terminal in the Inland Empire, which explains the ongoing interest of BNSF and UP. The most apparent benefits would be in a reduction of truck VMT currently incurred between UP intermodal terminals in Los Angeles (City of Commerce, LATC) and the Inland Empire. A BNSF facility would reduce the need for drayage to and from Hobart or, in the future, Victorville. If such a facility were developed, part of its capacity could be used for a port rail shuttle.

Rail intermodal terminals are low-value land uses, however, creating an economic obstacle to redevelopment efforts. Industry experience and Tioga Group analysis in other projects indicates that rail intermodal terminals return little or no revenue on the land itself. Railroads supply or purchase the land, but earn the revenue on the line-haul service. Rail intermodal terminals are operated by specialized contractors who are paid by the lift but who do not own or lease the land. Efforts to develop rail intermodal terminals as private money-making ventures have been generally unsuccessful, as is documented in the Case Studies Appendix. The few successful private terminals serve as the core of logistics parks, not as standalone businesses.

This consideration implies that a large intermodal terminal initiative would have a difficult time justifying assembly of large parcels, or competing to use such large parcels as become available. In the rising Inland Empire real estate market, a 100–300 acre commercially zoned parcel could cost $100 million to $300 million.

While there are no near-term candidates, there may be some long-term possibilities.

- Union Pacific (and its predecessor Southern Pacific) has periodically investigated the possibility of using or reconfiguring its land and facilities around the West

Colton yard to develop an intermodal terminal. The proposed demonstration shuttle train project in cooperation with ACTA would have used a small intermodal terminal at Colton built for the purpose. The study team incorporated this small-terminal concept as a possibility in Inland Empire site selection. The possibility of a large intermodal terminal at Colton is more remote, however, and could be further diminished by the Colton Crossing line separation project.

- The quarry currently operating west of Colton will likely be depleted and close within the next decade. Closure of this operation could conceivably make a large parcel available as an intermodal terminal site. Suitability of this site would depend on its post-closure condition, size, and configuration. Intermodal terminals are good uses for "brown field" sites with environmental remediation issues since terminals are almost entirely paved or covered with gravel and tracks. Intermodal terminals must be level, however, and rolling terrain suitable for housing would not facilitate intermodal development. A large issue is whether the entire site remains intact until closure and sale or is sold off and developed in stages.

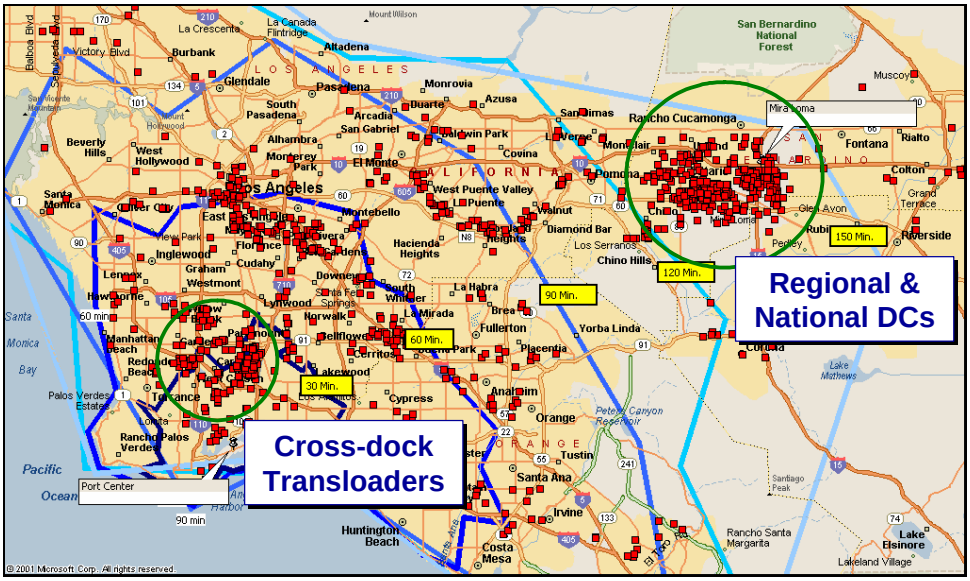
Commuter-Style Terminal Approach

Rather than looking for large, multi-purpose terminal sites that do not exist, the study team began looking for commuter-style inland terminal sites that could accommodate just the rail shuttle trains. The major issues to be addressed are:

- Rail and terminal capacity
- Commercial acceptance
- Public investment and subsidy
- Site selection close to existing customers

The Mira Loma concentration of distribution centers and other customers is the key near-term target market to reduce VMT. That is where the Inland Empire distribution centers are clustered (Exhibit 99), and the closer the terminal is to the center of that cluster the more truck VMT can be saved.

Exhibit 99: Mira Loma Concentration of Regional and National DCs



As the port survey data show, Mira Loma is really the major concentration of existing customers outside of the immediate port area (Exhibit 100).

Exhibit 100: Current Markets: Daily 2005 Trips

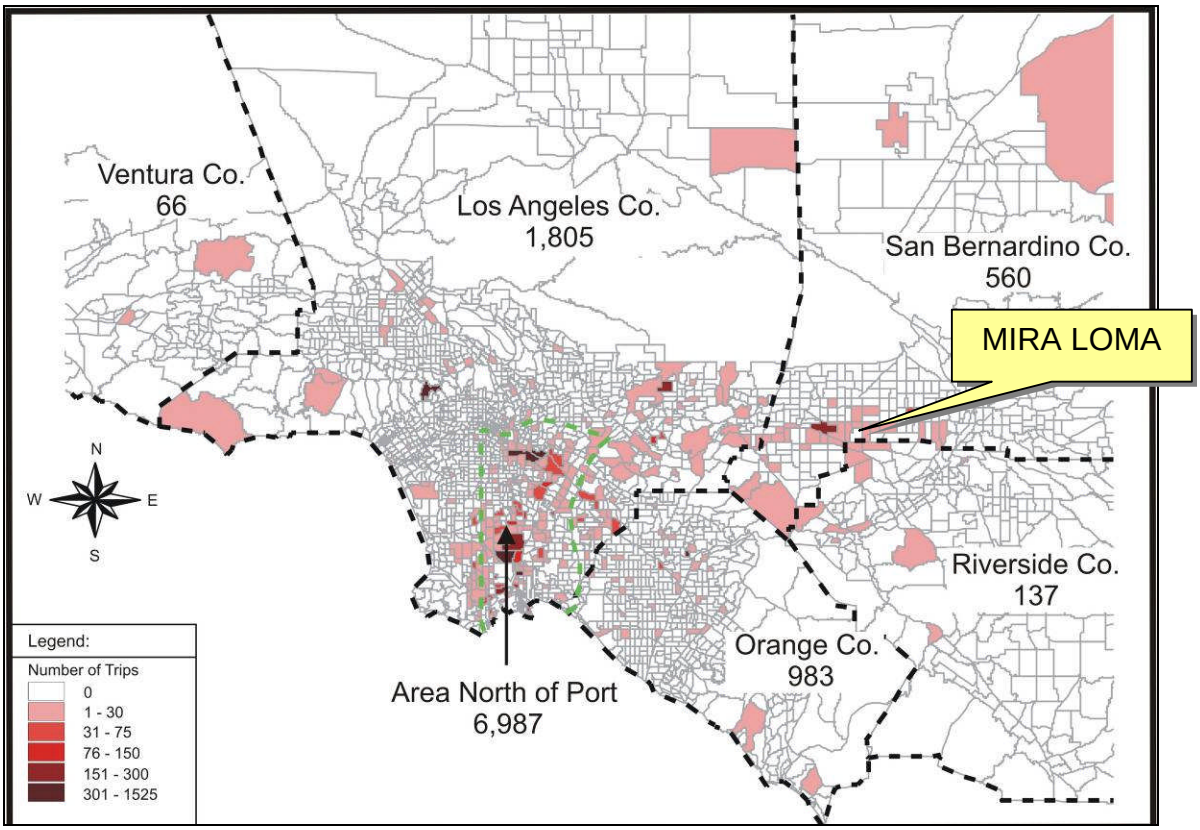


Exhibit 101: Large Inland Empire Sites: Colton, SBIA, SCLA

Model runs confirm that net VMT can be reduced using sample sites, and that the closer Mira Loma the better the results. The MMA model demonstrates substantial VMT reductions for the Colton and SBIA locations, and modest reductions for the SCLA location (Exhibit 101 and Exhibit 102).

Exhibit 102: Truck Model Findings for Large Inland Empire Sites

Year 2005

Year 2005	VMT Estimates				Difference			Percent Difference		
	Without Inland Port	Colton	SBIA	SCLA	Colton	SBIA	SCLA	Colton	SBIA	SCLA
AM Peak Hour	126,465	120,302	121,236	125,993	(6,163)	(5,229)	(472)	-4.87%	-4.13%	-0.37%
MD Peak Hour	190,198	180,811	182,178	189,268	(9,387)	(8,020)	(930)	-4.94%	-4.22%	-0.49%
PM Peak Hour	119,825	114,180	115,103	119,434	(5,645)	(4,722)	(391)	-4.71%	-3.94%	-0.33%
AADT*	1,865,333	1,774,756	1,788,534	1,857,671	(90,577)	(76,799)	(7,662)	-4.86%	-4.12%	-0.41%

** AM, MD, and PM Peak Hours are 23.4 percent of daily port trips in 2005*

Year 2010

Year 2010	VMT Estimates				Difference			Percent Difference		
	Without Inland Port	Colton	SBIA	SCLA	Colton	SBIA	SCLA	Colton	SBIA	SCLA
AM Peak Hour	162,263	155,130	156,103	161,183	(7,133)	(6,160)	(1,080)	-4.40%	-3.80%	-0.67%
MD Peak Hour	222,142	211,746	213,348	221,154	(10,396)	(8,794)	(988)	-4.68%	-3.96%	-0.44%
PM Peak Hour	134,115	128,039	128,943	133,418	(6,076)	(5,172)	(697)	-4.53%	-3.86%	-0.52%
AADT	2,541,765	2,426,054	2,443,108	2,528,211	(115,711)	(98,657)	(13,554)	-4.55%	-3.88%	-0.53%

** AM, MD, and PM Peak Hours are projected to be 20.4 percent of daily port trips in 2010*

Terminal Site Selection

Search criteria for a commuter-sized terminal include the following:

- Minimum size of 35 acres. Provides minimum capacity for a terminal of at least 100,000 lifts, approximately 8% of 2005 port market share for Riverside and San Bernardino Counties.

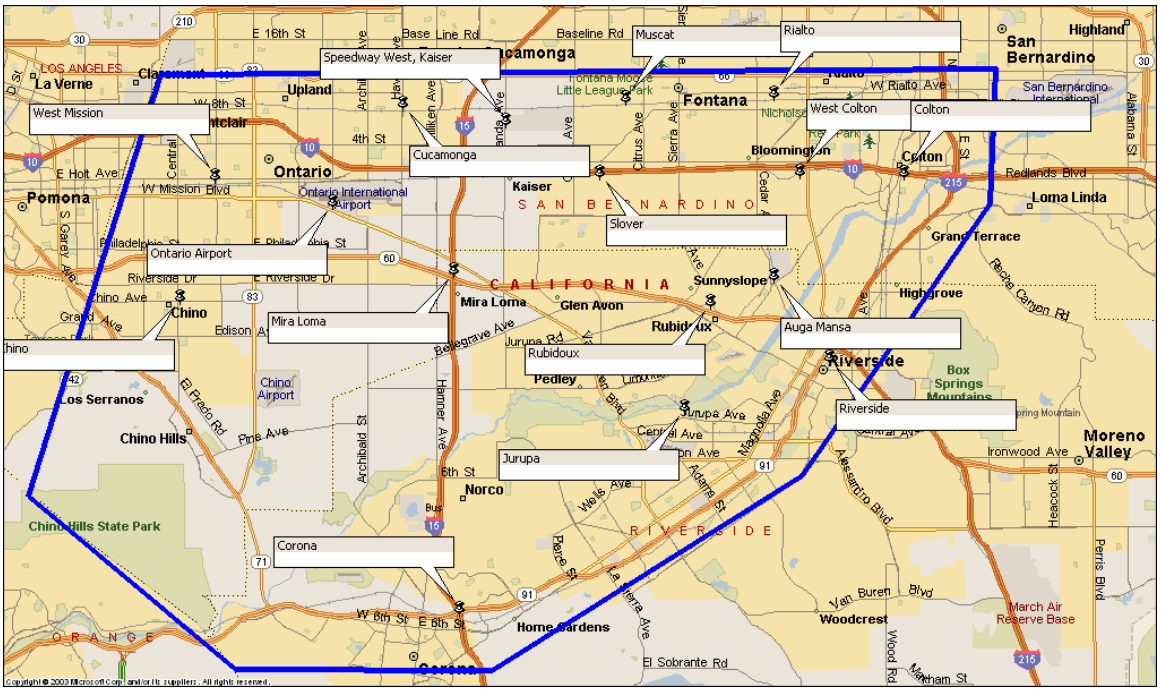
- Properly zoned. Zoning and land use generally conform to the potential market for the prospective service.

- Clear rail access.

- Able to be efficiently developed or re-developed

"Commuter-sized" terminal sites do exist. The team checked 16 industrial areas surrounding Mira Loma and found a number of candidate sites (Exhibit 103).

Exhibit 103: Sites with Rail Access in 16 Industrial Areas



The sites are listed in Exhibit 104 from nearest to farthest from Mira Loma.

Exhibit 104: Industrial Area Characteristics

Area	Line	Interchange	Miles and Minutes to Mira Loma	
Mira Loma	LA Sub-Eastbound	I-15, CA-60	0	0
Ontario Airport	LA Sub-Eastbound	I-15, CA-60	4.4	8
Kaiser	BNSF North	I-10, Etiwanda	6.6	12
Cucamonga	BNSF North	I-10, Haven	5.9	13
Slover	Alhambra Sub-Westbound	I-10, Cherry	8.1	16
Chino	Chino Branch	CA-60, Central	9.7	17
W. Mission	Alhambra Sub-Westbound	CA-60, Mountain	9.2	18
Rubidoux	Crestmore Branch	CA-60, Valley Way	9.3	20
Jurupa	LA Sub-Eastbound	CA-91, Central	9.0	21
W. Colton	Alhambra Sub-Westbound	I-10, Riverside	14.6	22
Muscat	BNSF North	I-10, Cherry	11.6	23
Corona	BNSF Main	I-15, CA-91	15.8	24
Auga Mansa	Crestmore Branch	CA-60, Rubidoux	16.4	25
Colton	Alhambra Sub-Westbound	I-10, Mt. Vernon	17.3	25
Riverside	BNSF South	CA-60, CA-91	13.5	26

The study team used maps, zoning diagrams, and aerial photos from Google Earth. Most of the sites were also field checked. The team also conducted an internet search for commercial and zoning information. Where possible, the project team contacted the appropriate planning agencies to verify the availability and suitability of these sites. The one message that comes through consistently is that the public sector has a limited window of time before these sites are taken for potential uses.

The three highest-ranked sites from Exhibit 104 are discussed below.

Mira Loma Site and Zoning

There is one potential site on the UP in the middle of the Mira Loma area in the 3.5 miles along UP between Philadelphia Street and Belgrave Ave. The site consists of 53 acres at Etiwanda and Iberia. Nearby major UP facilities include:

- Mira Loma auto distribution center
- Mira Loma Yard – support yard for rail-served warehouses

The quote below is an excerpt from the applicable land use regulations.

Require that in the Business Park, Light Industrial, and Heavy Industrial land use designations within the Jurupa Area Plan, warehousing and distribution uses, and other goods storage facilities, shall be permitted only in the following area: the area in Mira Loma defined and enclosed by these boundaries: San Sevaine Channel from Philadelphia Street southerly to Galena Street on the east, Galena Street from the San Sevaine Channel westerly to Wineville Road on the south, Wineville Road northerly to Riverside Drive, then Riverside Drive westerly to Milliken Avenue, then Milliken Avenue north to Philadelphia Street on the west, and Philadelphia Street easterly to the San Sevaine Channel on the north….No warehouses, distribution centers, inter-

modal transfer facilities (railroad to truck), trucking terminals or cross dock facilities shall be allowed outside of the aforementioned area.

This provision clearly prohibits intermodal terminals outside the area shown in Exhibit 105 in yellow.

Exhibit 105: Mira Loma Site

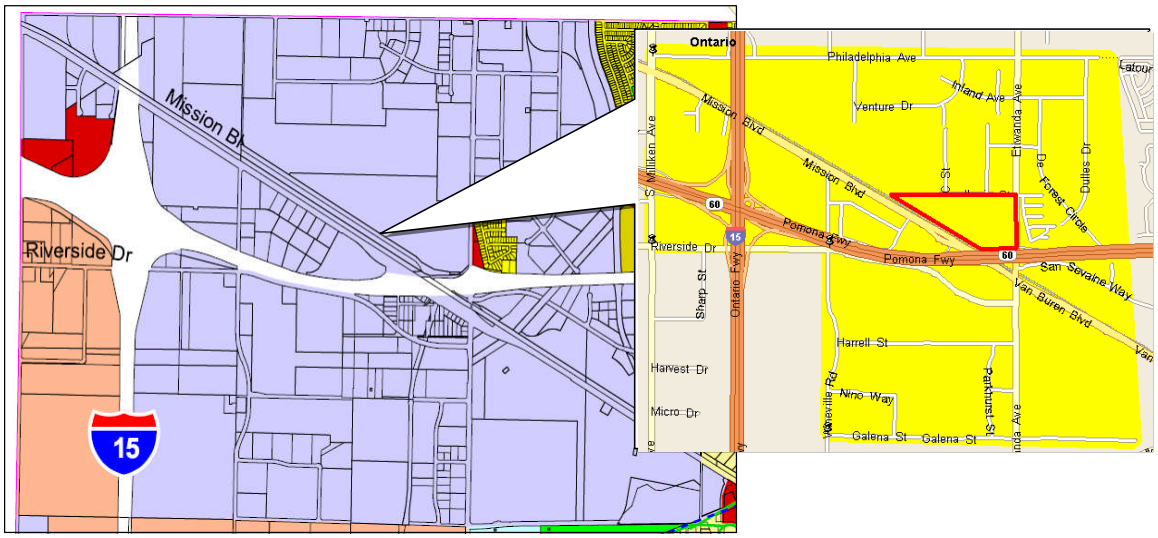
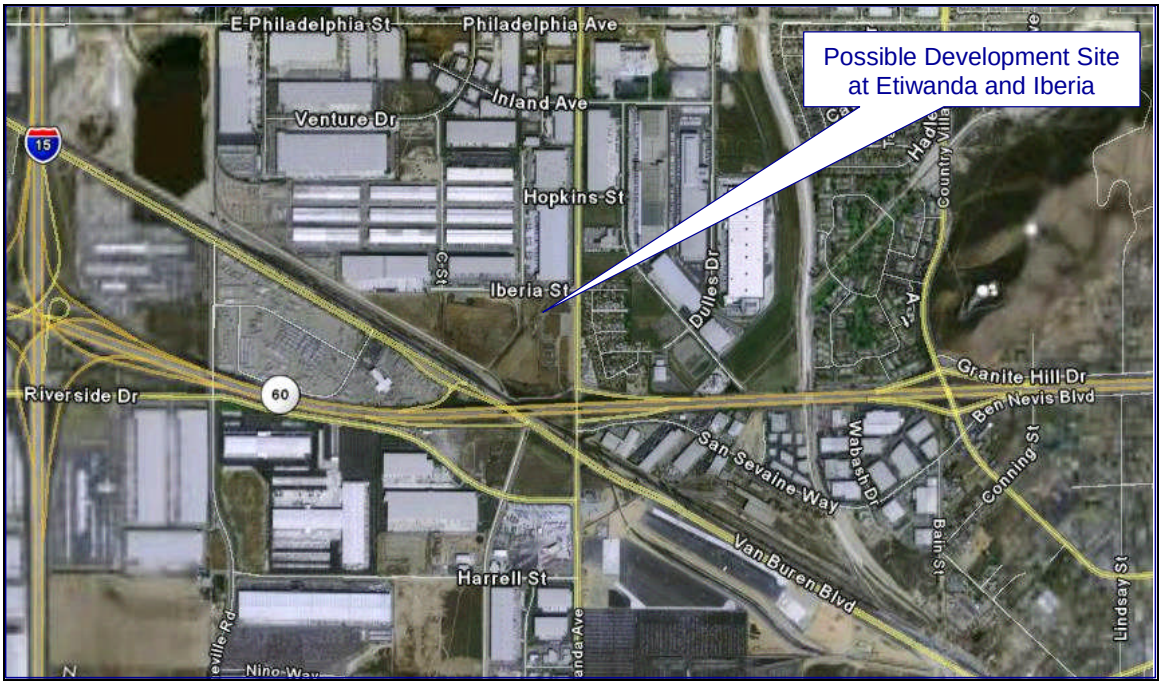


Exhibit 106 provides an aerial view of the site.

Exhibit 106: Space Center Mira Loma Site – Aerial Photo



The site is adjacent to the UP and owned by the Space Center of Mira Loma. The Space Center has no current tenants on that parcel but expects to develop it in the next 3 to 5 years. This and other sites are going fast.

Exhibit 107 and Exhibit 108 provide additional aerial and ground-level views of the site.

Exhibit 107: Mira Loma Site in Context

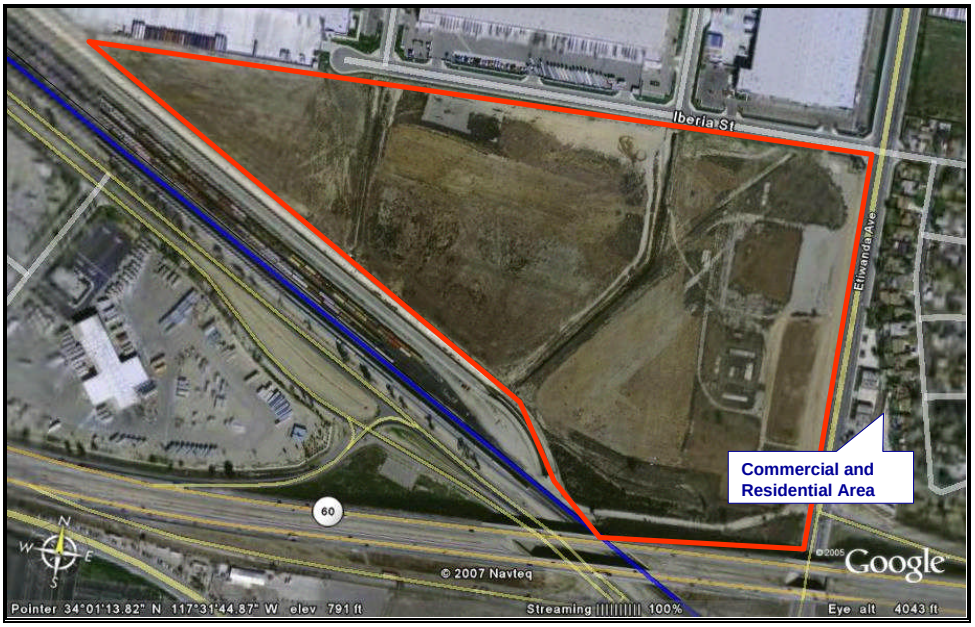


Exhibit 108: Mira Loma Space Center Site - Ground Level View

Although ideally located near the center of the Mira Loma distribution industry cluster this site illustrates many of the problems faced in existing development areas. The site is very close to the

freeways, but entrance and exit ramps are legacy structures and not well suited to heavy truck traffic to and from the site. The site is zoned commercial and (apparently) suitable for an inter-modal rail terminal, but is directly across Etiwanda Ave. from a small residential area. Adjacency to residences would be a major problem for night and early morning operations, as well as frequent truck movements.

This is the best site that the team could locate in the Mira Loma area. The location would maximize VMT savings but obviously raises significant community acceptance issues. Moreover, as noted above, it will likely be developed for distribution facilities in the next 3 to 5 years, leaving a very brief time span for potential public sector development as an inland port terminal.

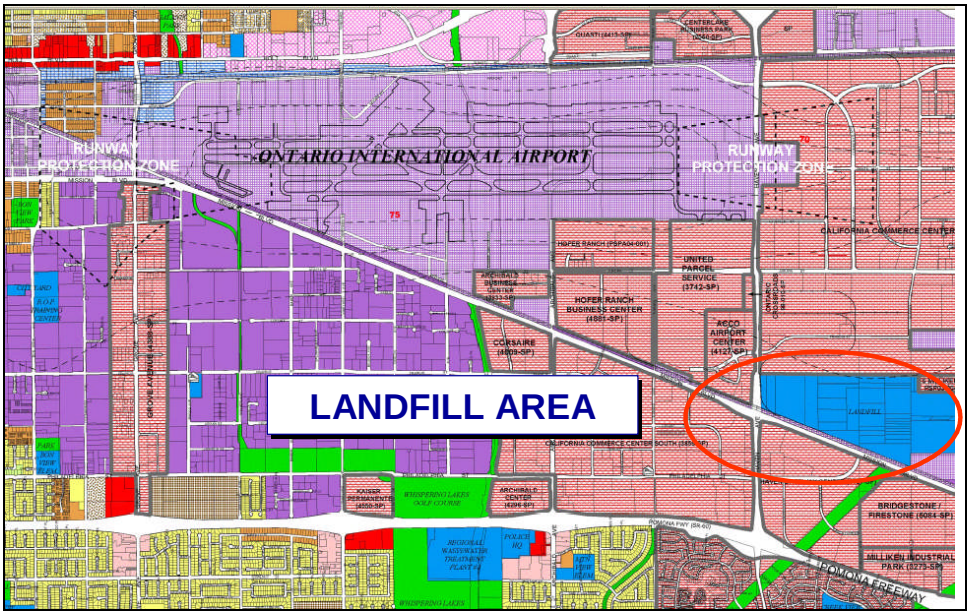
Ontario Airport Site and Zoning

The Ontario Airport is near the center of the target market. As Exhibit 109 shows, there is a former landfill area southeast of the airport, along Mission Blvd. This site is of sufficient size and has the required rail and highway access to serve as an inland port terminal. The site is adjacent to the Union Pacific Line and is located between the SR60, I10, and I15 with access from Haven Ave.

The site is a mile south of the Runway Protection Zone on the east and of the Ontario Airport, in an area already subject to late night and early morning flight activity. The nearest residential areas are on the other side of the Pomona Freeway (SR91) and would not be directly affected. The East Ontario Metrolink station is just west of the site.

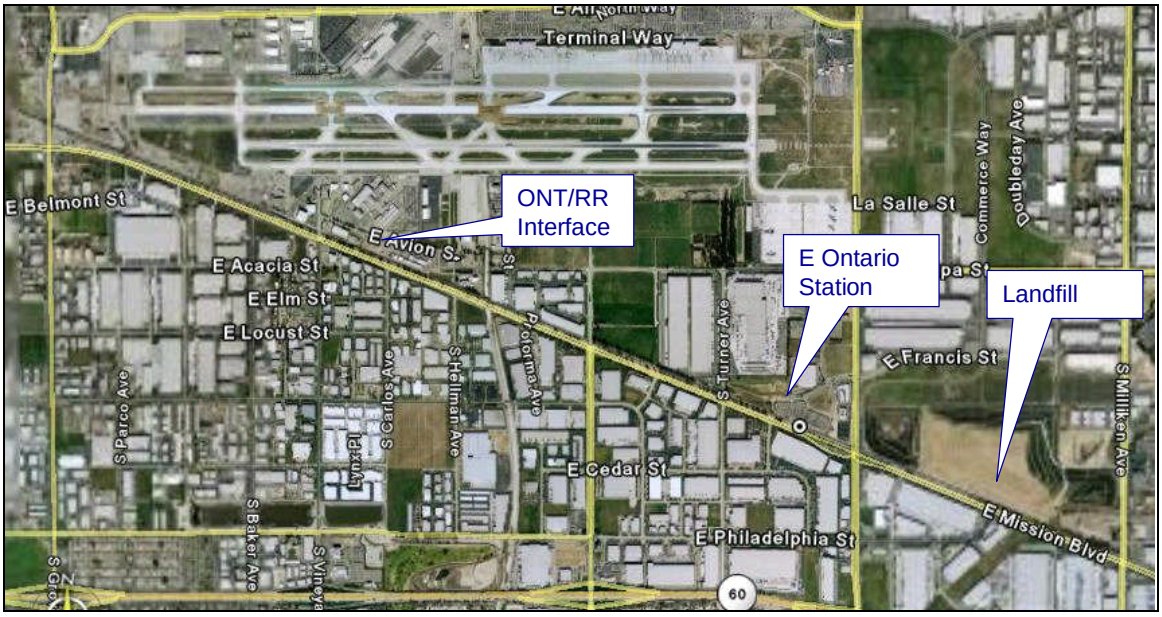
Exhibit 110 shows several vacant parcels near the site, suggesting the potential for new logistics-related customers that could benefit from inland port operations.

Exhibit 109: Ontario Airport Site Zoning



The land use pattern south of the airport suggests developing an inland port and associated DCs in the area.

Exhibit 110: Ontario Airport Site - Aerial View



The landfill site is reportedly zoned PF – Public Facility, which would be favorable for development of an inland port terminal. The site, however, is not level, being a landfill. Leveling the site for use as an inland port terminal may involve moving the landfill, an impractical proposition.

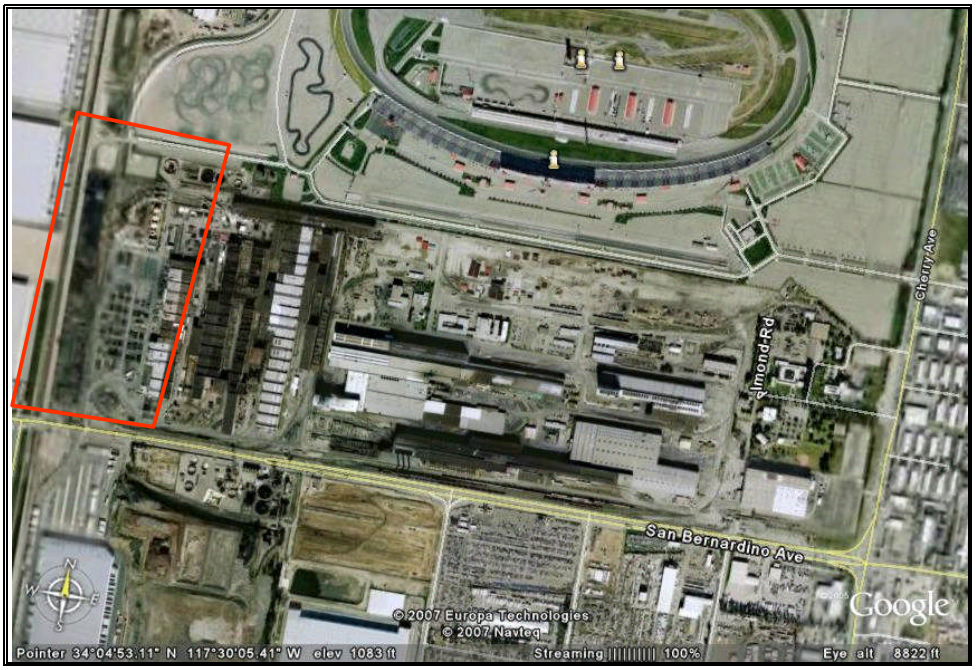
Kaiser/California Steel Site

The third example is the former Kaiser Steel site, which is now California Steel Industries (Exhibit 111). Key features of the overall site include:

- About 6 square miles of mixed zoned property (mainly industrial) in Ontario, Fontana, and Rancho Cucamonga.
- Accessible from the UP Alhambra and the BNSF north lines.
- Former Kaiser Mill now California Steel Industries is a major land owner.

Approximately 50 acres adjacent to the California Steel Plant are suitable as an inland port terminal.

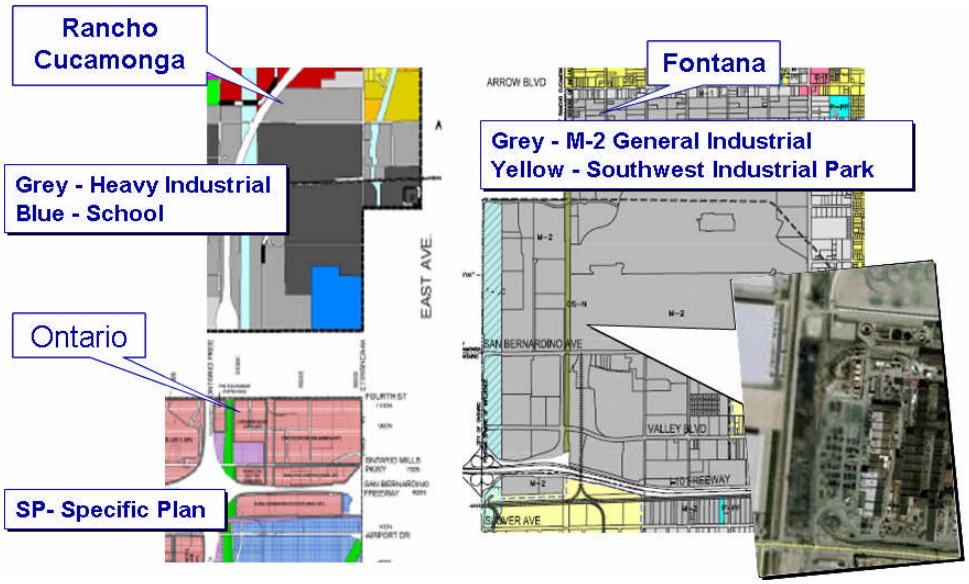
Exhibit 111: California Steel Site



This site overlaps city boundaries. The candidate location within the site is in Fontana in an area zoned M-2 General Industrial, as shown in Exhibit 112.

- Ontario Zoning: SP Specific Plan
- Fontana Zoning: Grey Area, M-2 General Industrial; Yellow Area, Specific Plan, Southwest Industrial Park
- Rancho Cucamonga zoning: Grey Area-Heavy Industrial, Blue Area-School

Exhibit 112: California Steel Area Zoning



The location is served by a rail line that connects with BNSF on the north and UP on the south. The site consists of approximately 50 acres adjacent to California Steel Plant and is currently used for open storage of steel products. Another nearby site that was considered earlier in the project, shown here as the West Speedway site, is no longer available.

Exhibit 113: California Steel Site - Aerial Photo

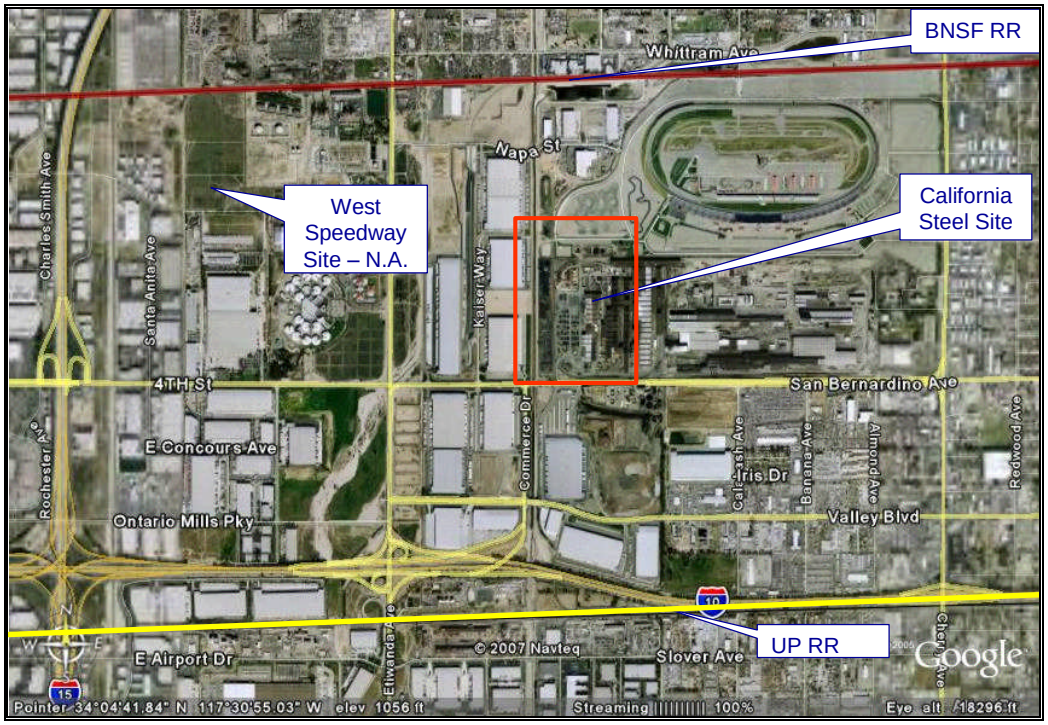


Exhibit 114 shows the rail access to the California Steel site.

Exhibit 114: Rail Access to California Steel Site

Community Acceptance/Opposition

The sites discussed in this chapter all face serious issues of community acceptance.

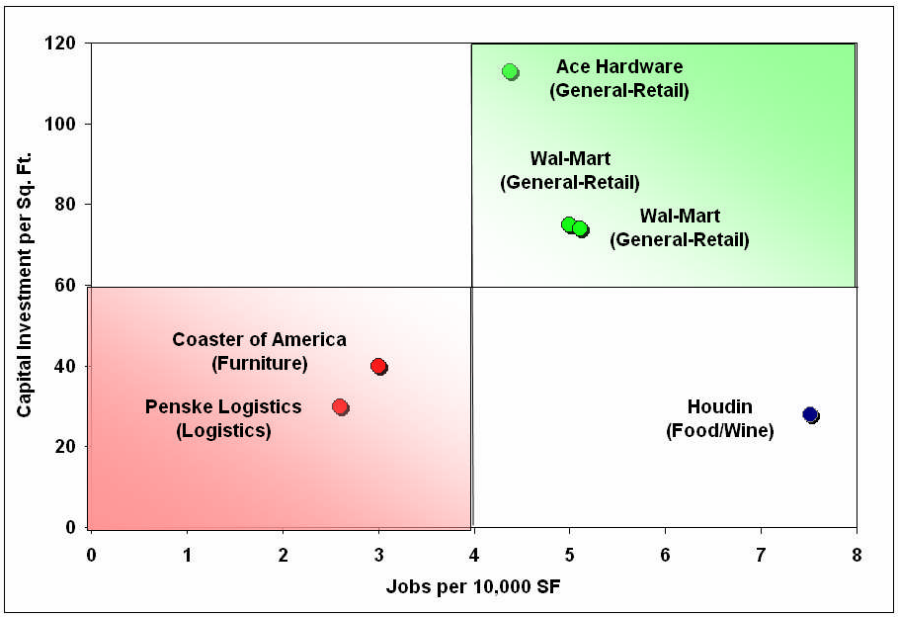
Much of the central Inland Empire has a legacy mix of residential, commercial, and industrial land uses. In unincorporated areas, which include much of Mira Loma, proximity of new distribution facilities and older residential neighborhoods has created acute sensitivity to truck and rail traffic.

Meetings with representatives of County Supervisors, RCTC, and SANBAG confirmed the extreme social and political sensitivity to additional truck traffic in the Mira Loma area in specific.

As observed in the site selection discussion there are relatively few open industrial sites left in the central portion of the Inland Empire. Communities and regional planning agencies are placing a high priority on the number and quality of jobs to be generated by development of the remaining sites.

As Exhibit 115 below suggests, new distribution facilities typically generate 2-6 jobs per 10,000 square feet.

Exhibit 115: Job Density of Logistics Developments



Source: Economic Planning Systems – Sacramento Area Data

Distribution facilities may have floor area ratios of about 0.5, meaning roughly that half the site is covered by a single-story building. A typical value of 4 employees per 10,000 square feet from Exhibit 115 would therefore become the equivalent of about 9 employees per acre.

In contrast, a 35-acre rail intermodal facility is likely to employ no more than 10-12 people, giving a ratio of about 0.33 per acre. (The drayage drivers would not be counted, since they are not employed at the terminal and would actually have more work without an inland port.)

Developing an inland port facility on one of the few empty sites in the Mira Loma area would therefore run counter to the highest priorities of regional and local planning agencies.

The inland port concept has already met with strong community opposition. The Center for Community Action and Environmental Justice (CCAEJ) based in Riverside, has convened com-

munity meetings to oppose the idea of an inland port and prepared media articles opposing the idea – even though there is no current inland port proposal. While the actions or opinion of a specific community group may not be decisive, or perhaps even representative, the existence of organized opposition in advance of any actual proposal is indicative of high community sensitivity.

Based on potential opposition from county and regional planning agencies, and active opposition from at least one permanent community group, there appears little chance for community acceptance of an inland port terminal in the central Inland Empire.

XVI. Additional Terminal Sites

Logistics Parks as Inland Ports

Extending the inland port concept beyond the central Inland Empire requires a change of strategy or model. The central Inland Empire (e.g. Mira Loma) is an existing market with a base of potential customers already moving containers to and from the ports. The advantages of existing development are the certainty of the market, even though that market may be hard to penetrate, and the potential for near-term project benefits. The disadvantages are the lack of space for a terminal and the inertia faced in attempting to shift modes. Moving beyond the central Inland Empire leaves existing markets behind, and relies instead on new market development.

The "Logistics Park" model would encourage and locate future logistics industry development. Choosing a logistics park site comes down to "location, location, location." The site must have potential for distribution center development, and good rail access. Use of the land as a logistics park has to mesh with other public plans and private initiatives.

The key to success in the Logistics Park model is attracting customers that will use the inland port and rail shuttle from the beginning, rather than attempting to divert established traffic from trucks. The major issues to be addressed are:

- Market potential
- Public vs. private development priorities
- Rail capacity and traffic volume
- Competition with other public and private initiatives
- Site selection and development timeline

The development timeline is critical. Not unlike a passenger transit station, it is preferable to be near the beginning of the development cycle so there is some customer base at the outset, but still in the position to influence future development patterns. Long-term development plans and trends for the SCAG region anticipate growth extending out the I-15 Corridor. Riverside and San Bernardino Counties are the fastest growing sub-regions according to the SCAG Regional Economic Forecast. In 2004, sub-regional employment in Transportation, Warehousing, and Utilities grew 10.7%.

As development progresses beyond Cajon Pass there are two highway junction areas that will become candidates for logistics park developments: Victorville and Barstow.

Victor Valley

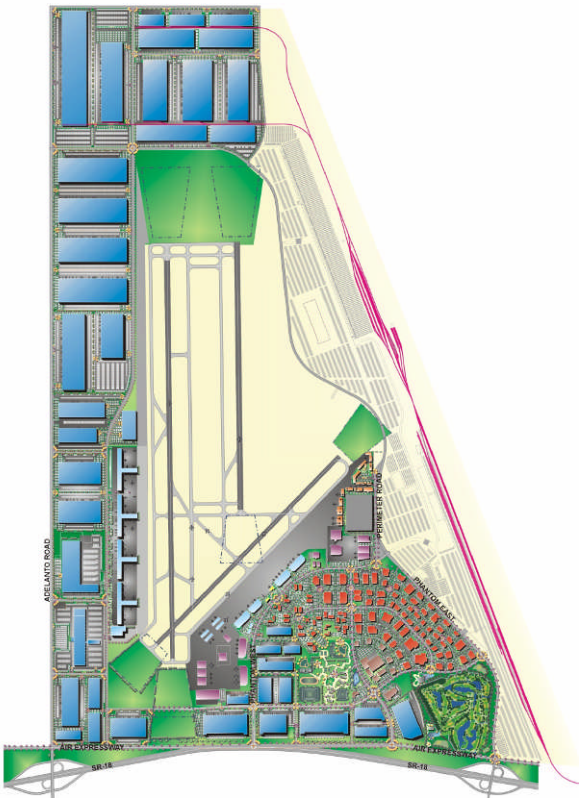
The Victorville area – broadly including the communities of Victorville, Apple Valley, Hesperia, and Adelanto – has for some time been considered the next logical focus for distribution activity after the Inland Empire. As Exhibit 116 indicates, the area is roughly defined by the junctions of

Interstate 15, US 395, and State Route 18. The Victorville area is the first substantial metropolitan area north and east of Cajon Pass for both the highway and the railroads.

Exhibit 116: Victor Valley and SCLA Site

The Southern California Logistics Airport (SCLA) at Victorville is an obvious candidate. The SCLA is the former George Air Force Base, being developed by Stirling International into a 4,000-acre master-planned business and industrial airport complex (Exhibit 117).

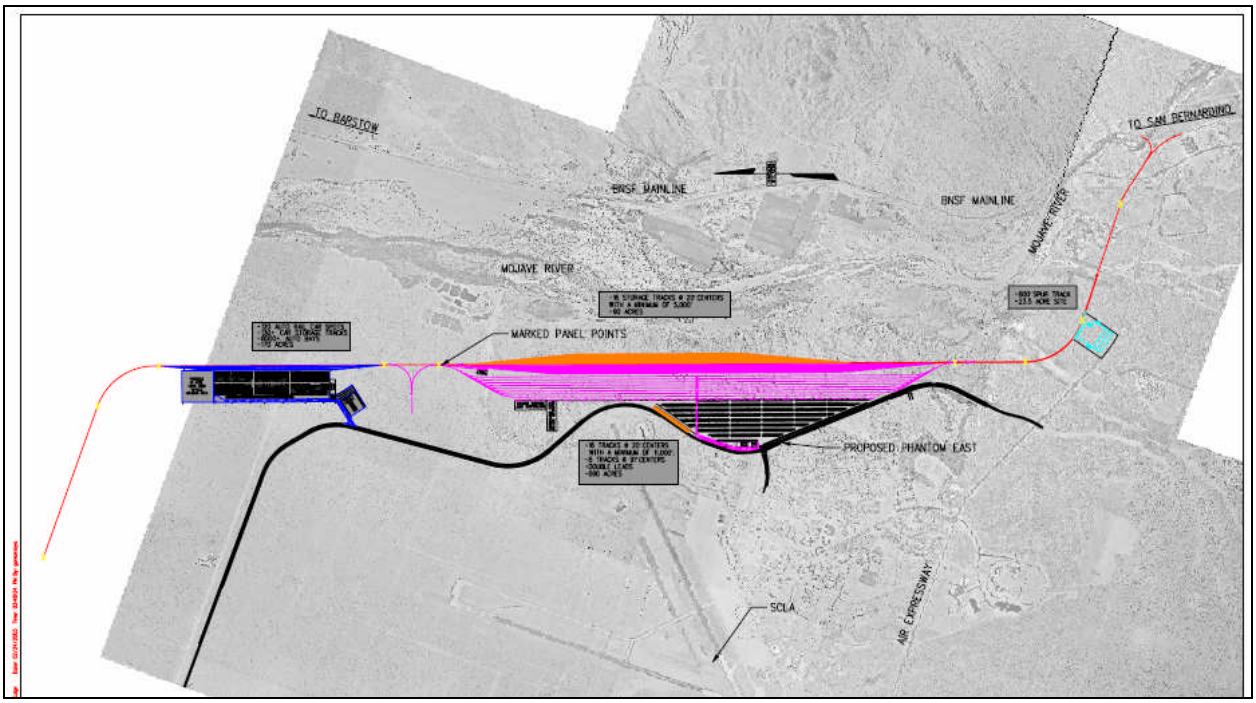
Exhibit 117: Conceptual SCLA Development Plan



Developers of SCLA have envisioned an intermodal rail terminal as part of the development from an early stage. In 2007, BNSF began discussions with SCLA about actually developing such a facility. As noted earlier BNSF has been seeking additional Inland Empire intermodal capacity without success for several years. BNSF has investigated the location and has worked with SCLA to suggest conceptual plans to SCLA that differ from the original conceptual plans shown in many SCLA publications.

The 2003 BNSF preliminary concept is not an inland port terminal designed to handle rail shuttles to and from the San Pedro Bay ports. The concept in Exhibit 118 is a 690-acre conventional intermodal terminal capable of handling multiple trains and traffic flows. As with the existing San Bernardino terminal, an SCLA terminal would likely handle domestic long-haul intermodal traffic to and from points to the north and east. The concept in Exhibit 118 also includes a 170-acre auto loading/unloading facility and a large storage yard serving both terminals. The facility would be accessed on a long spur track from the BNSF mainline. Until such time as it filled up with other business in the distant future, a terminal of this scale could easily accommodate a port rail shuttle. Serving the Victorville area would therefore not require a separate inland port facility.

Exhibit 118: Preliminary Intermodal Terminal Plans for SCLA Site



The Victorville area is a less-than-optimal choice as a rail intermodal terminal for BNSF as it is much farther from the Inland Empire intermodal customer base than the existing San Bernardino terminal.

The major issue with the SCLA site as a near-term "inland port" site is, likewise, its location. Lying north of Cajon Pass, SCLA is not an efficient hub site for trucking to and from Inland Empire port customers. The SCLA site is only 3 miles closer to the Mira Loma area than is the Port of Long Beach, so any VMT savings would be minimal, and would also be offset by the difficulty

and cost of trucking up and down Cajon Pass. Any rail shuttle to and from the ports would likewise have to operate over Cajon Pass, a congested and high-cost route.

In the long term, as the Victor Valley area develops into a separate market, the SCLA site may become more attractive. As noted above, serving a *developed* area with new intermodal facilities is inherently difficult. Serving a *developing* area such as Victorville allows the customer base to grow up around the facility.

Extension of a rail shuttle service to Victorville would obviously be simplified if and when a BNSF intermodal facility is established there. The key issues facing such an extension are the emergence of demand and rail capacity on Cajon Pass.

Establishment of an intermodal facility at SCLA should encourage development of distribution and manufacturing facilities that utilize intermodal service, but not necessarily those that have large volumes of port container traffic. SCLA is 40 miles farther from the ports than the edge of the existing Inland Empire distribution center cluster (measured from SR 210 at Fontana), adding 80 truck miles or $80-100 to each round trip drayage move and a comparable incremental cost to each rail move. It may be a long time before enough port-oriented distribution facilities locate in or near Victorville to justify a frequent rail shuttle service.

Exhibit 119, which comes from the SCLA website, emphasizes the outward orientation. There might still be some truck trips back into the Inland Empire and the LA Basin, but most of the DCs in the Victorville area would be primarily serving markets beyond Southern California.

Exhibit 119: Outward Orientation of SCLA Site

Barstow

Moving farther out the I-15 corridor, Barstow offers potential as a future logistics park site. A Barstow site would be positioned as a developing logistics park and/or an agile port terminal.

Exhibit 120: Barstow Location

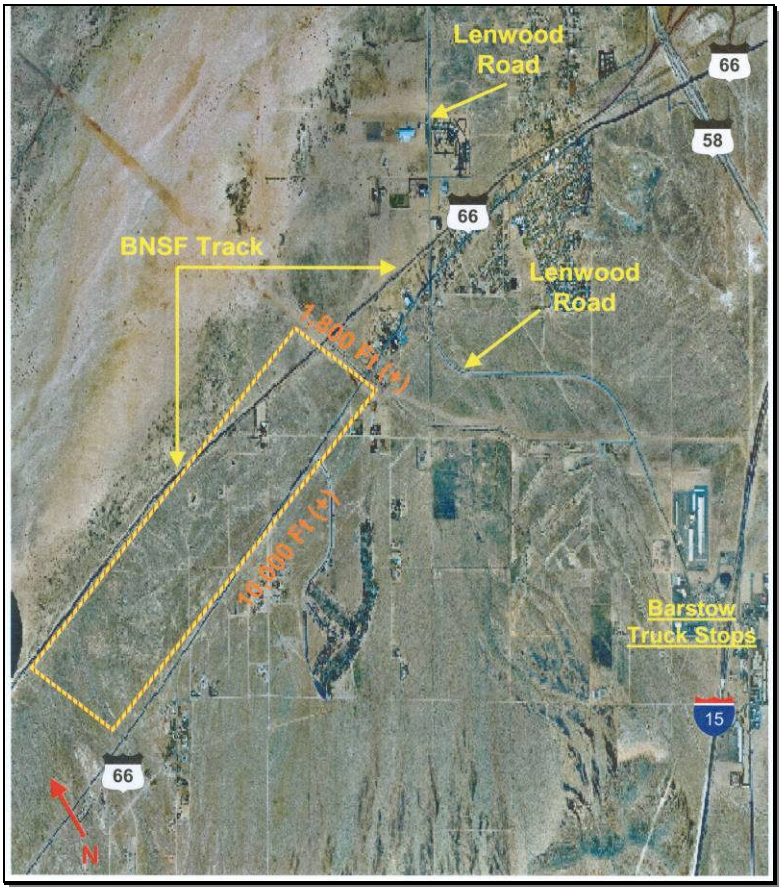
The City of Barstow has identified at least one appropriate site for a rail intermodal facility that could become the nucleus of logistics-related development (Exhibit 120). A potential Barstow site is adjacent to the BNSF mainline with UP trackage rights.

Barstow is experiencing strong economic development trends across a range of commercial and industrial categories. As of June 2007, the economic development office listed over 300,000 square feet of new commercial buildings in progress. The study team is aware of two significant distribution industry initiatives.

- There are advanced plans to develop a Wal-Mart distribution center for food products, including perishables. The Wal-Mart facility would consist of roughly 900,000 square feet on a 143-acre site west of Lenwood Road Exhibit 121, and is expected to open by early 2009. This facility could be expected to receive at least some of its goods from the ports, notably imported produce, foods, and beverages (beer and wine).

- A smaller nearby produce distribution center (85,000 square feet) could also be a potential customer.

Exhibit 121: Proposed Barstow Inland Port Site



A proposed industrial park adjacent to the potential inland port site would cover roughly 1200 acres with buildout between 2007 and 2016. Preliminary plans indicate about 15 buildings, most with rail sidings to accommodate conventional freight cars (rather than intermodal cars). This proposed development would focus on customers and commodities using conventional rail cars but would likely ship and receive intermodal freight as well.

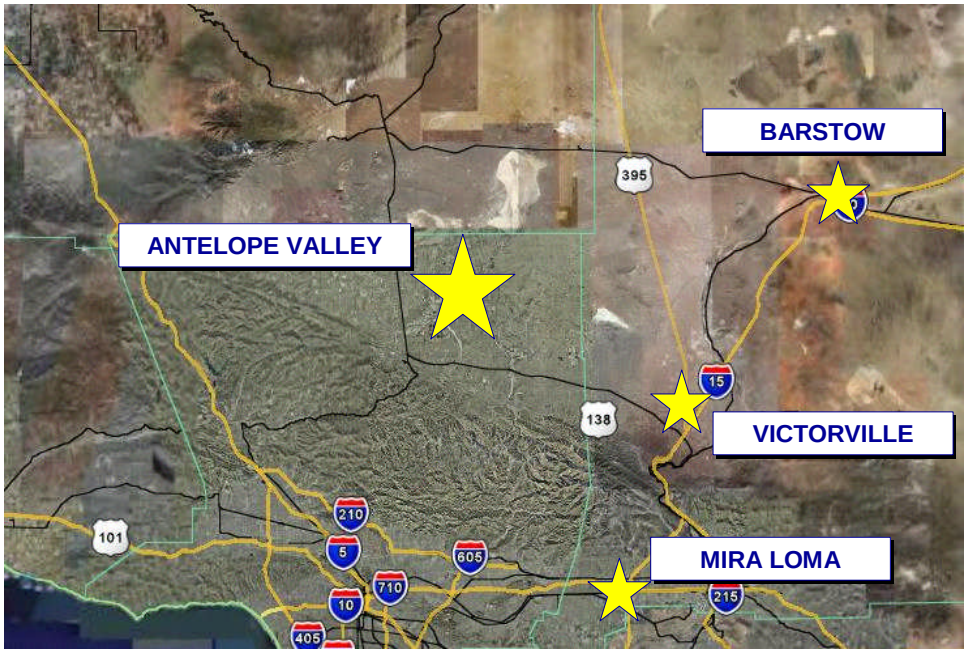
This area is at an earlier point in the development time line. Barstow is established as a rail and truck crossroads, as evidenced by the rail facilities and truck stops. As it emerges as a distribution center location in the future, regional planning agencies may want to link that development with an inland port where possible.

Barstow would also be a logical site to pursue an agile port strategy. The agile port concept calls for port terminals to load as much as possible on rail with a minimum of port-area sorting, and would require a site with abundant space for inland sorting.

Antelope Valley

The Antelope Valley offers two of the things needed for an inland port – rail service and developable land – but is handicapped by geography. Unlike Mira Loma, Barstow, or Victorville which are at major highway junctions, the Antelope Valley is off the major regional truck routes and not well located for near-term distribution functions (Exhibit 122).

Exhibit 122: Antelope Valley Location



The rail line between the Antelope Valley and Los Angeles is a secondary route. The UP line from Palmdale to West Colton (the "Palmdale Cutoff") was actually built in the early 1970s to bypass this older route into Los Angeles.

Development of the Antelope Valley as a distribution hub would be a very long-term proposition, as it would likely depend on significant shifts in regional population and economic development patterns. For the foreseeable future, the Antelope Valley is not in a favorable geographic location to serve either the Southern California population centers or more distant regional markets.

XVII. Institutional Issues

Ocean Carrier Perspective

A significant portion of the containers moving to Inland Empire customers do so under ocean carrier control. Under "store door" rates, the ocean carriers are responsible for delivering the container to final destination, usually by hiring a local drayage firm. The other options are "local" rates, in which the customer is responsible for movement from the port, and "inland point intermodal" (IPI) rates that incorporate a rail move on longer trips.

It is possible that ocean carriers could use a rail shuttle to deliver "store door" containers to customers in and beyond the Inland Empire. The ocean carriers could do so to save money, assuming the rail shuttle and subsequent short delivery drayage were priced below a pure truck move. Ocean carriers might also do so to obtain additional capacity when the fleet of drayage tractors and drivers was insufficient to deliver the full volume of import containers on a timely basis, such as in peak shipping season.

While the ocean carriers may theoretically have control over the "store door" movements, in practical terms the delivery arrangements must be acceptable to the import customer. For the largest, most influential customers the ocean carrier will tender the container to the customer's choice of drayman and pay the drayman's bill. Under those circumstances the customer would have to acquiesce in the shift from all-truck to rail shuttle. In all circumstances the rail shuttle/local delivery option must meet customer expectations for transit time, reliability, and damage control as well as cost.

The study team's discussions with ocean carriers were somewhat hampered by the conceptual state of the rail shuttle/inland port concept. Ocean carriers are generally interested in any opportunity to reduce cost and add capacity. They were, however, skeptical on several points.

- Some ocean carriers expressed doubts regarding railroad willingness to operate such a shuttle or allow others to operate it over railroad lines. These doubts must be acknowledged as realistic.

- Ocean carriers also expressed doubts about the timeliness and reliability of such a shuttle. On-time performance of rail intermodal service has varied over time depending on the railroad and the time period involved.

- Among all the parties contacted in the course of the study, ocean carriers were the most concerned that the International Longshore and Warehouse union (ILWU) might claim jurisdiction over an inland port. If that happened, the ocean carriers felt that costs would escalate due to ILWU wage rates and work rules.

Ocean carriers would be particularly unwilling to pursue the development of an inland port/rail shuttle combination before a new ILWU contract is negotiated. The current ILWU contract will expire in July 2008. Before then, the ocean carriers would be unwilling to do anything that might complicate or jeopardize the negotiations. This timing factor may have little practical im-

pact since it is unlikely that a fully developed inland port/rail shuttle proposal would be ready during the negotiation period.

Study team contacts did reveal ocean carrier interest in a rail shuttle option, but the issue did not have high priority. Ocean carriers face numerous issues in serving Southern California, including container fees, cold-ironing, terminal capacity, and long-haul rail capacity – all of which are considered more pressing than the rail shuttle concept. One major ocean carrier had previously investigated the shuttle concept in detail, but chose not to pursue it.

Beyond the fear of ILWU jurisdiction there was no ocean carrier opposition to the concept. Ocean carriers are willing to use a shuttle if it can perform to their cost, timeliness, and reliability standards.

Drayage Industry Outlook

The ability of the ocean carriers and their customers to rely on conventional highway drayage to the Inland Empire is predicated on continued capacity and reasonable cost. At present, capacity is sufficient in all but peak season conditions. Drayage costs have risen in recent years with driver shortages, higher insurance costs, and rising fuel prices (the latter often covered by a surcharge). The increases, however, have been relatively minor and are not a cause for serious customer concern.

Under existing drayage industry conditions rates will continue to rise slowly for the foreseeable future and capacity will continue to tighten during seasonal peaks. PierPass implementation has allowed for a modest increase in the number of driver trips per day, and will continue to soften the impact of cargo growth. Under those circumstances drayage will remain a concern but is unlikely to experience a near-term crisis.

Those conditions, however, are going to change. Regional and community concerns over emissions have led the Ports to develop the Clean Air Action Plan (CAAP). A cornerstone of this broad, ambitious plan to reduce port-area emissions is the Clean Truck Program, a controversial effort to replace the oldest and most polluting drayage tractors with newer or retrofitted units.

The current plan is embodied in changes to the Port tariffs approved by the commissions of both Ports in early 2008. Those plans call for a progressive ban on older or non-retrofitted trucks. The cost of industry compliance with this plan will be substantial. The Ports are developing a plan to subsidize a large portion of the cost of new or retrofitted tractors. To do so, however, the ports will draw on the same funding sources that might otherwise support a rail shuttle – state infrastructure bonds, congestion and air quality mitigation funds, and container fees. The more successful the Ports are in assembling funds for new drayage tractors, the less the chances of funding an inland port/rail shuttle project.

The remaining financial burden of the CTP will fall on the drayage industry and its customers. Some drayage tractors will be withdrawn from service and not replaced, possibly reducing net fleet capacity.

A second event affecting Inland Empire drayage costs and capacities is implementation of the Homeland Security Transportation Workers Identification Card (TWIC) program. This program,

due to be implemented in Southern California beginning in December 2007, requires port drayage drivers (among many others) to pay a fee and submit documentation to obtain the TWIC. While the TWIC requirements cover criminal corrections and other issues ,the biggest impact on the drayage industry will be elimination of many illegal aliens from the driver pool. Immigrants of all kinds account for a very large percentage of all port drayage drivers and it is estimated that up to 20% will either fail to obtain a TWIC or choose to leave the field rather than apply (likelier for illegal aliens).

Reduced capacity and higher drayage rates would lead to greater interest in an inland port/rail shuttle alternative. The costs of local drayage within the Inland Empire would likely rise as well, but neither the CTP or the TWIC program would have a direct impact on them.

A loss of 20% of the driver pool would cut regional drayage capacity by the same amount (assuming that the loss was uniform across the range of full-time, part-time, and occasional port drivers). The loss would not be critical in the slack import months of December 2007 through February 2008, but would begin to hamper port operations as imports rose in the spring of 2008. If the industry does indeed lose 20% of its drivers and cannot replace those drivers by July 2008 when the peak shipping season begins, there will be an acute shortfall.

A study commissioned by the Ports[viii] found that the combined impact of TWIC and the most aggressive proposals in the Clean Truck Program could increase the cost of drayage to the Inland Empire from $300 to as much as $540 per trip, as discussed early in the cost comparisons. Such a large increase could materially change the rail/truck cost comparisons and materially reduce the need for an operating subsidy.

These drayage outlook considerations pose a dilemma for the inland port/rail shuttle concept. By any criteria, large-scale emissions reduction in the immediate port area is a higher regional priority than the rail shuttle. Public support for such emissions reduction strategies will drain resources that might otherwise have supported a rail shuttle. To the extent that drayage costs and rates rise as a result of these programs the truck/shuttle cost gap will narrow and subsidy needs will decline.

A drayage capacity shortfall would increase demand for a rail shuttle, yet that increased demand would likely be restricted to peak season and the rail shuttle could offset only part of the shortfall. An inland port/rail shuttle cannot, therefore, be considered more than a partial remedy for CTP impacts.

The prospect of substantial drayage cost increases and capacity shortfalls does suggest that future distribution center developments cannot rely on cheap abundant trucking to and from the ports. This observation suggests in turn that it would be prudent to consider a rail shuttle alternative in planning for concentrations of distribution activity beyond the central Inland Empire.

[viii] San Pedro Bay Ports Clean Air Action Plan, Economic Analysis; Husing, Brightbell, and Crosby, September 2007

Appendix A: Inland Port Case Studies

Purpose and Scope

This Appendix presents 29 case studies of inland ports and related developments. Although the projects differ widely they have one key element in common: the goal of developing economic activity around transportation infrastructure at inland points.

These case studies were chosen on the basis of their analytic and instructive value. No claim is made that this list is exhaustive.

The information presented here was drawn from a variety of sources, including industry publications, project websites, staff and consultant reports, presentations, and personal contacts. The availability of information is inevitably uneven.

The case studies have been organized into groups.

Satellite Marine Terminals

- Virginia Inland Port
- Metroport, New Zealand

Satellite marine terminals are the only type of inland ports that act as extensions of specific seaports. Both Virginia Inland Port and Metroport in New Zealand are owned and operated by the Ports of Virginia (Norfolk) and Tauranga. Both are connected to their parent ports by rail intermodal shuttles.

Multimodal Logistics Parks

- Alliance, Texas
- Port of Huntsville, Alabama
- Rickenbacker/Columbus Inland Ports
- Logport, Duisburg Germany

These developments have used multi-modal infrastructure (air-rail-truck, or sea-rail-truck) as the core of business/industrial parks. Whereas conventional business or industrial parks seek office buildings or manufacturers as "anchor tenants", these "logistics parks" use the transportation infrastructure as a selling point. These developments have much in common with the shippers, consignees, and ancillary businesses that surround seaports. They are "inland ports" without being extensions of seaports.

Rail Intermodal Parks

- Joliet Arsenal (JADA)
- Global III, Rochelle, IL

- Port of Quincy, WA
- CILC, Shafter, CA
- Neomodal, Stark Co., Ohio
- Detroit Intermodal Freight Terminal
- Port of Montana

Almost all rail intermodal terminals are built and owned by the railroads. In a very few cases public or public/private agencies have created intermodal terminals in the hopes of encouraging development in the same manner as the multimodal logistics parks. Of the rail intermodal initiatives, only the Joliet Arsenal project has attracted significant new business development beyond the terminal itself. Some of the other projects have achieved modest progress to date, some are dormant, and some have yet to start.

Logistics Airports

- Europort Vatry (France)
- San Bernardino International
- Kelly USA/Port of San Antonio, TX
- Southern California Logistics Airport (Victorville)
- March Global Port
- Global TransPark

These "logistics airport" developments have as their core an all-cargo (or primarily cargo) airport. Europort Vatry was purpose-built, Global TransPark converted Kingston Regional Airport, and the others are former military air bases. (Rickenbacker, Huntsvile, and Alliance Texas also have cargo airports, but have rail intermodal terminals as well.) Some of these efforts have attracted significant logistics-based development, notably Europort Vatry. Others have primarily attracted aircraft industry firms with a need for runway access.

Networks and Corridors

- PANYNJ Port Inland Distribution Network
- Heartland Corridor
- North American Inland Ports Network

These projects link together inland ports, seaports, and related developments into operating networks or corridors. Some of the other case study developments, for example, are part of the Heartland Corridor or the North American Inland Port Network. These networks and corridors have been included to illustrate the potential of linking individual initiatives.

Shuttle Services

- Albany, NY Barge Service
- Worcester-Keary Rail Shuttle

Since rail or barge shuttles are an integral part of many inland port concepts, these two case studies of the shuttles themselves (rather than of the facilities they serve) have been included in this Appendix. The Albany Barge Shuttle has been discontinued; the Worcester-Keary rail shuttle continues to operate.

Trade Processing Centers

- Richards-Gebaur
- Port of Battle Creek
- Kingman, AZ ITPC
- Greater Yuma Port Authority

U.S. Customs and Border Protection has encouraged the concept of International Trade Processing Centers (ITPCs) to shift some of the trade-related activity away from congested ports and border crossings. The case studies presented here involve proposed ITPCs; non have been built or are in operation. These proposals differ from the others in that the development attraction is presumed to be a regulatory function, "trade processing" that requires a physical location rather than a transportation or logistics function.

Economic Development Initiatives

- KC SmartPort

KC SmartPort is unique among the case studies as not involving a specific facility or site. KC SmartPort is an economic development initiative designed to bring business to Kansas City by virtue of the area's transportation and logistics capabilities.

Virginia Inland Port

Overview

The Virginia Inland Port (VIP) concept was first explored in the early to mid 1980s with the project's main purpose being to capture a larger market share for the Port of Virginia (Norfolk). At that time, cargo from the Ohio Valley was primarily being sent through the Port of Baltimore. The market expansion was intended to be a powerful sales tool in convincing additional ship lines to add Norfolk to their schedules or to increase their business in Virginia. Initial examination of this Ohio Valley market revealed a potential for 100,000 annual containers. The Virginia Port Authority (VPA) determined that one way to attract this business was to build an intermodal facility close to these areas that could be linked by rail to the port area. Exhibit 123 illustrates the Appalachian Region market area for the VIP.

Exhibit 123: VIP Market Area

Planning for the inland port began in earnest in 1984 and involved a series of meetings among representatives of all transportation modes, shippers and brokers. VPA and Norfolk Southern (NS) reached an agreement in January of 1987 enabling the VPA to proceed with the inland port development. Several sites were examined with NS officials and local area leaders before the eventual site in Warren County, VA (Exhibit 124) was selected. This site has easy access to I-66, I-81 and ADHS Corridor H, and has 1,400 feet of common boundary with Norfolk Southern. The initial concept was to run a dedicated NS train three days per week between Hampton Roads and VIP. It was anticipated that this level of service would attract approximately 20,000 international containers annually.

One advantage was that the funding fell into place rather easily and did not require any borrowing to support VIP construction. The original funding was easier than expected due to a series of fortunate circumstances, including: the election of a new Governor committed to transportation infrastructure, a special session of the General Assembly, and a report from the citizen advisory Commission on Transportation. Legislation was passed in 1986 to create a Transportation Trust Fund. The inland port was constructed with money entirely from the Trust Fund. The original $10.75 million and subsequent $2.25 million was paid in cash, on a pay-as-you-go basis. Thus, Virginia managed to avoid incurring debt in the construction of the intermodal facility.

The Virginia Inland Port started operations in 1989 with initial annual volumes of 8,000–9,000 containers. The VIP's annual throughput volume approached the targeted level of 20,000 international containers annually in 1999 and was near that level through 2001. Logistics Today reports volume at 14,000 moves in 2003, some 28,000 in 2004, and 35,000 in 2005.

Exhibit 124: VIP Site

Services

Norfolk Southern (NS) railroad provides the intermodal service between two Virginia Port Authority (VPA) Terminals, Norfolk International Terminal (NIT), and Virginia Inland Port (VIP).

- NS provides the train service and rail cars.
- VPA owns both terminals. VPA is an independent corporation created by the commonwealth of Virginia for the purpose of operating the state's ports and able to execute contracts with labor unions.
- VPA operates both terminals through its subsidiary, Virginia International Terminals (VIT).
- The terminal in Front Royal is pictured in Exhibit 124. Its menu of services includes a warehouse facility, mechanical repairs, USDA inspections, SGS inspections, pool chassis, generator sets for refrigeration units, as well as power hook ups. The facility is a U.S. Customs-designated port of entry, and the full range of Customs functions is available.

- The marine carriers are the customers of VIT. The cargo largely remains in bond and clears customs in Front Royal. Some of the cargo may move on a through marine bill of lading with final destinations in Northern Virginia, West Virginia, Western Maryland, Pennsylvania, and Ohio.
- VIT contracts with NS to provide a second morning train service scheduled six days per week in each direction. VPA markets this service to marine carriers as a part of its terminal service package.

Norfolk Southern has a flat rate charge to VIP for box movement to VIT shown in the VIT tariff (Exhibit 125).

Exhibit 125: VIP Tariff Rates, February 2006

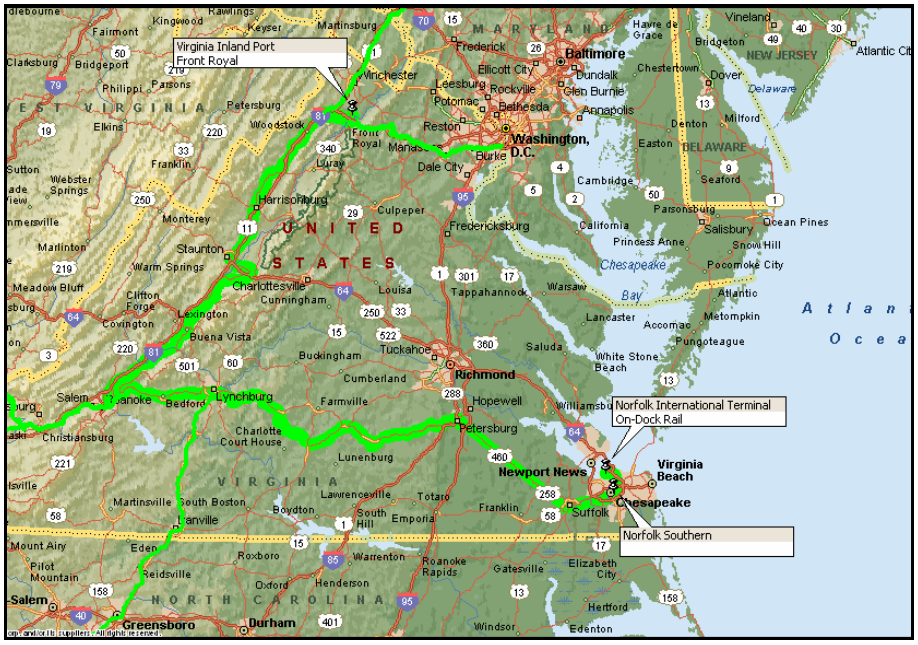
	Loaded	Empty
TOFC	$449.00	$366.00
COFC	$271.00	$188.00

The original arrangement between NS and VIP when VIT opened in 1989 was a 3-day-per-week train, take or pay. That has evolved to a flat rate between Hampton Roads and VIP. The containers can move on any NS train that runs to or through Front Royal, but there is a train each way 5 days per week that originates at VIT to VIP as well as a reverse train from VIP to VIT.

The highway distance between VIT and VIP is about 220 miles which makes the published load/empty round trip COFC rail rate less than $1.05 per mile, much less than any conceivable motor carrier drayage rate. The TOFC rate on the same basis is $1.85 per round trip mile which would indicate that VIT and NS would not really be interested in TOFC in this market. NS rail mileage is 400–450 miles one way, so NS is paying a circuitry penalty in this lane of about 100%.

In Norfolk, the cargo can originate at the on-dock rail terminal at NIT, and at NS's Chesapeake, VA facility. Shipments from Front Royal terminate at NIT. The Front Royal terminal is located less than a mile from I-66 and less than five miles from I-81. The thick green line on the map in Exhibit 126 illustrates the NS rail route between the terminals.

Exhibit 126: VIP Location



For the most part westbound containers are loaded at the on-dock rail facility at NIT. In addition, containers can be drayed between the marine terminals in Portsmouth and Newport News to the NS terminal in Chesapeake, VA. The NS route to Front Royal is via Roanoke, VA, then north on its line which runs along I-81. Cut off for receipt of cargo at Chesapeake is 10:00 p.m. Containers or trailers are available in Front Royal at 7:00 a.m. the second morning. The operation is reversed to move containers from Front Royal to Norfolk with service offered only to NIT.

Competition

The following is an excerpt from, *VIRGINIA INLAND PORT; The Case for Moving a Marine Terminal to an Inland Location*, which was prepared for the American Association of Port Authorities Professional Port Manager Program by J. Robert Bray, Executive Director, Virginia Port Authority.

> *The original marketing plan was based on aiding ship lines who had abandoned Baltimore to maintain their Ohio Valley base of business which the lines had previously carried over Baltimore. The lines at the time (1989) were carrying cargo to and from Baltimore by truck or barge. VIP rail charges were less, so in theory VIP gets the cargo. ... As is always the case, VIP truck and barge competition dramatically cut their rates. In the years following the opening of VIP, truck and barge costs plummeted by as much as $125 per container. This caused an immediate effort on our part to concentrate on Virginia business found in and around VIP. We have succeeded in this endeavor. While reacting to changed transportation costs, we continued to pursue marketing presentations to all current and potential ship line users. These meetings focused on market research, operational flexibility, closed loop on equipment, rate comparisons and cost savings over existing liner methods for handling intermodal containers. We pitched - if it reaches VIP - it is on the ship.*

Our task has been made difficult by a reluctance on the part of some custom-house brokers and international freight forwarders to assist and some have continued to insist on a Baltimore bill of lading; some ship lines are hesitant to offer a VIP bill of lading without an arbitrary charge to cover the rail movement; and the rationalization of equipment and services has enabled ship lines the option of handling cargo from more ports at a reasonable cost.

Regional Benefits

Since VIP opened, it has spurred nearly $600 million in private sector capital investments. It is estimated that 95 percent of the business generated by the VIP is new business for the Port of Virginia-Hampton Roads (i.e., this freight traffic has been captured from other ports).

The local community expected that the VIP facility would stimulate regional economic development. This local expectation caused VPA to shift from the original plan concentrated on international containers to a broader program encompassing domestic rail service and regional economic development (increasing jobs, wages and taxes), which is its core mission to the Commonwealth of Virginia. Operations at the VIP are conducted by about 17 full-time employees. The VIP has been generating operating profits. Its establishment is associated with strengthening the competitive position of Virginia's ports relative to their East Coast competitors, and has resulted in increased business investment, and employment in nearby Appalachian Region areas.

The VIP terminal has been in operation since 1989 with rail intermodal service from and to the Port of Virginia. Over that time, 24 major companies have located distribution centers near VIP with investment of $600 million and over 6.25 million square feet of buildings. These firms actively take advantage of the Port to ship a variety of products overseas, including plastics, medical supplies, apparel, auto parts, furnishings, food, paper, and four-wheel-drive vehicles. *(Virginia Port Authority, 1999)* Logistics Today (December 2005) reports that, "*Although imports flow through VIP, [export] poultry, logs and lumber represent a major part of the facility's freight."*

Long-Term Direction

The Virginia Inland Port seeks to increase container volume by marketing the facility and its benefits to shippers. Marketing plans are carried out in conjunction with economic development efforts based on the freight mobility the VIP offers the region. In 1995, a long-term VIP Mission and Strategic Plan was created that advocated making the inland port the focal point for regional economic activity. To this end, the Virginia Port Authority created an Economic Development Center, including an administration building and warehouse facilities at the VIP.

Needs and Next Steps

Any VIP infrastructure improvements and expansion will require additional funding. However, the VIP may not need to rely solely on public financing for any expansion funds; the facility has been self-sufficient and operating profitably since 1994. As of this writing expansion is underway. Beyond targeting and increasing market-share from within the existing VIP market area, the Port of Virginia also seeks to expand the VIP market area and customer base. This plan will involve significant area and regional economic development efforts. In conjunction with Wash-

ington-Dulles International Airport, ongoing efforts have been made to develop the corridor between the two facilities as a principal freight distribution center/hub. This involves attracting warehouse and distribution facilities (and ancillary support infrastructure) to the area. Expansion of the Foreign Trade Zone to land and facilities surrounding the VIP is also seen as a positive step for the Port. Such an FTZ expansion would include land owned and operated by various economic development agencies in the region.

Success Factors

This operation has been successful because:

- There was **Capital and Commitment** to develop the terminal driven by the strong resolve of the Commonwealth to develop its ports. As Mr. Bray reports, *During this time frame, the Virginia General Assembly created a Transportation Trust Fund (TTF). The TTF is composed of a set-aside of certain taxes on gasoline, titling taxes and sales and use taxes. The VPA receives 4.2 percent of the TTF as the Commonwealth Port Fund (CPF). This CPF is used for capital development and maintenance by VPA and this certain source of funding made possible serious consideration of an inland port.*
- The **Marketing Plan** was viable and flexible enough to accommodate change. While the original target market was Baltimore-billed Ohio Valley cargo handled over the Port of Norfolk, the market that has emerged is based on improved transportation access to the region and its impact on the local economy. The regional economic development was created by the VPA's terminal infrastructure investment and the availability of necessary terminal services to support the marketing plan described above.
- Norfolk Southern is a **willing Class 1 railroad**. Norfolk Southern has a long-standing and symbiotic relationship with the Virginia Port Authority which supported the development of VIP. There was a commitment to run the train and absorb the train operating cost even during the long start up period.

Metroport, New Zealand

Overview

Established in 1999, Metroport Auckland is New Zealand's first inland port focused on landside container flow. Tranz Rail links this inland port to the Port of Tauranga. Metroport is located in South Auckland's manufacturing region approximately 140 miles away from the maritime port. (Exhibit 127)

This facility is a Customs bonded site, meaning that imports do not undergo Customs transactions at the maritime port, but are brought to the inland port where the necessary federal transactions are made. Metroport does not have Customs officials on-site, but paperwork is handled at the city office. Agricultural goods are handled in the same way at Metroport.

Tranz Rail owns the land at the Metroport site. However, the land improvements and the computer system are owned by the Port of Tauranga. The port is publicly listed and the main source of funding for Metroport comes from the fee charged per container handled.

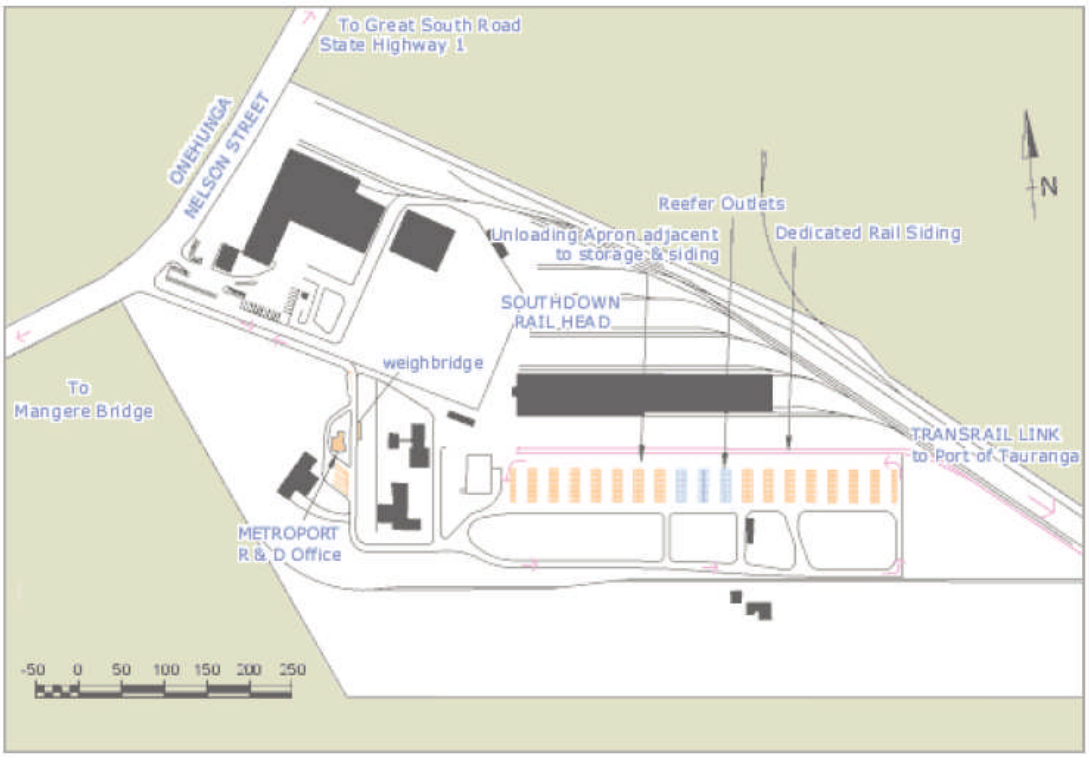
Exhibit 127: Metroport Auckland, NZ

The Port of Tauranga is New Zealand's fastest growing port. A key part of maintaining its competitive position, particularly with the Port of Auckland itself, was to provide an efficient way to deliver the containers from Tauranga to Metroport in Auckland after they were unloaded.

Services

Metroport (Exhibit 128) operates by contracting with shipping lines that call at the Port of Tauranga. When the import cargo arrives, it is off-loaded and railed to Metroport. At Metroport, containers clear customs and are trucked to their final destination. The reverse process applies to exports arriving at Metroport. The trip from Metroport to the Port of Tauranga takes approximately 4 hours on the main north-south trunk rail line in New Zealand.

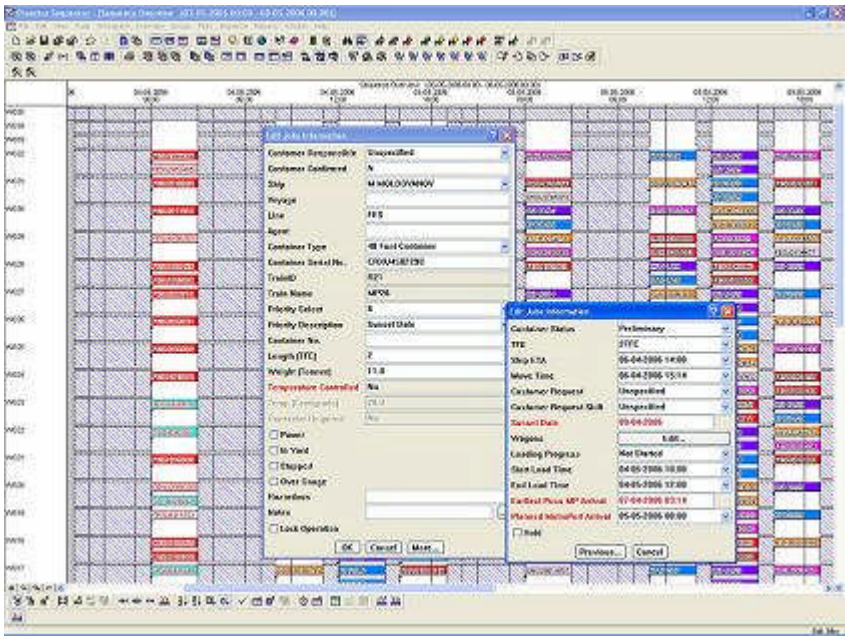
Exhibit 128: Metroport Facility Plan



The Port needed a system that could automatically allocate containers to cars within a train, taking into account the train capacity, loading rules, and service level objectives. In addition, the system would need to fully integrate with the other software systems that dealt with vessel arrival schedules, container details (Navis SPARCS), and the proposed train schedules and consists. They also wanted to provide a web portal to allow customers to manage the arrival times of their containers.

A commercial system called Preactor was customized. Each container was represented as a bar, color coded for easy identification and a train load as a set of bars arranged vertically with the last car at the top. The train schedule is read in together with container arrival times and the customer's expected delivery dates (Exhibit 129).

Exhibit 129: Preactor Scheduling System



About 48 hours before the vessel ETA the customized Preactor scheduling rule assigns the containers to each car in each train and generates a train plan which is published to a web site. The system is called ShuttleSelect and allows customers to see exactly when their cargo is due into MetroPort Auckland. In addition they can modify delivery time to a cut off point of 6 hours to vessel arrival.

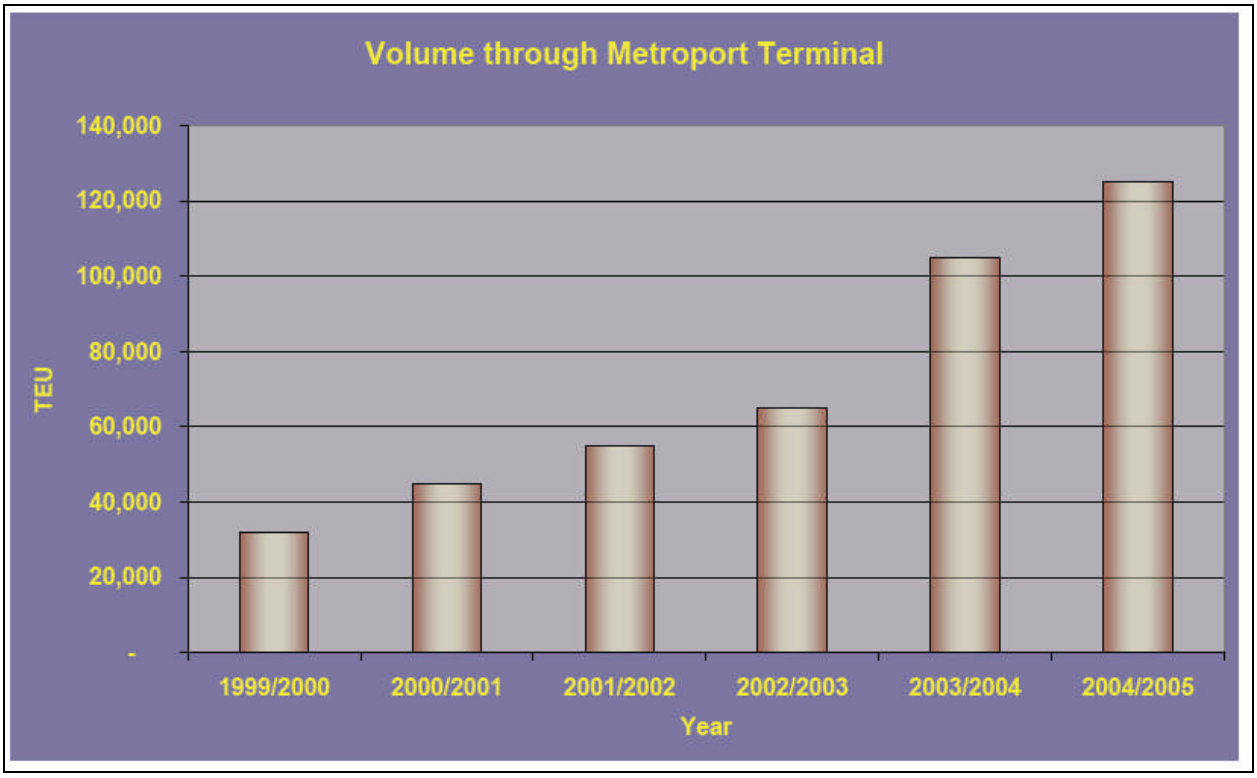
For the customer the advantages of ShuttleSelect are:

- It allows them to select a time for container deliveries from Tauranga to Auckland. Changes are possible as needed within the 'change window' of 6–48 hours prior to vessel arrival.
- By knowing container delivery times in advance, ShuttleSelect allows them to better plan their own unloading and distribution processes. Customers can prioritize urgent deliveries and stagger the rest as required, taking advantage of longer free delivery time.
- They can, by managing their own containers on-line, eliminate extra steps in the process and therefore save time and money.

Success Factors

Although not emphasized in the descriptions, Metroport is an extension of the Port of Tauranga's commercial presence in the Port of Auckland's market (much like VIP's situation relative to the Ports of Norfolk and Baltimore). Metroport is therefore a commercial initiative, not a public effort to reduce truck travel or improve system efficiency. Tauranga has traditionally been an export port, with Auckland dominating the import trade. Metroport has successfully grown the Port's cargo share in the Auckland area.

Exhibit 130: Metroport Cargo Growth



Ease of use and rail service frequency are key factors in Metroport's success. The rail shuttle operating over Tranz Rail between Tauranga and Metroport has three departures each way on most days, with two to three on Monday and four on Sunday. This is a very high level of service for any rail intermodal operation.

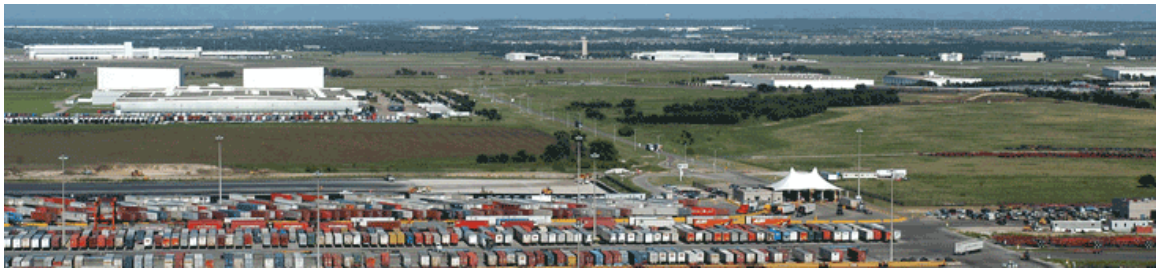
Alliance Texas Logistics Park

Overview

Alliance Texas (Exhibit 131) is located 15 miles north of downtown Fort Worth and 15 miles west of Dallas/Fort Worth International Airport. Covering some 15,000 acres, Alliance is one of the largest and most successful master planned developments in the country. Existing air, rail and highway systems have been greatly expanded and upgraded in order to connect Alliance with a full range of domestic and international markets. Business activity is further enhanced at Alliance by a foreign trade zone, an enterprise zone, a world trade center, high-tech telecommunications facilities (with state-of-the-art fiber optics), and an inventory tax exemption.

Hillwood, a Perot Company, operates the business park which now houses more than 140 companies, including 62 from the Fortune 500, Global 500 and Forbes List of Top Private Companies. These firms have invested more than $5 billion to build 24.4 million square feet and create 24,000 fulltime jobs. Many of these are also served by the BNSF intermodal facility.

Exhibit 131: Alliance Logistics Park



Alliance is divided into multiple sub-developments:

- Alliance Center, a 2,600-acre complex that encircles the airport and is geared primarily towards aviation-related enterprises.
- Alliance Commerce Center, a 300-acre business park for manufacturing and high-tech firms.
- Alliance Air trade Center, a 52-acre air cargo development with direct access to the Alliance Airport runway system, direct access to Interstate 35W, and over 250,000 square feet of space for cargo companies.
- Alliance Gateway, a 2,400-acre distribution, manufacturing, and office sector for large distribution and industrial firms.
- Alliance Advanced Technology Center, a 1,400-acre technology complex.
- Heritage Reserve at Alliance, which offers locations for research and development facilities in a natural setting.
- Westport at Alliance, a 1,500-acre industrial and distribution sector located on BNSF's main line and intermodal terminal.
- Alliance Crossing, a 170-acre retail complex.

Major ground transportation routes through Alliance include I-35W and State Highways 170 and 114. Dallas/Fort Worth International Airport is only 20 minutes travel time to the east.

A variety of economic incentives have been made available to spur business development at Alliance. These include a foreign trade zone designation, a triple Freeport tax exemption, and enterprise zones that encourage job creation and capital investment in designated areas for a period of seven years. Alliance operates its own 3PL firm, called Alliance Operating Services. AOS provides such services as foreign trade zone assistance, overseas container processing and third-party warehousing. A number of other 3PL firms also operate at Alliance, producing a wide range of possibilities for tenants seeking to outsource part of their operations.

Educational and technical training programs also are provided. The Alliance Opportunity Center offers technical training for companies located at the park.. Texas Christian University's TCUglobalcenter at Alliance offers advanced degrees and provides conferencing facilities.

Alliance also offers the services of TeraSpace Networks to build and market data centers across the country. TeraSpace has recently completed the first phase of a 1.1-million-square-foot internet data center on the eastern side of Alliance. The company also provides power and fiber optic connectivity to more than a dozen web-hosting and carrier-hotel companies that offer their services to Alliance tenants.

Companies originally chose to locate at Alliance because of its availability of relatively cheap developable land, access to a large work force, access to intermodal facilities, and economic inducements. Alliance has been labeled an "e-commerce fulfillment center" because of the prominence of companies that are engaged in filling business-to-business and business-to-consumer orders via the internet. The most prominent of these businesses include At&T Wireless, Ameritrade, W.W. Grainer, Dell Computer, and UPS Logistics Group.

About 4.38 billion dollars have been invested so far in Alliance, 96.7% from private sources. This investment has translated to 18,167 permanent jobs created and $147 million in property taxes generated over the last ten years.

Rail Intermodal Terminal

On the western border of the park, BNSF Railroad operates a 735-acre intermodal yard. Alliance has designated 1,500 acres immediately east of the intermodal yard for rail clients to locate distribution centers. Since 1994 BNSF intermodal terminal services have been provided at a facility operated in partnership.

The BNSF Alliance intermodal facility (Exhibit 132) is located on the main line of the BNSF and is comprised of 280 acres and about 2000 parking spots. There are an additional 160 acres available for expansion. In 2005 the terminal handled 573,000 lifts.

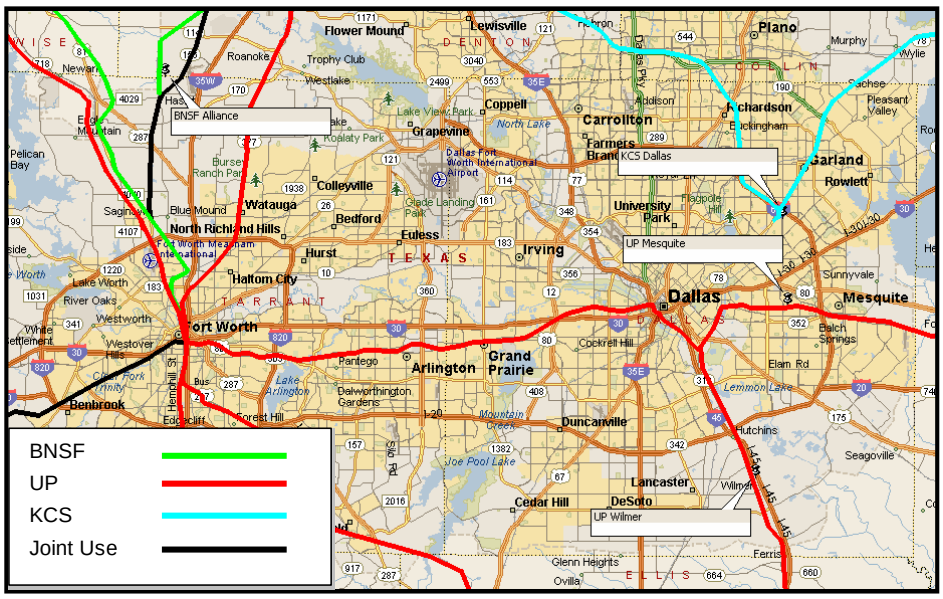
Exhibit 132: BNSF Alliance

In the late 1980's, during the planning process for the then new Dallas Area Rapid Transit System (DART), planning authorities determined that the Santa Fe's rail intermodal facility in Dallas was required for use as a support facility for the system. As a result the Santa Fe conducted a series of studies to determine the best location for a new intermodal terminal in the region with the result that a decision was made to construct the new facility at the Alliance Industrial Park. In the process, surplus property and rail lines were sold. The proceeds were combined with those from the sale of the Dallas facility to fund the new Alliance terminal.

This facility, which was designed and constructed by Hillwood, was funded by BNSF. BNSF purchased the land from Hillwood. The initial cost of construction was in excess of $100 million. For the railroad this industrial park provides customers while for the developer the rail terminal serves to increase the commercial value of the property.

Rail Intermodal Service

Exhibit 133: Mid-Texas Intermodal Terminals



Air Cargo Services

Fort Worth Alliance Airport is the first purely industrial airport in the Western Hemisphere. Planning for the 7500-acre Alliance Airport began in 1988 with the objective of serving business and industrial uses rather than commercial passenger traffic. The airport officially opened on December 14, 1989. The facility features the full complement of flight services for general and industrial aviation.

AFW offers direct taxiway access to nearby corporate residents in Alliance Center. World-class concierge services for pilots, crew and passengers are coordinated by Alliance Aviation Services, which manages the Fixed Base Operation (FBO). The airport accommodates air cargo, corporate aviation and military operations.

In 2005 Fort Worth Alliance Airport handled 220,134 metric tons of cargo, an increase of 28% over the 172,046 metric tons that passed through the facility in 2004. 242,210 metric tons were handled in 2000. AFW has the current capability of handling freight/cargo on any sized aircraft.

In addition to serving the general aviation and cargo needs of the tenants of the industrial development and nearby areas, the Alliance facility is home to FedEx's Southwest Regional Sorting Hub, American Airlines aircraft maintenance and engineering center, the Federal Aviation Administration's Flight Standards District Office and a number of other aviation companies.

The surrounding development area currently supports a total of 29 tenants occupying about 4.92 million square feet of space. Among the tenants are FedEx, which is constructing its 230,000-sq. ft. state-of-the-art Southwest regional sorting hub, and American Airlines, which recently established a $481 million aircraft maintenance and engineering center at Alliance.

The airport received $4.5 million in Airport Improvement Program funds from the FAA to extend both runways to 11,000 feet to accommodate larger jets. Fee simple ownership of large tracts of land with direct runway access is a unique airport feature. The U.S. Customs Service has on-site facilities, allowing international flights and cargo to be cleared at the airport.

Auto Loading Services

The 55-acre auto facility is a conventional rail transfer facility and serves DaimlerChrysler, American Honda, Hyundai and a number of other manufacturers and automotive re-marketers.

Competition

Union Pacific has two intermodal terminals in the Dallas-Fort Worth area that compete directly with Alliance. A primarily domestic terminal is located in Mesquite and a primarily international terminal is located in Wilmer. This brand new UP terminal advertises being adjacent to a planned 4,500-acre industrial park. Kansas City Southern (KCS) operates an intermodal terminal located in Dallas and is often considered a business partner of BNSF in this market, particularly for east/west movements.

Success Factors

This facility started the trend toward synergistic development of business parks and intermodal terminals. There was some concern initially about the distance of the new facility from the Dallas Metro area, primarily related to drayage costs. While this may be a negative factor, Alliance has been a very successful development. Hillwood was also highly interested in having an intermodal facility as an adjunct to the industrial park and actively markets the synergistic relationship between the intermodal terminal and the industrial park. For example, J. C. Penney developed a major distribution center that was planned to receive 18,000 inbound containers annually and distribute goods to approximately 1,000 stores located east of the Rockies. All the inbound and many of the outbound loads will move via the BNSF intermodal facility.

The airport was sited to serve the greater Dallas-Ft. Worth area and points beyond. As with other cargo airports its initial tenants were aircraft and airline industry firms, not cargo shippers or consignees.

The rail intermodal terminal was relocated from Dallas to Alliance and therefore had a pre-existing clientele. The Hillwood Group has been a very effective master developer and "champion" for the project.

The Port of Huntsville, AL

Overview

The Port of Huntsville is an inland port complex located in Northern Alabama (Exhibit 134) comprised of three operating facilities under the jurisdiction of Huntsville–Madison County Airport Authority: Huntsville International Airport, the International Intermodal Center, and Jetplex Industrial Park. The mission of the Port of Huntsville is to provide quality multi-modal transportation services to a diverse regional customer base and to stimulate the economic growth and development of the Tennessee Valley Region.

The driving force of the Airport Authority created the Port of Huntsville. The Airport Authority also financed and built the intermodal terminal and convinced NS to provide service. Facilities and infrastructure significantly exceed current demand and provide long-term capacity for growth.

Exhibit 134: Port of Huntsville Market Region

International Intermodal Center (IIC)

The IIC (Exhibit 135) is divided into two distinct operations: rail cargo, which began in 1986, and air cargo which began in 1987.

Exhibit 135: Huntsville International Intermodal Center

The rail intermodal terminal is co-located with the air cargo terminal on the east side of the airport. The terminal is served by Norfolk Southern (NS) whose main line between Memphis and Chattanooga passes about 4 miles north of the terminal. The terminal is owned by the Airport Authority and operated by Authority employees. NS pays a lift charge to cover the cost of the terminal operation. The facility handled 22,000 lifts in 1999 and has grown to 35,000 lifts in 2005. With a recent expansion, terminal lift capacity is estimated at 100,000 lifts.

The terminal is served by two NS trains per day, one eastbound and one west bound. NS main line trains pick up and set off Huntsville blocks which are switched to and from the facility by NS local switch crews. Authority personnel provide terminal switching with their own locomotives. About 90% of the volume at the terminal is international containers with 60% to 70% of that moving over west coast ports. West coast volume is interchanged to NS at Memphis by Union Pacific or Burlington Northern Santa Fe. The remaining international volume moves over the ports of Savannah and Charleston or the Florida Ports of Jacksonville and Miami. NS also provides domestic service, principally in domestic containers, to Rutherford, PA, (Harrisburg) and Erail, NJ, (Elizabeth). Service frequency is five days per week for both eastbound and westbound services. Considering the volume and the size of the local market, the service frequency and port coverage is quite good.

The air cargo facility includes a 200,000 square foot terminal building for domestic and international air cargo along with 1 million square feet of cargo ramp space. Air cargo was a primary goal of Huntsville planners throughout the facility's development process. In 2004, HSV was ranked 18th among U.S. airports for international air cargo tonnage.

The IIC provides Customs services for both international air cargo and rail containers, along with services offered by a number of freight forwarders, customs brokers and ground handlers. In addition, the designation of Foreign Trade Zone 83 gives manufacturers and processors the ability to take advantage of duty deferral, duty reduction and other FTZ cost savings.

Huntsville International Airport

HSV began operations in 1967 as Carl T. Jones field when the regional airport was relocated from downtown Huntsville. At that time, the airport was built with two parallel 8,000–foot runways with one mile separation enabling simultaneous operations during instrument conditions. After expansions in 1991 and 2005, the airport runways are now 10,000 and 12,600 feet giving HSV the capability to handle any size aircraft in service today, including the new Airbus 380. Current air operations utilize less than half of current airport capacity.

Jetplex Industrial Park

The Jetplex Industrial Park has 4000 acres of industrial sites located in and around the Huntsville Port complex, with over 2,800 acres available for immediate development. JIP has excellent access to air, rail and highway transportation infrastructure along with the related services described above. This creates a competitive advantage for locating industry in the park complex. In addition, Foreign Trade Zone designation provides an added benefit for industries that can take advantage of the FTZ cost savings.

Exhibit 136: Jetplex Planned Industrial Development

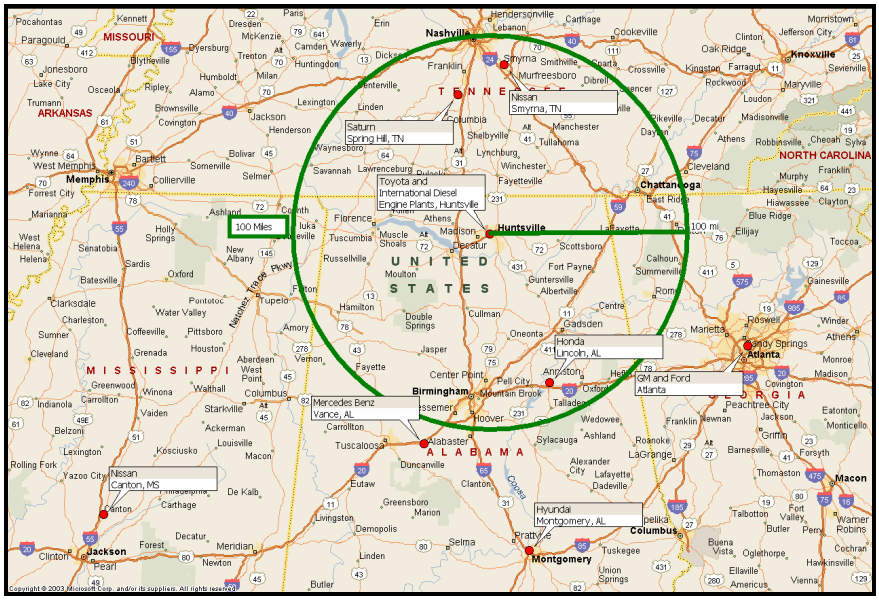
Air Cargo Service

International air cargo began in 1991 with Swiss freight forwarder Panalpina. Currently, Panalpina operates 10 scheduled B-747's per week to European markets, three scheduled weekly flights to Mexico, plus charter aircraft as needed. In 1991 Panalpina was looking for a location for a U.S. Air Cargo Hub and selected Huntsville. After Panalpina agreed to establish its operation the Airport authority extended one of the runways to 10,000 feet to enable 747 air freighters to use the airport. Panalpina's top air freight commodity markets at Huntsville include automotive, energy (i.e oil field equipment), apparel, and technology. Panalpina's US market is focused on the Southeast but it has handled freight trucked in to Huntsville from as far away as Texas and Wisconsin. Because of low congestion and high ground service levels at Huntsville, Panalpina can deliver in Atlanta as fast or even faster than Atlanta-based air cargo carriers. Panalpina operates daily service to Luxemburg for its European service. It also operates twice weekly service to Mexico. It had a weekly service to Hong Kong but this service was recently discontinued because high fuel costs made it difficult to secure enough high paying cargo. Panalpina's volumes are well balanced, which is a requirement for profitable operations. Termination of its Hong Kong service was partially due to an inability to secure backhaul cargo to Asia.

Auto Plants

A significant portion of the terminal's container business comes from import auto parts for a Toyota engine plant and new Hyundai and Mercedes auto assembly plants. Exhibit 137 shows the location of Southeast automotive plants in relation to Huntsville. The region has developed a significant base of auto assembly and parts facilities. The Huntsville rail intermodal terminal has been a beneficiary of the automotive business with record volume in 2004 and 2005.

Exhibit 137: Regional Auto Plants



Governance

The Huntsville Madison County Airport Authority is organized as an Alabama public corporation. It is governed by a five-member board made up of local citizens and business people. Two members of the board are appointed by the Huntsville City Council. Two members are appointed by the Madison County Commission, and one member is appointed jointly by the City and the County. The Port Authority is funded through its operating revenues. In 2005 it had about $24 million in operating revenue and over $11 million in cash flow. The principle sources of operating revenue were passenger operations of about $17 million, air cargo $3.6 million, rail operations $2.2 million, and the industrial park $1.2 million. The Airport Authority appears to be in excellent financial condition with over $30 million in cash at the end of 2005, $5 million more than 2004. The Airport Authority has bonding power and currently has about $50 million of outstanding revenue bonds. About 60% of its capital came from its own capital, with the remaining coming from FAA grants, Appalachian Regional Commission grants and Federal earmarks.

Success Factors

Although the Huntsville–Decatur regional population is only 500,000, the Port of Huntsville has facilities and infrastructure that significantly exceed current demand and provide long-term capacity for growth. This can be attributed to the vision and long-range planning of the Huntsville-Madison County Airport Authority which was formed in the early 1960's to relocate the region's airport. It took 20 years, from 1967 to 1987, for the Port of Huntsville to "get off the ground".

Vision

A key example of the Airport Authority's vision and planning was its early focus on development of freight facilities required to support future transport needs and industrial development, namely air cargo and rail intermodal for both domestic and international markets. Examples include:

- Creation of the IIC hub with both air cargo handling and rail intermodal facilities.

- The runway extension to 10,000 feet in 1991. This attracted Panalpina to the Port with its direct freight service to Europe.

- The runway extension to 12,500 feet in 2005. This enables fully loaded 747-400 non stop airfreight service to Asia and future operations of Airbus 380 air cargo planes.

Another example of this vision is in land acquisition. A key factor in the development of the Port of Huntsville was the availability of land. At the time the airport was relocated in 1967, the Airport Authority acquired 3000 acres of cotton fields with a plan to create an industrial park as an integral part of the airport development. Today, the Airport Authority owns 6000 acres of land for Port facilities and industrial development. In addition, the Port master plan provides for acquisition of an additional 4000 acres.

Willing rail service

Another key success factor was securing NS intermodal service. NS had no interest in investing its own capital for an intermodal terminal or in establishing intermodal service for the Huntsville Decatur market. Obviously, without NS service the inland rail port could not have been established. The Airport Authority financed and built the intermodal terminal and convinced NS to provide service from and to key markets. After some negotiation, NS agreed to serve the Huntsville terminal and pay the Airport Authority a lift charge for terminal services. At the same time, NS closed its Birmingham and Chattanooga terminals enabling the Huntsville terminal to serve as a regional terminal for Northern Alabama and Middle Tennessee. The Airport Authority development plan prepared in the 1970's included a rail intermodal terminal as part of the multi modal transportation complex. The intermodal terminal was built in 1986, well before the growth of intermodal and international container movement that is currently being experienced.

Financing

Financing of these capital investments in land and facilities was the critical element of the Port's development. Funding was accomplished by the Airport Authority through a combination of Federal Grants and Airport Authority Revenue Bonds. The Federal grants came from FAA airport construction and improvement grants, Appalachian Regional Commission Area Economic and Human Resource Program grants, and Federal earmarks. The total historical value of investments for the Port of Huntsville at the end of 2002 was $207.4 million, $160.8 million for the Airport and 46.6 million for the Intermodal Center. The Airport Authority financed about 60% of the total and the remainder came from Federal sources.

Champion

It was the driving force of the Airport Authority that created the Port of Huntsville's inland port complex. The key objective was to create economic development and jobs. The economic impact on the region has been significant. The 2003 Port of Huntsville Economic Impact Study shows direct employment within a two mile radius of the airport to be 12,505 employees with an annual payroll of $714.9 million. The multiplied impact on the region was 24,654 jobs with a payroll of $1.1 billion. There was certainly significant risk in making the necessary investments in trans-

portation and industrial development infrastructure. However, the Port of Huntsville is now very well positioned for long term economic growth.

Rickenbacker Airport Columbus Inland Ports

Overview

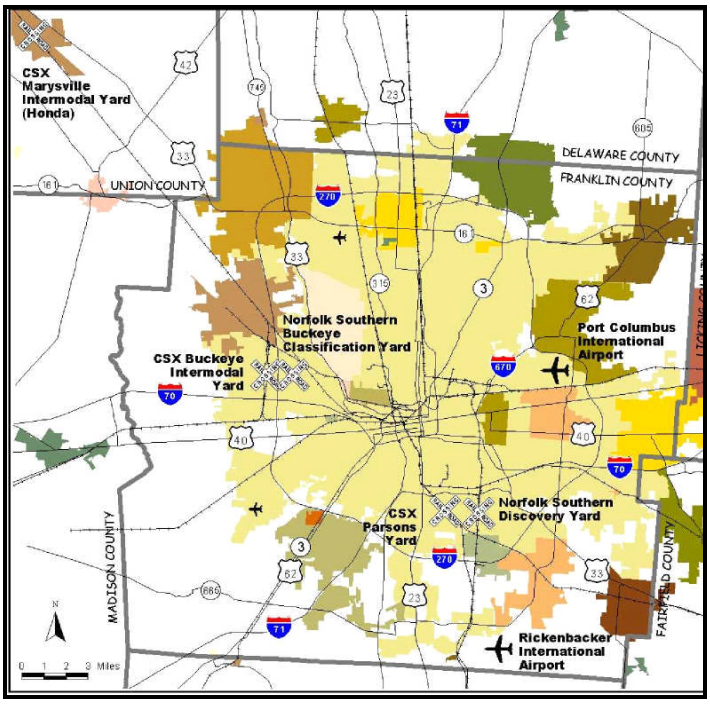
Columbus is a city of 1.6 million people located in central Ohio, 300 miles east of Chicago (Exhibit 138) and 500 miles west of New York City. The Limited, Honda of America, and Kroger are very large local, logistics-intensive employers. The city is located at the intersection of I-70 and I-71, is served by CSX and Norfolk Southern (NS) railroads, and has two major airports. Local transportation planning is centered in the Mid-Ohio Planning Commission (MORPC). MORPC/Greater Columbus Chamber of Commerce started a freight planning partnership in mid-1990s.

Exhibit 138: Columbus Location

Columbus Inland Ports

MORPC defines several “inland ports” in the Columbus metropolitan area (Exhibit 139).

Exhibit 139: Columbus "Inland Ports"



- Port Columbus International Airport primarily serves passengers, but also handles freight shipments such as small package cargo and mail. The airport is surrounded by warehouses and distribution centers including a soft drink warehousing/distribution center. This location has access to I-670 and I-270.
- Rickenbacker International Airport is a multi-modal cargo airport, a charter passenger terminal, and a U.S. Foreign-Trade Zone. This airport was built over 50 years ago by the Army Air Corps. For the past 10 years, this airport has been transformed from a military base to an airport whose primary function is to serve cargo planes. Industrial development has occurred in areas surrounding the airport. This district is home to various distributing centers such as Gap Inc.
- NS Discovery Park Intermodal Terminal is located just north of the Rickenbacker Airport with good access to I-270, I-70 and I-71. The 40-acre yard was opened in 1990 and underwent major expansion in 1994 and a second expansion in 1999. Currently service goes to Chicago, Dockside, NJ, and Norfolk, with 12 outgoing trains per week. In 2003, the intermodal facility handled approximately 140,000 lifts. The NS terminal is operating over its design capacity of 125,000 lift and a new larger facility is being developed near Rickenbacker Airport.
- CSX Buckeye Yard Intermodal Terminal and NS Buckeye Classification Yard are located northwest of the I-270 and I-70 intersection on the western side of Franklin County. The Buckeye facility was developed by Conrail and was divided between CSX and NS in 1999 as part of the Conrail acquisition. CSX received the intermodal yard and NS received the classification yard. The Buckeye intermodal yard was constructed in 1985 using both state and Conrail funds. Currently CSX

provides service from Columbus to destinations in Texas, Georgia, Massachusetts, South Carolina, Illinois, California, New Jersey, Florida, Virginia, Oregon and Washington. CSX has double-stack clearance on all routes to Columbus and services approximately 18 outbound trains/week and 25 inbound trains/week. The number of rail lifts at Buckeye Yard has increased steadily; in 2004, the intermodal facility handled approximately 150,000 lifts. Although both yards have reached capacity, the yards are landlocked and cannot be expanded.

- CSX Parsons Classification Yard is located near NS Discovery Park and is CSX's freight classification facility in the region. It is also the planned location of a new larger intermodal facility to supplement or replace CSX's Buckeye facility.
- Honda Intermodal Terminal. The Honda–Marysville terminal was constructed in 1989 as a joint venture between Conrail and Honda and is located at the Honda Marysville plant in Union County. Under the Conrail split, CSX bought the rights to operate this yard. The initial yard annual traffic volume projections were around 14,000-15,000 inbound loads, consisting principally of auto parts imported from Japan either directly to the plant or to local suppliers who did certain additional work before delivery to the plant. Volume has declined somewhat as Honda has chosen to source more parts locally.

Rickenbacker International Airport

Only Rickenbacker International Airport is an "inland port" with Customs facilities, and FTZ, etc. The others are conventional rail facilities and the existing passenger airport.

Rickenbacker is a 5,000 acre all-cargo airport. It was the first public use all-cargo airport in the United States and is currently the largest public all-cargo airfield in the world. Rickenbacker is a former Air Force base that was designed with 12,000-foot runways. The base was realigned in 1980, with the control transferred to the Ohio National Guard. The Franklin County Board of Commissioners formed the Rickenbacker Port Authority to operate and develop a civilian airport at Rickenbacker with a joint use agreement with the National Guard. Over 5,000 acres of land were transferred from the Air Force to the Port Authority between 1984 and 1994. The Port Authority now operates the facility and the military is one of many tenants.

Rickenbacker did not become an economic success until after 1990, when a new management company was hired, and a new marketing strategy developed, based on Greater Columbus Inland Port Concept. Local business and political leaders believed that a container could arrive at port in New York, be unloaded, shipped by rail to Columbus, clear Customs, be broken down into small units and driven to East Coast locations faster than if processed entirely in New York.

The airport anchors the southern end of a 15,000-acre industrial zone. It contains over 22 million square feet of class "A" distribution and logistics space that employs over 15,000 workers. The Rickenbacker Port Authority has developed ten million square feet over the last ten years in the Foreign Trade Zone industrial park. An additional 12 million square feet have been developed in 12 other industrial parks in the Rickenbacker Area over the last five years. Ample room still exists for additional growth; only 40% of the area's land suitable for industrial projects has been developed thus far.

More than 60 companies now do business at Rickenbacker, including several Fortune 500 firms. These companies employ about 5,000 civilian employees at Rickenbacker. Eagle Global Logistics and Forward Air have established national truck hubs at Rickenbacker, and regional gateways are operated by Federal Express and United Parcel Service. A number of logistics companies have also located at Rickenbacker, including Exel. Exel's 23,000 square-foot all-inclusive facility at Rickenbacker consolidates all of Exel's airfreight forwarding, Customs brokerage, truck brokerage, intermodal operations, logistics and warehousing. Logistics and e-commerce fulfillment firms are supported at Rickenbacker by telecommunications services including state-of-the-art fiber optic lines, high-speed data circuits, and video-teleconference capabilities.

In the 1990's, air cargo volumes handled at Rickenbacker increased by an average of 15% a year, double the national average. About 45% of the cargo handled by Rickenbacker is international. While the total number of flights at the airport declined in 2001 compared to the previous year, a greater number of larger cargo aircraft used the airport. This increase was due in large part to FedEx's new contract with the U.S. Postal Service.

Cargo operations at Rickenbacker are enhanced by the development of Rickenbacker's 500,000 square-foot Air Cargo Terminal Complex, which is being continually expanded. It provides direct airfield access to freight forwarders, shippers, logistics companies, and others looking to capitalize on a Foreign Trade Zone location. The Air Cargo Terminal Complex is being developed by the Franklin County Improvement Corporation, which was created in 1994 by the Rickenbacker Port Authority and the Franklin County Commissioners to develop specialized facilities backed by joint ventures and private financing. More than three million square feet of additional air cargo facilities are planned for development during the next five to ten years.

The success of Rickenbacker International was the catalyst for the 1991 creation of the Greater Columbus Inland Port Commission, which promotes trade and the development of intermodal infrastructure for freight shipping and distribution in the Columbus area. It is made up of city, county, state and federal representatives on the public side, and the Greater Columbus Chamber of Commerce, as well as individual manufacturers, shippers, carriers and other private service providers.

Funding

In the period 1981–1991, Rickenbacker drew a total of $72.8 million in public capital investment and $1.7 million in private capital investment. Public investment sources included 49% from the Rickenbacker Port Authority (mostly revenue bonds), 23% from Franklin County, !7% from the State of Ohio, and 11% from the FAA and Department of Defense. In the period 1992 – 2000, the facility drew a total of $111.7 million in public capital investment and $403.0 million in private capital investment. Public investment sources included 52% from the FAA and DOT, 21% from the State of Ohio, 12% from the Rickenbacker Port Authority, 11% from Franklin County, and 4% from other local sources.

The Rickenbacker Port Authority received a $5 million grant from the FAA's Military Airports Program for the construction of a small charter passenger terminal. A new parallel runway that is at least 5,000 feet distant from the existing primary runway is planned for construction within the next fifteen years. This will allow for simultaneous instrument flight rules (IFR) landings

that are not possible with the existing runway configuration because the parallel runways are too close together.

As a cargo airport, Rickenbacker receives a variable entitlement of about $500,000 annually from the FAA, based upon cargo tonnage handled. The airport is not entitled to any federal airport funding based on passenger activity at airports. Consequently, in 2003 the Port Authority is expanded its business services to include charter passengers in order to become eligible for federal grants needed to provide for minimal maintenance of the airfield.

Benefits

To date, every dollar of public investment in Rickenbacker has produced over $3 in direct private investment, and $25 in regional economic impact. A recent economic study estimates that Rickenbacker Airport currently generates over $811 million in economic impact to the Greater Columbus Region, and supports over 7,600 jobs. Businesses located in the Foreign Trade Zone generate an additional $951 million to the regional economy and support almost 10,500 jobs. An additional $988 million is generated by Rickenbacker Area development outside the boundaries of the Rickenbacker Port Authority. The total impact of Rickenbackder and Rickenbacker Area development to the regional economy is currently about $2.8 billion. This is forecast to increase to $3.8 billion in 2006 with the development of the International Facilities Complex, which will include a passenger terminal, hotel and conference center, and corporate hangars.

Public-Private Collaboration

The following is taken from a 2004 MORPC report "*Freight Planning in Central Ohio A Companion Report to the 2030 Transportation Plan". In the mid-1990's MORPC and the Greater Columbus Chamber of Commerce started a freight planning partnership (GCIP – Greater Columbus Inland Port) to play a strong leadership role in advancing Columbus' freight transportation and distribution industries. The work that resulted from this effort won national recognition and became known as the Inland Port Reports, as described below*.

- *Inland Port Phase I (1994): MORPC concluded its first study exploring the institutional, organizational, and regulatory impediments to freight movement in the region.*
- *Inland Port Phase II (1997): This study stressed closer and more effective communication between the private and public sectors, and more extensive exchange of information and opportunity for input in the decision-making process on transportation infrastructure improvement projects.*
- *Inland Port Phase III (1998): The Freight Transportation Economic Impact Study for Central Ohio was completed. This study documented that public investment in freight transportation projects is an effective method to achieve economic growth in the region.*

The result of this state and MPO activity coupled with an aggressive Chamber of Commerce has helped the region maintain long-term job growth in the face of a significant reduction in manufacturing jobs.

Success Factors

Columbus is a successful model for any city that is seeking job creation in the transportation and logistics sectors of industry. The simple key to this process has been leadership exercised in both the public and private sector around shared economic development goals.

The biggest advantage is Rickenbacker's location as a distribution center for both domestic and international air cargo. Columbus is within a one-day truck drive or a 90-minute flight of more than half of the population, employment, retail purchasing power and manufacturing capacity of both the U.S. and Canada. Rickenbacker has convenient access to the nine state and federal freeways and highways that intersect in central Ohio and link Columbus to major markets in New York, Chicago, and Atlanta. Lastly, Rickenbacker is located within a rapidly growing metropolitan area of 1.4 million people with a workforce exceeding 700,000 workers.

Creation of a foreign trade zone at Rickenbacker in 1987 also contributed to its success. Rickenbacker enjoys an exemption from state inventory taxes, and an abatement on real estate taxes for improvements to land and buildings through 2007. The airport receives a subsidy of about $3 million per year from local government, and the State of Ohio has pledged a total of $65 million in revenue bonds for future facility improvements.

The collaboration between MORPC and the Greater Columbus Chamber of Commerce dates from the mid-1990s and has helped sustain a focus on regional freight planning issues. The region is regarded, and regards itself, as "freight friendly."

Logport, Duisburg, Germany

Overview

Duisburg is a German city in the western part of the Ruhr region in North Rhine-Westphalia. It is an independent metropolitan borough in the Düsseldorf area. With its harbor and proximity to Duesseldorf International Airport, Duisburg has become an important venue for commerce and steel production.

Logport is an offshoot of Duisport, itself an "inland port" by virtue of being on a river rather than on the coast. Logport is not a satellite terminal in the sense of being connected by a rail shuttle, but has its own berths and water access. Logport is of interest because of its emphasis on modern logistics and multimodal (water-rail-truck) transportation.

Duisburg Port

"Duisport" (Exhibit 140) is the largest inland river port in Europe. It is officially regarded as a "seaport" because sea-going river vessels go to ports in Europe, Africa, and the Middle East. Numerous docks are mostly located at the mouth of the River Ruhr.

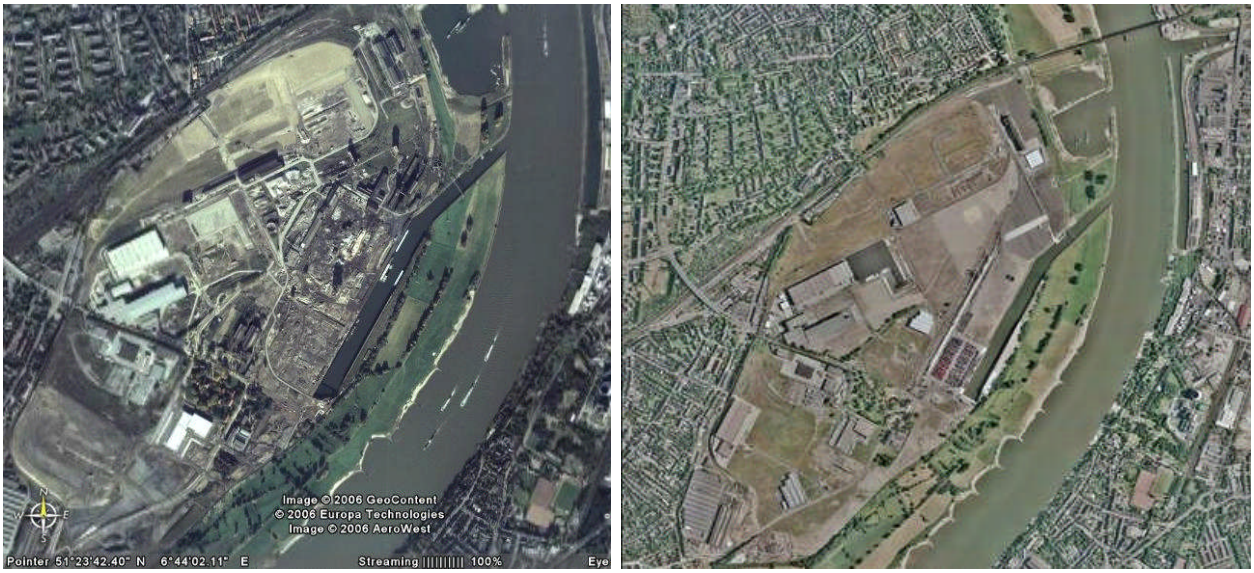
Exhibit 140: Duisport

Each year more than 40 million metric tons of various goods are handled, with more than 20,000 ships calling at the port. The public harbor facilities stretch across an area of 7.4 km². There are 21 docks covering an area of 1.8 km² and 40 km of wharf. A number of companies run their own private docks, and 70 million metric tons of goods yearly are handled in Duisburg on average. Duisburg Harbor is approximately 155 miles from the North Sea and is considered the hub of a 169-mile long system of inland waterways.

Logport

Logport is a logistics center at the former Duisburg-Rheinhausen ironworks site. The Logport project was started in 1998. Logport is situated on approximately 665 acres with access to its own river container terminal, road, rail, and nearby airports. The site is classed as "industrial space" and offers little or no land-use restrictions under German zoning laws. Exhibit 141 shows the "brownfield" ironworks site and a current aerial view of Logport

Exhibit 141: Logput Before (Left) and After



Logport is located in the heart of central Europe at the intersection of north-south and east-west traffic. Approximately 30 million consumers live within a 94-mile radius of Logport. Three east-west and two north-south roads provide an 8-hour travel time to reach 40% of the entire European Union population, approximately 150 million consumers.

Logport's container terminal began operation in February 2001. To provide rail service to the site, the Duisport Group is entering into a joint venture with an existing rail operator to link the Port of Duisburg, Duisburg-Hochfeld (coal terminal), and Logport with a shuttle service. A fourth modal connection by air is available at the Duesseldorf International Airport located 10 miles from Logport.

Direct connection to Europe's most important waterway, the River Rhine, is available to Logport. This connection is enhanced by the direct link to Duisport, Europe's largest inland port.

The three target industries for Logport are logistics and the transportation sector, logistics-based manufacturing, and logistics-oriented services.

Multimodal Connections

Duisburg and Logport are connected to the German Autobahn system. Five such roads extend through the city area or pass it.

Duisburg is served by the InterCityExpress and InterCity long-distance network of the Deutsche Bahn, the German national railway.

Success Factors

The Logport site is ideally chosen to access a very large market base. The use of a brownfield site with preexisting river and rail access minimized startup cost and time.

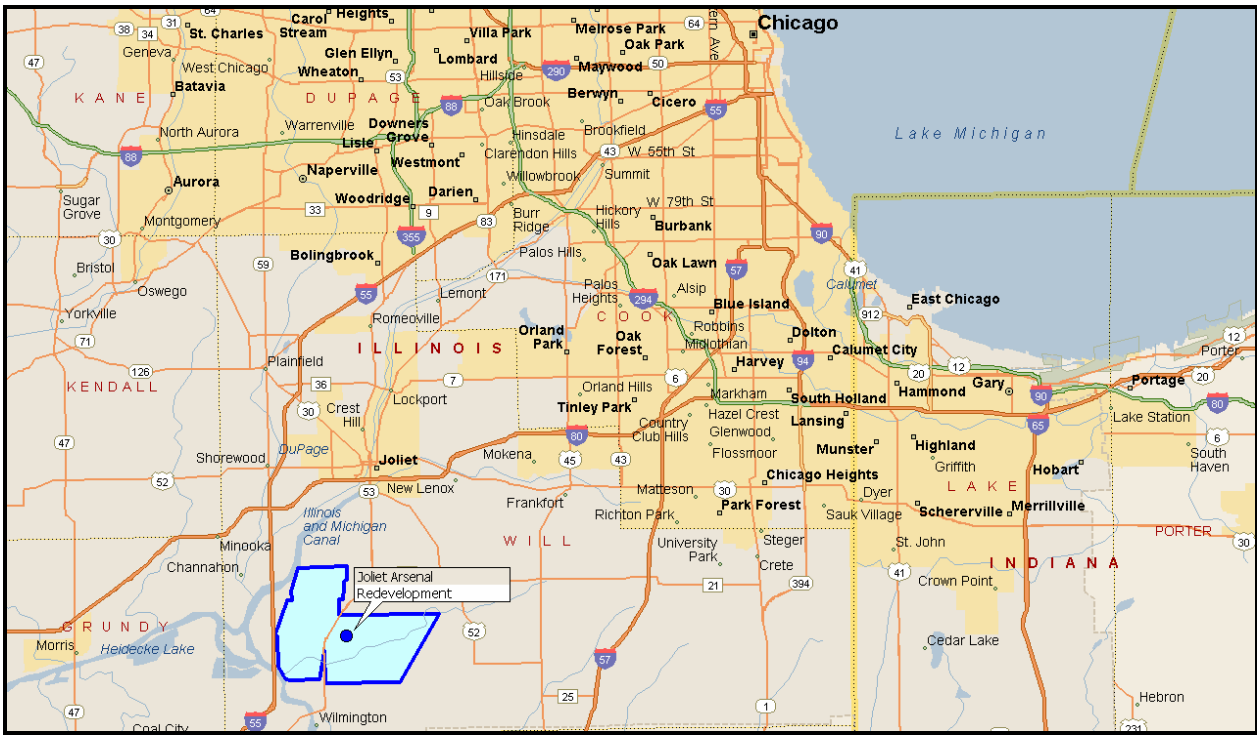
The role of Duisport management is critical, bringing extensive port facility operating and marketing experience to the project.

Joliet Arsenal Development Authority (JADA)

Overview

The Joliet Arsenal was developed by the U.S. Army in the early 1940's as a munitions plant. It was located on a 26,500 acre site near Joliet, IL, about 40 miles southwest of Chicago (Exhibit 142). In 1976 the Arsenal was decommissioned and in 1993 the U.S. Army declared the Joliet Arsenal site as excess property.

Exhibit 142: Joliet Arsenal Location



In 1995 the site was subdivided for both public and private use and the Joliet Arsenal Development Authority (JADA) was established to facilitate and promote the redevelopment of 3000 acres of Arsenal property. JADA worked with all levels of government, more than a dozen public agencies and private industry to create a development plan.

The cornerstone of this redevelopment was a complex of over 2000 acres being developed by CenterPoint Properties, one of the largest industrial real estate developers in the Chicago region. In 2000, the U.S. Army transferred ownership of nearly 1900 acres to CenterPoint. This property was combined with 375 acres of property previously acquired by CenterPoint to enable development of the CenterPoint Intermodal Center (CIC). The plan for CIC included a Burlington Northern Santa Fe (BNSF) transportation complex named Logistics Park Chicago (LPC) along with an adjacent industrial park (Exhibit 143). CIC's industrial park is currently located on 1,100 acres and when fully developed will encompass up to 12 million square feet of rail-served industrial buildings suitable for warehousing, distribution, and light manufacturing.

Exhibit 143: Logistics Park Chicago

LPC is a major multi-modal rail transportation facility operated by BNSF on over 700 acres. It includes a major intermodal container terminal, an automobile loading/unloading facility, and a carload transload facility. When completed in October 2002, the intermodal terminal was initially designed to handle 400,000 lifts, with room for expansion. In 2006, the terminal is projected to handle over 700,000 lifts. Terminal expansion in progress will increase capacity to over 1 million annual lifts.

In 2004, JADA received the final transfer of the 1,100-acre Island City Industrial Park from the U.S. Army. In 2005, JADA reached agreement with ProLogis, a major industrial real estate development firm, to develop a 770-acre warehouse and distribution park on this site. ProLogis, headquartered in Denver, is a leading provider of distribution facilities and services with facilities in 77 global markets.

Services

The BNSF intermodal terminal is the key driver of transportation services for international containers at the Joliet Arsenal redevelopment sites. The LPC intermodal terminal train service is limited to international containers originating and terminating at west coast ports. Daily train service is provided to the ports of Los Angeles and Long Beach and to Seattle and Tacoma. Service to the Port of Oakland is 4 days per week. These service levels, as well as adequate terminal capacity for container parking and container yard storage for ocean carriers, has attracted major ocean carriers such as Maersk SeaLand and Evergreen to BNSF for transporting their ocean containers from and to the Chicago and Midwest markets.

Another service is in-bond movement of ocean containers via BNSF with U.S. Customs clearance of import containers available at LPC. In addition to ocean carrier container storage, the services of California Cartage Company (Cal Cartage) are available at LPC. Cal Cartage provides drayage service, consolidation and deconsolidation, warehousing and other services for shippers and receivers of international containers. The Cal Cartage facility (Exhibit 144) is located adjacent to the LPC intermodal terminal.

Exhibit 144: Cal Cartage LPC Warehouse

CIC is also a designated Foreign Trade Zone. This gives manufacturers and processors the ability to take advantage of FTZ duty deferral, duty reduction and weekly customs entry providing cost reduction opportunity. With the BNSF service for import and export container shipments along with access to CIC development sites, the Joliet Arsenal provides an attractive location for companies involved in international trade and distribution of imports which move via west coast ports.

Governance

JADA is governed by a nine-member board. Four members are appointed by the Governor with consent of the Senate and five members are appointed by the Will County Board. All members are from Will County. JADA has the authority to borrow money and to issue revenue bonds with a maximum indebtedness of $100 million. Day to day operations are managed by an executive director who is responsible to the board. Initial funding of JADA operations came from a State grant which provided the seed money to get it started. Subsequent funding of operations and capital improvements came from land sales. Grant funding was also secured for specific projects. As a result of these sources of funding JADA has never used its bonding authority.

Success Factors

The primary objective of the redevelopment of the Joliet Arsenal by JADA was to create economic benefits and job opportunities from the reuse of the Arsenal property. However, it appears that the driving force for the logistics-based development was the developer, CenterPoint Properties. CenterPoint led the effort to assemble the land, deal with the environmental issues, secure needed financing, and work with BNSF to site and develop its transportation facilities at the Arsenal. John Gates, CenterPoint's President and CEO, gives an indication of the difficulty of the project, "*Laying the foundations for one of the world's premier multi-modal distribution complexes has been a truly extraordinary effort over many years…. A truly remarkable team of public officials and private professionals has overcome literally thousands of obstacles to make the redevelopment of the Joliet Arsenal a reality.*"

CenterPoint's 1100 acre development plan for CIC is reported to be five years ahead of schedule and the ProLogis planned development of a 770 acre warehouse and distribution park is being developed on the south side of the Arsenal redevelopment complex.

The CenterPoint development has attracted several major industries including two huge Wal-Mart warehouse and distribution facilities. Exhibit 145 is a listing of the CIC customers:

Exhibit 145: CIC Customers

CenterPoint Intermodal Center Customer List

1)	BNSF Logistics Park Chicago	715 acres
2)	Maersk Sea Land	17 acres
3)	California Cartage, Inc.	213,500 square feet
4)	Georgia Pacific	1,001,200 square feet
5)	DSC Logistics	1,022,000 square feet
6)	Potlatch, Inc.	624,000 square feet
7)	Sanyo Logistics	400,000 square feet
	Partners Warehouse	200,000 square feet
8)	Wal-Mart	1,600,000 square feet
9)	Wal-Mart	1,800,000 square feet

Location

Chicago is the U.S transportation and distribution hub. This is a great location for both industrial development in general and logistics-related development in particular. Growth of U.S imports over west coast ports has created the demand for rail transportation to Midwest markets which utilize Chicago as a distribution hub. BNSF was reaching capacity limits at its Chicago terminals. These two factors created the "perfect storm" that drove the success of combined development of the BNSF logistics park, LPC, and CenterPoint's business park, CIC.

Market and Funding

This project had the necessary prerequisites that lead to success: adequate financing, a solid and well understood market opportunity, and a willing Class I railroad. In spite of this, it took nearly a decade of work from decommissioning to establishment of the inland port which opened in late 2002.

Willing Railroad

When BNSF developed Logistics Park Chicago (LPC) at the Joliet Arsenal, it changed its operations to concentrate most of its international container business at LPC. Most of the California ocean carrier business was taken out of BNSF's Corwith and Cicero terminals. The BNSF's Pacific Northwest container business is still handled at the Cicero terminal because the former BN lines from the Pacific Northwest come in to Cicero.

Because BNSF shifted large volumes of existing ocean carrier container traffic from overburdened Chicago terminals to Joliet the new facility had a ready-made traffic base. After four years of operations LPC is expected to handle about 700,000 annual lifts in 2006, making it one of the busiest terminals on the BNSF system.

Champion

Every major project of this scope and complexity needs a particular "champion" to carry it forward and CenterPoint filled that role for this project.

The CenterPoint Intermodal Center adjacent to LPC has been very successful in attracting industry and is reaching capacity with the recent development of a large Wal-Mart warehouse and distribution facility.

The Wal-Mart facility at LPC is a 3.4 million square-foot warehouse with future capacity expected to reach 5.2 million square feet. This facility is a Midwest import distribution center for Wal-Mart. Pacific import containers are brought into LPC by BNSF and delivered to the Wal-Mart facility for distribution to Wal-Mart stores and distribution centers throughout the Midwest.

Global III Intermodal Terminal, Rochelle, IL

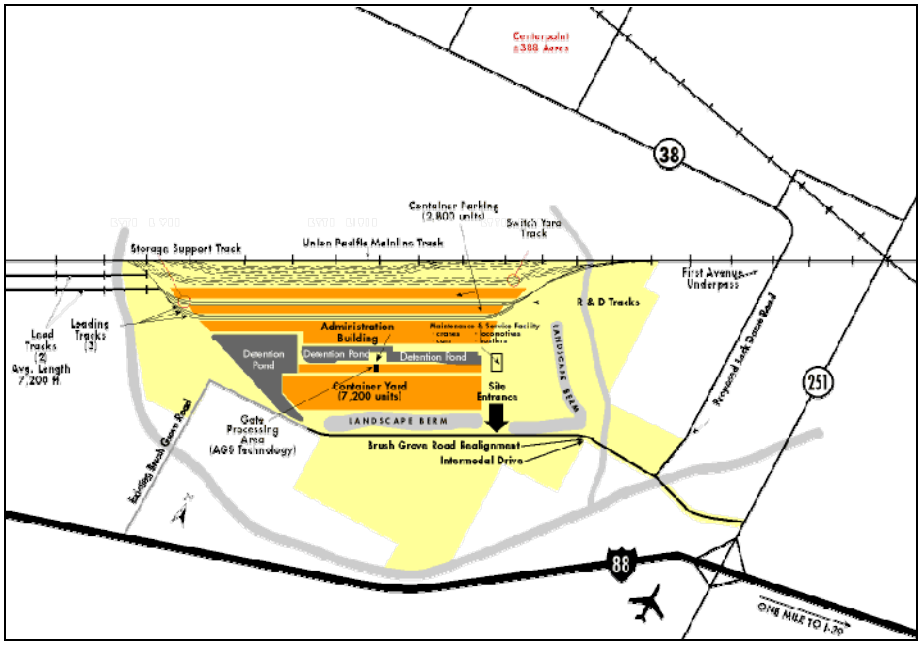
Overview

The Union Pacific Global III Intermodal Facility, located in Rochelle, IL, was built to meet the growing need for intermodal terminal capacity in the Chicago market. Unlike other intermodal terminal development projects, the driving force for this facility was the railroad and its need for capacity. It was not driven by an industrial development company or public economic development authority seeking an industrial development opportunity.

The development encompasses two facilities that cover 843 acres of 1,200 acres owned by Union Pacific (UP) (Exhibit 146).

- The first is a 13-track carload classification yard for assembling line haul trains. The yard also includes support tracks for locomotive servicing. This facility was opened in December 2002.
- The second is an intermodal terminal with four 7,000-foot loading tracks, a 10-lane automated gate system, and a 7,200-unit container storage yard. The terminal, which was opened in August 2003, has capacity to perform 720,000 lifts annually.

Exhibit 146: Rochelle Rail Development Site



The intermodal terminal and the switching yard work in tandem to load railcars and build railcar blocks of intermodal containers for movement beyond Chicago. These blocks are shuttled to intermodal facilities of eastern railroads in the Chicago area for interline movement. Blocks are also made for the UP's intermodal terminal at Yard Center on the south side of Chicago for transport to Texas, Mexico, and other Southwest UP markets. Westbound intermodal service from Rochelle is provided to major west coast ports and intermediate points. Exhibit 147 shows the other UP intermodal terminals in the Chicago area.

Exhibit 147: UP Intermodal Terminals in Greater Chicago

Global III is 80 miles west of Chicago. Rochelle, IL was not the UP's first choice for the facility location. UP selected Rochelle after a 5-year search for a municipality that was willing to accept the development of an intermodal terminal. The first two sites selected were in West Chicago, IL, and Elburn, IL, approximately 38 and 54 miles west of Chicago, respectively. Public and political opposition to these two sites forced the railroad further west to the site at Rochelle.

Parties and Roles

The local political and economic development officials from Rochelle promoted this site location to the UP when it became apparent that the two sites closer to Chicago were not going to be successfully developed. The local officials saw the terminal employment and increased potential for future economic development as a major benefit. These benefits enabled local officials to cooperate with the UP on development of the site. The construction and engineering firm Ragnar Benson built Global III for the Union Pacific at a cost of $181 million.

In addition to the rail facilities, there is an industrial park adjacent to the intermodal terminal being developed by CenterPoint Properties as a joint marketing partnership with UP. The CenterPoint Intermodal Center at Rochelle is a 289-acre site just north of the terminal. There is also a 200-acre land parcel adjacent to the CenterPoint property that is being marketed by a national commercial real estate firm Martin, Goodrich and Waddell. Both of these sites, as well as several thousand acres of farmland, will have direct access to the UP terminal after a road project is built by the City of Rochelle. Jack Dame Road, shown in Exhibit 146, connects Route 38 with the terminal entrance road, avoiding city streets in Rochelle. Once this road is constructed, development of property north of the UP main line is expected to accelerate.

Services

This facility provides UP with much needed intermodal capacity in the Chicago area albeit at a distance from the center of the city. However, industrial and warehouse expansion is moving west of the city and the UP site has good existing intrastate access both east/west and north/south.

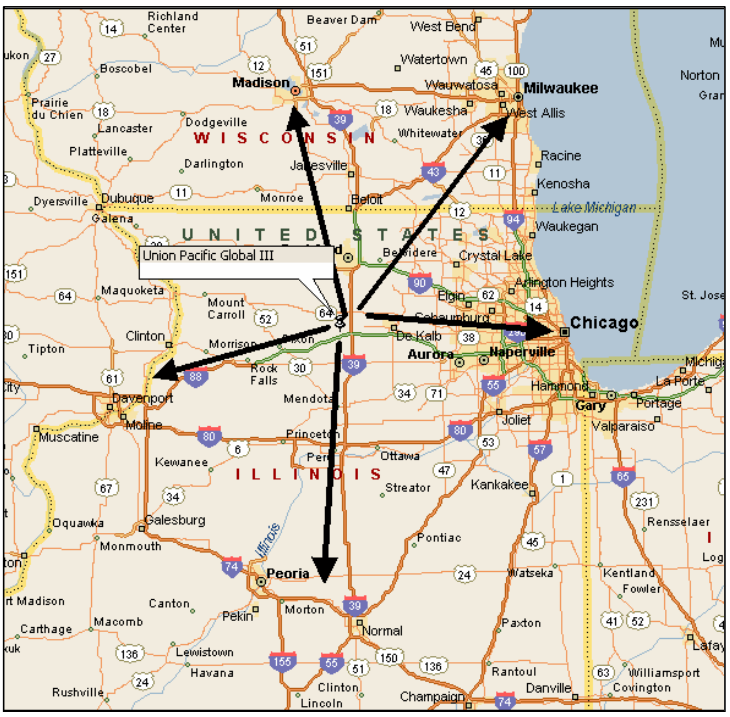
Direct rail-to-rail interchange is accomplished by building blocks of cars at Global III for direct rail movement to connecting railroads in Chicago. This operation has been developed in a relatively efficient and effective manner.

Highway drayage of intermodal freight between local Chicago markets and Global III has proved to be relatively expensive. Due to the highway distance of 80 miles each way and local freight imbalance, Global III has experienced a drayage cost premium of $250–$350 per movement when compared to the drayage of other Chicago terminals. The drayage differential depends on the relative location of the freight customer and the intermodal terminal. In addition, there is a $136 surcharge for tolls associated with drayage service on I-88 between Chicago and Rochelle.

The UP carload and unit train classification yard is not expected to generate local economic development beyond its own employment and vendor purchases. The yard primarily sorts cars and unit train consists for distant points rather than serving local customers.

Competition

Exhibit 148: Rochelle Highway Access



UP competes directly with BNSF for international container business moving over west coast ports. BNSF's Logistics Park Chicago, built on the site of the former Joliet Arsenal, currently provides very effective competition to the UP because it is located only 40 miles from Chicago. In addition, the CenterPoint Intermodal Center at Joliet has been successful in attracting several large distribution facilities. There is also regional competition for industrial development in La Salle/Peru, IL, 45 miles south of Rochelle on I-80, in Rockford, IL, 20 miles north and DeKalb, IL, 10 miles east. These communities have a larger work force and have been more aggressive in working to develop industry that has been attracted to the region by the UP intermodal terminal.

Success Factors

Global III's primary role for the UP, at present, is to provide capacity for the growing intermodal business that travels through Chicago. The terminal allows UP the opportunity to build interchange blocks for connecting railroads as well as build UP west bound trains outside the congestion of Chicago proper. Rochelle is located at the intersection of I-39 and I-88 and therefore enjoys excellent highway access both north/south and east/west. The region has potential as a major Midwest distribution center that can serve not only the Chicago market but also Milwaukee, Madison, WI. Springfield, IL, and the Quad Cities markets.

Lessons Learned

Union Pacific is making a long term investment in advance of anticipated westward development in the Chicago area. UP acted to secure needed capacity ahead of demand, while the local jurisdiction was cooperative and the price of land was relatively low.

Although the UP terminal has attracted industrial development in the region, development adjacent to the terminal has been relatively slow. There are two issues that will improve future development for the city of Rochelle. One is the development of Jack Dame Road. An important lesson is to include direct access to the intermodal terminal as part of the development plan. The second issue is be competitive with other communities in the region with respect to development. Because of the nature of intermodal, the entire region can benefit from access to an intermodal terminal. Although Rochelle will be the closest community to the terminal, it is still necessary for it to be competitive with other communities in the region in attracting development.

Port of Quincy, WA

Overview

The Port of Quincy is a series of industrial parks east of Seattle and Tacoma (Exhibit 149). A rail intermodal facility was built to encourage industrial development, although success was slow in coming. The economic analysis and market planning appear to have been optimistic.

Exhibit 149: Port of Quincy Location

Governance

The Port of Quincy is governed by a three-member Board of Commissioners. Each Commissioner is elected by the citizens of the port district and serves a six-year term. The port district is divided into three commissioner districts following voting precinct boundaries. The Port of Quincy's mission is to stimulate economic growth and prosperity for the region. The Port Commission is primarily responsible for:

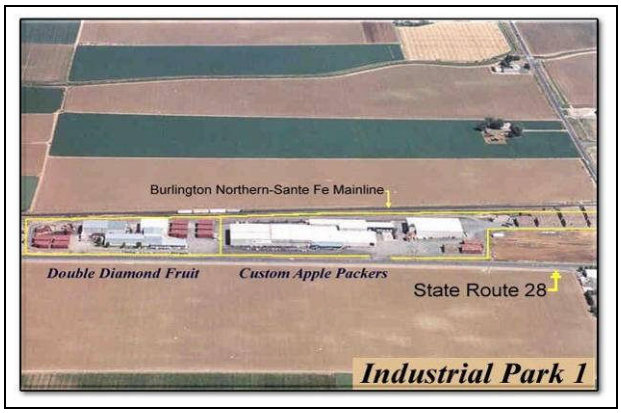
- Planning the Port's future and guiding the Port's activities in that direction

- Developing and adopting port district policies and governing operations
- Preparing and adopting an annual budget and authorizing the tax levy amount
- Hiring the staff to oversee the Port's activities

Services

Quincy's short-haul rail initiative was coupled with a competitive pricing policy from NorthWest Container Services, the exclusive container operator. The Port of Quincy can handle dry or refrigerated containers, and offers a dedicated steamship container depot with full maintenance and repair capability. As shown in Exhibit 149, however, Quincy is 200 miles from Seattle by rail versus 160 miles by highway, making it difficult for intermodal rail to compete head-on with trucking.

Exhibit 150: Quincy Industrial Park 1



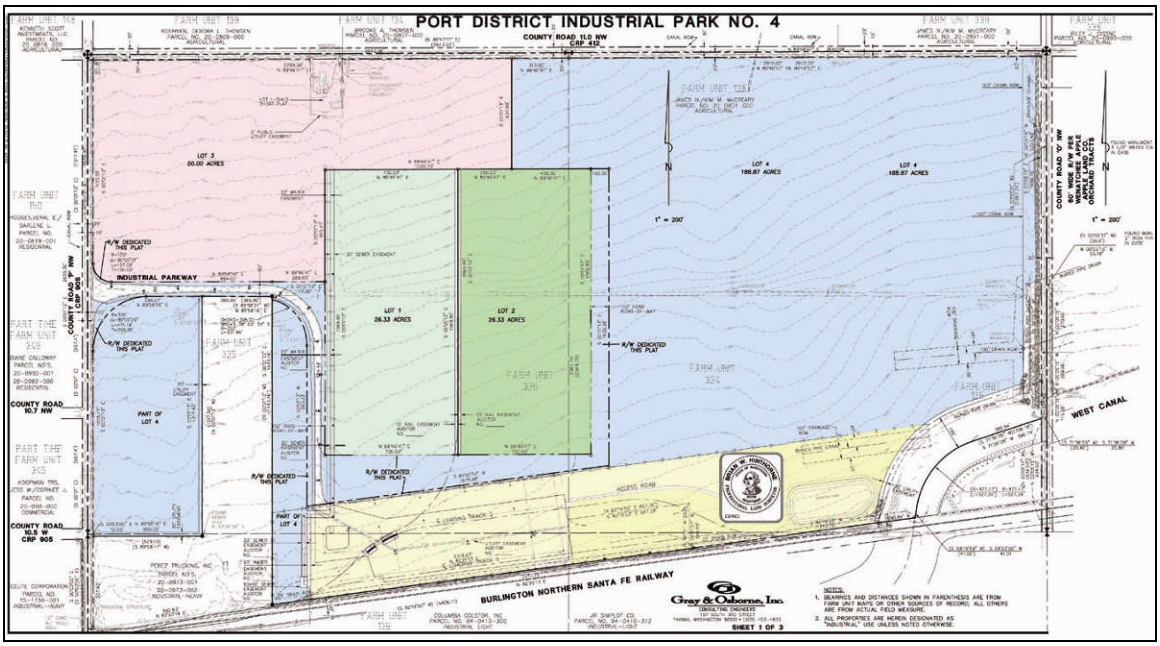
Industrial Park 2 (Exhibit 151) has been divided into individual parcels. The smallest is less than 7 acres, and the largest over 12, but parcels can be combined to accommodate larger developments. Industrial Park 3 comprises a 50-acre parcel. Both Parks have access to all utilities, such as power, municipal water, sewer and natural gas. And, with rail bordering the site, these properties have excellent loading or shipping options.

Exhibit 151: Quincy Industrial Park 2

Industrial Park 1 (Exhibit 150) is fully leased to two apple packing industries -- Double Diamond Fruit Company and Custom Apple Packers. Vocational training and support is available from

community colleges in Wenatchee and Moses Lake as well as Washington Manufacturing Services out of Spokane.

Exhibit 152: Port of Quincy Industrial Park



The Port of Moses Lake, which operates the Grant County International Airport, is the Federal Grantee of Foreign Trade Zone #203.

Non-Freight Developments

Recently, the Port of Quincy has had notable success in non-freight businesses.

- In January 2006, Microsoft purchased 75 acres for a new data storage center. Groundbreaking occurred on May 31, 2006
- In June 2006, Yahoo! signed an agreement to purchase about 40 acres for an undisclosed operation at Industrial Park #4.

Funding

The Port of Quincy has been very successful in obtaining state and federal funding.

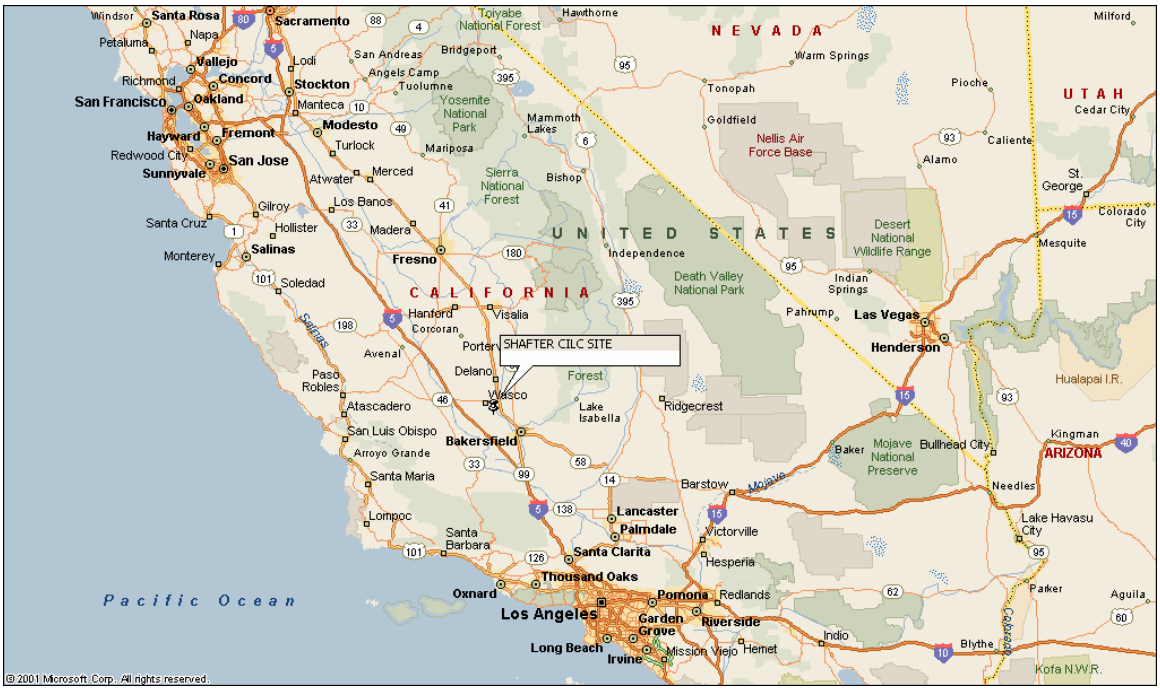
- In August 2003, Quincy obtained a $3.5 million USDA low-interest loan to fund rail infrastructure. Senator Patty Murray was instrumental in obtaining the loan.
- In October 2005, the Port of Quincy obtained a $992,000 federal grant to complete the construction of a carload transload facility and upgrade the intermodal facility, including the purchase of lift equipment.
- In March 2006, the Port of Quincy received $400,000 from the State of Washington to fund infrastructure improvements ranging from rail to fiber optics.
- In June 2006, the Port of Quincy received an Economic Development Administration grant of $840,000 to upgrade water mains and supply.

California Integrated Logistics Center, Shafter, CA

Overview

There is a well-publicized effort to develop an "inland port" near the City of Shafter, north of Bakersfield (Exhibit 153), connected to the Port of Oakland by a rail shuttle. The City of Shafter is the sponsor, but the effort also involves local industrial park developers. The industrial park development is the "International Trade & Transportation Center" and the Shafter intermodal initiative is the "California Integrated Logistics Center".

Exhibit 153: Shafter CILC Site



According to the sponsors, the facility would serve both domestic and international needs, provide container depot and Container Freight Station (CFS) services, and offer a Foreign Trade Zone opportunity. The claimed advantages of the Shafter location include:

- Proximity to exports including hay, cotton, citrus, almonds, and pistachios
- Proximity to major import distribution centers, including Sears, IKEA, Target, and Wal-Mart (although only Target is adjacent).

The Bakersfield area is typically considered an extension of the Southern California market and most marine cargo originating or terminating in the Bakersfield area is assumed to move via the ports of Los Angeles and Long Beach. By highway, Shafter is about 256 miles from Oakland but just 150 miles from Long Beach, which is why the Bakersfield market is ordinarily tied to the Southern California ports. Shafter is roughly equidistant by rail from Oakland and Long Beach, 270-290 miles to either port depending on the route.

Exhibit 154: Shafter Project Site

Legislation

The Shafter project sponsors have taken the unusual step of introducing legislation to give Shafter precedence over other inland port projects. The current version of SB 1010 would establish the Shafter site as a unique circumstance.

Economics

At an early point in the development of the Shafter project, sponsors envisioned using revenue bonds to finance the construction of an intermodal facility. The revenue bonds would be repaid from the intermodal terminal operating profits.

The difficulty with this plan is that intermodal terminals themselves do not ordinarily yield operating profits, so there would be no net revenue to cover the bonds. Railroads profit from intermodal line haul operations between terminals, not from owning the terminals themselves. Terminal contractors profit from providing lift services and ancillary services under contract and do not own, lease, or build terminals. In other words, no one pays rent on intermodal terminals. The few privately owned intermodal terminals in North America (such as Stackbridge in Massachusetts or Port of Tucson in Arizona) generate their revenue from lift fees, not rent.

Status

A review of the available reports and presentations on the Shafter initiative suggests that the proposal faces some significant near-term obstacles. There is no intermodal terminal at Shafter yet. The sponsors obtained $5 million in funds from the State of California, which are being used to install a track connection between the industrial park/terminal site and the BNSF mainline. Although the sponsors state that funding will be forthcoming for terminal construction, it is not clear that sufficient funding will be available. The sponsors note the difficulty of placing debt

unless there is a service and volume commitment. The study team was unable to locate any market analyses beyond the conceptual level, or any financial or economic analyses of costs, rates, etc. Railroad interest in serving Shafter has been minimal, and the project lacks service commitments from either railroad.

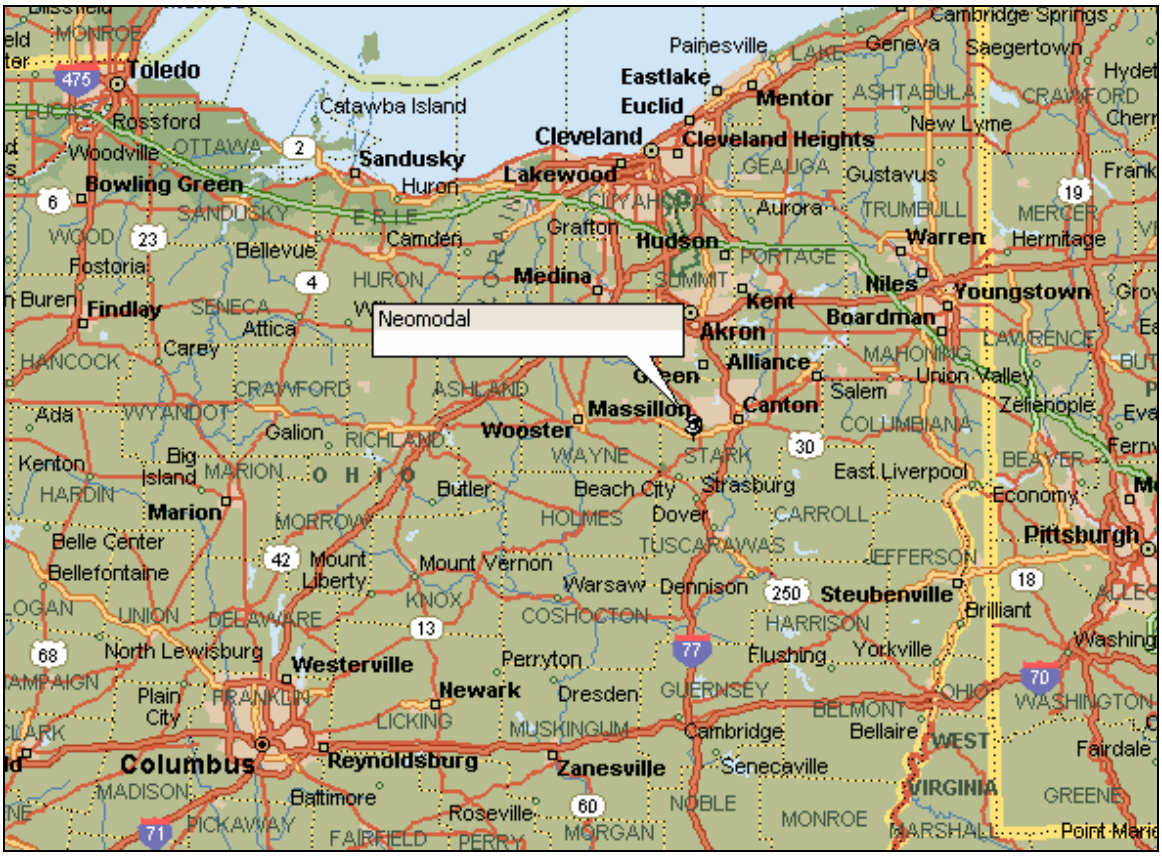
An interim facility was opened along the UP line on the east side of the Shafter area but there has been no significant business. A track connection is being built to an industrial park adjacent to the BNSF line (Exhibit 154).

Neomodal, Stark County, Ohio

Overview

The Stark County intermodal terminal (Neomodal) was opened in 1996 under the auspices of the Stark County (Ohio) Development Board. (Exhibit 155) It is a good example of a new terminal built with government funding, without benefit of a comprehensive marketing plan, and without private sector financial commitment. Perhaps this could be best characterized as a "build it and maybe they will come" approach. The result has been a terminal with little business.

Exhibit 155: Neomodal Location



Terminal

The 28-acre terminal (Exhibit 156) is a technologically advanced design using overhead cranes that can be operated from the ground. The gate facility was developed using the best technology available at the time.

Exhibit 156: Neomodal Terminal

The terminal is located on the Wheeling and Lake Railroad (WLE). The location on the regional line was chosen to provide competitive access to three Classes I railroads. The trade off with this feature was the introduction of another railroad into the routing. The specific location was chosen because the Development Board already owned a large parcel of property in the area, which was also being developed as an industrial park.

Marketing

The terminal was justified on the basis of a perceived economic need in the area, but no formal market study was performed. Apparently Neomodal was expected to draw business from Cleveland, as well as new business off the highway. For a variety of reasons the traffic has not materialized.

Relationships with the connecting Class I railroads were never good, and traffic volumes were not high. A short haul movement was required to reach either CSX or NS, and the usual rate division problems exacerbated the problem. At one point terminal volume reached 500 lifts a month, but recent experience has been much lower. CSX cancelled rates to Neomodal at the end of 1999, with the opening of their expanded Cleveland terminal. The sale of Conrail to NS and CSX made the facility much less viable.

In 2000, Canadian National announced it would begin service to Neomodal. This prospect resulted from trackage rights granted by the Surface Transportation Board to the WLE as part of the split-up of Conrail. To date this opportunity has not produced significant results and Neomodal CN is not actively advertising its relationship with Neomodal.

Funding

A line of credit from Congestion Management and Air Quality (CMAQ) was used to fund the project. The County donated the land. The $8 million CMAQ loan was to be paid by operating profits; however, there was a provision in the agreement between the Ohio DOT and the Stark Development Board (SDB) releasing SDB from financial payment responsibility in the event of operating deficits. Loan repayments were to be remitted equally to three parties: Ohio DOT CMAQ revolving fund; Ohio's Erie Canal Heritage Account (established under the National Heritage Corridor program); and Stark County Area Transportation Study (the MPO). Instead of a 20 percent direct local match, OH DOT used toll revenue credits from tolls generated by the Ohio Turnpike Authority under provisions of Section 1044 of ISTEA. (From FHWA)

The project was overseen by a management committee of five people, including representation from ODOT. Construction of the terminal was completed in a period of one year; 16 separate permits were required. Construction costs included only 10% engineering overhead versus the "usual" ODOT's 30-35%. As a result the terminal came in under the $11.2 million budget.

Lessons Learned

In order to be successful a project of this type needs to have the following:

- A substantial market to serve and an effective plan for marketing the service.
- Willing and committed Class I rail carriers.
- Sufficient funding to develop the project.

This project enjoyed only one of the three necessary prerequisites.

Competing facilities are located in Cleveland (55 mi.), Columbus and Pittsburgh (90 mi.), and Toledo (120 mi.), all of which are much larger population centers with more significant concentrations of business. The Neomodal planners may not have thought clearly about the market and potential competition in the market. Even before the Conrail split that further jeopardized their market, they did not properly consider the relative ability of competing rail systems to serve these population centers.

Detroit Intermodal Freight Terminal (DIFT)

Overview

Based on a consultant study completed in 1994, Michigan DOT (MDOT), with the support of GM, Chrysler and Ford, embarked on a project to consolidate the intermodal terminals of the four Class 1 rail carriers serving Detroit. At that time Conrail, Norfolk Southern (NS), Canadian National (CN), and Canadian Pacific (CP) operated intermodal terminals in Detroit. The concept was the creation of a consolidated common user terminal located at Conrail's Livernois Yard in Southwest Detroit. Livernois Yard, also referred to as Junction Yard, was selected as the site for the consolidated terminal because of its central location and rail connection to all Detroit carriers. In addition, at nearly 350 acres, this site was the only rail-served site large enough to accommodate a consolidated terminal. The project was named Detroit Intermodal Freight Terminal and referred to as DIFT.

The purpose of the DIFT project was to support the economic competitiveness of southeastern Michigan and of the State by improving intermodal freight transportation and ensuring sufficient terminal capacity to meet future intermodal demand. Specific objectives included:

- improving highway infrastructure to the common location
- reducing the distance and related cost for trucking between the terminals, and
- assisting the rail carriers in providing the terminal capacity needed for future demand.

This project was extremely ambitious because of the number of operational, commercial and engineering issues that needed to be resolved. At that time, Conrail had no interest in giving up its Livernois Yard property for use by other rail carriers and the project never advanced until Conrail was acquired by CSX and NS. The acquisition of Conrail by CSX and NS, in June 1997, provided an opportunity for Michigan DOT to revive the terminal consolidation project. As a condition of the Conrail merger, NS and CSX agreed to cooperate with MDOT on DIFT.

High-level political support for the project by Governor John Engler, Congresswoman Carolyn Cheeks Kilpatrick, and Congressman John Dingell enabled an $18 million earmark for the project within TEA-21 in 1998. Section 1602, High Priority Project 1221, describes the project as, "Construct intermodal freight terminal in Wayne County, Michigan". This funding enabled the DIFT project to be reactivated.

Detroit Intermodal Terminals

Following the integration of Conrail operations into NS and CSX in June 1999, Conrail's Livernois Avenue intermodal terminal was shared by NS and CSX. The freight-car switching operations at Livernois yard continued to be operated by Conrail on behalf of both NS and CSX who had equal access to Conrail's Detroit customers. In addition, NS was operating two other terminals in Detroit: a Triple Crown Roadrailer terminal at its Melvindale Yard, and a small intermodal terminal at Delray. CP operated two intermodal terminals in Detroit. The first was CP Expressway, a specialized terminal for CP's Expressway branded service to Toronto and Montreal. The second CP terminal, CP Oak, was an international container terminal located at CSX's Oak Yard. The Oak terminal was leased from CSX. CN operated the former Grand Trunk Terminal, Moterm, located just north of the Detroit city line in Ferndale, MI. Exhibit 157 shows the location of these terminals along with Conrail's Livernois Yard.

Exhibit 157: Detroit Intermodal Terminals

DIFT Progress

Utilizing the TEA-21 funding, MDOT completed the Detroit Intermodal Freight Feasibility Study in December 2001. The conclusion of the feasibility study was to advance the planning for DIFT by preparing an environmental impact study (EIS).

As a part of the EIS, MDOT identified four DIFT alternatives:

- **Alternative 1. No Action:** Railroads will develop their existing intermodal terminals with no government funding assistance or oversight.
- **Alternative 2. Improve/Expand:** Proposes improvements will be made to existing rail terminals with federal and state government funding assistance.
- **Alternative 3. Consolidate:** Proposes the intermodal operations of all four railroads will be consolidated at the Livernois Yard area with federal and state government funding assistance.
- **Alternative 4. The Composite Option:** Proposes that the intermodal operations of CSX, NS and CP will be consolidated at the Livernois Yard area, while CN Moterm terminal will be improved at its existing location. Projects will be funded with federal and state government funding assistance.

MDOT continues to advance the EIS and conduct public hearings to obtain community and stakeholder responses to the various alternatives. The EIS schedule, revised in December 2005,

shows determination of the preferred/recommended alternative and finalization of the EIS in October 2006 with a Record of Decision (ROD) by FHWA in December 2006. Although funding of preliminary engineering and EIS development have come from the $18 million TEA-21 earmark, actual project funding requires completion of the EIS and FHWA ROD. Once the ROD is issued, the remaining funds from the original $18 million earmark can be utilized for the DIFT project. In addition, any future federal funding authorizations for the project can be utilized.

CSX and NS Intermodal TerminalExpansion

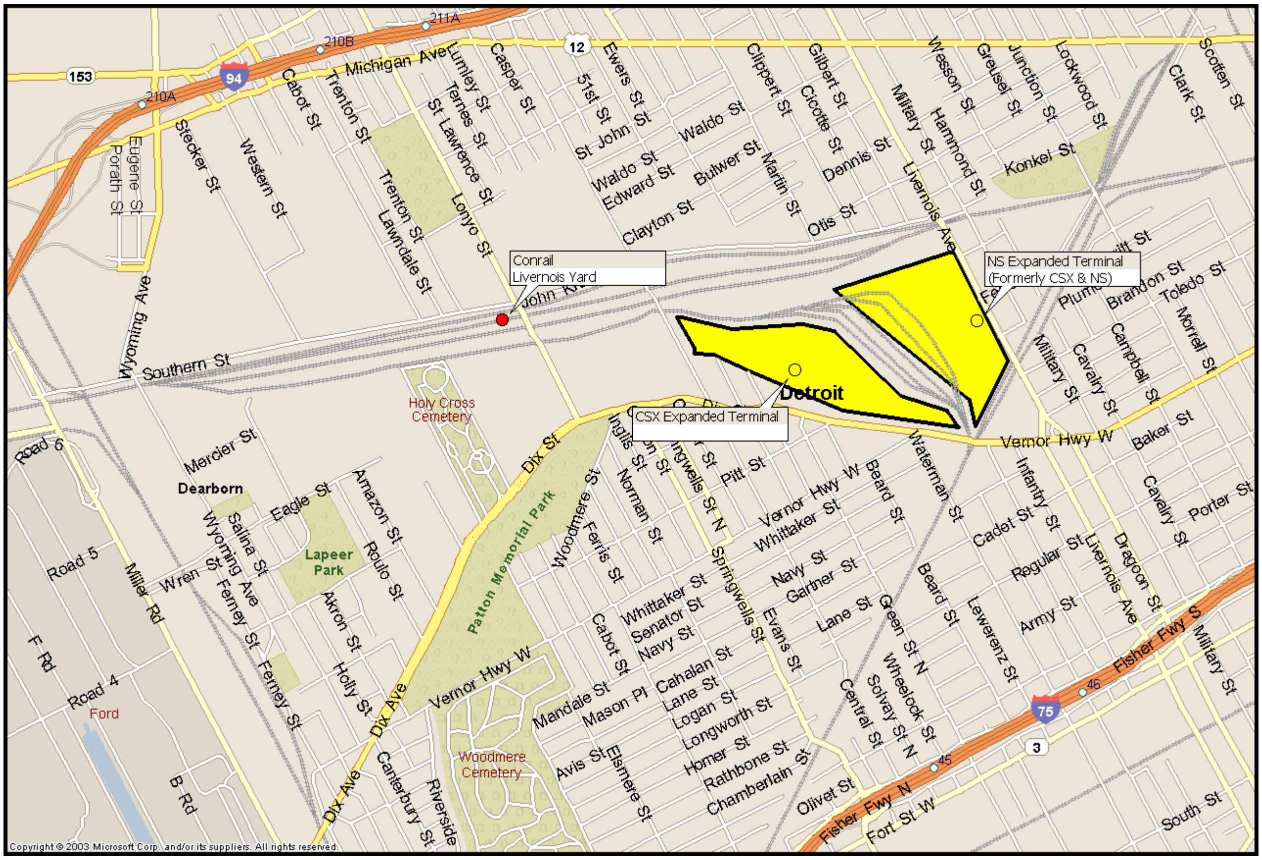
In 2002 the shared CSX and NS intermodal terminal at Livernois Yard was well beyond its design capacity. The terminal occupied about 35 acres on the east side of Livernois Yard and had a nominal capacity of about 60,000 lifts. Current operations of both carriers are estimated at 90,000 to 100,000 lifts. In addition, since NS and CSX are direct competitors, sharing a common facility created operational and commercial conflicts. As a result, CSX and NS agreed that they would work together to expand their terminal capacity in Detroit. This was done by creating a new facility on about 65 acres of adjacent Livernois Yard property for CSX and expanding and improving the existing facility to provide NS with a comparable 65-acre terminal.

Since this project was consistent with the DIFT, MDOT agreed to consider a loan/grant application for the project under its current capital program for funding of transportation improvements. The MDOT program provided matching-grant funding under a five-year loan which converted to a grant over the five-year loan term. The MDOT loan agreement contractually obligates the carrier to make five loan payments to pay off the loan. However, in each year that the borrower achieves certain agreed operating performance, the loan payment is converted to a grant and waived.

Since the CSX and NS terminal expansions were located on Livernois Yard property owned by Conrail, the application for the MDOT grant and the final loan agreement were completed by Conrail on behalf of CSX and NS. The overall cost of the expansion of both terminals was between $10 and $11 million. $4.5 million of this amount was funded through the MDOT program. The MDOT loan agreement provided an operating performance requirement in terms of combined CSX and NS lifts, which were agreed to by Conrail on behalf of CSX and NS. All agreements necessary to advance the project were completed by the end of 2003. The CSX terminal was completed in 2004 and the NS expansion was completed in 2005. Exhibit 158 shows the location of the two terminals within the Livernois Yard complex.

Although the CSX and NS expansions at Livernois Yard were not a part of the DIFT project, they did make a significant contribution to the DIFT objectives. The combined capacity of the two terminals more than doubled the capacity of the former Conrail terminal. The project also provided land for future CSX and NS expansion and separated the terminal operations of the two competitors. This separation will facilitate future expansion and investment as each carrier can advance projects based on its own needs.

Exhibit 158: Livernois Yard Expanded Terminals



Lessons Learned

This project has extended for more than a decade. The auto industry was always the key to this effort and over this extended period the auto manufacturers have lost the interest and commercial clout necessary to bring the railroads and the public sector together to accomplish this project.

Initially, the negotiation over the acquisition of Conrail by CSX and Norfolk Southern added delay, and the failure of these railroads to provide the auto industry with competent service during the integration of Conrail led the auto industry to reduce its support for railroads in general and DIFT in particular. In addition, the auto industry has substantially changed the way it buys transportation service, relying increasingly on specialized logistics firms and loosing touch with the strategic opportunity that might be available if the DIFT were constructed.

Although the DIFT project was initially well supported politically and had a significant amount of funding, the project seems to be stalled because of its complexity. MDOT appears to be having difficulty in getting and maintaining a consensus regarding the need for the project that is satisfactory to all four rail carriers, the auto industry, and the public stakeholders.

A further complication is that over the development period there have been multiple governors, mayors, and public officials involved in the public process. Because there have been community concerns regarding the development, DIFT has become a political issue.

The inherent difficulty of getting large competing companies to reach long-term agreements on complex operating and commercial issues can be a major constraint to the project. Each company's driving self-interest makes it very difficult to create a consolidated operation without in some way disturbing the existing competitive balance. This is particularly true when dealing with CSX and NS who are owners of the property and are being asked to make trade-offs that may improve a competitor's position. CSX and NS must agree or the project cannot go forward.

On the other hand, when private sector companies develop a plan that satisfies their own self-interest, they can move very quickly. This was the case with CSX and NS on their own terminal expansions at Livernois Yard. With MDOT funding as a key driver, along with the need for terminal capacity, CSX and NS found a way to work together for their mutual self-interest. If the grant funding incentive is offered, the private sector companies can find a way to overcome complexity and other issues to take advantage of it.

Port of Montana

Overview

Montana is served by two Class I railroads, Union Pacific and BNSF. There are three intermodal terminals in the state, all located at major highway junctions (Exhibit 159). BNSF operates an active facility in Billings (I-90/25 and I-94). The Port of Montana operates a general-purpose rail terminal in Butte (I-15 and I-90), which presently does not have any intermodal rail service. Finally there was a BNSF intermodal terminal in Shelby (I-90 and US-2), which was active as late as 2002.

Exhibit 159: Montana Project Sites

The Port of Montana

The Port of Montana (Exhibit 160), located just outside of Butte, is also located at the only rail junction of the BNSF and UP railroads in Montana; and at the intersection of two major inter-

states, I-15 and I-90. The facility has been in existence for 32 years and has served as the Union Pacific connection in Montana.

Exhibit 160: Port of Montana

There is currently no intermodal service, the railroads having cancelled rates for the terminal. Until a couple of years ago, the terminal was handling about 1200 intermodal loads annually, primarily outbound agricultural products. They do have two lift machines.

The Port is a multiple-use facility and was built using funds obtained by the Port from an unrelated legal settlement. As a quasi-government facility, it is currently partially funded by a tax from Silver Bow County.

Traffic currently handled is:

- Forest products. A separate 85,000 sq-ft. building with five railcar capacity, plus paved outside storage.
- Bulk handling. Fertilizer and various mining by-products (Butte is located on what was once known as "the richest hill on earth" (copper).
- Intermodal transloading. Basically moribund except for occasional specialty loads.
- Auto transloading. Site is a major auto distribution center for Montana.
- Other. The facility handles a variety of other products such a paper rolls, scrap paper, etc.

BNSF Billings

BNSF Billings is on the BNSF railway and near the intersection of I-90 and I-94. In that location I-90 is the northern extension of I-25. BNSF Billings is a typical rail-owned facility whose operation is contracted to Dick Irvin Trucking. BNSF Billings is a marginal intermodal facility because of its small size. It remains because United Parcel Service, the rail industry's largest intermodal customer, is the anchor user of the terminal.

BNSF Shelby

BNSF Shelby is on the BNSF railway near the Canadian border at the intersection of I-15 and US2. The facility is now closed. BNSF Shelby was also a rail-owned facility whose operation was contracted to Dick Irvin Trucking.

The concept was that Canadian longer-combination vehicles could be operated across the border to Shelby, then loaded on the train for distribution to points south and east. The facility was successful in penetrating this market, but the volume was small and unbalanced. There was some concept toward also moving international exports through Shelby, but again the business was heavily balanced outbound and only a very small number of international containers were available for loading in the market. An additional small, unbalanced inbound movement of parcel and less-than-truckload shipments in private trailers apparently developed over time, but was not sufficient to make the facility viable in the long term.

Lessons Learned

Size

In order for a Class I railroad to be interested in a particular new market for intermodal service the potential volume needs to be at least 20,000 loads per year.

Balance and Equipment

Many small terminal projects fail for lack of balanced equipment movements. This is complicated because of the many different types of domestic and international highway equipment. Balance is typically worse in small markets.

Europort Vatry, France

Overview

Europort Vatry is an all-cargo airport and associated logistics park located in France approximately 100 miles east of Paris (Exhibit 161). Europort Vatry was planned and built on a former NATO base site to accommodate air cargo shippers.

Exhibit 161: Europort Vatry, France

Vatry includes a 24-hour all-cargo airport, road and rail connections, and a logistics center. Direct links to major highways provide for efficient trucking. The airport has no night-flight restrictions, a 12,635-foot runway, and all-weather landing capability. Flight operations can occur during the night because Vatry is centered in a low-population area.

Vatry is under contract management by the Montreal Airport Authority under an agreement lasting through mid 2008.

The cargo terminal has 45,200 square feet, including refrigerated space. The construction of a second freight terminal began in April 2006.

Logistics Developments

The associated logistics center is 1,040 acres with a potential to add 2,220 acres in the future. Two large business parks have been constructed: one 265 hectares in area in Zone 1, the other 157 hectares in area in Zone 2. Some 70 hectares in total have been set aside for larger-scale operations. Incentive funding is available from local, regional and European authorities in addition to on-site tax incentives.

Recent cargo growth has been very rapid. Vatry International Airport handled 10,830 metric tons of freight in the first quarter of 2006, up more than 72.6% on the same period last year. Vatry handled 37,670 metric tons of freight in 2005 compared with 19,128 tons in 2004 and 8,730 tons in 2003.

2004 saw Vatry succeed in attracting a number of cargo carriers and becoming, in some cases, a traffic hub for operators. For example, Coyne Airways operates several weekly services to the Caspian Sea region while Avient uses Vatry as a European base for flights to and from Africa.

The main business sector locating at Vatry is distribution. Starting in 1998, the initial tenants included:

- Air Liquide Welding, which distributes welding equipment throughout Europe;
- JCH Associates, which warehouses and distributes toys and textiles;
- Vatinel, a Customs broker;
- Transports Vertusiens, a parcel transport company specializing in foods; and
- Varty Poids Lourds, a forklift repair company.

Major new tenants include Prologis, a leading world logistics real estate investor, and TNT, which operates a European distribution center for Fiat.

Success Factors

The location of Europort Vatry appears to be the single greatest success factor. Vatry is centrally located within Europe, with 75% of all freight traffic in the European Community concentrated within an 800-km radius of the airport complex.

Another major growth factor has been the marked development in perishable freight (fruit, vegetables and fish). Vatry's perishable goods center is one of the largest facilities in Europe and includes multiple cold-storage rooms designed specifically for fresh vegetables, fruits and flowers, as well as fish, meat and prepared foods. European regulations require the separate handling of various types of food products. Vatry International Airport's perishable goods center is certified by European authorities and is a recognized European cargo Border Inspection Point, both of which constitute major competitive advantages for the airport. As a result, products transiting through Vatry can be distributed throughout the European Community with no additional customs approval.

San Bernardino International Airport

Overview

The Inland Valley Development Agency (IVDA) and the San Bernardino International Airport Authority (SBIAA) oversee the redevelopment and reuse of the former Norton Air Force Base to civilian and commercial use. The objectives of both agencies are to replace the jobs lost when the base closed, improve the infrastructure, landscape, and aesthetics of the local and surround-

ing areas, and promote economic and aviation-related activities. Alliance California is a project of the Hillwood Group, who are also the developers at Alliance, TX. Rail intermodal service uses the BNSF San Bernardino terminal. The project has attracted aircraft-related business centers and commercial distribution centers.

Exhibit 162: SBIA and Alliance California

Inland Valley Development Agency (IVDA)

The Inland Valley Development Agency (IVDA) is a joint powers authority comprised of the County of San Bernardino and the Cities of San Bernardino, Colton, and Loma Linda. Formed in 1990, the IVDA is responsible for the redevelopment of the non-aviation portion of the former Norton Air Force Base. In addition to the approximately 600 acres on the former base, the IVDA also has a redevelopment project area of approximately 13,000 acres of surrounding properties. The land use designations within the project area include: light and heavy industrial, office, commercial and residential. In 2002, the IVDA entered into a Master Disposition and Development Agreement (DDA) with Hillwood/San Bernardino LLC, a Texas-based development company, which serves as the master developer of the project commonly known as Alliance California.

San Bernardino Int'l Airport Authority

The San Bernardino International Airport (SBD) is located 60 miles east of the Los Angeles International Airport (LAX). SBD is surrounded by major interstate freeways (I-10, I-215 and I-30/I-210), and is within two miles of the BNSF intermodal facility. SBD offers Customs clearance, aircraft ramp space, room for new development opportunities and expansion potential, including Foreign Trade Zone and LAMBRA tax incentives.

- Businesses at SBD itself are primarily aircraft-related.
- BSA International, an FAA-certified repair station for aircraft components.

- Blue's Aviation, a Fixed Base Operator (FBO). An FBO provides numerous services for local and transient aircraft. Services include fuel, light aircraft maintenance, general aviation aircraft tiedown and storage, and numerous accommodations for the flying public.
- Aircraft Rescue & Fire Fighting (ARFF) Training Center.
- Aero Pro, a private company specializing in aircraft painting.
- US Forest Service air tanker base.

Negotiations are currently underway with a company to function as an FAA-certified repair station performing inspection, overhaul, and maintenance services for large commercial aircraft. These services can be beneficial to tenants who base their aircraft operations at SBD.

Alliance California

Alliance California is a 2,000-acre "trade and logistics center" adjacent to SBD. It incorporates a Foreign Trade Zone and an on-site CBP office.

The FTZ is operated by Alliance Operating Services, the same firm that operates the FTZ at Alliance Texas.

There are multiple buildings in existence or under development at the site totaling roughly 64 million square feet. Tenants include MedLine, Pep Boys, Kohl's, Mattel, and Stater Bros. Grocers. Hillwood estimates that over 29,000 jobs have been created there since 2000.

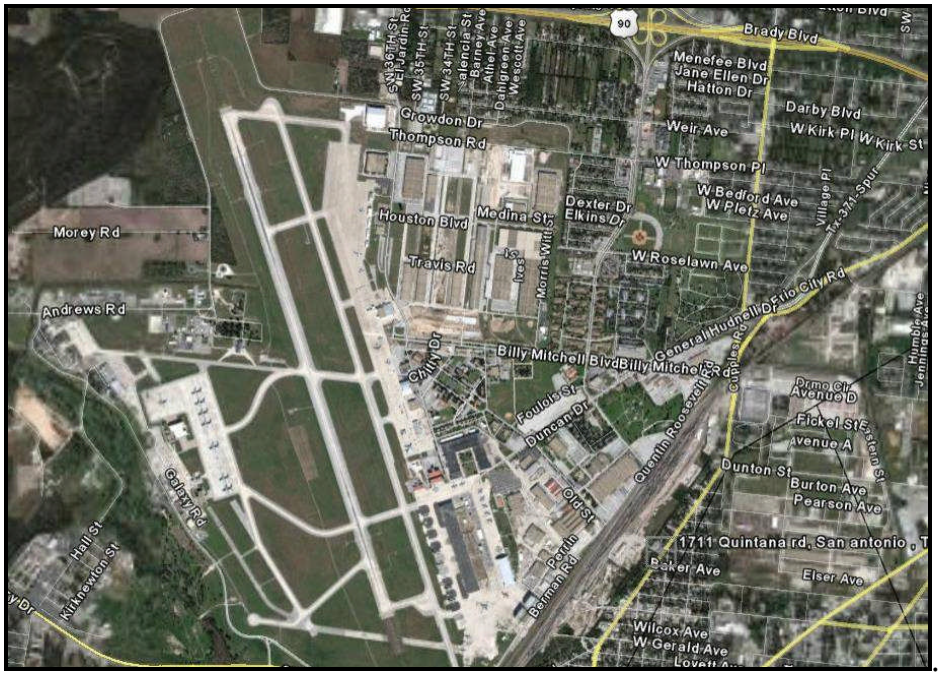
Kelly USA/Port San Antonio

Overview

In 1995 the Base Realignment and Closure Commission (BRAC) decided to close Kelly Air Force Base. At that time the City of San Antonio created the Greater Kelly Development Corporation (GKDC) as a public development corporation under Texas law to manage the transition of Kelly Air Force Base from a government facility to private ownership. In 1999 GKDC was dissolved and Greater Kelly Development Authority (GKDA) was created as its successor. GKDA is governed by an eleven member board that is appointed by the Mayor and City Council. GKDA is managed by an executive director responsible to the Board. GKDA can own property, enter into contracts and has bonding authority.

In 2001 the Kelly Air Force Base (Exhibit 163) was officially closed and control of approximately 1,900 acres of Base property, with 11.8 million square feet of buildings, was transferred to GKDA. At that time the development was branded KellyUSA. The primary mission of GKDA under Phase I of its redevelopment plan was the privatization of Base property. By the end of 2004 about 96 % of the existing commercial/industrial property had been leased to 73 tenants and GKDA was essentially sold out.

Exhibit 163: Kelly Air Force Base



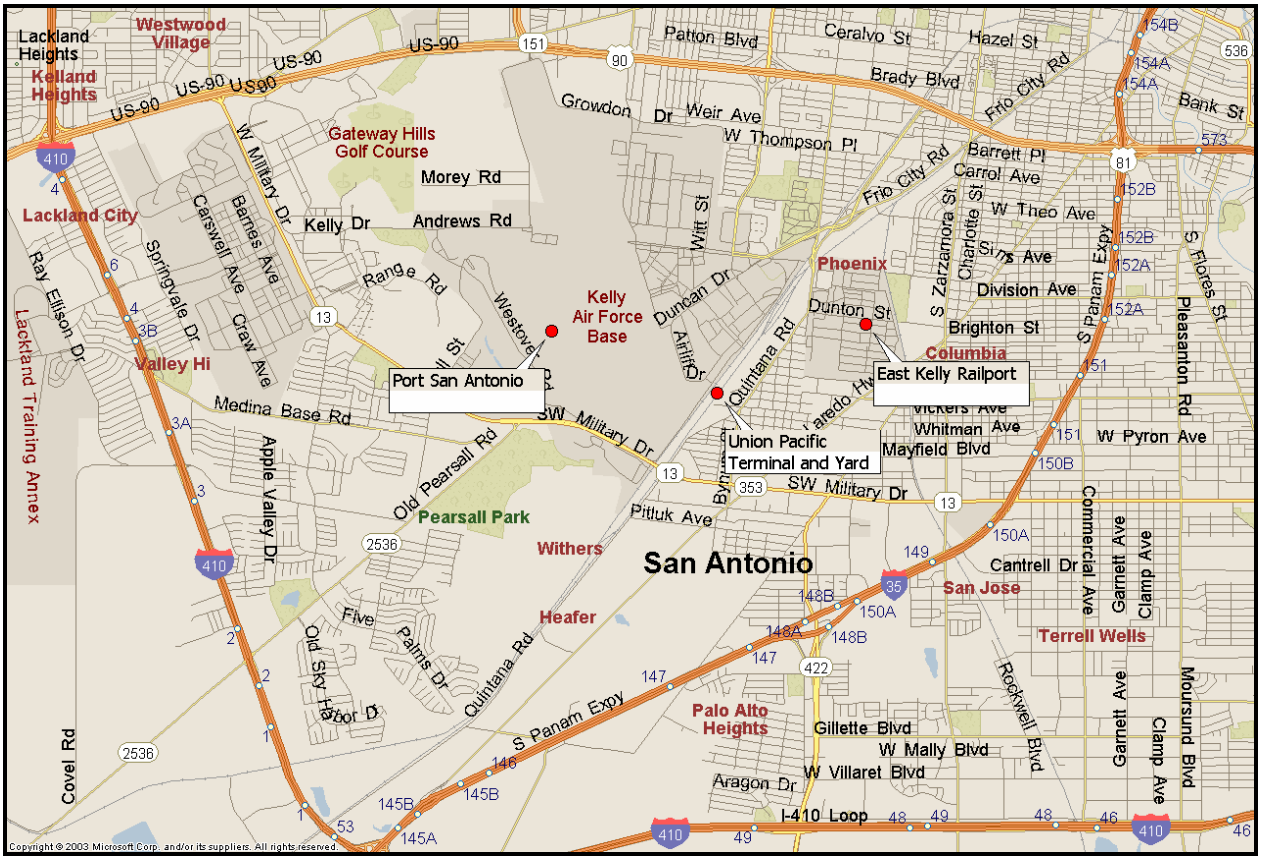
Phase II of the development plan, beginning in 2004, calls for the infrastructure projects necessary to attract new development to KellyUSA. These include a number of road and drainage projects needed to make properties suitable for Class A development. It was estimated that these improvements along with new construction will require about $364 million of capital. About 67%, or $245 million, of funding is expected to come from private sources, with the remainder coming from city, state, federal and GKDA sources.

Port San Antonio

Phase III of the development plan turns KellyUSA into an international cargo port. This is consistent with the city-wide strategy named Inland Port San Antonio. This strategy promotes the growth of all of the transportation, distribution, and logistics facilities which make up the city's capacity to serve international trade. The primary focus of this initiative is on the trade corridor with Mexico, particularly those industries located in Monterrey, Mexico. In response to this strategy the GKDA board, in early 2006, approved a name change to Port Authority of San Antonio (PASA) and changed the industrial park brand name from KellyUSA to Port San Antonio. PASA is currently developing a master plan for development of 700 acres of industrial and commercial property at Port San Antonio. The plan calls for three types of development, aerospace and aeronautical at Kelly Airport, commercial and mixed use at Kelly Town Center, and rail-served industrial at East Kelly Railport.

PASA is just beginning the implementation of its Phase III plan. One of the key drivers is San Antonio's location as a South Texas hub. San Antonio is located at the juncture of I-10, I-35 and I-37. Exhibit 164 provides an area map showing San Antonio's interstate highway network and the access to Port San Antonio. The largest US / Mexico gateway crossing is located in Laredo about 150 miles to the south via I-35. Seventy five percent of all goods moving between the U.S. and Mexico flow through San Antonio.

Exhibit 164: Port San Antonio



Port San Antonio has an 11,500-foot runway which can handle 747-400 air freighters. An 80,000 square foot air cargo terminal is under construction as part of the Phase I air cargo development plan. This facility will be completed in 2007, enabling start up of commercial air freight service.

On the east side of Port San Antonio, PASA is developing the East Kelly Railport. This area is adjacent to the Union Pacific rail yard and is served by Union Pacific. PASA is developing the rail infrastructure and necessary rail operating capability to provide its own local switching service for rail carload tenants. PASA has recently located a railcar transload operator who is building a 360,000 square foot rail-served warehouse and transload facility.

Port San Antonio tenants will be able to utilize Foreign Trade Zone 10. In addition, a federal inspection facility is being established that will include offices of U.S. Customs, U.S. Department of Agriculture, Food and Drug Administration and other federal agencies involved in clearing and inspecting international cargo. This facility will be located at the air cargo center but will also be available for use by rail customers as well as Foreign Trade Zone customers.

San Antonio Rail Intermodal

The Union Pacific has two small intermodal terminals in San Antonio. The Quintana Road terminal is located at the Union Pacific yard adjacent to Port San Antonio. The Quintana Road fa-

cility handles north-south business from and to Mexico. The Sherman Road terminal is in northeast San Antonio and serves east-west business. The current intermodal terminals are small and relatively inefficient and Union Pacific is considering the feasibility of consolidating these terminals into a new facility. The project is in its early stages and a site location has not been identified.

PASA has no plans for development of a rail intermodal terminal at Port San Antonio. There is not enough land available for a large-scale terminal or the associated distribution warehouses at existing industrial sites. PASA is not relying on large-scale rail intermodal service to handle import and export containers as part of its development plan.

Port Authority of San Antonio Funding

In its early years GKDA received City grants as seed money to begin operations. Once GKDA took control of the Kelly Air Force Base Property it was able to fund its operations from lease revenues. Today PASA generates about $29 million in gross revenue, with net income of about $3.2 million. About 70% of PASA revenue comes from aerospace or aeronautical industries.

PASA has authority to issue revenue bonds and has issued $6 million of bonds to finance a hanger for Boeing's aircraft repair facility. These bonds were secured by lease revenues. PASA is currently considering issuing bonds for about $30 million in capital projects. These bonds would be secured by its operating income and proceeds from tenant infrastructure charges. PASA property is not subject to property tax. However, in lieu of property tax it assesses an infrastructure charge based on 75% of assessed property value. These charges generate between $3 and $4 million annually and are used for infrastructure projects. This revenue stream can also be used to secure bond funding.

Lessons Learned

The primary driver for the Greater Kelly Development Authority since it took control of Base property in 2001 was industrial development and replacement of the lost Air Force jobs. Although there are a few logistics services companies, logistics and inland port operations have not been a key driver of development. The Inland Port San Antonio city-wide strategy appears to have been adopted by PASA in early 2006. The inland port concept of ocean containers moving in to Port San Antonio by rail from west coast ports and being distributed to south Texas markets is not a part of the PASA plan. The inland port vision of Port San Antonio involves Mexican imports and exports coming to San Antonio by highway, international air cargo arriving at Kelly Airport, and domestic or Mexican rail carload business moving to Kelly Railport for processing and distribution. It is too early to tell how successful Port San Antonio will be in attracting logistics-related industrial development.

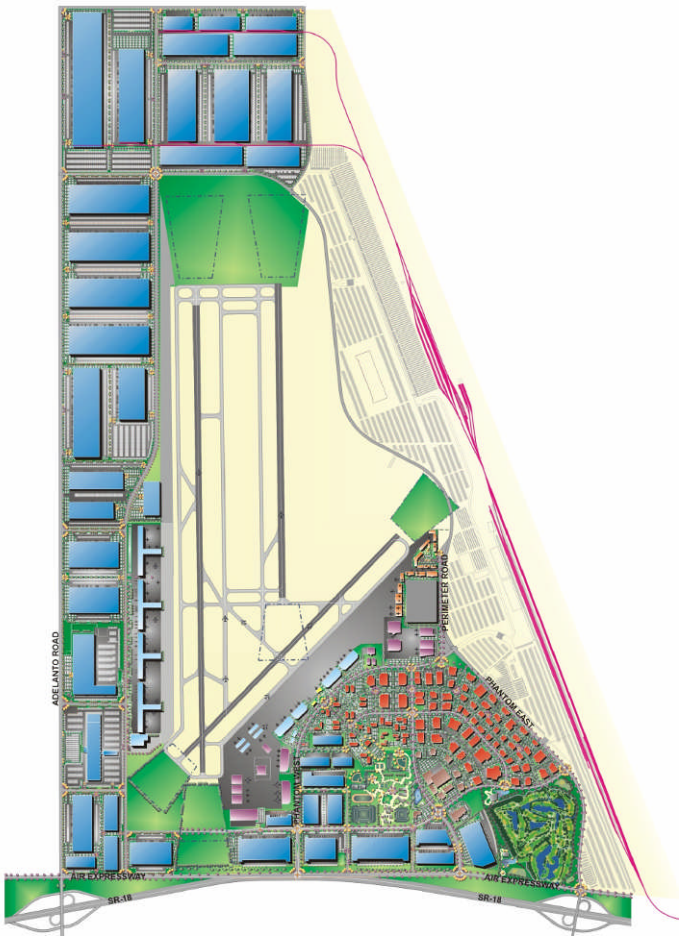
Southern California Logistics Airport

Overview

The SCLA is the former George Air Force Base, being developed by Stirling International into a 4,000-acre master-planned business and industrial airport complex. (Exhibit 165).

To date, the project has attracted primarily aircraft industry plants and retail distribution centers served by over-the-highway trucks.

Exhibit 165: SCLA Plan



As shown in Exhibit 166, SCLA is actually at Adelanto, although it is commonly referred to as being at Victorville. Adelanto is part of the Victor Valley, a developing region north of Cajon Pass and separated by Cajon Pass from the Inland Empire market. In may respects, the future for SCLA is in this developing market rather than in competing with San Bernardino, March GlobalPort, and Ontario for the Inland Empire market.

Exhibit 166: SCLA Location

SCLA is a 500-acre complex with a number of target business segments, many of which are not directly related to air cargo or freight transportation.

- Air Cargo
- Aviation Maintenance
- Rail Complex
- Real Estate Development
- Military Defense Programs
- Flight Testing
- Advanced Flight Training
- Charter Passenger Service
- Business & Executive Jet Travel Center

In this respect SCLA has much in common with the other logistics airports.

Business tenants with a direct cargo focus include:

- ConAgra Foods
- Nutro Products, Inc.
- M & M / Mars
- Nestle Waters North America
- GTE (Verizon)

- Wal-Mart

Commercial air cargo carriers have included Cargolux, FedEx Express, ASB Air, Atlas Air, and MK International.

Incentives

Acting as the Airport and Rail Complex Authority for SCLA, the Victorville City Council is focused on developing economic activity and job creation within the region. As well as strong city support, companies located at SCLA benefit from county, state and federal incentives.

- 60,000-acre redevelopment district
- LAMBRA Zone credits and incentives
- 2,500-acre Foreign Trade Zone no. 243
- Tax assistance from the State of California for employee training and equipment purchases
- San Bernardino County Incentives, including tax-exempt bonds
- FAA program support
- Local tax-exempt bond financing
- City tax credits for hiring and equipment purchases

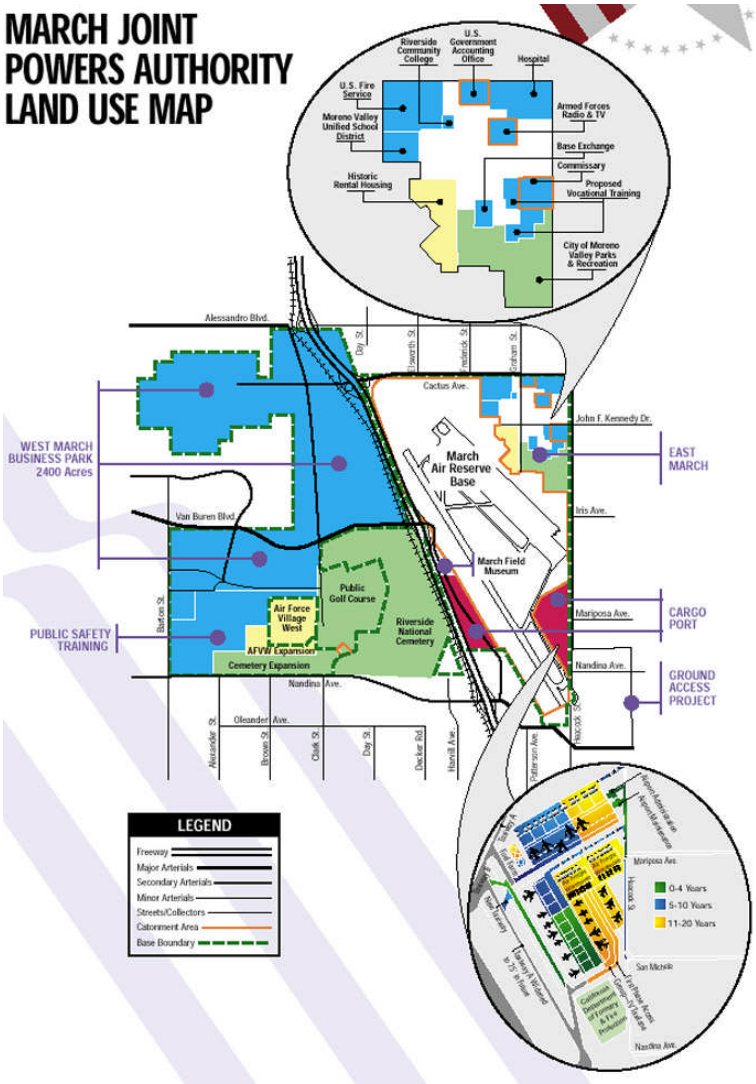
March GlobalPort

Overview

March is a 350-acre "joint-use airport" governed by the Air Force and the March Joint Powers Authority. March Inland Port Airport Authority (MIPAA) was formed by the March JPA in 1996 to develop the civilian airport and related business. The Authority's marketing partner is the Lynxs Group. Lynxs was chosen in 1996 and formed March Inland CargoPort Development, LLC to convert and market the base. March also formed a California Redevelopment Agency and project area to assist with development.

The marketing focus is on airfreight and air industry support businesses. The Base Reuse Plan (Exhibit 167) designates approximately 350 acres of land for civilian aviation facilities at the southern end of the airfield at March. An additional 200 acres west of the I-215 freeway. This acreage is intended to be used for commercial aviation through a military/civilian joint-use arrangement. March does not have any distinct "inland port" functions beyond those of a logistics airport, although it does have a rail connection.

Exhibit 167: March GlobalPort



Competition

As Exhibit 168 shows, the SCLA, March, and San Bernardino logistics airports are all in the same general market and share that market with Ontario International, an established airport with extensive service.

Exhibit 168: Inland Empire Cargo Airports

Global TransPark

Overview

In 1991 the North Carolina General Assembly created the North Carolina Cargo Airport Authority (now the North Carolina Global TransPark Authority) to develop an air cargo industrial complex. This concept was based on an expectation that the next future wave of industrial development will be driven by just-in-time manufacturing and distribution. Flexibility and speed are expected to become the critical competitive factors driving industrial development. As a result, an integrated air cargo airport/industrial complex was believed to offer a competitive advantage in attracting new industry; and generating jobs and economic benefits for the region it serves.

In 1992 the Global TransPark Authority (GTPA) selected Kinston, NC, as the site for the Global TransPark (GTP). Kinston is located about 70 miles southeast of Raleigh, with reasonable access to interstate highways I-95 and I-40 as well as the North Carolina ports of Wilmington and Morehead City (Exhibit 169).

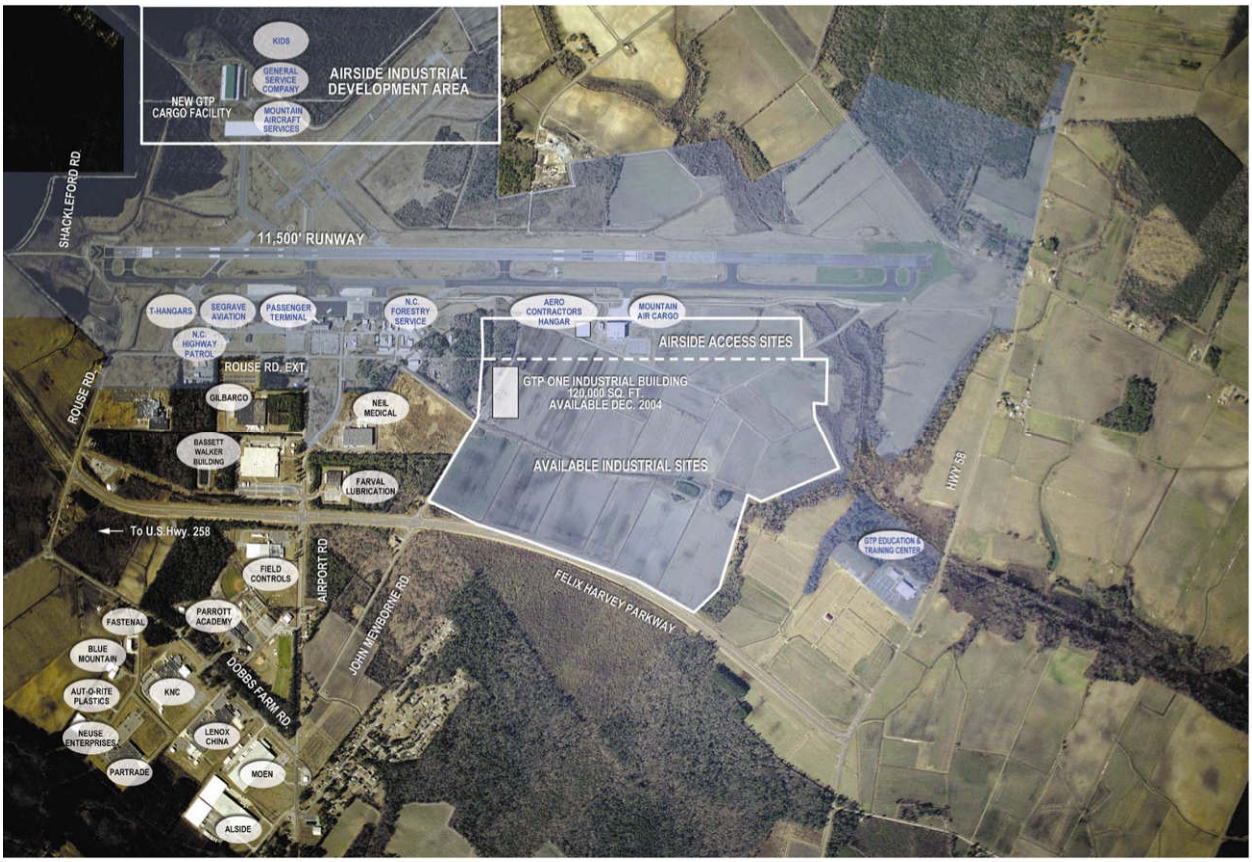
Exhibit 169: Global TransPark and Southeastern NC

The current master plan provides for a 15,300-acre development. Improved highway access to I-95 and I-40 was to be built. The plan also included a rail intermodal terminal with connections to CSX and Norfolk Southern which would enable rail intermodal service to the ports of Wilmington and Morehead City. Industrial areas were planned to locate industries with high air transport demand close to the runway and those with a higher reliance on surface transport on the periphery. The Master Plan projected about 23,000 cargo flights carrying 696,000 tons of cargo by 2014.

Global TransPark Development

GTPA has advanced the development of Global TransPark at the former Kinston Regional Airport over the last 13 years. Over that time about $150 million in State, Federal, and private sector funds have been received for development. Exhibit 170 shows the current site plan for GTP development. The areas in blue denote GTP property.

Exhibit 170: Current Global TransPark Site Plan



Following are a number of major development events at TransPark:

- May 1996 – TransPark approved as Foreign Trade Zone
- August 1996 – Mountain Air Cargo opens new facility as TransPark's first tenant
- March 2000 - Construction of 32,000 sq. ft. education and training center completed
- December 2002 – Runway extension to 11,500 feet opened enabling Boeing 747-400 air freighters to utilize TransPark
- May 2002 – 58,200 sq. ft. air cargo facility opened with three tenants
- April 2003 – Duke Realty selected as developer for industrial component of TransPark
- June 2005 – New Breed, Inc. leases 120,000 sq. ft. distribution warehouse. This is the largest transaction completed by GTPA.

Currently GTP supports 27 employers in its initial development area and has over 5,700 acres fully permitted and available for development. These companies are providing 2,600 jobs with over $65 million of payroll and benefits.

Global TransPark Financial Issues

Although GTP has modest success, it has fallen far short of its original forecasts and expectations with respect to its ability to attract air cargo operations. Even with the progress that has been made, GTPA is not self-sufficient and requires ongoing subsidy to fund its current operations. In its fiscal year ending June 30, 2005, GTPA received only $690,000 in operating revenue and experienced an operating loss of $3.2 million. Even with a State funding subsidy of $1.6 million GTPA experienced negative cash flow of over $300,000. As a result, public support for continued funding is eroding as evidenced by the reduction of State subsidy from $3.4 million to $1.6 million in 2003. In addition, the State legislature has ordered studies to determine ways to improve operations and/or restructure the organization.

It does not appear feasible to discontinue operations of GTPA. There is outstanding debt of $32 million, most of which is held by the State. Another concern is that if GTPA discontinues operations the FAA may require payback of $20.1 million in grants. Now that the funds have been invested it appears that the only option available to the State is to continue supporting the operation and increase efforts to turn it around.

Tenants

Existing GTP tenants are primarily aircraft-related businesses (e.g. flight training, aircraft charter) or state agencies (e.g. Highway Patrol, Forestry, Economic Development). There are few firms engaged in moving, shipping, or receiving air cargo.

Global TransPark tenants include:

- ASA Delta Connection - Commercial jet service
- Aero Contractors - Aircraft charter
- Henley Aviation - Flight Training Center
- Longistics - Foreign-Trade Zone Operator
- MJE Telestructure - Plant infrastructure
- Mountain Air Cargo - Full A&P contract air service
- N.C. Emergency Management - Eastern Branch
- N.C. Forestry Service - Eastern Branch
- N.C. Highway Patrol - Eastern Aviation Unit
- New Breed, Inc. - Logistics and supply chain management
- North Carolina's Eastern Region - Economic development
- Segrave Aviation - FBO, Charter service, trucking
- Workhorse Aviation Manufacturing - Military support plant

Funding

The act creating the North Carolina Global TransPark Authority authorizes the financing of projects that may be available for use by private parties by the issuance of bonds and notes by the

Authority. Under federal tax laws, the general rule is that interest on bonds issued to finance facilities used by private parties will not be tax-exempt. However, there are exceptions to this general tax rule for facilities that qualify as "exempt facilities," such as certain airport facilities, and for manufacturing facilities, if the facilities and their user meet the requirements for "small issue" industrial revenue bonds. The Authority can also issue bonds on a federal taxable interest basis, the interest on which bonds, however, would be exempt from North Carolina income tax.

The Authority may issue bonds and notes ("obligations") (1) to provide airport projects and (2) special user projects. The obligations will constitute special limited obligations of the Authority, payable solely from Authority revenues; income on assets specifically assigned or pledged for the payment thereof; or from the funds, collateral and undertakings of a private party that are assigned or pledged by that party for the payment thereof.

The Global TransPark statute's definition of "airport projects" authorizes the financing by the Authority of land, building and structures at the TransPark, including facilities to be leased to one or more private parties.

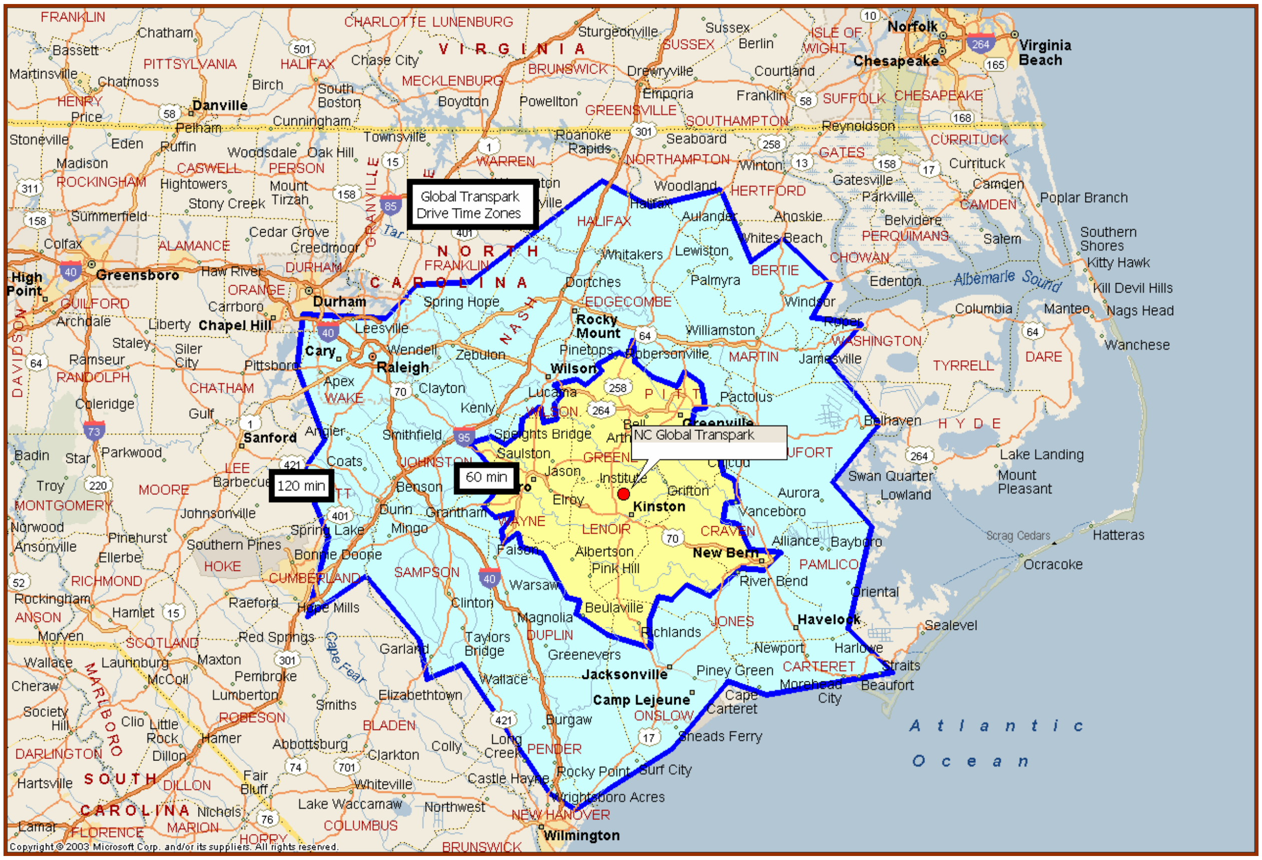
The Act defines special user projects to mean any land, equipment, buildings or other structures located at the TransPark and the addition to or rehabilitation, improvement, renovation or enlargement of an existing structure. The special user project must be used as, or in connection with,:

- (a) an undertaking for industry, including an industrial or manufacturing factory, mill, assembly plant or fabricating plant, a freight terminal, an industrial research, development or laboratory facility, or an industrial processing or distribution facility for industrial or manufactured products; or
- (b) a commercial, processing, mining, transportation, distribution, storage, marine, aviation, or environmental facility or improvement; or
- (c) any combination of the above items.

Lessons Learned

The Global TransPark experience is an excellent example of the importance of location and markets in development of new airport facilities and industrial parks. The region surrounding Kinston does not appear to have enough economic growth to absorb the projected industrial development. There are no major population centers to support the market for a major cargo airport or passenger operations. As a result, the available market served by GTP cannot sustain the size of the facility investment. Exhibit 171 shows the market region through drive-time zones surrounding GTP. Access to markets and interstate highways is not particularly good and does not appear to provide competitive advantage to the Kinston location.

Exhibit 171: Global TransPark Market Reach



GTP is almost totally dependent on the air cargo operation to attract development. Although GTP advertises close proximity to the deep-water ports of Wilmington and Morehead City, these ports are very small niche ports and do not have the import-export container business needed to drive container-oriented distribution. The ports of Norfolk, Charleston and Savannah are the east coast ports that are handling most of the Southeast Atlantic container business. As a result, GTP has no competitive advantage to these ports in attracting Atlantic container cargo.

GTP also makes reference to rail access to CSX and Norfolk Southern. Kinston is not on the main lines of either of these two rail carriers and is very doubtful that GTP will be able to justify development of an intermodal terminal. With no rail intermodal service, the Kinston location suffers another competitive disability for attracting logistics-oriented development.

Although the concept of a global air cargo industrial complex was certainly a creative and forward thinking idea in 1991, it does not appear that the site location selected for GTP had sufficient market and location advantage to support the investment made. This makes it necessary for GTP to rely entirely on its air cargo capability and regional market to provide the needed industrial development. It may only be a matter of time and increased marketing effort to bring GTP to a position of financial self-sufficiency.

NY/NJ Port Inland Distribution Network

Overview

The Comprehensive Port Improvement Plan (CPIP) is a strategic plan for the future development of the Port of New York and New Jersey (PANYNJ). The CPIP evolved from a U.S. Army Corps of Engineers Harbor Navigation Study, completed in December of 1999.

As logistics and distribution activities are a major economic driver of the New York Metropolitan regional economy, the PANYNJ seeks to maintain and expand Port market share in the very competitive Atlantic port marketplace.[ix] Over the past five years for which data is available (2000-2004) the PANYNJ's container business has grown much faster than its major port competitors, Montreal and Norfolk. The ports of Baltimore and Halifax have smaller container operations and are not strong competitors to the Port of New York and New Jersey. The ports in Boston, Wilmington and Philadelphia are considered niche ports with very specialized container operations.

The Port has five major marine container terminals at Newark, Elizabeth, Global Marine (not a PANYNJ terminal), Howland Hook, and Red Hook. Land-side access is critical for future port development. ExpressRail on-dock volume is climbing rapidly from 50,000 annual container lifts 10 years ago to 227,000 lifts last year. About 75% to 80% of all rail business is ExpressRail and rail has steadily gained at the expense of truck. Projected rail growth is 1 million rail lifts by 2020 and 2 million by 2040. The basic reasons for rail growth are increasing demand for rail transport, the PIDN program, overall growth in the port business and rail's increasing role in port growth.

While there are major environmental aspects of CPIP, the major logistics-infrastructure components of the current plan include:

- deepening major shipping channels
- expanding and modernizing cargo handling equipment
- developing inland distribution centers (Inland Ports-PIDN)
- expanding rail infrastructure

The latter two aspects are the subject of this report.

Port Inland Distribution Network (PIDN)

In the study which justified the dredging of New York Harbor to commercially relevant depths, it was recognized that the existing highway infrastructure would not be able to meet the increased demand associated with dredging. Without a shift away from the highway mode, the PANYNJ would not be able to maintain its Atlantic port market share in general and specifically, its share of cargo unloaded at the Port of New York and New Jersey destined to inland markets.

[ix] A January 2006 PA pamphlet reports, "The port directly and indirectly supports 230,000 diverse and highly skilled jobs within the two states of New York and New Jersey and generates $9.4 billion a year in personal income."

PIDN is a program to maximize the productive capacity of the terminals in an environmentally sustainable manner. The PANYNJ developed the PIDN concept two to three years ago. As it considered the flow of container traffic, it saw clusters of inland origins and destinations. A number of clusters were centered around port and freight rail facilities. There are nine locations in six states, well beyond a 25-mile radius (Exhibit 172). Five sites have potential for barge access: Albany, Providence, New Haven or Bridgeport in Connecticut, the Port of Camden, and the Port of Wilmington. Others, including Buffalo, Syracuse and Rochester, are rail destinations. The mode split in 2001 in terms of container transport from and to the terminals was 84% truck, 2% barge and 14% rail. The forecast for 2020 is 57%, 23% and 20%, respectively, truck, rail and barge. Reducing truck VMT and congestion will reduce the need for $300 million in new highway capacity in the region. This program will reduce NOx by 200 tons and fuel consumption by 30 million gallons per year. The Port needs this inland port system since there is not enough land for sufficient terminal expansion. The environmental benefits to the States are substantial since this program will eliminate almost 800,000 truck trips and 50 million vehicular miles by 2020.

Exhibit 172: Port Inland Distribution Network

The PANYNJ would also benefit in that greater use of barges and rail will increase terminal productivity by 20%. It will reduce the time that containers sit on the dock. Containers that will move by barge or rail will sit one to two days vs. five to six days for truck transport. This will result in a deferral of future investments in container terminals, saving $20 million, with increased revenues from existing terminals of $15 million over the next 20 years.

The PANYNJ expresses the PIDN goal as follows:

"The PIDN program aims to lower inland distribution costs; reduce truck trips (vehicle miles traveled); improve air quality; save energy through reduced truck fuel use; increase port throughput capacity and spur economic development at feeder ports and hinterlands by providing new port platforms for value-added warehousing and distribution opportunities."

The Port Inland Distribution Network (PIDN) was therefore conceived to move non-New York metropolitan area freight handled in the Port of New York and New Jersey directly to inland hubs using non-highway modes. Under this plan the non-New York metropolitan area freight would not utilize the local highway network, reserving this capacity for the growth of local highway traffic.

Regional Port-Related Rail Capacity Improvements

The PANYNJ estimates that about 13 percent of its current marine cargo volume is transported off the port by rail. The stated goal is to increase rail handling to as much as 30 percent of the future total cargo volume. A barrier to this growth is that the rail capacity to handle it is limited. To overcome this barrier, the PANYNJ is currently investing $600 million in a comprehensive rail program to increase rail capacity for handling planned growth.

The $600 million rail program is a multi-year effort with the goal of ensuring that each container port in NJ and Staten Island has supporting intermodal rail infrastructure. The projects have included the development of three new intermodal terminals, rail support yards, and rail connectors.

ExpressRail

The initial ExpressRail on-dock intermodal terminal (Exhibit 173) was introduced in 1991. Volume has grown from 35,000 containers in 1991 to 303,000 containers in 2005. This volume increase results in a compounded growth rate of over 16% per year for more than a decade. The PANYNJ is developing an on-dock rail system and intermodal terminals to serve all of the Port's major marine container terminals.

Exhibit 173: PANYNJ ExpressRail Projects

Rail Access

PANYNJ and the major railroads serving the port, CSX and Norfolk Southern (NS), have been investing in increased capacity of the rail network in and around the port (Exhibit 174). Projects include double tracking the lines in New Jersey that access the port. This includes the Lehigh Line to the west and the Chemical Coast Line to the south. Of particular significance is a complex set of projects that add rail capacity in the immediate vicinity of the Port's major container terminals, Port Elizabeth and Port Newark.

Exhibit 174: Regional Rail Projects

The Lehigh Line double-tracking project has encountered significant local opposition. This opposition is difficult to understand because the project is straightforward and has little impact on the community. The line was double-tracked in the past and this project simply returns the line to its original condition. The Lehigh Line is a very active rail line and now is congested to the point that trains back up, creating a nuisance for the neighborhood. This congestion will be eliminated by the double track project. Unfortunately, the project has become a local political issue that, for a time, threatened to stop all New Jersey state rail investment.

Staten Island Railroad

There is a PA/EDC partnership to revitalize freight rail to Staten Island. This effort will involve the construction of a new terminal, with the Arlington Yard providing support facilities. The PANYNJ has acquired the property for the connector to the existing Conrail Chemical Coast line.

New York City Economic Development Corporation (EDC) and PANYNJ are working together to restore rail freight service between Staten Island and connections to CSX and NS rail networks in NJ. The project includes reactivating the Arthur Kill Lift Bridge (longest lift bridge in the world) after being out of service and mothballed for decades. The project will also rebuild the rail infrastructure on Staten Island, and develop an on-dock rail intermodal terminal at Howland Hook.

The new eight-track rail facility at the Elizabeth Marine Terminal opened in October 2004. The new terminal capacity in Elizabeth and Newark filled so rapidly that it overwhelmed the support yard and track capacity. As a result, last year the PANYNJ chose to complete several critical elements of its rail program at the Port Newark and Elizabeth-Port Authority Marine terminals

up to two years sooner than previously projected, satisfying a request made by New Jersey Acting Governor Codey.

The Board previously authorized approximately $310 million for the port rail program. The Board authorized an additional $141 million for the project, which will allow for completion of three new components of the program. They are:

- Final design and construction of a second lead track to ExpressRail Elizabeth;
- Completion of ExpressRail Elizabeth's on-dock rail terminal, which will ultimately have 18 tracks;
- Construction of the ExpressRail Corbin Street rail support facility to provide capacity for staging, arrival and departure of two-mile-long trains, and integrate rail traffic from the three on-dock ExpressRail facilities;
- This work, which will be completed between 2007 and 2009, will complement and support previously authorized projects for on-dock rail terminals at the Howland Hook Container Terminal on Staten Island, Port Newark, and the Elizabeth-Marine Terminal.

Completion of this work will allow approximately 1 million containers a year to be handled by rail through these facilities.

In addition to the Elizabeth rail facility, the PANYNJ is actively working to install a rail terminal at the Howland Hook Marine Terminal, which will open in 2006.

Major rail projects for the PANYNJ include the Elizabeth Corbin Street grade crossing. The PANYNJ is constructing a grade crossing via the McLester Street realignment, compressing the roadway and constructing a rail bridge. The PANYNJ is planning a new ExpressRail facility with five to six times the amount of track, and capacity to handle one million lifts per year. Last fall PANYNJ opened a second dedicated rail terminal for Port Newark. Both of these projects are now completed.

On the New Jersey side the PANYNJ has been meeting with the railroads to increase the use of freight rail. Phase 1 includes a list of improvements to be financed with $25 million from the PANYNJ and $25 million from the railroads. The projects are aimed at furthering competitive rail service to the NY/NJ region. This includes a second track along the Chemical Coast line and a second track along portions of the Lehigh line from Bound Brook to PN/EMT and other major yards in north Jersey. It appears the work is going to move forward, though slower than anticipated.

On the NY side, the PANYNJ's $25 million along with NYSDOT's $15 million are being invested to accommodate heavier cars, improve clearances, and reduce conflicts with passenger rail service.

Lessons Learned

After several years of experience it is clear that some aspects of the PIDN and CPIP have been more successful than others. Demand for increased Atlantic Port capacity in general, and PANYNJ port capacity in particular has continued to be very strong as expected. NS has contin-

ued its rail service to Pittsburg. CSX successfully implemented the rail shuttle to New England over its Worcester, MA, terminal and is planning a new service to Buffalo, NY. The barge service between New York and Boston continues to operate. However, after a multi-year experiment, the initial PIDN barge service to Albany was discontinued after its operating subsidy ran out.

Last year container volume in the Port of New York and New Jersey grew by 7.6% overall and the rail volume, constrained by infrastructure, did not quite keep pace. As a result, a greater share of PANYNJ volume must use highway capacity in 2006 versus 2005.

There appears to be no shortage of unmet demand for increased intermodal rail services operating between the PANYNJ and major inland destinations. The railroads anticipate that as soon as the capacity improvement projects are completed, it will be possible to accommodate another round of growth. Implementing long-term plans takes a long-term perspective. It is clear that in spite of relatively soft rail growth of international containers in 2005, the long-term mode shift strategy is sound. While it is difficult, it appears to be easier to increase rail capacity than to increase highway capacity to service growing freight transportation demand.

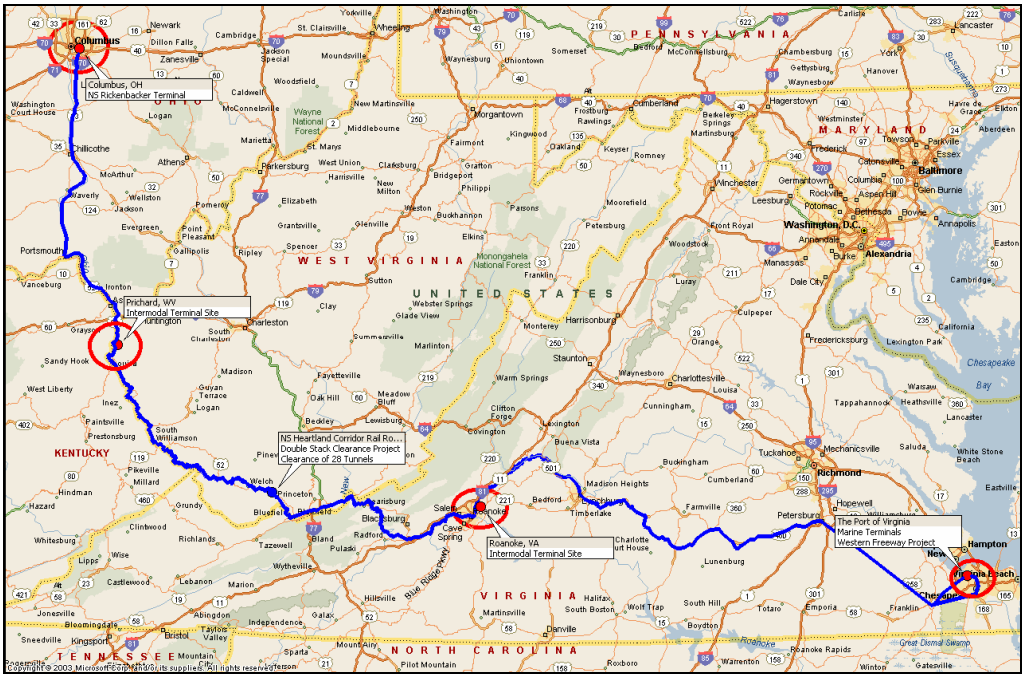
Market and political conditions change and plans need to remain adaptable. At present, it appears that PANYNJ rail solutions are more successful than barge solutions in meeting the infrastructure goals of the CPIP.

Heartland Corridor

Overview

The Heartland Corridor is a series of intermodal projects designed to improve freight mobility and rail intermodal capacity along the Norfolk Southern (NS) rail line between the Port of Virginia and Columbus, Ohio (Exhibit 175). This line serves the marine terminals at Norfolk and Portsmouth and runs through southern Virginia and southern West Virginia to Columbus, Ohio. NS routes continue beyond Columbus to serve other Midwest markets including Chicago and connections with western rail carriers at Chicago. The projects will enable double-stack train operations on the route, improve rail access to developing marine terminals in Portsmouth, and increase intermodal terminal capacity along the route with new terminals in Columbus, Roanoke, Virginia, and Prichard, West Virginia.

Exhibit 175: Heartland Corridor



Heartland Corridor Projects

Two of the largest inland rail intermodal markets for the Port of Virginia are Chicago and Columbus. NS currently operates its doublestack trains to Chicago via a circuitous route through Harrisburg, PA. The present route is 1264 miles while the Heartland corridor route is 1031 miles (Exhibit 176). However, the Heartland corridor route does not have the 20'3" vertical clearance necessary to operate double-stack container trains. There are 28 tunnels between Roanoke and Columbus which require modification to enable double-stack train operations on this route. The project to clear these tunnels is the most significant project of the Heartland Corridor with an estimated cost of $130 million. Once the clearance project has been completed, NS will be able to operate its Norfolk-Chicago double-stack trains on the Heartland Corridor route. This will save 233 miles relative to the route over Harrisburg and improve transit time to Chicago by about one day. Since Columbus will be on the route of the Chicago trains, double-stack service to Columbus will be significantly improved as well.

Exhibit 176: Heartland Corridor Projects

Portsmouth Rail Project

There are two new marine terminals being developed in Portsmouth. The first is being developed by APM Terminals, a subsidiary of AP Moller Company which owns Maersk SeaLand. The APM terminal is under construction and is scheduled to begin operation in 2007. The second marine terminal is being developed by the Virginia Port Authority on Craney Island just north of the APM terminal. The Craney Island terminal is planned to begin operation in 2017. Both of these terminals will be served by the Commonwealth Railway, a short line that operates from Suffolk to Portsmouth. The Commonwealth Railway will connect with NS and CSX at Suffolk to bring NS and CSX container trains to the APM and Craney Island marine terminals. On its existing route, the Commonwealth Railway must operate its trains through the cities of Chesapeake and Portsmouth to reach the APM terminal and future Craney Island terminal. This route passes through 14 at-grade street crossings creating the potential for significant conflict with local street traffic as train operations increase to serve the marine terminals.

Exhibit 177: Portsmouth Rail Projects

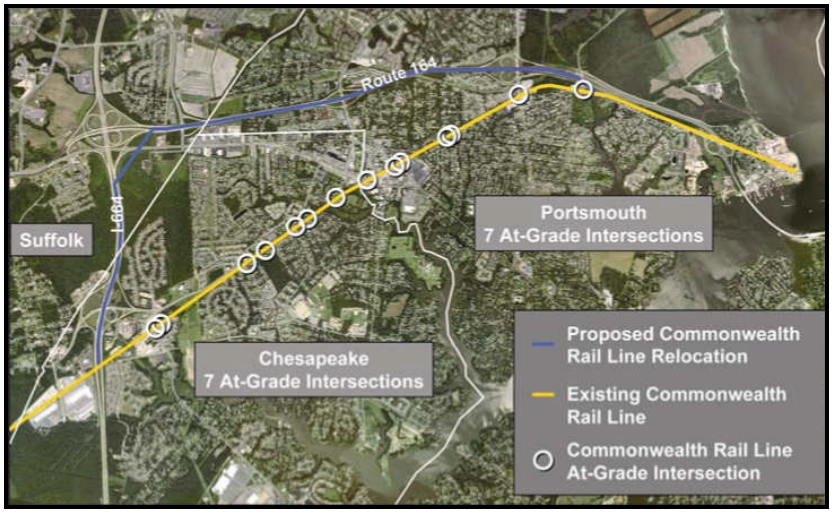
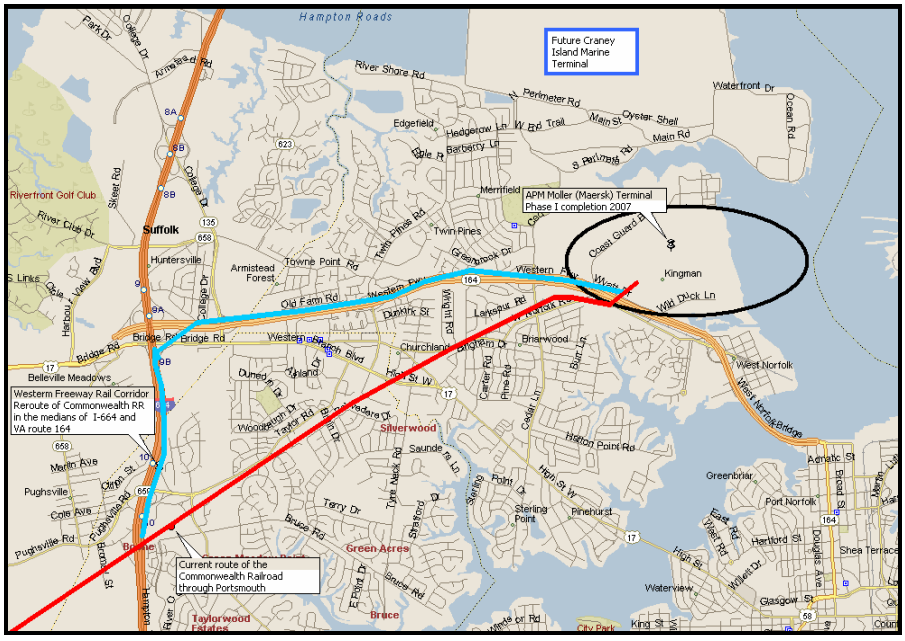


Exhibit 178: Western Freeway Rail Corridor



The Western Freeway Rail Corridor project (Exhibit 178) will relocate the Commonwealth Railway line to the median of highway routes I-664 and Route 164 eliminating the at-grade rail crossings. This will improve the safety of the rail operation and enable faster train speeds for rail service to the marine terminals. The Rail Corridor was planned in the 1980's when Route 164 was built. All of the bridges that cross Route 164 were built to accommodate two rail lines with sufficient clearance to allow double stack train operations. The Western Freeway project is estimated to cost $60 million.

Columbus Terminal Expansion

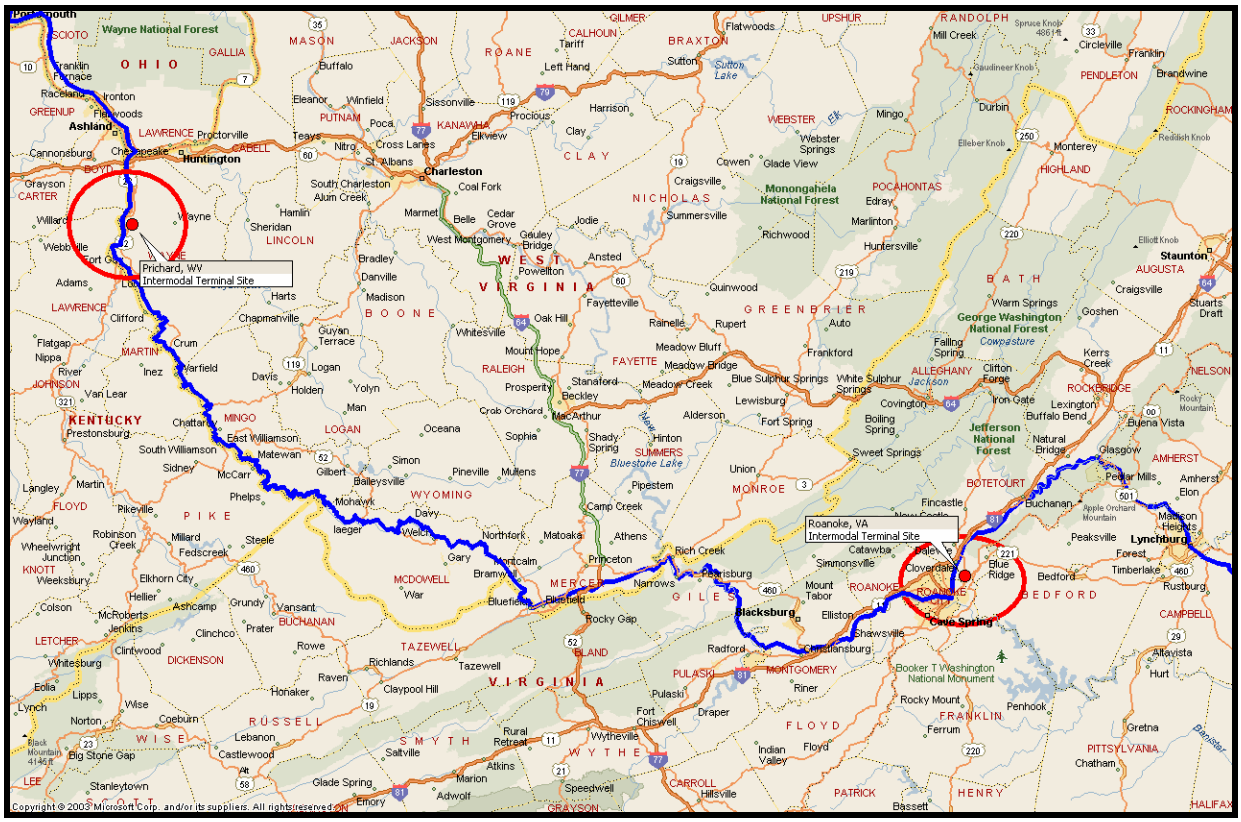
The present NS terminal at Columbus, Discovery Park, is currently operating well beyond its design capacity of 125,000 lifts. Columbus is a growing logistics and distribution hub driving the need for additional terminal capacity. An NS forecast projects over 240,000 lifts by 2015. NS has been working with the Columbus Regional Airport Authority (CRAA) to build a new intermodal terminal on a site of 275 to 300 acres located adjacent to the Rickenbacker Airport.

The initial capacity of this facility will be 250,000 lifts with the ability to expand to 400,000 lifts. This project is a part of the Heartland Corridor and is estimated to cost about $60 million. The NS terminal will be an attractive feature of the adjacent Rickenbacker Industrial Park where 1000 acres of additional development are being planned.

Roanoke, VA and Prichard, WV Intermodal Terminals:

Once the rail lines are cleared for double-stack train operations and NS is operating trains to Columbus and Chicago on the Heartland Corridor, the regions of Virginia and West Virginia can be opened to intermodal rail service. New intermodal terminals will be required for this service. The base load volume density needed to establish regular intermodal service will initially come from the Port of Virginia, Columbus and Chicago markets enabling the smaller markets at Roanoke and Prichard to included in the NS service with much less volume. Small intermodal terminals have been planned at Roanoke and Prichard as a part of the Heartland Corridor (Exhibit 179). The terminal at Roanoke will connect I-81 and I-64 to the Heartland Corridor. The terminals at Roanoke and Prichard will give the Roanoke Valley region of southeastern Virginia, and southwest West Virginia rail access to the Port of Virginia, Chicago and western markets over Chicago. The initial terminals are expected to be able to handle 15,000 to 20,000 lifts. The estimated cost of each terminal is about $8 million.

Exhibit 179: Roanoke and Prichard Terminals



Funding

The Heartland Corridor projects are estimated to cost $266 million and take five years to complete. Over $200 million of this amount will be for clearance projects and intermodal terminals on NS, which is more than can be justified based on private sector benefits alone.

While the Heartland Corridor Project will provide benefits to a broad spectrum of public and private stakeholders, it appears that the primary beneficiaries will be NS and the Port of Virginia. A cleared route from Norfolk to Columbus will improve the NS competitive position to Midwest markets and western markets over Chicago. The Port of Virginia will benefit by having improved double-stack rail access to its major interior markets. As Asian container imports continue to grow, ocean carriers are moving more cargo via all water services to the east coast, creating growth opportunities for east coast ports. The Port of Virginia, with its deep-water channels, its new APM marine terminal and long-term plan for marine terminal capacity at Craney Island is well positioned to take advantage of this growth opportunity. The improved rail access provided by the Heartland Corridor will provide strategic advantage for the Port as it competes for Midwest cargo.

As the key beneficiaries of the Heartland Corridor, NS and the Port of Virginia worked very closely together to develop support for public funding for these projects. NS and the Port of Virginia have a long-standing relationship in development of intermodal services for the Port. As a result of their work, local and congressional support from all three states was developed enabling

$143 million in federal funding earmarks in the federal transportation bill which passed in July, 2005. Exhibit 180 is a summary of project funding.

Exhibit 180: Heartland Corridor Funding

Project	Total Cost	Federal Funding	NS/State/Local funding
Double Stack Clearances	$130M	$95M	$35M
Intermodal Terminals	$76M	$33M	$43M
Western Freeway	$60M	$15M	$45M
Total	$266M	$143M	$128M

Securing the federal funding was a major accomplishment and excellent example of private public partnership in the development of a major transportation initiative. It is very likely that without federal support the key clearance and terminal projects would not go forward.

North American Inland Ports Network (NAIPN)

Overview

North American Inland Port Network (NAIPN) is a sub-committee of the North America's SuperCorridor Coalition (NASCO). North America's SuperCorridor Coalition, Inc., is a non-profit trade organization based in Dallas, Texas. It is a multi-national advocacy and lobbying group with the goal of promoting trade along a north-south corridor from Winnipeg to Mexico City via Kansas City and Dallas (Exhibit 181).

Exhibit 181: North America SuperCorridor

Key members of the NAIPN include:

- Hillwood's Alliance, Texas development
- KC SmartPort, an advocacy and lobbying organization that promotes the logistics industry in Kansas City including the proposed logistics park at Richards-Gebaur.
- The Port Authority of San Antonio's business park at Kelly Air Force Base, TX.
- Winnipeg Inland Port, a Manitoba group organized on the KC SmartPort model.

NAIPN advocates the interests of Inland Ports along the International Mid-Continent Trade and Transportation Corridor (IMCTTC).

NAPIN uses a University of Texas definition of an inland port as follows: "An Inland Port is a site located away from traditional land, air and coastal borders with the vision to facilitate and process international trade through strategic investment in multi-modal transportation assets and by promoting value-added services as goods move through the supply chain."

The definition lends the University's name and an element of credibility that supports NAPIN's simple, direct and totally understandable goal of promotion of public and private investment in this trade lane.

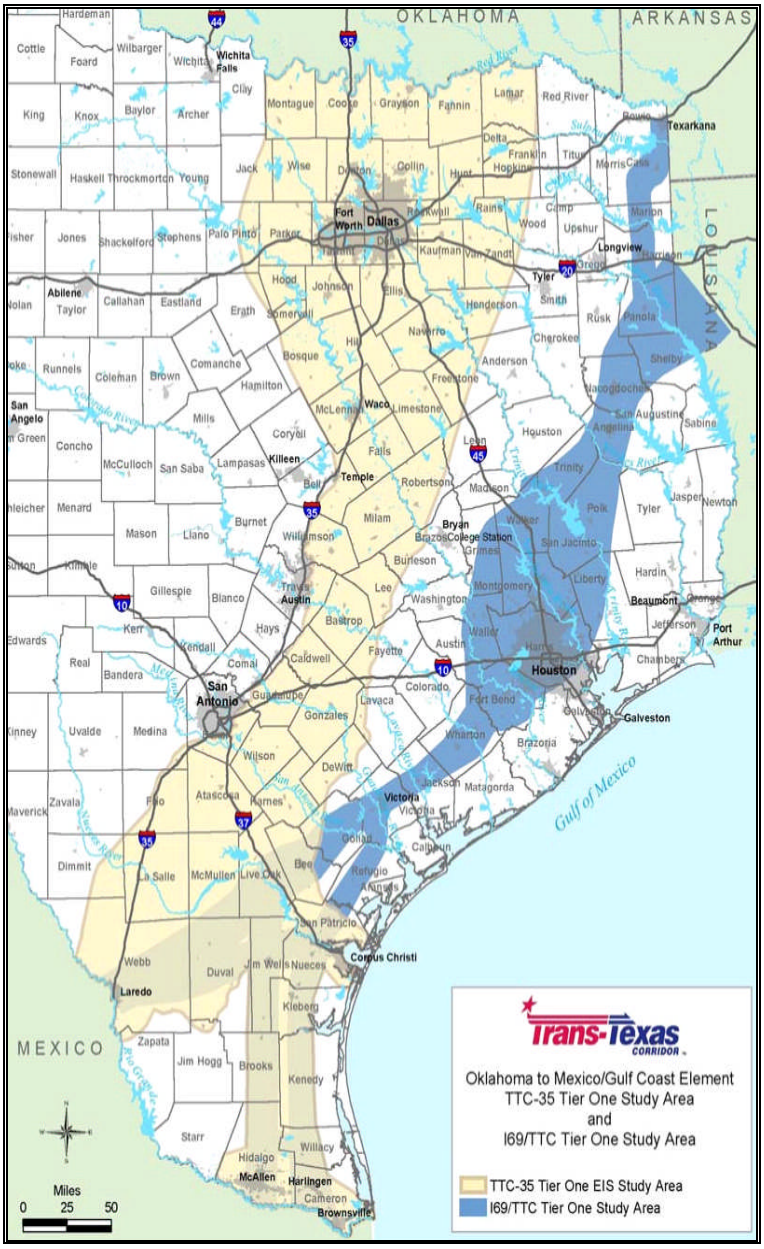
NAPIN and Texas DOT's privatized TransTexas Corridor

Apart from the University of Texas inland port definition there is some synergy between Super-Corridor activities and the Texas DOT in the promotion of the Trans-Texas Corridor. Texas's largest trading partner is Mexico and the congested I-35 corridor is the key trade route. The TransTexas Corridor (Exhibit 182) is a planned 50 year transportation infrastructure improvement program with the following features:

- separate lanes for passenger vehicles and large trucks
- freight railways
- high-speed commuter railways
- infrastructure for utilities including water lines, oil and gas pipelines, and transmission lines for electricity, broadband and other telecommunications services

Plans call for TxDOT to oversee planning, construction and ongoing maintenance, with private vendors responsible for daily operations.

Exhibit 182: Trans-Texas Corridor



Albany, NY Barge Service

Overview

The Albany barge service was an initiative to move containers on barges from the Port of New York and New Jersey to the inland river Port of Albany.

Exhibit 183: Albany Express Barge

The Port of Albany carried out the market analysis and a financial pro forma was developed. Albany had to ensure that the necessary infrastructure and security systems would be in place before PANYNJ would agree to participate. Albany also had to guarantee funding for two years. PANYNJ put up $6 million to initiate barge services for five locations, one of which was Albany. For each feeder port, the PANYNJ would contribute $25 per container that moves by barge up to 40,000 containers. Later on the feeder ports would pay the PANYNJ $5 per container in excess of 25,000 containers transported in any calendar year. The PANYNJ provided $200,000 per inland port for marketing and start-up services. PANYNJ had CMAQ funds totaling $3.3 million for the Port of Albany for the first two years of service.

Parties and Roles

This project was an element of the Port Authority of New York and New Jersey's (PA) Port Inland Distribution Network (PIDN). The project was a two-year demonstration underwritten by the Port of Albany, Port Authority of New York and New Jersey, State of New York, and the Federal Government. The service was recently terminated as the funding which supported the operation was not renewed. The operator of the barge was Columbia Coastal, an east coast ocean barge operator.

Service

The service operated from Port Elizabeth, NJ to Albany, NY, approximately 140 miles up the Hudson River. The initiative provided a second day service twice a week between federal ma-

rine terminals in Albany and marine terminals in the Port of New York and New Jersey. The barge competed with motor carriers using the parallel interstate highway, I-87.

Exhibit 184: Albany Barge Location

Lessons learned

The initial expectation was that ocean carriers and terminal operators would realize the economic and operational benefits of utilizing/supporting the barge service and its "free empty depot" in Albany. Ample opportunities were expected to match export loads with empty containers. Service could be priced competitively with trucks. Costs to provide service would be high but manageable. Growth would be steady and annual deficits would decline. A long-term source of operating assistance would be secured.

The actual operating experience was a much lower total volume and slower than anticipated growth. Total volume reached 540 loads and empties in mid 2004. All the loads were returned empty and little or no use was made of the Albany empty depot. Transportation costs were 50% - 75% greater than planned, primarily due to fuel surcharges. Unit stevedoring costs were 30% greater than planned due to low volumes and high premium payments for labor. Competitive motor carrier prices declined more than anticipated, putting additional financial pressure on the service.

While all of these reasons were important another major problem was the inability to attract major shippers and ocean carriers due to uncertainty of the barge's future. Shippers were unwilling to abandon suppliers unless the service was certain to be available for the long term. The critical nature of making a long term commitment is the same lesson identified by the Virginia Port Authority in the context of the Virginia Inland Port.

Beyond this the PANYNJ has identified the following lessons for PIDN Program:

- A significantly better understanding of program elements is necessary for success.
- Each service location has unique challenges and opportunities which should be well understood.
- The public policy objectives served by PIDN will become more pronounced over time.

- Re-activation of the Albany barge service could be warranted if long-term funding materializes or the business environment changes.

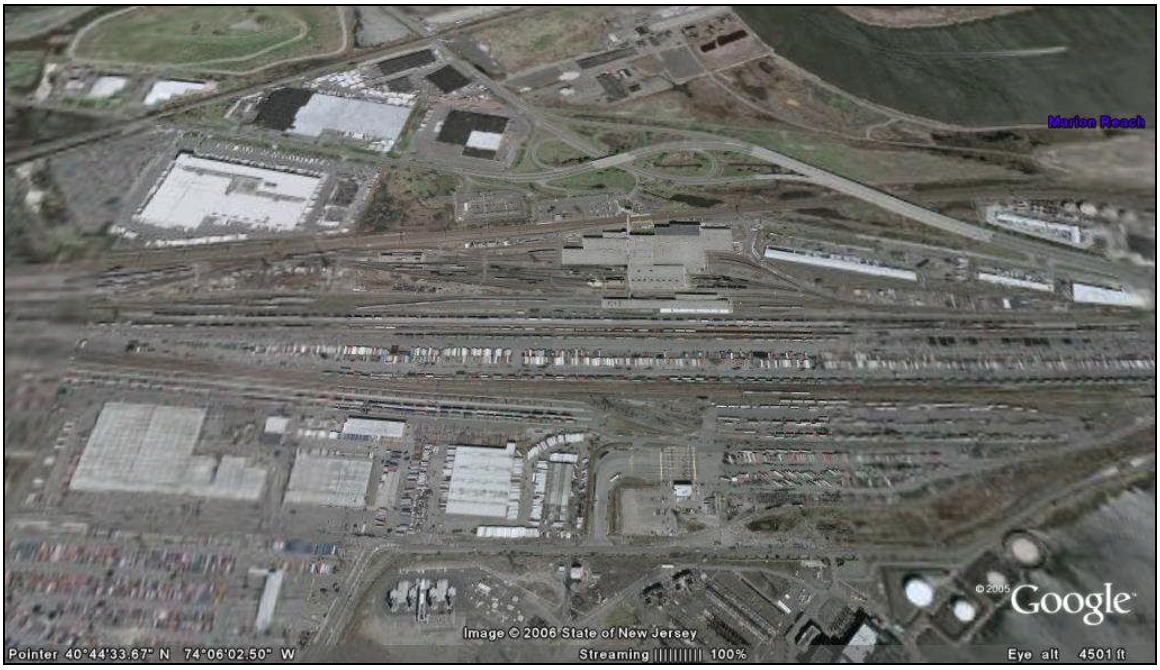
Worcester-Kearny Rail Shuttle

Overview

CSX Intermodal (CSXI) offers an intermodal service for marine containers moving between the Port of New York and New Jersey (PANYNJ) and New England markets. The rail service operates between CSXI's terminal in South Kearny, NJ and StackBridge, a privately owned terminal in Worcester, MA on the Providence and Worcester Railroad (P&W).

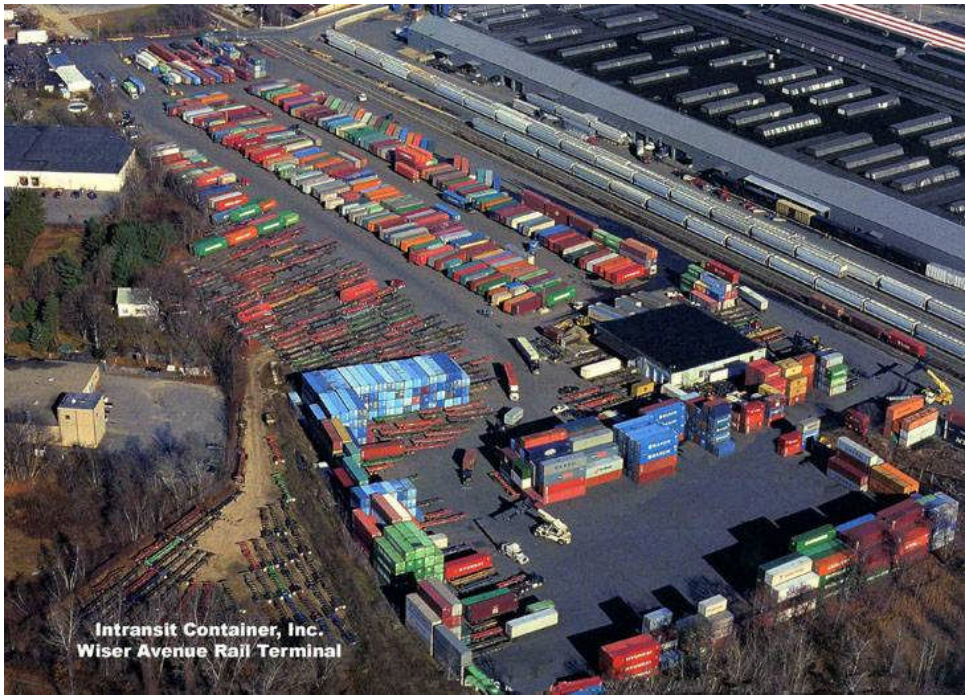
CSXI offers the transportation service to marine carriers. CSXI provides the train service and rail cars and the terminal at South Kearny (Exhibit 185). South Kearny is a former Conrail terminal that is now served by CSX and operated by CSXI.

Exhibit 185: South Kearny Terminal



The terminal in New England (Exhibit 186) is owned and operated by Intransit Container, Inc. (ICI), functioning as CSXI's terminal operator in Worcester. The primary function of these facilities is to receive Pacific Rim land bridge cargo moving via CSXI line haul rail service. ICI provides full marine container depot services and, through a subsidiary, provides nearby warehouse space and trucking service.

Exhibit 186: Intransit Container Terminal

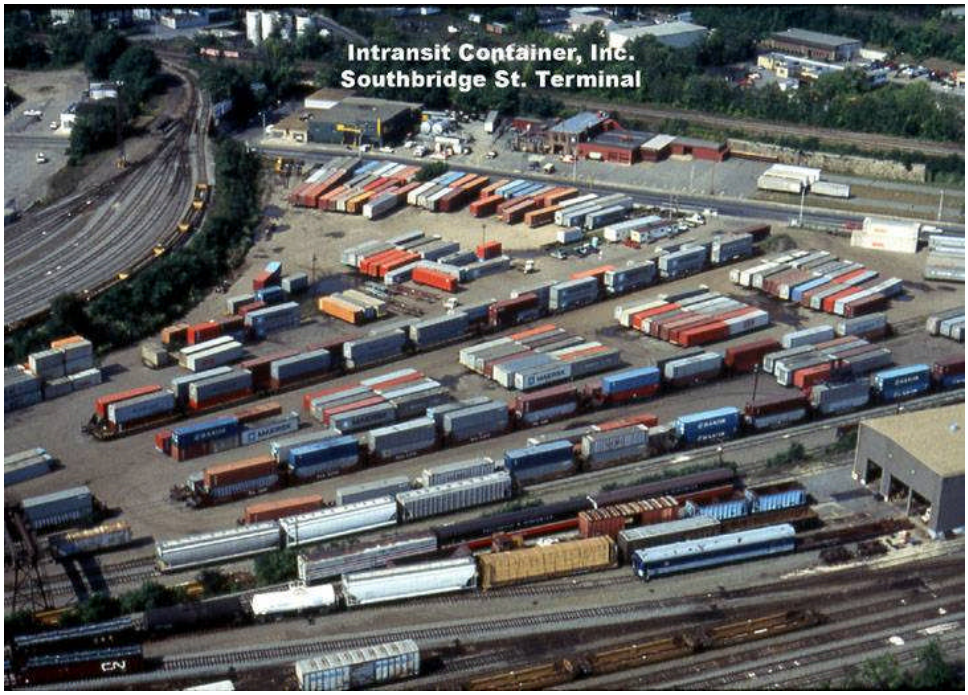


The marine carriers are the customers of CSXI and ICI. The cargo largely remains in bond and clears Customs in MA. Some of the cargo moves on a marine bill of lading to Boston.

Notwithstanding the fact that this is a private sector transportation solution, the Port Authority of New York and New Jersey feature this service as a part of their Port Inland Distribution Network (PIDN).

Stackbridge (Exhibit 187) is located on the P&W railroad, a New England regional rail carrier which connects with CSX Transportation (CSX) at Worcester. The P&W interchanges cars and switches the Stackbridge terminal.

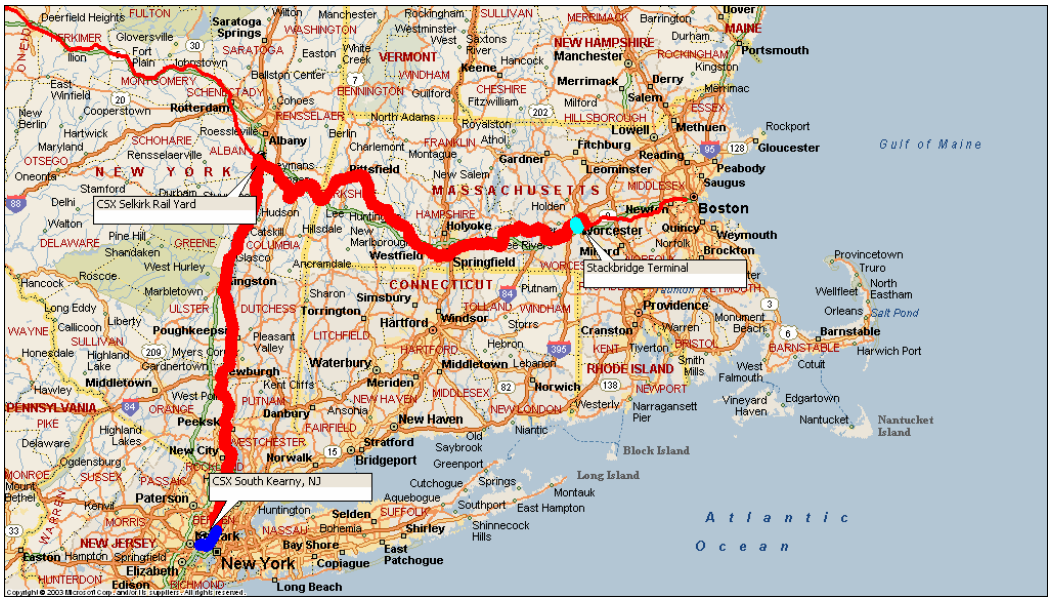
Exhibit 187: Stackbridge Intermodal Terminal



Service

South Kearny is located approximately 5 miles from the main container terminals in the Port of New York and New Jersey. Stackbridge is located 35–40 miles from downtown Boston and is well located to serve the New England market. Worcester is approximately 160 miles from South Kearny (Exhibit 188).

Exhibit 188: Rail Shuttle Route



Containers are drayed between PANYNJ marine terminals and South Kearny Intermodal Terminal. The cargo is moved in a block of cars added to westbound trains moving between Northern

New Jersey and Selkirk (Albany), NY. The block is picked up by eastbound land bridge trains destined for Stackbridge and the Boston market. The cut off time at South Kearny is 1300 hrs. Monday, Tuesday and Thursday. Containers are available at StackBridge by 1500 hrs. the following day. The cargo is then drayed to destinations in New England.

The process is reversed to move containers from New England to PANYNJ. On the reverse move the cut time off is 1700 hrs. daily with availability at South Kearny at 0200 hrs. Thursday thru Monday. The minimum scheduled transit time is 57 hours; Saturday, Sunday and Monday departures are available Thursday morning, and Tuesday's departure is available early Friday morning.

Competition

The cargo could move by barge between PANYNJ and Boston or by motor carrier between PANYNJ and final destination.

Success Factors

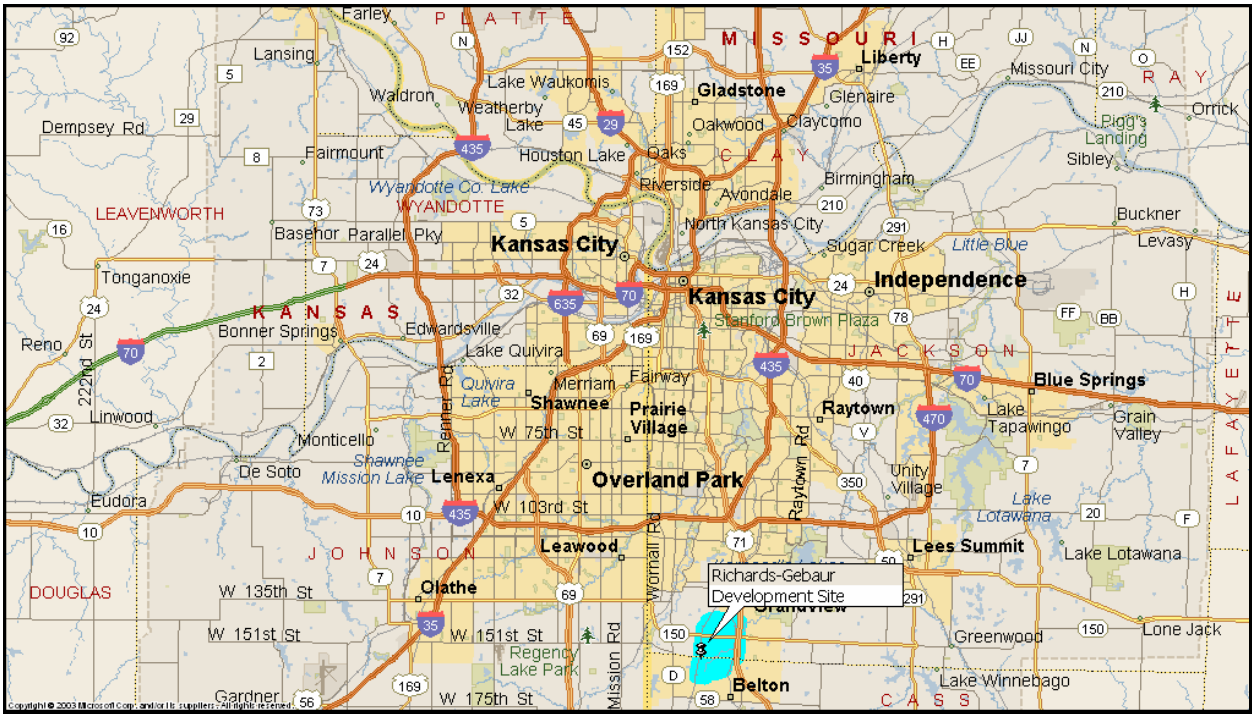
The highways in the region I-84, I-91, and I-95 are highly congested and truck costs are relatively high. The barge service is weekly, limiting departure flexibility and transit time. In addition the Boston port location may result in increased drayage cost to many MA and RI customer locations. A key driver of the rail economics is the availability of existing train capacity enabling CSXI to view the business as incremental to existing trains. If there were no train capacity it is doubtful that this short haul business could justify new dedicated train starts.

Richards-Gebaur ITC development

Overview

Richards-Gebaur (Exhibit 189) was operated as an Army Air Force, Air Force, and Air Force Reserve base from 1941–1994. In 1976, the Air Force converted the base to reserve status and declared approximately 1,362 acres surplus. In August 1985, the property was given back to Kansas City, to be used as a public airport. Between 1986 and 1994, approximately $12.2 million in federal airport development funds were obtained for airport improvements. This funding was subject to the city's agreement that the airport would be available to the public for aeronautical use.

Exhibit 189: Richards-Gebaur Redevelopment Site



The airport consistently lost money on its air operations and was projected to continue to loose more than $1.5 million annually. In 1997, the city identified an opportunity to redevelop the airport land into an intermodal rail-truck freight distribution center and industrial park. To enable this redevelopment, Kansas City submitted an application to the FAA requesting permission to close the airport and be released from its previous federal aviation obligations and commitments. The next five years were spent in a series of court battles that were resolved in favor of the logistics redevelopment. Following this litigation, the Port Authority of Kansas City was charged with economic development of the former Air Force Base with the objective of creating an international trade-processing center.

In 2004, the Port Authority selected CenterPoint Properties to plan and manage the redevelopment project. CenterPoint is a major industrial real estate developer, headquartered in Chicago, with considerable experience in logistics park development. The Port Authority plan provides

for sale of the property to the master developer for diverse industrial uses, including distribution, light manufacturing and warehousing.

Services

The Kansas City Port Authority expects the Richards-Gebaur development to capitalize on Kansas City's position as the second largest rail hub and the third largest trucking hub in the country. In addition, Kansas City has more Foreign Trade Zone space than any other American city strengthening its position to compete for international trade. Kansas City is also well positioned for NAFTA trade having entered into agreements with Mexican and Canadian officials to take advantage of the major international North to South I-29 and I-35 trade corridors.

The Kansas Southern Railway (KCS) is expected to serve an intermodal terminal that will be built and financed by CenterPoint as a part of the development. This project will be similar in concept but somewhat smaller than the Joliet Arsenal redevelopment. The KCS has been pursuing business strategies seeking to capitalize on the synergies between the carrier's service area and NAFTA. In 2005, following a series of very complex international transactions, KCS acquired the controlling interest in TFM, the railway serving the key Mexico City-Laredo corridor. KCS, with its TFM acquisition, now provides single line service between Kansas City and Mexico City. In addition, KCS has developed a marketing alliance with the Canadian National railroad creating interline service routes to Canadian markets. These actions have positioned KCS to take advantage of the expected future growth of NAFTA trade.

ITPC Concept

Richards-Gebaur is being labeled an "International Freight Gateway" and positioned as the hub of an "Inland Trade Processing Center" or ITPC. ITPCs are intended by Customs to relieve pressure on congested border crossings and ports. It is unclear, however, whether an ITPC would serve as an effective anchor or attraction for logistics-based business development.

Project Status

CenterPoint does not yet have control of the Air Force Base property and it is actively engaged in resolving the administrative issues related to transfer of the property from the U.S. Government. These issues should be resolved in 2006 with groundbreaking expected in 2007.

Lessons Learned

Despite the best efforts of many willing partners working toward development of a logistics business park, this project has still taken more than a decade of effort, and groundbreaking has yet to occur. In many, if not most cases, the length of time required to resolve property acquisition, environmental, political and financing issues requires patience and staying power to finalize this type of development. Beyond the cost of the lost opportunities there is the general concern (perhaps not in this specific case) that by the time such a facility is finally built the market will have shifted resulting in significant loss of potential opportunity. A key lesson is that the developer and development authority must have political support, a significant commitment and staying power to drive the project to conclusion.

Port of Battle Creek, MI

Overview

Fort Custer Industrial Park is the largest modern industrial park in Michigan. In 1972, Battle Creek Unlimited, Inc. was created as a private, nonprofit organization to conduct economic development activities for the city of Battle Creek. Owned by the City of Battle Creek, the planned industrial complex now is home to more than 90 companies.

The U.S. Customs Port of Battle Creek and Foreign Trade Zone #43 serves Southwest Michigan from a central location in Fort Custer Industrial Park.

Battle Creek Unlimited (BCU), with a total staff of 15 people, is a private, nonprofit corporation under contract with the City of Battle Creek for economic development activities. The efforts of BCU are focused primarily in Fort Custer Industrial Park, the downtown central business district, and W.K. Kellogg Airport.

- Site location assistance in Fort Custer Industrial Park, the downtown central business district including Renaissance Zone sites, the Aviation and e-Learning Smart Zone of Battle Creek, and W.K. Kellogg Airport
- Employee selection and training for new companies locating in Battle Creek
- Gap financing and equity investment
- Tax incentive assistance
- Project management before, during and after site selection

The City of Battle Creek has the flexibility to grant tax abatements. If a tax abatement is approved by the City of Battle Creek (with concurrence of the State Tax Commission), the majority of local property tax can be cut in half for up to 12 years. A tax abatement allows 50% reduction of local taxes assessed on the building and equipment.

BC/CAL/KAL Inland Port Development Corporation

The private, nonprofit organization that administers Foreign Trade Zone #43, and markets the inland port of entry in Battle Creek, is BC/CAL/KAL Inland Port Development Corporation. The primary activity of the Inland Port Development Corporation is promotion and management of the FTZ and associated sub-zones to the benefit of regional employers.

The U.S. Customs Port of Battle Creek is an inland port of entry. The U.S. Customs Port of Battle Creek is adjacent to W.K. Kellogg Airport, allowing for convenient clearances of aircraft arriving from international points of departure. The Port of Battle Creek is centrally located in the 3,000-acre Fort Custer Industrial Park, providing a convenient terminal to companies in the largest modern industrial park in Michigan. Located midway between Detroit and Chicago along the I-94 corridor, the U.S. Customs Port of Battle Creek has twenty-five years of service to the Southwest Michigan region. Two full-time U.S. Customs Service personnel serve the port of entry and W.K. Kellogg Airport.

Kingman International Trade Processing Center

Overview

The proposed Kingman International Trade Processing Center (ITPC) would include:

- A "major intermodal center"
- In-bond processing of rail and truck cargoes from West Coast ports, Canada, and Mexico
- Direct shipment and US/Mexican/Canadian Customs processing of rail/truck/air cargoes for forward distribution .

Despite the volume of rail and truck traffic passing through or near Kingman, it is unclear how such a facility might add value. Much of the discussion to date has focused on technologies such as RFID, GPS, and CVS/IVO, but these technology discussions have apparently not yet been translated into a value proposition for potential tenants or customers.

Exhibit 190: Kingman AZ Site

Through Cargo vs. Market Potential

Project backers have used maps such as that shown in Exhibit 191 and the data in Exhibit 192 to demonstrate that Kingman sits astride a major trade corridor. The volume of cargo passing through Kingman is undeniably very large. All imports moving form LA/LB through Kingman, however, have either cleared Customs already or are traveling in-bond to destination and have no need of "trade processing" in Kingman.

Exhibit 191: Trade Volume Map

Exhibit 192: LA/LB Port Rail Data

Alameda Corridor East Daily Rail Forecast

Alameda Corridor Daily Rail Traffic

YEAR	2003	2010	2025
Passenger	0	0	0
Freight	35	67	137
Total	35	67	137

BNSF Mainline East Daily Rail Traffic

YEAR	2003	2010	2025
Passenger	17	38	62
Freight	57	82	121
Total	74	120	183

UP Mainlines Daily Rail Traffic

YEAR	2003	2010	2025
Passenger	14	26	44
Freight	55	78	117
Total	69	104	161

Los-San Corridor Daily Rail Traffic

YEAR	2003	2010	2025
Passenger	55	69	100
Freight	5	6	9
Total	60	75	109

BNSF Mainline West Daily Rail Traffic

YEAR	2003	2010	2025
Passenger	46	76	106
Freight	50	74	112
Total	96	150	218

Joint UP & BNSF Daily Rail Traffic

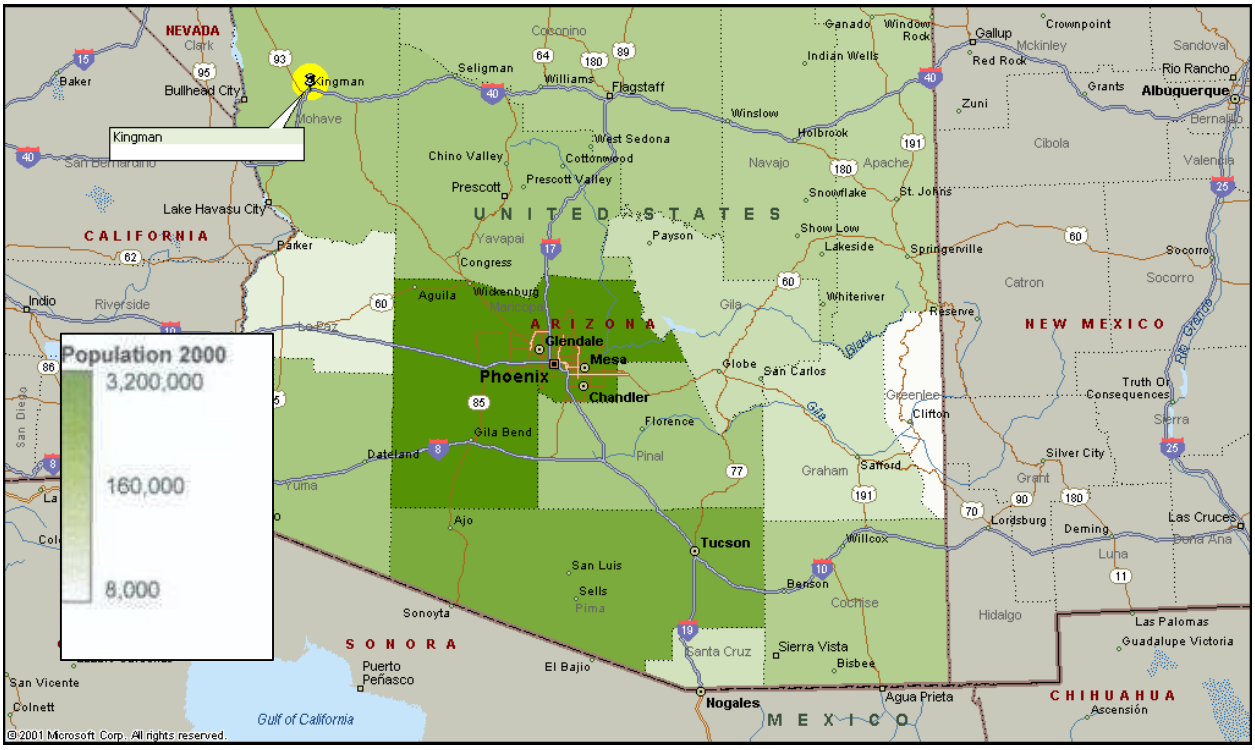
YEAR	2003	2010	2025
Passenger	11	24	36
Freight	92	96	138
Total	103	120	174

Additional examples of points made in Kingman's favor include:

- *"Of the top ten intermodal trucking facilities in Arizona* [presumably LTL terminals as well as rail intermodal ramps], *none are in Kingman.*
- *Kingman lies astride the N-S Canamex I-93 corridor, but economic focus is biased toward Phoenix/Tucson.*
- *The only major Arizona cargo airports are in Tucson and Phoenix"*

Although the Kingman promoters view these points as indications of an untapped potential, they might more pragmatically be viewed as evidence that little if any market exists for a Kingman facility. As Exhibit 193 indicates, Kingman is isolated from the major population centers of Arizona and California. There are no major cities within 100 miles of Kingman.

Exhibit 193: Arizona Population by County



Outlook

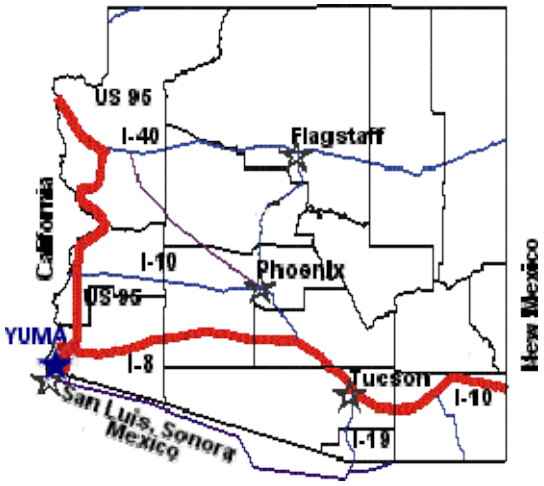
Advocates of the Kingman concept noted in one presentation that the project needed "economic foundation and commercial infrastructure compatible with anticipated growth". Those resources have not been forthcoming to date. City officials met with BNSF in early 2006, but no additional announcements have been made.

Greater Yuma Port Authority

Overview

The Yuma area is trying to build a new expanded port of entry on the border for truck traffic between Mexico and the U.S. The Greater Yuma Port Authority (GYPA) is the lead agency for building and planning a commercial border crossing just south of Yuma and east of San Luis (Exhibit 194). GYPA was established in 2000. GYPA used grant money to purchase 400 acres of land. The emphasis is on "trade processing". It is not clear whether there is any real market or opportunity to add value.

Exhibit 194: Yuma Project Site



The San Luis II commercial port-of-entry would enable trucks to cross easily at either Nogales or San Luis. The GYPA will develop a gateway for global trade and facilitate, promote, and support multi-modal transportation and trade opportunities to enhance economic development in the Greater Yuma area.

GYPA received a State grant to develop a Master Plan, including a Site Plan, a Utilities Plan, and a Facilities Plan. GYPA completed a Feasibility Study for a Commercial Port of Entry with a major portion of grant money coming from the state and other funding from GSA. GSA also funded a feasibility study for the present POE in San Luis. Other projects were slated for funding in FY06.

The border crossing at San Luis has become congested, and the plan is to shift the commercial vehicle (truck) crossing to an undeveloped area five miles east of San Luis.

Governance

GYPA is a non-profit regional government corporation with an 11-member executive board and an 11-member technical advisory committee. GYPA's government members are Yuma County, the City of San Luis, the City of Yuma, and the Cocopah Indian Tribe.

Services

The project area already has an industrial park and a foreign trade zone.

The project appears to anticipate that a new commercial point-of-entry would serve as a catalyst for business and industrial development. Studies to date, however, appear to have focused on facilities for the POE rather than on the market for new business development.

KC SmartPort

Overview

KC SmartPort is an economic development initiative designed to promote Kansas City as a logistics hub (separate from the KC Port Authority). Kansas City SmartPort is not an inland port facility, but rather an organization formed to promote and enhance the Kansas City metro area's status as "America's Inland Port Solution". KC SmartPort was created in June 2001 to combine a number of previous uncoordinated efforts.

SmartPort has two main focuses in its mission.

- To grow the area's transportation industry by attracting businesses with significant transportation and logistics elements;
- To make it cheaper, faster, more efficient, and secure for companies to move goods into, from, and through the Kansas City area.

SmartPort has also been defined to serve as an umbrella over Richards-Gebaur (separate case study) and FTZ space at the airport and elsewhere.

KC SmartPort received $500,000 in federal funding for 2003 and $750,000 for 2004 through the efforts of Congressman Graves. The funds were to be used for pilot projects rather than for facilities development. The focus has been tests of wireless and RFID data systems.

SmartPort has had significant success in attracting businesses to Kansas City, specifically new DCs for New Holland and Musician's Friend.

Appendix B: Preliminary Analysis of Innovative Container Transport Systems

Background

Movement of marine containers between marine ports and nearby inland sites is widely recognized as a potential problem. Multiple authors have cited growing highway and rail congestion in Southern California as a preamble to proposed solutions. The efficiency and capacity of the transportation linkage to the seaport is a critical factor in the feasibility of an inland port, so the project team reviewed several innovative linkage proposals.

These technology descriptions are based on materials and documents available in mid-2006. Many of these concepts have evolved since 2006, and this information is being updated in other studies now in progress (as of June 2008).

Proposed Container Transport Systems

The Study Team has identified several marine container transport systems proposed for application to Southern California ports. More proposals may exist, but are likely to be variations on those listed below.

Linear Induction Motor Systems

Liner induction motor (LIM) systems typically use a girder-like monorail to support or suspend a container-carrying vehicle. Linear induction motors use electromagnetic force to produce linear mechanical force, rather than torque as in typical rotary electric motors. Vehicles that use linear induction motors can have contact with the guideway through the wheels (they may also levitate on the cushion of air between magnets mounted on the guideway and others on the vehicle, often referred to as "magnetic levitation" or "maglev" technology). LIM allows for a very simple electric propulsion system with few moving parts.

Freight Shuttle. One LIM concept, called the *"Freight Shuttle"*[10], consists of an automated vehicle, a specially designed guideway, a linear induction propulsion system, and a control system (Exhibit 195). This system, like all the others discussed here, is envisioned as fully automated and unmanned, shifting the complexity to the central control system.

[10] *The Freight Shuttle: The Crisis in Freight Transportation and The Opportunity for a Green Alternative*, Stephen S. Roop, Ph.D., Texas Transportation Institute, Texas A&M University, 2006

Exhibit 195: Freight Shuttle LIM System

Note that Exhibit 195 shows the Freight Shuttle guideway at ground level in the marine or inland terminal. Fixed girder-like guideways have the disadvantage of presenting a barrier to terminal circulation.

The Freight Shuttle concept requires an exclusive, grade-separated right-of-way as it is not compatible with other systems or with driver-guided vehicles. Exhibit 196 shows the Freight Shuttle in a freeway median, a common concept for fixed-guideway systems. Exhibit 195 shows the floor of the Freight Shuttle vehicle to be approximately the same height as a container chassis. If so, it should fit under freeway and surface overpasses.

Exhibit 196: Freight Shuttle in Freeway Median

The Freight Shuttle is envisioned as running in a loop between a marine terminal and an inland terminal.

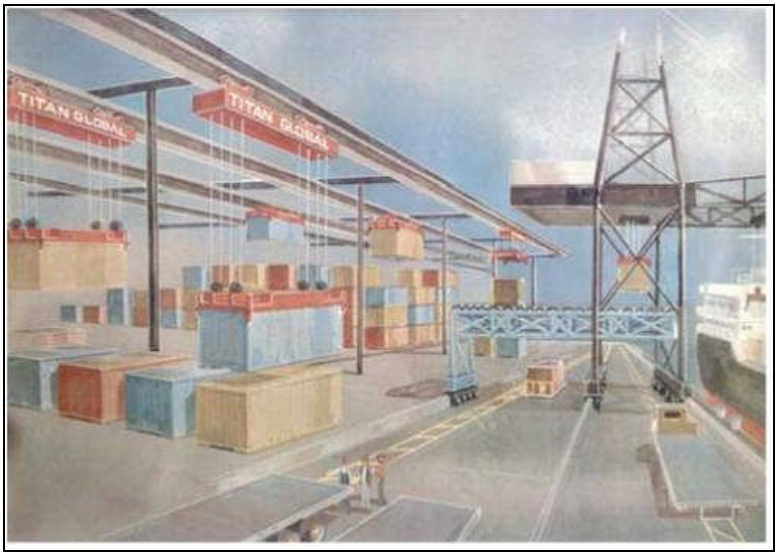
Auto-GO. Titan Global Technologies Ltd., a New Jersey based company, developed a suspended freight monorail concept that utilizes linear induction motors called Auto-GO**.** Auto-GO

is an overhead cargo container handling system with fully automated single-container shuttles using linear induction motors (Exhibit 197). The Auto-GO system envisions container vehicles suspended from a girder system, each vehicle equipped with a spreader bar and cables to lift and drop containers at the terminals. This system would also be fully automated.

Exhibit 197: Auto-GO System over Highway

The transportation process would start inside the terminal where a gantry crane drops off the container (Exhibit 198). A cargo carrying system that is integrated with the carrying vehicle picks up the container and raises it by means of a specially designed bogie-spreader bar combination. The container is then secured under the container shuttle, and transported at 50 to 75 mph to its final destination.

Exhibit 198: Auto-GO System in Terminal

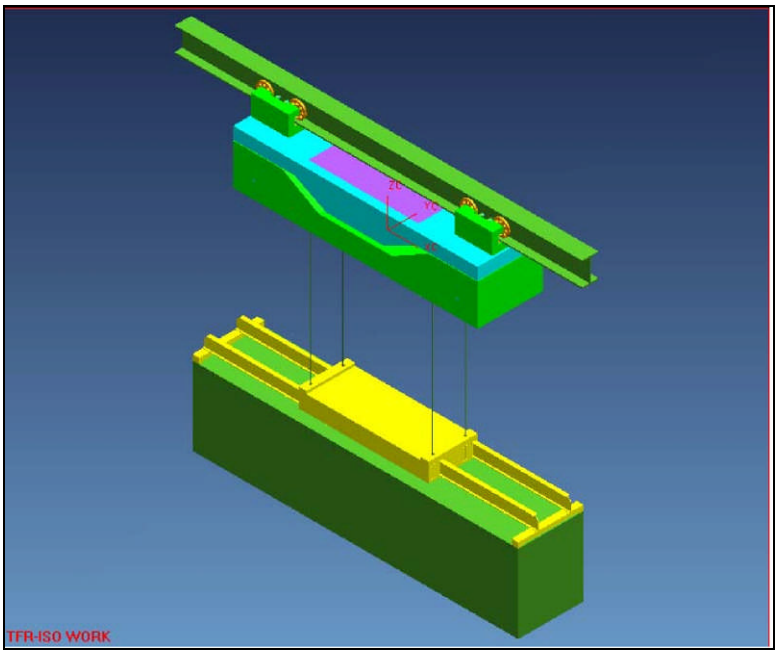


Titan has built and tested a scale model of the Auto-GO system. The technologies used in the Auto-GO system guideway, switches, and movement control system, have been tested in the

field and use of linear induction motors have been proven in operation of the monorail people-movers that Titan built in Miami, Florida; Pomona, California; and Dallas, Texas.

Grail. An Illinois Institute of Technology team developed a conceptual intra-yard GRail (Grid-Rail) system that utilizes linear induction motor technology. (Exhibit 199)

Exhibit 199: GRID Rail (GRAIL) Concept



Much of this concept was developed over a period for Sea-Land Corporation by August Design, Inc., originally for ship-to-shore application, and was not widely documented until 2000. Exhibit 200 shows the elevated Grail grid structure, similar to the Auto-GO concept shown in Exhibit 198.

The team also designed an elevated structure to move containers between terminals using a LIM vehicle. This between-yard structure provides for connecting freight nodes and allows for expansion capability by providing space for the under-hung GRail shuttle (Exhibit 201).

Exhibit 200: GRAIL Terminal Grid Structure

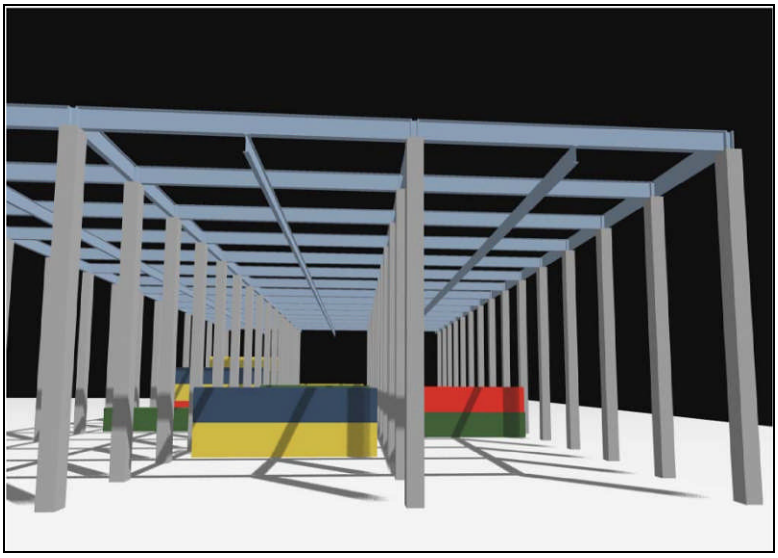
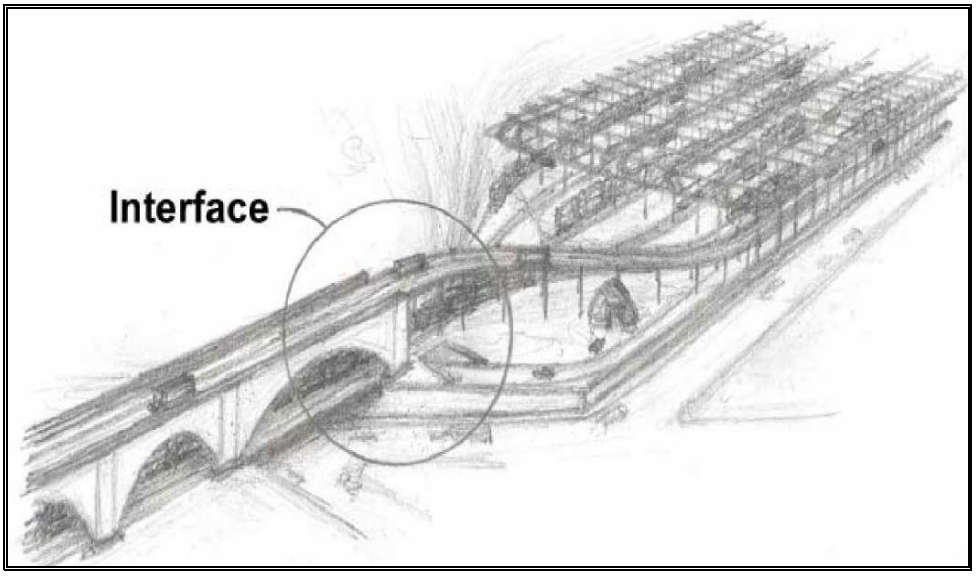


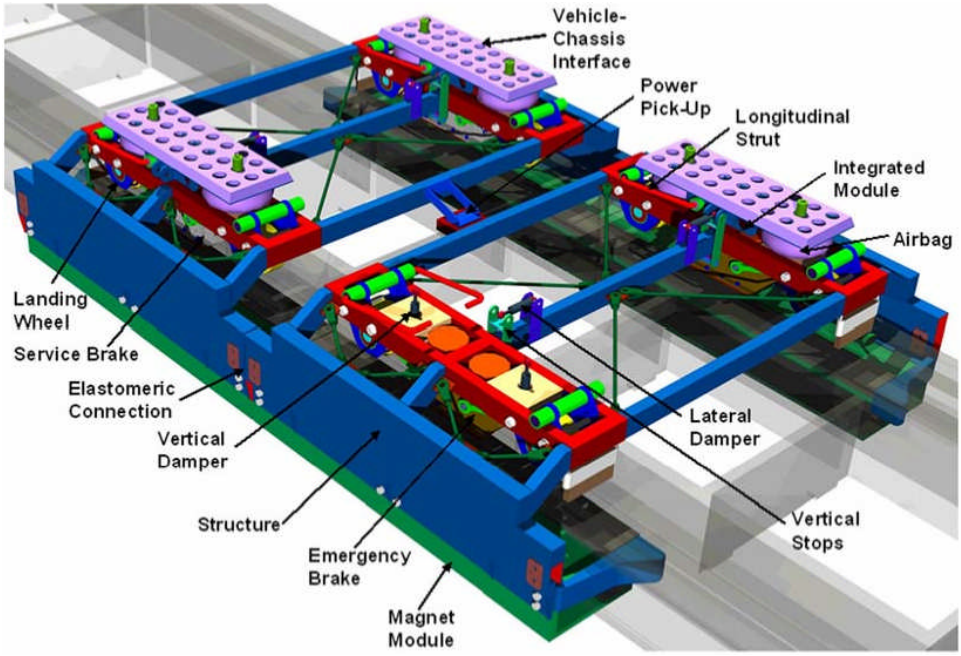
Exhibit 201: GRail Transition Structure



Maglev Systems

By adding magnetic levitation to LIM propulsion, Maglev proposals offer reduced friction, reduced noise, and higher speeds (Exhibit 202). These systems are also envisioned as fully automated. TransRapid International (a joint venture between Siemens and Thyssen-Krupp) is perhaps the farthest along in developing a Maglev container transport concept.

Exhibit 202: Detailed View of General Atomic's EDS Maglev Design



TransRapid's analysis (not verified by the study team) contends that a Maglev container system would have similar capital costs and lower operational costs than highway or rail (TransRapid, 2004). The analysis envisions a dedicated express container system connecting the ports to the Inland Empire, to Victorville, and to Beaumont, with capacity for five million containers per year.

CCDoTT considered a number of rights-of-way as shown on the map in Exhibit 203. Perhaps the most promising route is the one that follows I-15 through the Cajon pass. Proponents of Maglev freight systems cite their ability to climb steep grades. The freight Maglev system is projected to be able to carry containers up a 6% grade, versus 3% for conventional rail. The 6% claimed maximum grade for freight Maglev matches the maximum grade on Interstate highways, suggesting Maglev rights-of-way along interstate medians (assuming such medians are available).

Exhibit 203: TransRapid Maglev Route Proposals

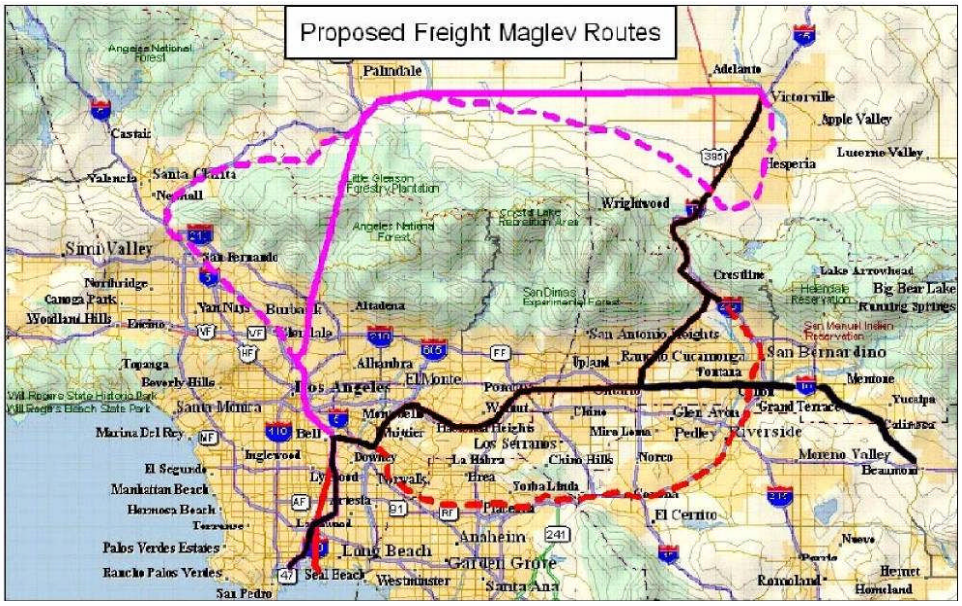
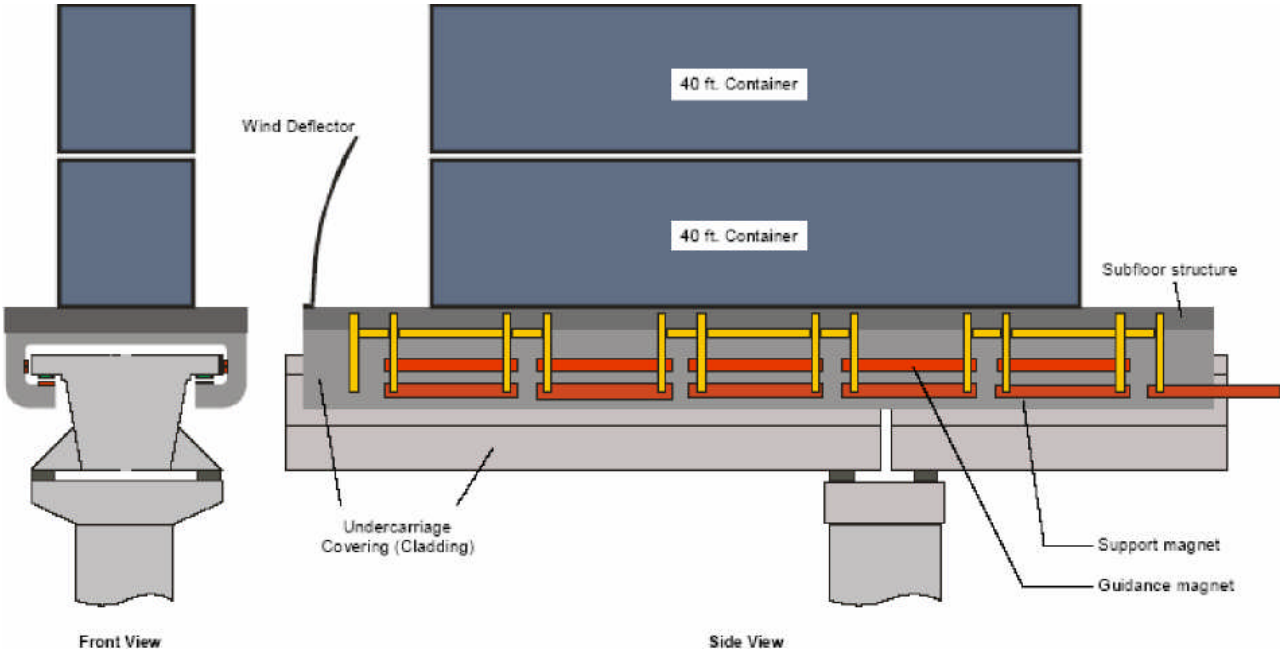


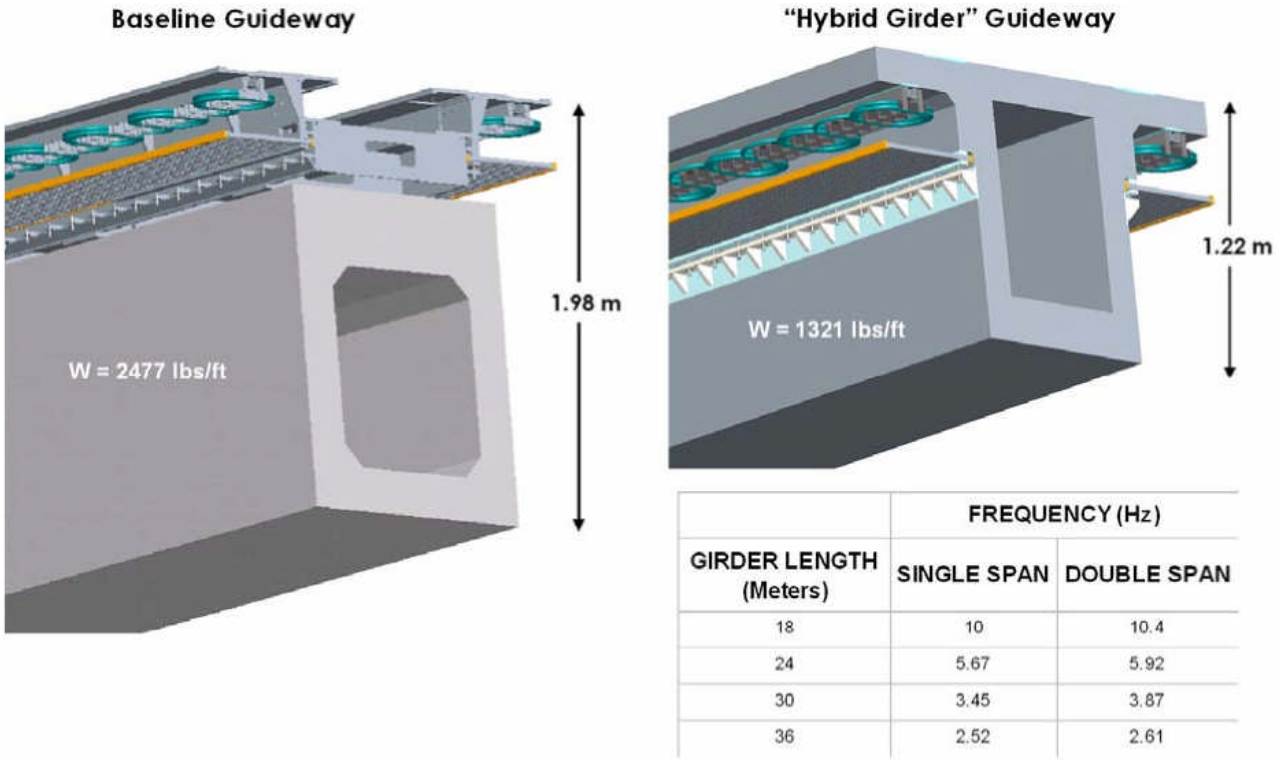
Exhibit 204 shows the TransRapid freight design in a double-stack configuration.

Exhibit 204: TransRapid Maglev Concept



The combined height of guideway (Exhibit 205), vehicles (Exhibit 202) and two high-cube (9'6") containers would be 25' – 27'. A double-stack Maglev system would not fit under Interstate overpasses. A single-stack Maglev system would be 15' – 17' high, and would have to be depressed in the median to fit under most freeway overpasses.

Exhibit 205: TransRapid Maglev Guideway Concepts

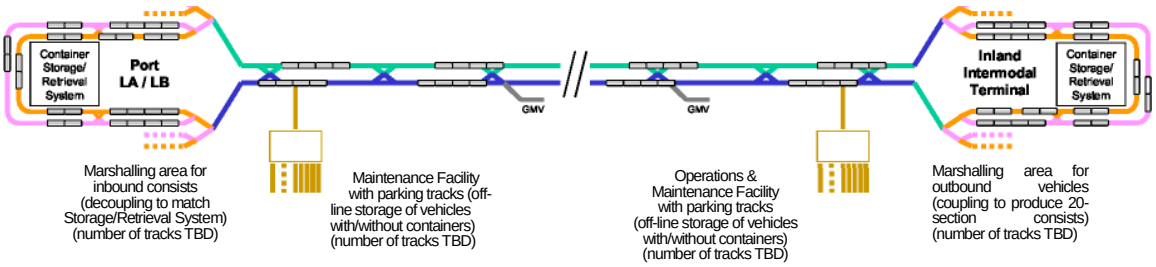


	FREQUENCY (Hz)	
GIRDER LENGTH (Meters)	SINGLE SPAN	DOUBLE SPAN
18	10	10.4
24	5.67	5.92
30	3.45	3.87
36	2.52	2.61

Exhibit 206 shows a conceptual Maglev system linking a single port terminal with an inland terminal. The design shows two-unit and four-unit Maglev vehicles, instead of the single vehicles in most system proposals. The diagram also reflects the need for crossovers, maintenance facilities, and storage facilities ignored by other, less detailed proposals.

The terminals shown in Exhibit 206 include marshalling areas and "container storage/retrieval systems". Note that only one port terminal and only one terminal are shown. The system complexity would increase dramatically if the system were to serve multiple terminals on each end.

Exhibit 206: TransRapid's Port to Inland Intermodal Layout



In common with the other fixed-guideway proposals the Maglev system may require completely rebuilding or replacing existing marine terminals. Exhibit 207 shows a terminal concept developed by TransRapid. The automatic container storage/retrieval system has not been designed. Although several concepts have been developed by other authors for similar systems, none have

been designed in detail or built. Each terminal served by the Maglev system would need a comparable system.

Exhibit 207: Maglev Terminal Concept

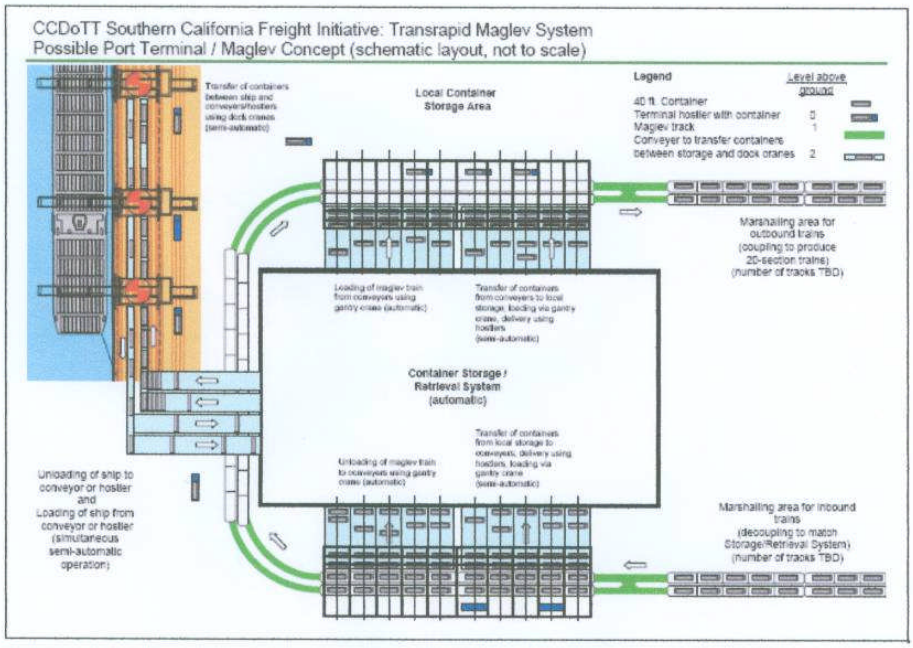
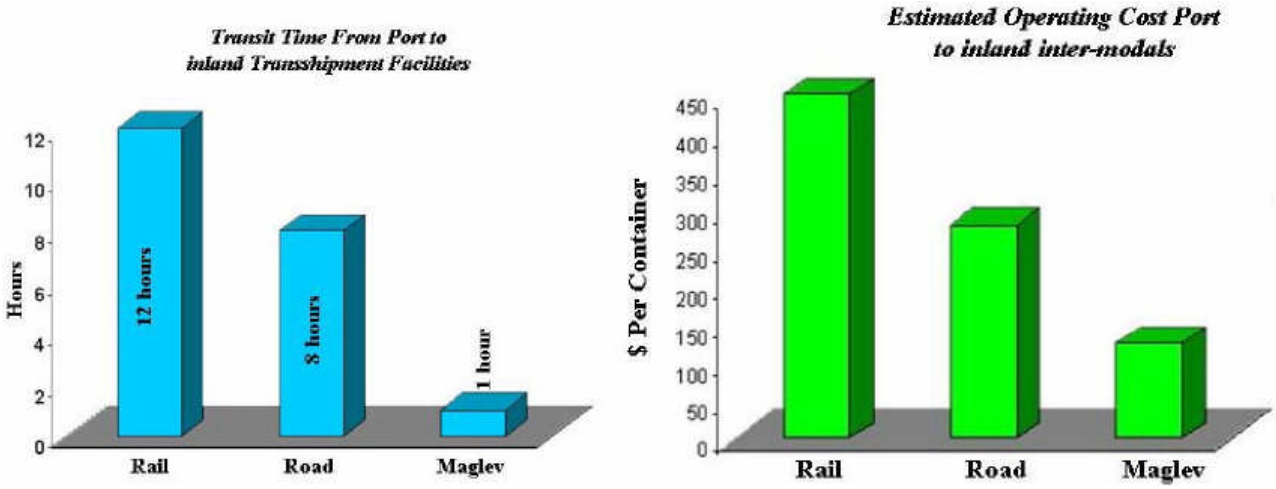


Exhibit 208 shows proponents' estimates of relative transit times and operating costs for a 100-mile trip (not verified by the study team, and inconsistent with other information).

Exhibit 208: Proponents' 100-mile Transit Time and Cost Estimates (unverified)

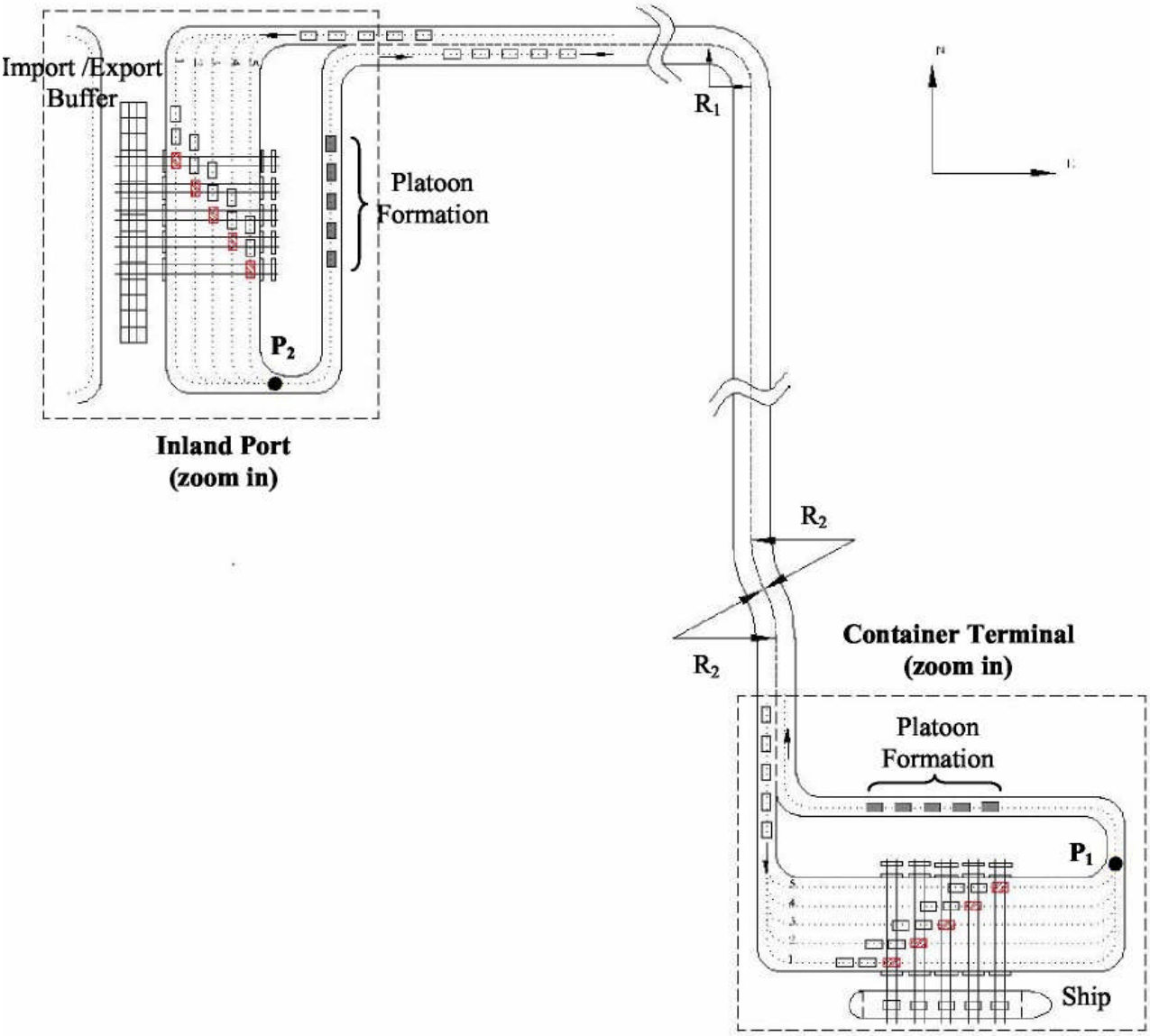


California State University is conducting a study on the engineering design and subsequent cost of the General Atomics (EDS) approach for container freight movement at the Ports. The EDS Maglev design will be projected onto the Port of Los Angeles / Long Beach / Alameda Corridor infrastructure to determine its feasibility as a means of transporting containers from the Port's terminals to the (ICTF) at the Alameda Corridor (Gurol, 2005).

Automated Truck Platoons

Another approach calls for groups of remote controlled, automated trucks traveling on exclusive roads. The proposed system (Exhibit 209) includes reconfigured marine and inland terminals with automated multi-lane cranes.

Exhibit 209: Conceptual Automated Truck Platoon System



Automated guided vehicles (AGVs) have been proposed and studied in several instances. The Delta Terminal at the Port of Rotterdam has been operating AGVs to transport containers within the terminal, while other European and Asian ports are reportedly experimenting with similar systems.

The system proposed for port to inland trip is much more ambitious. Since the automated trucks required to transport containers between a port and an inland port some distance away, they will need to travel at much higher speeds than the AGVs operating inside container terminals. The

Center of Transport Technology in the Netherlands studied a container transport system, called "Combi-Road", in which each container is pulled on a semi-trailer of an unmanned vehicle, and the vehicles are electrically driven along specially designed tracks. The proposed system, shown in Ex 9, is composed of automated trucks, automated cranes and a central control system. The central system would contain all the information on transportation tasks and road geometry, acquire real time information, and issue commands for all the trucks, cranes, etc.

Automated trucks would transport containers on a dedicated road. Inside the terminals containers would be handled by automated cranes. An automated truck would be issued commands for carrying a container from the inland port, joining a platoon, speeding up to a desired speed, cruising while on the road, slowing down when entering the container terminal, positioning itself under a quay crane for unloading, then repeating the cycle.

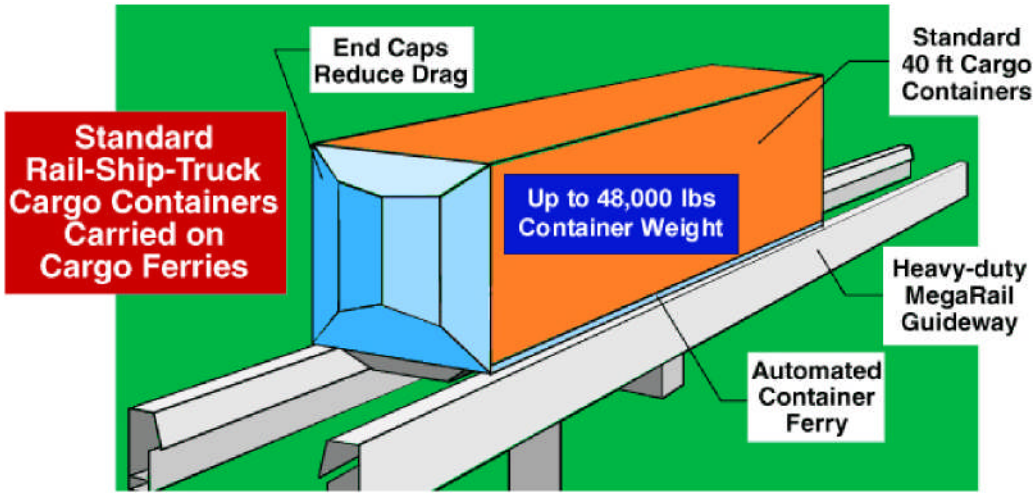
In common with other systems relying on agile port operations, all the import containers would be transported to the inland port before they are distributed to different destinations, and all the export containers would be processed in the inland port before they are transferred to the container terminal.

At the moment this system is strictly conceptual. Simulations of its performance connecting one marine terminal to one inland port have been conducted, but none of the equipment has been designed or demonstrated and more complex multi-terminal operations have not yet been addressed.

Automated Rail Vehicles.

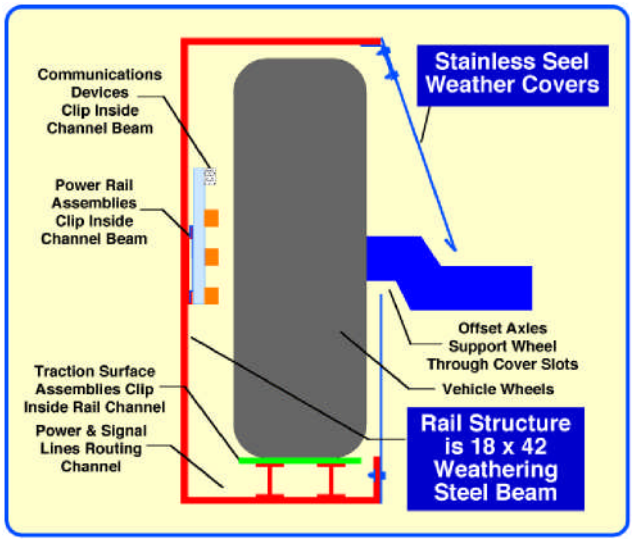
CargoRail. The CargoRail concept developed by the MegaRail Transportation Systems, Inc. employs rubber-tired vehicles (referred to as "Cargo Ferries") that would move along an exclusive elevated guideway (Exhibit 210).

Exhibit 210: CargoRail System



Each vehicle would operate individually, but would be fully automated and centrally controlled. Vehicles would operate on an enclosed weatherproof guideway (Exhibit 211).

Exhibit 211: CargoRail Guideway Concept



MegaRail Transportation Systems claims that this system is ready for a non-stop, 24-hour, 7-day a week operation at operational speeds of up to 75 mph. The maximum designed payload per vehicle is 50,000 lbs. This proposal appears to be derived from MegaRails' similar proposals for people movers.

CargoMover. Another proposal calls for automated vehicles operating over conventional railroad tracks, each carrying a single container. (Exhibit 212) A variation on this proposal would equip each vehicle to load or unload itself. CargoMover technology is designed to utilize European rail and wireless control systems. These systems are currently being deployed on several railway systems in Western Europe. CargoMover can also operate in conjunction with other train control systems. Siemens is currently testing several CargoMover vehicles.

Exhibit 212: Siemans Transportation CargoMover

Commonalities

As proposed these systems have several major features in common.

Agile Port Operations

Explicitly or implicitly all of the candidate concepts assume "agile port" operations, which were discussed in detail in the Task 1-2 report. While the "agile port" concept is subject to many interpretations, the core of the concept is transfer of unsorted inland containers from vessel to an inland point where sorting takes place. The objective of agile port operations is to dramatically reduce container dwell time at seaport terminals and thereby increase their throughput capacity with the same acreage.

It is unclear how critical agile port operations are to the design of the various systems. The technical transportation functions would appear to work equally well with sorted or unsorted containers. It is possible, however, that the ability to load and unload these systems expeditiously might be compromised by the need to sort containers at either end of the trip. Continuous loop systems do not cope well with vehicles that make different stops for different time periods. The capability of these systems to accommodate varying operating schemes needs further investigation.

If the efficiency of these systems depends critically on agile port operations, then their feasibility depends on the ability of ocean carriers, terminal operators, and the marine and inland terminals themselves to implement agile port operations. This is not a trivial question, as terminal infrastructure, terminal operating systems, vessel loading practices, vessel deployments, labor contracts and manning, and financial provisions would all have to change.

Terminal land requirements for intermodal operations of any kind are determined by peak-period throughput and dwell time. For agile port operations to reduce marine terminal dwell time they must provide substitute storage and buffer space inland. Greater reductions in marine terminal dwell time will require larger inland terminals.

Unmanned, automated vehicles.

All of the systems are planned to be completely automated, with unmanned vehicles controlled by a central computer system. Such systems are typically used in "people movers" in airports and other facilities. Transit systems with central control (e.g. BART) have operators on board with manual control options. While transit and people mover experience suggests that unmanned vehicles can be successfully controlled in uniform, closed-loop operations, the ability of such systems to cope with the complexity of multi-node systems or complex repositioning moves within terminals remains to be demonstrated. Likewise, the experience with localized people mover systems may not be translatable to distances of 60 – 100 miles between the ports and an inland terminal.

Exclusive grade-separated right-of-way

The most fundamental issue with all of these proposals is the requirement for an exclusive, grade-separated right-of-way. For most proposals (LIM, Maglev, automated rail vehicles) the

required right-of-way would be the equivalent of a double-track surface or elevated railroad. The automated truck proposal would require the equivalent of a 2-3 lane highway.

Exclusive, grade-separated rights-of-way between the ports and inland terminals are arguably the scarcest resources in Southern California. As the study teams working on additional I-710 capacity and truck lanes have learned, right-of-way expansion through populated areas is a daunting task. None of the proposals suggest actual Southern California alignments.

Were potential exclusive, grade-separated available for surface LIM or Maglev systems they would also be available for conventional rail or truck operations, and the available proposals do not yet demonstrate that the innovative systems can provide greater throughput capacity then conventional systems.

Most proposed systems can be supported on pylons, like elevated rail transit systems. This feature does give some locational flexibility, but presents problems when confronted with other elevated structures in the alignment, particularly freeway overpasses. Community opposition to elevated systems is likely to be vehement and pervasive. The height of marine containers would make elevated container systems taller, more obtrusive, and more objectionable to residential and commercial neighborhoods than passenger systems. Marine containers are also sometimes visually unattractive. Finally, any proposal to move unmanned container vehicles over or through communities of any kind will have to address the potential for hazardous cargoes (e.g. chemicals or explosives) or objectionable cargoes (e.g. recyclables, animal hides).

Standard vertical clearances for interstate highways in urban areas is 14 feet, with a goal of providing at least one route option with 16 feet of clearance (the standard for rural interstates). The standard maximum height for a highway trailer or container/chassis combination is 13’6”. With 9’6” high-cube containers being very common and the norm for many transpacific imports, the guideway and vehicle combinations are effectively limited to a height of 4’ to bring the total within the 14’ interstate clearance limit. This limitation may require either redesign of some systems or depressed installations.

The various elevated fixed-guideway systems would need to be about 29’ to 30’ high to accommodate single-high 9’ 6” high-cube containers and provide 14’ of vertical clearance underneath to pass over another highway or road.

As noted elsewhere, elevated systems could not share the Alameda Corridor right-of-way. The Alameda Corridor is built with 24’8” clearances for eventual electrification above double-stack trains. Double-stack trains require 21’ – 22’ of vertical clearance. There is no possibility of squeezing elevated systems into the corridor with conventional double-stack trains.

Some Maglev proposal also contemplate double-stacked containers. An elevated Maglev system with double-stacked high-cube containers would be about 39’ tall, the equivalent of a 4 – 5 story building. A surface Maglev system with double-stacked containers would be about 25’ tall, too tall for either interstate overpasses or the Alameda Corridor.

None of the proposals, except the Maglev report, give construction cost estimates.

Potential Benefits

The proposed systems all claim essentially the same benefits.

Increased throughput capacity free of road and rail congestion

If each system operated as imagined, they would indeed expand total capacity independent of roads or railroads. Note, however, that right-of-way and terminal access used for these systems must be withdrawn from potential use by other modes. Capacity is discussed further below.

Reduced emissions and energy use through electric propulsion (except the automated diesel rail vehicles)

This would likewise be a valid benefit if the systems prove feasible. The same benefit could be obtained, however, by electrifying existing rail operations. The Alameda Corridor was built with sufficient clearances for subsequent electrification.

Low operating costs through automation and efficiency

None of the proposals, however, offer estimates of actual operating costs. As noted below, a full consideration of costs is much more complex than most technology proposals suggest.

Security

All the proposals claim improvements in security by operating on exclusive, grade-separated rights-of-way. None of the proposals, however, include a security assessment, and it is inherently difficult to secure dispersed unmanned systems.

Open Questions

Vulnerability to disruption

A fundamental disadvantage of automated, unmanned systems on exclusive guideways is their vulnerability to service failures and disruption. Without the ability to operate in a manual fall-back mode and isolated from other systems, the ability of an automated guideway system to recover from vehicle, systems, or guideway failures is extremely limited.

Failure of the central or propulsion systems on a single vehicle could bring LIM, Maglev, and similar systems to a halt, if there is no means to bypass or remove a stalled vehicle. Accidental or intentional guideway damage would likewise halt the system completely. In this respect, unmanned systems have a very high exposure to vandalism or terrorist attempts to disrupt the port system.

An unmanned system is obviously vulnerable to central control failure. While redundant and robust systems offer some protection, the complexity of a real-world, automated vehicle control system of the imagined scale implies less-than-perfect reliability. The Maglev system anticipates capacities of 16,000 one-way vehicle trips per day. At half capacity (8,000 trips per day) and 99.99% reliability, 8 failures per day could be expected.

Some proposals contemplate guideway systems with crossovers and other features to improve reliability. These features may reduce the vulnerability to vehicle or guideway failures, but they do not affect the risk of system failure and they can add substantially to the cost.

Lack of Gathering and Distribution Ability

All of the automated system proposals are presented as point-to-point linkages from a single marine terminal to a single inland point. The Port of Long Beach and Los Angeles, in contrast, consist of fourteen container terminals scattered over a 20- mile waterfront and separated by water, highway, rail, utility, and development barriers. None of the proposals to date address the challenge of transitioning from a closed loop linkage between two points and a multi-mode network across natural and man-made barriers. Connectivity between marine terminals and the ability to assemble and distribute trains across multiple terminals is already a challenge for Pacific Harbor Lines and a limiting factor in the growth of on-dock rail. Overlaying a new fixed-guideway gathering and distribution system would be a Herculean task.

Absent direct access to terminals, a fixed guideway system would require a port-area marshalling terminal with drayage to and from the marine terminals. This requirement would defeat the economics and the purpose of the proposed systems.

Marine Terminal Intrusion

All of the proposed systems, if given direct access to the marine terminal, would require substantial reconfiguration of the terminal itself. Different system presences in marine and inland terminals can be seen in Exhibit 195, Exhibit 198, Exhibit 200, Exhibit 207, and Exhibit 209.

On-dock rail facilities are normally sited at the rear or margin of marine terminals to avoid interference with routine terminal operations, specifically loading and unloading the vessel. The various automated systems would need to be similarly situated. Drawings showing convenient direct-to-vessel transfers typically ignore the large volume of containers that must be transferred to truck for local delivery. Raised guideway systems pose a particular problem for direct vessel transfer as they would create a physical barrier between the vessel and the rest of the terminal.

Dedicating space for a new fixed guideway interchange will necessarily reduce the net terminal acreage available for handling and storage.

More fundamentally, most of the automated systems rely on automated marine and inland terminals that currently exist only in concept. There is an inherent challenge in designing a ground level terminal for vessels and trucks that can also efficiently load and unload large volumes of containers from an elevated system. The throughputs envisioned for the Maglev system of 400 containers per hour must be viewed in the light of conventional container unloading and loading cycles of 20 per hour per lift machine, implying a need for up to 20 lift machines operating simultaneously to keep up with the Maglev throughput.

All of these considerations imply that marine and inland terminals will need to be reinvented and completely rebuilt or replaced before such transport systems can reach their potential.

Capacity

None of the proposals reviewed, except the Maglev report, provide working capacity estimates (e.g. containers per hour). Capacity is more than a function of speed and transit time. All of the rail systems anticipate multiple single-container vehicles on a closed loop, with the implications of real-time loading and unloading.

If the time required to unload and reload a vehicle is more than the safe headway between them, vehicles will have to queue up at the terminals. It typically requires an absolute minimum of five minutes to unload and reload a container from a rail car if the containers are pre-staged. An average time would be closer to ten minutes to allow for the unloaded container to be taken away and a second container positioned for loading. By this line of reasoning, either the system is limited to ten-minute headways or a significant amount of time must be allowed for queuing at both terminals.

- Dispatching single-container vehicles on ten-minute headways would yield a throughput of only 6 containers per hour.
- One-minute headways would yield a guideway throughput of 60 containers per hour, but could result in large queues for loading and unloading at each terminal.
- Thirty-second headways would increase the guideway throughput to 120 containers per hour, but containers would arrive much faster than they could be unloaded and reloaded to return.
- By comparison, a single highway lane has a nominal throughout capacity of about 1500 vehicles per hour.

Loading containers only one way would speed up the terminal operation but increase the operating costs and reduce the efficiency.

Operating Cost

All of the proposed systems claim lower operating costs than conventional rail or truck. Only one proposal, however, offers any numeric comparisons. Those comparisons lack detail and would require considerable analysis to verify..

The claims of lower operating cost are based on low energy use and unmanned operation. For example:

Projections for the energy requirements of the Freight Shuttle in Southern California setting suggest that, at current PG&E electrical rates, a 60-mile transit would cost roughly $20 in power use – the only variable cost in the Freight Shuttle cost structure – far lower than the variable costs associated with trucking.[11]

Unfortunately, such statements ignore the complexities. A full accounting would need to address:

[11] Roop, 2006

- System control operations and labor
- Energy costs
- Equipment and guideway maintenance cost.
- Terminal labor and systems cost
- Lift-on and lift-off costs (typically $30 to $40 per lift, or $120 to $160 for a round trip with one container each way)

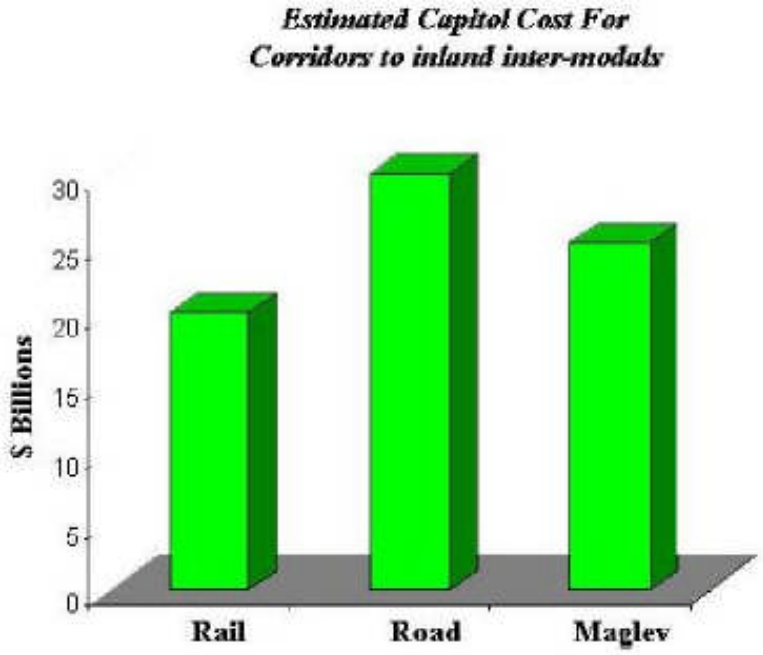
Capital Cost

Few of the proposals give any indication of capital costs. There are a number of concerns.

- While the proposals make plausible claims that the fixed guideway will be inexpensive to construct, there is no working experience to draw from and no estimates are given.
- None of these are commercial off-the-shelf ("COTS") systems and their cost is unknown. The proposed vehicles vary considerably in complexity, and only one (the automated CargoMover rail vehicle) exists in prototype. The LIM propulsion system requires almost no moving parts, but some of the vehicles have complex suspension, loading, unloading, or sensor systems (Exhibit 202, Exhibit 199)
- The capital costs to replace the marine and inland terminals with automated systems are likewise unknown.
- All of the systems incorporate elaborate automated control of unmanned vehicles. The cost of the vehicle control system components is unknown, and only one prototype exists.
- Perhaps the greatest unknown is the cost of acquiring and assembling the exclusive, grade-separated right-of-way through neighboring cities.

The maglev proposal gives the capital cost comparison shown in Exhibit 213. Without any detail, however, it is not possible to evaluate the estimates. In the graph, however, it does appear that the maglev system is expected to cost at least $5 billion more than a conventional rail system of the same incremental capacity. Terminal costs are apparently not included.

Exhibit 213: Maglev Proponents' Estimated Capital Costs to Carry an Additional 5+ Million Annual Containers (unverified)



Applicability to Southern California Inland Ports

As a practical means of connecting an inland port complex with marine container terminals in Long Beach and Los Angeles, these systems must be regarded as highly speculative at this point in their development.

All of these systems appear better suited to connecting a single large multi-user marine terminal with a single inland satellite terminal. This arrangement would be much more common in Europe or Asia than in North America. Were such a new terminal contemplated in Los Angeles or Long Beach, a successful automated system might be suitable to connect that terminal with an inland point in agile port operations.

These proposed systems would require substantially more detailed analysis before they could be considered as serious candidates for implementation.

Most critically, the availability or feasibility of an exclusive, grade-separated right-of-way must be firmly established. If the required right-of-way is not feasible, the technical merits of the proposed systems are irrelevant.

Need for Complete System Designs

None of the proposals reviewed to date describe a complete system.

- The Maglev system is the most advanced in its design but the terminals are conceptual "black boxes" at this point.

- The automated truck platoon system is "complete" in that the performance of conceptual terminal systems has been modeled, but no engineering or operational design has taken place.

- None of the proposals have identified a feasible right-of-way or addressed the complexity of serving multiple port terminals.

A complete system design would need to address each step of the port-to-destination movement.

1. **How are containers moved from vessel to system loading point (and vice versa)?** At present, every container in North America is moved on chassis between the apron under the crane and the container yard or on-dock rail terminal.

2. **How are containers loaded and unloaded to/from system vehicles?** At present, marine terminals in North America use gantry cranes, side loaders, reach stackers, or straddle carriers to handle containers or chassis, on rail cars, or on the ground.

3. **How does the system get into, through, and out of the marine (and inland) terminal?** Conventional rail tracks embedded in pavement allow trucks to pass over. No terminals have rail loading at ship side.

4. **How does the system link multiple marine and/or inland terminals?** As noted elsewhere, the Los Angeles and Long Beach terminals are scattered over 20 square miles of waterfront and separated by water, highway, rail, and development barriers.

5. **What right-of-way does the system use to link terminals?** Absent a feasible right-of-way other system features are irrelevant.

6. **How are system movements planned and controlled?** The system must correctly identify each container, move it to the correct terminal, position it for loading/unloading, and hand-off control to terminal gate (inland) or vessel (marine) systems.

7. **How does the system recover from disruptions?** The full range of potential disruptions might include vehicle failure or malfunction; central system failure or error; guideway failure or damage; power shortage or loss; and accidental or malicious damage.

8. **Where will import containers be sorted and forwarded to final destination by truck or rail?** The agile port concept on which all the systems implicitly rely shifts the sorting function to the inland terminal. The inland terminal must be sized, planned, equipped, and operated accordingly.

9. **What are the full capital costs of the system?** The capital costs must encompass the right-of-way, the guideway, the vehicles, the control system, the terminals, and any ancillary facilities or systems.

10. **What are the full vessel-to-destination operating costs?** The operating cost estimates would have to include every step: unloading the vessel, operating the terminals, loading and unloading, sorting, linehaul, transfer to another mode, overhead, etc.

11. **What is the system throughput capability?** The system will be limited by its slowest link, which is likely to be in the terminals rather than on the line-haul. The system will need to cope with volume peaks and valleys, and comparisons should be based on reliable, day-in/day-out throughput rather than optimized conditions.

12. **What impact will the system have on communities, highways, and other urban features?** The existing proposals point out the potential emissions advantages but do not discuss the potential neighborhood division and diminished property values associated with elevated systems, displacement of truck drivers, or exposure to hazardous/objectionable cargo.

As most of the proposed systems are highly conceptual, there is a long way to go before these systems can be evaluated with any confidence.

Sources

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The Potential of Electric Freight Rail in Southern California

Brian Yanity

Californians for Electric Rail

[redacted]

July 29, 2018

Hector Rail intermodal freight train in Germany, pulled by Bombardier TRAXX electric locomotive
(Photo: pxhere.com, Creative Commons CC0)

1. Introduction

The only proven zero-emissions freight movement technology is a fully electric railroad. Electric trains are the most energy efficient way to move freight on land, moving a ton with typically one-tenth the energy used by diesel-powered road trucks. The electrification of freight rail in California would reduce the public health impacts to local communities affected by diesel-powered locomotives, and reduce the greenhouse gas emissions of freight movement. Electric locomotives also improve the speed of travel with better acceleration, quieter operation, and twice as energy efficient as diesel locomotives. . Used successfully all over the world for over a century, electric freight locomotives have many advantages. In particular, electric locomotives are:

- Zero-emissions at point of use.
- More energy efficient than diesel-electric locomotives, and consume almost no power when idling.
- Capable of using regenerative breaking when going downhill to recover energy that can be stored on-board, used by other trains nearby, or returned as power to the grid.
- Capable of faster acceleration and greater pulling power than diesel-electric locomotives.
- Quieter and lower maintenance than diesel locomotives.
- Capable of being powered by renewably-generated electricity, further enhancing emissions benefits and reducing dependence on fossil fuels. Electrified rail corridors can also serve as electric transmission line routes, potentially accessing many renewable energy generation sites.

The most established way to run trains on electricity is by overhead catenary wires above railroad tracks, also called an overhead contact system (OCS), which power to the moving train's pantograph. While the up-front capital costs may be substantial, all-electric freight rail with overhead catenary is a tried-and-true technology that would pay for itself with significant reductions in emissions and operating costs.

Electrification with overhead catenary wire has been used for over a century for freight rail, and is used today on about one quarter of the world's railroad tracks. Outside of North America, electric freight trains are very common. Globally, electricity's share of moving trains is increasing, about 10% of all track miles electrified in 1975 to over 30% in 2012[1]. Nations from India to South Africa, China to those of Europe, are expanding electrification of heavy freight and passenger lines. A large pool of manufacturers and engineering expertise exists around the world for this technology.

Electrification would build upon ongoing and proposed railroad capacity and safety improvement projects in California, including grade separations, additional main line and siding tracks, improved signal systems and Positive Train Control. The electrification of existing heavy rail lines is coming to California thanks to Caltrain's Peninsula Corridor Electrification Project, which is electrifying the line between San Francisco and San Jose for passenger service. The electrification of Southern California railroads needs to be explored, and can benefit from the experience of the Caltrain electrification.

[1]International Energy Agency, *Railway Handbook 2015*, pg. 24 (Fig. 10) and 27 (Fig. 16): https://uic.org/IMG/pdf/iea-uic_2015-2.pdf

Due to the unfamiliarity in the U.S. with electric freight rail, this technology is too often overlooked as a solution to many of the country's transportation needs, despite its proven track record of success in the rest of the world. Southern California should be a national leader in freight rail electrification due to its need to reduce air pollution, and strong longtime local political support for clean transportation technologies. The region once had an extensive electric rail network of passenger street cars and interurban trains during the first half of the 20th century, and today has a rapidly growing network of all-electric subway and light rail lines. In the past three decades, a number of studies have been commissioned by state and local government agencies on low- and zero-emissions freight rail in Southern California. These publicly-funded efforts were primarily motivated by an interest in reducing air pollution in the region, particularly for those living and working near the tracks. The most recent were two reports evaluating clean freight rail technology released by the California Air Resources Board in the spring of 2016. The last time that a regional, comprehensive rail electrification task force existed was for the 1992 Southern California Accelerated Rail Electrification Program study. Such a regional task force should be created again, with committees for planning, engineering, analysis, operations & maintenance, environmental analysis, funding, legislative and regulatory issues.

Fig. 1. Bombardier IORE electric locomotive set hauling an iron ore train between Sweden and Norway
(Photo: David Gubler, 22.3.2011, http://bahnbilder.ch/picture/7743?title=iore)

2. Electrification of Freight Rail

An electric locomotive can be designed to match or exceed the performance specifications required by U.S. line-haul interstate freight trains, the largest of which weigh around 10,000 tons. In fact, the world's most powerful locomotives are all-electric. In China, a single HXD1 two-section all-electric locomotive set, similar to that shown below in Fig. 2, pulls entire 20,000-ton coal trains under a 25 kilovolt (kV) [2] catenary. The HXD1 has over 19,000 horsepower and 260,000 pounds of starting tractive effort[3]. The largest diesel locomotives currently being manufactured in the U.S. have at most 5,000 horsepower and 200,000 pounds of starting tractive effort. Transnet Freight Rail of South Africa uses a 50 kV catenary system for hauling iron ore trains in excess of 40,000 tons, shown below in Fig. 3. Several times the weight of an average U.S. line-haul freight train, these trains are pulled by up to nine all-electric Mitsui Class 15E locomotives in distributed configuration. Russia's Trans-Siberian has been 100% electric between Moscow and Vladivostok since 2002. At 5,772 miles the longest rail line in the world, this line carries freight train weights similar to U.S. line-haul trains. An extensive network of electrified on-dock and near-dock rail serves Rotterdam, a port similar in size to the San Pedro Bay complex.

Fig. 2. China Railways HXD1 series freight locomotive set, under 25 kV overhead catenary wire
(Photo: https://commons.wikimedia.org/wiki/File:HXD10004.jpg)

[2] 1 kilovolt (kV) = 1,000 Volts.

[3] http://documents.epfl.ch/users/a/al/allenbac/www/HXD1.htm

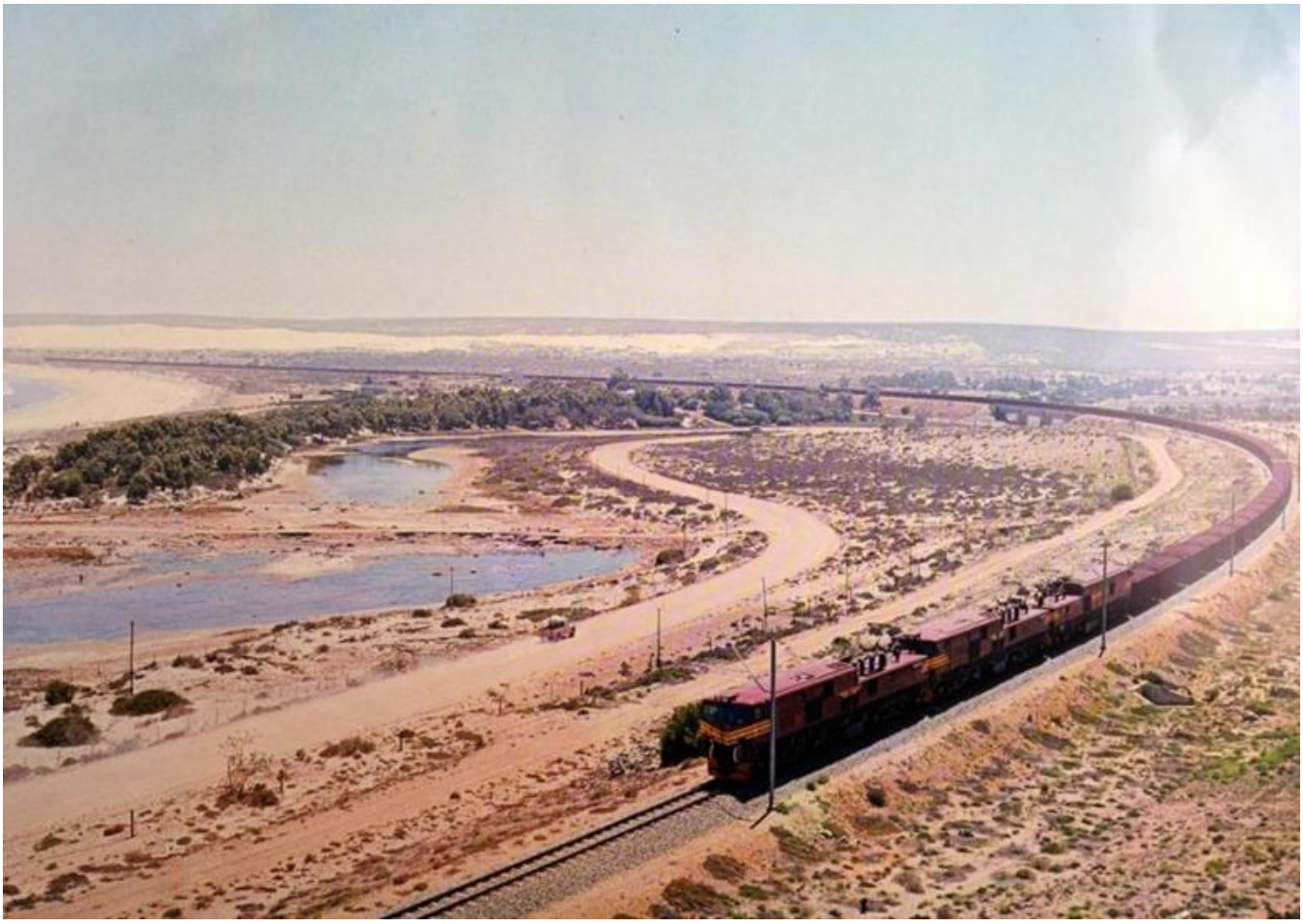

Fig. 3. Long-haul iron ore train on Sishen–Saldanha Orex line in South Africa, pulled by electric locomotives under 50 kV catenary. (Photo: Peter Ball collection, http://www.theheritageportal.co.za/article/south-africas-world-record-breaking-train)

Overhead catenary wire has been used to power heavy electric freight trains for more than a century, and is tried-and-true technology. A voltage of 25 kV is the world standard for heavy freight and high-speed passenger rail AC catenary electrification. In California, a 25 kV AC catenary system is being installed for Caltrain and California High Speed Rail passenger rail service. 50 kV catenary, used on several heavy freight railroads around the world, offers the advantage of higher power capacity, and requires a smaller number of substations along the route. In Southern California, the steep grade of Cajon Pass would be better suited for 50 kV catenary due to the high power requirements and heavy freight traffic, as well as for long-distance sections. Fortunately, it is possible for electric locomotives to transition between 25 kV and 50 kV catenary at speed. Electrification of an initial pilot rail line, such as the Alameda Corridor, must be compatible with electrification standards that the rest of the North American rail system would follow.

Most urban rail systems in the U.S. run on electricity, but electrification is sparse in the nation's intercity rail network. Amtrak runs electrified passenger service along the 457-mile Northeast corridor from Boston to Washington, and the Keystone Corridor from Philadelphia to Harrisburg, Pennsylvania. While electricity is now a major source of motive power for freight railroads in most advanced economies, the percentage of U.S. rail freight hauled using electricity is

close to zero. Three U.S. electric freight lines, with a combined tracking length of about 130 miles, carry coal from mines to power plants in Arizona, Utah and New Mexico, while the Iowa Traction Railway runs 18 miles of electric line from Mason City to Clear Lake.

Outside of North America, electric trains are very common for both passenger and freight, as shown below in Table 1. Almost every industrialized country, including nearly all of Europe and Japan, has an extensive network of electrified freight rail. Switzerland is all electric, except for one tourist line that has steam engines. Over one quarter of India's railways are electrified, and its first two freight-only electric rail lines are under construction in northern India, to carry double-stacked container under the wires. Nations from Chile to South Africa are investing in expanding or building new electrified rail lines, while China is in the middle of electrifying 20,000 km of existing track. As described by the *Solutionary Rail* book:[4]

> AROUND A QUARTER OF THE WORLD'S RAIL LINES ARE ELECTRIFIED, 186,000 miles out of a total of 808,000. Western Europe leads with 53% of lines propelled by electricity, while North America trails with 1%. The global electrification market "continues to grow dynamically," particularly in Western Europe, Africa and the Middle East, SGI/Verkehr reports. Electricity's share in fueling rail is growing, up from 17% in 1990 to 36% in 2012, while oil has held steady at 58% and coal decreased from 25% to 6%....
>
> However, these figures understate the significance of electrification. Typically it is the more heavily used lines that are electrified. For example, though France is only 52% electrified, 85% of freight and 90% of passengers run on electrified lines.
>
> In Russia the Trans-Siberian, at nearly 6,000 miles the longest continuous rail line in the world, was fully electrified by the end of 2002. This is notable because it runs in one of the world's harshest environments and because reliable operation is critical to Russia's strategic control of its eastern regions. The rail line carries 30% of Russian exports. Overall, electric lines carry 70% of Russian freight, the equivalent in ton-miles of 80% of US rail freight... China's rail electrification has expanded rapidly. Concerted efforts have grown the percentage from only 5% in 1975 to over 40% today.
>
> Smaller economic powerhouse nations have largely electrified rail systems. Sweden grew electrification from 61% in in 1970 to 77% of its system in 2005. The Netherlands has increased its electrified network from 52% in 1970 to 73% in 2005. Switzerland is a global standout with a 100% electrification rate. That nation is in the midst of a major rail line improvement program, a central goal of which to move freight from trucks to electric rail. In 17 European nations the rail network is at least 40% electrified.
>
> Great Britain, which has lagged other European nations with only 33% of its rail network electrified, in 2007 announced a £1.1 billion effort to expand electrification. The Great Western Line linking London with Wales is slated for full electrification by 2017. Liverpool-Manchester, one of the world's oldest rail lines, was electrified in 2015.
>
> Nations around the world that have recently expanded electrified rail or are engaged in significant efforts to do so include Chile, Taiwan, Malaysia, Iran, Israel, Saudi Arabia, Kazakhstan, Uzbekistan, Ethiopia, South Africa, Denmark, Norway, and New Zealand. Electrified rail is working around the world. It can work in the US again.

[4] Bill Moyer, Patrick Mazza and the Solutionary Rail team (http://www.solutionaryrail.org/). *Solutionary Rail: A people-powered campaign to electrify America's railroads and open corridors for a clean energy future,* October 2016, pp.15-17.

Table 1: Railroad electrification around the world (both passenger and freight combined, as of 2016)[5]

Country	Miles Electrified (approx.)	Percentage Electrified
Ethiopia/Djibouti	470	100%
Switzerland	3,200	99%
Belgium	1,900	85%
Sweden	7,600	76%
Japan	12,500	75%
Netherlands	1,400	72%
South Korea	1,600	70%
China	50,000	65%
Italy	8,200	65%
Spain	6,300	64%
Poland	7,400	62%
Austria	2,200	61%
Morocco	800	61%
Germany	12,400	60%
Finland	2,000	55%
France	9,400	52%
Russia	27,000	50%
South Africa	5,900	45%
India	14,700	35%
United Kingdom	3,300	33%

[5] References on rail electrification statistics by country:

https://www.cia.gov/library/publications/the-world-factbook/fields/2121.html

http://uic.org/IMG/pdf/synopsis_2015_print_5_.pdf

http://statbel.fgov.be/fr/statistiques/chiffres/circulation_et_transport/transport/ferroviaire/

The 2018 California State Rail Plan calls for the state government to aid the advancement of zero and near-zero emissions technologies for freight railroads, stating that "priority should be given to rail projects that support the deployment of technologies that produce zero or near-zero air emissions… the State's role in advancing the adoption of this technology is central, from both a regulatory and financial perspective, because it can help advance development of the prerequisite technology; and by providing financial incentives, support its commercialization"[6].

Conventional electrification with overhead catenary wire is most cost-effective at high train frequencies; and Southern California has some of the busiest railroad corridors in the U.S. For example, the BNSF San Bernardino Subdivision between Los Angeles and Fullerton sees about 50 passenger trains and 60 freight trains per day, and 60 daily freight and 40 passenger trains between West Riverside and Colton. The BNSF Cajon Subdivision, over Cajon Pass, sees nearly 100 freight trains daily. Both passenger and freight rail traffic are expected to increase in the years ahead, making the zero-emissions benefits of electric trains even more important for trackside communities.

Battery-electric locomotives-

Freight car switching on either end of electrified track segments can be performed by zero emissions battery-electric switcher locomotives, which would not require overhead catenary. Locomotives with both batteries and a retractable overhead pantograph for receiving power from overhead catenary could utilize catenary wire where it exists, and also run on battery where there is no catenary. Therefore, with the added flexibility of battery locomotives, even an 'incomplete electrification' of the region's rail network could still be very useful in the transition to a zero-emissions railroad system. Some versions of Alstom's Prima H3 and Prima H4 electric switcher locomotives have batteries as well as a pantograph, and have entered commercial service in Germany.

Along with limited battery range, a primary operational challenge with successfully introducing a battery locomotive into service is incorporating efficient plug-in charging infrastructure and procedures into daily operations. This is especially true with locomotives that must be taken out of service or "blue flagged" in order to plug in to trackside electricity cables. This is a time-consuming process, and could cause costly delays to rail operations. An overhead catenary wire can charge the locomotive's batteries while simultaneously powering the train's motion, providing a significant operational improvement over all- battery locomotive adoption.

The 2018 California State Rail Plan called for a "battery assist switcher demonstration" in rail yards, and a need to "reduce yard and terminal emissions through implementation of zero emissions technologies (cargo handling and switching).."[7]. In late 2017, the California Air Resources Board awarded funding to a demonstration project at the Port of Los Angeles, in partnership with Pacific Harbor Lines, of a battery-electric/natural gas hybrid locomotive developed by VeRail Technologies[8].

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[6]California State Department of Transportation, *2018 California State Rail Plan*, Public Release Draft, November 2017, section 5.2.7 (Advancement of Zero and Near-Zero Emissions Technologies), Pg. 168:
http://www.dot.ca.gov/californiarail/docs/CSRP_PublicReleaseDraft_10112017.pdf

[7]Ibid., pg. 167:
http://www.dot.ca.gov/californiarail/docs/CSRP_PublicReleaseDraft_10112017.pdf

[8]https://www.portoflosangeles.org/Board/2018/May%202018/05_17_18_Agenda_Item_11.pdf

Emissions benefits-

Even with conventional diesel locomotives, emissions per ton are several times less by rail when compared to on-road trucks. With electrification, the emissions directly emitted by locomotives drops to zero. Given the choice, rail is always a cleaner way to move freight than by truck. For example, Southern California's busiest truck corridor (Interstate 710) produces ten times more emissions than the region's busiest rail corridor. Diesel trucks are the single greatest source of smog-forming nitrogen oxide (NOx) emissions in Southern California. In 2012 the average nitrogen oxide (NOx) emissions from heavy-duty diesel trucks was 143 tons per day within the South Coast Air Quality Management District's jurisdiction of Los Angeles, Orange, San Bernardino and Riverside counties. By contrast, cars produced an average of 42 tons of NOx per day, light-duty trucks 37 tons, and medium-duty trucks 27 tons. Locomotives produced an average of 20 tons of NOx per day[9].

Historically, efforts to advance electrification and other clean transportation technologies in the region have been driven primarily by a desire to reduce local air pollution. Many populated areas in Southern California regularly do not meet federal air quality standards, especially those near freight movement sites such as ports, rail yards and warehouses. The huge amount of freight movement activity in the South Coast Air Basin (SCAB) results in a massive amount of emissions from diesel-powered trucks and trains. Diesel exhaust around the San Pedro Bay ports and the region's railroad yards and freight facilities has been linked to cancer, asthma and many other ailments, as well as contributing to premature deaths in nearby communities. Emissions from goods movement, including levels of NOx, SOx and diesel particulate matter (PM), have declined significantly in the past decade due to stricter regulation and the introduction of cleaner diesel engines. However, the public health impacts in the region caused by both port-related and domestic goods movement still contribute to thousands of premature deaths and billions of dollars in health care costs each year[10]. The area around the San Pedro Bay ports has even been dubbed the "diesel death zone"[11]. In the lnland Empire, a hub of port-related goods movement and warehousing, residents also suffer from some of the highest particulate and ozone pollution levels in the U.S.

Switching from a freight rail system that relies on diesel power to one that relies on electric power will substantially reduce air pollution in Southern California. In addition to reducing emissions of pollution with local public health impacts, electrifying freight rail will also help meet the state's goals for reducing greenhouse gas (GHG) emissions. If more freight and passenger traffic is shifted from road to rail in the future, the emissions benefits of electric rail would be more significant. According to the 2016 RailTEC report, if all line-haul freight rail locomotives in the SCAB were all-

[9] Tony Barboza, "Southern California regulators have a chance to rein in freight pollution. Will they take it?", *Los Angeles Times*, April 5, 2018:
http://www.latimes.com/local/lanow/la-me-freight-air-quality-20180405-story.html

[10] Port of Long Beach & Port of Los Angeles, *San Pedro Bay Ports Clean Air Action Plan 2017, Draft Final Clean Air Action Plan Update*, July 2017, pgs. 16-20:
http://www.cleanairactionplan.org/documents/clean-air-action-plan-2017-draft-document-final.pdf

[11] Marla Cone, "U.S. Neighborhoods Struggle with Health Threats from Traffic Pollution", *Scientific American*, October 11, 2001:
https://www.scientificamerican.com/article/us-neighborhoods-struggle-with-health-threats-from-traffic-pollution/

electric (and all electricity used from zero-emissions sources), compared to using a fleet of 100% Tier 2 diesel locomotives, the annual emissions reductions possible would be as follows[12]:

- 372,000 tons CO_2
- 3,750 tons NOx
- 1,000 tons CO
- 200 tons hydrocarbons (HC)
- 140 tons particulate matter (PM)

The above figures do not include the region's freight yard/switcher or passenger locomotives. However, over 80% of locomotive emissions in the South Coast Air Basin are from line-haul freight trains. It is worth noting how the emissions reductions of fully electric locomotives are superior to other low emissions technologies. The 2016 RailTEC report also concluded that Tier 4 diesel freight locomotives with after-treatment (the report's preferred alternative), would not reduce CO_2 or CO emissions in the region. Also, diesel-LNG locomotives would decrease CO_2 emissions, but increase CO emissions.[13]

Energy savings benefits-

On a per-ton basis, a double-stack container rail car pulled by a conventional diesel-electric locomotive moves freight three to five times more fuel-efficiently than a truck[14]. The overall energy efficiency of diesel-electric locomotive, or the proportion of energy diesel fuel converted to useful motive power, is typically less than 40%. In fact, U.S. freight railroads have substantially improved their overall energy efficiency in the past several decades. According the Association of American Railroads, U.S. freight railroads moved one ton of freight an average of 468 miles per gallon of diesel fuel, up from 235 miles in 1980[15]. However, there is limited room for further improvement of the fuel efficiency of diesel engines. According to a 2014 Federal Railroad Administration report, the diesel locomotive fleet efficiency is expected to improve 15% to 20% by 2030, although this could be increased slightly with more efficient operating pratices such as optimized distributed power, train management software, and improved maintenance practices[16]. Diesel engines in general up are expected to have up to 15% improvement in fuel efficiency over the next decade or so[17].

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[12] *Transitioning to a Zero or Near-Zero Emission Line-Haul Freight Rail System in California Operational and Economic Considerations, Final Report.* Prepared for State of California Air Resources Board by University of Illinois at Urbana-Champaign Rail Transportation and Engineering Center (RailTEC), Spring 2016, pg. 52. https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf.

[13] Ibid., pg. xiii. https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf.

[14] Federal Railroad Administration, *Comparative Evaluation of Rail and Truck Fuel Efficiency on Competitive Corridors*, November 2009, pg. 9: https://www.fra.dot.gov/eLib/details/L04317 .

[15] Association of American Railroads, *The Environmental Benefits of Moving Freight by Rail,* June 2017: https://www.aar.org/BackgroundPapers/Environmental%20Benefits%20of%20Moving%20Freight%20by%20Rail.pdf

[16] Federal Railroad Administration, *Best Practices and Strategies for Improving Rail Energy Efficiency - Final Report*, Office of Research and Development, Washington, D.C., January 2014, pg. 71: https://www.kpesic.com/sites/default/files/DOT-VNTSC-FRA-13-02.pdf

[17] https://www.theicct.org/blogs/staff/ever-improving-efficiency-diesel-engine
https://www.arb.ca.gov/msprog/onroad/caphase2ghg/presentations/2_7_wayne_e_cummins.pdf

The overall per-ton energy efficiency advantage of rail more than doubles with an all-electric locomotive, which converts over 80% of the electric energy captured from the overhead catenary wire into useful motive power[18]. The annual 'at wheel' energy consumption of all line haul freight rail locomotives operating in the SCAB, pulling an average of 130 line-haul freight trains per day, is presently about 435,000 MWh.

Energy consumption of electric rail, utility participation-

Electric utilities must be involved in planning for rail electrification from the outset. It is the electric utilities who will provide the electric energy, build up new substation infrastructure to service electrified track, and construct or upgrade distribution and transmission lines. While there would be a need to construct new electric power infrastructure to serve electrified freight rail lines, electric utilities could see the new loads from freight trains as a business opportunity. In fact, the region's utilities are concerned about losing revenue from more and more customers, particularly large industrial and institutional ones, investing in distributed self-generation projects such as rooftop solar. Utilities also would benefit from being able to transmit or distribute power via rail rights-of-way. Existing transmission and distribution grid infrastructure needed to service electrified track in the Los Angeles area tends to be in industrial areas and alongside rail lines. The power for electric locomotives can come from zero-emissions sources, including hydroelectric, geothermal, solar and wind power, providing a larger market for these resources.

Table 2: Typical Electric Power Equivalent of Railroad Trains[19]

Light Rail or Subway	1 MW or less
Commuter Trains	3 to 4 MW
High Speed, Intercity Passenger Trains	4 to 8 MW
Very High Speed Passenger Trains	8 to 20 MW
Long-Haul U.S. Freight Trains	18 to 24 MW

As shown in Table 2 above, a single large line-haul freight train can consume the equivalent of over 20 MW of electric power. The 2016 CARB RailTEC report estimated that UP and BNSF locomotives operating in the South Coast Air Basin, about 130 line-haul freight trains per day, currently consume the equivalent of 435,000 MWh/year, or about 50 MW average load[20]. The 2016 CARB studies estimated that powering all line-haul freight locomotives with electricity would require just over 400,000 MWh of electricity per year (45 MW average load) at present rail traffic levels, and 1,000,000 MWh/year by 2050 (114 MW average load). This amount of electric energy is well under 1% of the present-day annual consumption of the combined Southern California Edison (SCE) & Los Angeles Department of Water and Power (LADWP) service areas.

Both LADWP and SCE have goals of meeting 33% of total electric energy demand from renewables by 2020, and 50% by 2030, reflecting the state of California's goal as a whole. LADWP has pledged to completely phase out coal-generated electricity by 2025. In 2016, about 20 TWh of solar electricity was generated in California (not including roof-top solar

[18] RailTEC, Spring 2016, pg. 49. https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf.

[19] B. Bhargava, *Railway Electrification Systems and Configurations*, SoCal Edison, Institute of Electrical and Electronics Engineers (IEEE), 1999.

[20] RailTEC, Spring 2016, pg. 48: https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf.

projects on homes and small businesses), while wind generated about 13.5 TWh and geothermal contributed about 12 TWh[21].

As a comparison, the total solar, wind and geothermal share of the electricity generated in 2016 within California, approximately 46 TWh, is *forty six times* the 2050 projected freight rail electric energy consumption for the South Coast Air Basin described by the 2016 CARB studies. The share of renewable energy in the state's electricity mix is growing rapidly. California leads the nation in utility-scale solar energy development, with an installed generating capacity of about 10,000 MW in 2016[22]. At least 15,000 MW of solar energy capacity is in various stages of development in the state[23]. A typical solar power plant has an overall capacity factor of 20%. In theory, this would indicate that about 570 MW of solar power generation capacity would be needed to produce 1 TWh of annual electric energy.

Energy storage, as well as SCE and LADWP's self-generation incentive programs, are also changing their utility business model. In the SCE planning area, the peak output of customer self-generation by solar photovoltaic (PV) sources is projected to increase to as much as 2,500 MW by 2026, and as much as 1,300 MW for non-PV source[24]. In the LADWP planning area, the peak output of customer self-generation by PV sources is projected to increase to as much as 340 MW by 2026, and as much as 240 MW for non-PV sources[25]. California's largest utilities are also now required to procure progressively larger amounts of energy storage capacity in the years ahead. Energy storage connected to electric rail catenary, and trackside charging systems for locomotives with batteries, could be located at passenger train stations and along freight railroads. A sufficient level of energy storage along a rail line could provide backup power in case of a local or regional power outage.

These rail energy storage systems could provide a new business opportunity for electric utilities. Under utility control, these distributed energy storage systems could be charged at off-peak hours, provide power to the local distribution grid during periods of peak demand, and provide ancillary services such as voltage and frequency support, reactive power, or aid integration of distributed solar energy systems. California utilities should consult the experience of other countries with both extensive electric rail and high percentage of renewable energy generation, such as Germany and Spain. Both of these nations have populations greater than California's, meet more than one-third of their overall electricity needs from renewable sources (excluding large-scale hydroelectric), and have a rail system electrification rate of at least 60%.

[21] California Energy Commission, California Electrical Energy Generation statistics page: http://www.energy.ca.gov/almanac/electricity_data/electricity_generation.html

[22] http://www.energy.ca.gov/renewables/tracking_progress/documents/installed_capacity.pdf

[23] https://www.seia.org/research-resources/major-solar-projects-list

[24] *California Energy Demand 2016-2026 Revised Electricity Demand Forecast, Volume 2: Electricity Demand by Utility Planning Area*, California Energy Commission, January 2016, pg. 43: http://docketpublic.energy.ca.gov/PublicDocuments/15IEPR03/TN207438_20160115T152222_California_Energy_Demand_20162026_Revised_Electricity_Demand_Fo.pdf

[25] Ibid., pg. 108.

3. Electric Freight Rail in Southern California

With its deep-water ports and extensive network of railways and highways, Southern California has long been one of the country's most important hubs for freight movement. Moving freight efficiently is vital to the region's economy. The freight movement sector directly involves the transportation, warehousing, trade, manufacturing, construction, agriculture, mining and utilities industries. In Southern California, the industries of freight transportation and warehousing directly contribute over 300,000 jobs and about $25 billion of gross regional product. Industries dependent on goods movement directly or indirectly represent nearly $300 billion in gross regional product, and support about 3 million jobs[26]. Warehousing, distribution and logistics centers in Southern California boast about 1.2 billion square feet of storage space, representing 15% of the entire U.S. market, and 40% of the West coast market. Despite the status of Los Angeles as a global entertainment and media center, the regional economic importance of these industries is exceeded by those related to freight movement.

The adjacent ports of Los Angeles and Long Beach, which share San Pedro Bay, are in combination the busiest container port in North America, and responsible for the majority of the region's rail freight. In overall tonnage, San Pedro Bay ranks as the third largest on the continent behind the ports of Houston and South Louisiana. Arguably the most important single international trade gateway on the continent, the Ports of Los Angeles and Long Beach together handle about 40% of all containerized U.S. imports. In 2017, nearly 17 million twenty-foot-equivalent units (TEUs) of intermodal container traffic moved through the San Pedro Bay Ports. Over $300 billion worth of goods moved in these containers. The majority of this freight is shipped by trucks and trains through the Los Angeles Basin to destinations outside of Southern California.

The vast majority of California's rail freight traffic is carried by the two Class I railroads serving the state: Burlington Northern Santa Fe (BNSF) and Union Pacific (UP), which together operate about 130 line-haul freight trains each day in the SCAB[27]. Trains originating or terminating in the South Coast Air Basin transport nearly 100 million tons of freight annually. A map of the region's major freight rail corridors, prepared for State of California Air Resources Board's 2016 zero-emissions rail report, is shown in Fig. 4 below.

Rail cargo at the San Pedro Bay ports is about half intermodal containers, and half carload traffic. In California, intermodal container traffic is growing faster than carload traffic[28]. However, carload rail traffic of bulk commodities remains vital for California's agriculture, automobile, manufacturing, chemical and petroleum industries. In 2016, 28% of containerized import cargo moving through the San Pedro Bay ports left the docks by rail, and 72% by truck. In 2012, the San Pedro Bay Ports were responsible for approximately 55,000 direct daily regional truck trips, many of which are for moving containers. The trends of intermodal freight growth, such as ever-larger container ships, are leading to not only

[26] Southern California Association of Governments, *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, Goods Movement Appendix*, April 2016, pg. 5:
http://www.freightworks.org/DocumentLibrary/2016RTPSCS_GoodsMovement.pdf

[27] RailTEC, Spring 2016 , pg. 24:
https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf

[28] California State Department of Transportation, *2018 California State Rail Plan, Public Release Draft*, November 2017, section 1.3.4 (Freight Demand and Growth Trends), Pg. 17:
http://www.dot.ca.gov/californiarail/docs/CSRP_PublicReleaseDraft_10112017.pdf

congestion of port facilities but also highways and railways. The San Pedro Bay Ports anticipate annual intermodal cargo volumes to increase about 3% per year, and to over 36 million TEUs annually by 2040.

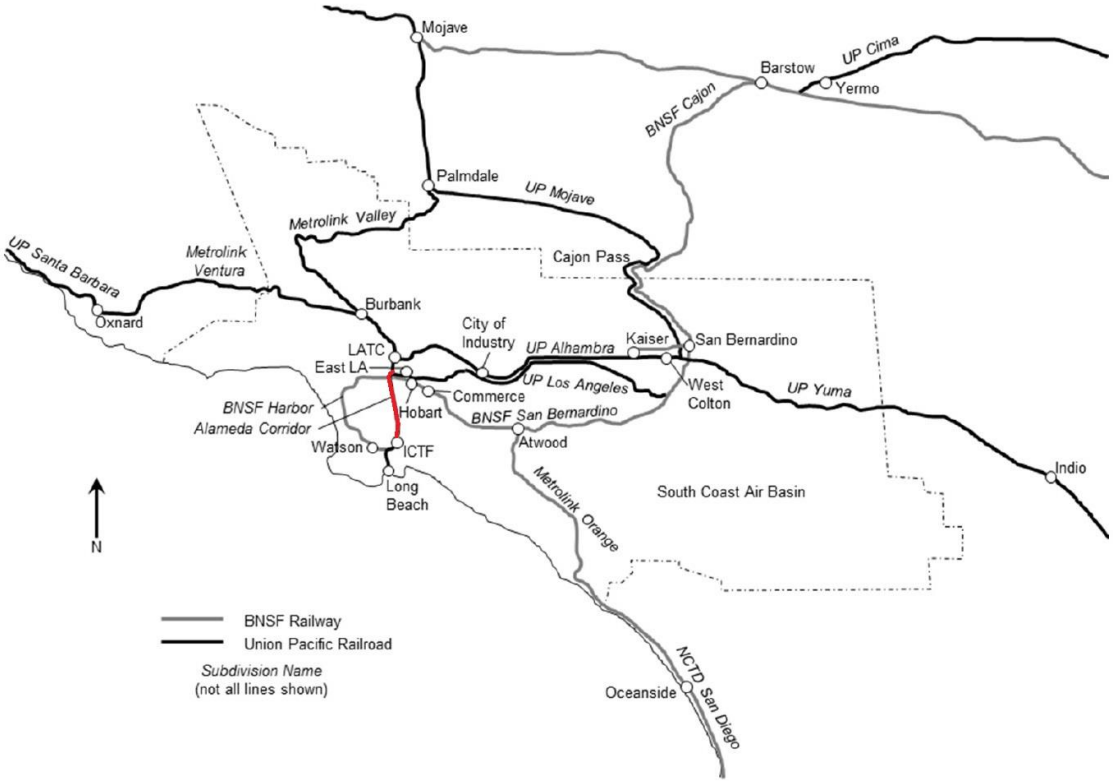

Fig. 4. Map of line-haul freight rail network in the South Coast Air Basin (SCAB) of Southern California, highlighted to show the Alameda Corridor.

Source: Figure 3-2 from *Transitioning to a Zero or Near-Zero Emission Line-Haul Freight Rail System in California: Operational and Economic Considerations, Final Report.* Prepared for State of California Air Resources Board by University of Illinois at Urbana-Champaign Rail Transportation and Engineering Center (RailTEC), Spring 2016.

On-dock railyards offer the greatest opportunity to reduce truck miles per container, yet represent roughly 10% of the San Pedro Bay ports' intermodal freight traffic. The amount of containers transferred to on-dock rail is increasing, and transferring more containers on-dock from ship to rail is a goal of both ports. Both ports now have on-dock rail infrastructure at nearly all container terminals. The past decade has seen more than $2 billion worth of port-area on-dock rail capacity improvements, and there is $1 billion of proposed investment in near-dock rail infrastructure[29]. In May 2018, the Los Angeles County Metropolitan Transportation Authority, in partnership with the Port of Los Angeles, Port of Long Beach, and Alameda Corridor-East Construction Authority, received nearly $138 million of state SB1 funding from the California Transportation Commission's 2018 Trade Corridor Enhancement Program

[29] Southern California Association of Governments, *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, Goods Movement Appendix*, April 2016, pp. 32-34: http://www.freightworks.org/DocumentLibrary/2016RTPSCS_GoodsMovement.pdf

(TCEP) as part of the Southern California Rail Project. This rail infrastructure project includes eight directly connected component projects, and represents an investment totaling just over $1 billion, leveraging funding from multiple sources (private, state, and local). The eight component projects include five on- or near-dock rail projects at the ports and three rail-highway grade separations on the Alameda Corridor-East – UP Los Angeles and Los Angeles–San Diego–San Luis Obispo Rail (LOSSAN) –BNSF San Bernardino Subdivisions main lines[30].

Off-dock railyards, including near-dock facilities that are 5 miles or less away from the port, handle about 30% of the San Pedro Bay ports' intermodal freight traffic. UP's proposed expansion of the Intermodal Container Transfer Facility (ICTF) in Long Beach, and BNSF's proposed new near-dock Southern California International Gateway (SCIG) project nearby in the Wilmington neighborhood of Los Angeles, have met significant community opposition largely due to air pollution concerns. Further inland, the off-dock intermodal facilities include BNSF's San Bernardino and Hobart (the busiest in the country) yards, and UP's LA Transportation Center (LATC) and City of Industry yards, shown on the map in Fig. 4 below. Also important for freight movement in the region are transloading or transshipment facilities, where goods are typically taken out of 40' international containers arriving from the port, sorted, repackaged or placed in storage, then moved to a 53' container for domestic shipping to the rest of the U.S. In May 2018, the governing board of the South Coast Air Quality Management District voted to craft rules to reduce vehicle emissions at warehouses, distribution centers and rail yards[31]. This action by the region's chief air quality regulating authority could put pressure on the freight railroads to consider electrification. The Port of Long Beach and the Port of Los Angeles have long been leaders in reducing emissions from port operations. Electrification of rail lines around the ports would reduce emissions further and build upon, and add value to, the large infrastructure investments that the ports and region are making to shift more freight from truck to rail.

Alameda Corridor-

The Alameda Corridor and the Pacific Harbor Line system around the ports (shown on the map in Fig. 5 below) could serve as a pioneering example of freight rail electrification. The 20-mile, triple-tracked and grade-separated Alameda Corridor line, between the ports and the main freight yards east of downtown LA, was built with enough vertical clearance (25' minimum) for an overhead catenary wire over a double-container stacked train, along with other features such as spaces for substations, which could be used for future electrification. Completed in 2002, it is publicly-owned by the Alameda Corridor Transportation Authority (APTA), a joint-action agency of the cities of Los Angeles and Long Beach. However, the Alameda Corridor Operating Agreement presently states that the ACTA cannot require the private railroads to use electric locomotives. Currently used by about 40 trains per day, the Alameda Corridor has the capacity for about 150, making the corridor an underutilized resource. However, the corridor is still credited with reducing truck traffic congestion on the I-710 and other freeways. The Alameda Corridor's Mid-Corridor Trench, shown in the photo in Fig. 6 below, is a 33' deep, 10 mile-long, below-ground segment that is that allows the rail line to avoid more than 200 street-level railroad crossings.

[30] http://www.catc.ca.gov/programs/sb1/tcep/docs/TCEP_Applications_Final/SoCal-Rail-Project.pdf

[31] http://www.latimes.com/local/lanow/la-me-freight-pollution-20180504-story.html

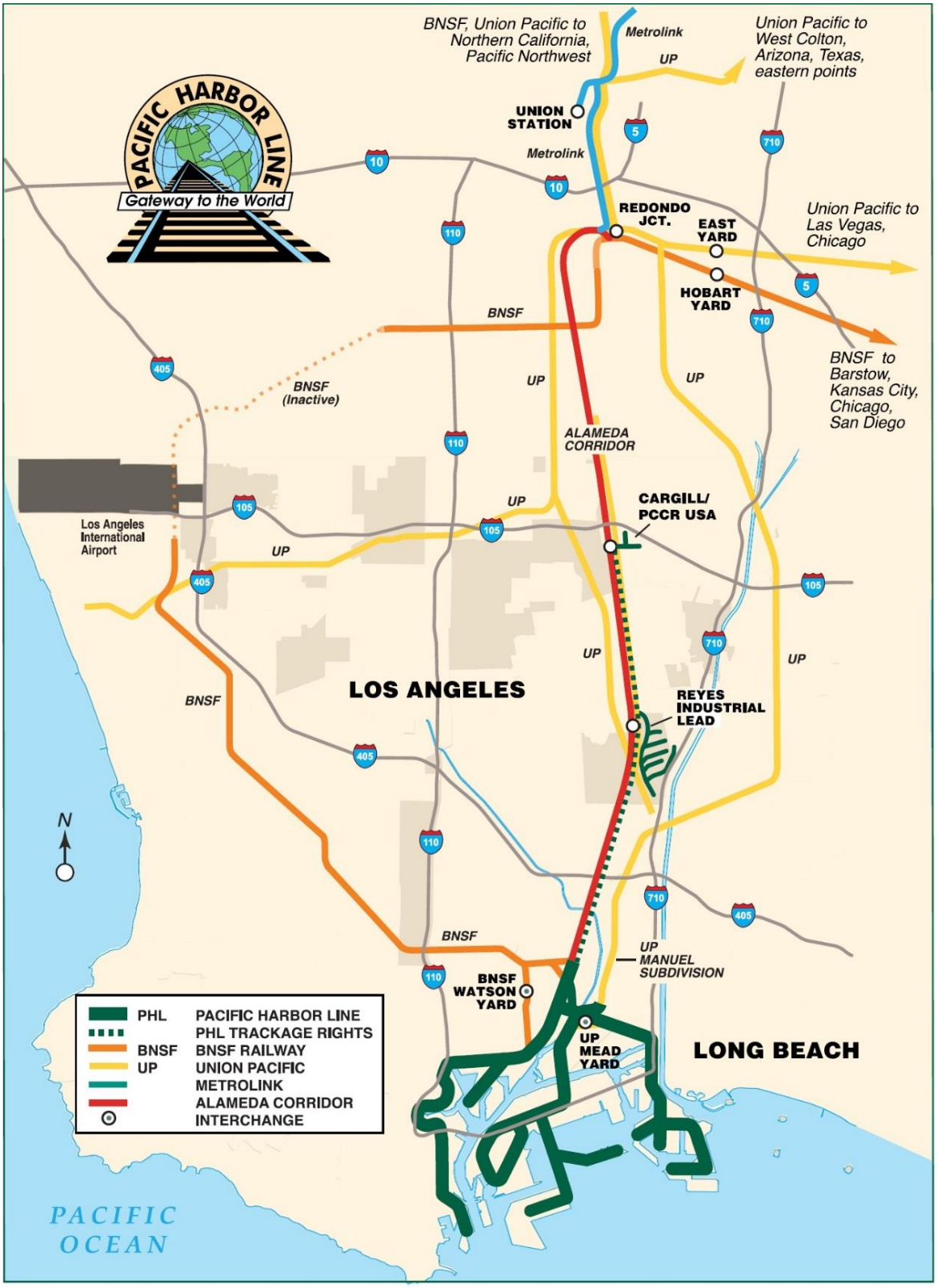

Fig. 5. Map of the Alameda Corridor, Pacific Harbor Line, and connecting freight rail lines.
(Map: Anacostia Rail Holdings, http://www.anacostia.com/sites/www.anacostia.com/files/assets/PHL-LA-LBTml-Map081414.pdf)

Fig. 6. A section of the Alameda Corridor's mid-corridor trench in the city of Compton.
(Photo by Brian Yanity)

Electrification of the Alameda Corridor, combined with other infrastructure projects and policies which encourage shifting of port freight movement from truck to rail, is a superior environmental and socially-acceptable alternative to adding more lanes to the I-710 freeway.

Freight car switching on either end of electrified track segments could be performed by zero emissions battery-electric switcher locomotives, which would not require overhead catenary. Electrification of the Pacific Harbor Line could be implemented with battery-electric switcher locomotives to complement an overhead catenary system, a scenario shown on the map below in Fig. 7.

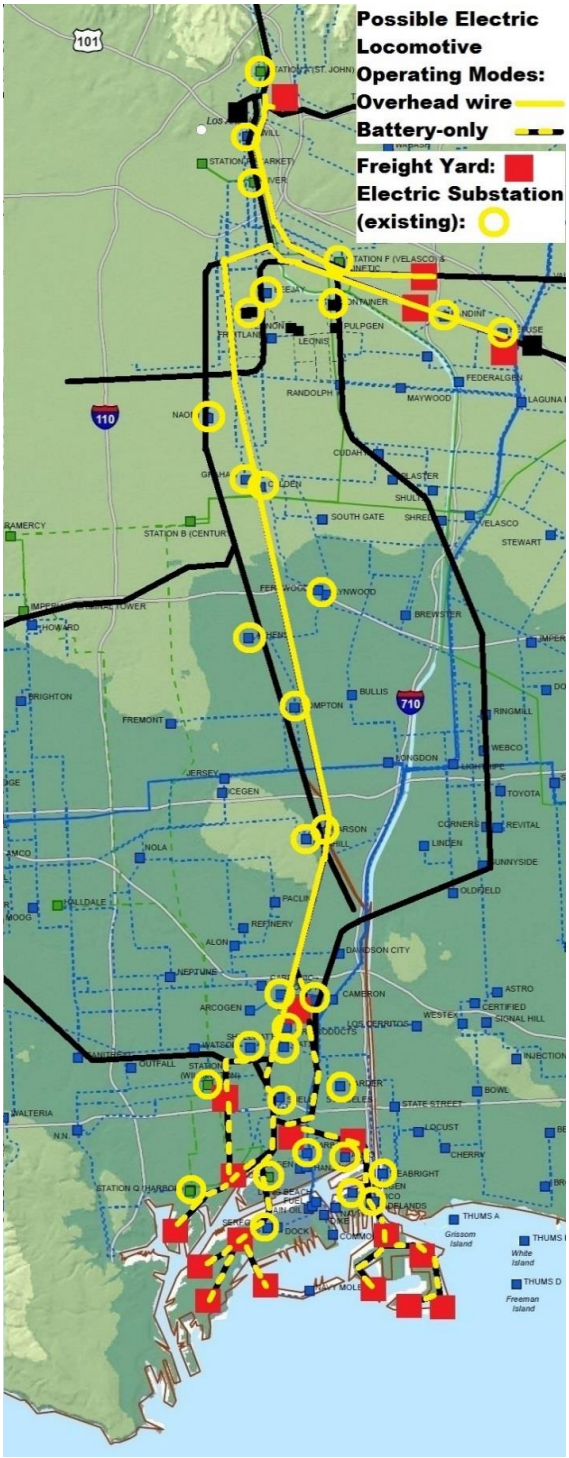

Fig. 7. Possible operating scenario of Alameda Corridor electrification using catenary/battery hybrid locomotives, overlaid on map of existing electric utility transmission lines and substations
(Background map: California Energy Commission)

Electrification of short-haul freight rail from the Ports of Long Beach and Los Angeles to the Inland Empire-

The 'Inland Empire' region, consisting of San Bernardino and Riverside counties, has emerged as a major warehousing, distribution, logistical and transshipment center, due to available land and its strategic location along major rail and highway networks. The majority of freight passing through the San Pedro Bay ports also travels through the Inland Empire. About a third of all containerized imports that move through the San Pedro Bay ports go by truck to warehouses and distribution centers in San Bernardino and Riverside counties. A map of over 1000 distribution centers in the greater Los Angeles area is shown below in Fig. 8; and Fig. 9 shows the estimated one-way trip times for a truck travelling from the San Pedro Bay ports under congested conditions. Short-haul rail could also be used by the Class I railroads to assemble a long-haul train at railyards in the Inland Empire, by combining several short 'shuttle' trains from the ports.

Exhibit 15: Regional Distribution Centers

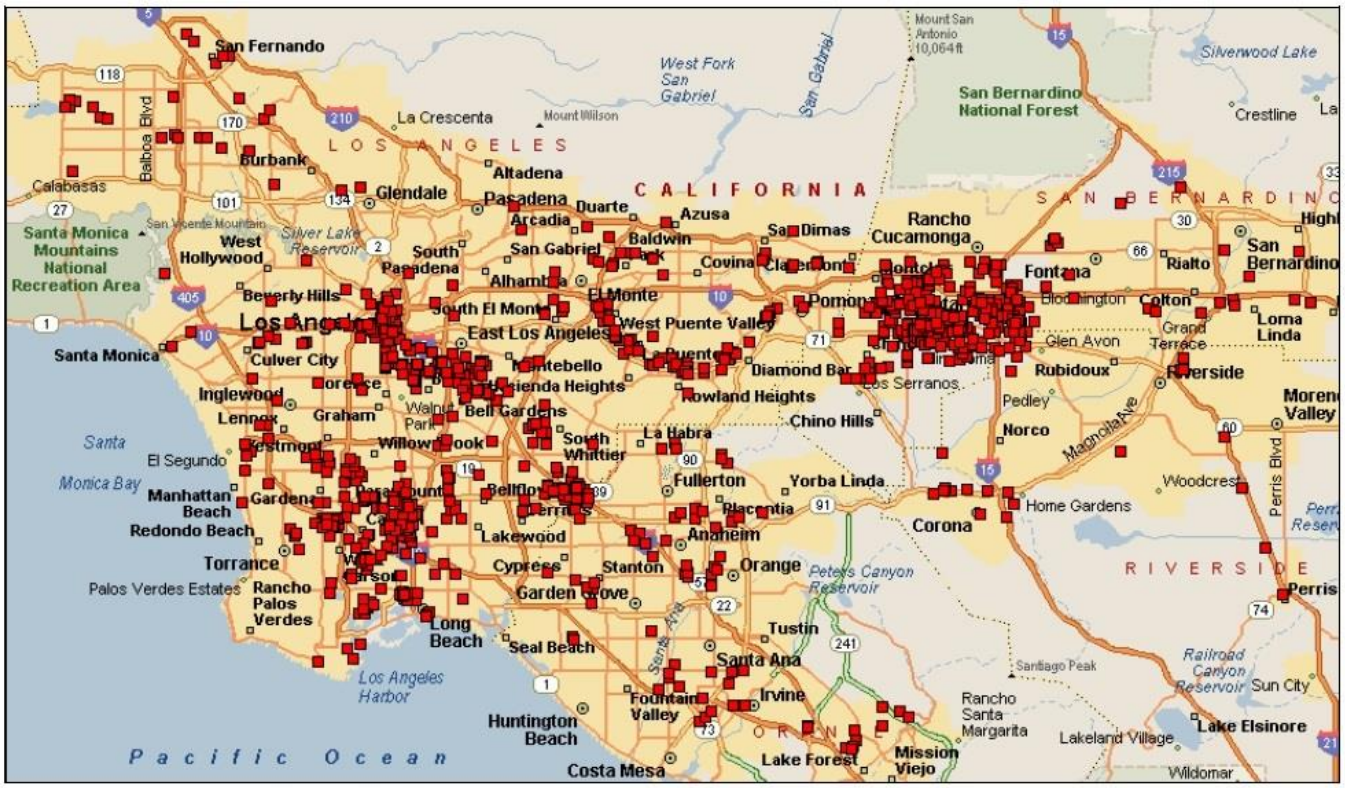

Fig. 8. Locations of over 1000 regional distribution centers
(Exhibit 15 from *Inland Port Feasibility Study, Project No. 06-023 Final Report*, Prepared by the Tioga Group Inc., Railroad Industries, Inc. and Iteris for the Southern California Association of Governments, August 2008, pg. 22: http://tiogagroup.com/docs/Tioga_Grp_SCAGInlandPortReport.pdf)

Exhibit 16: Port to DC Congested Travel Times

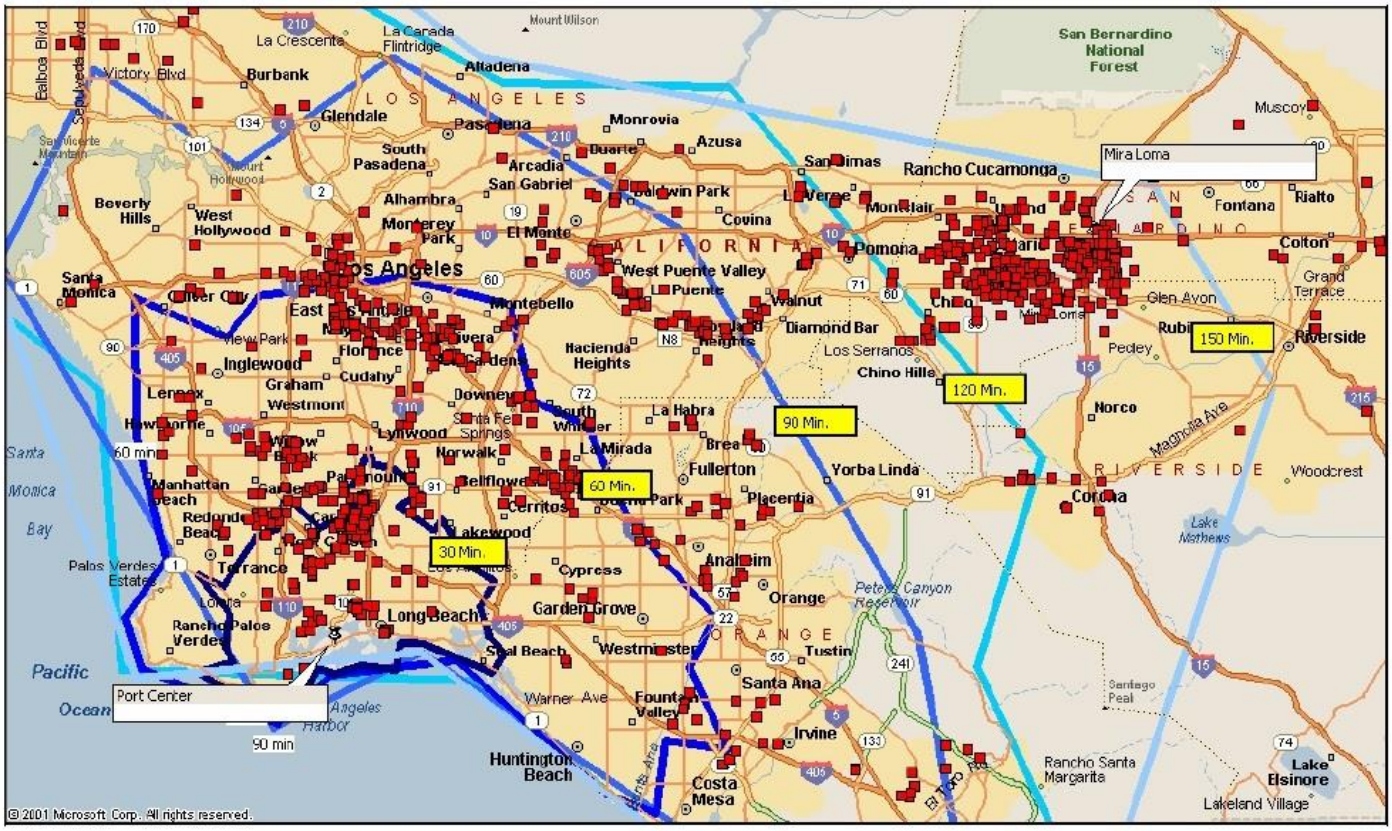

Fig. 9. Estimated port truck drayage times under congested highway conditions (30 mph on highways and 20 mph on surface streets). Under those conditions, the approx. 60-mile drayage times to the large concentrations of distribution centers (DCs) in the Ontario Airport/Mira Loma area are 120-150 minutes.
(Exhibit 16 from *Inland Port Feasibility Study, Project No. 06-023 Final Report*, Prepared by the Tioga Group Inc., Railroad Industries, Inc. and Iteris for the Southern California Association of Governments, August 2008, pg. 23: http://tiogagroup.com/docs/Tioga_Grp_SCAGInlandPortReport.pdf)

According to the 2008 *Inland Port Feasibility Study* for the Southern California Association of Governments (SCAG), there were at the time about 3,500 daily truck trips between the Ports and Riverside and San Bernardino countries combined. This 2008 study concluded that two daily round trip intermodal trains could divert up to about 35% of these trips. Regional truck vehicle miles travelled (VMT) was predicted to decline with the introduction of a short-haul rail service. However, there was predicted to be a localized increase in truck traffic in the immediate vicinity of the inland port terminal[32]. Existing freight railyards in the region are operating at capacity and have very limited surrounding land

[32] *Inland Port Feasibility Study, Project No. 06-023 Final Report*, Prepared by the Tioga Group Inc., Railroad Industries, Inc. and Iteris for the Southern California Association of Governments, August 2008, pg. 1: http://tiogagroup.com/docs/Tioga_Grp_SCAGInlandPortReport.pdf

available for expansion, so sites for new rail-truck intermodal facilities were studied. The new inland terminal locations studied included Mira Loma, Ontario and Victorville.

From the ports, many shippers have historically found that trucking containers to the Inland Empire for transloading from 40' international containers to 53' domestic containers to be cheaper than paying the fee to use the Alameda Corridor. However, in recent years drayage trucking costs have increased due to highway congestion, tightened port security, higher driver wages and other factors. Increased road congestion and trucking costs, particularly near the Ports of Los Angeles and Long Beach, have renewed interest in short-haul freight rail service to the Inland Empire, which previous studies had concluded to be operationally feasible yet not economically viable. The most recent such study was completed in 2008. Conditions have changed in the past decade, and benefits which may have been undervalued in past studies include reduced diesel emissions from trucks resulting in less public health impacts, decreased port and road congestion, reduced wear on road infrastructure, and increased port capacity and efficiency. A 2017 analysis by the American Transportation Research Institute estimated that road congestion in the Los Angeles area costs the trucking industry greater than $1 billion per year in added operational costs, the most of any metropolitan area in the nation[33]. The ports' Clean Air Action Plan will also increase trucking costs by requiring newer, cleaner trucks and eventually fees for non-zero emissions vehicles[34].

Many major ports around the world, including several in the U.S., have dedicated short-haul rail service from the docks to special intermodal freight railroad yards known as 'inland ports'. In recent decades, the business model of Class I freight railroads such as UP and BNSF has focused on long-haul bulk shipments over 500 miles in length, and not short-haul trains that would compete more directly with truck. However, the decline of bulk commodity shipments of coal and oil in the past several years have made U.S. freight railroads more open to exploring new business opportunities such as short-haul rail.

In addition to investing in more on-dock rail access, the Ports of Long Beach and Los Angeles announced in late 2015 that they were launching a joint feasibility study of short-haul rail service to move containers from the ports to a cluster of new intermodal distribution facilities located in the Inland Empire[35]. The study is motivated by the need to reduce truck congestion at the ports and on highways by shifting of more freight from truck to rail[36]:

> The concept has been studied periodically over the past two decades, but the economics always fell short and the logistical challenges could not be overcome. However, growing port congestion the past two years, increased drayage costs and a desire by beneficial cargo owners in Southern California's Inland Empire to avoid sending their truckers to the harbor offer financial encouragement. Shippers in the Inland Empire will have the advantage of sending their trucks only a short distance to the new rail hub rather than all the way to the harbor and back.

[33] http://atri-online.org/2017/05/16/cost-of-congestion-to-the-trucking-industry-2017-update/

[34] Port of Long Beach & Port of Los Angeles, *San Pedro Bay Ports Clean Air Action Plan 2017, Draft Final Clean Air Action Plan Update*, July 2017, pg. 62: http://www.cleanairactionplan.org/documents/clean-air-action-plan-2017-draft-document-final.pdf

[35] "LA-LB ports revisit short-haul rail to beat congestion", *Journal of Commerce*, December 22, 2015: http://www.joc.com/port-news/us-ports/port-los-angeles/la-lb-ports-revisit-short-haul-rail-beat-congestion_20151222.html

[36] "Shippers await short-haul rail option to LA-LB ports", *Journal of Commerce*, April 27, 2016: http://www.joc.com/rail-intermodal/shippers-await-short-haul-rail-option-la-lb-ports_20160427.html

> The key to success may be held by the importers that operate warehouses in the sprawling Inland Empire east of Los Angeles who would ultimately pay for the service through their freight rates. [economist John] Husing has been talking to the shippers, and he said they are "quite enthused." Warehouses in the Inland Empire would significantly reduce the distance trucks would have to travel if a short-haul service was established there from the ports. Also, there are a number of shippers with operations in Phoenix and Las Vegas that would be much happier sending their trucks to the Inland Empire rather than to the harbor, Husing said.
>
> …developing short-haul rail in Southern California will require support from the UP and BNSF railroads, which own the tracks and much of the rolling stock and equipment in the region. The railroads could work out an agreement with Pacific Harbor Line, which performs switching in the harbor on behalf of the railroads, to pull the trains to the Inland Empire, but that would be a new venture for PHL in its relationship with UP and BNSF.
>
> UP spokesperson Justin Jacobs said the railroad is in early discussions with the various parties about opportunities that exist for on-dock and short-haul rail at the ports, but any project that moves forward must "make sense from a commercial and business perspective." BNSF spokesperson Lena Kent noted that historically there has not been a compelling business case for a short-haul rail service to the Inland Empire. Therefore, BNSF has concentrated its efforts on attempting to secure environmental clearance for construction of its proposed near-dock Southern California International Gateway five miles from the harbor, which would provide sufficient staging acreage for trains that cannot be built on dock. However, a California court recently found the SCIG environmental impact report to be inadequate, so the future of the near-dock facility is uncertain.

The Ports' 2017 Clean Air Action Plan update stated that the Ports are continuing to pursue a detailed review of the short-haul freight shuttle concept, and that further study is necessary to ensure that potential impacts are not just being shifted to a new location[37]. The 2018 California State Rail Plan also described the potential benefits of short-haul freight shuttle trains[38]:

> Short-haul rail shuttles connecting ports with inland regions hosting substantial international trade-related distribution activity offer the opportunity to improve the velocity of the flow of goods into and out of the densely populated regions of Southern California and San Francisco Bay Area. With sufficiently high volumes, short-haul rail shuttles transfer the volume of freight truck traffic away from the already congested highways, particularly in and around the major ports. The capital investment in short-haul rail shuttle improvement can be made using the Traffic Congestion Relief Program funds, given a clear analysis of how the rail shuttle can help relieve congestion on roadways. The feasibility of short-haul rail shuttles is highly sensitive to the differential in costs between rail and highway transportation, and would require efficient operation to maximize their viability, and to capture a better rate of return on the investment of public funds.

The 2008 SCAG study identified some necessary implementing steps for an inland port/rail shuttle system, each with significant barriers to overcome[39]:

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[37] Port of Long Beach & Port of Los Angeles, *San Pedro Bay Ports Clean Air Action Plan 2017, Draft Final Clean Air Action Plan Update*, July 2017, pg. 62:
http://www.cleanairactionplan.org/documents/clean-air-action-plan-2017-draft-document-final.pdf

[38]California State Department of Transportation, *2018 California State Rail Plan*, Public Release Draft, November 2017, section 5.2.6 Short-Haul Rail Improvements), pg. 168:
http://www.dot.ca.gov/californiarail/docs/CSRP_PublicReleaseDraft_10112017.pdf

[39] *Inland Port Feasibility Study, Project No. 06-023 Final Report*, Prepared by the Tioga Group Inc., Railroad Industries, Inc. and Iteris for the Southern California Association of Governments, August 2008, pg. 2:
http://tiogagroup.com/docs/Tioga_Grp_SCAGInlandPortReport.pdf

Target Markets- The primary near-term market identified in the 2008 study was an area in the Inland Empire centered on Mira Loma, due the large number of existing distribution and transshipment facilities in that area which receive cargo trucked from the Ports. The Barstow and Victorville markets are developing and would likely be candidates for future logistics parks served by inland ports.

Choose and Secure Terminal Sites- The study identified a small number of candidate sites for Inland Empire terminals serving Mira Loma, as well as the Southern California Logistics Airport in Victorville and an open area [Lenwood] west of the BNSF yard in Barstow. Locating new intermodal facilities in populated areas have proven to be extremely difficult for freight railroads, due to local community opposition over pollution, traffic and noise concerns.

Provide Port-Area Rail Capacity- Substantial improvements to the port-area rail network would be required.

Rail Service Agreement- The railroad(s) would agree to operate a fixed schedule of rail shuttle trains, or allow a contractor to do so, in return for operating payments and capacity funding. This arrangement would be similar to existing agreements with Amtrak and Metrolink passenger rail in the region.

Substantial improvements to the region's main line rail network would also be necessary, including the ongoing and planned rail capacity improvements funded by government agencies and Class I railroads. Adding more trains on an already-congested freight rail system in Southern California, which shares capacity with passenger rail, is only possible with additional track capacity. Class I railroads will not accept short-haul trains if they interfere with to their primary business of long-haul trains.

A conventional U.S. intermodal terminal typically requires at least 300 acres of land alongside a rail line. It is therefore very unlikely that a new intermodal railyard of this size could be built in the central Inland Empire, where the vast majority of land has already been developed. New types of rail freight service must be explored for the region, which do not depend on slow freight trains or large intermodal facilities conventionally found in the U.S., which take hours to load or unload. There are a number of European innovations in intermodal rail freight which could serve as an example for California, discussed below. These include fast electric freight trains, carrying between 10 to 50 containers or truck trailers, designed to be competitive with highway trucking for distances less than 500 miles. Such trains use innovative intermodal terminals with short loading and unloading times, which do not require large amounts of land.

The economic feasibility of Port-to-Inland Empire short haul freight rail service is beyond the scope of this paper, but if such a service proves to be economically viable it would be a logical first phase for freight rail electrification. Electrified freight shuttles could also utilize the same overhead catenary infrastructure used by electric Metrolink, Amtrak or high-speed rail passenger trains. All-electric locomotives dedicated to the short-haul service could go back and forth along the less-than-100 mile electrified track between San Pedro Bay and the Inland Empire, while conventional non-electric line-haul freight trains could continue to use the same tracks. The 2012 SCAG freight rail electrification report proposed three options, which could also be broken out into construction phases, of freight rail electrification in the region that would cover distances required by short-haul service. These three options are shown on the map in Fig. 10 below, annotated to show potential future intermodal facility/inland port sites which have been discussed in recent studies[40]:

[40] *Task 8.3: Analysis of Freight Rail Electrification in the SCAG Region (Final Technical Memorandum)*, prepared by Cambridge Systematics, Inc. for Southern California Association of Governments, April 2012, pgs. 3-1 to 3-6. http://www.freightworks.org/DocumentLibrary/CRGMSAIS%20-%20Analysis%20of%20Freight%20Rail%20Electrification%20in%20the%20SCAG%20Region.pdf

- Option I: Alameda Corridor, electrification from the ICTF (UP) yard, located just north of the port, to LATC (UP) and Hobart (BNSF) yards east of downtown LA [51 track miles].
- Option II: LATC to West Colton yard (UP), Hobart to San Bernardino (BNSF), sharing catenary with electric passenger trains [422 track miles].
- Option III: Ports to Barstow/Yermo/Indio/Chatsworth/San Fernando [863 track miles].

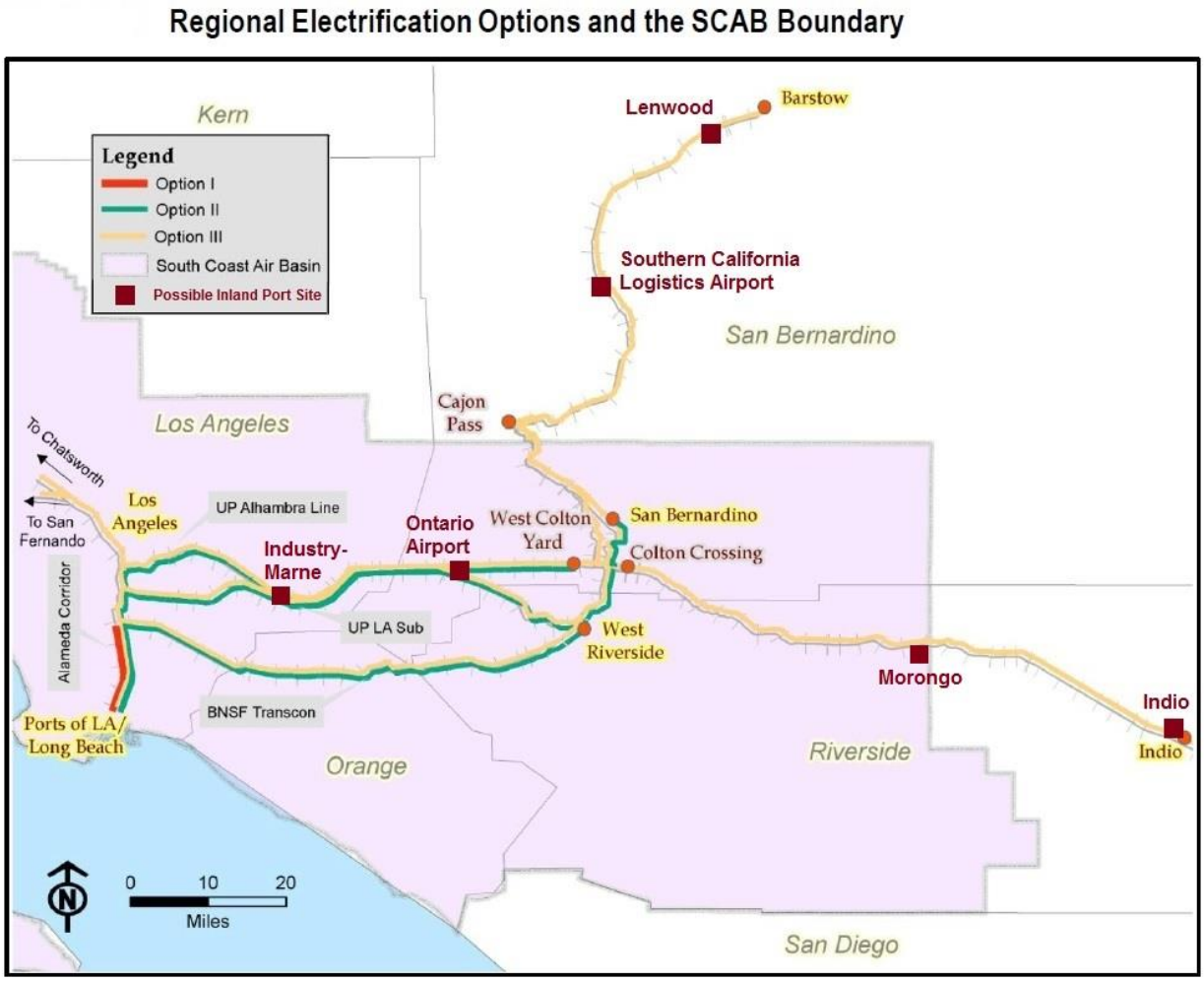

Fig. 10. Freight rail electrification scenarios in the South Coast Air Basin, as proposed by 2012 SCAG report, and annotated to show possible intermodal facility sites for electrified short-haul rail service.
(Background map: *Task 8.3: Analysis of Freight Rail Electrification in the SCAG Region (Final Technical Memorandum)*, prepared by Cambridge Systematics, Inc. for Southern California Association of Governments, April 2012, pg. 4-24)

Deep Inland Ports-

If “deep inland” undeveloped desert areas near Victorville, Morongo, Barstow, Indio or even further-inland sites such as Needles or Yuma turn out to be the only available Inland Port sites, this could justify an initial rail electrification effort encompassing all three electrification phases listed above in the 2012 SCAG study. These inland facilities could also serve as locomotive exchange points for long-distance freight trains.

The Cajon Pass between San Bernardino and Victorville represents a particularly important opportunity for energy and emissions savings through freight rail electrification. The steep grade between San Bernardino (1,053'elevation) to Cajon Pass (3,777' elevation) climbs over a track length of less than 30 miles. Such a grade is well-suited to an electric locomotive's many advantages in mountainous terrain, including better adhesion, greater power at low speeds, and regenerative braking. The two rail subdivisions through the Cajon Pass, UP Mojave and BNSF Cajon, together represent 256,000 MWh annually of 'at-wheel' locomotive energy, or about 60% of all energy consumed by freight locomotives in Southern California[41]. An average of about 100 freight trains per day traverse Cajon Pass, making it the rail section in California which would have greatest emissions and energy-use reductions with electrification. In addition, routing new electric transmission lines along railroad corridors to the desert, such as Cajon Pass, would provide more transmission corridors between solar energy development areas and the Los Angeles Basin.

Electric trucks and electric trains, both serving an 'all-electric' intermodal facility or Inland Port-

Electrification is possible for all land movements of a shipping container, from unloading off a ship with an electric crane, drayed by an electric truck to a nearby transshipment facility or intermodal yard, moved around at that facility with an electric forklift, and carried away on an electric train. A new intermodal facility, such as BNSF's proposed Southern California International Gateway (SCIG) project, or a proposed Inland Port served by short haul rail, could be designed from the ground up as all-electric, utilizing both electric trucks and electric trains along with electric freight movement equipment. The local community and environmental opposition to the SCIG or Inland Port site could be mitigated if the facility would be required to utilize a significant fraction, or even entirely, all-electric trucks and all-electric shuttle and long-haul freight trains. Perhaps a solution to the current SCIG impasse could be found in the form of a 21st century intermodal facility based entirely on electrified modes of transport- both trains and trucks. The several miles between the port docks and the proposed SCIG site in Wilmington would be easily managed by battery-powered electric container drayage trucks that exist today. BNSF has already started testing electric trucks at its Southern California intermodal facilities.

Electrification of intrastate line-haul freight lines operating within California-

Intrastate freight rail, trips typically less than 500 mile between regions within California, has been largely ignored by Class I railroads in the U.S. along with other types short-haul and medium-haul rail. Of the more than 1 billion freight tons moved entirely within California in 2012 (not including pipelines), 94% was by truck and 1% was by rail[42]. Increasing the amount of intrastate freight shipped by rail would reduce air pollution, fuel consumption and reduce North-South truck traffic on Interstate 5 and State Route 99 in the Central Valley. A 2017 article by Michael Setty in *California Rail News* proposed electrifying a new freight rail line over Tejon Pass, paralleling Interstate 5[43]. In order to be competitive

[41]*Transitioning to a Zero or Near-Zero Emission Line-Haul Freight Rail System in California Operational and Economic Considerations, Final Report.* Prepared for State of California Air Resources Board by University of Illinois at Urbana-Champaign Rail Transportation and Engineering Center (RailTEC), Spring 2016, pg. 48:
https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf

[42]California State Transportation Agency, California Freight Mobility Plan, December 2014, pg. 145:
http://www.dot.ca.gov/hq/tpp/offices/ogm/CFMP/Dec2014/CFMP_010815.pdf

[43] Michael Setty, "'Electric fast freight' in California? Moving short-distance truck freight to rail", *California Rail News*, May-September 2017: http://www.calrailnews.org/wp-content/uploads/2017/06/crn0617h-web.pdf

with truck for distances less than 500 miles, intrastate trains would be have to be much faster than a conventional U.S. line-haul freight train. Electric intrastate freight trains can be faster than truck over mountain grades such as Tejon Pass, due to the higher tractive effort of electric locomotives. Light, fast and relatively short (10 to 50 car) trains carrying intermodal container or roll on/off trailers, similar to those in Europe described below, could share electrified passenger tracks.

Roll-on/roll-off "rolling highway" intermodal truck-rail freight service-

A 'rolling highway' or 'rolling road' train enables complete tractor-trailer trucks to drive on or off train cars quickly, without the need for heavy machinery to load or unload the train. The practice is similar to how a truck would drive on or off a ferry boat as part of a longer journey. Rolling road trains can carry the tractor and trailers together, with the drivers riding in a passenger car, or as trailers alone like conventional 'piggyback' intermodal rail cars.

Austria and Switzerland have long had policies which encourage trucks ride through the Alps via electric 'rolling highway' train, to reduce pollution, congestion and accidents on mountain highways. Swiss company RAlpin (http://www.ralpin.ch/), operator of the all-electric Rolling Highway trans-mountain train shown below in Fig. 11, is one of several freight rail operators which carry trucks travelling between France, Germany and Italy. These trains typically have a set schedule, similar to a ferry or passenger rail service.

Fig. 11. RAlpin 'rolling road' electric train carrying trucks in Switzerland
(Photo: RAlpin AG, http://www.ralpin.ch/media/)

European companies such as Modalohr (http://lohr.fr/lohr-railway-system) and Flexiwaggon (http://www.flexiwaggon.se) provide special freight rail cars which allow trucks to quickly drive on or off a train. As described by German freight transport expert Dr. Christoph Seidelmann[44]:

> In the early 1970s a European wagon manufacturer created a revolutionary new freight wagon for combined road-rail transport: the "rolling motorway" wagon. The principle was similar to that of combined road-rail transport in the USA: each wagon had a loading surface that was low and completely flat so that the entire loading area of the rake of wagons could be driven on. The first HGV [tractor-trailer combination] would drive up an end-loading ramp at the rear of the train and continue over the coupled wagons until it had reached the head of the train, where it would be maintained in place (generally with its own handbrake), and the driver would disembark.
>
> In the meantime the next HGV would board the train, followed by the others, until the entire train was laden. A normal European rolling motorway train can carry 20 to 27 trailer trains or semi-trailer trucks and can be loaded in under 30 minutes. The transhipment equipment is also simple and inexpensive: all that is needed is a track which the entire train length and an end-loading ramp.

Modalohr operates trains through the Alps between its roll on/roll off facilities in France and Italy, as well as between Luxembourg and the France/Spain border. The Modalohr intermodal facility in Aiton, France is shown below in Fig. 12 and Fig. 13.

Fig. 12. Modalohr intermodal facility in Aiton, France
(Photo: http://lohr.fr/lohr-railway-system/)

[44]Christoph Seidelmann, *40 years of Road-Rail Combined Transport in Europe, From piggyback traffic to the Intermodal transport system*, International Union of Roal-Rail Transport Companies (UIRR scrl), Brussels, 2010, pg. 25.

European-style electric 'rolling highway' train concepts are being studied for applications in the U.S., most notably the state of Nevada's Land Ferry proposal for the I-80 corridor[45]. The feasibility of zero-emissions rolling-highway intermodal freight service, using a combination of both electric trains and electric trucks, needs to be explored for Southern California. Rolling road trains using electric locomotives could carry trucks between the San Pedro Bay ports and inland locations such as the Inland Empire, Barstow and Indio, from where they could continue their journey. Also possible would be rapid-loading rolling road trains to carry trucks or trailers from Southern California to Nevada and Arizona.

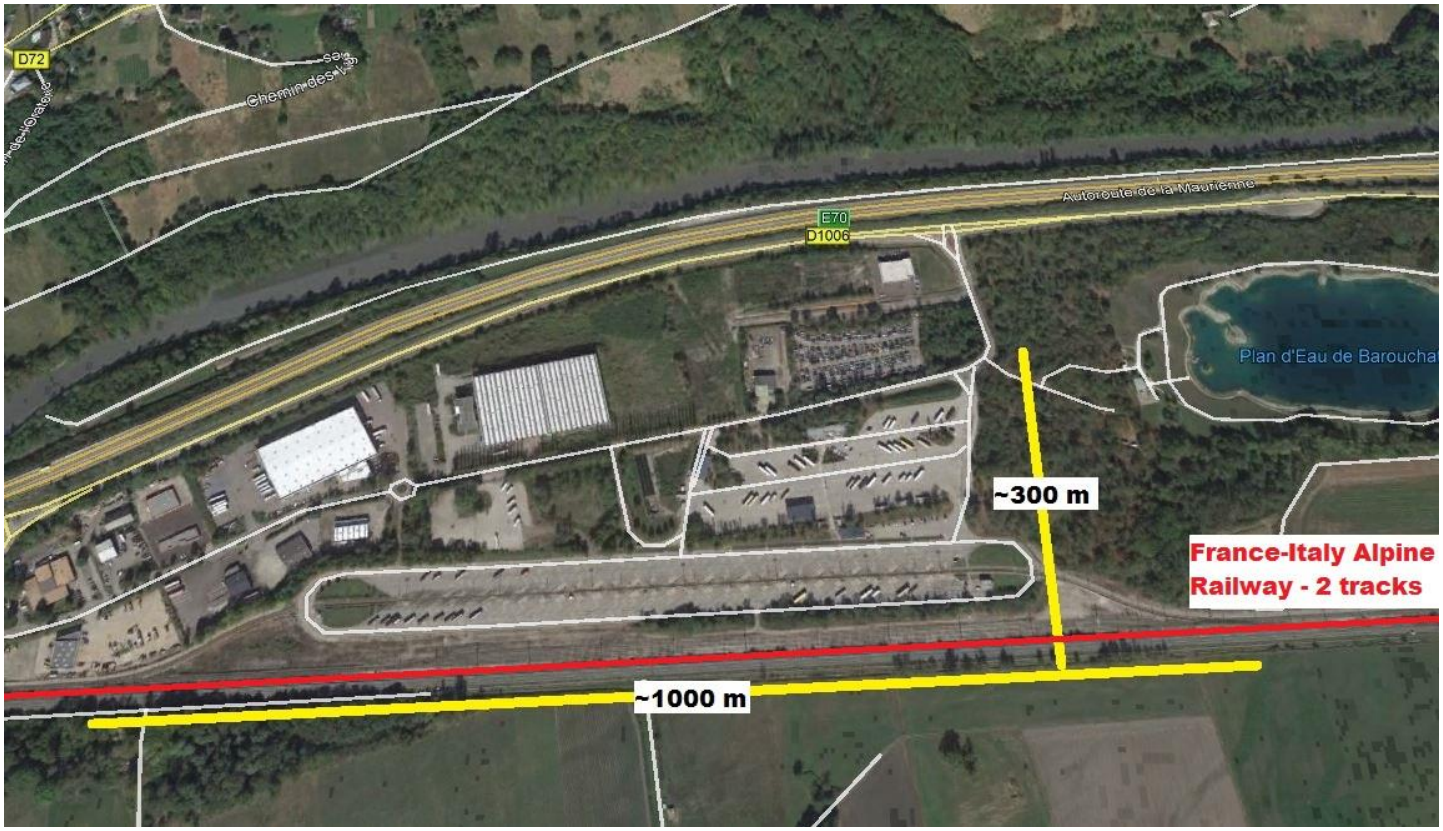

Fig. 13. Modalohr intermodal facility in Aiton, France, with dimensions
(Background aerial photo: Google Earth)

A possible site for a European-style all-electric roll on/roll off intermodal facility exists just west of Ontario International Airport. The possible site is mostly vacant land at present, alongside UP's main line Los Angeles and Alhambra Subdivisions. This site is strategically located near many warehouses and distribution centers (as shown on the map in Fig. 14 below), and is imediately west of Ontario International Airport, a major air cargo hub. Ontario is the nation's 13th busiest airport for cargo, moving nearly 520,000 tons in 2016[46]. Trailers could be quickly moved with electric trucks from

[45] http://tnmc.faculty.unlv.edu//LandFerry/Index.php

[46] https://www.aci-na.org/content/airport-traffic-reports

trains to airport cargo facilities only one to two miles away. With freight shuttle trains from the port, such a facility adjacent the airport would be a strategic rail-truck-sea-air intermodal hub.

Exhibit 15: Regional Distribution Centers

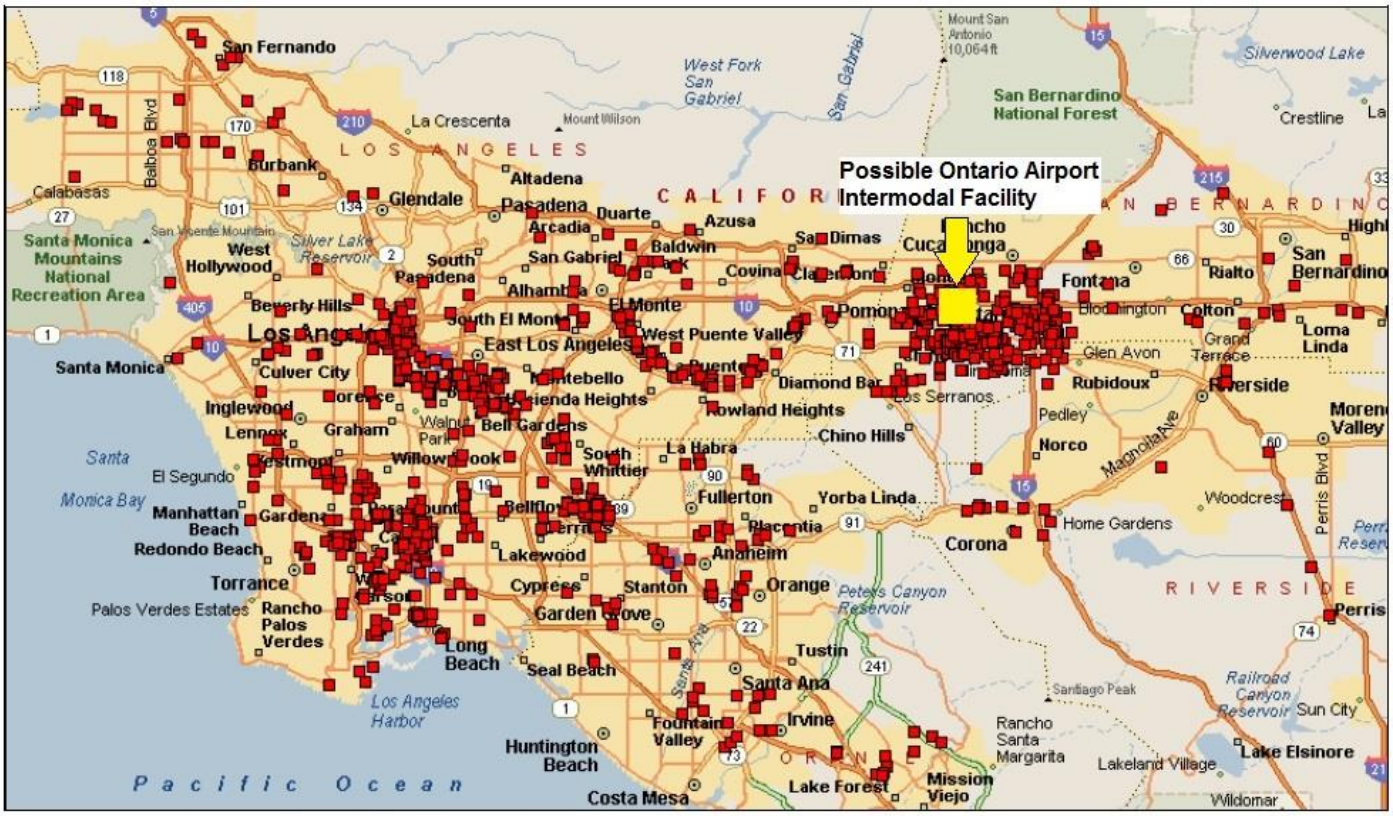

Fig. 14. Location of possible Ontario Airport intermodal facility site, on map of regional distribution centers
(Exhibit 15 from *Inland Port Feasibility Study, Project No. 06-023 Final Report*, Prepared by the Tioga Group Inc., Railroad Industries, Inc. and Iteris for the Southern California Association of Governments, August 2008, pg. 22: http://tiogagroup.com/docs/Tioga_Grp_SCAGInlandPortReport.pdf)

The parcels composing the land of the potential site, shown on the Google Earth image below in Fig. 15, is zoned by the City of Ontario as “Vacant Land”, “M1 Limited Industrial” and “M3 General Industrial”. The area has enough room between the two double-track rail lines, shown in Fig. 15 below, to accomodate a rapid roll on/roll off intermodal facility similar to those existing in Europe. Intermodal transfer track sections could be built along both the UP LA and Alahambra Subdivision tracks which straddle either side of the site.

Fig 15. Possible "All-Electric Ontario Intermodal Facility" site, with dimensions
(Background aerial photo: Google Earth)

4. Challenges of Freight Rail Electrification

Capital costs and financing-

The main challenge for electric freight rail is the high capital cost of overhead catenary wire, power supply infrastructure, and new electric locomotives. As a complex undertaking, it would certainly cost at least several billion dollars to electrify the main freight lines of Southern California. However, this cost is not known until a comprehensive feasibility study is completed. Also unknown is the full extent of the economic, environmental and public health benefits of electrification until such a study is completed. A proper rail electrification feasibility study would include preliminary design and cost estimates of electric catenary and power distribution infrastructure, specific to particular rail corridors. These cost estimates would also include modifications to existing overhead structures above or along tracks, such as bridges.

The California High Speed Rail Authority has estimated a 25-kV electrification cost of around $8.5 million per route mile for most (~430 miles total) of the Phase 1 route, the majority of which is in the flat, open Central Valley[47]. However, in urban and suburban areas, the cost is much higher. The Caltrain electrification costs between San Francisco and San Jose are about $26 million per route mile, not including the purchase of the new electric multiple unit (EMU) passenger trains[48]. Using the Caltrain construction cost estimates as a basis, the April 2016 CARB freight locomotive report estimated that freight rail electrification capital costs in the South Coast Air Basin would be about $50 million per route mile[49]. However, these costs were rough estimates, and not based on a detailed analysis of existing rail routes. A comprehensive engineering design study and cost estimate of freight rail lines in the South Coast Air Basin needs to be conducted. Overhead catenary system maintenance costs were estimated by the 2016 CARB RailTEC report to be $30,000 per route mile, per year[50]. The higher train frequency for a particular track segment, the more economical electrification will be. Factoring in the social benefits of reduced pollution, electrification for several key Southern California freight and passenger lines was economically favorable according to a cost-benefit analysis done by Paul Druce in 2015[51]:

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[47] Alon Levy, Pedestrian Oberservations blog post May 22, 2018:
https://pedestrianobservations.com/2018/05/22/construction-costs-electrification/
".. with the latest cost overrun, the projected [California High-Speed Rail] electrification cost is $3.7 billion* The length of route to be electrified is unclear: Phase 1, Los Angeles to San Francisco with a short branch up to Merced, is a little more than 700 km, but 80 km of that route is Caltrain, to which the high-speed rail fund is only contributing a partial amount. If the denominator is 700 km then the cost is $5.3 million per km."
*Table 4,-p. 14 of California High Speed Rail Authority, *DRAFT REVISED 2018 Business Plan: Technical Supporting Document- Capital Cost Basis of Estimate Report*, June 1, 2018:
https://www.hsr.ca.gov/docs/about/business_plans/DRAFT_2018_Business_Plan_Basis_of_Estimate_Report.pdf

[48] http://www.caltrain.com/Assets/Caltrain+Modernization+Program/Documents/PCEP+Quarter+4+2016+Report.pdf

[49] *Draft Technology Assessment: Freight Locomotives.* California Environmental Protection Agency, Air Resources Board, Transportation and Toxics Division, April 2016, pg. VIII-10 to VIII-11.
https://www.arb.ca.gov/msprog/tech/techreport/freight_locomotives_tech_report.pdf

[50] *Transitioning to a Zero or Near-Zero Emission Line-Haul Freight Rail System in California Operational and Economic Considerations, Final Report.* Prepared for State of California Air Resources Board by University of Illinois at Urbana-Champaign Rail Transportation and Engineering Center (RailTEC), Spring 2016 (https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf), pg. 20.

[51] Paul Druce, *Reason & Rail* blog, September 5, 2015:

> [with social, environmental and economic benefits] combined, we see that it takes 21-29 bidirectional frequencies for benefits to match the costs of railroad electrification [for passenger rail].
>
> In California, this would indicate that it would be justified to electrify Caltrain between San Jose and San Francisco. With increased service, electrification would also be justified on Metrolink's San Bernardino Line as well as LOSSAN between Burbank and Irvine (Metrolink and Pacific Surfliner) and Oceanside and San Diego (Coaster and Pacific Surfliner).
>
> For freight trains, the decreased fuel costs play a much larger role, and more importantly, the only one that the board of directors actually care about, resulting in break even at fewer frequencies. From the 2014 STB R-1 reports, we see that, for the Class I railroads, there is an average consumption of 6.92 gallons per train-mile; a comparable figure for electric traction would be 86.5 kWh per train-mile. Because of the significantly greater fuel consumption, the pay off is much quicker: Only 9 trains per day are needed in each direction with social benefits included or 15.4 when only considering fuel costs. Of course, private companies aren't going to be using Federal discount rates and will likely be seeking money on the open market. While this will be more expensive, it won't be enormously so. Union Pacific recently sold 40-year bonds at 3.875%; if I've done the math correctly, this would come out to $212,374 per mile of track, pushing the break-even points to 10 and 17.3 frequencies. In Southern California, this would justify the electrification of the Alameda Corridor, Sunset Corridor, and Southern Transcon.

The high upfront capital costs for rail electrification need to be viewed in the context of the several-decade lifespan of the infrastructure investment, the cumulative avoided cost of diesel fuel, locomotive maintenance and the pollution impacts of diesel locomotives over the same period. The experience of railroads around the world has shown that the lower operating and maintenance costs of electric locomotives will result in lower costs over the long run.

The RAIL Solution organization and the Solutionary Rail campaign have proposed a Steel Interstate Development Authority (SIDA) infrastructure bank, a nonprofit corporation financed with low-interest, government-subsidized loans to fund electrification infrastructure along a rail corridor that traverses multiple cities, counties or states[52]. It would be chartered with the authority to raise funds for electrified rail infrastructure investment on both publicly and privately owned rights of way, and take advantage of lower cost of capital available through public financing. Under this scenario, funds would be raised from private markets and federal loan funds. The system would be self-financing through user fees paid by railroads drawing energy from the lines and utilities transmitting electricity. Electrification infrastructure would be publicly owned, overcoming the property tax disadvantage private railroads face. The electrification could also be operated on a leased basis by Southern California utilities already familiar with electric passenger rail systems. The SIDA would negotiate with right-of-way owners to site infrastructure, and the same owners would make commitments to use it.

Possible funding sources for clean freight projects in California, described by the California Sustainable Freight Plan include[53]:

- Goods Movement Emission Reduction Program
- Trade Corridors Improvement Programs
- Carl Moyer Memorial Air Quality Standards Attainment Program

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http://reasonrail.blogspot.com/2015/09/a-cost-to-benefit-analysis-of-railroad.html

[52] Bill Moyer, Patrick Mazza and the Solutionary Rail team (http://www.solutionaryrail.org/). *Solutionary Rail: A people-powered campaign to electrify America's railroads and open corridors for a clean energy future,* October 2016, pgs. 56-58.

[53] California Sustainable Freight Plan, pgs. 6-20 to 6-27

- California Infrastructure Revolving Fund Program
- Alternative & Renewable Fuel and Vehicle Technology Program
- California Pollution Control Financing Authority
- California Alternative Energy & Advanced Transportation Financing Agency
- Low Carbon Transportation Investment and Air Quality Improvement Program
- National Corridor Planning & Development Program
- Coordinated Border Infrastructure Program

Delays caused by exchange of locomotive type-

Aside from the capital cost of electric catenary systems, the main disadvantage of electric locomotives is operational flexibility. Conventional electric locomotives must remain on tracks with overhead catenary wire, while diesel locomotives can go on any track.

U.S. railroads have cited the delays from the changing of locomotives at the end of an electrified line as a reason to not electrify. The change-out of locomotives would also require the construction of new dedicated siding tracks and other facilities to inspect, service, stage, and store both diesel and electric locomotives. Possible ways of minimizing locomotive exchange delays need to be studied. There is much experience around the world with large rail networks that started electrification with one or several lines, and later expanded, with diesel locomotives being utilized along with electrics during the transition. Short-haul rail service in Southern California could be the first phase of a nationwide electrification, with later phased expansion to entire long-haul corridors such as the BNSF Southern Transcon or the UP Sunset Corridor.

The business model of U.S. Class I freight railroads such as UP and BNSF is to minimize the number of trains run by maximizing the weight, length and distance travelled by each train. The Class I railroads prefer to run freight trains for a minimum of 500 miles, with no change of locomotives. The U.S. railroads typically run locomotives extremely long distances, often literally coast to coast. The costs from time-delay of the engine change and additional locomotive facilities is a disadvantage that has been cited by U.S. railroads as a reason not to electrify. As described by the April 2016 CARB freight locomotive report[54]:

> UP and BNSF currently operate high priority intermodal unit trains that can leave the West Coast and make the trip to Chicago (>2,000 track-miles) in 48 to 72 hours. Freight interstate line haul locomotives, with about 5,000 gallon fuel tanks, have a refueling range of about 1,000 miles. On the trip from Chicago to Los Angeles, a typical freight train will refuel twice: once in Kansas City, Kansas and then either at Belen, New Mexico or Santa Teresa, New Mexico and then to California.
>
> An isolated freight electrification system in California could create a number of challenges for UP and BNSF operations on the North American freight rail system including:
>
> - Maintenance of two separate types of locomotive technologies – all-electric in California and diesel-electric for the rest of North American freight rail system;
>
> - Delays in operations by having to stop freight trains at an exchange point, just outside the South Coast Air Basin or California border, to switch all-electric to diesel-electric operations (these delays could take anywhere from 2 to 6

[54] *Draft Technology Assessment: Freight Locomotives.* California Environmental Protection Agency, Air Resources Board, Transportation and Toxics Division, April 2016, pg. VIII-4. https://www.arb.ca.gov/msprog/tech/techreport/freight_locomotives_tech_report.pdf

hours, depending on the configurations of the trains, and based on price and time, could potentially lead to a mode shift to trucks or ships).

As described in the 2012 SCAG report[55] :

> Key operations changes that may result from electrification include:
>
> 1. Increases in travel time from the L.A. region to other parts of the nation as a result of changing out locomotives at the "edge" of the electrified system, for example in Barstow, West Colton, or Indio… It is estimated by the railroads that nearly four hours could be added to a trip as a result of the "change-out" activity, per trip.
>
> 2. Changes in how railroads move and how logistics decisions are made in the regional and national network (for example, keeping a captive fleet of electric locomotives in the region) will change railroad fleet planning and potentially increase constraints on how locomotives can be utilized, which could have cost impacts; and
>
> 3. Operational impacts of not being able to run electrified catenary into major railyards and the Ports of Los Angeles and Long Beach.
>
> 4. Operational impacts of dealing with a shutdown to the electric mainline. In the event of an electric mainline shutdown, train traffic would need to be diverted to non-electric portions of the system. In this case, the railroads would have many idle full electric locomotives and a potential shortfall of diesel locomotives in order to move all of the goods into and out of the region.

The 2012 SCAG report concluded the locating the locomotive "switch out" locations at the end of the electrified segment of track, such as Barstow or Indio, would have the least impact on railroad operations[56]. Located in less-populated areas, such sites also have more opportunities and space for future expansion of track and facilities. Further out 'stateline' sites such as Needles (California), Yuma (Arizona) and Primm (Nevada) could also serve as 'switch out' locations. The 2016 RailTEC report estimated that locomotive exchanging around the perimeters of the South Coast Air Basin, from zero-emissions to conventional diesel locomotives, would add significant costs and delays to rail freight[57]. The costs and delays were speculated to be great enough to make freight rail less competitive with truck, and cause a 'mode shift' of 12.5 million tons of freight from rail to truck each year. This amount would cost the railroads 10% or more of their regional market share. However, it is worth critically evaluating whether such mode shift would be as significant as described in the RailTEC report, or be avoided entirely. What is left unsaid in RailTEC's analysis is how much the estimated mode shift from rail to truck, due to locomotive exchange, would make highway congestion worse by adding potentially thousands of trucks to the roads. This would make trucks less competitive, incur delays and costs for all other highway users, and create additional environmental and economic costs to region as whole.

Possible ways of minimizing locomotive exchange delays need to be studied. Research is needed in collaboration with railroads operating in California, as well as bringing international expertise from electrified freight railroads outside the U.S. Potential solutions to the exchange point delay problem, which could be studied include:

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[55] 2012 SCAG report, pgs. 4-5 to 4-6.

[56] Ibid., pg. 4-28

[57] *Transitioning to a Zero or Near-Zero Emission Line-Haul Freight Rail System in California Operational and Economic Considerations, Final Report.* Prepared for State of California Air Resources Board by University of Illinois at Urbana-Champaign Rail Transportation and Engineering Center (RailTEC), Spring 2016 (https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf), pgs. 90-103.

- Computer simulations to model locomotive change-out, in order to find electrification strategies that have the lowest operational impact.

- Evaluate locomotive change out of dual-mode diesel electric (catenary) and battery compared to that of conventional catenary electric locomotives, to ascertain if this would reduce change-out time.

- Electric 'helper' locomotives carrying freight trains up and down Cajon Pass, carrying 'dead' diesel-electric locomotives. There are different rules for adding 'helper' locomotives, as the air brake line is not broken between the locomotives and the cars, and the crew staying the cab of the original locomotive.

- For long-distance trains, the electrification could be phased in using dual-mode locomotives and electric-diesel mixed locomotive trains .The short-haul freight train service could also begin with dual-mode. When there is a sufficient amount of regional track electrified, commuter passenger rail and short-haul freight services would switch to straight electric, and the dual mode locomotives moved to long-haul freight service. The locomotive types could also be switched where crews are changed, and where diesel-electrics are already refueled and inspected, to reduce costs and delays.

Phasing out of existing diesel locomotive fleet-

There are close to 30,000 operating line-haul freight diesel-electric locomotives in the U.S. Over 10,000 different line-haul freight locomotives operate within California on mainline freight operations each year. Short-line, terminal, industrial, and passenger railroads operate about 800 locomotives in California, most of which stay entirely within the state[58]. Given an average lifespan of diesel-electric locomotive of about 30 years, a phasing-in of all-electric locomotives will happen over several decades, while diesel locomotives also remain in service. Mixed operation of diesel and electric locomotives on the same train, described below, will be part of this process. Battery-electric "slug" or tender locomotives, coupled with conventional diesel-electric locomotives to form battery-hybrid pairs, could also be part of this phasing-in process.

Other challenges of freight rail electrification -

From a reliability perspective, the failure of an electric catenary system is an additional 'single point of failure', along with other possible track failures such was washouts, subgrade failures, or switch/signal system malfunctions. However, experience of electric trains around the world has shown service interruption due to catenary power loss to be uncommon on a well-maintained electric rail system. In California, freight railroads have also expressed concerns about electromagnetic interference to signaling systems, as well as overhead clearance for double-stacked container cars. However, other electric railroads around the world, such as Pennsylvania's Keystone Corridor, for decades have successfully shared catenary tracks with non-electric freight trains, including those with double-stacked container cars. On India's new electrified Dedicated Freight Corridors, an overhead catenary height of 7.47 m (24.5') above ground level was chosen to allow for double-stacked container train[59].

[58] *Transitioning to a Zero or Near-Zero Emission Line-Haul Freight Rail System in California Operational and Economic Considerations, Final Report.* Prepared for State of California Air Resources Board by University of Illinois at Urbana-Champaign Rail Transportation and Engineering Center (RailTEC), Spring 2016 (https://www.arb.ca.gov/railyard/docs/uoi_rpt_06222016.pdf), pg. 24.

[59] http://www.indianrailways.gov.in/railwayboard/uploads/directorate/rail_elec/downloads/1_DFC.pdf

5. Southern California Passenger Rail Electrification and Freight Rail

A focus of the state of California's investments in passenger rail is to improve upon the 'LOSSAN' corridor between San Luis Obispo and San Diego via Los Angeles. LOSSAN is used by both the Metrolink commuter rail and Amtrak's Surfliner, which is the second-busiest Amtrak route in the country after the Northeast Corridor between Washington, D.C. and Boston. CalTrans and BNSF have been working on the state-funded $160 million, 17-mile triple-tracking project between Soto Junction (near Downtown LA) and Fullerton since the late 1990s. Presently the corridor is triple-tracked the entire 25 miles between LA and Fullerton, with the exception of the Rosecrans-Marquart road crossing which still has two tracks. This crossing will be upgraded to three or more tracks once a grade separation project is finished in 2022. The Southern California Optimized Rail Expansion (SCORE) program includes construction of a fourth track between Los Angeles and Fullerton, and a third track between Fullerton and San Bernardino by 2028. All three tracks are presently owned by BNSF and shared by passenger (≈ 50 trains per day) and freight (≈ 60 trains a day). This heavy amount of traffic leads to improved economics and higher utilization of electric rail infrastructure. The California High Speed Rail Authority is proposing two electrified tracks on which all passenger service would run (electric or not), and three freight tracks[60], for a total of five tracks between Los Angeles and Fullerton, as shown below in Fig. 16 and Fig. 17.

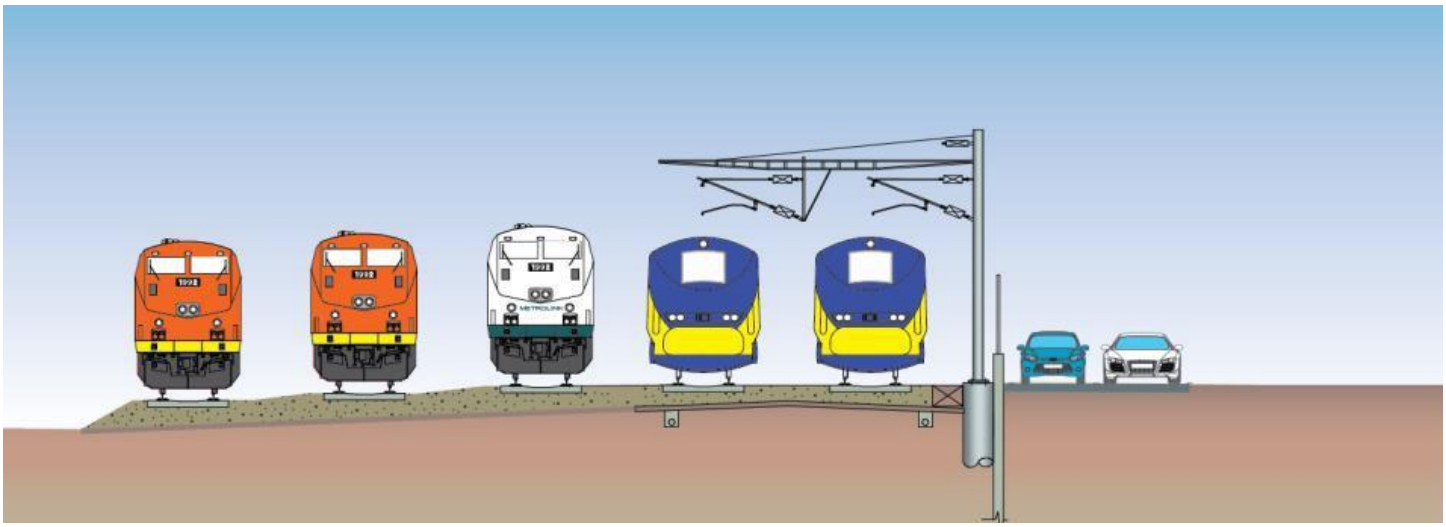
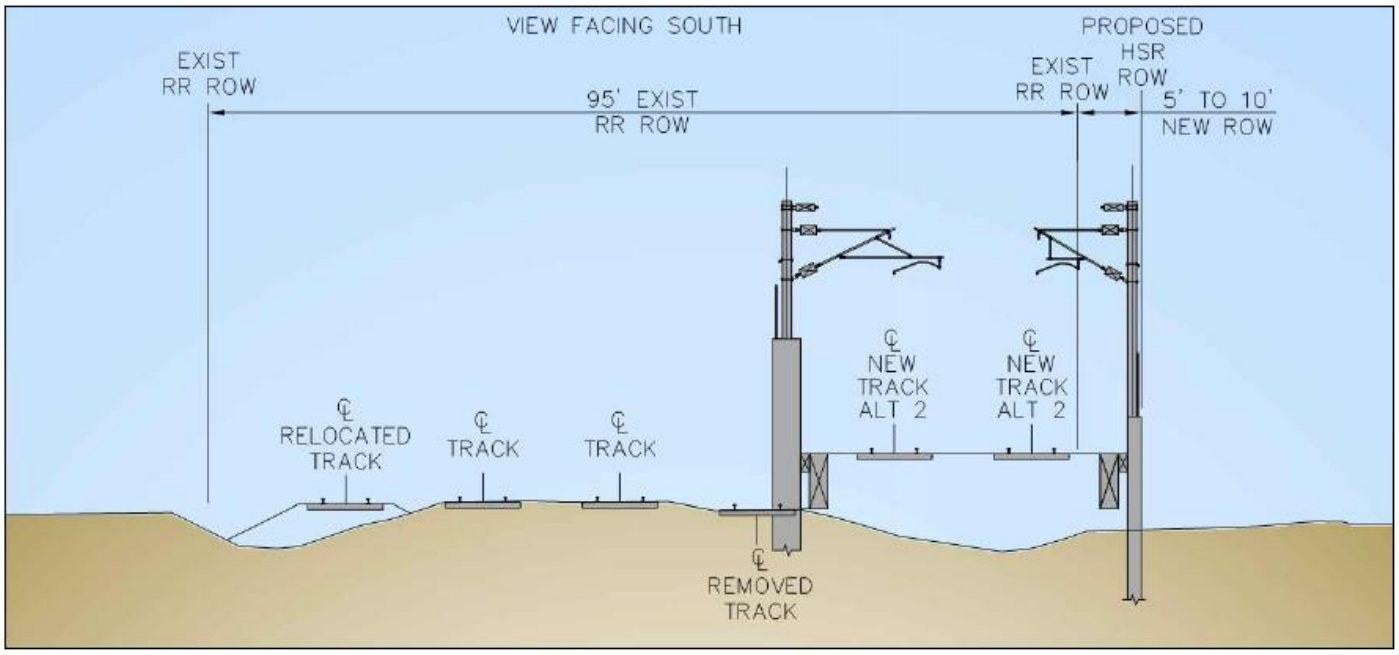


Fig. 16. At-grade alignment of electrified passenger rail tracks alongside three freight tracks, as proposed for the Los Angeles to Fullerton corridor.
(Diagram from California High Speed Rail Authority)

The 25 miles between Los Angeles and Fullerton that overlap with the San Bernardino Subdivision of the BNSF Southern Transcon, which is the only major transcontinental freight rail segment that will share a corridor with Phase I of the CAHSR project. South from Fullerton, the CAHSR would leave the BNSF Southern Transcon and continue to Anaheim and points further south along the double-tracked (both electrified) LOSSAN corridor. Between Fullerton and San Diego, there are just several BNSF freight trains per day on the LOSSAN corridor.

[60] CAHSR website about the Los Angeles to Anaheim corridor:
http://www.hsr.ca.gov/Programs/Statewide_Rail_Modernization/Project_Sections/losangeles_anaheim.html

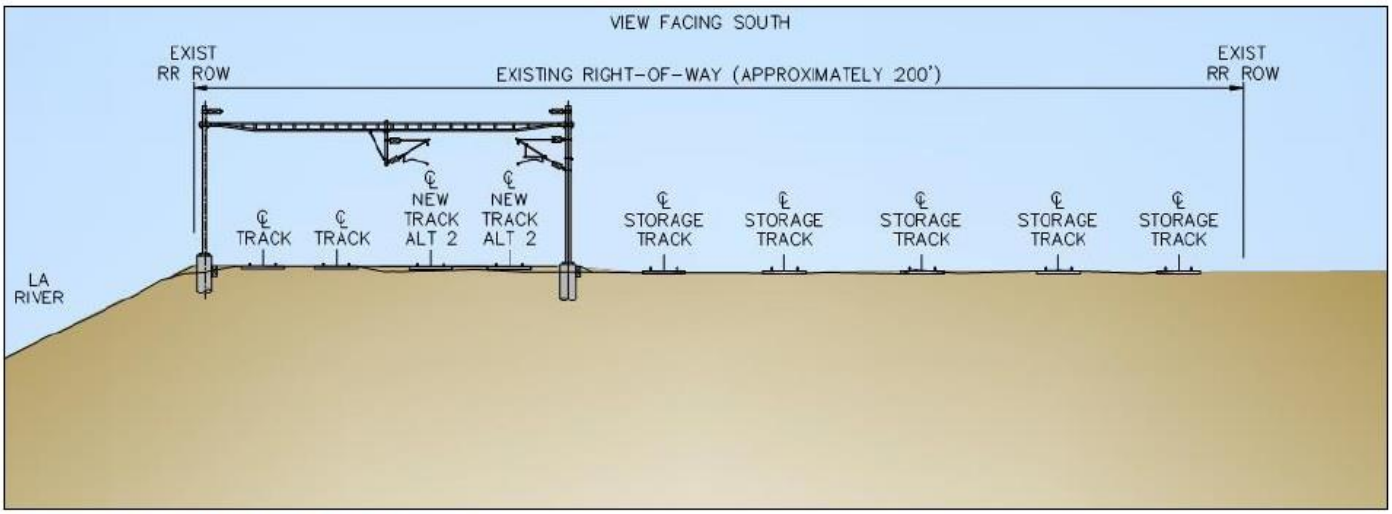


Source: STV, 2015 (Figure not to scale)

Figure 3.4-15 Alternative 2 Typical At-Grade Cross-Section - Fullerton

Fig. 17. Electric catenary infrastructure proposed by California High Speed Rail Authority at Fullerton, on Los Angeles-Anaheim section along BNSF San Bernardino Subdivision.
(Diagram from California High Speed Rail Authority,
Los Angeles to Anaheim Project Section: Supplemental Alternatives Analysis Report, April 2016, pg. 57)

The CAHSR 25-kV overhead catenary system could be designed to support catenary wire over the freight tracks in the future. A 25-kV overhead catenary electrification system is powerful enough to pull heavy freight trains, as demonstrated by existing electric freight railroads around the world. In downtown Los Angeles, the planned CAHSR catenary structure over the tracks along the West Bank of the Los Angeles River is already planned to span over most of the freight tracks as well, as shown below in Fig. 18.



Source: STV, 2015 (Figure not to scale)

Figure 3.4-10 Alternative 2 – Typical Cross-Section –- LA River West Bank: Approaching Redondo Junction

Fig. 18. Electric catenary infrastructure proposed for Los Angeles River West Bank by California High Speed Rail Authority, on Los Angeles-Anaheim section south of LA Union Station
(Diagram from California High Speed Rail Authority,
Los Angeles to Anaheim Project Section: Supplemental Alternatives Analysis Report, April 2016, pg. 53)

The 'blended' CAHSR Burbank-Los Angeles-Anaheim-Irvine corridor could serve as a catalyst for the Electrolink electric regional rail concept for Southern California, proposed by the Rail Passenger Association of California and Nevada. The Electrolink proposal would start with electrifying the existing shared Amtrak/Metrolink route between northern Los Angeles and southern Orange County, and then expand to the rest of the LOSSAN (Los Angeles to San Diego), or Surfliner passenger rail corridor.

6. Next Steps for Freight Rail Electrification in Southern California

1. A comprehensive feasibility study is needed to assess the economic feasibility and benefits of electrifying in-Port rail and the Alameda Corridor, along with short-haul rail service from the Ports of Los Angeles and Long Beach to an 'Inland Port' or other types of intermodal facilities in the Inland Empire. This comprehensive study should include:

    - Preliminary design and cost estimation
    - Cost/benefit analysis: what lines are the best candidates for electrification?
    - Viable strategies for funding the high upfront infrastructure costs of electrification.
    - Environmental and social impact assessment of possible electrification alternatives.
    - Cost assessment of modifying/replacing existing infrastructure, such as bridges and tunnels for overhead catenaries, impacts on rail operations and safety, impacts to regional power grids.
    - Operational impacts to existing freight and passenger rail service.
    - Carefully assess present and future patterns of truck and rail traffic from the Ports to the Inland Empire.
    - Evaluation of Inland Port sites, in the Inland Empire, or sites in the further inland desert areas.
    - Legal/legislative/regulatory actions needed to support rail electrification.
    - Further questions that must be addressed by such a study:
        - Match the electrified-Inland Port model with regional objectives
        - Best ways for more freight to be shifted from truck to rail, and to reduce truck VMT and highway congestion
        - Environmental impact of short-haul freight rail and related intermodal freight facilities
        - Economic development opportunities of short-haul freight rail
        - Identify effective project "champions"

2. Increased research and development on all types of low-emissions or zero-emissions freight rail and truck technology, for railroad yards, intermodal shipping facilities, and ports. To compliment and build upon existing efforts in the region, a research program or center in Southern California should be established, dedicated to electric rail technology. Such a research program would partner with organizations such as the American Association of Railroad's Transportation Technology Center in Colorado, the University of Illinois at Urbana-Champaign Rail Transportation and Engineering Center (RailTEC), and other research centers located in other countries experienced with electric heavy freight rail.

3. Construction in Southern California of a short, test track of overhead catenary at a freight rail yard or short-line freight railroad. This demonstration site could serve as a test bed to evaluate an all-electric locomotive such as modified Siemens ACS-64, a converted freight rail locomotive, a dual-mode locomotive such as a modified Bombardier ALP-45DP, a smaller all-electric switcher (yard) locomotive, or catenary hybrid/ battery tender/ZEBL technology (discussed below in section 6). If at first such a test site could not be built in California, new electric freight rail locomotives could be tested on the existing electric rail test tracks of the Transportation Technology Center near Pueblo, Colorado.

4. Selection of an initial freight rail corridor in Southern California to electrify.

5. Demonstration site, at a freight yard or passenger train station/yard, with charging infrastructure for battery electric and hybrid locomotives, including emerging technologies such as wireless power transfer.

6. Explore co-deployment of electrification along corridors shared with passenger service trains of Metrolink, Amtrak, and California High Speed Rail.

7. Phasing-in of all-electric operations with existing fleet of diesel-electric locomotives, and opportunities for dual-power, or 'mixed-unit' trains pulled by both all-electric and diesel electric power.

8. Negotiated agreements between railroads and electric utility companies, and thorough analysis of the economic value and benefits to electric utilities from railroad-hosted transmission line routes and energy storage capacity.

The electrification of freight rail lines in the region is a major undertaking with a long development timeline. A cooperative partnership must be forged between with the freight carriers (UP, BNSF, Pacific Harbor Line, trucking companies), transportation industry trade associations, locomotive and electrical manufacturers, electric utilities and the government organizations listed below:

- Port of Los Angeles
- Port of Long Beach
- Alameda Corridor Transportation Authority
- Alameda Corridor-East Construction Authority
- Southern California Regional Rail Authority
- Cities along rail lines
- Counties of Los Angeles, Orange, San Bernardino and Riverside
- Southern California Association of Governments
- Los Angeles County Metropolitan Transportation Authority
- South Coast Air Quality Management District
- University transportation research centers (UTC San Bernardino, UTC Long Beach – METRANS, others)
- California Department of Transportation
- California State Transportation Agency
- California Air Resources Board
- California High Speed Rail Authority
- California Energy Commission
- California Public Utilities Commission
- Federal Railroad Administration

In addition, there is a need to build a broad base of support in the region for rail electrification from community organizations, environmental and public health public advocacy groups, along with local businesses, labor unions, trade associations and community activists. Local engineering, construction, and transit agency experience with electric rail transit could be applied to electrifying freight rail. Global and national experts in electric rail should also be invited to Southern California. A regional rail electrification task force was created in the early 1990s for the 1992 *Southern California Accelerated Rail Electrification Program* study, with committees for planning, engineering, analysis, operations & maintenance, environmental analysis, funding/financing, legislative, legal and regulatory applications[61]. Such a regional task force should be created again for the 21st century.

[61] *Southern California Accelerated Rail Electrification Program, Draft Executive Summary.* Prepared for Southern California Regional Rail Authority, February 10, 1992, pgs. ES-1, ES-2: http://libraryarchives.metro.net/DPGTL/Metrolink/1992-ExecSummary-SoCal-Accelerated-Rail-Electrification.pdf

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People for Housing – Orange County
P.O. Box 6942
Fullerton, CA 92834
[redacted]

January 21, 2020

Draft Connect SoCal Plan Comments
Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

RE: Support for 'Rapid Transit for Orange County'

Dear Connect SoCal Team:

I write on behalf of People for Housing – Orange County to express our support for the "Rapid Transit for Orange County" plan provided as input to the Connect SoCal 2020 Regional Transportation Plan/Sustainable Communities Strategy. We see this planning process an opportunity for Southern California to find region-wide solutions to pressing problems of housing, pollution, congestion, social equity and transportation safety.

People for Housing OC is a grassroots, pro-housing non-profit organization comprised of Orange County residents concerned about the shortage of homes and rising housing costs in our communities.

Our members are advocates for increased housing production and transit oriented development along high quality transit lines as an integral part of the solution to California's housing shortage and affordability crisis. The best transportation plan is a good land use plan that creates abundant housing where there are sustainable mobility options. We want to work with the Southern California Association of Governments to advance regional transportation and housing goals.

Sincerely,

Brian Yanity
Transit Policy Chair
People for Housing – Orange County
A Member of the YIMBY Action Network

Rapid Transit for Orange County

January 23, 2020

[redacted]

Californians for Electric Rail

[redacted]

Southern California Transit Advocates

[redacted]

PEOPLE FOR HOUSING
Orange County

[redacted]

CLIMATE ACTION
CAMPAIGN

[redacted]

Table of Contents

Executive Summary

This white paper is a proposal for effective rapid rail transit in Orange County. The document builds upon the work of OCTA's 2018 OC Transit Vision and Long Range Transportation Plan. It will be submitted as part of public comments to the Southern California Association of Governments' draft Connect SoCal 2020 Regional Transportation Plan/Sustainable Communities Strategy. Most of the following graphics in this presentation are taken from the 2018 OCTA Long Range Transportation Plan, and the *OC Transit Vision* documents. The focus is on local transit and not regional or intercity rail (Metrolink, Amtrak, High Speed Rail), although connections between the existing rail stations and local transit service are essential.

There is now in Orange County, particularly among younger generations, a much greater awareness of importance of reducing car emissions and greenhouse gas emissions. While many people over 40 prefer to drive everywhere, younger people are much more willing to get out of their cars and embrace a lifestyle that is less automobile-dependent. Much has changed in Orange County since the defeat of Centerline light rail proposal in 2005, which was almost a generation ago. There is now a larger population and more demand for transit. Orange County is simply out of room to do much more widening of our freeways and streets.

In Orange County, the following requires greater political will and funding (for both capital and operating expenses):

1. More frequent service (OC Bus, Metrolink & Amtrak trains)

Requires more buses and trains to be purchased, more operators to be hired.

2. Reliability and less travel time, from dedicated transit lanes and right-of-ways

Public and political support at the municipal level for creating dedicated transit lanes from existing mixed-traffic lanes on OC streets.

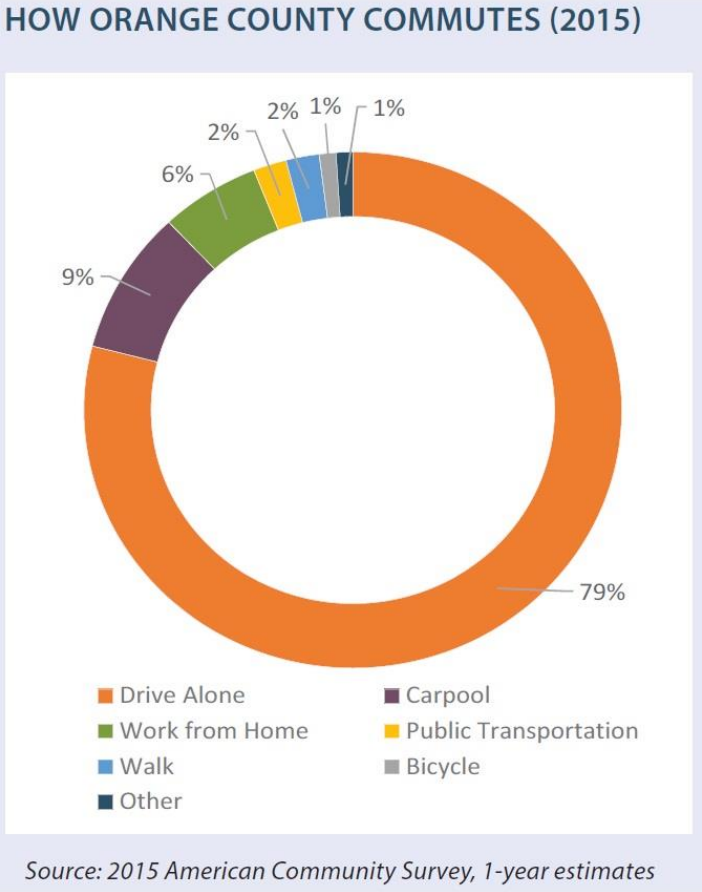
3. Planning and zoning by city governments that supports transit use

Future planning and development in OC cities needs to create more walkable neighborhoods, with commercial and residential densities which economically support frequent transit service. There needs to be expanded opportunities for more people to live near transit.

4. New OC rail transit

OC needs transit modes with higher capacity than conventional buses in mixed traffic.

1. Transit in Orange County Today



(Pg. 26 of 2018 OCTA Long Range Transportation Plan)

According to OCTA's 2018 Long Range Transportation Plan (LRTP), in 2015 79% of Orange County commuters drove alone to work, and 9% by carpool. Only 1% bicycled, 2% walked, and 2% went by public transit. According to SCAG, Orange County has 17% of the SCAG region's population, yet only about 8.5% of the region's total transit trips in 2015-16. This is despite OCTA adding over 200,000 revenue hours of bus service in the decade prior to 2016.

The 2018 LRTP's transportation system performance summary metrics predicted only 165,000 to 174,000 transit trips daily in 2040, compared to 149,000 in the base year of 2015. The LRTP assumes that daily commutes in Orange County by public transportation will barely increase above 2%, if at all, by the year 2040. In order to meet the state's climate goals, reduce traffic congestion, and strengthen the region's economy, the transit's mode share should be far greater than 2% in 2040. OCTA must explore all was to increase the amount of transit ridership, and push forward the projects described in the OC Transit Vision. Public transit in its own lane (at street level yet separated from regular traffic) or entirely grade-separated is the proven way to get move more people more efficiently and safely than driving. Putting transit above or below streets with grade-separations is expensive yet essential for the most effective public transportation system.

2. OC Bus Transit

Bus transit is essential to transportation in Orange County, and is the backbone of the entire public transit system. While not as energy efficient or environmentally friendly compared to rail, a strong bus network is a key part of any well integrated and useful pedestrian-bus-rail transportation system. Travelling by bus is more energy efficient, less polluting and reduces congesting compared to driving alone in a single-occupancy vehicle. OCTA's buses are presently all fueled by natural gas, but should be all-electric in the future.

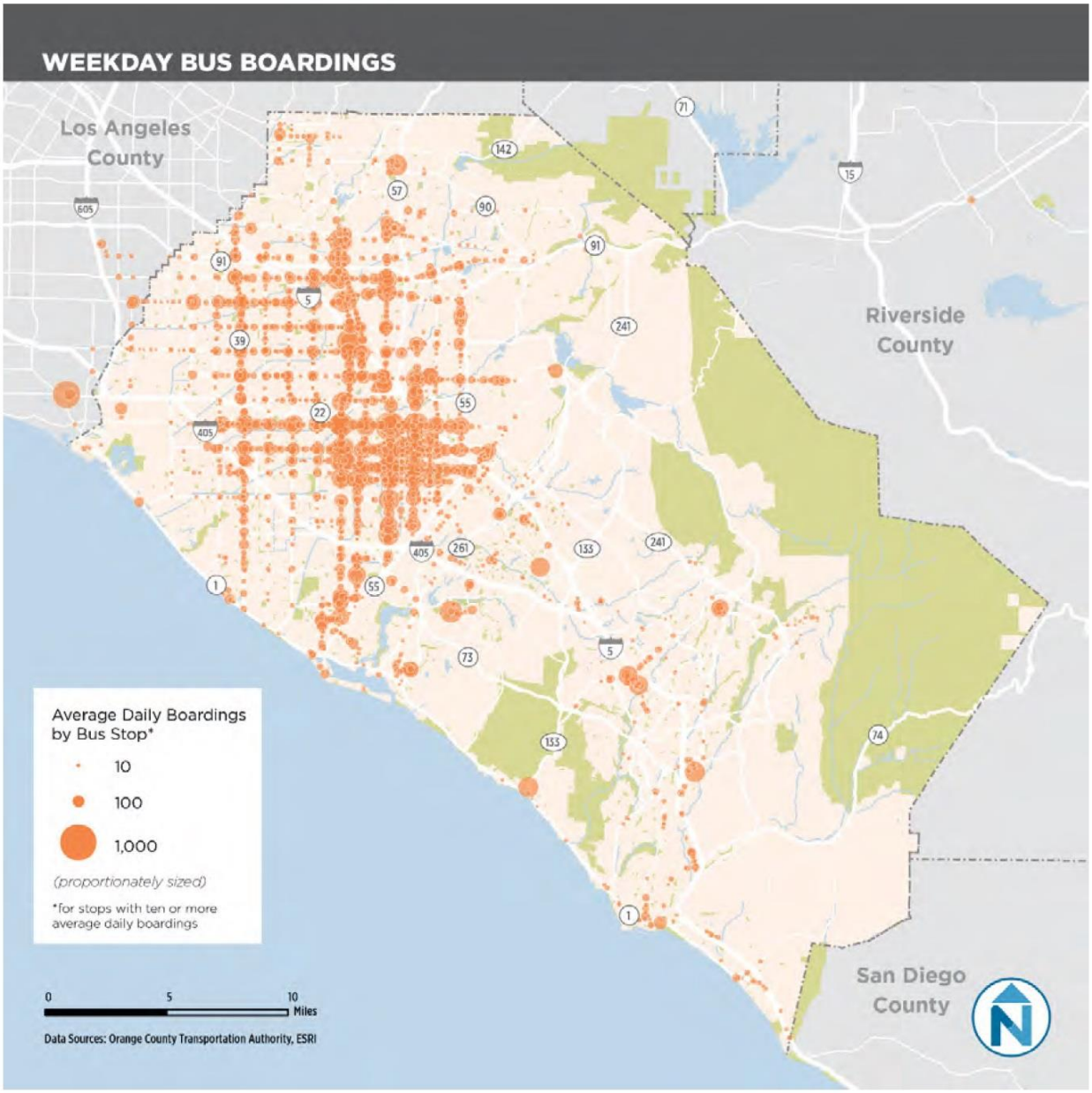
OCTA operates over 60 regular fixed-route bus routes, in addition to three express buses and three Bravo! 'rapid bus' lines with fewer stops for faster route times, and three express buses that provide service to and from neighboring counties. Just 19 of the 65 OC Bus routes carry 75% of all bus riders, demonstrating the need to improve service on a relatively small number of busy corridors. As described by the 2018 LRTP (pg. 35):

> "Over the past several years, OCTA has invested in high-quality transit corridors (HQTC), which are routes with more frequent bus service – at 15 minutes or less between buses on the route during peak hours of travel on weekdays. Approximately 12 percent of Orange County's bus system miles were HQTC miles in 2015, and almost 31 percent of Orange County's population lived within one-half mile of an HQTC.

(LRTP, pg. 66):

> Evolving Transit Market-
>
> Transit ridership is declining nationwide for many reasons. A recent study of transit in southern California found that a dramatic increase in car ownership is a main cause of this current trend. In Orange County, bus ridership declined 31 percent over 10 years, while car ownership has increased. The number of vehicles (autos, trucks, and motorcycles) registered annually in Orange County dipped slightly during the recession but has increased consistently each year since 2011, growing a total of 13 percent between 2011 and 2015 – outpacing the statewide average increase in registered vehicles of nine percent. This presents a challenge as OCTA tries to balance residents' desires for cars with the goals of reduced travel times and increased travel options. OCTA is taking steps to address the challenge of falling transit ridership as targets for greenhouse gas emissions reductions are increasing.
>
> The OCTA Bus 360° Plan began the process of modernizing the approach to transit by increasing bus service in areas with high demand and reducing service (and costs) in areas with low demand.

Figure 2-1 Weekday Bus Boardings



(Fig. 2-1 from 2018 *OC Transit Vision*)

The OC Bus 360° plan is a step in the right direction. As described by the LRTP (pg. 80):

> The OC Bus 360° work includes:
>
> • Implementation of new, faster bus routes;
>
> • Redeployment of services to improve efficiencies and build ridership; and
>
> • Rollout of new technologies, including mobile ticketing and real-time bus arrival information.
>
> The strategy of focusing service in areas of high demand includes preserving StationLink service as a connection to regional rail and expanding Bravo! express bus service. While OCTA ridership declined by

three percent comparing the second quarter of 2017 to 2016, ridership on routes that were improved in October 2016 increased by 19.6 percent (comparing average weekday ridership in September 2017 to September 2016). Additionally, Orange County's one-year bus ridership decline of 3.0% is not as steep as the national average decline of 4.2% over the same time (2016 to 2017, Q2).

New or modified routes are attracting new transit riders. For example, the pilot College Pass Program for Santa Ana College had nearly 3,000 students sign up in the first week, which translates to an additional 171,555 bus boardings. Also, after improving efficiencies for Bravo! 560 service, more than half (57 percent) of riders said their travel time improved by 15 minutes or more.

The real-time bus apps that OCTA launched are getting traction, with more than 1 million sessions per month and 300 new mobile ticketing app users per week on average. About seven percent of OCTA's total fare revenue from bus service is from the new mobile ticketing app, which is double the industry average.

OC Bus 360° also includes competitively awarded grants to local agencies for transit services tailored to community needs (referred to as Project V under OC Go). Numerous projects and services are being planned and implemented by local agencies, such as vanpool services from local employment centers to transportation hubs, special event and seasonal services that operate during heavy traffic periods, and local community circulators that carry passengers between various shopping, medical, and transportation-related centers. Figures 4.1 and 4.2 show OC Bus 360° local and express routes.

The first step for improving transit in OC is improving the OC Bus system. More frequency is needed on most existing routes. In particular there needs to be increased weekend service overall (due to OC's uncommonly high tourist traffic to theme parks and beaches), and late night/ 24-hour service on key routes. To do this, there needs to be more dedicated funding needs to be to hire more operators and purchase more buses. In addition to increasing bus headways and creating bus-only lanes, OCTA should implement other improvements such as bus traffic signal priority, off-vehicle fare collection, and all-door boarding. LA Metro's comprehensive Next Gen bus study, scheduled to be completed in early 2020, should be studied as an example for OC Bus improvements.

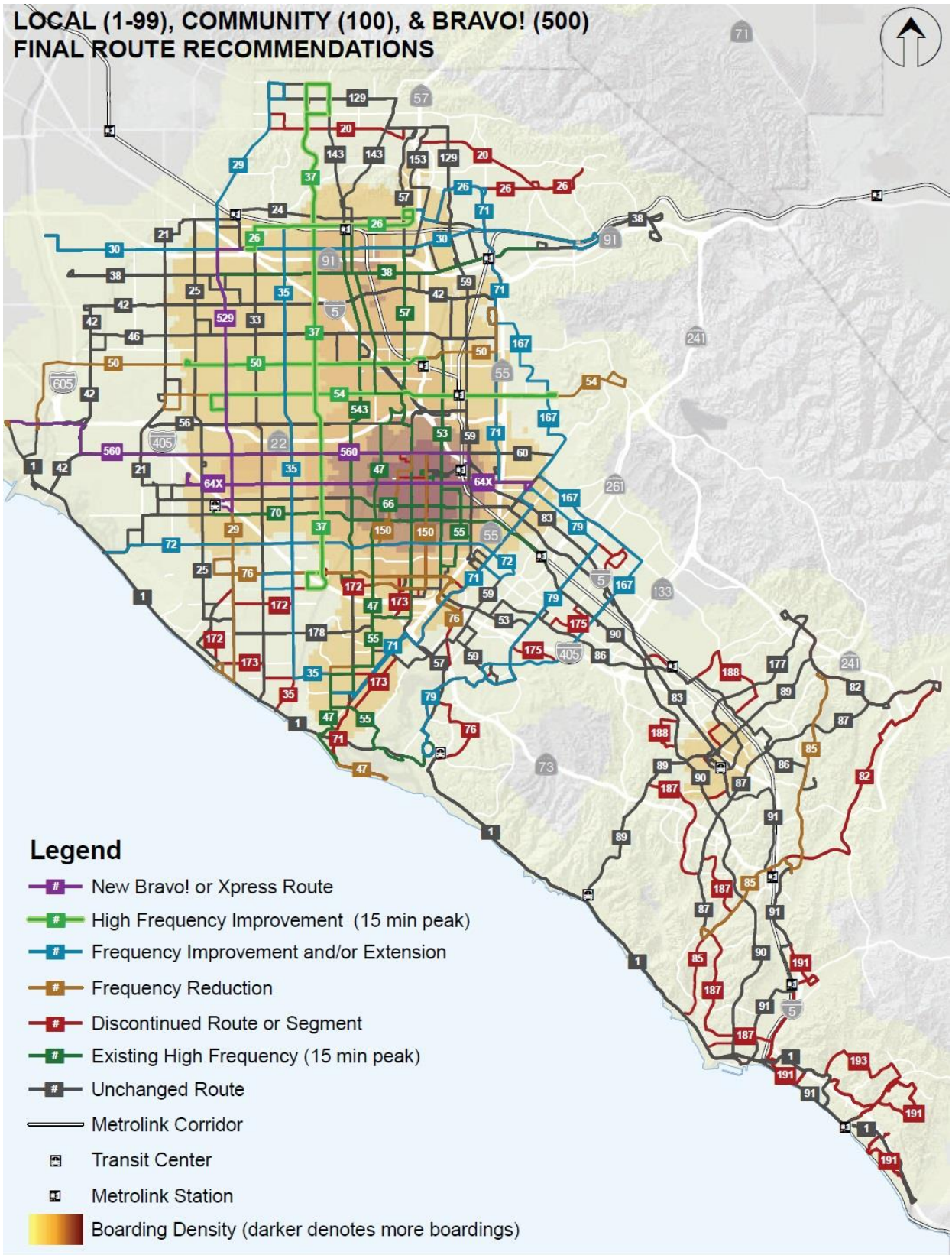
Bus frequency-

High-frequency bus service is defined by 15-minute headways, which is crucial for ridership, as this frequency (and better) makes it easier for riders to ride when they want, and not have to plan their trips around a schedule. There is existing high-frequency on OC Bus routes 38, 43/543, 47, 53, 55, 57, 64, 66, 70. The three existing Bravo! Express bus routes:

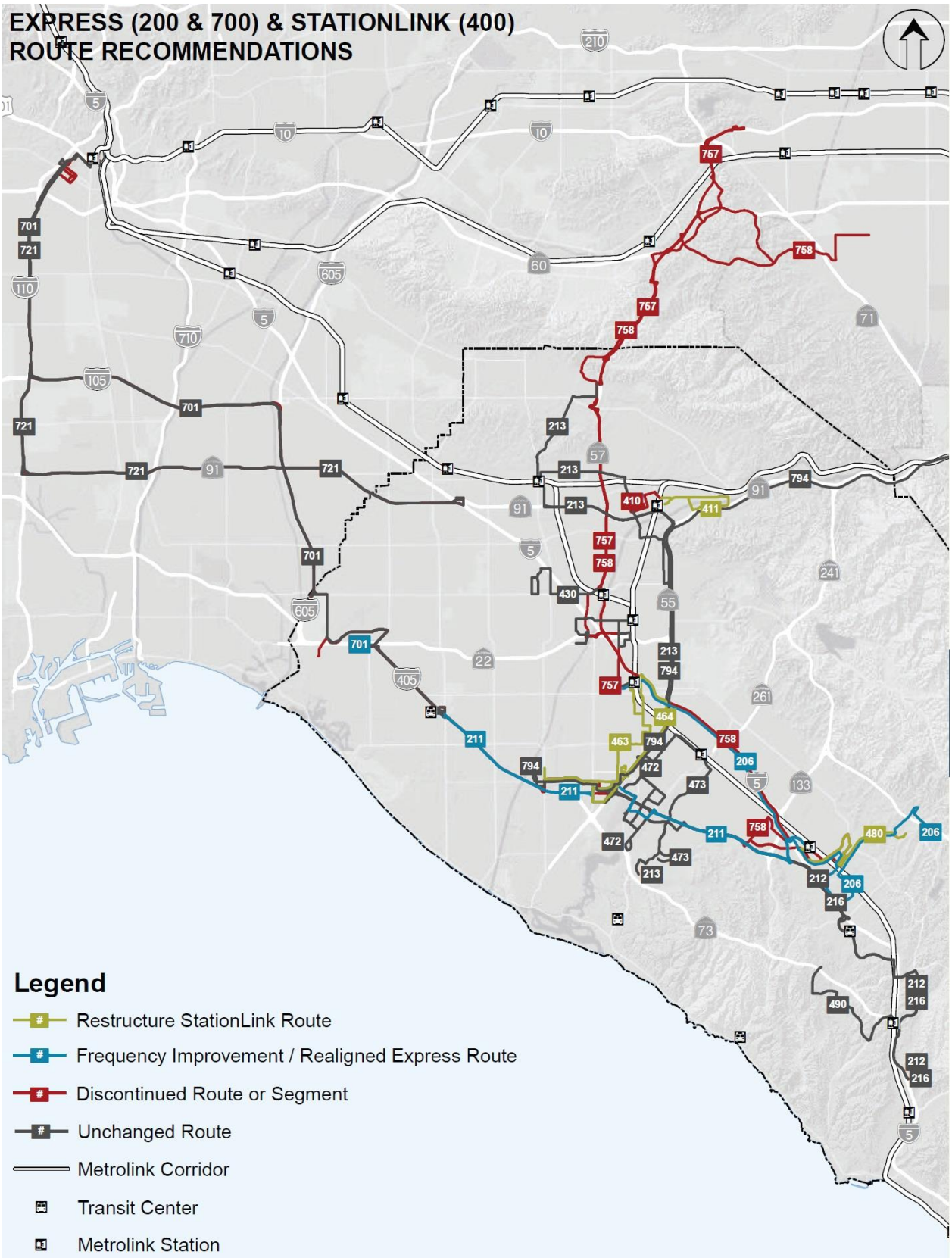
529 - Fullerton to Huntington Beach (Beach)
543 - Fullerton Transportation Center - Costa Mesa
560 - Santa Ana - Long Beach

In OCTA's latest bus plan, 2018 Transit Vision recommended new 15 minute frequencies of routes 26, 37, 50, 54.

OCTA made changes to its bus service in October 2019, which included increasing frequency on route 83 and adjusting the schedules of some routes to better meet Metrolink train connections. New route 862 was also started, which replaces Route 462 in the Downtown Santa Ana area with 10/20 minute frequency on weekdays and 20 minute frequency on weekends. Routes 211 were discontinued, and routes 89 had service frequency reduced.



Bus 360° plan, local (1-99), community (100), & Bravo! (500) final route recommendations (Fig. 4.1 from 2018 OCTA Long Range Transportation Plan)



OC Bus 360° plan, express (200 & 700) & stationlink (400) recommendations
(Fig. 4.2 from 2018 OCTA Long Range Transportation Plan)

Dedicated bus-only lanes-

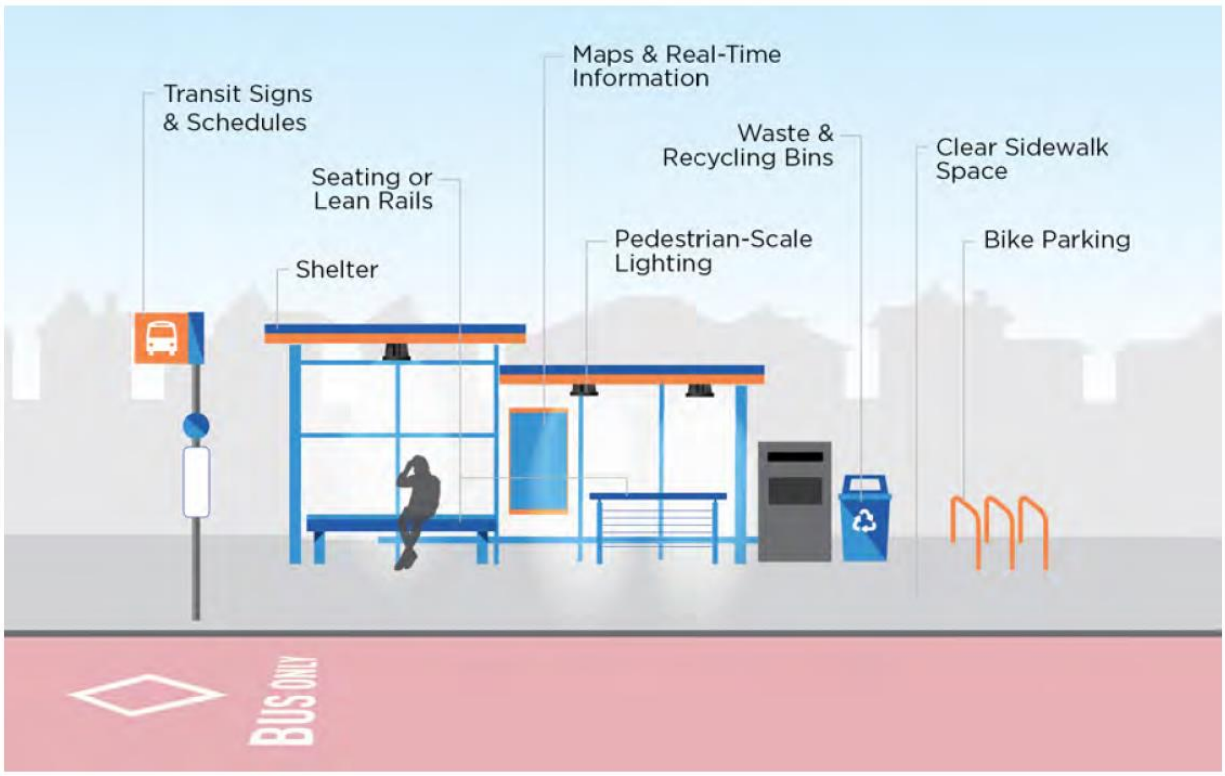
Dedicated bus lanes can be very cheap and quick to implement. The investment required is often just the cost of painting stripes or red color on the street, and some traffic signs, but bus-lanes are very effective at making transit faster, more reliable and useful. OC has no significant bus-only lanes in the entire county, thus making buses quite vulnerable to getting stuck in traffic.

The authority for solving the problem of buses stuck in traffic is often at the city government level. Political will for converting mixed-use traffic lanes to transit-only lanes is needed at the municipal level because street lanes are typically municipally-controlled. If congestion and pollution is to be reduced however, the only option is to prioritize transit riders over drivers of single-occupancy vehicles. Temporary, or 'pop-up', bus-only lanes can be tested by cities on a pilot basis.

Bus stop amenities and shelters-

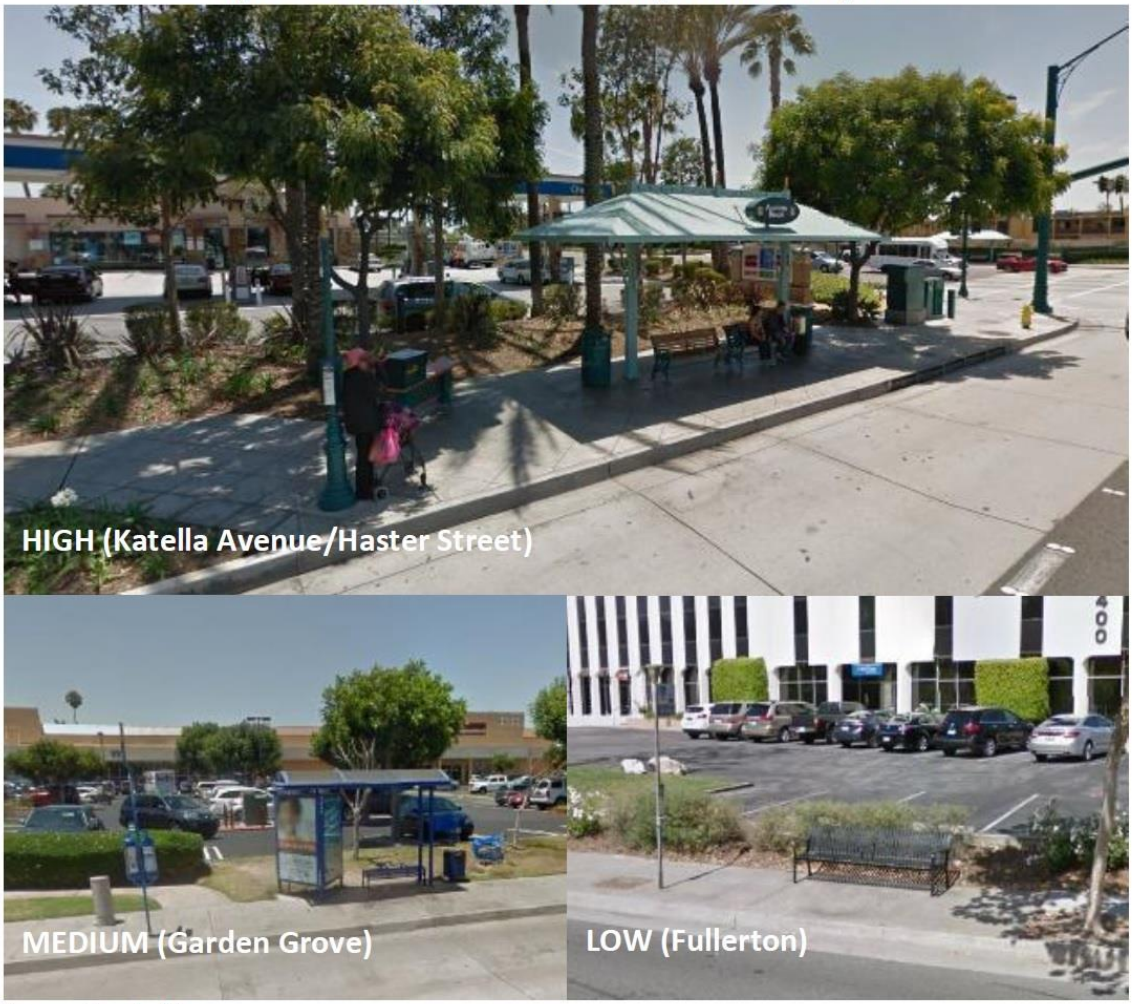
Quality bus shelters make people feel safe and comfortable riding the bus. More of them are needed in Orange County to improve the experience of current bus riders, and to attract more bus riders. Many people need a bench to rest on, as some riders are deterred if they have to stand. Shelters need to adequately shade customers since most days in OC are sunny. OCTA bus stops also need to provide more useful schedule information and route maps, including real-time bus arrival time displays at the busiest stops.

Figure 8-4 Amenities at High-Quality Bus Stops



From 'Transit-Supportive Design and Policies', 2018 *OC Transit Vision*

Figure 2.14. Sample Bus Stop Amenity Levels in Study Area



Source: Google Maps

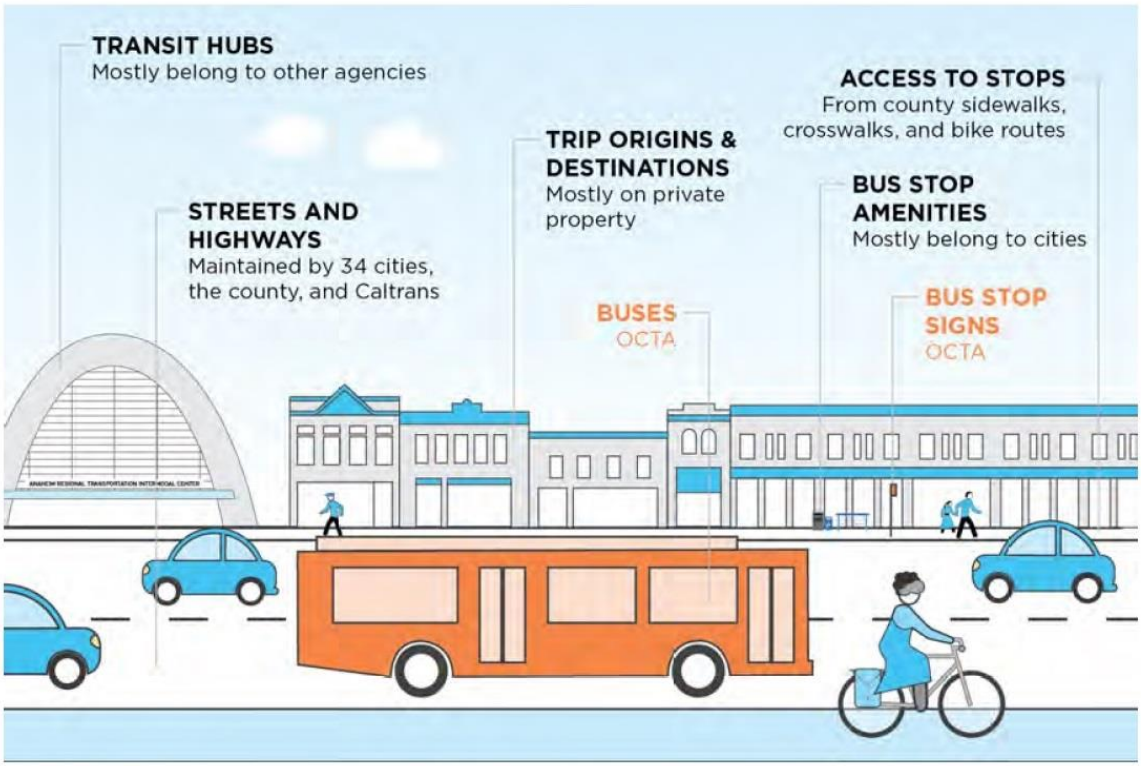
Different levels of OC Bus stop amenities from OCTA Harbor Corridor study

Pedestrian and bicycle access to bus stops needs improvement across Orange County, with

In general, sidewalk projects are cheap compared to road projects. Bus stop and street design features for better service include in-lane bus stops and “bulb-out” sidewalk extensions that come out into the street. These pedestrian amenities for bus stops are largely the responsibility of city governments.

OCTA’s *Bus Stop Safety and Design Guidelines* provide detailed specifications on street design and engineering requirements for transit vehicles and transit-priority treatments. The Orange County Council of Governments’ 2016 *Complete Streets Initiative Design Handbook* and the 2018 OC Transit Vision *Appendix E- Transit-Supportive Design and Policy Handbook* also provide guidance on street and sidewalk design that supports transit use.

Figure 8-1 Control of Transit-Related Features in Orange County



Source: Nelson\Nygaard

From 'Transit-Supportive Design and Policies', *OC Transit Vision*

OCTA, in collaboration with other transit agencies in the region such as LA Metro, needs a regional specialized team to help cities better plan for bus needs. A regional bus transit "center of excellence" to help local city transportation departments implement bus lanes and pedestrian improvement around bus stops. Such a specialized team would regularly meet and seek information from OCTA bus drivers about 'trouble spots' on the OC bus network that need improvement (traffic lane bottlenecks, signals that aren't timed well for buses, etc.). Such a regional effort could build upon LA Metro's Next Gen bus study.

Bus Rapid Transit-

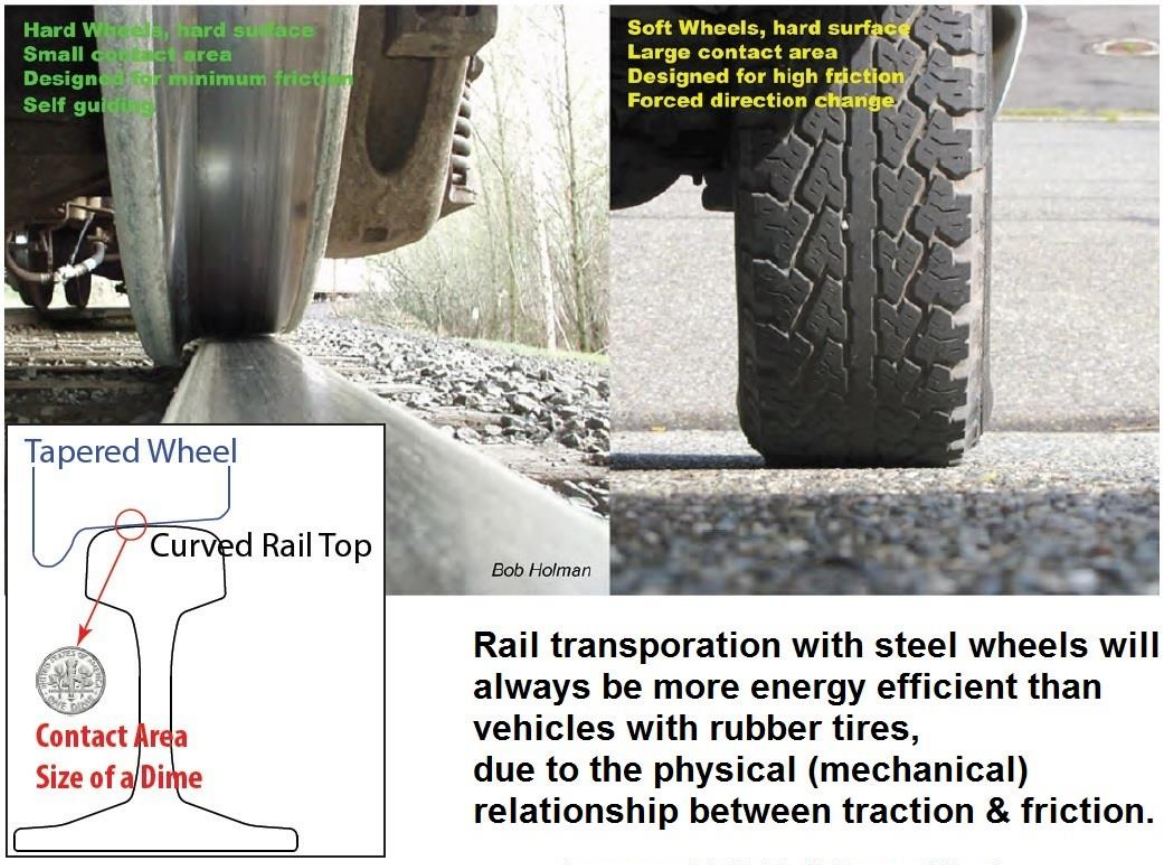
Bus Rapid Transit (BRT) involves dedicated lanes, bus traffic signal priority, and all-door boarding at a minimum. There are various forms of BRT, dedicated bus-ways or bus-only lane, with either "open" or "closed" bus lane access. Many BRT systems around the world carry up to 120 people on a longer, 60-foot articulated bus. BRT capacity (daily riders per line) is typically 10,000 to 20,000, and go up to 250,000 on the world's busiest BRT lines. BRT performs better in speed, reliability and capacity than normal bus service. However, BRT is not as effective as rail transit, as rail vehicles are more energy-efficient and can move more people. Some notable BRT systems around the world have reached their limits in capacity (LA Metro's Orange Line and Bogota's TransMilenio) resulting in overcrowding and delays. Many of these lines should have been rail transit from the outset, as the capacity need requires the higher capacity of rail. BRT will definitely have a future in OC, however, on corridors which do not have a demand high enough for rail, and for 'perpendicular feeder' lines connecting to rail transit.

3. OC Rail Transit

3a. Relationship between bus and rail transit

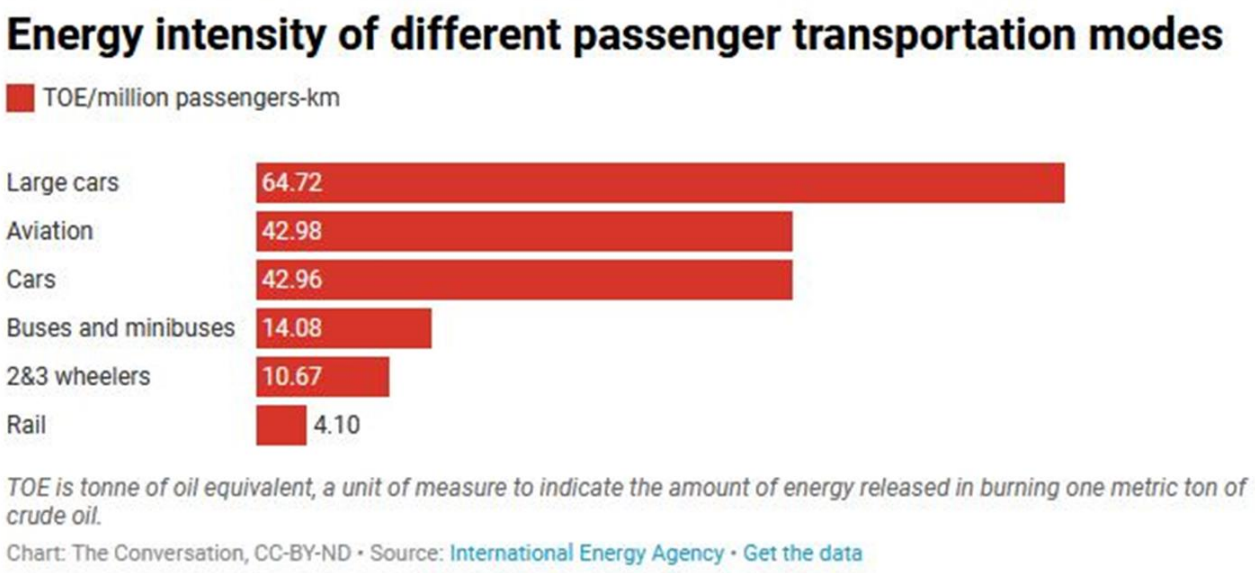
Buses alone are not sufficient for all of Orange County's future transit needs. OC needs more frequent, higher capacity bus service as a first step, before new rail transit projects are completed on the corridors with the heaviest demand. Bus service must then be expanded at the same time that new rail transit projects are developed. The existing OC Bus route network grid in north-central Orange County offers a good foundation for 'perpendicular' bus line connections to future rail transit lines. Improved schedule coordination to better support connections between Metrolink/Amtrak trains and buses is already under development by OCTA.

Streetcars are able to transport far more passengers (up to 170 people) than traditional buses (up to 60). Light rail trains can carry several hundred people, and heavy-rail trains over a thousand. All of this enables a single rail vehicle operator to carry more people, making it more efficient and cost effective on high-density corridors. Trains and streetcars typically last twice as long as buses, and have lower maintenance costs relative to their capacity. Rail transport is far more energy efficient, and results in much less pollution, per ton-mile or passenger-mile compared to cars, buses and trucks.



Rail transporation with steel wheels will always be more energy efficient than vehicles with rubber tires, due to the physical (mechanical) relationship between traction & friction.

(source: VTD Rail Consulting)



The graph above shows why rail transit is superior to buses, and why bus transit is preferable to driving private automobiles from an energy and environmental perspective. Rail vehicles on steel wheels will always be more energy efficient than vehicles with rubber tires on pavement- it has to do with traction and friction. And due to the efficiencies of electric motors compared to internal-combustion engines, electric rail is twice as energy efficient as diesel-powered rail. An individual driving a large gasoline car has over 10 times more energy consumption & pollution per-mile than a rail passenger.. Driving practices and vehicle modifications to non-hybrid gasoline-powered cars can only improve fuel efficiency by up to 15%.

Moving people by rail lines takes up much less space that buses or cars. Electric car and autonomous vehicles are not going to do anything to reduce traffic congestion. Rubber-tired electric vehicles are more energy efficient than those using hydrocarbon fuels, but they take up the exact same amount of road space. Moving people in mass transit is as necessary as ever, and overhyped IT-fixes like autonomous vehicles (AVs) and Uber/Lyft stand to make traffic congestion worse. AVs, ridesharing and more far-out hyped concepts like hyperloops simply lack the capacity of buses and conventional rail vehicles. Automated, driverless operation (which reduces labor costs) is far easier with rail than with road vehicles, and is already common for grade-separated rail transit systems around the world.

Another advantage of rail over bus is that a fixed rail line cannot be moved as easily as a bus route which shares a street with other traffic. This creates financial certainty for developers to build around rail transit stops. This stimulates transit-oriented economic and residential development which in turn generates tax revenue for a city. The smoother ride of steel wheels on rails is a more comfortable ride than the more jerky and bumpy motion of a bus. This higher-quality rider experience attracts more riders.

3b. Orange County Transit Opportunity Corridors:

The 2018 OC *Transit Vision* had the following recommendations:

- Upgrade existing and new Bravo! rapid bus routes
- Improvements to Metrolink and Amtrak rail lines
- Study rapid streetcar or BRT on North Harbor/Santa Ana & Westminster/Bristol corridors
- Conduct a study of freeway-based BRT corridors
- Expand seasonal and special event services
- Pilot OC Flex on-demand services
- Expand OC Vanpool program
- Continued engagement with OC cities on improving transit access/transit-friendly land use

But perhaps the most important part of the 2018 *OC Transit Vision* was development of the Transit Investment Framework (Chapter 4) for bus service allocation and capital investments, and identification of the ten high-priority 'Transit Opportunity Corridors' (pg. 5-13):

Transit Opportunity Corridor Lines

The ten TOCs were converted into 11 transit lines based on factors such as opportunities to connect future streetcar segments to the OC Streetcar line, available rights-of-way, and assessments of demand (with higher-demand corridors warranting greater investments). Each line was assigned one or two modes (evaluation was based on the most intense modes, for example rapid streetcar rather than BRT).

The following is a list of the 11 TOC lines created for analysis; they are illustrated in Figure 5-7:

- **Rapid streetcar or BRT between Cal State Fullerton and the Santa Ana Regional Transportation Center**, primarily via North Harbor (and including the OC Streetcar alignment)
- **Rapid streetcar or BRT between the Goldenwest Transportation Center and the University of California, Irvine**, via 17th/Westminster and Bristol (including short segments of Main and the OC Streetcar alignment and serving South Coast Plaza, the Irvine Business Complex, and John Wayne Airport)
- **BRT or rapid bus on South Harbor** between 17th/Westminster and Hoag Hospital Newport Beach
- **BRT or rapid bus on Bristol and State College** between the Brea Mall and Downtown Santa Ana
- **Rapid bus on Beach** between the Fullerton Park-and-Ride and Downtown Huntington Beach
- **Rapid bus on Main** between ARTIC and the South Coast Plaza Park and Ride
- **Rapid bus on La Palma and Lincoln** between Hawaiian Gardens and Anaheim Canyon Station
- **Rapid bus on Chapman** from Hewes to Beach
- **Rapid bus on McFadden and Bolsa** from Goldenwest Transportation Center to Larwin Square
- **Freeway BRT on I-5** from the Fullerton Park and Ride to Laguna Niguel/Mission Viejo Station
- **Freeway BRT on SR-55** from the Santa Ana Regional Transportation Center to Hoag Hospital Newport Beach

OCTA's planning models showed that rail transit or BRT on North Harbor/Santa Ana & Westminster/Bristol corridors had best ridership potential of any other transit corridors in the county.

TRANSIT OPPORTUNITY CORRIDORS

Figure 5-7 TOC Lines and Modes for Analysis

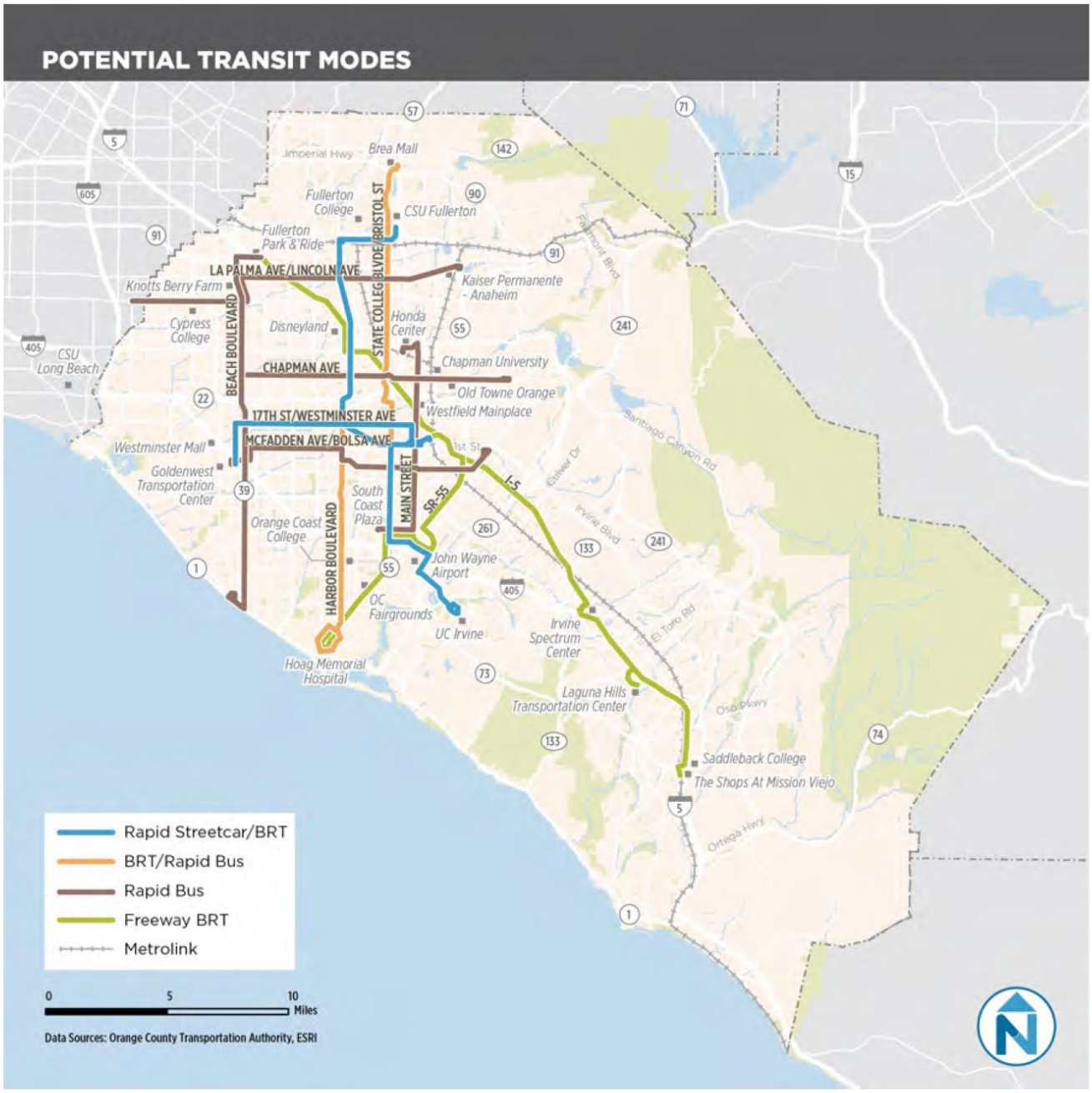
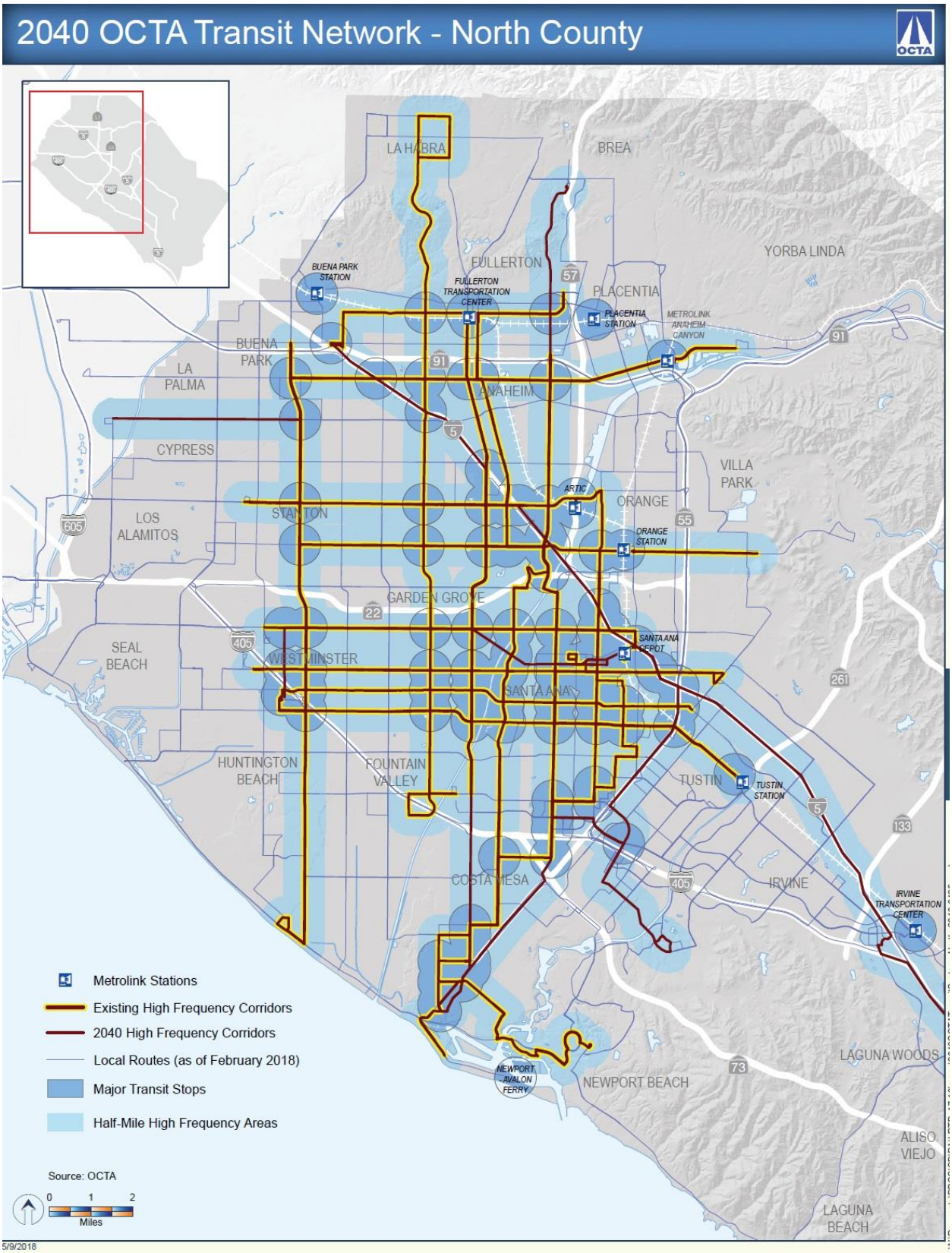


Fig. 5.7 from *OCTA OC Transit Vision, January 2018*



Blue circles show where future infill residential and commercial development should be focused, (Fig. 4.10 from 2018 OCTA Long Range Transportation Plan)

The above map is an excellent vision for 2040- rail and frequent bus are part of the same integrated network. Metrolink stations are well-connected to frequent local transit. It is worth examining this map closely, the blue circles are where we should concentrate future residential and commercial development (discussed in more detail in Chapter 4 of this document). OC is very similar to peer regions which operate successful light rail and BRT.

3c. Streetcars in OC

A streetcar is a self-propelled (usually by electricity) railcar that can travel down a street. More formally, a streetcar is a rail transit vehicle that travels in shared traffic lanes on a track embedded in the roadway, or dedicated right-of-way. While not much bigger than a bus in terms of 'road footprint' (50' to 100' long), typically they can carry up to 150 people comfortably (much more than a bus).

The chief advantage of electric streetcars is that they can carry more riders than could be carried by buses on the same route. They are also cleaner, quieter and more energy-efficient than a bus, with a much smoother and more comfortable ride. However, streetcars have less capacity, make more frequent stops, and are slower than rapid transit modes such as light rail or subways. They are the lowest capacity and least reliable form of rail transit. Unless they have dedicated lanes, they can get stuck in traffic just like buses and cars. For streetcars sharing the street with other traffic, a major disadvantage is that they can become stuck behind obstacles like a broken-down car, which a bus could go around. Rapid rail transit is fastest and most reliable when it is 'grade-separated' from any other street lanes or other crossings, whether underground in subways, on overhead elevated tracks, or on separated ground-level right-of-ways. The operating cost of modern streetcar systems are typically range from $0.50 to $0.85 per passenger mile, which is more than light rail or most rapid rail transit systems but less than many bus lines. Project capital cost per mile have ranged from $30 to $80 million, which less than most light rail systems.

Streetcars have a long history in Orange County, and in fact were crucially important to the growth and developments of communities in the county in the early part of the 20th century. The first electric streetcar was invented in 1888, although horse-drawn streetcars were common before then. The Santa Ana, Orange & Tustin Street Railway Co., opened in 1886, was a horse-drawn streetcar line connecting the downtowns of Santa Ana and Tustin. A steam-powered trolley between Orange and Santa Ana, nicknamed the "peanut roaster", replaced the horse-cars a few years later.

The Pacific Electric (PE) Railway bought the existing Orange County streetcar line in 1901. The PE then began working on first electric "interurban" trolley line to be built in Orange County, with its Red Cars reaching Huntington Beach (named after PE owner Henry Huntington) via Seal Beach in 1904. This line, which was extended to Newport Beach in 1905 and Balboa Island in 1906, was later used as the corridor to build the Pacific Coast Highway. The Santa Ana Line, or West Santa Ana branch, from Watts to Santa Ana was completed in 1905, with an extension built soon afterwards to Orange. The La Habra branch from Whitter came to La Habra in 1908, followed by Brea in 1909, and Yorba Linda in 1910. The PE branch to Fullerton was extended from La Habra in 1917.

1920 Pacific Electric Railway map showing the 'interurban' trolley lines serving Orange County

Service on OC's PE lines was discontinued between the 1930s and the early 1950s, the time period which most of the nation's streetcar and interurban lines were shut down. Several U.S. cities never got rid of their streetcars entirely: San Francisco, Philadelphia, Pittsburgh, Newark and New Orleans. While they closed most of their original lines, some lines in these cities have been used continuously used by streetcars or light rail trains for well over a century. New York, Boston, Philadelphia, Chicago and Cleveland got rid of streetcar lines like other cities, but early on replaced many of them with subways

and elevated rail lines, as well as surface-running lines separated from street traffic. In these cities, the key streetcar corridors were upgraded to a more modern form of rail transit that was faster, safer and more reliable than the old streetcars, largely by separating the tracks from automobile traffic entirely. While costly to build, these truly 'rapid transit' rail lines also move vastly greater numbers of people than a streetcar line. In addition, all of the above-mentioned cities converted their rail transit systems from private to public ownership.

In the 1970s and 80s, a few U.S. cities revived streetcars as "nostalgic circulators" using historic restored or modern replica trolleys. The modern streetcar era in the U.S. began in Portland in 2001, with the first U.S. system with contemporary European-style streetcars. Over 20 U.S. cities now have a streetcar system operating or under construction.

In the past decade, cities in Southern California which have studied new streetcar lines include Fullerton, Anaheim, Los Angeles, Long Beach, Glendale, Pasadena and Riverside. However, the region's only streetcar system under construction in the OC Streetcar in Santa Ana and Garden Grove, which will soon run partly on a historic PE right-of-way built in 1905.

Streetcar lines around the world typically carry 2,000 to 10,000 daily riders per line, but some streetcar lines in the world carry more than 50,000. To economically justify the costs of installing and operating a new streetcar system, transit experts state that ridership should roughly be at least 1,500 daily riders per mile. San Francisco's streetcars are the highest-performing in the U.S.- the city's F Market and Cable Car lines average around 4,000 weekday riders per mile. Kansas City's KC Streetcar has an average weekday ridership of nearly 3,000 riders per mile. The KC Streetcar is only 1.9 miles in length, and averages a speed of only about nine mph, yet has an average weekday ridership of 5,600. It is a success because it runs frequently enough on a direct route connecting many activity centers in the central part of the city, significantly faster than walking or taking a bus. Kansas City's streetcar is an instructive example for Orange County, as it is also in a sprawling metropolitan area which has been very dependent on the automobile, and until recently not politically supportive of transit. Portland and Tacoma's streetcar systems have an average weekday ridership of about 1,800 daily riders per mile. Some new U.S. streetcars have been very low performing, with ridership much lower than projected, including Cincinnati and Salt Lake City (both around 600 daily riders per mile). Even lower with less than 200 daily riders per mile are Tampa, Dallas, Little Rock and El Paso.

Putting the streetcars where the pedestrians will be is a critical factor providing a useful service for riders. In his book *Walkable Cities*, Jeff Speck describes effective streetcars as 'pedestrian accelerators' , connecting people to places that are just too far to be a convenient walk. Streetcars thus serve a different purpose than a light rail or subway line.

Factors that make a streetcar successful include high residential and commercial density around stops, with neighborhood-based urban design for walkability around them. The streetcar line should follow an easily understood route that fits into the existing street network. Convenient connections to a larger bus and rail transportation also boost ridership. Strategies to lower cost of streetcar construction include good design and planning to minimize costs, accurate cost estimating, identifying existing utilities/infrastructure conflicts, and a suitable maintenance yard site.

Streetcars projects across the U.S. have been used as an instrument to stimulate economic development and revitalization of downtown areas. Even along streetcar lines which have been initially unpopular,

the private capital investment created by the market demand around streetcar stops usually exceeds the original capital cost to install the streetcar.

In 2006, Orange County voters passed Measure M2, which provided funding designated for projects which would connect people between Metrolink stations in Orange County and their final destinations at activity and employment centers under the “Go Local” program. After discontinuation of the CenterLine proposal in 2005, OCTA used some of the CenterLine funds for the Go Local streetcar studies in Orange County cities with Metrolink stations. The under-construction OC Streetcar, connecting the Santa Ana train station with Garden Grove, is a result of these efforts. However, the streetcar proposals studied in Fullerton and Anaheim have not moved forward due to lack of city government support.

OC Streetcar-

OC Streetcar map (source: OCTA)

OCTA’s electric-powered OC Streetcar between the Santa Ana Regional Transportation Center and Garden Grove is scheduled to open in 2022. It will serve ten stops each way along its 4.2 mile route. The OC Streetcar route will connect the Santa Ana Metrolink/Amtrak station (with over 65 daily train connections) at its eastern end to a new multimodal transit hub at Harbor Boulevard and Westminster Avenue in Garden Grove at is western end. It will connect to a total 18 existing OCTA bus lines at these two transit centers and along the route.

Most of the route follows the original 1905 line of the Pacific Electric Railway "Red Cars" that served Santa Ana before being abandoned in 1950. The streetcar will operate as a curbside, street running system between the Santa Ana station and Raitt Street; west of there, it will operate in a dedicated right-of-way. A new double-track bridge is being constructed over the Santa Ana River, next to the existing Pacific Electric Railway single track bridge from 1905. The route will be double-tracked for its entire length except for the one-way loop between Ross and Mortimer streets. The maintenance and storage facility will be located adjacent to 5th Street near the eastern terminus of the Pacific Electric

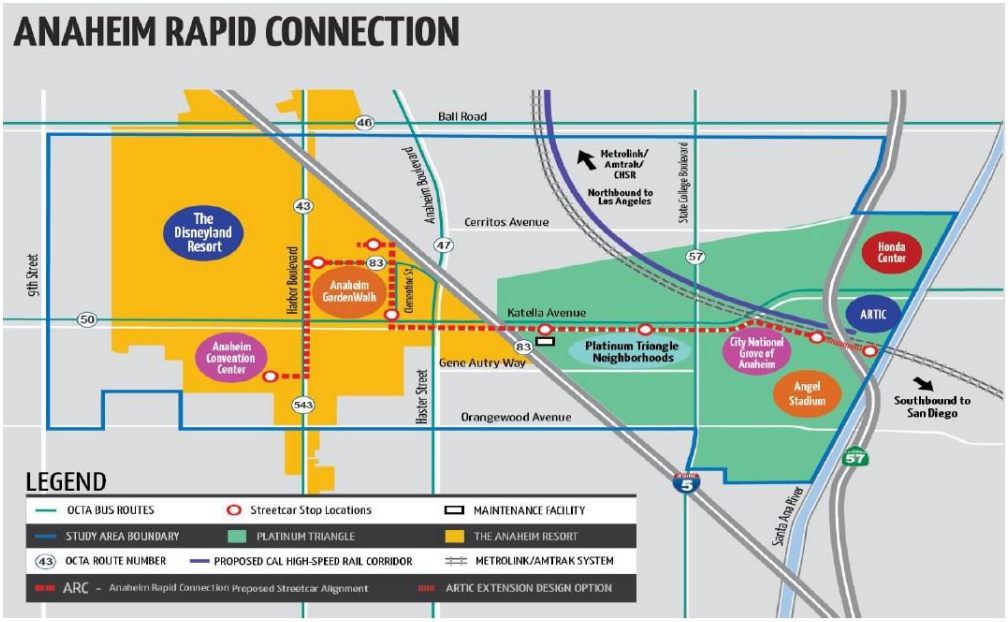
right-of-way at Raitt Street. With a single one-way trip from end-to-end expected to take 30 minutes, OCTA projects a daily ridership of between 6,000 and 7,000 passengers.

The OC Streetcar is proposed to operate from 6 a.m. to 11 p.m. Monday through Thursday; 6 a.m. to 1 a.m. on Fridays and Saturdays; and 7 a.m. to 10 p.m. on Sundays and holidays. Trains will run every 10 minutes between 6 a.m. and 6 p.m., and every 15 minutes at other hours. Eight Siemens S70 light rail vehicles will service the route, with six in operation at any one time. Each S70 streetcar will have a capacity of up to 180 people.

With the opening of the OC Streetcar in 2022, OCTA will implement a bus-rail interface plan, developed to compliment the streetcar service by making changes to alignments, frequencies and service hours of connecting routes. By advancing electric rail transit, the cities of Santa Ana and Garden Grove are leaders in Orange County transit. In January 2020, the city of Santa Ana proposed studying the extension of the streetcar north along Harbor Boulevard, and south along Bristol. The OC Streetcar project sets an important example for the rest of Orange County to follow, Fullerton and Anaheim in particular as these two cities both studied streetcars in recent years but decided against moving forward with projects.

Anaheim Rapid Connector-

The Anaheim Rapid Connection (ARC) study evaluated 3.2-mile fixed guideway transit connection from Anaheim Regional Transportation Intermodal Center (ARTIC) to the Anaheim Resort along Katella. In 2008, OCTA awarded the City of Anaheim a 'Go Local' grant. Studies were also partially funded by the Anaheim Tourism Improvement District. A feasibility study was completed, projecting the project to cost about $300 million. In 2016, the OCTA board of directors and the City of Anaheim agreed to discontinue planning efforts for the ARC, and instead evaluate transit connections between the Anaheim Resort area and ARTIC as part of the Harbor Corridor planning efforts. In January 2017, the Anaheim city council passed a resolution opposing any new streetcar project along the proposed Anaheim Rapid Connection route. The Anaheim city council reaffirmed its opposition with a second resolution against the larger Harbor Corridor streetcar/light rail in April 2018. The project was dropped by OCTA soon after.



Fullerton College Connector-

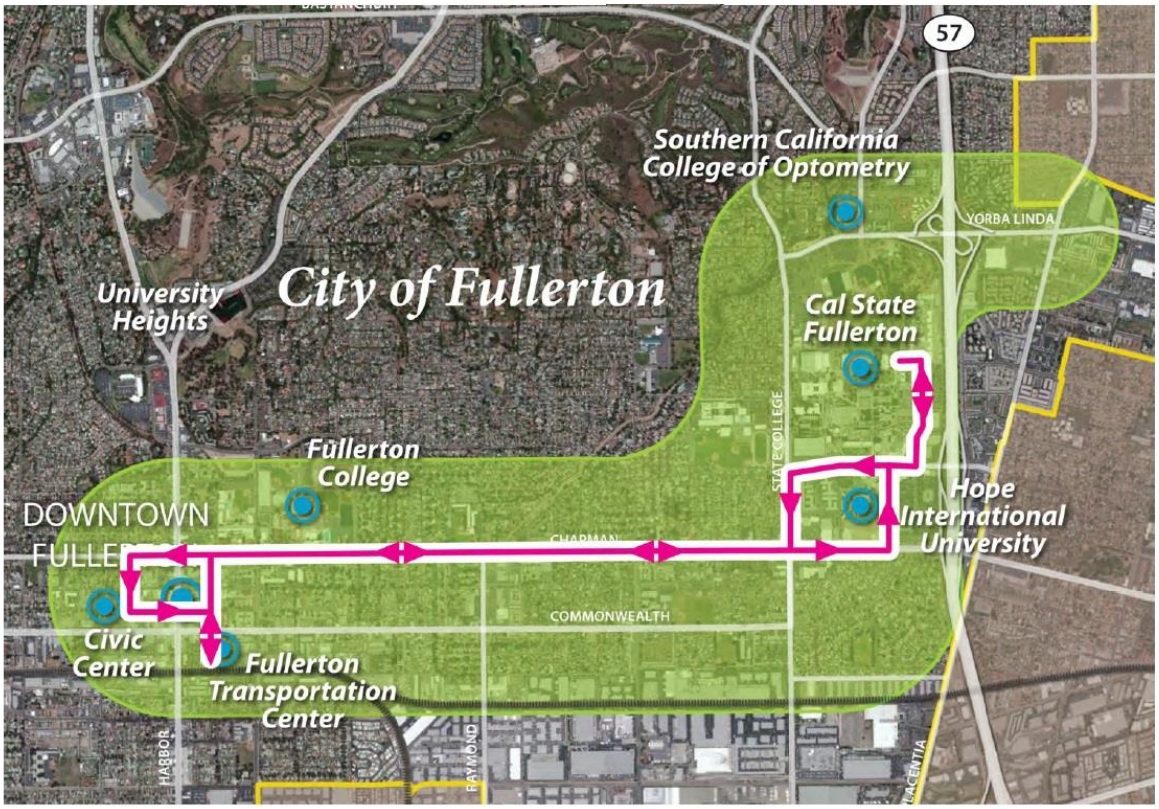
Between 2008 and 2014, The City of Fullerton studied the 'College Connector' streetcar transit connection between Fullerton Transportation Center and Cal State-Fullerton, and perhaps from there to Downtown Placentia. In 2011, the city was awarded an Urban Transit Planning Study grant by the Southern California Association of Governments to conduct a transit and planning analysis along the corridors between Downtown Fullerton and CSUF. The consultant hired to conduct as study was IBI Group, with guidance from city staff and a community steering committee. As described by the 2018 Central Harbor Corridor study (pg. 30):

> The Fullerton College Connector Feasibility Study evaluated the opportunities, challenges, and costs associated with implementing an "urban circulator" system between Downtown Fullerton/FTC and numerous educational institutions (most notably Fullerton College and CSUF) located northeast of Downtown Fullerton. The study, initiated by the City of Fullerton, developed numerous alternatives for enhanced transit service primarily along Commonwealth Avenue and/or Chapman Avenue. Transit technologies considered in the study consisted of light rail, streetcar, heritage/historic streetcar, and rubber-tire or hybrid buses on a combination of mixed-flow traffic and dedicated lanes. Total projected capital costs for implementation ranged from $140-$173.8 million.

The study evaluated numerous alternatives for enhanced transit service along Commonwealth and/or Chapman avenues. The preferred alternative, "2A", is shown on the map below. The Fullerton City Council has not moved forward with project since the completion of the study in 2014.

Alternative 2A

Figure 9.1: Alignment Alternative 2A



3d. Proposed Rail Rapid Transit Lines in Orange County

i. The OC Centerline Proposal

OC Centerline project- 1999 elevated option map

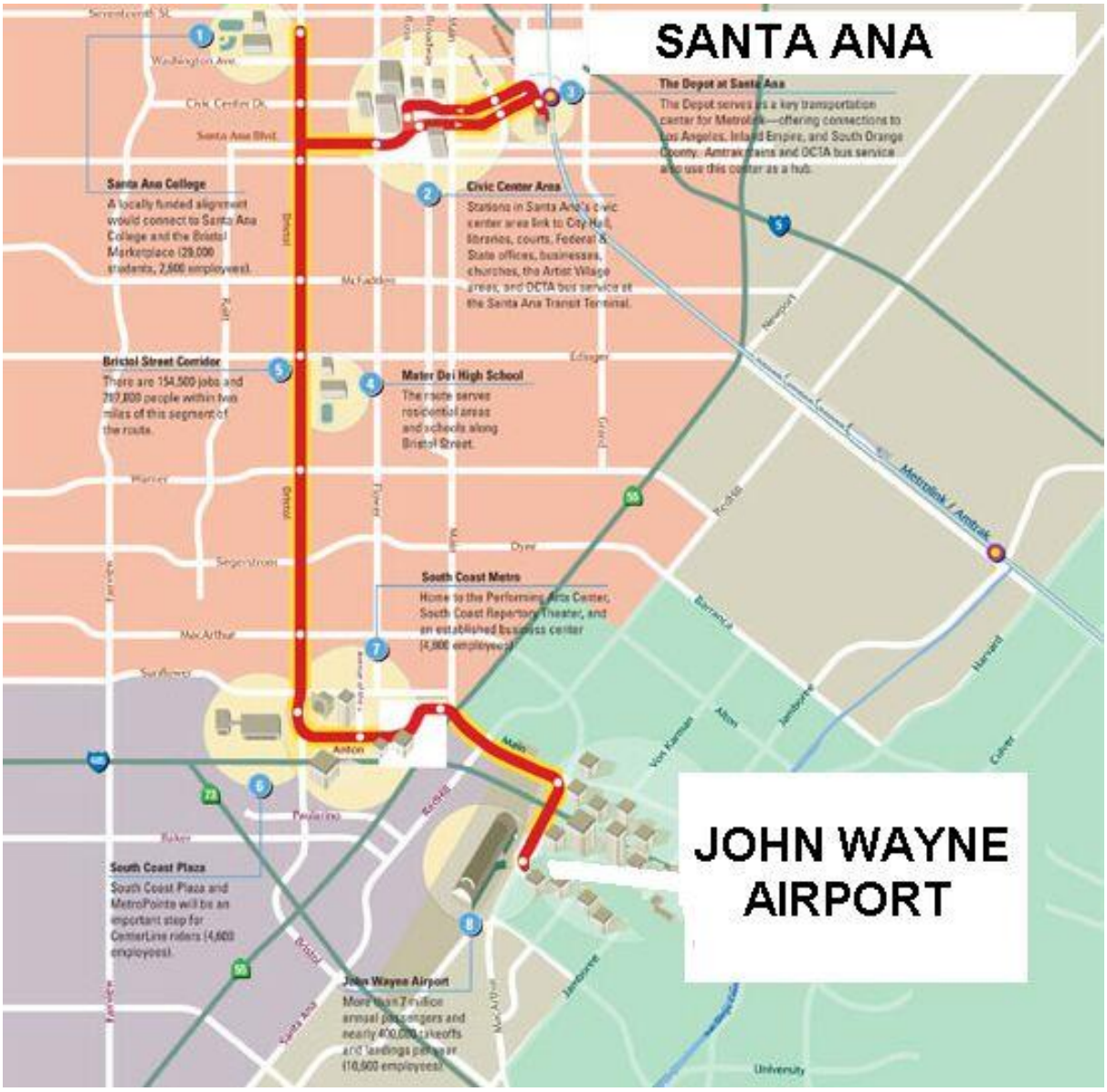
The modern light rail era in the U.S. began just to the south of Orange County, with the start of the San Diego Trolley in 1981. This successful systems was soon followed by new light rail systems in Buffalo (1984), Portland (1986), Sacramento and San Jose (both 1987), Los Angeles-Long Beach (1990), Baltimore (1992), St. Louis (1993) and Denver (1994). The OC Centerline project was proposed by OCTA in the 1990s as a 28-mile rail transit project linking major Orange County cities and John Wayne Airport. The original planned 30-mile CenterLine route was to start at Cal State Fullerton to Downtown Fullerton, then south through Anaheim, Disneyland, Angel Stadium, Santa Ana, Costa Mesa, and as far south as the Irvine Spectrum. The route would have served destinations including John Wayne Airport, South Coast Metro, South Coast Plaza, Santa Ana College and downtown Santa Ana. In the late 1990s, the cost was estimated to be about $1 billion.

There was opposition to the CenterLine project from OC's political leadership at the time. Opponents often resorted to false and misleading statistics about ridership, benefits and costs. The Orange County Grand Jury report from 2003 was biased against light rail, greatly exaggerating the costs and underestimating the multiple benefits. The Grand Jury report claimed that light rail lines do not promote development and claimed that most new light rail systems were a "documented failure" on improving traffic congestion and air pollution. This allegation flies in the face of enormous evidence from cities across the nation and around the world that high quality transit service reduces road traffic and pollution. There is actually great market demand for development around stops on most light rail lines around the U.S. and the world. The Grand Jury report claimed that the test of a light rail's success is not the number of people who ride the trains, but "how many cars light rail has removed from the road, especially during peak hours. Unfortunately, light rail does not reduce traffic congestion because it attracts few auto drivers". There is in fact plenty of evidence that high-quality transit reduces congestion for drivers, with documented cases in most of the world's major metropolitan areas. One must consider how much worse traffic would be if the thousands rail riders were driving cars on the streets instead. One of the main purposes of rail transit is move vast amounts of people more efficiently than if they were all driving their own cars, to provide people a way around car traffic. One light rail line can carry the same amount of people as an 8-lane freeway (not in rush hour) in a small fraction of the space needed for right-of-way.

The 2003 Grand Jury report said that "residential or employment densities in Orange County suburban areas are so low that there is little difference between routes in their ability to generate traffic. Studies have shown that transit is exceedingly unattractive for the work trip to suburban areas", ignoring the experience of successful light rail in suburban areas across the U.S. which demonstrates the opposite. The presence of light-rail transit is U.S. suburbs has been shown to change land-use patterns and attract large amounts of private investment around stations.

Devoid of many facts and coming to false conclusions, the Grand Jury report unfortunately amounted to a pro-automobile, anti-transit propaganda. Unfortunately, many Orange County residents and elected officials took it the Grand Jury report as definitive because it justified their anti-transit ideology. The city councils of Fullerton, Anaheim, and Orange all opposed the CenterLine enough that the proposed route was shortened to exclude those cities around the turn of the millennium. In 2003, then shortened 11.4-mile route proposed was from Santa Ana south to Costa Mesa and Irvine. Soon after, Irvine citizens voted against the CenterLine coming to their city in a 2003 ballot measure.

By 2005, the CenterLine proposal was reduced in length to 9.3 mile segment from John Wayne Airport to the Santa Ana Regional Transportation Center via Bristol, with a spur to Santa Ana College (shown on the map below):



OC Centerline project- short 'starter line' as proposed in 2005

The county's Congressional delegation at the time offered no support in getting federal funding for the project. Due to lack of political support, the OCTA board decided against continuing the project in 2005. After the end of the CenterLine proposal, OCTA started the "Go Local" program which funded streetcar studies in Orange County cities with Metrolink stations. The under-construction OC Streetcar, connecting the Santa Ana train station with Garden Grove, is a result of these efforts. However, the Fullerton and Anaheim streetcar proposals studied did not move forward due to lack of city government support.

While the OC Streetcar between Santa Ana and Garden Grove is currently under construction, Orange County has historically shown a notable political antipathy towards rail transit. Until the OC Streetcar starts running in 2022, Orange County remains the most populous county in the nation without a modern electric rail transit system (streetcar, light rail, subway, or elevated rail). For the past 20 years, Orange County has conducted a transportation and urban planning experiment upon itself. Even though it happens to sit at the population center of a megalopolis region of 22 million people, itis the most populous urbanized county in the U.S. (over 3 million people) which has chosen to grow without any local rail transit system. Since the end of the CenterLine proposal in 2005, billions have been spent on Orange County freeway expansions (in keeping with public opinion). Even with the continuous (and ongoing) expansion of freeways of the past 15 years, traffic congestion only gets worse with each passing year. Just because the original OC CenterLine project proposal died in 2005 doesn't mean that the concept didn't have merit. The need for something like the OC Centerline is certainly greater in 2020 than it was in 2005.

ii. Harbor Boulevard Corridor-

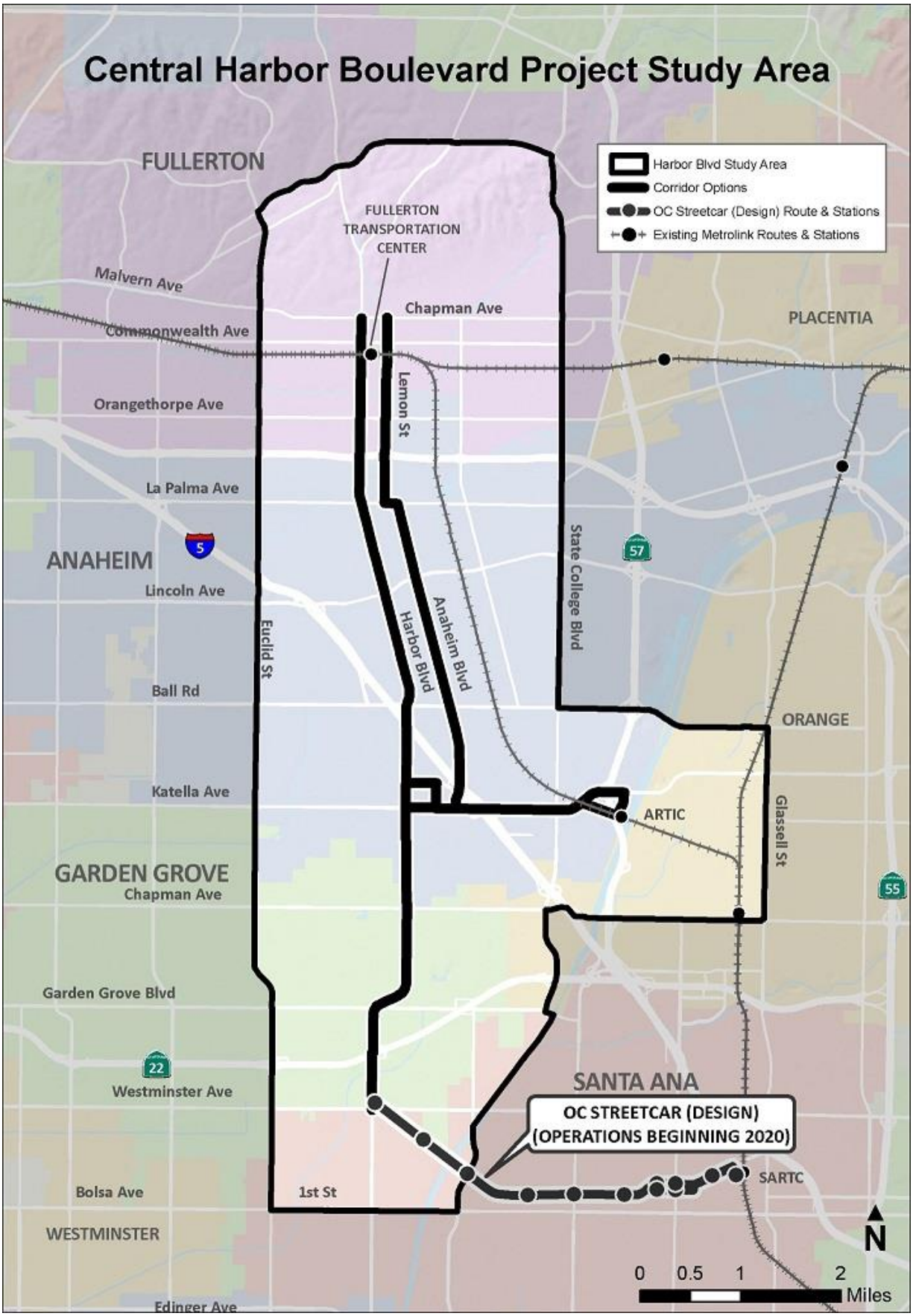
A rapid transit line is long overdue along the Harbor Boulevard corridor south from Fullerton to Anaheim, Garden Grove and Santa Ana. Harbor Boulevard is already Orange County's most heavily traveled north-south bus corridor, and increasing traffic congestion is making the buses slower:

- North-South ridership (routes 43, 47, 543) ~ 22,000 boardings/weekday
  - Harbor Boulevard (routes 43 & 543) ~ 12,800
  - Anaheim Boulevard/Lemon Street (route 47) ~9,200
- Harbor Boulevard peak bus frequency: every 7.5 min.

Average bus speeds and reliability are decreasing with each passing year, due to increasing traffic:

- Harbor Boulevard bus average speed during AM peak:
  - Bravo! route 543 (express) < 18 mph
  - Route 43 (local) < 14 mph

For those who say "OC doesn't have the density for mass transit", we are already there on the Harbor Corridor with an average of 22,000 bus riders per weekday (from La Habra to Newport Beach). This is more ridership than most BRT and many light rail lines in the U.S. With slowing buses, due to increasing traffic, simply running more buses on the street is not an efficient or cost effective way to increase transit capacity and frequency along this north-south route. OCTA needs to upgrade transit service with dedicated lanes, either BRT or light rail to speed it up. There is pent up demand along the Harbor Boulevard corridor for better transit than conventional buses that get stuck in traffic. It is in need of multi-modal transportation service options, and that is what light rail or rail rapid transit provides.


Central Harbor Boulevard Project Study Area
Harbor Blvd Study Area
Corridor Options
OC Streetcar (Design) Route & Stations
Existing Metrolink Routes & Stations
FULLERTON
FULLERTON TRANSPORTATION CENTER
Malvern Ave
Commonwealth Ave
Chapman Ave
PLACENTIA
Lemon St
Orangethorpe Ave
La Palma Ave
ANAHEIM
Lincoln Ave
Euclid St
Harbor Blvd
Anaheim Blvd
State College Blvd
Ball Rd
ORANGE
Katella Ave
ARTIC
Glassell St
GARDEN GROVE
Chapman Ave
Garden Grove Blvd
Westminster Ave
SANTA ANA
OC STREETCAR (DESIGN)
(OPERATIONS BEGINNING 2020)
SARTC
Bolsa Ave
1st St
WESTMINSTER
Edinger Ave
N
0 0.5 1 2
Miles

One of the county's most important transportation arteries, OCTA plans have called for higher-capacity transit in two defined segments of the north-south Harbor Boulevard corridor:

> North Harbor Corridor – High-quality transit between Cal State Fullerton and the Santa Ana Regional Transportation Center [proposed by 2018 *OC Transit Vision* as a 10.3-mile streetcar line costing $540 million].
>
> South Harbor Corridor – High-quality transit between 17th/Westminster and Hoag Hospital Newport Beach [proposed by 2018 *OC Transit Vision* as a 12-mile BRT line costing $130 million].

The Harbor corridor rail transit line should eventually continue south to the South Coast Plaza and John Wayne Airport, more or less route of the OC CenterLine concept that was proposed in the late 1990s The Harbor corridor has much transit potential beyond the initial segment studied for the North Harbor Corridor. The massive trip generator that is Disneyland, also Orange County's largest single employer, should connect via an east-west line along Katella from Downtown Anaheim to the Anaheim Regional Transportation Intermodal Center. In Fullerton, the rail line in some form should also connect from Downtown Fullerton to the Cal State Fullerton campus. South of Westminster Avenue, a rail line along the Harbor Boulevard corridor should eventually continue south to the South Coast Plaza and John Wayne Airport. The cities along this route have a total population of nearly 1.2 million people, as shown in the table below:

City	**Population (2018 est.)**
Costa Mesa	114,000
Santa Ana	333,000
Garden Grove	173,000
Anaheim	352,000
Fullerton	141,000
Placentia	53,000
Total	*1,165,000*

OCTA's Central Harbor Corridor report estimated in 2015 that there was a population density of 8,872 residents/sq. mile, and a job density of 5,757 jobs/sq. mile in the Central Harbor Corridor study area. By 2035, the densities were project to increase to over 10,300 residents/sq. mile and 7,200 jobs/sq. mile. This corridor needs 24-hour frequent service, because many of the employment centers and attractions on the Harbor Corridor do not conform to traditional 9-to-5 work schedules. A population density of 10,000 people per square mile is considered the threshold density by transit planners, above 10,000 which mass transit lines (BRT or light rail) are considered economically justified. Better transit would allow more Disneyland tourists to get off Amtrak or Metrolink trains at Fullerton or Anaheim, and then take transit to Disneyland, Anaheim Convention Center . Anaheim Resort area, centered around Disneyland, has tens of thousands of visitors per day, Anaheim Convention Center gets over 100,000 vistors for the NAMM show. The Anaheim Resort area has tens of thousands of workers.

Metrolink stations along possible OC rail transit route:

- Santa Ana Regional Transportation Center (SARTC)- connection via OC Streetcar
- Anaheim Intermodal Transportation Intermodal Center (ARTIC)
- Fullerton Transportation Center (FTC)
- Placentia Metrolink station (under construction, scheduled to open in 2021)

The sizable capital investment of a rail transit system is justified by the high ridership potential of the Harbor Boulevard corridor. The trip generators of major employment, educational and entertainment centers of a starter "Fullerheim" line are described in the table below:

Downtown Placentia	New Metrolink station is planned to open in 2021, high-density residential.
Cal State Univ.-Fullerton	Largest single campus in the California State University system with a total enrollment of over 40,000, and several thousand employees.
Downtown Fullerton	High-density residential, nightlife with dozens of popular bars and restaurants
Orangethorpe	New "Fullerheim" transit-oriented residential and commercial district
La Palma Park	Thousands of residents in existing, moderately dense adjacent residential neighborhoods
Downtown Anaheim	Thousands of jobs, and regional attractions such as the Packing House district and Center Street Promenade
Disneyland	Average of over 40,000 visitors per day, and the largest single employer in Orange County with over 25,000 jobs. The Anaheim Resort area around Disneyland and Anaheim Conventional Center has tens of thousands of jobs, with many nearby hotels and restaurants.
Anaheim Convention Center	Largest exhibit facility on the West Coast- the January NAMM Show had over 115,000 attendees.
Platinum Triangle	Thousands of residential units built, thousands more are under construction or planned, the big plans for commercial and residential development, many jobs are coming.
Anaheim Stadium/ARTIC	Angel Stadium, capacity of over 45,000 for baseball games, can have over 100,000 people attending concerts. The Honda Center has events with over 20,000. The Grove of Anaheim, adjacent to the Angel Stadium, can host up to 1,700 for concerts.

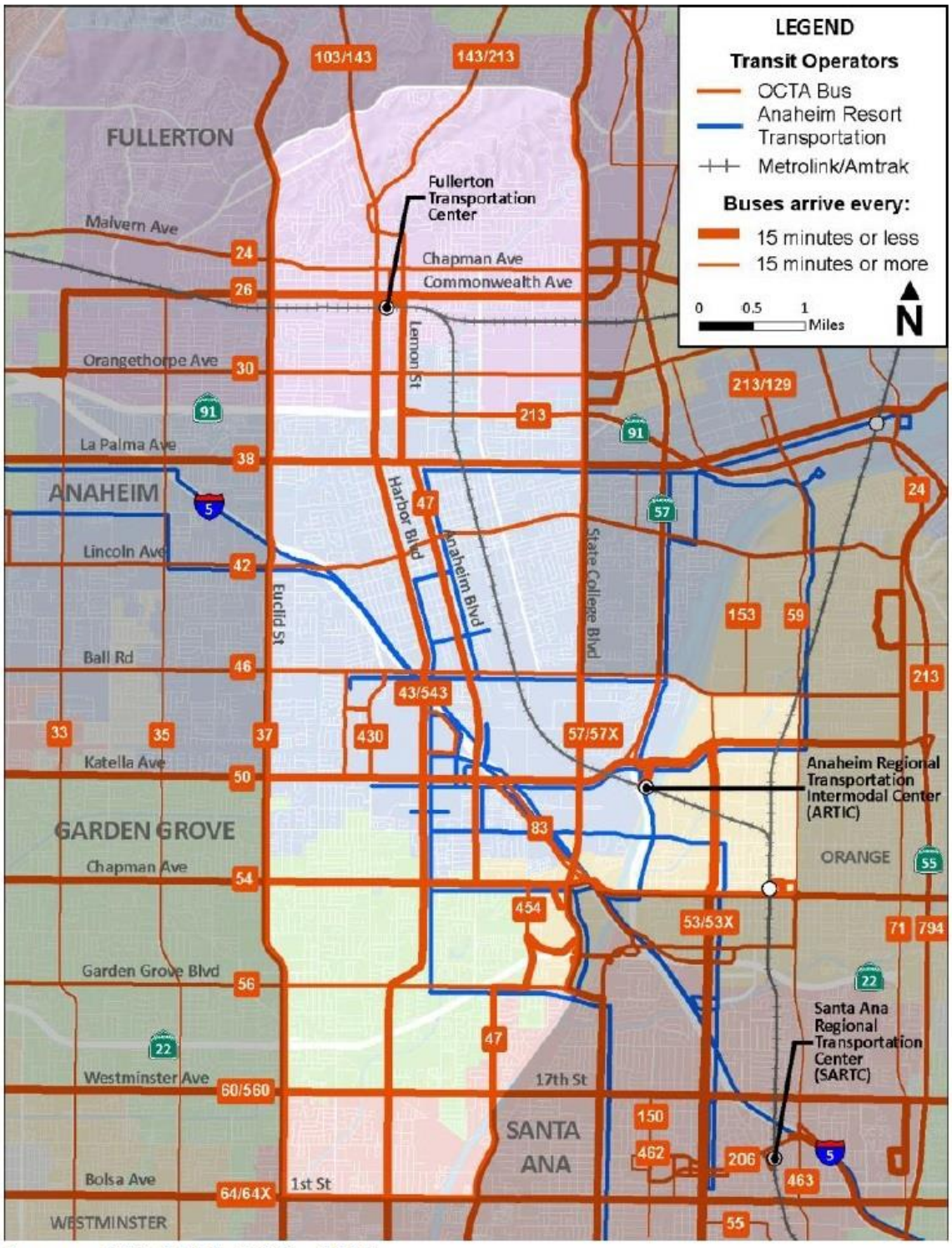
Connectivity is key to a transit line's success, and good integration of rapid rail stations with bus routes is vital. Each rail station should also be on a stop of frequent bus route. Existing bus routes of the Central Harbor Corridor (shown on the map on the next page):

- 43 and 543 on Harbor north-south corridor
- 47 on Anaheim/Lemon north-south corridor
- East-west bus route intersections with major 26 and 50 bus routes.

The path to start with is to improve and enhance existing bus service, to compliment existing bus routes, and upgrade to higher capacity modes as transit ridership on the route increased (bus rapid transit, rapid streetcar, light rail, elevated/subway rapid rail). However, the bus network should be planned to integrate with future rail stations well in advance of the completion of a rapid rail transit system. The pedestrian infrastructure around future rail stations can also be improved before the rail line is built. A new 'overlay' express line going down Harbor between Fullerton and Disneyland in concert with the existing bus routes would create a true rapid-transit level of frequent service (a bus every few minutes), with minimal capital expenditure (traffic signal priority and some bus-only lanes). This would build ridership and create a more 'transit-oriented culture' along the route, laying the groundwork for future rail line. The new rapid bus line could use electric buses, as a high-profile pilot for zero-emissions technology in OC.

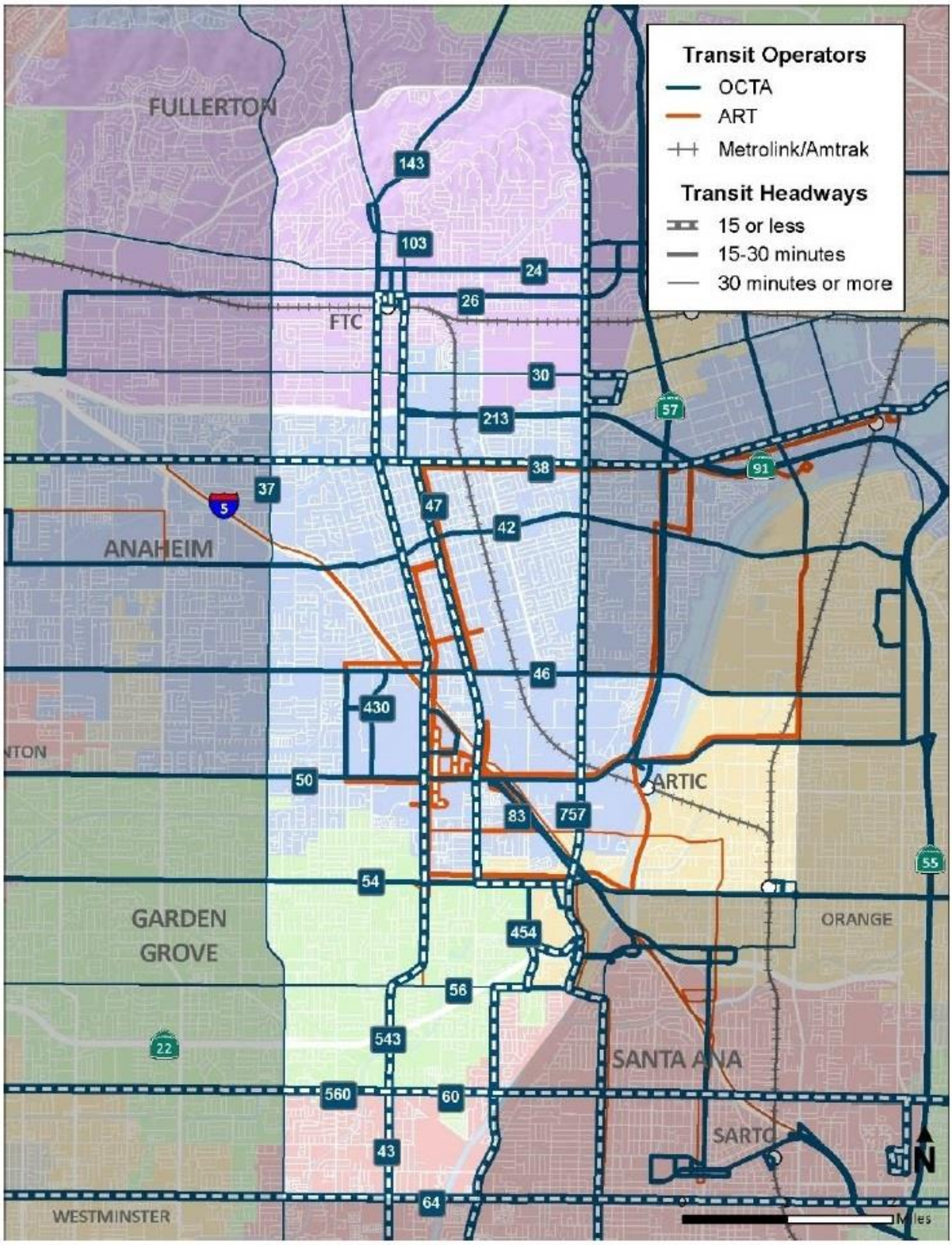
Orange County Transportation Authority
Central Harbor Boulevard Transit Corridor Study

Figure 2.10. Transit Lines through Study Area



Source: STV, 2017; OCTA, 2017

Figure 2.11. Transit Service Frequency through Study Area



Source: STV, 2017; OCTA, 2017

The Harbor Corridor is similar to existing examples of successful light rail lines in the North America, serving areas which are less dense and with smaller population than Orange County (less than three million people): Portland, San Diego, Edmonton, Calgary, Charlotte, and Salt Lake City. As described by the 2018 *OC Transit Vision* (pg. 4-9):

> Corridor analysis suggests that, at least for the time being, it would be difficult to argue for investment in the highest-capacity transit modes—such as subways—in Orange County. However, the county exhibits characteristics comparable with peer regions that operate light rail, streetcars, and BRT running in exclusive lanes. In Southern California, the Los Angeles Metro system includes light rail and BRT lines in moderate-density areas such as the San Gabriel Valley (the Metro Gold Line) and San Fernando Valley (the Metro Orange Line BRT). The San Diego Trolley system also primarily serves moderately dense suburban areas. Each of these has proven popular, and light-rail systems now exist in nearly every large metropolitan area in the Southwest, including Phoenix, Salt Lake City, and Denver.
>
> In Orange County today, the busiest OC Bus routes feature both high loads and, in some cases, on-time performance that could be improved by investments in high-capacity transit.

Fullerton and Anaheim will be served by California High Speed Rail trains, making these two cities a natural feeder for a rapid transit line serving both rail stations. Many tourists could take the Metrolink, Amtrak, or California High Speed Rail train to Fullerton or Anaheim, and then take the rail transit to Disneyland.

In 2014, OCTA started seriously looking at rail rapid transit options with the Central Harbor Boulevard Transit Corridor Study, focusing on the north-south stretch of the Harbor Boulevard corridor between Fullerton and Garden Grove. OCTA conducted this study in partnership with the cities of Fullerton, Anaheim, Garden Grove and Santa Ana. OCTA's draft final report of the *Central Harbor Boulevard Transit Corridor Study* was released in December 2017. Alternative route options evaluated were the north-south corridors of Harbor Boulevard and Lemon Street/Anaheim Boulevard, as well as a connecting east-west Katella Avenue route between the Anaheim Regional Transportation Intermodal Center (ARTIC) and the Anaheim resort area. Each city along the proposed route has plans to increase development and activity along Harbor Boulevard, Anaheim Boulevard/Lemon Street, and Katella Avenue.

The proposed line would travel from the Fullerton Transportation Center, down the Harbor Boulevard corridor to Westminster Avenue on the border of Santa Ana and Garden Grove. This location is also the western terminus of the under-construction OC Streetcar, which will connect from Harbor Boulevard to central Santa Ana and the Santa Ana Transportation Center.

The OCTA Central Harbor Transit Corridor Study assessed current and future travel demands, evaluated several different transit technologies:

- Enhanced Bus (upgrades to existing bus service)
- Bus Rapid Transit (BRT within a dedicated bus lane)
- Short and Long Streetcar (in lanes shared with auto traffic)
- Rapid Streetcar (within a dedicated rail transit lane at street level, really a conventional light rail)

The Rapid Streetcar option was recommended as the more preferable alternative by OCTA's *Central Harbor Boulevard Transit Corridor Study* (December 2017), based on an evaluation criteria including overall transit performance, cost effectiveness, corridor constraints and the preferences of potential riders. Second and third place respectively according to the study, were a mixed-traffic streetcar and a

BRT with dedicated lane. Twelve alternative configurations overall were evaluated. The Harbor line from Fullerton to Garden Grove/Santa Ana was projected to have a ridership of just over 15,000 weekday boardings. Unfortunately, in June 2018 OCTA board decided not to continue with studying a rail line alternative, preferring incremental improvements to existing bus lines [the cheapest alternative according to the study, but also the one with the least benefit and lowest benefit/cost ratio]. The city governments of Santa Ana and Garden Grove supported the concept, but Anaheim and Fullerton did not.

While a rapid streetcar would be a vast improvement over existing bus service, OCTA needs to study an elevated rail rapid transit option for the Harbor Boulevard corridor. Elevated rail transit is far faster than rail vehicles at street level, as it avoids impacts to street traffic entirely. In order to be competitive with driving, rail transit must be fast and not have to wait for auto traffic to pass at intersections. Successful examples in North America of elevated rapid transit include Miami's Metrorail and Vancouver's SkyTrain (pictured below). Of course, Disneyland's Alweg monorail is an example of elevated rapid transit which has run alongside Harbor Boulevard since 1959. In addition to an elevated system, a subway option should also be explored for at least some of the route, as going underground would also avoid street traffic. Many transit lines around the world include both underground and elevated above-ground sections, even on the same line, depending on surface street conditions and availability of space.

Vancouver SkyTrain (photo by Brian Yanity)

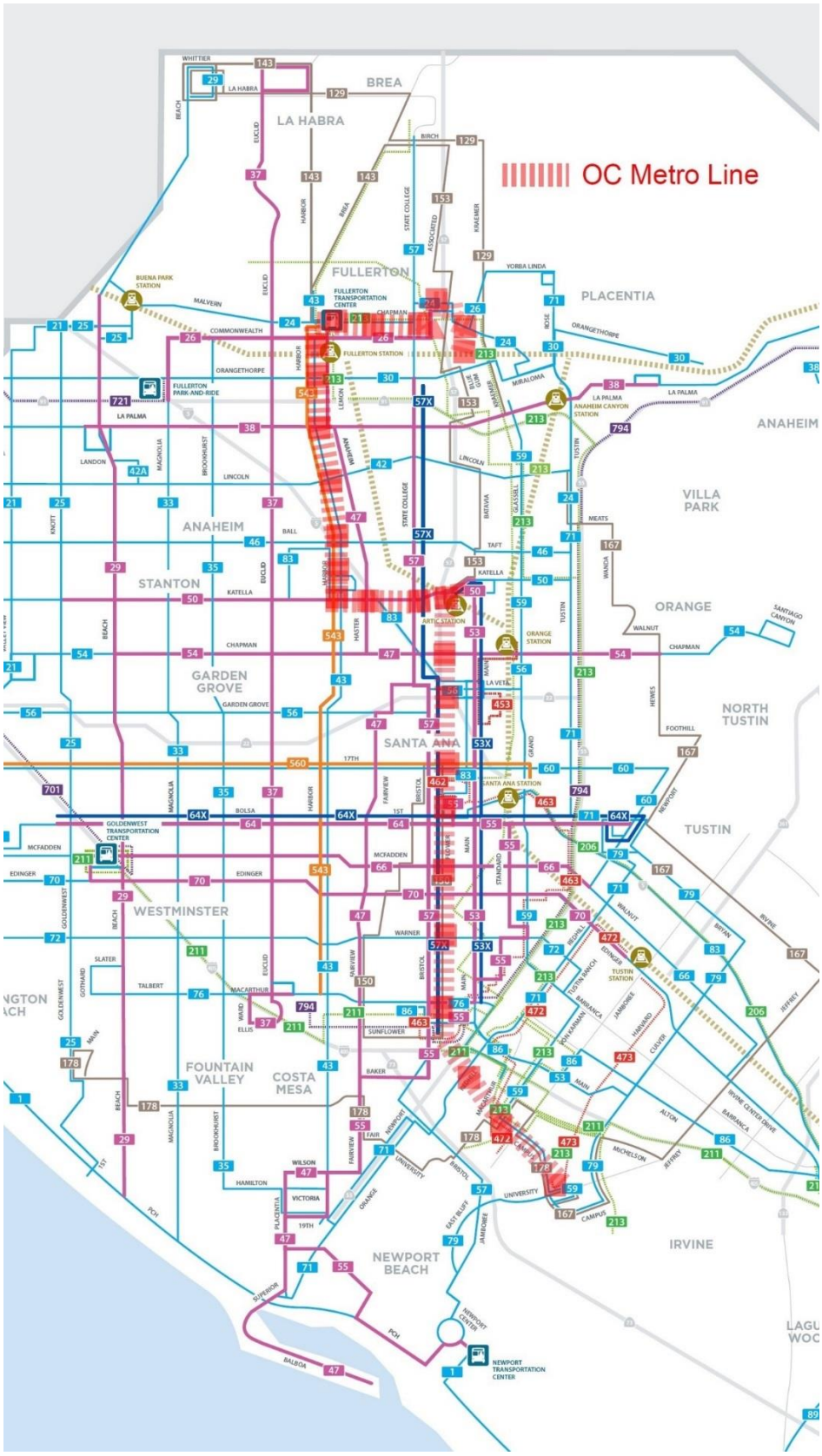
3d. OC Metro Rapid Rail

The Orange County light rail and streetcar studies done in the past continue to have value. The OC CenterLine, Central Harbor Corridor rapid streetcar, Fullerton College Connector and Anaheim Rapid Connection transit corridor concepts would make the most sense as part of a larger 'OC Metro' rapid rail system which would combines these proposals with the Central Harbor Corridor transit line. This north-south line would in turn make more sense to be connected to the Main/Bristol corridor through Santa Ana and Costa Mesa. Future build out of line would follow the general path of the OC CenterLine route proposed in the 1990s, along with the OCTA-designated Transit Opportunity Corridor of rapid streetcar or BRT between Cal State Fullerton and the Santa Ana Regional Transportation Center, primarily via North Harbor (and including the OC Streetcar alignment), shown on the map below.

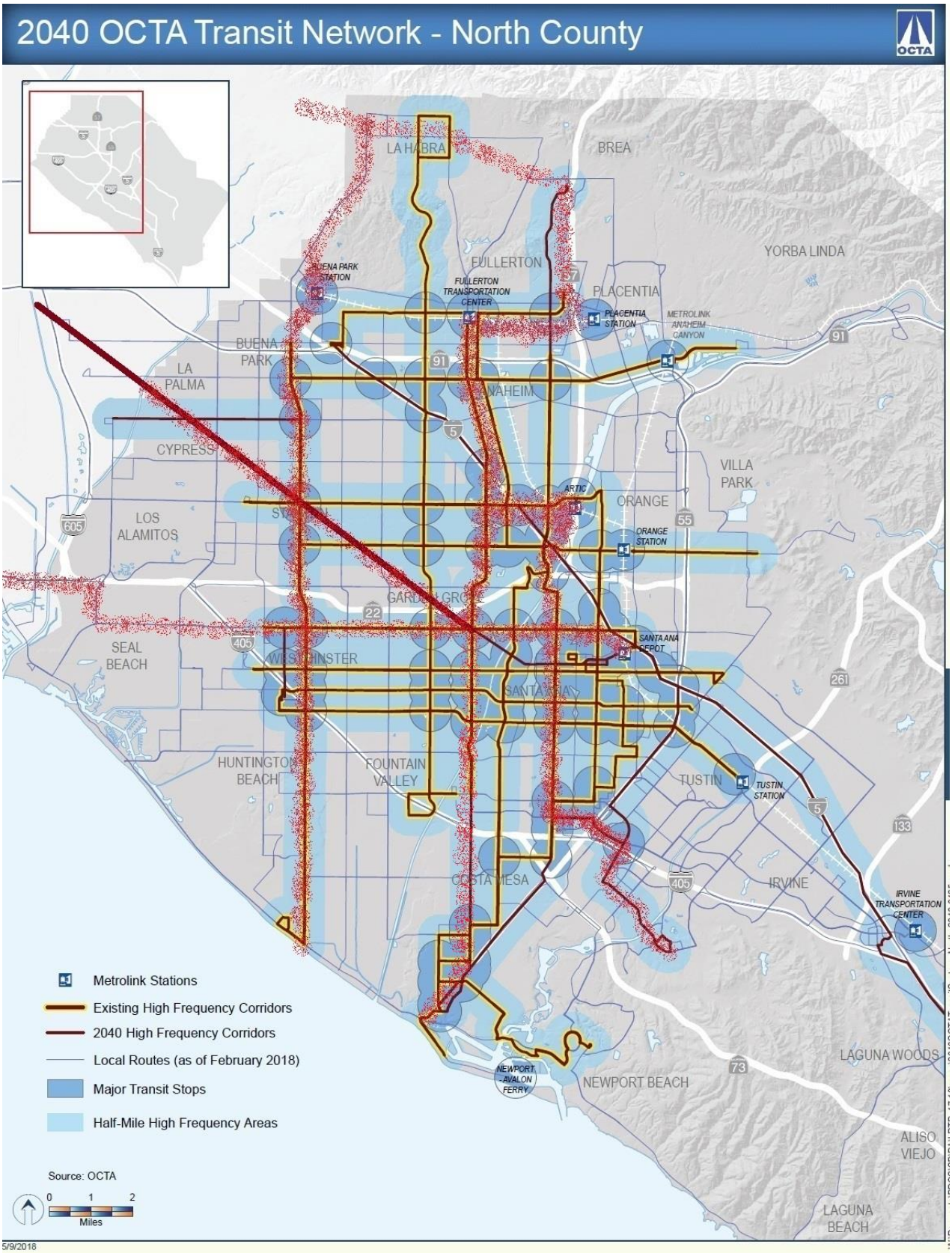
Frequent bus service, connecting to rapid rail service, is essential for success of an OC Metro attract large numbers of riders. The existing grid of OCTA bus lines is well-suited to serve as 'feeders' to enable convenient connections to rapid transit service. As shown on the map below showing existing OCTA bus lines and the proposed OC Metro line, each stop would connect to at least one existing bus route. The same fare system would be needed for both bus and rail, with free transfers between the two. Upgraded bus service along the Harbor Corridor (and cross-routes) can begin now. A future rapid transit line will start as enhanced, express bus service, and later upgraded to bus rapid transit, street-running light rail, or grade separated rapid light rail. The OC Metro would complement and connect to existing bus lines and to the Anaheim, Fullerton and Placentia Metrolink stations. The OC Metro route would also complement to the OC Streetcar route between Downtown Santa Ana and Garden Grove, and its possible extensions north along Harbor to Disneyland, and south along Bristol.

The ideal system would be entirely grade-separated for the entire route and fully-automated, for maximum safety, reliability and speed. To be grade-separated for the entire route some sections will need be elevated, some underground. The stations should all have platform-edge doors for maximum safety. Successful, existing models for such a system include the Vancouver Sky Train, Honolulu Area Rapid Transit and the new Copenhagen Metro. Southern California already has an excellent example of a fast, entirely- grade separated light rail line: LA Metro's Green Line. It has an average speed of 38 mph, one of the fastest rail rapid transit systems in North America. The OC Metro line would need a capacity of 100,000 riders per day, to handle future growth. Similar systems around the world have a typical project capital cost ranging between $100 - $600 million per mile, and an operating cost per passenger mile around $0.30-$0.50 (less than buses). Copenhagen, Stockholm and Madrid have recently completed subway lines for less than $100 million per mile, so their construction management practices should be studied for OC Metro.

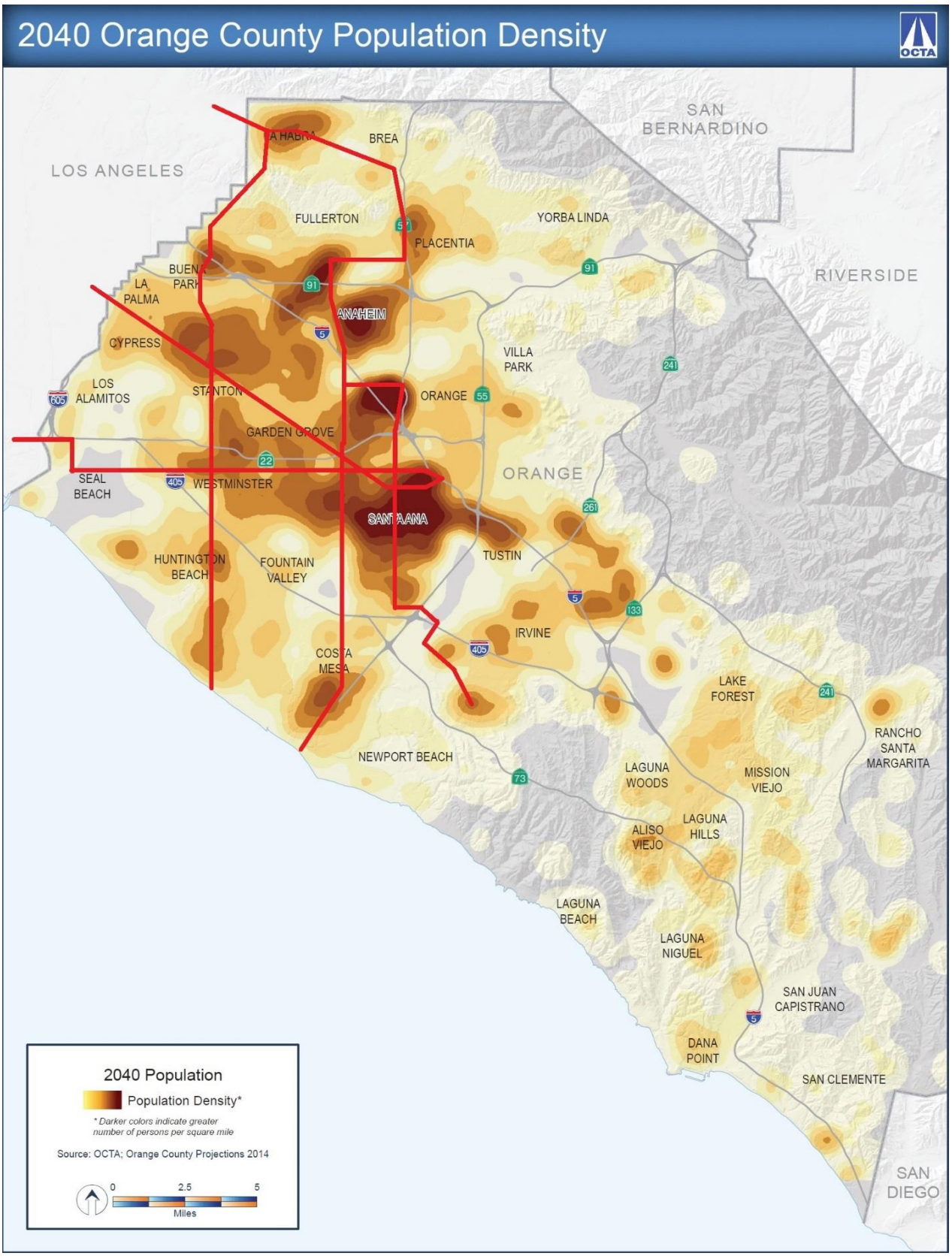
Potential "Fullerheim" Starter Section	**Length (miles)**
Overhead 1- CSUF to Downtown Fullerton	3.2
Underground 1- Downtown Fullerton to Orangethorpe	0.8
Overhead 2- Orangethorpe to La Palma Park	1.0
Underground 2- La Palma Park to Disneyland/ACC	3.5
Overhead 3- Disneyland/ACC to Stadium/ARTIC	2.0
Total Underground	4.3
Total Overhead	6.2
Total	*10.5*



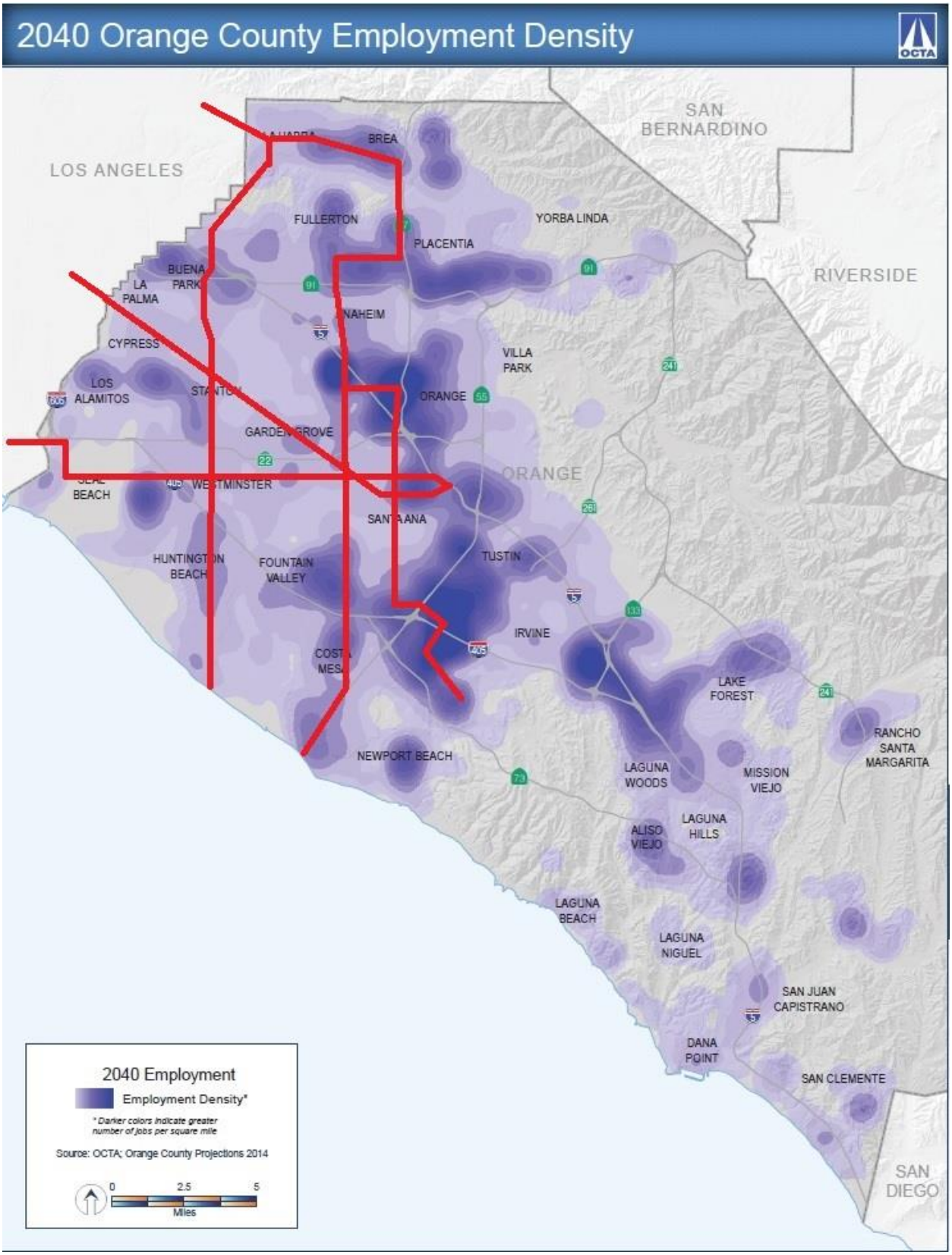
Potential north-south 'OC Metro' rapid rail line, shown overlaid on OCTA bus map



Potential 'OC Metro' rapid rail lines, shown overlaid on OCTA 2040 transit scenario map



Rapid rail lines overlaid on the map of projected 2040 employment density (OCTA LRTP Fig 2.1.)



Rapid rail lines overlaid on the map of projected 2040 employment density (OCTA LRTP Fig 2.3).

Beach Boulevard Corridor-

High-quality transit line is proposed between La Habra and Downtown Huntington Beach. The line would serve the Buena Park Metrolink station, Fullerton Park-and-Ride.

The OCTA board of supervisors approved Bravo! service on Beach Boulevard in 2016, and the new Bravo! route 529 began running on Beach Boulevard in February 2019. This corridor could be part of future OC Metro rapid rail line.

Bristol & State College Corridor-

Designated corridor for high-quality transit between Brea Mall and Downtown Santa Ana, and on to UC-Irvine. This corridor could be part of future OC Metro rapid rail line.

Improved transit service along this corridor should serve Downtown Placentia and the Placentia Metrolink station, scheduled to open in 2021.

17th/Westminster & Bristol Corridor –

Designated corridor for high-quality transit between the Goldenwest Transportation Center and the University of California, Irvine. The 2018 *OC Transit Vision* recommended that a rapid streetcar be implemented this corridor, costing about $1 billion. This corridor could be part of future OC Metro rapid rail line.

Main Corridor-

Designated corridor for high-quality transit between Anaheim Regional Transportation Intermodal Center and the South Coast Plaza Park-and-Ride. The 2018 *OC Transit Vision* recommended that a rapid bus be implemented this corridor, costing about $34 million. This corridor could be part of future OC Metro rapid rail line.

Freeway BRTs-

The 2018 *OC Transit Vision* recommended study of a 35-mile BRT along the Interstate 5 Corridor between Fullerton Park-and-Ride and Mission Viejo/Laguna Niguel Metrolink Station, costing about $400 million, as well as a 15-mile BRT along SR-55, costing about $140 million.

It is better to invest in LOSSAN corridor rail upgrades to improve Metrolink and Amtrak service from Buena Park to Laguna Niguel/Mission Viejo, instead of the expense of adding BRT lanes to the I-5 freeway. More frequent train service along this existing rail corridor would add more passenger capacity than BRT.

3f. Extension of LA Metro light rail lines to Orange County

Several rail transit projects being planned in Los Angeles County have great potential to directly benefit Orange County. The 2018 OC *Transit Vision* (pg. 9-3) recommended that OCTA should analyze regional intercounty bus and rail connections. Short-term regional planning activities mentioned the following possible future rail transit connections with LA Metro light rail system (LRTP pg. 138), and "continue dialogue with Metro and appropriate agencies to identify impacts to, and opportunities for, connectivity with Orange County's transportation network." LA Metro and OCTA transit fare systems should also be integrated. These cross-county rail transit extensions are worthy of further study:

- Gold Line East Extension
- West Santa Ana Branch
- Green Line Extension to Norwalk/Santa Fe Springs Metrolink station
- UP Patata branch to Anaheim.

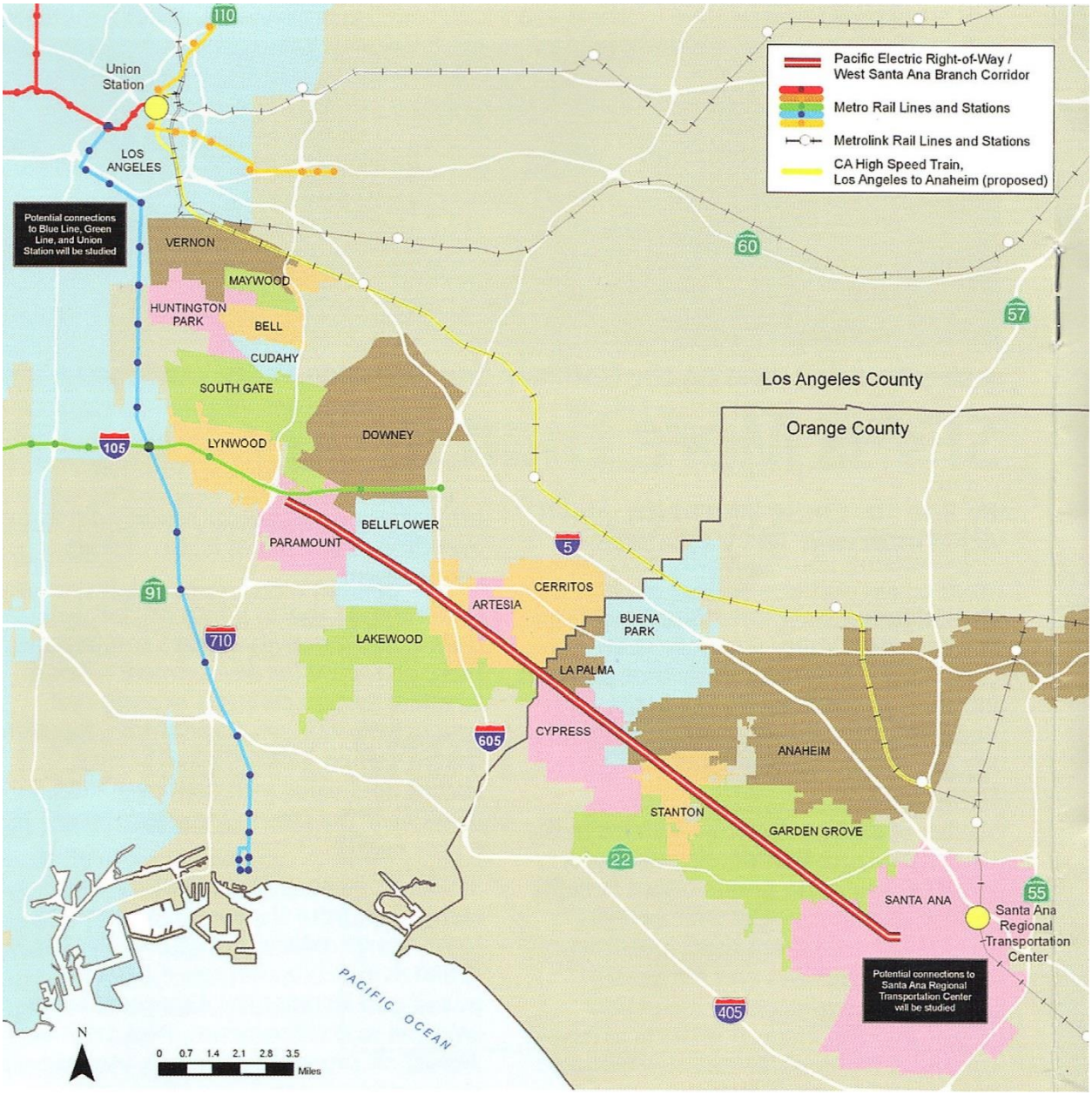
Figure 7-4 Potential TOC Connections to LA Metro Lines

Fig. 7.4 from *OCTA OC Transit Vision, January 2018*

West Santa Ana Branch/Pacific Electric Right-of- Way-

LA Metro Rail is planning to build a new light rail line into Artesia via the abandoned Pacific Electric West Santa Ana branch right-of-way, which continues all the way to Santa Ana. This light rail line should be further expanded into Orange County, to connect to the OC Streetcar in Garden Grove as well as the Harbor Boulevard rapid transit line. Unfortunately, OC cities and county government backed out of SCAG-led regional study in 2012. This project would be an excellent inter-jurisdictional cooperation with a wide regional benefit, and act as a compliment to Metrolink service between Los Angeles and Orange counties.

A 2012 SCAG study projected 87,200 riders on a West Santa Ana Branch light rail line, if it were extended to Santa Ana. The West Santa Ana Branch right-of-way in OC is owned by OCTA. Unfortunately, OC cities along the route have traditionally not been supportive of reviving rail transit along the route compared to their counterparts in LA County.



Map: Transit Coalition

LA Metro Gold Line Eastern Extension Phase 2-

The Gold Line eastern extension in planning includes the Washington Boulevard alternative, which could directly benefit Orange County.

This line should continue east from Whitter to La Habra and Brea , utilizing the historic Pacific Electric right-of-way now owned by Union Pacific. A connection south from La Habra to west Fullerton is also possible, along the existing railroad right-of-way.

The map of the proposed OC Loop bikeway (on pg. 74 of the LRTP) shows the Union Pacific track through La Habra and Brea being converted into a bike path. The bike path development along this corridor should not preclude future light rail development along the corridor. This corridor should be made available for a double-tracked light rail line, with the bike path on the side.

Extension of LA Metro Light Rail, LOSSAN/Green Line Connection-

The Green Line light rail extension to the Santa Fe Springs/Norwalk Metrolink station is entirely within Los Angeles County, but will greatly benefit Orange County residents who could more easily access the LA Metro Green Line system connecting to LAX and the South Bay. This extension is listed as part of the 2020 Connect SoCal SCAG RTP/SCS.

Union Pacific Patata Industrial Lead to Anaheim-

Union Pacific's Patata Industrial Lead freight rail line, paralleling Interstate 5 through Buena Park and Anaheim, should be studied for passenger train service between Los Angeles and Orange County. Such service could share the tracks with freight trains, as Metrolink does now. Trains could run from Downtown LA direct to Disneyland and Downtown Anaheim. The line could be also electrified with overhead catenary infrastructure powering all-electric locomotives. The Patata line is actually the first railroad line to be built in Orange County, by the Southern Pacific in 1875. The UP Patata right-of-way could be used to connect Anaheim to the Green Line Extension to Norwalk described above, possibly by sharing the line with freight (as is done now with the San Diego Trolley).

4. Transit Oriented Development in OC

Transit-oriented development (TOD), is generally defined as mixed-use, medium to high-density development within a half mile, or a 10 minute walk, from a transit station. Transit-oriented development and well-planned high density reduces per-capita vehicle miles traveled (VMT) of private automobiles. Across the U.S., TOD is gaining momentum due to awareness of hydrocarbon energy resource scarcity, road congestion, air pollution, climate change, and growing interest in sustainable living in walkable neighborhoods that minimize the need for driving. Concentrating projected population growth in TOD around rail stations is far more environmentally sustainable than suburban sprawl. The best transportation plan is a good land use plan that encourages dense development around transit in Orange County. The dark blue circles on the '2040 North OC transit' map from the LTRP (shown below) are natural locations for TOD.

For transit and regional passenger rail to be successful, the neighborhood around transit stops and train stations needs to be compact, walkable and have a diverse array of activity, homes, and businesses. To prevent sprawl out at the metropolitan periphery, population and general economic growth must occur in existing cities. Planning for transportation and land use go hand in hand. What is the point of investing billions in transit and improved passenger rail if not enough people live near stations?

Good transit depends upon urban density to be successful. It has long been known that dense concentrations of people and jobs around transit stations necessarily means that more people will use transit to get around. The economic investment of capital-intensive transit has more benefit the more people ride it, so that the net cost per passenger mile travelled is less.

As described by the Austin group AURA[1]:

> The denser a city gets, the more effective public transportation becomes and the more ineffective cars become. Buses and trains must become first-class modes of transportation for everyone, not just those paying a higher fare. This means more street lanes dedicated to transit, more money dedicated to transit, and more focus on serving the most riders and less on geographic coverage. Transit should not be viewed as merely a relief valve to reduce congestion for automobiles, but as a primary means of transportation.
>
> To get the most benefits from our transportation investments, we must prioritize existing density and allow additional, abundant housing near transit stops. Policies that limit density near our best transit lines must be reversed.

As described by Christof Spieler in his 2018 book *Train, Buses, People: An Opinionated Atlas of US Transit* (pg. 18):

> Nothing matters as much to making transit useful and successful as population density. Every mile of transit costs money to build and operate. Fundamentally, the usefulness of that mile is based on simple math: how many people will that mile of transit reach? A mile of route puts roughly a square mile of area within reach

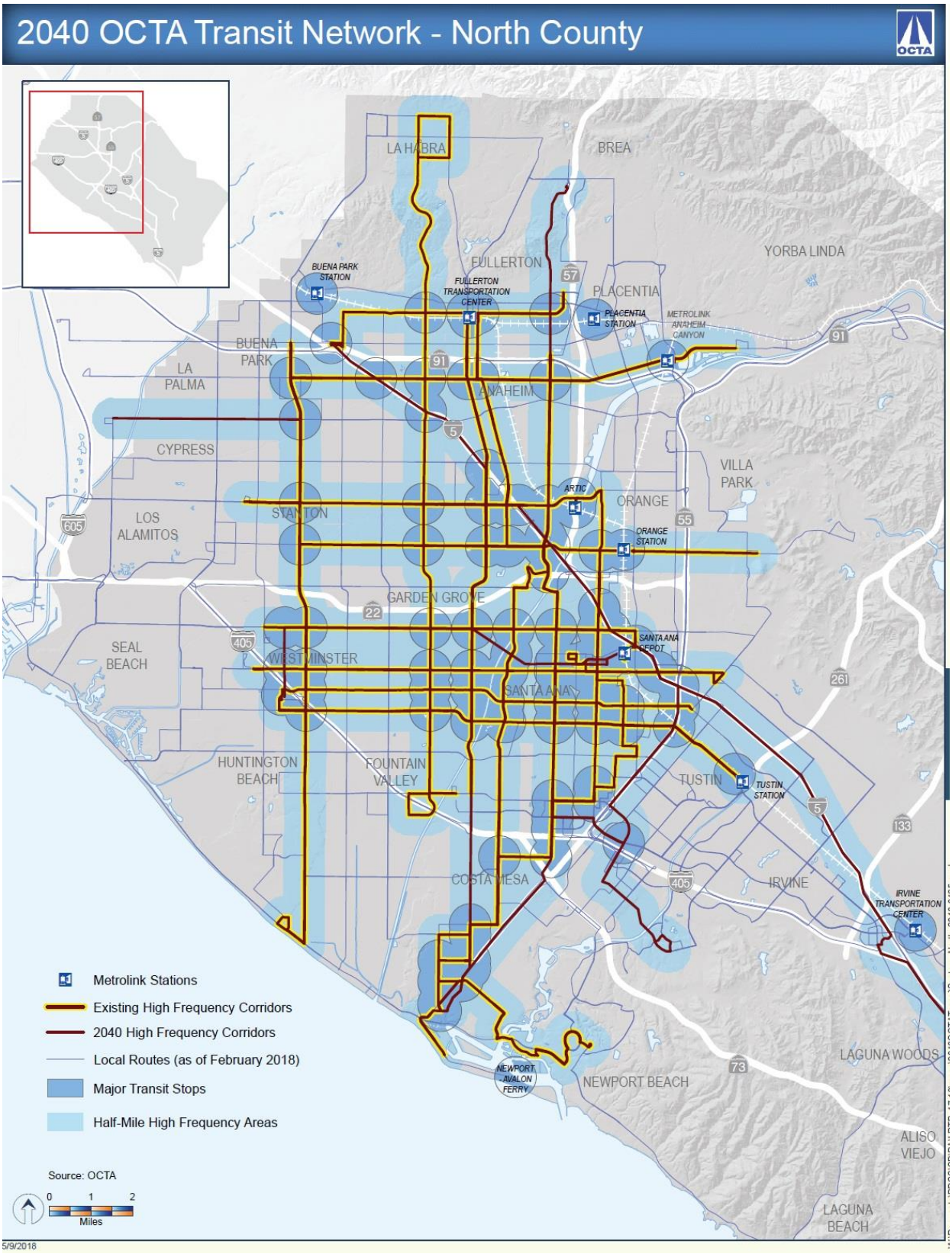
[1] https://www.aura-atx.org/what_we_believe

> of transit. If 100 people live in that square mile, there are 100 potential transit riders; if 10,000 people live in that square mile, there are 10,000 potential transit riders.
>
> …somewhere around 10,000 people per square mile…, transit reaches a tipping point. Here, the sheer number of people are enough to justify frequent service. Moreover, the walking and biking become useful for short trips, which makes transit more desirable. As densities further increase, more and more transit is justified.
>
> …Almost every transit line has room for new development along it: vacant lots, surface parking, aging single-story retail, underused industrial tracts. Even areas that already have density can be densified, and often the market supports dense new development in areas that already have an established residential market better than in relatively undeveloped areas.
>
> …In city after city, the real estate market has proven to support new development around transit. Despite the claims of some anti-transit think tanks, mixed use around transit is the result of market demand, not a plot led by city planners.

The most effective, and economically valuable, passenger rail systems have significant concentrations of jobs, housing, retail, public services and amenities clustered around the stations and corridors they travel. Density alone, however, cannot make transit successful. The neighborhoods around these stations must also be walkable. Pedestrian-friendly neighborhood amenities around the train station would include new pedestrian-only walkways, to minimize interaction of pedestrians and automobiles. Fortunately, there are plenty of existing plans to work from. For example, the 2013 *OCTA Nonmotorized Metrolink Accessibility Strategy report*[2] provides excellent plans for improving pedestrian and bicycle infrastructure around Metrolink Stations in Orange County.

The experience of cities around the world has shown that the most successful rail transit and commuter rail systems have dense development clustered around stations. In European suburbs, multi-story office buildings, apartment blocks and shopping centers typically are oriented with walkable streets around suburban train stations. The greater number of number of people who live and work near train stations, the greater number of people who will be using the train. This increases transit revenues, which are reinvested in improved passenger rail service, and reduce public subsidies needed to operate the system. Improved passenger rail service that is more comfortable, safe and efficient results in more people riding the train, reducing their dependence on polluting, traffic-causing cars.

[2] http://www.scag.ca.gov/Documents/OCTAMetrolinkStation%20Access_Final_report.pdf



Blue circles show where future infill residential and commercial development should be focused, (Fig. 4.10 from 2018 OCTA Long Range Transportation Plan)

The 2018 California State Rail Plan's "2040 Vision" calls for far more frequent and faster passenger rail network that ties all of the state's major population centers together. A major part of the 2040 Vision is for community development strategies to embrace multi-use development around train stations[3]:

> The 2040 Vision provides for attractive opportunities in more communities for station area planning that supports walkable, TOD near station sites with access to a statewide rail network—a network providing for local, regional, interregional, and out-of-state travel. The 2040 Vision is focused on providing transportation improvements using existing rights-of-way that generally serve existing city centers, and where it doesn't, provides for future growth around sites that can be designed around rail, transit, and active transportation. The 2040 Vision supports California's Vibrant Communities and Landscapes component of the State's climate strategy.

The *OC Transit Vision*'s chapter 8 on Transit-Supportive Design and Policies, lays out an excellent use for transit-oriented development in Orange County, defining transit-supportive land use on pg. 8-7 as:

> Transit-Supportive Land Use
>
> When considering the relationship between transit, buildings, and neighborhoods, it is useful to think in terms of the "6 Ds". Each of these is essential to building transit-friendly environments:
>
> Destinations:
> Land uses should be grouped together to form busy destinations, and destinations should be in locations that are easily accessible to transit.
>
> Distance:
> Origins and destinations should be relatively close together and connected by direct paths.
>
> Density:
> Putting more residents and workers or students close to transit increases the number of transit riders.
>
> Diversity:
> A mixture of land uses enables walkable, transit-friendly environments.
>
> Design:
> Architecture built around pedestrians is architecture that also supports transit.
> Adding interest to the streetscape is key to creating pedestrian-friendly places.
>
> Demand Management:
> Strategies to reduce driving are important to successful transit.

The 2018 OC Transit Vision *Appendix E- Transit-Supportive Design and Policy Handbook* provides more detailed guidance for OC cities transit- supportive street and sidewalk design, as well as parking management and transportation demand management policies.

[3] 2018 California State Rail Plan, October 2017 Public Release Draft, pgs. 114-116: http://www.dot.ca.gov/californiarail/docs/CSRP_PublicReleaseDraft_10112017.pdf

4a. Abundant housing near transit

City governments need to make it easier, faster and cheaper to build new housing, especially along major transportation corridors near transit. The high cost of land in Southern California means more units per acre are needed to produce housing that is affordable to middle and low-income earners. Infill development—redeveloping currently unused or under-utilized parcels—at higher densities is the best way to create middle-income housing and limit both our environmental impact and demand on transportation infrastructure. We have more people, and so need more density.

The number of high-paying jobs in Orange County causes people to move here, resulting in increased demand for housing. Orange County has a high-performing economy, so people move here because they find good jobs here. This means shared prosperity, as described by the Austin, Texas group AURA (which could be talking about Orange County):

> Moving to Austin isn't just good for our new residents. When people move here, their talents, resources, and connections enrich us all. Every new Austinite is a new potential employee to attract employers, a new customer for businesses, and a new collaborator to help spark start-ups. Abundant housing will allow more people to participate, benefiting the city as a whole.

The solutions needed to this complex problem is much more multifaceted than just 'free the market'. It requires leadership, planning, guidance and support from local and county governments. City governments enable how much housing can be built through zoning. Orange County needs the zoning of cities to allow abundant housing of all types, including single-family homes, accessory dwelling units to tall apartment and condo buildings.

City governments typically do not have enough of their own funding to pay for construction of the quantity of new, publically-subsidized housing units needed to meet the demand. The county and state governments must therefore take on a leading role. The planning must be inclusive of those already living here, including targeted programs to help low-income residents impacted by redevelopment. New affordable housing should be built where residents have access to education, jobs, and high quality transit. When there is an abundant supply of housing for all income levels, this creates diverse neighborhoods of people from different economic, racial, and familial statuses, and prevents the displacement of economically disadvantaged residents. However, there will always be a need to provide some kind of public subsidy, which should be focused on those most in need. Affordable housing concepts that need to be explored for Orange County include:

- Anti-displacement programs to prevent socially harmful gentrification
- Inclusionary zoning (10% to 30% mandatory below 'market rate', equitably distributed in buildings.. i.e. no 'poor doors')
- Example of affordable housing incentive program in OC.
- "cooperative" or publicly-financed 'social' housing
- Transit-oriented Permanent Supportive Housing (as part of Housing First homeless policy)

Orange County needs to work to prevent displacement of existing residents who are transit riders, so they wont be priced out of living in transit-rich neighborhood and corridors. Abundant housing, along improved transit corridors, can help to stem the tide of lower income Orange County residents being

forced out of their homes and out into far exurbs in the Inland Empire and beyond. Orange County shouldn't become a place where only the wealthy can afford to live.

The 2018 Long Range Transportation Plan (LRTP) described the connection between intra-county commuting and employment (pg. 24):

> Most Orange County residents both live and work within the county (58 percent). However, about 657,000 people live elsewhere and commute into Orange County to work, compared with about 490,000 residents who commute to work outside of Orange County. This means there is a greater inflow of people coming to Orange County to work – which impacts travel on our network of highways and roads. The greatest flow of traffic is between Los Angeles and Orange counties (flowing nearly evenly into and out of Orange County), while most of the work trips from the Inland Empire and San Diego are commuters traveling into Orange County.

The fact that hundreds of thousands of daily commuters go in and out of the county justifies increased Metrolink service, and other rapid transit connecting other counties to OC.

High Cost of Housing was described as a challenge by the by the 2018 LRTP: "By 2040, Orange County's population will increase by 10 percent, employment by 17 percent, and the current housing shortage is projected to continue" (pg. 62). In the LRTP section titled "2040, If Work Stopped Today" (pg. 54) predicted that OC's housing shortage would continue for the foreseeable future, putting extra strain on the transportation system:

> "The trend of insufficient local housing is also expected to continue, resulting in more people living in neighboring counties and commuting to work in Orange County. Without additional improvements to our transportation system, traffic congestion will increase, travelers will experience deteriorating levels of service on highways and roadways, and costs to motorists will rise."

The LRTP also discussed "limited land for system expansion" (pg. 63)-

> "These comparatively high housing costs, coupled with the fact that Orange County is a major employment center, force many would-be residents to live outside of Orange County and commute in for work. As a result, inbound commutes from other counties are projected to increase 25 percent by 2040. This growth results in more travel demand, and congestion will worsen without improvements.
>
> However, there are limited opportunities to expand roadways and highways without acquiring new right-of-way. Other factors, such as the cost of owning, parking, and maintaining a vehicle, and the availability of transit options and the competitiveness of transit travel time compared to driving, also affect how people choose to travel."

The lack of enough local housing assumed by the LTRP is not inevitable, because the county and city governments can encourage and zone for the construction of large amounts of new housing near and around transit hubs. Sprawl is also not inevitable, and there is a need to reduce vehicle miles travelled (VMT), especially for single occupant vehicle trips. Simply put, there needs to be more housing built closer to jobs and transit in Orange County. The Regional Housing Needs Assessment numbers for Orange County need to be stated and discussed as part of transportation planning, along with state and local policies for increasing housing production such as density bonus law, accessory dwelling units, affordability incentives, etc. The taxpayer cost to subsidize the construction of affordable housing close to jobs and transit within Orange County would be less than adding more freeway lanes, especially when factoring in the pollution, fuel use, congestion and wasted time caused by long commutes.

The LRTP "High Cost of Housing" subsection in (pg. 110) discussed locating employment and housing closer to Metrolink stations and transit hubs:

> "A lack of accessible and affordable housing forces many individuals who are employed in Orange County to live in surrounding counties. While Trend 2040 proposes a multi-modal investment strategy that maintains 2015 conditions despite growing travel demand – thereby improving job accessibility compared to the 2040 No Build scenario – more can be done. One strategy included in Trend 2040 is the use of priced-managed lanes to improve travel conditions for intercounty trips, especially if coordinated with neighboring counties and ridesharing programs. Realistically, however, local land use decisions likely create the best opportunities to reduce projected inter-county travel growth, and OCTA has limited influence over these decisions. It is possible that locating employment and housing closer to Metrolink stations and transit hubs, and developing higher- density and more affordable housing within the county, will help moderate if not eliminate this long-standing Orange County issue."

OCTA needs to be directed to coordinate with city governments on encouraging dense development and zoning around transit. OCTA can promote local land use more favorable to transit by performing studies and modelling of development future scenarios of higher densities around transit hubs, showing the impacts to transit ridership and traffic of these different scenarios. The best transportation plan is a good land use plan that encourages, and provides data to support, the zoning to build dense housing and commercial development around transit. OCTA can also find ways to encourage new housing to be constructed on land that it currently owns. There are many examples of transit agencies around the country who offer their land for reduced prices or leasing as part of for affordable housing development next to transit stops. In the Bay Area, BART plans to develop affordable housing on land that it owns near stations.

The OC Transit Vision document (pg. 8-8) provides a far-sighted perspective on SB 743:

> Another, more recent effort by the state to promote TOD through changes to CEQA processes is Senate Bill 743, which will soon require transportation impacts to be analyzed using vehicle miles traveled rather than vehicular level of service. This change will benefit developments in walkable, transit-oriented locations generating fewer impacts, and will encourage use of transportation demand management strategies.

Rush hour traffic congestion in Orange County remains because of the VMT generated by the county's sprawling development pattern. The extent to which new housing development will worsen traffic congestion is debatable, but certainly blown out of proportion. Well-planned density enhances quality of life and livability for residents. There are limits to automobile dependency. Americans are slowly coming to realize the model that every city resident comes with a car, and drives a car everywhere, is inherently limited. We have to find ways of having a lot of people living close to each other without all of them having cars, and not every trip for work, play or shopping requiring a car trip.

There is a common misconception that density is the cause of street traffic congestion. However, the worst environmentally-damaging congestion is caused by low-density, single-family neighborhoods where you need your car to do everything. A greater mix of uses, with a wider variety of businesses, around key transit hubs, will also shift passenger trips from auto to bus or rail. Having different types of businesses within walking distance of each other allows combining trips through walking, even if someone drives and parks their car in the neighborhood. A common objection to new high density development is that residents feel the new development will increase traffic congestion. This is assuming that new residents will drive a car as much as current residents who reside in single-family

homes. It is also reducing the people who live in multifamily apartment buildings as simply automobiles, and not as human beings. This is an example of automobile-centric worldview that many Orange County residents have, especially of older generations.

With transit-oriented development around rail stations and major bus corridors, the amount of transit use could be an order of magnitude greater. Other West Coast metropolitan areas with a far greater percentage of transit use than Orange County offer an interesting comparison. The Seattle metropolitan area has a population similar to Orange County (slightly more than 3 million), but has over 700,000 weekday transit trips compared to less than 150,000 for Orange County. The Vancouver metropolitan area, which has a smaller population of 2.5 million yet has embraced exceptionally strong TOD policies over the past several decades, has over 1.4 million weekday transit trips. In the Portland metropolitan area, the regional transit agency TriMet serves a population of 1.6 million, or roughly half that of Orange County. However, TriMet's average weekday ridership of over 300,000 is double that of OCTA.

Infill development-

New housing must be funneled into dense urban cores and existing corridors. In 2011, OCTA and the Orange County Council of Governments released the Orange County Sustainable Communities Strategy in response to SB 375, the Sustainable Communities and Climate Protection Act of 2008. Sustainability strategies recommended by this document included transit-oriented, infill housing and mixed-use development in Orange County cities, in order to "promote land use patterns that encourage the use of alternatives to single-occupant automobile use". The 2011 OC Sustainable Communities Strategy also promoted "using land in ways that make developments more compact and improves linkages amount jobs, housing and major activity centers", and "utilizing innovative pricing policies to reduce vehicle miles traveled and traffic congestion during peak periods of demand". The strategy document identified and described Orange County transit hubs with a potential and need more development within walking distance.

Downtowns of mid-size to smaller cities along rail lines in California will see more development around their train stations. There is much potential in Orange County for infill development of multi-use, multi-story buildings that include residential, in blocks that were previously only commercial or industrial use. The stations of Irvine, Tustin and Anaheim are both examples of train stations surrounded by existing commercial and industrial development, with residential buildings a relatively long walk from the station. Infill development around such stations could become catalysts to renew employment opportunities in previously exclusively commercial and industrial neighborhoods, reinforcing economic development. In neighborhoods consisting of existing single-family homes, new housing supply can be added in the form of new accessory dwelling units (ADUs), duplexes and triplexes that will not fundamentally alter the character of the neighborhood.

Orange County's future will be one of more dense residential development around train stations in Fullerton, Buena Park, Placentia, Anaheim, Orange, Santa Ana, Tustin and Irvine. This will include more dense development in areas previously have low-density development patterns, including high-rises taller than any buildings previously built in these cities. The county needs future housing to be developed in urban cores that are already developed. A uniquely Orange County urbanism will embrace the fact that the county is poly-centric, with a network of dense cores of distinct cities, linked together by transit and regional rail corridors.

4b. Economic benefits of density and TOD

The greater density of TOD also allows more trips to be shifted from automobile to walking or bicycling, since a greater mix of businesses and other destinations will be closer to more residents. Smart density means more cyclists and pedestrians. A greater mix of uses, wider variety of businesses around rail stations will also shift passenger trips from auto to rail. Having different types of businesses within walking distance of each other allows combining trips through walking, even if someone drives and parks in the neighborhood.

Increased job density adds to the productivity of firms and workers, as people working in different businesses are closer to one another, aiding collaboration and meetings. Business at restaurants, cafes and shops goes up because more people, both residents and office workers, are walking around to patronize businesses.

Dense development makes the economic life of cities better, not worse. More people living in a particular neighborhood means more locals walking down the street to patronize shops, cafes and restaurants, and more tax revenues for the city. Dense, mixed-use neighborhoods have far more tax revenue per block than low-density, single use neighborhoods, especially in relation to the per-capita cost to maintain infrastructure. As described in the 2008 Downtown Fullerton SCAG report, "While the loan programs and reduced parking requirements attracted many new businesses, the downtown's success was greatly enhanced by the accompanying construction of new housing... New residents are key to making a downtown a vital urban environment, providing round-the-clock activity on the streets and a base of support for the new shops and restaurants".

Increased economic activity around a rail station increases local tax revenue and property values. Around the world, public investment in rail transit has proven to stimulate private investment in the neighborhoods around stations, and higher economic growth in neighborhoods that have good transit. In Europe and Asia, many suburbs served by commuter rail are intensely developed, with many jobs and housing located adjacent to train stations.

There is economic value in living closer to your neighbors. Denser residential development is associated with lower per-capita fiscal costs for city governments. Per-capita utility infrastructure cost to serve many residential and commercial users in large, multistory buildings are much less due to economy of scale.

Properly planned dense urban neighborhoods have far less household transportation costs, because there is less need to drive. Households would have lower transportation and utility costs, as smaller home sizes in high-density areas mean lower use of electricity, water and heating fuel. The less residents of a neighborhood drive, the less money they spend on gasoline. These savings can be spent at businesses in the local neighborhood.

In 2013, the State of California's Vision California scenario modeling project concluded that with TOD and infill near existing and future local and intercity rail service [4]:

[4] 2013 California State Rail Plan, pg. 285: http://www.dot.ca.gov/californiarail/docs/Final_Copy_2013_CSRP.pdf

- Households could save over $7,250 per year in auto costs and utility bills
- Local governments could save more than $47 billion in infrastructure costs (water pipes, sewers, roads and utility lines), while gaining over $120 billion in new revenue.
- Reduced health incidences would save nearly $2 billion a year by 2035.
- By 2050, water saving would total 19 million acre-feet
- Over 3,700 square miles less farmland, open space, and recreation areas would be lost to development, and 75 million tons of less GHG would be created by 2050.

High-density has the environmental benefit of using energy, water, waste and public transport systems more efficiently, and more tax base per unit of land area in relation to cost to provide utilities. Lower energy use per person (due to reduce home energy consumption and vehicle miles travelled per capita), and thus less greenhouse gas emissions per person.

Well-planned density can also increase the amount of trees, parkland and greenspace, by replacing parking lots with pedestrian-only walkways, parks and public squares. Good density involves mixed used of land, combining residential and commercial, retail, and recreation. This meets social as well as economic needs. There is no such thing as 'generic' density, and well-planned density would be uniquely tailored to community needs.

The zoning code can be a powerful economic development tool. Over the long run, the fiscal health of the Orange County is dependent on transit- and pedestrian-oriented, dense development with abundant housing.

4c. Urban density, fossil fuels and climate change

Climate change is an existential threat to the human species if we don't radically reduce fossil fuel consumption. We all must reduce our carbon footprint, and reduce harmful air pollution on the local level. A major part of this is cutting down on the amount that each person drives, by walking and taking public transit. The greatest contributors to greenhouse gas (GHG) emissions in California are cars and trucks. In California, 40% of all greenhouse gas emissions is from vehicles, the greatest single contribution. Vehicle miles travelled (VMT) reduction is critical for reducing greenhouse gas emissions. Even fossil fuel-powered buses and trains are far more energy efficient ways (and less per-capita polluting) than private automobile. Even more so with zero emissions electric buses and trains.

As described by David Owen in his book *Green Metropolis* (pgs. 211-212), most American suburbs are dependent upon private automobiles:

> …unless you are borrowing sugar from one of your nearest neighbors, almost any trip you take away you're your house, including any trip to any store, will require you to use one of your family's cars. Those cars aren't part of the physical structure of your house, but your use of them is every bit as much a part of your home's carbon footprint and overall environmental impact as your incandescent lightbulbs, your furnace, your central air conditioner, and your swimming pool heater. The number of miles you drive each day is directly determined by where you live in relation to where you work and shop and perform the rest of your life's activities, and those car miles should therefore be considered an indivisible part of the environmental profile of your home, and, therefore, one the principle elements of its embodied inefficiency. So should the creation and maintenance of the infrastructure network that enables you to live where you do- the roads and schools and stores and hospitals and all the rest.

We simply cannot solve the climate change problem without a lot more housing density in our cities, Orange County included. Local and regional action is vital to reduce GHG emissions, especially given the current federal government's lack of action on the issue. The most effective way the city governments of Orange County can reduce GHG emissions is through decisions on land use and transportation. For example, the 2012 Fullerton Climate Action Plan explicitly called for 'smart growth' of transit-oriented development, supporting policies that reduce dependence on personal motor vehicles and encourage alternative modes of transportation, such as public transit, cycling, and walking. A part of this recommended transportation and mobility strategy are policies of smart growth including more walking, bicycling and transit use reducing the need to travel long distances, and more affordable housing in 'smart growth' neighborhoods. This requires new housing to be densely developed near transit stations and work places, so as many trips as possible can be made by walking or transit.

It is crucially important for U.S. cities to serve as a good example for the rest of the world. The world cannot afford the greenhouse gases emitted if both India and China acquired the car-driving habits of Americans in low-density suburbs. In fact, low-density suburban living is a luxury that the world cannot afford. As described by Harvard economist Edward Glaeser in a 2011 article "the Benefits of Density"[5]:

> Lower densities inevitably mean more travel, and that requires energy. While larger living spaces certainly do have their advantages, large suburban homes also consume much more energy. Anyone who believes that global warming is a real danger should see dense urban living as part of the solution. Over the next fifty years, China and India will cease to be poor rural nations, and that's a good thing. They – like the United States and Europe before them – will move from rural to urban living. If billions of Chinese and Indians insist on leafy suburbs and the large homes and cars those suburbs entail, then the world's carbon emissions will soar. The critical question is whether, as Asia develops, it will become a continent of suburban drivers or urban public-transit users.

Stopping the climate crisis requires smart growth and infill development, with dense urban housing near mass transit. A 2014 report from the University of California Berkeley found that families living in denser urban cores had a carbon footprint that was half that of families living in suburbs. The study analyzed population density in more than 30,000 zip codes in all 50 states along with 37 variables, including household income, transportation, and census data.

Density results in shorter commutes to work, and shorter trips for household errands and lower VMT overall. The ability to walk to shopping and services is dependent on dense neighborhoods. In short, the lifestyles of those living in most suburbs today will have to become more urban. A culture centered around private automobiles must change for the good of the planet, and for social equity. Compounding this fact, high housing costs in coastal California cities drive middle and low income workers to live further inland in far-flung suburbs with long commuting distances. As described by a June 2, 2017 Curbed LA article[6]:

> The commitment to build denser housing developments and the transportation systems that serve them shouldn't just be one pillar of a city's climate action plan—it should be the core value around which every other action is aligned.

[5] https://lsecities.net/media/objects/articles/the-benefits-of-density/en-gb/

[6] https://la.curbed.com/2017/6/2/15731916/paris-agreement-fight-climate-change-los-angeles-transportation/comment/430897603

> But many local governments—as well as their residents—don't see the connection among climate change, transportation, and density.
>
> You can't be for fighting climate change and against building density in urban centers," says Long Beach Mayor Robert Garcia. "Building a sustainable future includes creating smart growth that is centered around housing, mass transit, and walkability. That's why Long Beach is committed to increasing density by building additional residential units and promoting growth along our transit corridors."

Low-density, single-use areas of detached single family homes requires a seemingly limitless supply of land and resources, and driving to virtually everywhere (work, shopping, leisure, etc.). Such suburban development patterns, while the norm for most of the 20th century, with likely be looked back upon in future centuries as a historical aberration. A low density, single-family home community is a hugely inefficient use of land, energy, and water resources, and creates far more per-capita pollution that a compact one. Lower densities inevitably mean more automobile travel per person, which results in more energy use and emissions. It is not just petroleum fuel and electric energy that is that is saved, but also land and water. Living and working in multistory buildings is inherently more energy efficient, more water efficient than low-density, suburban-style development. As described by David Owen in his book *Green Metropolis* (pgs. 206-208):

> Tall multistory buildings, whether or not their designers intended them to be green, have much less exposed surface per square foot of interior space than broader, lower buildings do, and that means that they present relatively less of themselves to the elements, and that their compact roofs absorb less heat from the sun during cooling season and radiate less heat from inside during heating season, no matter what their made of…
>
> Tall buildings, furthermore, help to create the concentrations of people and uses which are necessary to sustain far greater environmental benefits, such as efficient transit systems and compact networks of civic services.. although the elevator shafts required by tall buildings fill significant amounts of interior space, elevators, because they are counterweighted and thus require less motor horsepower, are among the most energy efficient passenger vehicles in the world: moving people vertically through a city requires less energy and less infrastructure than moving them horizontally.

Next10's March 2017 study recommended infill development, compact housing near transit. The study concluded:

> Of the three housing production scenarios analyzed, the Centers found that the infill-focused housing growth scenario provides the best outcomes for meeting the state's climate goals while also producing economic benefits. This scenario could help avert at least 1.79 million metric tons of greenhouse gases annually compared to the business-as-usual scenario, based on reduced driving miles and household energy usage alone. That number is equivalent to:
>
> • Averting emissions from 378,108 passenger vehicles and from burning over 201 million gallons of gasoline annually
> • Almost 2/3 of the total statewide emissions decrease California achieved between 2013 and 2014 alone
> • Almost 15 percent of the emissions reductions needed to reach the state's Senate Bill 375 (Steinberg, 2008) targets from statewide land use changes
>
> Together with other land use changes that this housing scenario could stimulate, the savings would help the state meet its goals of reducing emissions from a projected 431 million metric tons in 2020 to 260 million metric tons by 2030, as required by state law.

> The infill scenario produces slightly higher annual economic growth, more tax revenue, and lower overall construction costs than business-as-usual growth. Meanwhile, the average household would see lower overall monthly costs through reduced transportation and utility bills from living in infill neighborhoods. Furthermore, infill households would drive roughly 18 miles less per weekday than non-infill households

This Next 10 study concluded that all Californians will have to average 12% less driving on a per-capita basis, or an average of about 1.6 miles less per person, per day.

The 2018 OC Long Range Transportation Plan (LRTP) overlooked the future cost and scarcity of petroleum fuel. In the LRTP's Chapter 2- "Orange County in 2040" and Chapter 3- "Challenges and Goals" make no mention of likely future increased cost of fuel due to global price/availability, and how increased prices for gasoline or diesel would influence future driving behavior, or transportation mode preferences. Fossil fuels are a finite and scare resource which will inevitably increase in price over the next few decades. If history is any guide, sudden global oil price shocks (1973 and 1979) or significant price increases (2002-2009) will happen again in the future.

In the 2018 LRTP's "Shifting or Changing the Costs of Driving" (pg. 126), there is no mention of possible future carbon taxes, which would increase the cost of hydrocarbon fuels such as petroleum, diesel or natural gas. One policy scenario assumption evaluated in the LTRP of "Cost of Driving" (pg. 129)- by 2040 "the analysis assumes that implementation of pricing strategies will result in a 20 percent decrease in overall vehicle trips, which is roughly equivalent to a 17 percent decrease in vehicle miles traveled." With aggressive carbon taxation or dramatic increases in global hydrocarbon fuel prices, combined with dense multi-use development around transit hubs, there could be a decrease of overall vehicle trips much greater than 20 percent.

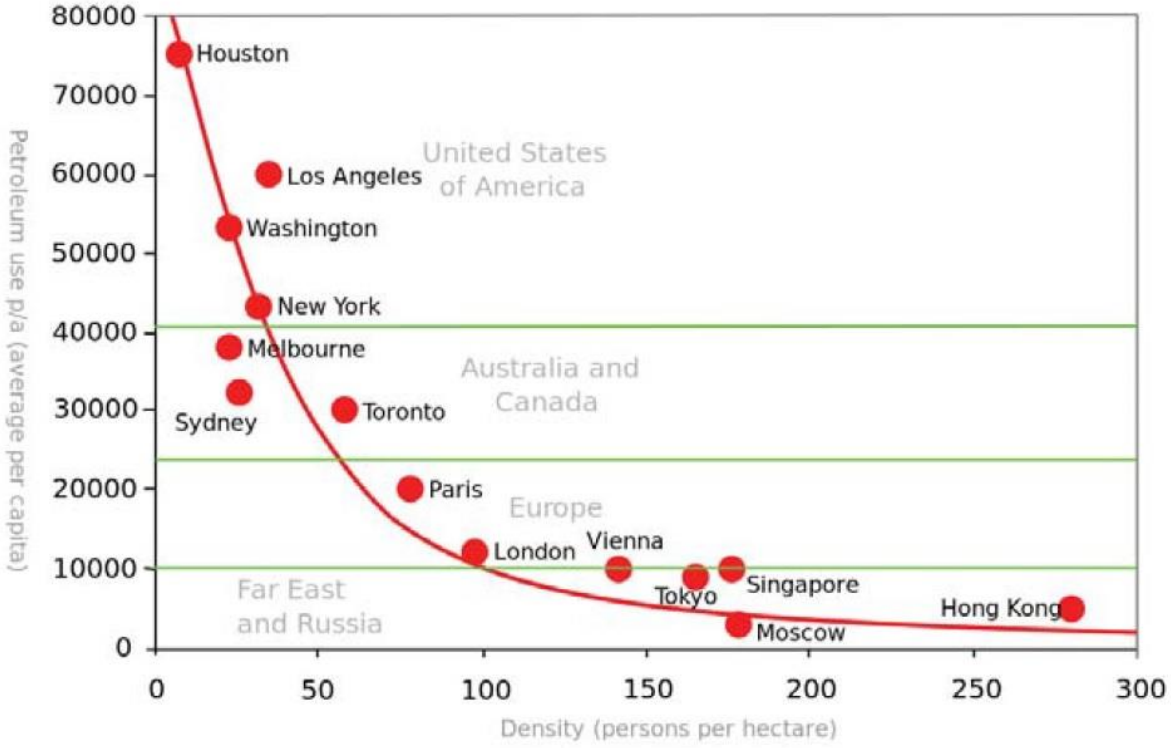
What will the preferred development and transportation patterns look like when gasoline costs $7/gallon? The denser the neighborhood is, the less petroleum consumed per capita, as described by Harvard economics professors Ed Glasser and Matthew Kahn[7]:

> An average family in the United States buys about 1,000 gallons (3,785 litres) of petrol a year, which is associated with about ten tons of carbon dioxide. It may be easier to imagine American families buying more fuel-efficient cars than giving up on car-based living altogether, but historically the bulk of variation in petrol usage among various people over various periods of time comes from total distances travelled, not from fuel efficiency. Cars now average about 22 miles per gallon (9.35 km per litre), and the big difference is whether you drive 300 miles per year or 30,000, which depends on whether you live in a city or a suburb. …area density and distance to the city centre are both strongly associated with petrol usage. The average household living in a census tract with more than 10,000 people per square mile (3,861 per km2) uses 687 gallons (2,600 litres) of petrol per year, while the average household living in an area with fewer than 1,000 per square mile (386 per km2) (about one household per acre / 4,000 m2) uses 1,164 gallons (4,406 litres) of petrol per year.
>
> The density of one's home neighbourhood matters because most car trips aren't commutes downtown. People drive millions of miles to buy groceries, to go out to eat, and to pick their children up from school. The density of shops and schools in an area determines the average distance of those trips. In a city, you often walk to a restaurant. In a low-density area, eating out might entail a 25-minute drive each way. Holding family income and size constant, petrol consumption per family per year declines by 106 gallons

[7] https://lsecities.net/media/objects/articles/the-benefits-of-density/en-gb/

(401 litres) as the number of residents per square mile doubles. These facts remind us that mass transit isn't the only way to lower petrol consumption. If people lived in denser areas, they'd travel far smaller distances and use much less petrol, even if they still drove to work.

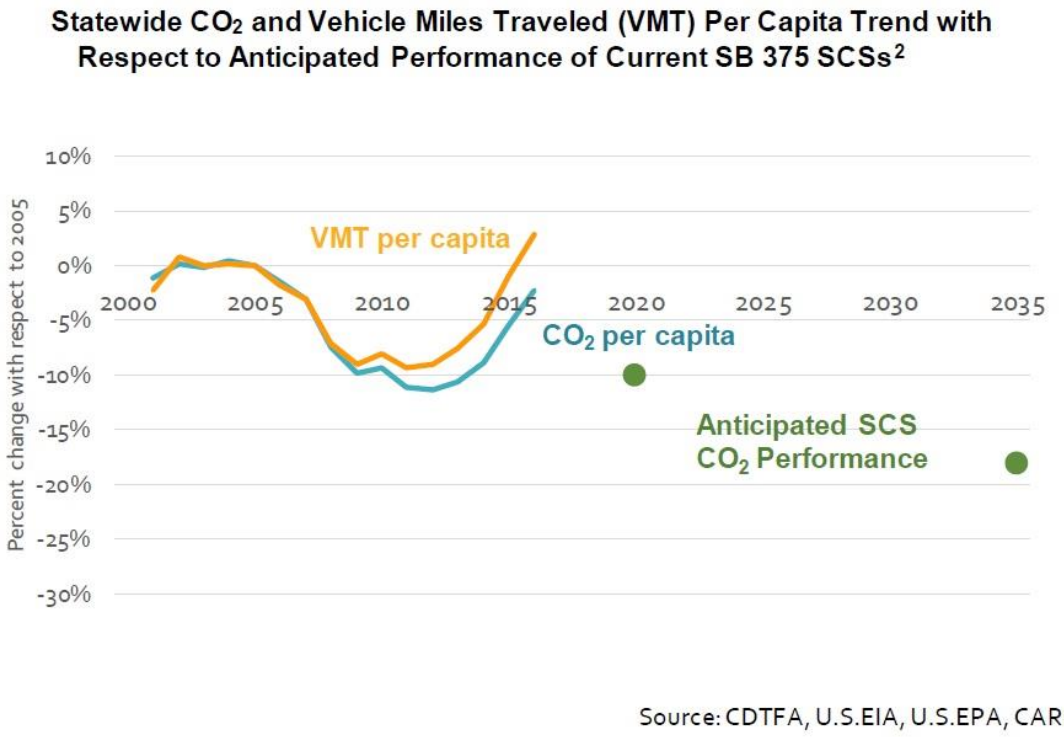
Figure 11: Relationship between petrol use and density[46]



(Source. Greg Clark and Emily Moir, '*Density: drivers, dividends and debates*, June 2015. Urban Land Institute, pg. 24: https://europe.uli.org/density-drivers-dividends-debates/

Graph reference: Newman P. and Kenworthy J. (1989) Cities and automobile dependence: a sourcebook. Aldershot: Gower Technical)

In 2008, the California legislature passed the Sustainable Communities and Climate Protection Act of 2008, Senate Bill (SB) 375. The purpose of the law was to integrate transportation, land use and housing decisions to meet state climate goals. SB 375 requires each of the 18 Metropolitan Planning Organizations (MPOs) in the state to include a Sustainable Communities Strategy (SCS), to find strategies to reduce GHG emissions from driving. In 2017, the state legislature passed SB 150, which tasked the California Air Resources Board (CARB) with issuing a report every four years analyzing the progress made under SB 375. CARB's *2018 Progress Report: California's Sustainable Community & Climate Protection Act* report concludes that the state cannot meet its climate change goals unless Californians to shift a substantial number of trips for private cars to walking, biking, transit, or combining private automobile trips. As shown in graph below, statewide per-capita VMT has increased in the past several years, directly corresponding with an increase in GHG emissions per capita.



(California Air Resources Board, *2018 Progress Report: California's Sustainable Community & Climate Protection Act,* Pg. 4)

The CARB 2018 progress report's Goal 2 (pg. 10) described a need to..

> …assess what additional incentive (e.g., resources for local planning, funding for enabling infrastructure, financing mechanisms for transit-oriented and transit ready development, etc.), local decision-support tools, regulatory, and other legal mechanisms can be put in place to increase homes in high-opportunity areas for low-income households and to make it easier to build homes in places aligned with the state's planning priorities, SCS goals, and Regional Housing Needs Allocation (RHNA) goals than elsewhere. One effort that can be built upon began this year (2018), with CARB and the Governor's Office of Planning and Research working on guidance and evidence that developers and local jurisdictions can use to show how well-designed, transportation-efficient, and affordable projects comply with the California Environmental Quality Act and State greenhouse gas emissions reduction goals for housing development in California.

The report called for study of the degree to which housing unaffordability is increasing the number of miles driven. OCTA needs to study future development housing scenarios.

5. OC Rapid Transit Plan of Action

Transit instead of highway expansion, funded by congestion pricing-

Orange County must shift its transportation planning emphasis from new freeway lanes to new transit. OCTA plans to add one mixed-flow lane in each direction to I-405 from SR-73 to I-605 (by 2026, $1.9 billion), I-405 from I-5 to SR-55 (by 2034, $190 million), SR-91 from SR-55 to SR-57 (by 2030, $456 million), and SR-55 (by 2023, $327 million). This represents OCTA spending over the next decade of about $3 billion for adding mixed-use freeway lanes, out of OCTA's Next 10 Delivery Plan of $4.3 billion allocated in total for freeways. All of this freeway expansion capital expenditure proposed over the next decade would be better spent on transit projects and maintaining existing roads. By comparison, only $1 billion is planned be spent in the Next 10 Delivery Plan for transit of the next decade. Many metropolitan areas around the world have successfully diverted freeway construction funds into successful transit programs. For example, Portland built its first light rail line in the 1980s with funds that were originally allocated for a cancelled freeway project.

The major focus of OCTA's 2018 Long Range Transportation Plan was on reducing traffic congestion. In other words, to make car use more agreeable and reliable by increasing car volume, reducing commute times, and increasing overall traffic speed. This planning vision only increases car use and automobile dependence. As described by David Owen in his 2009 book *Green Metropolis* (pgs. 138-139):

> To most people, traffic congestion looks like an ecological disaster. And it is one, but not for the reasons that people assume. Here's why: traffic jams are not an environmental problem; they are a driving problem. If reducing congestion merely makes life easier for those who drive, then the improved traffic flow actually increases the environmental damage done by cars by raising overall traffic volume, encouraging sprawl and long car commutes, and reducing the disincentives that make drivers think twice about getting into their cars. Traffic jams are actually beneficial, environmentally, if they reduce the willingness of drivers to drive and, in doing so, turn car pools, buses, trains, bicycles, walking, and urban apartments into attractive options. Treating congestion, rather than driving, as an environmental issue often leads to transportation policies that, from an environmental point of view, are flawed. Almost always, when traffic engineers and others talk about reducing congestion what they are really talking about is making traffic flow more efficiently, and that means increasing the overall volume of cars- an obvious environmental negative.

Congestion pricing under study by LA Metro, also needs to be studied for Orange County. Congestion pricing has proven successful and reducing congestion and pollution, while providing more funds for transit expansion in London and Stockholm. New York City will soon be the first U.S. city to implement congestion pricing on the island of Manhattan. OCTA must plan to continually improve transit service and capacity over the next several years, in advance of congestion pricing. OCTA will be the owner and operator of any future rail transit lines, so the OCTA Board of Directors and Transit Committee need to endorse new studies of the OC Metro rapid rail. The city governments of Orange County cities also need to support it. New revenue sources must be found for Orange County to upgrade existing bus service and build an ambitious mass transit system. Congestion pricing can be one of these revenue sources.

The needed change in Orange County's urban form-

Orange County and the world are changing. Planning for change is far better than pretending it doesn't exist. A more sustainable, equitable and prosperous future is possible only if city and regional governments lead the way. Orange County is long overdue for more housing construction, as there have not been enough new homes and apartments constructed to meet population and job growth. Not only has this caused the cost of housing to skyrocket, but damages the environment as more people move out of Orange County further inland where housing is more affordable and then make long commutes in their cars. An ultimately a dwindling supply of dirty fossil fuels mean that driving with gasoline or diesel powered vehicles will get more expensive in the long run.

The urban centers of Orange County need to become more urbanized, more dense, and less dependent on the private automobile. A densifying county will also become more inclusive almost by definition, since more and more people will be able to live in it because there are more housing units per square mile. Infill development around such stations could become catalysts to renew employment opportunities in previously exclusively commercial and industrial neighborhoods, reinforcing economic development.

Infill development of multi-use, multi-story buildings that include residential, in blocks that were previously only commercial or industrial use. An excellent example of this type of 'spiky development' pattern can be found in the Vancouver suburbs, such as the Metrotown and Brentwood neighborhoods in Burnaby.

The car-free urban lifestyle is the future of Orange County's transit and rail hubs. Important future infill development opportunities include:

- In Anaheim, high-rise residential towers needed in Platinum Triangle, near Angel Stadium, Honda Center and around ARTIC.
- Vacant land, commercial and light industrial space around the Tustin and Irvine Metrolink stations can be redeveloped as dense, multiuse neighborhoods with many jobs and residences within walking distance of stations.
- Older neighborhoods close to historic downtowns are great places for accessory dwelling units (ADUs).
- The Harbor and State College/Bristol corridors are dense enough for rapid transit and high-rise housing development.
- Placentia's forward-thinking multiuse development plans around the Metrolink station that will open in 2021

Excluding undeveloped natural landscapes such as West Coyote Hills, Orange County no longer has the land to develop more low-density, suburban commercial and office development. Orange County needs to embrace high-density development in its existing urban cores and along major corridors.

An Orange County for everyone will necessarily be a denser one.

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CENTER *for* BIOLOGICAL DIVERSITY *Because life is good.*

January 24, 2020

Sent via email and USPS

Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017
[redacted]

Re: Draft Program Environmental Impact Report for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (State Clearing House Number 2019011061)

Dear Mr. Ok:

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Draft Program Environmental Impact Report ("DEIR") for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("RTP/SCS"). The Center has reviewed the DEIR and RTP/SCS and provides these comments for consideration by the Southern California Association of Governments (SCAG).

The Center is encouraged to see several conservation facets of the RTP/SCS, including SCAG's attention to preserve, enhance, and restore regional wildlife connectivity (RTP/SCS at 50), avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), encourage housing and commercial development near public transit and urban areas (RTP/SCS at 48) and incorporate greenbelts into planning initiatives (RTP/SCS at 55). The Center respectfully submits these comments to help achieve SCAG's aspirations of a "healthier, safer, more resilient and economically vibrant region" by facilitating a comprehensive approach to growth that addresses human transportation and development needs, the needs of wildlife and habitats that are fragmented by transportation infrastructure and development, and how we can make human and natural communities more resilient to climate change.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Southern California.

I. The Connect SoCal Goals Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity

The Center is encouraged to see the inclusion of Goal #10, "Promote conservation of natural and agricultural lands and restoration of critical habitats" (DEIR at ES-7); however, integrating wildlife connectivity is critical to overall ecosystem health and biodiversity. Doing so would also improve chances of attaining other goals, including supporting healthy and equitable communities, reducing greenhouse gas emissions and improving air quality, and adapting to climate change. Preserving and restoring habitat connectivity would help ensure invaluable ecosystem services that benefit human communities, including but not limited to water purification, erosion control, groundwater recharge, resilience to extreme weather events (e.g., severe storms and flooding), carbon sequestration, and crop pollination.

As mentioned in the Center's Notice of Preparation comment letter, roads and traffic create barriers that lead to habitat loss and fragmentation, which harms wildlife and people. As barriers to wildlife movement and the cause of injuries and mortalities due to wildlife vehicle collisions, roads and traffic can affect an animal's behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, landscapes, and ecosystem function (Mitsch and Wilson 1996; Trombulak and Frissell 2000; van der Ree et al. 2011; Haddad et al. 2015; Marsh and Jaeger 2015; Ceia-Hasse et al. 2018). For example, habitat fragmentation from roads and traffic has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Riley et al. 2006, 2014, Vickers et al. 2015), increase local extinction risk in amphibians and reptiles (Cushman 2006; Brehme et al. 2018), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al. 2010; Loss et al. 2014; Kantola et al. 2019), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000; Goverde et al. 2002; Aguilar et al. 2008). Habitat fragmentation also severely impacts plant communities. An 18-year study found that reconnected landscapes had nearly 14% more plant species compared to fragmented habitats, and that number is likely to continue to rise as time passes (Damschen et al. 2019). The authors conclude that efforts to preserve and enhance connectivity will pay off over the long-term and "[conservation] plans that focus solely on habitat area, will leave unrealized the substantial, complementary, and persistent gains in biodiversity attributable specifically to landscape connectivity," (Damschen et al. 2019).

The Center recommends the goal be edited as follows:

Goal #10: "Promote conservation of natural and agricultural lands and habitat connectivity and restoration of critical habitats and wildlife movement corridors."

II. The Connect SoCal Guiding Principles Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity to Protect Wildlife and Improve Public Safety

Wildlife vehicle collisions pose a major public safety and economic threat, as well as a threat to the region's wildlife and biodiversity. During 2015 to 2018 more than 26,000 incidents involving vehicles and wildlife were reported to the California Highway Patrol, which included

reports of animals standing next to, in, or running across lanes, collisions with large animals, or swerving to avoid collisions and resulting in a crash (Shilling et al. 2019). State reports and car insurance companies estimate that that 7,000 to 23,000 wildlife vehicle collisions (with large mammals) have occurred annually on California roads (Shilling et al. 2017; Shilling et al. 2018; Shilling et al. 2019; State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to an estimated $300-600 million per year and over $1 billion from 2015-2018, based on reported wildlife vehicle collisions. And it is important to note that collisions with large animals often go unreported as much as 5- to 10-fold (Donaldson and Lafon 2008; Olson et al. 2014; Donaldson 2017) Thus, avoiding and minimizing impacts of transportation projects and development on wildlife movement and habitat connectivity would help preserve biodiversity and ecosystem health while protecting human health and safety.

The Guiding Principles should reflect the need to adequately address wildlife movement and habitat connectivity issues to minimize wildlife vehicle collisions. Outside of California many states, including Arizona, Colorado, Florida, Montana, Nevada, Oregon, New Mexico, Utah, Washington, and Wyoming, have been proactively addressing wildlife connectivity issues and realizing the benefits of wildlife crossing infrastructure. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al. 2012; Sawyer et al. 2012; Kintsch et al. 2018). Utah just completed the state's largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost $6.2 million as part of a larger $900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State transportation departments are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. California needs to follow suit and more actively invest in preserving habitat connectivity where there are no roads while also enhancing or restoring connectivity where roads or other transportation infrastructure already exist.

The Draft Plan recognizes two important ecological components about southern California. First, it recognizes the incomparable biological diversity of California, due primarily to its flora:

> "The region's desert, mountain and coastal habitats have some of the highest concentrations of native plant and animal species on the planet. Southern California is part of the California Floristic Province, one of the planet's top twenty-five biodiversity hotspots." (RTP/SCS at 23)

Secondly, it recognizes the significant contribution to greenhouse gas sequestration that plants, exposed soils and open space provide:

> "In addition to their respective roles in biodiversity and food production, both natural areas and farmlands help reduce the impacts of climate change by capturing greenhouse gases in the soil, plants, and trees instead of allowing them to concentrate in the atmosphere." (RTP/SCS at 36)

In addition, southern California native plants are adapted to our unique "Mediterranean" climate and persist in our relatively arid conditions where rainfall primarily occurs on the winter. For all of these reasons, the Draft Plan needs to adopt the commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Much literature is available on the use of native plants on roadsides. The Federal Highway Administration produced a Managers Guide to Roadside Revegetation Using Native Plants (FHA-DOT 2007), which notes:

> "Native plants are a foundation of ecological health and function. Revegetating roadsides with native plants is a key practice for managing environmental impacts and improving conditions for healthy ecosystems. The ability to establish native plant communities on roadsides is central to determining whether the transportation corridor will be a healthy environment or a damaged one."

The Guide continues to tout the benefits of using native plants along transportation corridors as follows:

> "Native plants along roadsides offer ecological, economic, safety, and aesthetic advantages. Ecologically, healthy native plant communities often are the best long-term defense against invasive and noxious weeds. Economically, maintenance costs for managing problematic vegetation are reduced, as are the concerns that sometimes result when weeds from roadsides invade neighboring lands or when pollution from herbicides occurs."

From the perspective of safety, the FHA states:

> "The establishment of native plant communities supports transportation safety goals in a number of ways. One of the most important is by improving the function of roadside engineering. Appropriate vegetation can enhance visibility and support design features to help drivers recover if their vehicles leave the pavement. When native plant materials are incorporated into road design, they can improve long-term slope stability while softening visual experiences."

Native roadside vegetation helps to identify local place, reduces the cost of roadside maintenance, and requires little to no pesticides (Quarles 2003). Tinsley et al (2007) found that native revegetation grass and forb seed mixes outperformed non-native seed mixes in establishing cover on roadsides and concluded that "suites of early- and late-successional native species can provide a highly effective mix for revegetation projects". In order to assure successful planting with native plant species, care must be taken when planning native roadside

plantings. Plant selection must consider soil type and compaction from engineered slopes, harsh microclimates directly adjacent to roads, invasive species, and pollution from vehicle emissions. Haan et al. (2012) found that "soil characteristics largely determined plant survival" but other considerations were also important considerations. Karim and Mallik (2007) found that "floristic zonation along roadsides is a function of roadside microtopography, substrate type and environmental gradients created by the road building process" and that certain native plant species were more successful in certain zones. Therefore, careful selection of native species is crucial to successfully vegetating transportation corridors. Fortunately, California's diverse native flora provides the diversity to meet the roadside zones. Several drought tolerant native species lists, tailored to local conditions are readily available for the South Bay of Los Angeles County[1] and coastal southern California[2].

Because of the ongoing pollinator crisis, the Draft Plan also needs to adopt the commitment to use best management practices for pollinators as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan. The Federal Highways Administration (FHA-DOT 2015) provides guidelines for best management practices that will benefit pollinators and includes a focus on using native plants. Wildlife connectivity typically focuses on large animals that require safe passage through and beyond their home territories and because of that scale, automatically protects a suite of more localized plants and animals. Here, linear roadside corridors are obviously inappropriate for large mammals, but can still be important and indeed crucial to plants and small animals, including invertebrates. Therefore, these types of linear features should not be overlooked for their potential ecological benefits.

While some of the SCAG transportation goals include roads and road improvements in urbanized areas, these areas provide great opportunities to transition plantings to native plants that are drought tolerant, sequester carbon, provide linear habitat for local fauna and identify a sense of place based on southern California's iconic flora. For these reasons and those listed above, the Draft Plan would benefit from the incorporation of a commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Therefore, the Center recommends Connect SoCal Guiding Principles to be edited as follows:

Guiding Principle #2: Place high priority for transportation funding in the region on projects and programs that improve human mobility, accessibility, reliability and safety, and wildlife connectivity that is based on native southern California flora. ~~that preserve the existing transportation system~~

Guiding Principle #5: Encourage transportation investments that will result in improved air quality and public health and safety, and reduced greenhouse gas emissions

[1] See https://bestofthesouthbay.com/10-drought-tolerant-california-native-plants/
[2] See https://www.scpr.org/news/2015/05/13/51644/go-native-a-list-of-drought-friendly-california-pl/

III. The Projects on the Transportation System Project List Undercut the SCAG's Stated Land Use Strategies and Sustainability Goals

The Center is encouraged to see that SCAG's land use strategies include prioritizing infill and redevelopment; facilitating multimodal transportation for various purposes (*i.e*., work, education, other destinations); urban greening; and avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas, and floodplains. However, the Transportation Project List contains over 300 pages of projects in Appendix 2.0, many of which include the widening and extension of freeways, which will result in increased greenhouse gas ("GHG") emissions and fragment landscapes and wildlife connectivity while promoting sprawl development, some of which is located in high fire hazard severity zones.

As the Center noted in its NOP comments to SCAG last year, scientific studies and state agency reports from the California Air Resources Board ("CARB") have shown the state will not achieve the necessary GHG emissions reductions to meet its mandates for 2030 and 2050 without significant changes to how communities and transportation systems are planned, funded and built. Significant reductions in GHG emissions is the only pathway to limiting the impacts of climate crisis, which are already being felt by people and wildlife throughout the state. Those reductions will not be achieved by small half measures of simply encouraging more zero-emission vehicles or hoping local agencies will change their land use decision-making in the future. Instead agencies at all levels—state, regional and local—must take head on the interconnected relationship between the climate crisis and land use, housing, workforce growth and transportation investments. Fundamental changes in land use planning for the future by local and regional land use agencies and hard questions about existing transportation plans must occur.

For example, the Transportation Project List earmarks an astounding $600,000,000 for the 138 Northwest Corridor Improvement Project to support leapfrog sprawl development like Tejon Ranch Company's proposed Centennial city. Centennial would be located 60 miles away from a major work center (*i.e*, downtown Los Angeles)so the Project's anticipated 57,000 residents will be forced to drive long distances to reach jobs, schools, and supplies for decades during Project build-out. Centennial alone would generate 75,000 new vehicle trips per day, with an average trip length of 45 miles. The development will also pave over pristine native grasslands rich with endemic and rare species in a mountain lion movement corridor important for statewide genetic connectivity and an area designated as having very high fire hazard severity.

In addition to the 138 Northwest Corridor Improvement Project, there are many projects that involve paving over dirt roads, which could lead to increased traffic that would result in increased greenhouse gas emissions from increasing VMT and significant impact on small animal species since roads with heavy traffic may deter movement from a wide range of small animals (Brehme et al. 2013; Brehme et al. 2018). Transportation projects should focus more on public transit infrastructure and less on widening already large freeways and paving dirt roads, both of which facilitate the use of more cars and increase vehicle miles traveled, commute times, air pollution, and greenhouse gas emissions.

The Transportation Project List allocates many millions of dollars on I-15 expansion projects even while the I-15 continues to be a major barrier to mountain lion and wildlife

movement, and critical wildlife crossings along the I-15 remain unfunded. Instead of further degrading habitat connectivity by expending hundreds of millions of dollars on multi-lane highways in remote areas that will fill up with GHG emitting vehicles, SCAG should prioritize funding for more public transit and adequate wildlife crossings on existing highways. For instance, critical wildlife crossings such as the Liberty Canyon Wildlife Crossing are not yet fully funded. In fact, in the 300-page project list, there is only a *single* listed proposal for a wildlife crossing**.**

As it stands, the RTP/SCS contains laudable goals regarding sustainable development, reducing VMT, and increasing wildlife connectivity. However, many of the projects on the Transportation Project List will undercut these goals by increasing VMT and exacerbating existing connectivity problems. If SCAG is serious about addressing this region-wide issue, it should work to reallocate funding away from particularly damaging projects and instead allocate funding towards public transit and wildlife connectivity projects.

IV. SCAG Should Aim for Higher Per Capita VMT Reductions

The Center is encouraged by SCAG's goals and guiding principles that focus on supporting more development supported by existing public transit. (RTP/SCS at 8.) However, the Center believes SCAG can and should do more to reduce daily vehicles miles traveled. Increases in VMT negatively impact communities by leading to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Also, as noted above, the natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Therefore, any additional step SCAG takes to reduce VMT will have co-benefits of better air quality, decreased chronic disease, decreased wildlife-vehicle collisions, and less habitat fragmentation.

As currently drafted, the RTP/SCS boasts of a 4.1% reduction in VMT per capita from a 2045 baseline and a 9.5% reduction from the base year of 2016. (RTP/SCS at 5, 122.) However, these reductions are far less than reductions in VMT detailed in the December 2018 Technical Advisory issued by the Governor's Office of Planning and Research ("OPR VMT Report"). The OPR VMT Report concluded, "achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals." (OPR VMT Report at 12.) OPR emphasized that land use decisions to reduce GHG emissions associated with the transportation sector are crucial to meet the state's GHG reductions goals. (*Id*. at 3.) The OPR VMT Report further noted that because California cannot meet its climate goals without curbing single-occupancy vehicle activity, land use patterns and transportation options will need to change to support reductions in VMT. (*Id*. at 10.) Historically regional SCS and RTPs have lead increases in VMT rather than decreasing them as SB 375 intended. While SCAG's RTP/SCS has taken a small step in the right direction, it is not enough, and more fundamental changes are needed. The Center urges SCAG to utilize the RTP/SCS process to set the region on the path reducing its VMT at the level necessary to address the climate crisis and meet the state's GHG reduction goals.

V. The DEIR Fails to Adequately Assess or Mitigate Impacts to Mountain Lions (*Puma concolor*) and Regional Wildlife Connectivity Throughout the SCAG Region

The Center is encouraged to see SCAG acknowledge the importance of wildlife corridors and habitat connectivity by including the preservation, enhancement, and restoration of regional wildlife connectivity (RTP/SCS at 50), avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), and drawing attention to greenbelts (RTP/SCS at 55). Mountain lions are a key indicator species of wildlife connectivity. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-term survival. In addition, impacts to mountain lions in the SCAG region could have severe ecological consequences; loss of the keystone species would have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Without mountain lions, increased deer populations can overgraze vegetation and cause stream banks to erode (Ripple and Beschta 2006; Ripple and Beschta 2008). Many scavengers, including foxes, raptors, and numerous insects, would lose a reliable food source (Ruth and Elbroch 2014; Barry et al. 2019). Fish, birds, amphibians, reptiles, rare native plants, and butterflies would diminish if this apex predator were lost (Ripple and Beschta 2006; Ripple and Beschta 2008; Ripple et al. 2014).

In light of recent studies regarding imperiled mountain lion populations in Southern California, the DEIR fails to disclose or describe the RTP/SCS's severe impacts on mountain lion populations throughout the SCAG region. CEQA requires a "mandatory finding of significance" if there is substantial evidence in the record that the Project *may* cause a "wildlife *population* to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species . . . ." (CEQA Guidelines § 15065(a)(1).) This means that a project is deemed to have a significant impact on the environment as a matter of law if it reduces the habitat of a species, or reduces the number or range of an endangered, rare, or threatened species.[3] (See *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 792 fn. 12 [citing *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1273–1274].)

There is ample scientific evidence that indicates mountain lion populations in Southern California are imperiled and that human activities and land use planning that does not integrate adequate habitat connectivity can have adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. Several populations in Southern California are facing an extinction vortex due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Ernest et al. 2003; Ernest et al. 2014; Riley et al. 2014; Vickers et al. 2015; Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). This is detailed in the Center's petition to

[3] On June 25, 2019, the Center and Mountain Lion Foundation submitted a petition pursuant to 14 Cal. Code Regs. § 670.1 to the California Fish and Game Commission requesting the Commission list the Santa Ana mountain lion population and other populations as "endangered" or "threatened" under the California Endangered Species Act.

the California Fish and Game Commission to protect Southern California and Central Coast mountain lions under the California Endangered Species Act (Yap et al. 2019).

Mountain lions in the Santa Monica Mountains and Santa Ana Mountains were found to have dangerously low genetic diversity and effective population size, and they are likely to become extinct within 50 years if gene flow with other mountain lion populations is not improved (Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). Due to extreme isolation caused by roads and development, the Santa Monica and Santa Ana mountains populations exhibit high levels of inbreeding, and, with the exception of the endangered Florida panther, have the lowest genetic diversity observed for the species globally (Ernest et al. 2014; Riley et al. 2014; Gustafson et al. 2018; Benson et al. 2019). In addition, Gustafson et al. (2018) found that the nearby mountain lion population in the San Gabriel/San Bernardino Mountains also has low genetic diversity and effective population size, which indicates that they too have a high risk of extinction. The long-term survival of these mountain lions, along with those in the Tehachapi and Sierra Pelona mountains, are vital for statewide genetic connectivity (Gustafson et al. 2018). Improved connectivity among the mountain lion populations within the SCAG Region and beyond is essential for the long-term survival of Southern California mountain lion populations (Gustafson et al. 2017; Gustafson et al. 2018; Benson et al. 2019).

Growth and development in identified “major highway projects” (RTP/SCS at Exhibit 3.2), “transit priority areas” (RTP/SCS at Exhibit 3.7), “priority growth area - high quality transit areas” (RTP/SCS at Exhibit 3.8), and “livable corridors” (RTP/SCS at 3.10) could have severe impacts on Southern California’s already-imperiled mountain lion populations. Such development without addressing wildlife connectivity issues and integrating effective wildlife crossings and corridors could lead to the extirpation of multiple mountain lion populations in the SCAG region. The RTP/SCS should encourage the involvement of wildlife connectivity experts from CDFW and other agencies, organizations, academic institutions, communities, and local groups starting at the initial planning stage of development and transportation projects so that habitat connectivity can be strategically integrated into project design and appropriately considered in the project budget. The RTP/SCS should require highway projects to include adequate wildlife crossing infrastructure in order to reduce impacts to mountain lions and other species.

Project planning should consider the impacts of climate change on wildlife movement and habitat connectivity in the design and implementation of projects and any mitigation. Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al. 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with

suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Parmesan and Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011; Maclean and Wilson 2011; Warren et al. 2011; Cahill et al. 2012).

VI. Conclusion

Thank you for the opportunity to submit comments on the DEIR and RTP/SCS for Connect SoCal. We look forward to working with SCAG to foster land use policy and growth patterns that promote wildlife movement and habitat connectivity, facilitate public health and safety, and move towards the State's climate change goals. Please do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,

Tiffany Yap, D.Env/PhD
Scientist, Wildlife Corridor Advocate
[redacted]

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(*provided on CD via USPS*)

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January 24, 2020

Sent via email and USPS

Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017
2020PEIR@scag.ca.gov

Re: Draft Program Environmental Impact Report for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (State Clearing House Number 2019011061)

Dear Mr. Ok:

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Draft Program Environmental Impact Report ("DEIR") for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("RTP/SCS"). The Center has reviewed the DEIR and RTP/SCS and provides these comments for consideration by the Southern California Association of Governments (SCAG).

The Center is encouraged to see several conservation facets of the RTP/SCS, including SCAG's attention to preserve, enhance, and restore regional wildlife connectivity (RTP/SCS at 50), avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), encourage housing and commercial development near public transit and urban areas (RTP/SCS at 48) and incorporate greenbelts into planning initiatives (RTP/SCS at 55). The Center respectfully submits these comments to help achieve SCAG's aspirations of a "healthier, safer, more resilient and economically vibrant region" by facilitating a comprehensive approach to growth that addresses human transportation and development needs, the needs of wildlife and habitats that are fragmented by transportation infrastructure and development, and how we can make human and natural communities more resilient to climate change.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Southern California.

I. The Connect SoCal Goals Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity

The Center is encouraged to see the inclusion of Goal #10, "Promote conservation of natural and agricultural lands and restoration of critical habitats" (DEIR at ES-7); however, integrating wildlife connectivity is critical to overall ecosystem health and biodiversity. Doing so would also improve chances of attaining other goals, including supporting healthy and equitable communities, reducing greenhouse gas emissions and improving air quality, and adapting to climate change. Preserving and restoring habitat connectivity would help ensure invaluable ecosystem services that benefit human communities, including but not limited to water purification, erosion control, groundwater recharge, resilience to extreme weather events (e.g., severe storms and flooding), carbon sequestration, and crop pollination.

As mentioned in the Center's Notice of Preparation comment letter, roads and traffic create barriers that lead to habitat loss and fragmentation, which harms wildlife and people. As barriers to wildlife movement and the cause of injuries and mortalities due to wildlife vehicle collisions, roads and traffic can affect an animal's behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, landscapes, and ecosystem function (Mitsch and Wilson 1996; Trombulak and Frissell 2000; van der Ree et al. 2011; Haddad et al. 2015; Marsh and Jaeger 2015; Ceia-Hasse et al. 2018). For example, habitat fragmentation from roads and traffic has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Riley et al. 2006, 2014, Vickers et al. 2015), increase local extinction risk in amphibians and reptiles (Cushman 2006; Brehme et al. 2018), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al. 2010; Loss et al. 2014; Kantola et al. 2019), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000; Goverde et al. 2002; Aguilar et al. 2008). Habitat fragmentation also severely impacts plant communities. An 18-year study found that reconnected landscapes had nearly 14% more plant species compared to fragmented habitats, and that number is likely to continue to rise as time passes (Damschen et al. 2019). The authors conclude that efforts to preserve and enhance connectivity will pay off over the long-term and "[conservation] plans that focus solely on habitat area, will leave unrealized the substantial, complementary, and persistent gains in biodiversity attributable specifically to landscape connectivity," (Damschen et al. 2019).

The Center recommends the goal be edited as follows:

Goal #10: "Promote conservation of natural and agricultural lands and habitat connectivity and restoration of critical habitats and wildlife movement corridors."

II. The Connect SoCal Guiding Principles Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity to Protect Wildlife and Improve Public Safety

Wildlife vehicle collisions pose a major public safety and economic threat, as well as a threat to the region's wildlife and biodiversity. During 2015 to 2018 more than 26,000 incidents involving vehicles and wildlife were reported to the California Highway Patrol, which included

reports of animals standing next to, in, or running across lanes, collisions with large animals, or swerving to avoid collisions and resulting in a crash (Shilling et al. 2019). State reports and car insurance companies estimate that that 7,000 to 23,000 wildlife vehicle collisions (with large mammals) have occurred annually on California roads (Shilling et al. 2017; Shilling et al. 2018; Shilling et al. 2019; State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to an estimated $300-600 million per year and over $1 billion from 2015-2018, based on reported wildlife vehicle collisions. And it is important to note that collisions with large animals often go unreported as much as 5- to 10-fold (Donaldson and Lafon 2008; Olson et al. 2014; Donaldson 2017) Thus, avoiding and minimizing impacts of transportation projects and development on wildlife movement and habitat connectivity would help preserve biodiversity and ecosystem health while protecting human health and safety.

The Guiding Principles should reflect the need to adequately address wildlife movement and habitat connectivity issues to minimize wildlife vehicle collisions. Outside of California many states, including Arizona, Colorado, Florida, Montana, Nevada, Oregon, New Mexico, Utah, Washington, and Wyoming, have been proactively addressing wildlife connectivity issues and realizing the benefits of wildlife crossing infrastructure. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al. 2012; Sawyer et al. 2012; Kintsch et al. 2018). Utah just completed the state's largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost $6.2 million as part of a larger $900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State transportation departments are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. California needs to follow suit and more actively invest in preserving habitat connectivity where there are no roads while also enhancing or restoring connectivity where roads or other transportation infrastructure already exist.

The Draft Plan recognizes two important ecological components about southern California. First, it recognizes the incomparable biological diversity of California, due primarily to its flora:

> "The region's desert, mountain and coastal habitats have some of the highest concentrations of native plant and animal species on the planet. Southern California is part of the California Floristic Province, one of the planet's top twenty-five biodiversity hotspots." (RTP/SCS at 23)

Secondly, it recognizes the significant contribution to greenhouse gas sequestration that plants, exposed soils and open space provide:

> "In addition to their respective roles in biodiversity and food production, both natural areas and farmlands help reduce the impacts of climate change by capturing greenhouse gases in the soil, plants, and trees instead of allowing them to concentrate in the atmosphere." (RTP/SCS at 36)

In addition, southern California native plants are adapted to our unique "Mediterranean" climate and persist in our relatively arid conditions where rainfall primarily occurs on the winter. For all of these reasons, the Draft Plan needs to adopt the commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Much literature is available on the use of native plants on roadsides. The Federal Highway Administration produced a Managers Guide to Roadside Revegetation Using Native Plants (FHA-DOT 2007), which notes:

> "Native plants are a foundation of ecological health and function. Revegetating roadsides with native plants is a key practice for managing environmental impacts and improving conditions for healthy ecosystems. The ability to establish native plant communities on roadsides is central to determining whether the transportation corridor will be a healthy environment or a damaged one."

The Guide continues to tout the benefits of using native plants along transportation corridors as follows:

> "Native plants along roadsides offer ecological, economic, safety, and aesthetic advantages. Ecologically, healthy native plant communities often are the best long-term defense against invasive and noxious weeds. Economically, maintenance costs for managing problematic vegetation are reduced, as are the concerns that sometimes result when weeds from roadsides invade neighboring lands or when pollution from herbicides occurs."

From the perspective of safety, the FHA states:

> "The establishment of native plant communities supports transportation safety goals in a number of ways. One of the most important is by improving the function of roadside engineering. Appropriate vegetation can enhance visibility and support design features to help drivers recover if their vehicles leave the pavement. When native plant materials are incorporated into road design, they can improve long-term slope stability while softening visual experiences."

Native roadside vegetation helps to identify local place, reduces the cost of roadside maintenance, and requires little to no pesticides (Quarles 2003). Tinsley et al (2007) found that native revegetation grass and forb seed mixes outperformed non-native seed mixes in establishing cover on roadsides and concluded that "suites of early- and late-successional native species can provide a highly effective mix for revegetation projects". In order to assure successful planting with native plant species, care must be taken when planning native roadside

plantings. Plant selection must consider soil type and compaction from engineered slopes, harsh microclimates directly adjacent to roads, invasive species, and pollution from vehicle emissions. Haan et al. (2012) found that "soil characteristics largely determined plant survival" but other considerations were also important considerations. Karim and Mallik (2007) found that "floristic zonation along roadsides is a function of roadside microtopography, substrate type and environmental gradients created by the road building process" and that certain native plant species were more successful in certain zones. Therefore, careful selection of native species is crucial to successfully vegetating transportation corridors. Fortunately, California's diverse native flora provides the diversity to meet the roadside zones. Several drought tolerant native species lists, tailored to local conditions are readily available for the South Bay of Los Angeles County[1] and coastal southern California[2].

Because of the ongoing pollinator crisis, the Draft Plan also needs to adopt the commitment to use best management practices for pollinators as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan. The Federal Highways Administration (FHA-DOT 2015) provides guidelines for best management practices that will benefit pollinators and includes a focus on using native plants. Wildlife connectivity typically focuses on large animals that require safe passage through and beyond their home territories and because of that scale, automatically protects a suite of more localized plants and animals. Here, linear roadside corridors are obviously inappropriate for large mammals, but can still be important and indeed crucial to plants and small animals, including invertebrates. Therefore, these types of linear features should not be overlooked for their potential ecological benefits.

While some of the SCAG transportation goals include roads and road improvements in urbanized areas, these areas provide great opportunities to transition plantings to native plants that are drought tolerant, sequester carbon, provide linear habitat for local fauna and identify a sense of place based on southern California's iconic flora. For these reasons and those listed above, the Draft Plan would benefit from the incorporation of a commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Therefore, the Center recommends Connect SoCal Guiding Principles to be edited as follows:

Guiding Principle #2: Place high priority for transportation funding in the region on projects and programs that improve human mobility, accessibility, reliability and safety, and wildlife connectivity that is based on native southern California flora. ~~that preserve the existing transportation system~~

Guiding Principle #5: Encourage transportation investments that will result in improved air quality and public health and safety, and reduced greenhouse gas emissions

[1] See https://bestofthesouthbay.com/10-drought-tolerant-california-native-plants/
[2] See https://www.scpr.org/news/2015/05/13/51644/go-native-a-list-of-drought-friendly-california-pl/

III. The Projects on the Transportation System Project List Undercut the SCAG's Stated Land Use Strategies and Sustainability Goals

The Center is encouraged to see that SCAG's land use strategies include prioritizing infill and redevelopment; facilitating multimodal transportation for various purposes (*i.e*., work, education, other destinations); urban greening; and avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas, and floodplains. However, the Transportation Project List contains over 300 pages of projects in Appendix 2.0, many of which include the widening and extension of freeways, which will result in increased greenhouse gas ("GHG") emissions and fragment landscapes and wildlife connectivity while promoting sprawl development, some of which is located in high fire hazard severity zones.

As the Center noted in its NOP comments to SCAG last year, scientific studies and state agency reports from the California Air Resources Board ("CARB") have shown the state will not achieve the necessary GHG emissions reductions to meet its mandates for 2030 and 2050 without significant changes to how communities and transportation systems are planned, funded and built. Significant reductions in GHG emissions is the only pathway to limiting the impacts of climate crisis, which are already being felt by people and wildlife throughout the state. Those reductions will not be achieved by small half measures of simply encouraging more zero-emission vehicles or hoping local agencies will change their land use decision-making in the future. Instead agencies at all levels—state, regional and local—must take head on the interconnected relationship between the climate crisis and land use, housing, workforce growth and transportation investments. Fundamental changes in land use planning for the future by local and regional land use agencies and hard questions about existing transportation plans must occur.

For example, the Transportation Project List earmarks an astounding $600,000,000 for the 138 Northwest Corridor Improvement Project to support leapfrog sprawl development like Tejon Ranch Company's proposed Centennial city. Centennial would be located 60 miles away from a major work center (*i.e*, downtown Los Angeles)so the Project's anticipated 57,000 residents will be forced to drive long distances to reach jobs, schools, and supplies for decades during Project build-out. Centennial alone would generate 75,000 new vehicle trips per day, with an average trip length of 45 miles. The development will also pave over pristine native grasslands rich with endemic and rare species in a mountain lion movement corridor important for statewide genetic connectivity and an area designated as having very high fire hazard severity.

In addition to the 138 Northwest Corridor Improvement Project, there are many projects that involve paving over dirt roads, which could lead to increased traffic that would result in increased greenhouse gas emissions from increasing VMT and significant impact on small animal species since roads with heavy traffic may deter movement from a wide range of small animals (Brehme et al. 2013; Brehme et al. 2018). Transportation projects should focus more on public transit infrastructure and less on widening already large freeways and paving dirt roads, both of which facilitate the use of more cars and increase vehicle miles traveled, commute times, air pollution, and greenhouse gas emissions.

The Transportation Project List allocates many millions of dollars on I-15 expansion projects even while the I-15 continues to be a major barrier to mountain lion and wildlife

movement, and critical wildlife crossings along the I-15 remain unfunded. Instead of further degrading habitat connectivity by expending hundreds of millions of dollars on multi-lane highways in remote areas that will fill up with GHG emitting vehicles, SCAG should prioritize funding for more public transit and adequate wildlife crossings on existing highways. For instance, critical wildlife crossings such as the Liberty Canyon Wildlife Crossing are not yet fully funded. In fact, in the 300-page project list, there is only a *single* listed proposal for a wildlife crossing**.**

As it stands, the RTP/SCS contains laudable goals regarding sustainable development, reducing VMT, and increasing wildlife connectivity. However, many of the projects on the Transportation Project List will undercut these goals by increasing VMT and exacerbating existing connectivity problems. If SCAG is serious about addressing this region-wide issue, it should work to reallocate funding away from particularly damaging projects and instead allocate funding towards public transit and wildlife connectivity projects.

IV. SCAG Should Aim for Higher Per Capita VMT Reductions

The Center is encouraged by SCAG's goals and guiding principles that focus on supporting more development supported by existing public transit. (RTP/SCS at 8.) However, the Center believes SCAG can and should do more to reduce daily vehicles miles traveled. Increases in VMT negatively impact communities by leading to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Also, as noted above, the natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Therefore, any additional step SCAG takes to reduce VMT will have co-benefits of better air quality, decreased chronic disease, decreased wildlife-vehicle collisions, and less habitat fragmentation.

As currently drafted, the RTP/SCS boasts of a 4.1% reduction in VMT per capita from a 2045 baseline and a 9.5% reduction from the base year of 2016. (RTP/SCS at 5, 122.) However, these reductions are far less than reductions in VMT detailed in the December 2018 Technical Advisory issued by the Governor's Office of Planning and Research ("OPR VMT Report"). The OPR VMT Report concluded, "achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals." (OPR VMT Report at 12.) OPR emphasized that land use decisions to reduce GHG emissions associated with the transportation sector are crucial to meet the state's GHG reductions goals. (*Id*. at 3.) The OPR VMT Report further noted that because California cannot meet its climate goals without curbing single-occupancy vehicle activity, land use patterns and transportation options will need to change to support reductions in VMT. (*Id*. at 10.) Historically regional SCS and RTPs have lead increases in VMT rather than decreasing them as SB 375 intended. While SCAG's RTP/SCS has taken a small step in the right direction, it is not enough, and more fundamental changes are needed. The Center urges SCAG to utilize the RTP/SCS process to set the region on the path reducing its VMT at the level necessary to address the climate crisis and meet the state's GHG reduction goals.

V. The DEIR Fails to Adequately Assess or Mitigate Impacts to Mountain Lions (*Puma concolor*) and Regional Wildlife Connectivity Throughout the SCAG Region

The Center is encouraged to see SCAG acknowledge the importance of wildlife corridors and habitat connectivity by including the preservation, enhancement, and restoration of regional wildlife connectivity (RTP/SCS at 50), avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), and drawing attention to greenbelts (RTP/SCS at 55). Mountain lions are a key indicator species of wildlife connectivity. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-term survival. In addition, impacts to mountain lions in the SCAG region could have severe ecological consequences; loss of the keystone species would have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Without mountain lions, increased deer populations can overgraze vegetation and cause stream banks to erode (Ripple and Beschta 2006; Ripple and Beschta 2008). Many scavengers, including foxes, raptors, and numerous insects, would lose a reliable food source (Ruth and Elbroch 2014; Barry et al. 2019). Fish, birds, amphibians, reptiles, rare native plants, and butterflies would diminish if this apex predator were lost (Ripple and Beschta 2006; Ripple and Beschta 2008; Ripple et al. 2014).

In light of recent studies regarding imperiled mountain lion populations in Southern California, the DEIR fails to disclose or describe the RTP/SCS's severe impacts on mountain lion populations throughout the SCAG region. CEQA requires a "mandatory finding of significance" if there is substantial evidence in the record that the Project *may* cause a "wildlife *population* to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species . . . ." (CEQA Guidelines § 15065(a)(1).) This means that a project is deemed to have a significant impact on the environment as a matter of law if it reduces the habitat of a species, or reduces the number or range of an endangered, rare, or threatened species.[3] (See *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 792 fn. 12 [citing *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1273–1274].)

There is ample scientific evidence that indicates mountain lion populations in Southern California are imperiled and that human activities and land use planning that does not integrate adequate habitat connectivity can have adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. Several populations in Southern California are facing an extinction vortex due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Ernest et al. 2003; Ernest et al. 2014; Riley et al. 2014; Vickers et al. 2015; Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). This is detailed in the Center's petition to

[3] On June 25, 2019, the Center and Mountain Lion Foundation submitted a petition pursuant to 14 Cal. Code Regs. § 670.1 to the California Fish and Game Commission requesting the Commission list the Santa Ana mountain lion population and other populations as "endangered" or "threatened" under the California Endangered Species Act.

the California Fish and Game Commission to protect Southern California and Central Coast mountain lions under the California Endangered Species Act (Yap et al. 2019).

Mountain lions in the Santa Monica Mountains and Santa Ana Mountains were found to have dangerously low genetic diversity and effective population size, and they are likely to become extinct within 50 years if gene flow with other mountain lion populations is not improved (Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). Due to extreme isolation caused by roads and development, the Santa Monica and Santa Ana mountains populations exhibit high levels of inbreeding, and, with the exception of the endangered Florida panther, have the lowest genetic diversity observed for the species globally (Ernest et al. 2014; Riley et al. 2014; Gustafson et al. 2018; Benson et al. 2019). In addition, Gustafson et al. (2018) found that the nearby mountain lion population in the San Gabriel/San Bernardino Mountains also has low genetic diversity and effective population size, which indicates that they too have a high risk of extinction. The long-term survival of these mountain lions, along with those in the Tehachapi and Sierra Pelona mountains, are vital for statewide genetic connectivity (Gustafson et al. 2018). Improved connectivity among the mountain lion populations within the SCAG Region and beyond is essential for the long-term survival of Southern California mountain lion populations (Gustafson et al. 2017; Gustafson et al. 2018; Benson et al. 2019).

Growth and development in identified “major highway projects” (RTP/SCS at Exhibit 3.2), “transit priority areas” (RTP/SCS at Exhibit 3.7), “priority growth area - high quality transit areas” (RTP/SCS at Exhibit 3.8), and “livable corridors” (RTP/SCS at 3.10) could have severe impacts on Southern California’s already-imperiled mountain lion populations. Such development without addressing wildlife connectivity issues and integrating effective wildlife crossings and corridors could lead to the extirpation of multiple mountain lion populations in the SCAG region. The RTP/SCS should encourage the involvement of wildlife connectivity experts from CDFW and other agencies, organizations, academic institutions, communities, and local groups starting at the initial planning stage of development and transportation projects so that habitat connectivity can be strategically integrated into project design and appropriately considered in the project budget. The RTP/SCS should require highway projects to include adequate wildlife crossing infrastructure in order to reduce impacts to mountain lions and other species.

Project planning should consider the impacts of climate change on wildlife movement and habitat connectivity in the design and implementation of projects and any mitigation. Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al. 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with

suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Parmesan and Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011; Maclean and Wilson 2011; Warren et al. 2011; Cahill et al. 2012).

VI. Conclusion

Thank you for the opportunity to submit comments on the DEIR and RTP/SCS for Connect SoCal. We look forward to working with SCAG to foster land use policy and growth patterns that promote wildlife movement and habitat connectivity, facilitate public health and safety, and move towards the State's climate change goals. Please do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,

Tiffany Yap, D.Env/PhD
Scientist, Wildlife Corridor Advocate

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(*provided on CD via USPS*)

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Center for Demographic Research

Sponsors:

California State University, Fullerton

County of Orange

Municipal Water District of Orange County

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Orange County Sanitation District

Orange County Transportation Authority

Orange County Water District

Southern California Association of Governments

Transportation Corridor Agencies

Contributing Partner:

Orange County Local Agency Formation Commission

January 22, 2020

Draft Connect SoCal Plan Comments
Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
ConnectSoCal@scag.ca.gov
Uploaded via: www.connectsocal.org/Pages/Share-Your-Feeback.aspx

SUBJECT: DRAFT 2020 RTP/SCS "CONNECT SOCAL" PLAN COMMENTS

Dear Connect SoCal Team:

The Center for Demographic Research (CDR) at Cal State Fullerton has reviewed the Draft 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS, "Connect SoCal"), its associated appendices, and the growth forecast dataset. We greatly appreciate the opportunity to do so and for all of the work SCAG staff has done to produce these reports and the work with local agencies during the development process. We also want to extend our thanks for the close coordination between SCAG and CDR on behalf of Orange County jurisdictions to ensure the 2020 RTP/SCS growth forecast accurately reflects development agreements; entitlements; current and recent construction; open space; and general plan densities.

On December 11, 2019, CDR provided SCAG the technical corrections to the draft 2020 RTP/SCS growth forecast dataset on behalf of Orange County jurisdictions so the final RTP/SCS growth forecast will accurately reflect entitlements; development agreements; projects recently completed or under construction; open space; and general plan densities. On January 8, 2020, CDR requested, on behalf of Orange County jurisdictions, a copy of the final draft growth forecast dataset to confirm that all the technical corrections have been included in the final RTP/SCS growth forecast. On January 14, 2020, CDR was informed that SCAG would not provide a copy of the final draft growth forecast dataset to CDR for review until mid-February 2020.

It is strongly recommended that SCAG utilize the 2018 Orange County Projections (OCP-2018) dataset provided to SCAG during its Bottom-Up Local Input and Envisioning Process to ensure that general plan capacities are not exceeded and all open space and entitlements are properly reflected. OCP-2018 surpasses the regional SCS in terms of housing growth mix, which is key to Connect SoCal's growth vision. Of the total household growth in OCP-2018, from 2016 to 2045, only 19% will be single-family detached households and 81% will be some form of attached unit. Orange County's housing stock will change from a ratio of 49:51 (SFD to attached product) in 2016 to 46:54 by 2045. These surpass all five growth scenarios reported in the 2020 RTP/SCS Sustainability Technical Report, including even the most aggressive scenario, "Accelerated Tomorrow". In addition, 68% of housing growth will be infill/redevelopment, while about 36% of the county is permanently preserved as open space.

We would like to express support of recommendations by the Orange County Council of Governments, the Orange County Transportation Authority, and other Orange County agencies whose comments support Connect SoCal with its use of the Orange County's growth forecast, the 2018 Orange County Projections. We thank you for the opportunity and ask for your consideration and response to the following comments:

1. Support for the Plan with its use of Orange County's growth forecast so that all development agreements; entitlements; current construction and recent construction; open space; and general plan densities are accurately reflected.
2. Oppose the selection of any alternatives in the draft PEIR that do not properly reflect entitlements; development agreements; current construction and recent construction; open space; and general plan densities in Orange County.
3. Maintain objective, unbiased tone.
4. References to "city" or "cities" are changed to "jurisdiction" or "jurisdictions" where appropriate.
5. Other Comments on the Draft 2020 Connect SoCal/RTP/SCS documents in Tables 1 through 4 below.

Table 1. 2020 RTP/CONNECT SOCAL COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps All documents	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular reference items and the maps need to be standalone documents. Where possible, also include SCAG's logo.
2	General Comment	All documents	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
3	General Comment	All documents	Review use of "cities". Word "jurisdictions" should often be used to include counties and incorporated cities, not just incorporated cities.
4	General Comment	All documents	Consistency in hyphenation, e.g.: Single-family Multi-family vs. Multifamily vs. multi family Subregional vs. sub-regional
5	General Comment	All documents All maps with growth forecast or development types	Add: "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone (TAZ) level data utilized to conduct required modeling analyses. Data at the TAZ level or at a geography smaller than the jurisdictional level are advisory only and non-binding, because SCAG sub-jurisdictional forecasts are not to be adopted as part of the 2020 RTP/SCS. The advisory sub-jurisdictional data shall not be required for purposes of qualifying for future grant funding or other incentives or for determining a proposed project's consistency with the 2020 RTP/SCS for any impact analysis required pursuant to the California Environmental Quality Act (CEQA)."
6	General Comment	All documents	Maps & other graphics- fonts need to be embedded in PDFs to print properly.
7	General Comment	All documents	All tables, charts, graphics need to have original sources and the document title
8	General Comment	All documents	The growth forecast should be adopted at no lower than the jurisdictional level
9	Define	In RTP main document	Add the following to the glossary; use definitions from PEIR if necessary: Households Absolute constraints Single-family Multi-family Constrained/strategic Unconstrained plan Principal arterial roadways Class 1 Railroads

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
10	Define	p. 2, column 1, paragraph 2	"…the world's fifth busiest airport system, and soon the world's longest light rail transit line, with the completion of the Regional Connector." Define 'airport system' and 'Regional Connector'.
11	Clarification	p. 2, column 2, paragraph 1	"…but also by bringing housing ~~closer to~~ and jobs closer together, making commutes shorter and making it easier to get around without a car."
12	Clarification	p. 10, column 2, paragraph 5	"The process was ~~informed~~ guided by the Connect SoCal Guidelines and Schedule…"
13	Clarification	p. 11, column 1, paragraph 4	"…SCAG staff has regularly convened topic-specific working groups, which bring together regional stakeholders to discuss the Plan's development and provide technical expertise." Add the TWG.
14	Clarification	p. 12, column 1, paragraph 3	"SCAG ~~used~~ considered input gathered through the CBO engagement and public workshops…"
15	Clarification	p. 13, column 1, bullet 2	"Review a comprehensive set of policies, strategies and tools to ~~reach improved~~ improve mobility and sustainability"
16	Clarification	p. 16, column 1, paragraph 3	"…reflecting on-the-ground conditions from SCAG's ~~local partners~~197 jurisdictions."
17	Clarification	p. 16, column 2, paragraph 1	"As such, many demographers have suggested the importance of a new social compact between the retirees and young immigrants who, together, will characterize a large portion of the region's future population." Explain 'social compact'.
18	Clarification	p. 17, column 1, paragraph 2	"…cohort of Millennials – the generation born between years 1982 and 1996." Ensure consistency across reports of Millennial cohort. This definition is different than other sources.
19	Clarification	p. 17, column 1, paragraph 2	"Thus, as the economy improves and Millennials age, we must be aware that their ~~demonstrated~~ current arrangements and preferences may have been a temporary delay rather than a lasting characteristic."
20	Clarification	p. 18, column 2, paragraph 1	"Indeed, disruption by some technological platforms has caused serious concerns over displacing workers from stable, full-time jobs or from work altogether—a concern that is heightened when the productivity gains are concentrated in the hands of a very few." Explain who are the 'few' (people instead of with companies, owners, stock-holders?) and how 'productivity gains' are concentrated with the 'few'.
21	Clarification	p. 19, column 1, paragraph 2	"In the years ahead, the region may face significant challenges from technology disruption by reducing opportunities for many regional workers who will not be able to close the skills gap to adequately compete for future jobs in that sphere. ~~This has spurred increasingly popular policy discussions of universal basic income (UBI) as a potential solution to offset the negative impacts of job losses due to technology. Since employment is becoming less necessary for gains in overall economic productivity, one UBI model might involve redistributing the revenues from higher taxes on businesses utilizing these new platforms to area residents to ensure a minimum living standard without impacting the incentive to work.~~" Delete as UBI is not under purview of SCAG or RTP.
22	Clarification	p. 20, column 2, paragraph 3	"…Four additional cities have incorporated since 2006…" Name the cities that were incorporated.
23	Clarification	p. 20, column 2, paragraph 3	"Examining median commute distances for residents of these areas before and after the housing boom shows a sharp uptick for all jobs by over 20 percent when comparing 2002 to 2012, which then holds steady from 2012 to 2016 (as displayed in the Environmental Justice Technical Report)." Sentence meaning is unclear. Reword.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
24	Clarification	p. 21, column 2, paragraph 1	"~~While the~~ There has been an acceleration in new units since the Great Recession that has been characterized by a higher share of multi-family units~~, there is concern that this trend may reverse absent policy intervention, as Millennials seek affordable ownership opportunities which that are scarcer in the urban core and in the multi-family market.~~ For example, 51% of all new housing units issued in California for 2018 were for single-family dwellings, making 2018 the first year since 2011 that single-family housing construction outpaced multi-family home production…" Maintain objective and unbiased tone. Please clarify whether the topic is the number of units that were permitted or the number of housing units that were constructed.
25	Clarification	p. 22, Table 2.1	Add definitions of all types of PGAs. Verify values as the majority of Share of Total Growth (2008-2016) do not match what is presented in the Demographics and Growth Forecast Technical Report.
26	Clarification	p. 23, column 1, paragraph 2	"Between 2008 and 2016, less than six percent of household growth and less than five percent of employment growth occurred in open space areas." Clarify if development occurred in open space or on underutilized, undeveloped, or vacant land.
27	Clarification	p. 29, Table 2.2	Add note that includes the types of 'non-motorized', e.g., walking, biking, scooter…
28	Clarification	p. 29, Table 2.3	Indicate which quintile is high or low. Add note that includes the types of 'non-motorized', e.g., walking, biking, scooter…
29	Clarification	p. 30, graphic	Include definition on the page of 'on-call'.
30	Clarification	p. 31	Include definition on the page of - Principal arterial roadways - Class 1 Railroads
31	Clarification	p. 32, column 1, paragraph 3	"…environmental litigation, community resistance to all kinds of housing ~~medium and high-density~~ projects, and lack of sufficient state, federal, and local funding mechanisms." Resistance is not limited to only higher-density housing projects.
32	Clarification	p. 32, column 1, paragraph 4	"Additionally, population and employment growth in metropolitan areas in California has slowed in recent years because wages cannot compensate for the high cost of housing." Cite the study this comes from to document the connection. This should not be assumed as there are other influences: cost of living, regulations, taxes…
33	Clarification	p. 33, graphic	"…environmental litigation, community resistance to all kinds of housing ~~medium and high-density~~ projects, and lack of sufficient local funding mechanisms and lack of sufficient state, federal, and local funding mechanisms."
34	Clarification	p. 36, Table 2.4	Add original source. Data is stored in SCAG SPM, it is not generated by SPM.
35	Clarification	p. 36, column 2, paragraph 3	"All demographic groups are affected. ~~These numbers represent children, parents, spouses, relatives, and friends. These are people who were going about their typical day – heading to work, the grocery store, or to visit grandma. Collisions are happening in every community in the region, from El Centro in Imperial County to Malibu in Los Angeles County.~~" Delete dramatic text.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
36	Clarification	p. 38, column 2, paragraph 1	"The way a community is designed impacts the likelihood that a person will bike or walk to school, work, or local shops; have access to healthy food or parks; and breathe air that ~~is free of~~ has minimal pollutants." It is not possible for outdoor air to be free of pollutants.
37	Clarification	p. 39, graphic	"If a person lives in housing adjacent to a freeway, they may be more likely to develop asthma." What about high capacity arterials like HQTAs or raillines? Why are these not included?
38	Clarification	p. 40, Figure 2.5	Stacked bar chart with percentages for each category would be more informative.
39	Clarification	p. 41, column 1, paragraph 1	"Additional factors impacting congestion on roadways and transit accessibility are natural impediments, such as mountains and waterways, outdated road technology and other challenges." Explain how mountains and waterways impact congestion. Clarify what is "outdated road technology".
40	Clarification	p. 46, column 2, paragraph 2	"This plan is not designed to dictate local actions and policies, but rather to lay out a path to achieving regional goals set by the Regional Council."
41	Clarification	p. 47, column 2, paragraph 1	"KEY CONNECTIONS… …meet increasingly-aggressive greenhouse gas reduction goals set by the state."
42	Clarification	p. 48, column 1, paragraph 4	"CORE VISION SUSTAINABLE DEVELOPMENT Studies and partnerships to establish a Regional Advanced Mitigation Program (RAMP) will also be pursued to preserve habitat." Add definition here of RAMP.
43	Clarification	p. 48, column 2, paragraph 3	"…Connect SoCal can reach the regional target of reducing greenhouse gases…"
44	Clarification	p. 49, column 1, bullet 2	"Focus on a regional jobs/housing balance to reduce commute times and distances and …"
45	Clarification	p. 50, column 1, paragraph 1	"Although center-focused placemaking can be applied in a wide range of settings, priority must be placed, however, on urban and suburban infill, in existing/planned service areas, and within the planning boundary outside of an agency's legal boundary, known as "Spheres of Influence," where feasible."
46	Clarification	p. 50, column 2, paragraph 4	"Employment growth and residential growth are prioritized in Job Centers in order to leverage existing density and infrastructure. However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth."
47	Clarification	p. 50, column 2, paragraph 4	"SCAG's methodology to identify Job Centers is not final ~~all-inclusive~~ and additional potential centers can be identified."
48	Define	p. 55, column 1, paragraph 1	"These strategies were identified with guidance from stakeholders as high priorities for…" Define who the stakeholders are.
49	Clarification	p. 56, paragraph 1	"The extraordinary cost of producing housing in California is a significant barrier…"
50	Clarification	p. 56, paragraph 1	"The Regional Housing Supportive Infrastructure strategy will help make it quicker for developers ~~local jurisdictions~~ to produce critically-needed housing." Local jurisdictions don't build housing.
51	Clarification	p. 56	"Placentia Enhanced Infrastructure Financing District (EIFD) … water infrastructure improvements through value capture…" Explain what 'value capture' is.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
52	Clarification	p. 60, column 2, paragraph 3	"SCAG examined the potential application of cordon/area pricing in Southern California through its Mobility Go Zone and Pricing Feasibility Study. The study showed that a Westside Go Zone would … generating a net average of $69.2 million annually in revenues, which would go directly toward transportation improvements, pedestrian amenities and economic development." How would that money be collected?
53	Clarification	General Comment, p.61, 102	"A mileage-based system." For all references to a mileage-based user fee, specify that this is intended by SCAG to replace the gas tax, not be an additional fee.
54	Clarification	p. 64, column 1, paragraph 1	"Connect SoCal ~~commit~~ identified $7.3 billion through 2045 to implement TDM strategies throughout the region."
55	Clarification	p. 67 map	Adjust line thickness and layer order so all modes can be seen even if same routes are followed.
56	Correction	p. 77, Table 3.2, line 2	"Add I-405 ExpressLanes from I-110 to LA/Orange Country Line."
57	Clarification	p. 78, column 2, paragraph 1	"…Connect SoCal supports regional programs that raise awareness of the issue, reposition the image of goods movement jobs to reflect career mobility…" Reword 'reposition the image'.
58	Clarification	p. 80, column 1, paragraph 6	"Expansion of the international port of entry (POE) in Calexico." Add POE to glossary.
59	Clarification	p. 81, column 2, paragraph 1	"SCAG will continue a ~~discursive and~~ collaborative planning approach."
60	Clarification	p. 81, Table 3.3	List full name of Airports and ID in parentheses. Add "In Millions" to the Projections column. Add source.
61	Correction	p. 83, column 1, paragraph 2	"…in the previously conducted 2016 RTP/SCS ~~Connect SoCal~~…"
62	Clarification	p. 83, column 1, paragraph 3, last line	"…Nevertheless, the implementation of Plan programs, policies and strategies may lead to additional environmental impacts compared to existing conditions."
63	Clarification	p. 83, column 1, paragraph 3	"Project level mitigation measures have been identified that "can and should where applicable and feasible" be undertaken by lead agencies that implement transportation projects…"
64	Clarification	Exhibit 3.4	Add definitions on map of Job Centers, Neighborhood Mobility Areas and High Quality Transit Areas.
65	Clarification	Exhibit 3.6	Specify on map what year the Job Centers represent. Cite Kevin Kane's report for background on job centers.
66	Clarification	Exhibit 3.7	Ensure entire note at bottom is displayed.
67	Clarification	Exhibit 3.9	Specify on map what year the NMAs represent. Explain z-scores on the map.
68	Clarification	Exhibit 3.10	Specify on map what year the Livable Corridors represent. Provide definition of Livable Corridors on map.
69	Clarification	p. 96, column 1, paragraph 1	"…this chapter and a more detailed Technical Report …" Specify which technical report is referred to.
70	Clarification	p. 98, all Figures	Used dashed and dotted lines to differentiate between colors in black and white and for color-blind readers.
71	Clarification	p. 103, Tables 4.2 and 4.3	Table 4.2 Specify in title if dollars are for the life of the Plan. Cite sources for both tables.
72	Define	p. 104, column 1, top bullet	"Promote national and state programs that include return-to-source guarantees, while maintaining flexibility to reward regions that continue to commit substantial local resources" Define 'regions' in the bullet in this context.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
73	Clarification	p. 105, all Figures	Indicate for all figures if these are for the life of the Plan.
74	Clarification	p. 107, Table 4.4 third row	"User fees on TNC mileage —estimated at about $0.05 (in 2019 dollars) per mile starting in 2021." Clarify if these fees would be on top of the proposed, general mileage-based user fee for all users that would replace the gas tax.
75	Correction	p. 108, Table 4.5.1 first row	"Locally imposed ½ percent sales tax in four counties (Imperial, Orange, Riverside, and San Bernardino). Permanent 1 percent (combination of two ½ percent sales taxes)…"
76	Correction	p. 108, Table 4.5.1 second row	"The Local Transportation Fund (LTF) is derived from a ¼ percent sales tax on …"
77	Correction	p. 108, Table 4.5.1 fifth row	"…fees from the Transportation Corridor Agencies ~~Agency~~ (TCA) …"
78	Clarification	p. 111, Table 4.5.4 second row	Indicate if the mileage-based user fee would be inflation adjusted.
79	Clarification	p. 112, Table 4.6.1	Include source for table.
80	Clarification	p. 118, column 2, bullet 7	"… Conservation of open space, agricultural lands, and other rural land uses may be achieved by focusing new residential and commercial development in higher density areas that are already equipped with the requisite urban infrastructure. However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth."
81	Clarification	p. 121-122, graphics	Add sources to data.
82	Clarification	p. 123, Table 5.1	Change "Trend" column header to "Outcome". "Trend" is a term used in the PEIR and has different meaning than used here.
83	Clarification	p. 128, column 1, paragraph 2	"…is projected to increase by 9.5 percentage points between the Baseline (44.6 percent) and Connect SoCal (54.1 percent)."
84	Clarification	p. 128, column 1, paragraph 3	"…to increase by 24.3 percentage points between the Baseline…"
85	Clarification	p. 129-133, figures	Add sources to all figures.
86	Clarification	p. 132, column 2, paragraph 2	"Connect SoCal seeks to improve the integration of transportation and land use planning and recognizes ~~with the recognition~~ that our regional multimodal transportation system generates a wide range of impacts that significantly affect public health and quality of life."
87	Clarification	p. 135, column 1, paragraph 1	"The user benefits are estimated using the Cal-B/C framework and incorporate SCAG RTDM outputs." Explain in text Cal-B/C and RTDM.
88	Clarification	p. 135, column 2, paragraph 2	"Since most new development would be directed into areas where urban infrastructure already exists, there will not be as much need to extend or build new local roads, water and sewer systems and parks. However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth."
89	Clarification	p. 140, column 1, paragraph 2	"Environmental Justice (EJ) is a federal and state mandate designed to help ensure social equity in the transportation planning and decision-making process, with the goal of protecting minority and low-income communities from receiving ~~incurring~~ a disproportionate share of adverse impacts produced by regional transportation projects and plans."

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
90	Correction	p. 144, column 2, paragraph 2	"With Connect SoCal, the share of households in HQTAs increases nearly ten percentage points to 54 percent."
91	Clarification	p. 151, column 1, paragraph 3	"These funds will be used to develop a Regional Housing Strategy Framework and provide planning grants and services to jurisdictions to implement their 6th cycle RHNA allocation which is supportive of Connect SoCal goals and policies." What is the Regional Housing Strategy Framework? How much money will be provided to jurisdictions? Will the funding distribution methodology be consistent with the RHNA distribution methodology?
92	Clarification	p. 159, glossary	"Gentrification, While holding many definitions, is commonly understood as a change process in historically low-~~wealth~~ income communities …"
93	Correction	p. 163, glossary	"Measure A Revenues generated from Riverside County's local half-percent sales tax. Measure D Revenues generated from Imperial County's local half-percent sales tax. Measure I Revenues generated from San Bernardino County's local half-percent sales tax. Measure M Revenues generated from Orange County's local half-percent sales tax. Also refers to Los Angeles County's local half percent sales tax which was authorized in 2018. Measure R Revenues generated from Los Angeles County's local half-percent sales tax. …"
94	Correction	p. 166, glossary	"Proposition A Revenues generated from Los Angeles County's local half-percent sales tax. … Proposition C Revenues generated from Los Angeles County's local half-percent sales tax. …"
95	Clarification	p. 167, glossary	"RHNA Regional Housing Needs Assessment – Quantifies the need for housing within each jurisdiction of the SCAG region based on population growth projections and other items as determined by the MPO. Jurisdictions ~~Communities~~ then address this need through the process of completing the housing elements of their General Plans."
96	Clarification	p. 173, glossary	"VMT Vehicle Miles Traveled – On highways , a measurement of the total miles traveled by all vehicles in the area for a specified time period. It is calculated by the number of vehicles times the miles traveled in a given area or on a given highway during the time period. In transit, the number of vehicle miles operated on a given route, or line, or network during a specified time period." Indicate if VMT is only for highways or if streets, freeways, and toll road miles travelled are also included.

Table 2. DEMOGRAPHICS AND GROWTH FORECAST TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular reference items and the maps need to be standalone documents. Where possible, also include SCAG's logo.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
2	General Comment	All maps with growth forecast or development types	Add: "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone (TAZ) level data utilized to conduct required modeling analyses. Data at the TAZ level or at a geography smaller than the jurisdictional level are advisory only and non-binding, because SCAG sub-jurisdictional forecasts are not to be adopted as part of the 2016 RTP/SCS. The advisory sub-jurisdictional data shall not be required for purposes of qualifying for future grant funding or other incentives or for determining a proposed project's consistency with the 2016 RTP/SCS for any impact analysis required pursuant to the California Environmental Quality Act (CEQA)."
3	Clarification	P. 2, column 1, paragraph 1	"…trends that have already been seen during the recovery from the Great Recession, but which differ from the historical arc of development in Southern California." Reword "historical arc"
4	Clarification	P. 3, column 2, paragraph 2	"Between October 2018 and February 2019, SCAG reviewed and aggregated feedback ~~local input~~ on the growth forecast and other data map book elements. This aggregated feedback from local jurisdictions is known as the "local input" growth forecast. The local input growth forecast was evaluated at the county and regional level for the base year of 2016 and the horizon year of 2045. Findings included:
5	Clarification	P. 3, column 2, paragraph 3	"At the regional level, the 2045 local input forecast was found to be within the high/low scenario ranges ~~technically sound~~."
6	Clarification	P. 5, column 2, paragraph 2	"Unauthorized immigration has decreased notably in the SCAG region, with a Pew Research Foundation analysis of Census Bureau data showing a 24.6 percent decrease in the unauthorized immigrant population in the SCAG region 2006 and 2017 (Passel and Cohn 2019)." Clarify if there was a decrease in number of migrants or of the total immigrant population.
7	Clarification	P. 6, column 1, paragraph 2	"… having fewer than half as many working-age adults per senior may disproportionately impact seniors who do not have sufficient retirement savings as this can place additional stress on social services provision." Clarify what social services provisions are.
8	Define	P. 8, column 1, paragraph 1	"Of particular interest are educational attainment rates since annual incomes do not necessarily predict human capital or lifetime earning potential." Define/clarify human capital.
9	Clarification	P. 8, column 2, bullet 3	"…suggesting that the region's "brain gain" is due to people coming to the region from further away." Clarify/reword: further away from what?
10	Clarification	P. 10, figures 4 & 5	Add sources.
11	Clarification	P. 10, column 2, paragraph 1	"However, many Millennials entered the workforce during the depths of the Great R~~r~~ecession, which had the additional impact of decreasing housing construction since they didn't have the income needed to form households or purchase homes as much as previous generations had during their twenties." Non sequitur. Reword sentence.
12	Clarification	P. 18, column 1, paragraph 1	"In addition to concerns over the polarizing wage structure of work," Replace 'polarizing' or reword.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
13	Define	P. 18, column 1, paragraph 2	"Food preparation and sales as well as social service and office support each employ over 1.2 million in the region and have consensus automation potentials…: Define 'consensus automation'.
14	Clarification	P. 19, column 1, paragraph 2	"SPECIAL FOCUS: INTEGRATING GROWTH INTO A MATURE REGION The region has experienced slow but consistent population growth since 2000 at a rate of 0.82 percent. Household growth was slightly slower at 0.73 percent, and job growth, reflecting both a recession and recovery, was similar at 0.77 percent." Clarify if the growth is annual or total.
15	Clarification	P. 20, column 2, paragraph 3	"REGIONAL GROWTH FORECAST METHODOLOGY SCAG initially sets a range of regional growth forecasts of employment, population, and households in this order to address the uncertainty of a certain set of growth forecasts." Clarify what set of growth forecasts.
16	Clarification	P. 23, column 2, paragraph 4	"DEVELOPMENT OF MAJOR VARIABLES SCAG develops the TAZ-level socioeconomic data using an array of ~~diverse~~ public and private sources of data listed above and advanced estimation methods. The initial TAZ-level household projection starts from the household and employment at the Minimum Planning Unit (MPU) level within each TAZ. The MPU is the smallest computing unit at which calculation can take place. In general, MPUs are equivalent to parcels and can be matched to county assessor parcel databases. Additional variables at the zonal level include school enrollment, household income, and disaggregated employment categories for 4,109 Tier 1 TAZs and 11,267 smaller Tier 2 TAZs (TABLE 11)." Reorder sentences.
17	Define	P. 24, column 2, paragraph 1	"Household sample weights from the PUMS are adjusted to match the various controls provided externally and at the TAZ level." Define what the external controls are.
18	Clarification	P. 31, column 1, paragraph 2	"Younger people are more likely to live in larger households while households headed by Hispanic or non-Hispanic Asian/Other individuals tend to be larger as well, suggesting a greater preference for multi-generational living." Multi-generational living may be a necessity rather than a preference. Reword.
19	Clarification	P. 43, column 2, paragraph 2	"Recent trends suggest that areas within the region which have benefits for transportation and environmental goals such as infill land, job centers and high quality transit areas are already receiving a disproportionate amount of growth." Rework sentence.

Table 3. ECONOMIC AND JOB CREATION ANALYSIS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	p. 6, column 2, paragraph 2	"There is a large body of literature that discusses the link between ~~from~~ active transportation and ~~to~~ physical activity (e.g. Boarnet, Greenwald, and McMillan, 2008),…"
2	Define	p. 11, column 2, paragraph 4	"Increases in economic competitiveness, efficiency and amenity from completion of the projects and operations, averaging an additional 195,500 jobs per year." Define/clarify 'amenity'

Table 4. SCS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular reference items and the maps need to be standalone documents. Where possible, also include SCAG's logo.
2	General Comment	All	Review use of "cities". Word "jurisdictions" should often be used to include counties and incorporated cities, not just incorporated cities.
3	Correction	p. 4, column 1, paragraph 3	"For this reason, SCAG works collaboratively with its many local partners to support ~~SCAG member agencies~~ all jurisdictions in implementing the SCS."
4	Correction	p. 4, column 2, paragraph 3	"Many ~~cities~~ jurisdictions within the SCAG region…"
5	Correction	p. 4, column 2, paragraph 3	"This is evident in that requests for support, funding, and resources…"
6	Clarification	p. 8 column 1, top of page	"However, single-family development remains prevalent in more suburban parts of the region, especially in Riverside County." Clarify if this applies to only Riverside or to other counties as well.
7	Define	p. 14 column 1, last paragraph	"HQTAs feature frequent transit service or major transit stations and are located in communities throughout the SCAG region." Define/explain 'frequent transit service'.
8	Clarification	p. 15 column 1, last sentence	"For transportation, this future ~~anticipates~~ includes the projects planned by each County Transportation…"
9	Correction	p. 16-18, Figures 2,3,4	Delete Figures 2,3, & 4. These figures include draft scenarios used at the public workshops that do not properly reflect development agreements and entitled projects. This was shared with SCAG staff and its consultants at the public workshops. The response was that the maps would be corrected; they were never corrected. Although these were draft scenarios used to collect public input, since they do not properly reflect entitlements, they should be removed from the SCS document so as to not further mislead any reader that these were viable options.
10	Clarification	p. 16 column 2, bullet list	Add "See page 31 for definitions".
11	Clarification	p. 16 column 2, paragraph 1	"For longer commutes residents will have more incentive to carpool or vanpool thanks to programs offered by your employer." Clarify where the funding comes from for these programs and if they are required or voluntary.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
12	Clarification	p. 16 column 2, paragraph 1	"For those that choose to drive hot-spots of congestion will be quicker to move through due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network." Clarify how the expanded regional charging network will be paid for.
13	Clarification	p. 16 column 2, paragraph 2	"In this future, more funding is available to invest in expanded bus and rail networks…" Clarify where the funding comes from for these programs.
14	Clarification	p. 16 column 2, paragraph 2	"More drivers would be able to make the switch to electric vehicles, because additional funding is secured for EV charging infrastructure and local consumer rebates make electric vehicles more accessible." Clarify where the funding comes from for these programs. Explain how blackouts will be dealt with.
15	Define	p. 19 table & Other references to housing types	Please define single-family and multi-family. For SCAG modeling purposes, single-family is short hand for only single-family detached and multi-family includes attached single-family homes (townhomes & row houses) along with apartments and other attached units.
16	Clarification	p. 20 table	Clarify if the transportation costs and utility costs are per household, annually or over the lifetime of the plan.
17	Define	p. 21 table	Define 'Carbon Stock', 'High Species Movement' and 'Habitat Degraded'
18	Clarification	p. 22 column 2, paragraph 2	"…requires significant capital investments to extend or build new local roads, electric, water and sewer systems, and parks."
19	Clarification	p. 22 column 2, paragraph 2	"Conversely, growth focused in urban areas often takes advantage of existing infrastructure and more efficient service to higher concentrations of jobs and housing." Add: But, infrastructure capacity, services, and other amenities need to be evaluated to determine if additional growth will exceed capacity and would then require expansion of existing infrastructure, services, or other amenities.
20	Clarification	p. 22 column 2, paragraph 2	"More dispersed development, which requires greater lengths of roads and ~~sewer pipes~~utility conduits…"
21	Clarification	p. 25 column 1, paragraph 1	"Assuming the same efficiency standards,…" Clarify what efficiency standards or as of when.
22	Clarification	p. 25 column 1, paragraph 2	"Therefore, a development type pattern with a greater proportion of standard suburban development, which includes more large-lot single-family homes…" Insert size of large-lot homes for reference.
23	Clarification	p. 25 column 2, paragraph 1	"With the implementation of Connect SoCal, the region will save $370 million on health direct health care expenditures through built environment investments in the plan, and $115 million indirectly through gains in productivity from a healthier workforce." Clarify if these numbers are annual or for the lifespan of the Plan.
24	Clarification	p. 29 column 1, paragraph 2	"…with priority placed on infill settings, existing/planned service areas and within the planning boundary outside of an agency's legal boundary, otherwise known as "Spheres of Influence~~.~~" where feasible."
25	Define	p. 30 column 1, paragraph 2	"It is also important to identify infrastructure installation sites on public and private property based on latent demand," Define 'latent demand'.
26	Clarification	p. 31 column 1, last bullet	"And finally, within spheres of influence, where feasible"

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
27	Define	p. 32 column 1, paragraph 2	JOB CENTERS "These are identified at fine, medium and coarse scales to capture locally significant job centers within the region." Define or replace 'fine, medium and coarse scales'
28	Clarification	p. 32 column 1, paragraph 3	SCENARIO DEVELOPMENT GROWTH CONSTRAINTS "The variable constraints reflect goals ~~such as~~ of Connect SoCal and were only used when there was ~~capacity~~ room for growth in the rest of the jurisdiction's general plan capacity."
29	Clarification	p. 35 column 1, paragraph 3	SCENARIO PLANNING MODEL "Starting with the 2016 RTP/SCS, SPM-SD has been used in providing directional and order-of-magnitude regional impacts of local land use and policy decisions…"
30	Clarification	p. 35 column 2, paragraph 1	"SPM normalized all five forecast growth allocations made at the Tier 2 Transportation Analysis Zone (TAZ) scale to a standardized data framework and analyzed using the model's analytic modules." Explain 'normalized'.
31	Clarification	p. 36 column 2, paragraph 2	"Step 4. Estimate building square feet…" Clarify what conversions/calculations were made for employees/sq. feet.
32	Define	p. 36 column 2, paragraph 4	Step 6. Estimate outdoor irrigated area…Commercial irrigated area was calculated by utilizing the place type look-up of irrigated area per employee multiplied by the number of employees at the SPZ scale." Define 'place type look-up'.
33	Clarification	p. 34 Table	Add source. Explain commercial section numbers.

Again, we thank you for your time and consideration of the comments above. If you have any questions, please do not hesitate to contact me at [redacted]

Sincerely,

Deborah S. Diep
Director, Center for Demographic Research

Email CC: CDR Management Oversight Committee
CDR Technical Advisory Committee
Kome Ajise, SCAG
Sarah Jepsen, SCAG
Naresh Amatya, SCAG
Frank Wen, SCAG
Jason Greenspan, SCAG
Hsi-Hwa Hu, SCAG
Ping Chang, SCAG
Ruby Zaman, CDR

Center for Demographic Research

January 22, 2020

Draft Connect SoCal Plan Comments
Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
ConnectSoCal@scag.ca.gov
Uploaded via: www.connectsocal.org/Pages/Share-Your-Feeback.aspx

SUBJECT: DRAFT 2020 RTP/SCS "CONNECT SOCAL" PLAN COMMENTS

Dear Connect SoCal Team:

The Center for Demographic Research (CDR) at Cal State Fullerton has reviewed the Draft 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS, "Connect SoCal"), its associated appendices, and the growth forecast dataset. We greatly appreciate the opportunity to do so and for all of the work SCAG staff has done to produce these reports and the work with local agencies during the development process. We also want to extend our thanks for the close coordination between SCAG and CDR on behalf of Orange County jurisdictions to ensure the 2020 RTP/SCS growth forecast accurately reflects development agreements; entitlements; current and recent construction; open space; and general plan densities.

On December 11, 2019, CDR provided SCAG the technical corrections to the draft 2020 RTP/SCS growth forecast dataset on behalf of Orange County jurisdictions so the final RTP/SCS growth forecast will accurately reflect entitlements; development agreements; projects recently completed or under construction; open space; and general plan densities. On January 8, 2020, CDR requested, on behalf of Orange County jurisdictions, a copy of the final draft growth forecast dataset to confirm that all the technical corrections have been included in the final RTP/SCS growth forecast. On January 14, 2020, CDR was informed that SCAG would not provide a copy of the final draft growth forecast dataset to CDR for review until mid-February 2020.

It is strongly recommended that SCAG utilize the 2018 Orange County Projections (OCP-2018) dataset provided to SCAG during its Bottom-Up Local Input and Envisioning Process to ensure that general plan capacities are not exceeded and all open space and entitlements are properly reflected. OCP-2018 surpasses the regional SCS in terms of housing growth mix, which is key to Connect SoCal's growth vision. Of the total household growth in OCP-2018, from 2016 to 2045, only 19% will be single-family detached households and 81% will be some form of attached unit. Orange County's housing stock will change from a ratio of 49:51 (SFD to attached product) in 2016 to 46:54 by 2045. These surpass all five growth scenarios reported in the 2020 RTP/SCS Sustainability Technical Report, including even the most aggressive scenario, "Accelerated Tomorrow". In addition, 68% of housing growth will be infill/redevelopment, while about 36% of the county is permanently preserved as open space.

We would like to express support of recommendations by the Orange County Council of Governments, the Orange County Transportation Authority, and other Orange County agencies whose comments support Connect SoCal with its use of the Orange County's growth forecast, the 2018 Orange County Projections. We thank you for the opportunity and ask for your consideration and response to the following comments:

1. Support for the Plan with its use of Orange County's growth forecast so that all development agreements; entitlements; current construction and recent construction; open space; and general plan densities are accurately reflected.
2. Oppose the selection of any alternatives in the draft PEIR that do not properly reflect entitlements; development agreements; current construction and recent construction; open space; and general plan densities in Orange County.
3. Maintain objective, unbiased tone.
4. References to "city" or "cities" are changed to "jurisdiction" or "jurisdictions" where appropriate.
5. Other Comments on the Draft 2020 Connect SoCal/RTP/SCS documents in Tables 1 through 4 below.

Table 1. 2020 RTP/CONNECT SOCAL COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps All documents	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular reference items and the maps need to be standalone documents. Where possible, also include SCAG's logo.
2	General Comment	All documents	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
3	General Comment	All documents	Review use of "cities". Word "jurisdictions" should often be used to include counties and incorporated cities, not just incorporated cities.
4	General Comment	All documents	Consistency in hyphenation, e.g.: Single-family Multi-family vs. Multifamily vs. multi family Subregional vs. sub-regional
5	General Comment	All documents All maps with growth forecast or development types	Add: "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone (TAZ) level data utilized to conduct required modeling analyses. Data at the TAZ level or at a geography smaller than the jurisdictional level are advisory only and non-binding, because SCAG sub-jurisdictional forecasts are not to be adopted as part of the 2020 RTP/SCS. The advisory sub-jurisdictional data shall not be required for purposes of qualifying for future grant funding or other incentives or for determining a proposed project's consistency with the 2020 RTP/SCS for any impact analysis required pursuant to the California Environmental Quality Act (CEQA)."
6	General Comment	All documents	Maps & other graphics- fonts need to be embedded in PDFs to print properly.
7	General Comment	All documents	All tables, charts, graphics need to have original sources and the document title
8	General Comment	All documents	The growth forecast should be adopted at no lower than the jurisdictional level
9	Define	In RTP main document	Add the following to the glossary; use definitions from PEIR if necessary: Households Absolute constraints Single-family Multi-family Constrained/strategic Unconstrained plan Principal arterial roadways Class 1 Railroads

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
10	Define	p. 2, column 1, paragraph 2	"…the world's fifth busiest airport system, and soon the world's longest light rail transit line, with the completion of the Regional Connector." Define 'airport system' and 'Regional Connector'.
11	Clarification	p. 2, column 2, paragraph 1	"…but also by bringing housing ~~closer to~~ and jobs closer together, making commutes shorter and making it easier to get around without a car."
12	Clarification	p. 10, column 2, paragraph 5	"The process was ~~informed~~ guided by the Connect SoCal Guidelines and Schedule…"
13	Clarification	p. 11, column 1, paragraph 4	"…SCAG staff has regularly convened topic-specific working groups, which bring together regional stakeholders to discuss the Plan's development and provide technical expertise." Add the TWG.
14	Clarification	p. 12, column 1, paragraph 3	"SCAG ~~used~~ considered input gathered through the CBO engagement and public workshops…"
15	Clarification	p. 13, column 1, bullet 2	"Review a comprehensive set of policies, strategies and tools to ~~reach improved~~ improve mobility and sustainability"
16	Clarification	p. 16, column 1, paragraph 3	"…reflecting on-the-ground conditions from SCAG's ~~local partners~~197 jurisdictions."
17	Clarification	p. 16, column 2, paragraph 1	"As such, many demographers have suggested the importance of a new social compact between the retirees and young immigrants who, together, will characterize a large portion of the region's future population." Explain 'social compact'.
18	Clarification	p. 17, column 1, paragraph 2	"…cohort of Millennials – the generation born between years 1982 and 1996." Ensure consistency across reports of Millennial cohort. This definition is different than other sources.
19	Clarification	p. 17, column 1, paragraph 2	"Thus, as the economy improves and Millennials age, we must be aware that their ~~demonstrated~~ current arrangements and preferences may have been a temporary delay rather than a lasting characteristic."
20	Clarification	p. 18, column 2, paragraph 1	"Indeed, disruption by some technological platforms has caused serious concerns over displacing workers from stable, full-time jobs or from work altogether—a concern that is heightened when the productivity gains are concentrated in the hands of a very few." Explain who are the 'few' (people instead of with companies, owners, stock-holders?) and how 'productivity gains' are concentrated with the 'few'.
21	Clarification	p. 19, column 1, paragraph 2	"In the years ahead, the region may face significant challenges from technology disruption by reducing opportunities for many regional workers who will not be able to close the skills gap to adequately compete for future jobs in that sphere. ~~This has spurred increasingly popular policy discussions of universal basic income (UBI) as a potential solution to offset the negative impacts of job losses due to technology. Since employment is becoming less necessary for gains in overall economic productivity, one UBI model might involve redistributing the revenues from higher taxes on businesses utilizing these new platforms to area residents to ensure a minimum living standard without impacting the incentive to work.~~" Delete as UBI is not under purview of SCAG or RTP.
22	Clarification	p. 20, column 2, paragraph 3	"…Four additional cities have incorporated since 2006…" Name the cities that were incorporated.
23	Clarification	p. 20, column 2, paragraph 3	"Examining median commute distances for residents of these areas before and after the housing boom shows a sharp uptick for all jobs by over 20 percent when comparing 2002 to 2012, which then holds steady from 2012 to 2016 (as displayed in the Environmental Justice Technical Report)." Sentence meaning is unclear. Reword.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
24	Clarification	p. 21, column 2, paragraph 1	"~~While the~~ There has been an acceleration in new units since the Great Recession that has been characterized by a higher share of multi-family units~~, there is concern that this trend may reverse absent policy intervention, as Millennials seek affordable ownership opportunities which that are scarcer in the urban core and in the multi-family market.~~ For example, 51% of all new housing units issued in California for 2018 were for single-family dwellings, making 2018 the first year since 2011 that single-family housing construction outpaced multi-family home production…" Maintain objective and unbiased tone. Please clarify whether the topic is the number of units that were permitted or the number of housing units that were constructed.
25	Clarification	p. 22, Table 2.1	Add definitions of all types of PGAs. Verify values as the majority of Share of Total Growth (2008-2016) do not match what is presented in the Demographics and Growth Forecast Technical Report.
26	Clarification	p. 23, column 1, paragraph 2	"Between 2008 and 2016, less than six percent of household growth and less than five percent of employment growth occurred in open space areas." Clarify if development occurred in open space or on underutilized, undeveloped, or vacant land.
27	Clarification	p. 29, Table 2.2	Add note that includes the types of 'non-motorized', e.g., walking, biking, scooter…
28	Clarification	p. 29, Table 2.3	Indicate which quintile is high or low. Add note that includes the types of 'non-motorized', e.g., walking, biking, scooter…
29	Clarification	p. 30, graphic	Include definition on the page of 'on-call'.
30	Clarification	p. 31	Include definition on the page of - Principal arterial roadways - Class 1 Railroads
31	Clarification	p. 32, column 1, paragraph 3	"…environmental litigation, community resistance to all kinds of housing ~~medium and high-density~~ projects, and lack of sufficient state, federal, and local funding mechanisms." Resistance is not limited to only higher-density housing projects.
32	Clarification	p. 32, column 1, paragraph 4	"Additionally, population and employment growth in metropolitan areas in California has slowed in recent years because wages cannot compensate for the high cost of housing." Cite the study this comes from to document the connection. This should not be assumed as there are other influences: cost of living, regulations, taxes…
33	Clarification	p. 33, graphic	"…environmental litigation, community resistance to all kinds of housing ~~medium and high-density~~ projects, and lack of sufficient local funding mechanisms and lack of sufficient state, federal, and local funding mechanisms."
34	Clarification	p. 36, Table 2.4	Add original source. Data is stored in SCAG SPM, it is not generated by SPM.
35	Clarification	p. 36, column 2, paragraph 3	"All demographic groups are affected. ~~These numbers represent children, parents, spouses, relatives, and friends. These are people who were going about their typical day – heading to work, the grocery store, or to visit grandma. Collisions are happening in every community in the region, from El Centro in Imperial County to Malibu in Los Angeles County.~~" Delete dramatic text.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
36	Clarification	p. 38, column 2, paragraph 1	"The way a community is designed impacts the likelihood that a person will bike or walk to school, work, or local shops; have access to healthy food or parks; and breathe air that ~~is free of~~ has minimal pollutants." It is not possible for outdoor air to be free of pollutants.
37	Clarification	p. 39, graphic	"If a person lives in housing adjacent to a freeway, they may be more likely to develop asthma." What about high capacity arterials like HQTAs or raillines? Why are these not included?
38	Clarification	p. 40, Figure 2.5	Stacked bar chart with percentages for each category would be more informative.
39	Clarification	p. 41, column 1, paragraph 1	"Additional factors impacting congestion on roadways and transit accessibility are natural impediments, such as mountains and waterways, outdated road technology and other challenges." Explain how mountains and waterways impact congestion. Clarify what is "outdated road technology".
40	Clarification	p. 46, column 2, paragraph 2	"This plan is not designed to dictate local actions and policies, but rather to lay out a path to achieving regional goals set by the Regional Council."
41	Clarification	p. 47, column 2, paragraph 1	"KEY CONNECTIONS… …meet increasingly-aggressive greenhouse gas reduction goals set by the state."
42	Clarification	p. 48, column 1, paragraph 4	"CORE VISION SUSTAINABLE DEVELOPMENT Studies and partnerships to establish a Regional Advanced Mitigation Program (RAMP) will also be pursued to preserve habitat." Add definition here of RAMP.
43	Clarification	p. 48, column 2, paragraph 3	"…Connect SoCal can reach the regional target of reducing greenhouse gases…"
44	Clarification	p. 49, column 1, bullet 2	"Focus on a regional jobs/housing balance to reduce commute times and distances and …"
45	Clarification	p. 50, column 1, paragraph 1	"Although center-focused placemaking can be applied in a wide range of settings, priority must be placed, however, on urban and suburban infill, in existing/planned service areas, and within the planning boundary outside of an agency's legal boundary, known as "Spheres of Influence," where feasible."
46	Clarification	p. 50, column 2, paragraph 4	"Employment growth and residential growth are prioritized in Job Centers in order to leverage existing density and infrastructure. However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth."
47	Clarification	p. 50, column 2, paragraph 4	"SCAG's methodology to identify Job Centers is not final ~~all-inclusive~~ and additional potential centers can be identified."
48	Define	p. 55, column 1, paragraph 1	"These strategies were identified with guidance from stakeholders as high priorities for…" Define who the stakeholders are.
49	Clarification	p. 56, paragraph 1	"The extraordinary cost of producing housing in California is a significant barrier…"
50	Clarification	p. 56, paragraph 1	"The Regional Housing Supportive Infrastructure strategy will help make it quicker for developers ~~local jurisdictions~~ to produce critically-needed housing." Local jurisdictions don't build housing.
51	Clarification	p. 56	"Placentia Enhanced Infrastructure Financing District (EIFD) … water infrastructure improvements through value capture…" Explain what 'value capture' is.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
52	Clarification	p. 60, column 2, paragraph 3	"SCAG examined the potential application of cordon/area pricing in Southern California through its Mobility Go Zone and Pricing Feasibility Study. The study showed that a Westside Go Zone would … generating a net average of $69.2 million annually in revenues, which would go directly toward transportation improvements, pedestrian amenities and economic development." How would that money be collected?
53	Clarification	General Comment, p.61, 102	"A mileage-based system." For all references to a mileage-based user fee, specify that this is intended by SCAG to replace the gas tax, not be an additional fee.
54	Clarification	p. 64, column 1, paragraph 1	"Connect SoCal ~~commit~~ identified $7.3 billion through 2045 to implement TDM strategies throughout the region."
55	Clarification	p. 67 map	Adjust line thickness and layer order so all modes can be seen even if same routes are followed.
56	Correction	p. 77, Table 3.2, line 2	"Add I-405 ExpressLanes from I-110 to LA/Orange Country Line."
57	Clarification	p. 78, column 2, paragraph 1	"…Connect SoCal supports regional programs that raise awareness of the issue, reposition the image of goods movement jobs to reflect career mobility…" Reword 'reposition the image'.
58	Clarification	p. 80, column 1, paragraph 6	"Expansion of the international port of entry (POE) in Calexico." Add POE to glossary.
59	Clarification	p. 81, column 2, paragraph 1	"SCAG will continue a ~~discursive and~~ collaborative planning approach."
60	Clarification	p. 81, Table 3.3	List full name of Airports and ID in parentheses. Add "In Millions" to the Projections column. Add source.
61	Correction	p. 83, column 1, paragraph 2	"…in the previously conducted 2016 RTP/SCS ~~Connect SoCal~~…"
62	Clarification	p. 83, column 1, paragraph 3, last line	"…Nevertheless, the implementation of Plan programs, policies and strategies may lead to additional environmental impacts compared to existing conditions."
63	Clarification	p. 83, column 1, paragraph 3	"Project level mitigation measures have been identified that "can and should where applicable and feasible" be undertaken by lead agencies that implement transportation projects…"
64	Clarification	Exhibit 3.4	Add definitions on map of Job Centers, Neighborhood Mobility Areas and High Quality Transit Areas.
65	Clarification	Exhibit 3.6	Specify on map what year the Job Centers represent. Cite Kevin Kane's report for background on job centers.
66	Clarification	Exhibit 3.7	Ensure entire note at bottom is displayed.
67	Clarification	Exhibit 3.9	Specify on map what year the NMAs represent. Explain z-scores on the map.
68	Clarification	Exhibit 3.10	Specify on map what year the Livable Corridors represent. Provide definition of Livable Corridors on map.
69	Clarification	p. 96, column 1, paragraph 1	"…this chapter and a more detailed Technical Report …" Specify which technical report is referred to.
70	Clarification	p. 98, all Figures	Used dashed and dotted lines to differentiate between colors in black and white and for color-blind readers.
71	Clarification	p. 103, Tables 4.2 and 4.3	Table 4.2 Specify in title if dollars are for the life of the Plan. Cite sources for both tables.
72	Define	p. 104, column 1, top bullet	"Promote national and state programs that include return-to-source guarantees, while maintaining flexibility to reward regions that continue to commit substantial local resources" Define 'regions' in the bullet in this context.

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
73	Clarification	p. 105, all Figures	Indicate for all figures if these are for the life of the Plan.
74	Clarification	p. 107, Table 4.4 third row	"User fees on TNC mileage —estimated at about $0.05 (in 2019 dollars) per mile starting in 2021." Clarify if these fees would be on top of the proposed, general mileage-based user fee for all users that would replace the gas tax.
75	Correction	p. 108, Table 4.5.1 first row	"Locally imposed ½ percent sales tax in four counties (Imperial, Orange, Riverside, and San Bernardino). Permanent 1 percent (combination of two ½ percent sales taxes)…"
76	Correction	p. 108, Table 4.5.1 second row	"The Local Transportation Fund (LTF) is derived from a ¼ percent sales tax on …"
77	Correction	p. 108, Table 4.5.1 fifth row	"…fees from the Transportation Corridor Agencies ~~Agency~~ (TCA) …"
78	Clarification	p. 111, Table 4.5.4 second row	Indicate if the mileage-based user fee would be inflation adjusted.
79	Clarification	p. 112, Table 4.6.1	Include source for table.
80	Clarification	p. 118, column 2, bullet 7	"… Conservation of open space, agricultural lands, and other rural land uses may be achieved by focusing new residential and commercial development in higher density areas that are already equipped with the requisite urban infrastructure. However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth."
81	Clarification	p. 121-122, graphics	Add sources to data.
82	Clarification	p. 123, Table 5.1	Change "Trend" column header to "Outcome". "Trend" is a term used in the PEIR and has different meaning than used here.
83	Clarification	p. 128, column 1, paragraph 2	"…is projected to increase by 9.5 percentage points between the Baseline (44.6 percent) and Connect SoCal (54.1 percent)."
84	Clarification	p. 128, column 1, paragraph 3	"…to increase by 24.3 percentage points between the Baseline…"
85	Clarification	p. 129-133, figures	Add sources to all figures.
86	Clarification	p. 132, column 2, paragraph 2	"Connect SoCal seeks to improve the integration of transportation and land use planning and recognizes ~~with the recognition~~ that our regional multimodal transportation system generates a wide range of impacts that significantly affect public health and quality of life."
87	Clarification	p. 135, column 1, paragraph 1	"The user benefits are estimated using the Cal-B/C framework and incorporate SCAG RTDM outputs." Explain in text Cal-B/C and RTDM.
88	Clarification	p. 135, column 2, paragraph 2	"Since most new development would be directed into areas where urban infrastructure already exists, there will not be as much need to extend or build new local roads, water and sewer systems and parks. However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth."
89	Clarification	p. 140, column 1, paragraph 2	"Environmental Justice (EJ) is a federal and state mandate designed to help ensure social equity in the transportation planning and decision-making process, with the goal of protecting minority and low-income communities from receiving ~~incurring~~ a disproportionate share of adverse impacts produced by regional transportation projects and plans."

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
90	Correction	p. 144, column 2, paragraph 2	"With Connect SoCal, the share of households in HQTAs increases nearly ten percentage points to 54 percent."
91	Clarification	p. 151, column 1, paragraph 3	"These funds will be used to develop a Regional Housing Strategy Framework and provide planning grants and services to jurisdictions to implement their 6th cycle RHNA allocation which is supportive of Connect SoCal goals and policies." What is the Regional Housing Strategy Framework? How much money will be provided to jurisdictions? Will the funding distribution methodology be consistent with the RHNA distribution methodology?
92	Clarification	p. 159, glossary	"Gentrification, While holding many definitions, is commonly understood as a change process in historically low-~~wealth~~ income communities …"
93	Correction	p. 163, glossary	"Measure A Revenues generated from Riverside County's local half-percent sales tax. Measure D Revenues generated from Imperial County's local half-percent sales tax. Measure I Revenues generated from San Bernardino County's local half-percent sales tax. Measure M Revenues generated from Orange County's local half-percent sales tax. Also refers to Los Angeles County's local half percent sales tax which was authorized in 2018. Measure R Revenues generated from Los Angeles County's local half-percent sales tax. …"
94	Correction	p. 166, glossary	"Proposition A Revenues generated from Los Angeles County's local half-percent sales tax. … Proposition C Revenues generated from Los Angeles County's local half-percent sales tax. …"
95	Clarification	p. 167, glossary	"RHNA Regional Housing Needs Assessment – Quantifies the need for housing within each jurisdiction of the SCAG region based on population growth projections and other items as determined by the MPO. Jurisdictions ~~Communities~~ then address this need through the process of completing the housing elements of their General Plans."
96	Clarification	p. 173, glossary	"VMT Vehicle Miles Traveled – On highways , a measurement of the total miles traveled by all vehicles in the area for a specified time period. It is calculated by the number of vehicles times the miles traveled in a given area or on a given highway during the time period. In transit, the number of vehicle miles operated on a given route, or line, or network during a specified time period." Indicate if VMT is only for highways or if streets, freeways, and toll road miles travelled are also included.

Table 2. DEMOGRAPHICS AND GROWTH FORECAST TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular reference items and the maps need to be standalone documents. Where possible, also include SCAG's logo.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
2	General Comment	All maps with growth forecast or development types	Add: "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone (TAZ) level data utilized to conduct required modeling analyses. Data at the TAZ level or at a geography smaller than the jurisdictional level are advisory only and non-binding, because SCAG sub-jurisdictional forecasts are not to be adopted as part of the 2016 RTP/SCS. The advisory sub-jurisdictional data shall not be required for purposes of qualifying for future grant funding or other incentives or for determining a proposed project's consistency with the 2016 RTP/SCS for any impact analysis required pursuant to the California Environmental Quality Act (CEQA)."
3	Clarification	P. 2, column 1, paragraph 1	"…trends that have already been seen during the recovery from the Great Recession, but which differ from the historical arc of development in Southern California." Reword "historical arc"
4	Clarification	P. 3, column 2, paragraph 2	"Between October 2018 and February 2019, SCAG reviewed and aggregated feedback ~~local input~~ on the growth forecast and other data map book elements. This aggregated feedback from local jurisdictions is known as the "local input" growth forecast. The local input growth forecast was evaluated at the county and regional level for the base year of 2016 and the horizon year of 2045. Findings included:
5	Clarification	P. 3, column 2, paragraph 3	"At the regional level, the 2045 local input forecast was found to be within the high/low scenario ranges ~~technically sound~~."
6	Clarification	P. 5, column 2, paragraph 2	"Unauthorized immigration has decreased notably in the SCAG region, with a Pew Research Foundation analysis of Census Bureau data showing a 24.6 percent decrease in the unauthorized immigrant population in the SCAG region 2006 and 2017 (Passel and Cohn 2019)." Clarify if there was a decrease in number of migrants or of the total immigrant population.
7	Clarification	P. 6, column 1, paragraph 2	"… having fewer than half as many working-age adults per senior may disproportionately impact seniors who do not have sufficient retirement savings as this can place additional stress on social services provision." Clarify what social services provisions are.
8	Define	P. 8, column 1, paragraph 1	"Of particular interest are educational attainment rates since annual incomes do not necessarily predict human capital or lifetime earning potential." Define/clarify human capital.
9	Clarification	P. 8, column 2, bullet 3	"…suggesting that the region's "brain gain" is due to people coming to the region from further away." Clarify/reword: further away from what?
10	Clarification	P. 10, figures 4 & 5	Add sources.
11	Clarification	P. 10, column 2, paragraph 1	"However, many Millennials entered the workforce during the depths of the Great R~~r~~ecession, which had the additional impact of decreasing housing construction since they didn't have the income needed to form households or purchase homes as much as previous generations had during their twenties." Non sequitur. Reword sentence.
12	Clarification	P. 18, column 1, paragraph 1	"In addition to concerns over the polarizing wage structure of work," Replace 'polarizing' or reword.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
13	Define	P. 18, column 1, paragraph 2	"Food preparation and sales as well as social service and office support each employ over 1.2 million in the region and have consensus automation potentials…: Define 'consensus automation'.
14	Clarification	P. 19, column 1, paragraph 2	"SPECIAL FOCUS: INTEGRATING GROWTH INTO A MATURE REGION The region has experienced slow but consistent population growth since 2000 at a rate of 0.82 percent. Household growth was slightly slower at 0.73 percent, and job growth, reflecting both a recession and recovery, was similar at 0.77 percent." Clarify if the growth is annual or total.
15	Clarification	P. 20, column 2, paragraph 3	"REGIONAL GROWTH FORECAST METHODOLOGY SCAG initially sets a range of regional growth forecasts of employment, population, and households in this order to address the uncertainty of a certain set of growth forecasts." Clarify what set of growth forecasts.
16	Clarification	P. 23, column 2, paragraph 4	"DEVELOPMENT OF MAJOR VARIABLES SCAG develops the TAZ-level socioeconomic data using an array of ~~diverse~~ public and private sources of data listed above and advanced estimation methods. The initial TAZ-level household projection starts from the household and employment at the Minimum Planning Unit (MPU) level within each TAZ. The MPU is the smallest computing unit at which calculation can take place. In general, MPUs are equivalent to parcels and can be matched to county assessor parcel databases. Additional variables at the zonal level include school enrollment, household income, and disaggregated employment categories for 4,109 Tier 1 TAZs and 11,267 smaller Tier 2 TAZs (TABLE 11)." Reorder sentences.
17	Define	P. 24, column 2, paragraph 1	"Household sample weights from the PUMS are adjusted to match the various controls provided externally and at the TAZ level." Define what the external controls are.
18	Clarification	P. 31, column 1, paragraph 2	"Younger people are more likely to live in larger households while households headed by Hispanic or non-Hispanic Asian/Other individuals tend to be larger as well, suggesting a greater preference for multi-generational living." Multi-generational living may be a necessity rather than a preference. Reword.
19	Clarification	P. 43, column 2, paragraph 2	"Recent trends suggest that areas within the region which have benefits for transportation and environmental goals such as infill land, job centers and high quality transit areas are already receiving a disproportionate amount of growth." Rework sentence.

Table 3. ECONOMIC AND JOB CREATION ANALYSIS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	p. 6, column 2, paragraph 2	"There is a large body of literature that discusses the link between ~~from~~ active transportation and ~~to~~ physical activity (e.g. Boarnet, Greenwald, and McMillan, 2008),…"
2	Define	p. 11, column 2, paragraph 4	"Increases in economic competitiveness, efficiency and amenity from completion of the projects and operations, averaging an additional 195,500 jobs per year." Define/clarify 'amenity'

Table 4. SCS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular reference items and the maps need to be standalone documents. Where possible, also include SCAG's logo.
2	General Comment	All	Review use of "cities". Word "jurisdictions" should often be used to include counties and incorporated cities, not just incorporated cities.
3	Correction	p. 4, column 1, paragraph 3	"For this reason, SCAG works collaboratively with its many local partners to support ~~SCAG member agencies~~ all jurisdictions in implementing the SCS."
4	Correction	p. 4, column 2, paragraph 3	"Many ~~cities~~ jurisdictions within the SCAG region…"
5	Correction	p. 4, column 2, paragraph 3	"This is evident in that requests for support, funding, and resources…"
6	Clarification	p. 8 column 1, top of page	"However, single-family development remains prevalent in more suburban parts of the region, especially in Riverside County." Clarify if this applies to only Riverside or to other counties as well.
7	Define	p. 14 column 1, last paragraph	"HQTAs feature frequent transit service or major transit stations and are located in communities throughout the SCAG region." Define/explain 'frequent transit service'.
8	Clarification	p. 15 column 1, last sentence	"For transportation, this future ~~anticipates~~ includes the projects planned by each County Transportation…"
9	Correction	p. 16-18, Figures 2,3,4	Delete Figures 2,3, & 4. These figures include draft scenarios used at the public workshops that do not properly reflect development agreements and entitled projects. This was shared with SCAG staff and its consultants at the public workshops. The response was that the maps would be corrected; they were never corrected. Although these were draft scenarios used to collect public input, since they do not properly reflect entitlements, they should be removed from the SCS document so as to not further mislead any reader that these were viable options.
10	Clarification	p. 16 column 2, bullet list	Add "See page 31 for definitions".
11	Clarification	p. 16 column 2, paragraph 1	"For longer commutes residents will have more incentive to carpool or vanpool thanks to programs offered by your employer." Clarify where the funding comes from for these programs and if they are required or voluntary.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
12	Clarification	p. 16 column 2, paragraph 1	"For those that choose to drive hot-spots of congestion will be quicker to move through due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network." Clarify how the expanded regional charging network will be paid for.
13	Clarification	p. 16 column 2, paragraph 2	"In this future, more funding is available to invest in expanded bus and rail networks…" Clarify where the funding comes from for these programs.
14	Clarification	p. 16 column 2, paragraph 2	"More drivers would be able to make the switch to electric vehicles, because additional funding is secured for EV charging infrastructure and local consumer rebates make electric vehicles more accessible." Clarify where the funding comes from for these programs. Explain how blackouts will be dealt with.
15	Define	p. 19 table & Other references to housing types	Please define single-family and multi-family. For SCAG modeling purposes, single-family is short hand for only single-family detached and multi-family includes attached single-family homes (townhomes & row houses) along with apartments and other attached units.
16	Clarification	p. 20 table	Clarify if the transportation costs and utility costs are per household, annually or over the lifetime of the plan.
17	Define	p. 21 table	Define 'Carbon Stock', 'High Species Movement' and 'Habitat Degraded'
18	Clarification	p. 22 column 2, paragraph 2	"…requires significant capital investments to extend or build new local roads, electric, water and sewer systems, and parks."
19	Clarification	p. 22 column 2, paragraph 2	"Conversely, growth focused in urban areas often takes advantage of existing infrastructure and more efficient service to higher concentrations of jobs and housing." Add: But, infrastructure capacity, services, and other amenities need to be evaluated to determine if additional growth will exceed capacity and would then require expansion of existing infrastructure, services, or other amenities.
20	Clarification	p. 22 column 2, paragraph 2	"More dispersed development, which requires greater lengths of roads and ~~sewer pipes~~utility conduits…"
21	Clarification	p. 25 column 1, paragraph 1	"Assuming the same efficiency standards,…" Clarify what efficiency standards or as of when.
22	Clarification	p. 25 column 1, paragraph 2	"Therefore, a development type pattern with a greater proportion of standard suburban development, which includes more large-lot single-family homes…" Insert size of large-lot homes for reference.
23	Clarification	p. 25 column 2, paragraph 1	"With the implementation of Connect SoCal, the region will save $370 million on health direct health care expenditures through built environment investments in the plan, and $115 million indirectly through gains in productivity from a healthier workforce." Clarify if these numbers are annual or for the lifespan of the Plan.
24	Clarification	p. 29 column 1, paragraph 2	"…with priority placed on infill settings, existing/planned service areas and within the planning boundary outside of an agency's legal boundary, otherwise known as "Spheres of Influence~~.~~" where feasible."
25	Define	p. 30 column 1, paragraph 2	"It is also important to identify infrastructure installation sites on public and private property based on latent demand," Define 'latent demand'.
26	Clarification	p. 31 column 1, last bullet	"And finally, within spheres of influence, where feasible"

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
27	Define	p. 32 column 1, paragraph 2	JOB CENTERS "These are identified at fine, medium and coarse scales to capture locally significant job centers within the region." Define or replace 'fine, medium and coarse scales'
28	Clarification	p. 32 column 1, paragraph 3	SCENARIO DEVELOPMENT GROWTH CONSTRAINTS "The variable constraints reflect goals ~~such as~~ of Connect SoCal and were only used when there was ~~capacity~~ room for growth in the rest of the jurisdiction's general plan capacity."
29	Clarification	p. 35 column 1, paragraph 3	SCENARIO PLANNING MODEL "Starting with the 2016 RTP/SCS, SPM-SD has been used in providing directional and order-of-magnitude regional impacts of local land use and policy decisions…"
30	Clarification	p. 35 column 2, paragraph 1	"SPM normalized all five forecast growth allocations made at the Tier 2 Transportation Analysis Zone (TAZ) scale to a standardized data framework and analyzed using the model's analytic modules." Explain 'normalized'.
31	Clarification	p. 36 column 2, paragraph 2	"Step 4. Estimate building square feet…" Clarify what conversions/calculations were made for employees/sq. feet.
32	Define	p. 36 column 2, paragraph 4	Step 6. Estimate outdoor irrigated area…Commercial irrigated area was calculated by utilizing the place type look-up of irrigated area per employee multiplied by the number of employees at the SPZ scale." Define 'place type look-up'.
33	Clarification	p. 34 Table	Add source. Explain commercial section numbers.

Again, we thank you for your time and consideration of the comments above. If you have any questions, please do not hesitate to contact me at [redacted]

Sincerely,

Deborah S. Diep
Director, Center for Demographic Research

Email CC: CDR Management Oversight Committee
CDR Technical Advisory Committee
Kome Ajise, SCAG
Sarah Jepsen, SCAG
Naresh Amatya, SCAG
Frank Wen, SCAG
Jason Greenspan, SCAG
Hsi-Hwa Hu, SCAG
Ping Chang, SCAG
Ruby Zaman, CDR

SCAG™
INNOVATING FOR A BETTER TOMORROW

MAIN OFFICE

900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
Tel: (213) 236-1800

REGIONAL OFFICES

IMPERIAL COUNTY
1405 North Imperial Ave., Ste.104
El Centro, CA 92243
Tel: (760) 353-7800

ORANGE COUNTY
OCTA Building
600 South Main St., Ste. 741
Orange, CA 92868
Tel: (714) 542-3687

RIVERSIDE COUNTY
3403 10th St., Ste. 805
Riverside, CA 92501
Tel: (951) 784-1513

SAN BERNARDINO COUNTY
Santa Fe Depot
1170 West 3rd St., Ste. 140
San Bernardino, CA 92410
Tel: (909) 806-3556

VENTURA COUNTY
4001 Mission Oaks Blvd., Ste. L
Camarillo, CA 92418
Tel: (805) 642-2800

CONNECT SoCal

PUBLIC PARTICIPATION AND CONSULTATION

APPENDIX 3A
COMMENT LETTERS A - CE

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