CONNECT SOCAL 2024

The 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy
of the Southern California Association of Governments

PUBLIC PARTICIPATION & CONSULTATION

Comment Letters, O-W

APPENDIX 4B OF 5

ADOPTED APRIL 4, 2024

SCAG™
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Public Participation & Consultation

Comment Letters, O-W

APPENDIX 4B OF 5

PASSENGER ACTIVITY FORECAST
PREPARED FOR ONTARIO INTERNATIONAL AIRPORT
BY CAMPBELL-HILL AVIATION – DECEMBER 2023

Calendar Year	Enplanements	MAP
2028	6,567,120	13.1
2033	8,566,032	17.1
2034	8,951,503	17.9
2035	9,354,321	18.7
2036	9,775,265	19.6
2037	10,215,152	20.4
2038	10,674,834	21.3
2039	11,155,202	22.3
2040	11,657,186	23.3
2041	12,181,759	24.4
2042	12,729,938	25.5
2043	13,302,786	26.6
2044	13,901,411	27.8
2045	14,526,974	29.1
2046	15,180,688	30.4
2047	15,863,819	31.7
2048	16,577,691	33.2
2049	17,323,687	34.6
2050	18,103,253	36.2

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

January 11, 2024

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Suite 1700
Los Angeles, CA 90017
ajise@scag.ca.gov
dominguezs@scag.ca.gov
ConnectSoCalPEIR@scag.ca.gov
update@scag.ca.gov
Uploaded via: https://scag.ca.gov/connect-socal-2024-comment-submission-form

Subject: Orange County Council of Governments Comments for Connect SoCal 2024 RTP/SCS and PEIR

Dear Mr. Ajise:

On behalf of the Orange County Council of Governments (OCCOG), I would like to thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) draft 2024-2050 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (a.k.a. Connect SoCal 2024) and the associated Program Environmental Impact Report (PEIR). The draft 2024 RTP/SCS and PEIR is a monumental effort and the OCCOG recognizes that the documents are critical to the region's ability to receive federal funding for transportation projects, improve mobility, support sustainable development, operate and maintain the transportation system, and meet the region's greenhouse gas emission reduction targets and other air conformity standards.

As we have in past RTP/SCS cycles, the OCCOG Technical Advisory Committee (OCCOG TAC) comprised of agency planning staff convened an ad hoc committee dedicated to the review of the draft 2024 RTP/SCS, PEIR and related documents. The ad hoc committee includes representation from the OCCOG; the cities of Irvine, Laguna Beach, Mission Viejo, and Santa Ana; the County of Orange; the Orange County Transportation Authority; the Transportation Corridor Agencies; the Building Industry Association; and the Center for Demographic Research (CDR) at California State University Fullerton. This committee met six times during the public comment period, and has collectively spent well over three hundred hours reviewing the draft Plan and documents, and preparing comments that incorporated additional feedback provided by Orange County jurisdictions and agencies.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

The OCCOG TAC review and analysis was discussed by the full OCCOG Technical Advisory Committee at both the December and January meetings, and at a special meeting of the OCCOG Board of Directors that took place on January 11, 2024 and serves as the basis for OCCOG's comments.

The following general comments and recommendations are offered by OCCOG on the draft 2024 Connect SoCal Plan and PEIR and all associated technical reports. In addition to these policy-level comments, we have more detailed technical comments provided in the matrix that follows as Attachment 2. OCCOG requests that the letter and attachments be included in the public record as our collective comments on the draft 2024 Connect SoCal Plan, PEIR, and associated documents.

1. Concurrence with the Comments from the Orange County Transportation Authority, Transportation Corridor Agencies, and Center for Demographic Research

   The OCCOG concurs with the comments identified by OCTA in its January 2024 letter. OCTA has identified policy and technical issues related to the draft 2024 RTP/SCS and PEIR that are of concern to Orange County. These are focused on the regional strategies that go above and beyond the projects submitted by the county transportation commissions (CTCs). Further, we support the technical comments presented by the Transportation Corridor Agencies and the Center for Demographic Research in their letters.

2. Connect SoCal consistency determinations

   The Demographics and Growth Forecast Technical Report is currently the only document that contains language on Traffic Analysis Zone (TAZ) consistency—what has been referred to as the "TAZ disclaimer". OCCOG is proposing updated language to clarify the limitations of the use of the growth forecast data and forecasted development pattern. OCCOG requests the updated language replace the current applicable language in the Demographics and Growth Forecast Technical Report—the only location it is currently used—and further requests the language be added to the main RTP/SCS document at the end of page 97, the Land Use & Communities Technical Report, and as a response to comments in the draft PEIR. The full text of the requested Consistency Language is included in Attachment 1 of this letter.

   In addition, any maps or figures that contain or depict the growth forecast data, including TAZ-level maps or development patterns, need to have the following language embedded in the map or figure.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

Insert data usage paragraph:

"Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."

Recommendations: 1) Replace the Consistency Language in the Demographics and Growth Forecast Technical Report on page 45 with the language provided in Attachment 1. 2) Add the revised consistency language into the main Connect SoCal document starting on page 97. 3) Add the Consistency Language to the PEIR response to comments. 4) Add the revised consistency language into the Land Use and Communities Technical Report as Section 7.5. 5) Add the data usage paragraph to all growth forecast maps and figures reporting or depicting growth forecast, development patterns, or TAZ-level data (see attached matrix).

3. Priority Development Areas (PDAs)

OCCOG recognizes SCAG's movement away from High Quality Transit Areas (HQTAs) that were focus areas in the 2020 RTP/SCS and the 6th RHNA cycle and now see the focus on Priority Development Areas (PDAs) in the 2024 RTP/SCS. OCCOG also recognizes the alignment of SCAG's Regional Housing Needs Assessment (RHNA) and RTP/SCS documents are required by Government Code Section 65080(b)(2)(B) and Section 65584.04(m), however, OCCOG recommends extreme caution in using and requests close consultation with local jurisdictions for any use of Priority Development Areas, such as Neighborhood Mobility Areas and Transportation Priority Areas, identified in the RTP/SCS for future purposes related to the RHNA methodology. Further OCCOG strongly advises that local jurisdictions shall not be held to these PDAs, as development patterns within a city and/or county are subject to change and such locations identified in the RTP/SCS may not be viable for future development. For any methodology to develop future RHNA allocations, jurisdictions and the Technical Working Group should be consulted.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
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info@occog.com

Recommendation: Consult with jurisdictions and the Technical Working Group on any methodology to develop future RHNA allocations or use of Priority Development Areas (PDAs) in other SCAG efforts.

4. Process Concerns

Effective Use of the Technical Working Group OCCOG appreciates the opportunity to participate in ongoing advisory groups that inform and clarify the work of SCAG staff as it relates to mandated work products, including the RTP/SCS and PEIR. Despite OCCOG's ongoing and repeated efforts, there continues to be a disconnect between SCAG's constitution of and reliance on the Technical Working Group (TWG), comprised of planning staff from SCAG member agencies and experts across the region, and how members of the group would like to be consulted and provide advisement. OCCOG strongly believes this is an underutilized resource for SCAG and that a stronger partnering and collaborative approach with the TWG would render a much-needed technical peer review for SCAG prior to public release of documents, strengthening the ultimate work products and providing a value-added opportunity for expertise to be offered to SCAG from partner agencies. One request in this vein would be to engage the TWG on updating SCAG's style guide to facilitate consistency across documents and publications and promote clarity and ease of comprehension across all levels of engagement.

Subject Matter Working Groups In the 2020 RTP/SCS process, SCAG created a number of new issue-specific working groups with expanded memberships to reach a greater spectrum of stakeholders and continued these for the 2024 process. We applaud this proactive step to ensure that more voices are included in the preparation of the Plan. However, the proliferation of new meetings requires jurisdictions to have additional bandwidth to monitor and participate, and there has been little to no interaction from the issue-specific groups with the long-standing TWG. Coupled together this does not allow for member jurisdictions to be adequately engaged on issues across the spectrum and continues to result in silos of information.

Timeline Does Not Allow For Adequate Revision In addition to the structure of working groups, we emphatically recommend the timeline for development of the RTP/SCS be revised in the 2028 cycle to allow for a more robust review process prior to the holidays—or even completion of the whole process before the holidays—that would ensure that comments being provided as part of the public comment period have the opportunity to be fully considered by SCAG staff and the policy committees, and stakeholders and jurisdictions have the opportunity to ensure that comments have been addressed, prior to asking the Regional Council to adopt the final plan. This has been a long-standing concern since the 2012 RTP/SCS iteration where each Plan has been released near the holidays and the public comment period has covered holidays and closures that often make it difficult to find ample time for thorough technical review of the hundreds of pages of documents before comments are provided to governing boards for consideration to submit as official public comment. In this cycle, OCCOG has been

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

forced to convene a special Board meeting simply to be able to offer our comments within the public comment window. Below are the dates from previous iterations that show the compressed timeline for both reviewers and SCAG's response to comments—none of which allowed time for significant changes or updates to the documents after the public comment period.

	RTP/SCS ITERATION			
	2024	**2020**	**2016**	**2012**
Regional Council approve release of DRAFT Connect SoCal document & PEIR to follow.	11/2/2023	11/7/2019	12/3/2015	12/1/2011
SCAG releases draft PEIR	11/9/2023	12/9/2019	12/4/2015	12/30/2011
Comment period closes	1/12/2024	1/24/2020	2/1/2016	2/14/2012
Release of final RTP/SCS & response to comments RTP/SCS	TBD	3/27/2020	3/14/2016	3/20/2012
Release of FINAL PEIR & response to comments	TBD	3/27/2020	3/18/2016	3/19/2012
RTP/SCS & PEIR approval	ETA 4/4/2024	COVID-19; 5/7/2020 & 9/3/2020	4/7/2016	4/4/2012
Length of RTP comment period	71	78	60	75
Length of PEIR comment period	64	46	59	46

Allocate Ample Time for Robust Regional Council Discussion The RTP/SCS and PEIR are both topics that require considered debate and are likely to generate discussion among policy makers. In past iterations, discussion was cut off to accommodate some Regional Council members' travel plans. We strongly recommend that SCAG prepare Regional Council members for a lengthy meeting that will allow for a full and robust policy discussion that does not cut off debate or comment.

Recommendations: Use the TWG as an actual working group to provide review and counsel to SCAG staff in direct support of the work of SCAG policy committees. Have the TWG discuss and provide technical report best practice guidance regarding the style guide used for SCAG's documents and publications. Have liaisons from each subject-matter working group participate in the TWG and ensure TWG members are included in the distribution of materials from issue-specific working groups so TWG members are aware of all ongoing issues and avoid information silos. Begin the RTP/SCS process earlier in the 2028 cycle and release drafts six months earlier to ensure that there is adequate time after the initial draft is released to SCAG to fully respond to and incorporate comments, especially as relates to the need for data corrections. Inform Regional Council members ahead of time that the agenda is lengthy and prepare them to allocate additional time should discussion exceed the normally-allotted two hours for a meeting.

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Irvine, CA 92606

info@occog.com

5. Growth Forecast

OCCOG greatly appreciates the close coordination between SCAG and CDR on behalf of Orange County jurisdictions to ensure the 2024 RTP/SCS growth forecast accurately reflects development agreements; entitlements; current construction and recent construction; open space; and general plan densities.

OCCOG opposes any alternative in the PEIR that does not utilize local input provided through the local input/Local Data Exchange (LDX) process. Any alternative that does not properly reflect all development agreements, open space protections, and recent or ongoing construction submitted by jurisdictions should not be utilized as the preferred alternative.

We also want to restate our appreciation for the LDX process during this iteration whereby SCAG folded in the growth visioning and policies into the initial draft growth forecast that was provided to local jurisdictions for review during the LDX process. OCCOG has staunchly advocated for this approach since the 2012 RTP/SCS development process. The inclusion of the local jurisdiction input submitted on housing and employment directly into the RTP/SCS—and unchanged— demonstrates the successful collaborative visioning along with accurately reflecting entitlements and local policies and plans. We urge SCAG to continue this same process in future iterations.

6. Remain Neutral on Technology

Throughout the documents, there are specific examples of technology identified. It is not SCAG's purview to pick winners and losers in technology; the marketplace will determine dominant technologies. Therefore, it should be noted that these are only examples and that future technologies should not be ignored or excluded from meeting the goals of the RTP/SCS. This will allow the document, including mitigation measures, to be more inclusive of and responsive to changing technological advances.

Recommendation: The RTP/SCS and PEIR documents should emphasize SCAG's desire to facilitate and support innovation, but avoid naming specific technologies or providers (example "TNCs" not "Uber and Lyft" or "zero emissions" instead of "electrification").

7. Maintain Unbiased, Objective Tone

Language throughout the draft Connect SoCal Plan and PEIR and the associated technical reports and appendices has a tendency to be leading and dramatic in its

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

emphasis of certain key issues, such as housing, equity, and land use policy. While these issues are important, using opinion-based and emotionally charged language is inappropriate in this context.

Recommendation: SCAG should remove, wherever applicable, opinion and descriptive language that does not reflect the fact-based, data-driven nature of this critical document in favor of a more unbiased, objective tone that embraces the diversity of the region. Examples of overly emphatic language are outlined in Attachment 1.

8. <u>"Can and Should"</u>

As indicated in the PEIR, state law provides that it is appropriate to indicate in mitigation measures that they "can and should" be implemented where the authority to implement the measures rest with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies' regulatory measures. OCCOG recognizes SCAG's use of the words "can and should" are derived from California Environmental Quality Act (CEQA), at Public Resources Code sections 21081 and 2155.2(b)(5)(B)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitation of SB 375 upon respective local agencies' land use authority, OCCOG deems any language seemingly imposing affirmative obligations contrary to SB 375 inappropriate. As such, the use of the language "can and should" for mitigation measures addressed to local agencies is overreaching. SCAG should therefore add the following qualifier subsequent to each use of "can and should": "where applicable and feasible".

Recommendation: Ensure consistent language in each project-level mitigation measure by adding "<u>where applicable and feasible</u>." This change will clarify that the project-level mitigation measures are a menu of options.

9. <u>Duplicative/Existing Regulations</u>

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g., CEQA review requirements). Under CEQA, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact, and the significance of the impact should be looked at after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigate the impact. Therefore, mitigation measures that simply

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If SCAG opts not to remove mitigation measures that restate existing regulation, then OCCOG requests that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken.

Recommendation: OCCOG proposes the use of: "Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state, and local laws and regulations," and acknowledges SCAG has already included similar language in some mitigation measures.

10. Provide Sources for All Graphics and Tables

When a report of such complexity as the Connect SoCal Plan is produced, it is common for tables, maps, and other graphics to be used or referred to in a manner that could divorce them from the context in which they are presented. For instance, someone may come upon a chart that explains a topic they are researching and could download the image separate and apart from the technical explanation accompanying it in the electronic version of the document. Without original source information embedded in the graphic, information can be spread without proper attribution. We understand that it may "look cleaner" to not include a source, date, and citation for data but best practices for technical reports include adding sources to all graphics. In addition, citing another SCAG report as the source instead of the original data source should be avoided.

Recommendation: Make it a SCAG style guide policy to include the original source and date of all data used in tables, charts, maps, infographics etc. included in all Connect SoCal-related documents. All related documents should also be branded with "Connect SoCal 2024" to differentiate from past and future iterations.

Conclusion

The OCCOG recognizes the immense efforts SCAG undertook to prepare the Connect SoCal 2024 RTP/SCS and PEIR documents. The Plan is the culmination of a multi-year effort focused on incredibly complex technical work and has important and far-reaching policy impacts for our region. It is precisely because of this importance and complexity that we reiterate our concern about the timing of the release of the documents. Our desire is that the preparation of RTP/SCS documents in future cycles will take into account the need to

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

accommodate adequate review, discussion, and revision time for all of the documents. The timeline adopted in the past three cycles makes it challenging to have credible discussion regarding possible changes, because the timeline does not allow for recirculation or full discussion of requested changes. While OCCOG is appreciative of the opportunity to provide public comment, there remains concern that only a few weeks remain for SCAG to prepare responses to comments and amend the documents to ensure that the Regional Council may consider the certification of the PEIR and the approval of the draft RTP/SCS by the April 2024 deadline. With that, we look forward to working with SCAG collaboratively to achieve the schedule.

We appreciate your consideration of all the comments provided in this letter and its attachments and look forward to your responses. It is a shared goal to have an RTP/SCS adopted that is credible and defensible on all levels. If you have any questions, please do not hesitate to contact me or Marnie Primmer, OCCOG Executive Director at (949) 698-2856 or marnie@occog.com.

Sincerely,

Wendy Bucknum
Chair
Orange County Council of Governments

Attachments:

1. Consistency language
2. Matrix of comments on Connect SoCal 2024, PEIR, and Technical Reports

Cc: OCCOG Member Agencies
OCCOG Board of Directors
OCCOG TAC
OCTA Board of Directors
Orange County City Managers

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

ATTACHMENT 1:

Consistency language:

"In order to assess the ability of the Connect SoCal 2024 Plan to meet federal air quality standards and achieve a state greenhouse gas reduction target, SCAG creates small-area projections data for housing, population, and employment, which are known as the Tier 2 traffic analysis zone (TAZ) socioeconomic dataset (SED). Although these data are based in part on input provided by staff from local jurisdictions during the Connect SoCal 2024 Local Data Exchange process, local jurisdictions and projects within the region shall not be held to meet any specific numbers within or aggregates of the TAZ data. Connect SoCal 2024's TAZ-level household and employment projections are created to provide estimated snapshots in time. These projections do not reflect subsequently available information (given that local jurisdictions provided their local input to SCAG between May and December 2022); and, concerning some jurisdictions, they also do not reflect all currently entitled and pending projects. Additionally, the TAZ data do not project the full build-out and realization of localities' general plans; and they do not conform to jurisdictions' current respective housing elements. The local plans and approvals have continued and will continue to evolve; and market forces will continue to play a major role in determining the timing, locations, and different types of development and redevelopment that will occur. Therefore, the applicable jurisdiction(s) should be contacted for the most up-to-date data available.

The TAZ-level household and employment growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. They are advisory and non-binding because they are developed only to conduct required modeling. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level.

SCAG's forecasted regional development pattern (FRDP) is not solely based on the TAZ-level household and employment spatial projections. It is utilized to estimate the overall effect of the many policies, goals, and strategies of Connect SoCal—which should not be uncritically applied, individually or en masse, to any particular project or plan. The TAZ-level household and employment growth projections support the region's ability to model conformity with federal air quality standards and its ability to achieve a state greenhouse gas reduction target; they do not, however, reflect the only set of growth assumptions that may meet these standards and that target.

Therefore, insofar as housing and other laws or grants may require comparisons of projects or plans to Connect SoCal 2024, SCAG's projections that are illustrated in TAZ maps—along with any related documents or modeling outputs—may not be used to determine the inconsistency of any plan or project in the region with Connect SoCal 2024. Given that land use decisions are properly made with attention to local contexts and circumstances, local jurisdictions and other lead agencies shall have

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

the sole discretion to determine a local project's or plan's general consistency and overall alignment with Connect SoCal.

For example, local jurisdictions' plans and approvals may be found to align with Connect SoCal 2024 if they directionally support a number of its objectives, such as by encouraging a mix of housing types that includes more affordable and multi-family housing rather than solely single-family, for-sale housing; providing for more housing located proximate to employment or vice versa; or encouraging increased use of transit, ridesharing, biking, walking or micro-mobility, or hybrid and remote work to reduce commuting trips. Such alignment is an appropriate basis for a local jurisdiction to determine that a plan or project is consistent with Connect SoCal 2024. Such determinations should be evaluated based on (i) the totality of the goals, policies, and objectives of Connect SoCal 2024 and its associated Program Environmental Impact Report (PEIR), and (ii) the attributes of the local project or plan in overall relation to Connect SoCal, and not in a prescriptive manner by applying SCAG's TAZ-level data, any aggregate thereof, or any particular one or more goals, policies, or objectives of Connect SoCal 2024 and its associated PEIR.

This flows logically from the fact that Connect SoCal 2024 includes dozens of stated directives, policies, goals, objectives, and measurements, any number of which may not be individually applicable to any given project or plan. For example, a project that provides new housing units in conformity with a jurisdiction's approved housing element can and should be found to be in overall alignment with Connect SoCal 2024 given housing production's contribution to Connect SoCal 2024 goals and policies, especially those related to affirmatively furthering fair housing, social and economic justice, jobs-housing balance, and the like.

Household or employment growth included in the Connect SoCal 2024 TAZ-level SED and maps may assist in determining consistency with the SCS for purposes of determining a project's eligibility for CEQA streamlining under SB 375 (Cal. Govt. Code § 21155(a)). TAZ-level maps and data may not otherwise be used or applied prescriptively to determine that a project is inconsistent or not in alignment with Connect SoCal 2024 for any purpose, given that myriad other development assumptions could also be found to be consistent or, on balance, aligned with the SCS. Specifically, the TAZ-level data and maps do not supersede or otherwise affect locally approved housing elements, including those adopted in compliance with the 6th Cycle of the Regional Housing Needs Assessment (RHNA)."

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

Contents

Table 1. 2024 RTP/CONNECT SOCAL COMMENTS & GENERAL COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	RTP/SCS NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All documents	Include “2024” in all headers for proper citation/reference since the last plan was also called “Connect SoCal”.
2	General Comment	All documents	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don’t cite SCAG’s Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All documents	Connect SoCal is often referred to as “the Plan”. Capitalize “Plan” consistently throughout all documents.
4	General Comment	All documents	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All documents	If definitions come from specific source or statute, include the reference in the narrative and the glossary.
6	General Comment	All Technical Reports	Add “Technical Report” and “2024” to all technical report page headers’ titles

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#	COMMENT TYPE	PAGE REFERENCE	RTP/SCS NARRATIVE, COMMENT & RECOMMENDATION
7	General Comment	All documents	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
8	General Comment	All documents	Note that when focusing growth in infill settings, existing/planned service areas, and within the planning boundary outside of an agency's legal boundary, otherwise known as "Spheres of Influence" the growth must be feasible
9	General Comment	All documents	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
10	General Comment	All maps and figures with growth forecast data, TAZ data, or forecasted development pattern	Add: language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
11	General comment	All documents	Pertaining to any discussion on farm land lost or at risk, it should be noted that **not all land used for farming is/was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming. Many of these areas are zoned for a different use and land owners farm the land for income until the development applications are approved and construction permits are issued. Additionally, farming was one of the few permitted uses allowed in areas designated flight hazard zones. For example, a great deal of the City of Irvine privately-owned land surrounding the former Marine Air Station El Toro was utilized for farming because no other uses were permitted. Once El Toro was closed, the land was rezoned to permit residential, but continued to be used as farmland for many years. Add notes to language and table or figures that indicate "**not all land used for farming was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming." Update any calculations or clarify language regarding land zoned as farmland or existing land used as farmland that was converted or will be converted to another use.
12	Correction	All pages All documents e.g., 45, 50, 59, 60, 96	References and source citations to the American Community Survey dataset should use the word "estimates" not "sample", e.g., "Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates" or for PUMS: "Source: U.S. Census Bureau; American Community Survey (ACS), Three-Year Public Use Microdata Sample (PUMS), 2019-2021"
13	General Comment	All pages	"state of California" should be "State of California" "county/counties of xxx" should be "County of xxx"

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info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	RTP/SCS NARRATIVE, COMMENT & RECOMMENDATION			
14		Glossary	Add to glossary: 15-minute communities ACS AFFH ASMSA AT AVTA BTU BUILD CAL ITP CALFIRE CAV CCED CCSO communities of color CPAD	CPI CTC DOT EEC FEMA FHSZ FLMA FMMP GDP historically marginalized HQTACs HSD ICT Indigenous populations INFRA LC LMFDS	LMFP MBPS MIP NHHW NHS OCFC PACT Protected populations p.188 Priority communities p.188 PTS PUMS RFM1 RIF RRIF RTPAS SAFETEA-LU SCM1 SCORE	SCP SCRRA SMAQ SOAR SOT SPM SSO TCA TEZ TIF TMO TMP TWMO UBM WHAR12 ZETI
15	Revision	p. 9, second paragraph under "Mobility"	Revise the last sentence and insert the word "safety." For example: "However, more work is needed to be better manage both the viability, **safety,** and reliability…"			
16	Correction	p. 10	RH column. SB 375 was passed in 2008, please delete reference to this as recently passed. "..With the ~~**more recent**~~ passage of SB 375."			
17	Clarification	p. 10; column 1; paragraph 1; last sentence	 "SCAG will collaborate with federal, state and local partners to ensure that the implementation of the Plan helps address existing air-quality challenges, ~~preserve~~ most reasonably utilize natural lands and reduce GHG emissions."			
18	Comment	p. 12, first bullet point under "Focusing on Objectives"	Explain how SCAG aims to make transit the backbone of the transportation system? It seems to contradict the current state of our transit system – low ridership and public safety concerns.			
19	Clarification	p. 12; column 2; paragraph 1; sentence 1	"By 2050, the population of the region is projected in the Plan to increase by two million people, or 11 percent, with an increase of 1.6 million housing units, or 26 percent, and 1.3 million jobs, or 14.2 percent."			
20	Clarification	P. 12, column 2; paragraph 3	"This plan projects that s~~S~~ixty-seven percent of new households and 55 percent of new jobs between 2019–2050 will be located in Priority Development Areas, either near transit or in walkable communities."			
21	Clarification	P. 13, column 2; paragraph 1; last sentence	"Within those elements, the Plan also strives to achieve broader regional objectives, such as increased housing production, improved equity and resilience, the ~~preservation~~ most reasonable utilization of natural lands, improvement of public health, increased transportation safety, support for			

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			the region's vital goods movement industries and more efficient use of resources."
22	Clarification	p. 14 & p. 78	SCAG stated that it is not in charge of implementation, but the graphic and its presentation seems to imply that SCAG is a part of implementation. Make SCAG's role more clear in that it is not in charge of implementation.
23	General comment	p. 26	This Plan includes strategies that were in 2020; therefore, not new ideas. Should Section 2 include a summary of how the last RTP/SCS performed. "Since approval of the 2020 RTP/SCS the region has made great progress in these areas…" What was the performance of the 2020 RTP? A summary of the 2020 RTP/SCS Progress provided on pages 178-179 should be summarized at the beginning of Chapter 2. Where are we at and what needs to be done? There was no initial summary at the beginning of the report, which would have been helpful.
24	Clarification	p. 29; paragraph 3 last sentence	"The history of some transportation and housing policies in both the United States and California demonstrates how racism in government…" "This data shows that 18.4 percent of fatal collisions in 2021 involved non-Hispanic Black victims, who represent just over 6 percent of the population." • Is this 18.4% of walking and biking fatalities or all transportation fatalities? • Cite data source for fatalities.
25	Clarification	p. 31, column 1, paragraph 1	"The COVID-19 pandemic and the response to it impacted the way we live, work and play in the region—and we are still feeling those impacts today. When SCAG's Regional Council adopted Connect SoCal 2020 for all purposes in September 2020…" • Clarify what "for all purposes" was Connect SoCal adopted.
26	Clarification	p. 31, column 1, paragraph 3; sentence 2	"The pandemic response provided additional shocks – a near-zero level of foreign immigration, fewer births and excess deaths from the pandemic itself."
27	Clarification	p. 34, column 2, paragraph 2; last sentence	"These Guiding Principles should be considered as a starting point and may be used as building blocks that agencies and local jurisdictions can adapt to fit their unique needs when making informed decisions regarding emerging technology." • Are agencies required to use these or adapt them for use?
28	Source	p. 35	Second paragraph under Climate Change, what is the source of the information provided.
29	Clarification	p. 38, column 1, paragraph 1; sentence 2	"We are home to an … 109 miles local light rail, serving 108 stations, Amtrak intercity and long-distance services; …" • Clarify 109 phrase
30	Clarification	p. 38, column 2	Add final statement: "Maps contained in Connect SoCal are for general reference and provide snapshots of the region. Please contact the appropriate agency for the most recent information."
31	Clarification	p. 39, map 2.1	• Change "City boundary" in legend to date of city boundary, e.g., "January 1, 2023 City boundaries" • Freeway and highways are difficult to tell apart; change symbology. • Relabel Freeways to Freeways/Toll Roads

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			• Add Year to title • Define bottlenecks or add note referring reader to Technical Report if information is included in another Connect SoCal document.
32	Clarification	p. 40, map 2.2	• Why is map labeled 2019/2022? • Label each layer's year as applicable or add source notes. • Add definitions of rapid bus and bus rapid transit or add note referring reader to where the definitions are.
33	Clarification	p. 41, map 2.3	• Add year to title • Change "City boundary" in legend to date of city boundary, e.g., "January 1, 2023 City boundaries" • Freeway and class 1 bike lanes are difficult to tell apart; change symbology. • Add definitions for lane classifications or refer readers to locations. • Clarify the two sets of bike lanes • Relabel Freeways to Freeways/Toll Roads
34	Clarification	p. 42, map 2.4	• What data year is map displaying? • Change "City boundary" in legend to date of city boundary, e.g., "January 1, 2023 City boundaries" • Freeway and arterials are difficult to tell apart; change symbology. • Relabel Freeways to Freeways/Toll Roads
35	Clarification	p. 45, paragraph 1; sentence 2	"Responses to the COVID-19 pandemic sparked changes in travel behavior and trends, which spotlight what is needed and what is possible for the future of transportation in our region."
36	Clarification	p. 47, column 2; paragraph 2	"The patterns that characterize our communities largely come down to housing and households. Over half of the region's 6.6 million housing units were built before 1980. For the purposes of Connect SoCal, the category of "multi-family" residential units includes townhomes, which are defined by the State of California Department of Finance and the U.S. Census Bureau as single-family homes. The category Connect SoCal refers to as 'multi-family' units that are attached residences, including apartments, condominiums and townhouses. While 54 percent are single-family homes, 46 percent are multifamily homes such as condominiums, townhouses and apartments…"
37	Clarification	p. 47, column 2; paragraph 2; sentence 4	"The predominant form of new housing construction has fluctuated over time—a function of the number of people entering their 20s and 30s (the main household formation years) and other aspects of the housing market, including limited land availability in some parts of the region."
38	Clarification	p. 48, Figure 2.1	Is this the number of permits issued or number of units permitted? DOF doesn't report the number of permits in E-5 file.
39	Revision/Deletion	p. 49	Remove and/or revise the exhibit on this page. It appears that the region is building housing beyond the population growth needs.
40	Clarification	p. 49, column 1; paragraph 1; sentence 2	"…In a high-cost urban megaregion with decreasing family sizes, the single-family-heavy skew of the current housing stock puts homeownership more out of reach for low- and moderate-income households, while also increasing overcrowding rates and travel distances." • Doesn't more single-family units increase the number of options for buyers, which result in a benefit through the ability to build equity?

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41	Clarification	p. 49, column 2 figure	• What was pattern of building 1950-1980? Did we overbuild, underbuild or right-size build? • 2000-2020 "green" housing figures- does this imply we overbuilt in 2000-2020 period? • Is assumption of 3.0 pphh appropriate?
42	Clarification	p. 51, map 2.5	• Add to title "(Jobs per ____square mile?____)" • Relabel Freeways to Freeways/Toll Roads
43	Clarification	p. 52, map 2.6	• Add to title "(per ____square mile?____)" • Relabel Freeways to Freeways/Toll Roads
44	Clarification	p. 53, map 2.7	• Add data year to title • Add link to where land use definitions are • Explain if these are the consolidated land use categories and not the original jurisdiction maps
45	Clarification	p. 54, column 1; sentence 3	"…Years of underbuilding has resulted in a shortfall in the number of units needed to house the region comfortably and created issues such as cost burden and overcrowding." • Define cost burden & include reference source/as defined by… • Define overcrowding & include reference source/as defined by…
46	Clarification	p. 54, column 2; paragraph 2 sentence 1	"The quantitative impacts of the housing crisis, such as overcrowding, cost burden and low home ownership, disproportionately burden communities of color."
47	Clarification	p. 54, column 1; paragraph 1 sentence 5	"Households that spend more than 30 percent of their income on housing are considered cost-burdened~~"overpaying"~~ and will have less income to spend on both essential needs, such as food and transportation, and discretionary purchases." • "overpaying" is not the same as "cost-burdened"- overpaying is associated with the cost of the rent, not the share of income being paid on rent.
48	Clarification	p. 54, column 2; paragraph 1 sentence 1	"A recent comprehensive study on the California homelessness crisis found that the majority (89 percent) of unhoused persons lived in California prior to becoming unhoused, and the primary factors leading to homelessness were economic or social." • List or define the "social" factors.
49	Clarification	p. 54, column 2; paragraph 2 sentence 1	"Out-migration: While the region typically loses more residents to other states and counties than it gains, domestic out-migration increased notably early in the COVID-19 pandemic. While slow or negative growth can reduce projected housing need, domestic out-migration reflects several factors, including the inability or lack of desire of Southern Californians to stay in the communities they call home. Out-migration ~~it~~ is one economic response to a too-small housing supply, alongside overcrowding, cost burden, becoming unhoused, and the suppression of life-cycle ambitions (e.g., household formation and homeownership)."
50	Clarification	p. 56, column 1; paragraph 1 sentence 2	"…Poor ~~l~~Local air quality and the lack of dependable transportation options, active transportation, affordable housing, health care and job opportunities in many SCAG region communities can lead to poor health outcomes."

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51	Clarification	p. 56, column 1; paragraph 2; sentence 1	"Natural lands (see glossary for definition) offer important benefits to the region, including capturing carbon emissions and recharging groundwater resources. However, natural lands have decreased by roughly 50,000 acres, or 0.2 percent, between 2012 and 2019. Farmland decreased by 40,000 acres, or 3.5 percent, between 2012 and 2018. While farming practices can contribute to GHG emissions, these are typically far less than emissions in urban environments, and farm and grazing lands can provide"
52	Clarification	p. 56, column 2; paragraph 3 sentence 4	These conditions are known as the Social Determinants of Health (SDOH), and they help explain why some health outcomes (e.g., rates of asthma or diabetes) vary widely across the region."
53	Clarification	p. 56, column 2; paragraph 4 sentence 1	"The urbanization of the region over the past several decades has led to the consumption of hundreds of thousands of acres of natural land and farmland to house and serve those residents."
54	Clarification	p. 58, column 2; paragraph 1 last sentence	"Communities in the SCAG region that depend primarily on wage income are missing out on the economic prosperity suggested by the growth in GDP by…." • How are they missing out?
55	Clarification	p. 59, Figure 2.3	Change title to "GDP Per Capita and Wage Income, 2010-2021"; current title is commentary.
56	Clarification	p. 59, column 1, sentence 2	"Though the ~~The~~ region's ~~well-diversified~~ economic base is well-diversified, it may not benefit all people in the region equally."
57	Clarification	p. 61, map 2.8	Add data year to title
58	Clarification	p. 62, column 1, paragraph 1, last sentence	"This will likely put additional strain on social, safety-net programs~~retirement funding~~, including Social Security."
59	Clarification	p. 64, column 2, paragraph 1, last sentence	"The program aims to build street-level community resiliency and increase the safety of people most harmed by traffic injuries and fatalities, prioritizing non-Hispanic Black, Indigenous and other people of color;…"
60	Clarification	p. 64, column 2, paragraph 2, last sentence	"Sustainable Communities Program: SCAG helps to advance Connect SoCal through the Sustainable Communities Program (SCP), which has facilitated over $16.9 million in funding to local jurisdictions since…"
61	Clarification	p. 65, column 1, paragraph 1	"Since Connect SoCal was adopted in 2020, transportation agencies and local jurisdictions have taken actions ~~to~~ that implement the Plan." • Actions may or may not be specific to implementing Plan
62	Clarification	p. 65, column 1, paragraph 2, sentence 2	"In March 2021, SCAG adopted its 6th cycle Regional Housing Needs Assessment (RHNA)—based on Connect SoCal 2020's growth vision— by allocating units to cities and counties with the greatest job and …"
63	Clarification	p. 65, column 1, paragraph 2, last sentence	"These actions represent the first time the state provided funding to regions to conduct the RHNA program and support regional housing-planning efforts." • REAP funds were used for SCAG to do RHNA?
64	Clarification	p. 65, column 2, paragraph	"Since Connect SoCal was adopted in 2020, SCAG has gained new responsibility for the selection of transportation projects to be funded with

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		1, sentence 3 & page 67, column 2 callout text in green	federal revenue sources, such as CMAQs, STBG, and CRP. SCAG's project selection process follows a performance-based evaluation and selection approach—and ensures that selected projects further Connect SoCal goals." • SCAG has the power to provide funding for transportation projects? Please provide examples.
65	Correction	p. 68, column 3, paragraph 1, sentence 2	"Because the elements of the PACT were developed jointly, residents were uniquely empowered to cohesively develop their vision for active mobility and recreation in Riverside manner and then codify it through the Complete Streets Ordinance." • "…in Riverside manner" sentence is incomplete
66	Correction	p. 69, column 1, paragraph 1, sentence 2	"The grant application consists of … ~~at twenty-four~~ at 24 intersection locations."
67	Clarification	p. 77, column 2, paragraph 3	"SCAG develops a forecasted development pattern that details where future jobs and housing are projected to ~~will~~ be located, based on expert projection, existing planning documents, regional policies, and review and input by local jurisdictions."
68	Clarification	p. 78	"Implementation: Jurisdictions take action at the local level that may~~to implement work that~~ move~~[s]~~ toward achieving this regional vision."
69	Clarification	p. 79, column 1, paragraph 2, sentence 1	"Consistency and consultation: During the development of the Plan, SCAG reviewed thousands of planning documents. These documents were developed in part by cities, counties and transportation agencies to review~~promote~~ consistency between local plans, the Regional Transportation Plan, and federal and state documents like the California Transportation Plan."
70	Clarification	p. 79, column 2, paragraph 1, sentence 2	"SCAG partnered with 16 community-based organizations, attended 20 pop-up events and collected over 3,600 survey responses." • Please clarify if this is the number of respondents or number of questions answered by respondent providing answer. It is misleading if the answer is the latter and should be clarified.
71	Clarification	p. 80, column 1, paragraph 2, sentence 4	"Consistent with global trends, the older-age population of the SCAG region is steadily growing. Understanding this demographic shift is vital for planning for the future. We want to better comprehend how an older population will live and travel—and how we can ensure they continue to fully engage in their communities. One of the clearest ramifications~~implications~~ is seen in housing demand. Older people tend to live alone or in smaller households. Other major ramifications~~implications~~ include…"
72	Clarification & Correction	p. 81 Table 3.1	Add note: "Numbers may not sum to total due to rounding." Noting the above, the SCAG totals in Table 3.1 and in Table 12 of the Demographics Technical Report do not match—though the county totals do match. The SCAG totals should match across tables and documents.
73	Clarification	p. 82, column 3, paragraph 2, sentence 1	"Reconnecting Communities: Historic physical and economic segregation was caused by some U.S. housing and transportation policies and led to decades of inequalities. We are now planning policies and projects that involve removing, retrofitting or mitigating highways or other transportation facilities that create barriers…"

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74	Clarification	p. 83, column 1, paragraph 2, last sentence	"This program builds street-level community resilience and increase the safety of people most harmed by traffic injuries and fatalities, including without limitation, non-Hispanic Black, Indigenous and other People of Color; …"
75	Clarification	p. 83, column 2, paragraph 2, sentence 1	"Inclusive Economic Recovery Strategy (IERS): This report was developed to address the long-standing social and economic challenges heightened by the responses to the COVID-19 pandemic."
76	Clarification	p. 85, column 1, paragraph 1, last sentence	"The following goals and subgoals will help the SCAG region to achieve this vision:"
77	Clarification	p. 87, first paragraph Mobility Stories	Is the Spring 2023 public outreach survey statistically significant? If not, it would not be an accurate statement to say there is pent up demand for more travel options as the survey data does not capture an accurate sample of the region. If anything, there is pent up demand for travel options for people who took the survey. Explain how a freshman at Santa Ana College (SAC) relies on OC streetcar to get to class. OC Streetcar is not near SAC.
78	Clarification	p. 89	Funding the System/User Fees This paragraph discusses "user fees." Clarify if this is essentially a VMT tax.
79	Clarification	p. 91, column 1, paragraph 1, sentence 3	"But capital investment alone is not sufficient to achieve our vision for the region's future or meet our greenhouse gas (GHG) emission reduction goals set by CARB."
80	Correction	p. 91, column 1, paragraph 1, sentence 2	"Connect SoCal 2024 increases investment and strengthens policy levers to optimize system performance while realizing greenhouse gas ~~reduction~~ reductions quickly and efficiently."
81	General Comment	p. 92	Retitle "Regional Express Lanes Network" to Regional Express Lanes, HOT and Toll Lane Network: The Priced Transportation Network. The text should then provide brief definitions of each type of facility that makes up the priced transportation network, as express lanes, toll roads and HOT lanes each operate differently.
82	Clarification	p. 94, map 3.1	• Add data year to title for Planned Transit Network • The Rapid Bus and Bus Rapid Transit routes are not legible. Additionally, explain where the "SCAG 2022" source derives from.
83	Clarification	p. 95, map 3.2	• Add data year to title • Retitle "Regional Express Lanes Network" to Regional Express Lanes, HOT and Toll Lane Network: The Priced Transportation Network.
84	Clarification	p. 96, column 1, paragraph 2, sentence 3	In the following decade, these ~~this~~ grew by 4.3 percent and 7.0 percent, respectively, sometimes as ~~in more~~ infill or more location-efficient places than in decades prior."
85	Clarification	p. 96, column 2, paragraph	"While the ultimate oversight for this land-use law is the purview of the State Housing and Community Development Department, the allocation methodology was developed and adopted by SCAG's Regional Council with a

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		1, sentence 2-3	clear intent to align regional housing and the climate vision embedded in SCAG's 2020 RTP/ SCS. In contrast to past cycles when RHNA followed anticipated future population growth, the majority of the unit need target (836,857) ~~units~~ was allocated to address existing housing need during the 6th cycle."
86	Clarification	p. 97, column 1; paragraph 3; sentence 1	"As part of developing a Sustainable Communities Strategy per Senate Bill 375 (SB 375), SCAG must include a "forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies…" will enable SCAG to reach its GHG emission reduction target of 19 percent below 2005 levels by 2035, if feasible."
87	Clarification	p. 97, column 1, paragraph 1, sentence 3	"For SCAG's purposes, this represents a framework for making our jurisdictions ~~cities~~ more inclusive, more equitable and more efficient by providing a range of mobility options and overall reduction in…"
88	Clarification	p. 97, column 2	Add the consistency language to end of page: "In order to assess the ability of the Connect SoCal 2024 Plan to meet federal air quality standards and achieve a state greenhouse gas reduction target, SCAG creates small-area projections data for housing, population, and employment, which are known as the Tier 2 traffic analysis zone (TAZ) socioeconomic dataset (SED). Although these data are based in part on input provided by staff from local jurisdictions during the Connect SoCal 2024 Local Data Exchange process, local jurisdictions and projects within the region shall not be held to meet any specific numbers within or aggregates of the TAZ data. Connect SoCal 2024's TAZ-level household and employment projections are created to provide estimated snapshots in time. These projections do not reflect subsequently available information (given that local jurisdictions provided their local input to SCAG between May and December 2022); and, concerning some jurisdictions, they also do not reflect all currently entitled and pending projects. Additionally, the TAZ data do not project the full build-out and realization of localities' general plans; and they do not conform to jurisdictions' current respective housing elements. The local plans and approvals have continued and will continue to evolve; and market forces will continue to play a major role in determining the timing, locations, and different types of development and redevelopment that will occur. Therefore, the applicable jurisdiction(s) should be contacted for the most up-to-date data available. The TAZ-level household and employment growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. They are advisory and non-binding because they are developed only to conduct required modeling. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level.

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			SCAG's forecasted regional development pattern (FRDP) is not solely based on the TAZ-level household and employment spatial projections. It is utilized to estimate the overall effect of the many policies, goals, and strategies of Connect SoCal—which should not be uncritically applied, individually or en masse, to any particular project or plan. The TAZ-level household and employment growth projections support the region's ability to model conformity with federal air quality standards and its ability to achieve a state greenhouse gas reduction target; they do not, however, reflect the only set of growth assumptions that may meet these standards and that target. Therefore, insofar as housing and other laws or grants may require comparisons of projects or plans to Connect SoCal 2024, SCAG's projections that are illustrated in TAZ maps—along with any related documents or modeling outputs—may not be used to determine the inconsistency of any plan or project in the region with Connect SoCal 2024. Given that land use decisions are properly made with attention to local contexts and circumstances, local jurisdictions and other lead agencies shall have the sole discretion to determine a local project's or plan's general consistency and overall alignment with Connect SoCal. For example, local jurisdictions' plans and approvals may be found to align with Connect SoCal 2024 if they directionally support a number of its objectives, such as by encouraging a mix of housing types that includes more affordable and multi-family housing rather than solely single-family, for-sale housing; providing for more housing located proximate to employment or vice versa; or encouraging increased use of transit, ridesharing, biking, walking or micro-mobility, or hybrid and remote work to reduce commuting trips. Such alignment is an appropriate basis for a local jurisdiction to determine that a plan or project is consistent with Connect SoCal 2024. Such determinations should be evaluated based on (i) the totality of the goals, policies, and objectives of Connect SoCal 2024 and its associated Program Environmental Impact Report (PEIR), and (ii) the attributes of the local project or plan in overall relation to Connect SoCal, and not in a prescriptive manner by applying SCAG's TAZ-level data, any aggregate thereof, or any particular one or more goals, policies, or objectives of Connect SoCal 2024 and its associated PEIR. This flows logically from the fact that Connect SoCal 2024 includes dozens of stated directives, policies, goals, objectives, and measurements, any number of which may not be individually applicable to any given project or plan. For example, a project that provides new housing units in conformity with a jurisdiction's approved housing element can and should be found to be in overall alignment with Connect SoCal 2024 given housing production's contribution to Connect SoCal 2024 goals and policies, especially those related to affirmatively furthering fair housing, social and economic justice, jobs-housing balance, and the like.

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			Household or employment growth included in the Connect SoCal 2024 TAZ-level SED and maps may assist in determining consistency with the SCS for purposes of determining a project's eligibility for CEQA streamlining under SB 375 (Cal. Govt. Code § 21155(a)). TAZ-level maps and data may not otherwise be used or applied prescriptively to determine that a project is inconsistent or not in alignment with Connect SoCal 2024 for any purpose, given that myriad other development assumptions could also be found to be consistent or, on balance, aligned with the SCS. Specifically, the TAZ-level data and maps do not supersede or otherwise affect locally approved housing elements, including those adopted in compliance with the 6th Cycle of the Regional Housing Needs Assessment (RHNA)."
89	Clarification	p. 98, map 3.3	Forecasted Regional Development Pattern map shows growth increment of 2019-2050. • Why does this show growth instead of Year 2050 densities? • Remove map or Replace map with Year 2050 densities. • If map is kept, add language "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level." • Relabel Freeways to Freeways/Toll Roads • Add "Growth, 2019-2050" to title
90	Correction	p. 99, column 2, paragraph 1, sentence 1	"The Regional Housing Needs Assessment~~Allocation~~ process takes place every eight years, as required by state law, or every other RTP/ SCS cycle."
91	Clarification	p. 97, column 1, paragraph 1, sentence 3	"PDAs are based on both existing conditions and future infrastructure, meaning that their boundaries reflect a snapshot in time based on data available at the time of Plan development. As such, these boundaries reflect a guide, and the location of PDAs used by local jurisdictions or for various programs or grants may differ." • Sentence unclear. Possibly reword sentence or explain how do the PDA boundaries reflect a snapshot in time. • How do the PDA 'boundaries reflect a guide'?
92	Clarification	p. 101, column 1; paragraph 2; last sentence	"As a result, this Plan projects that only 7 percent of the region's future household growth will be located in SOIs outside of incorporated city boundaries from 2019 to 2050."

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93	Clarification	p. 102, map 3.4	• Add data year to title • The map is not legible; thus, we cannot properly comment on PDA locations. Additionally, explain the "SCAG 2023" derives from.
94	Clarification	p. 103, column 1, paragraph 3, sentence 2	"Therefore, SCAG's approach of de-emphasizing growth in areas with the highest number of convergences is sensitive to market considerations, though some growth may still occur."
95	Clarification	p. 103, column 2, paragraph 4, sentence 2	"These areas at risk of interface fire losses are referred to by law as "Fire Hazard Severity Zones" (FHSZ)." • What are "interface fire losses"?
96	Clarification	p. 104, column 1, paragraph 2	"Endangered Species and Plants: Location and condition of species of rare and sensitive plants, animals and natural communities in California, see regulatory agencies, such as U.S. Fish and Wildlife ." • SCAG should defer to regulatory agencies for definitions and regulations
97	Clarification	p. 104, column 1, paragraph 4	"Natural Community and Habitat Conservation Plans: (NCCP and HCP) These plans identify and provide for the regional protection of plants…"
98	Clarification	p. 105, map 3.5	• Add data year to title • Relabel Freeways to Freeways/Toll Roads
99	Clarification	p. 106, column 1, paragraph 1, sentence 3	"However, we know that alleviating the severity of the housing crisis requires a considerable ~~commiserate~~ commitment of resources."
100	Clarification	p. 109, column 1, paragraph 1, sentence 3	"The region must rise to meet the moment by investing in the adequate supporting infrastructure for all vehicle classes." • Reword "rise to meet the moment"
101	Clarification	p. 109, column 1, paragraph 2, sentence 3	"However, both financial, supply, and infrastructure barriers are keeping many people in the region from transitioning to clean transportation."
102	Clarification	p. 109, column 1, paragraph 3, sentence 3	"Low-income communities are the most impacted from older-vehicle emissions, and an additional rebate program could serve to both accelerate the transition to cleaner vehicles and ensure that the related health benefits also benefit SCAG's Priority Equity Communities."
103	Clarification	p. 111, column 2, last paragraph, sentence 2	"By investing in a more efficient goods movement network, Universal Basic Mobility and improved access to recreational trails, the SCAG region is not only making broad improvements to the general regional economy but is focusing specifically on areas of disparity…"
104	Clarification	p. 111, column 1	"12. Pursue efficient use of the transportation system using a set of operational improvement strategies that maintain the performance of the existing transportation system ~~instead of adding roadway capacity, where possible~~"
105	Clarification	p. 117, column 1	Add new under 41: "Support a mix of housing types throughout the region to support access for all levels of income—including single-family detached homes—to increase opportunity for equity-building through home-ownership for lower-income households.
106	Clarification	p. 118, column 1	"49. Promote ~~Implement~~ the Forecasted Regional Development Pattern of Connect SoCal 2024, consisting of household and employment projections that have been reviewed and refined by jurisdictions and stakeholders to advance this shared framework for regional growth management planning"

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	RTP/SCS NARRATIVE, COMMENT & RECOMMENDATION
107	General comment	p. 119	Climate resilience policies seem to be lacking as far as transportation infrastructure is concerned. Consider policies here that encourage: -embedding climate resilience into transportation infrastructure planning and management -transportation infrastructure capital investments and innovation to scale climate resilience -help communities achieve resilience, safety, health, equity and economic vitality
108	Comment	p. 121, Regional Planning Policy #89 (Tourism)	Encouraging alternative modes of transportation for tourist traveling to the SCAG region does not seem feasible. What other modes of transportation would allow a visitor to easily travel from the airport to the city, to the mountains, to the beach?
109	Clarification	p. 121, column 1	"81. Promote an increased variety of payment credentials for disadvantaged community members and the transition of cash users to digital payment technologies to address payment barriers" • What are "payment credentials"?
110	Clarification	p. 121, column 2	"89. Encourage the reduced use of cars by visitors to the region by working with state, county and city agencies to highlight and increase access to safe alternative options, including transit, passenger rail and active transportation"
111	Clarification	p. 123, column 1; paragraph 1	Add clarification information for the table starting on page 124 by inserting following to page 123's first paragraph: Note that the list of other responsible parties is not exhaustive. The strategies starting on the following page identify areas where SCAG can: • Lead: SCAG may act as a collaboration leader, advocate on state or federal legislation and/or initiate new research in furtherance of SCAG's policies and goals. SCAG already has or will begin to move forward on this strategy. • Partner: SCAG may provide technical assistance or grant resources to jurisdictions, agencies, organizations, and other entities in furtherance of SCAG's policies and goals. Successful implementation of the strategy will depend on other governments, agencies or organizations, and entities. SCAG already has or will begin to move forward on this strategy. • Support: SCAG will provide ongoing support (toolbox Tuesday, provide subject matter expert presentations to elected officials, letters of support in grant applications) to efforts led by other agencies or organizations. While SCAG does not have a direct and tangible role to move forward on this strategy, it remains engaged to provide continued support to advance projects that further SCAG's policies and goals.
112	Clarification	p. 124	• Add table number and table title • Add asterisk to "Other Responsible Parties*" and display footnote on each page: "List of parties is not exhaustive"
113	Correction	p. 124	First strategy – consider adding "performance" to "..regional **performance** targets.."to denote an ongoing process of monitoring and adaptive management.
114	Revision	p. 124, Mobility,	Revise the Strategy #4, SCAG should not take the lead in developing a complete streets network. This type of effort would require

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Irvine, CA 92606

info@occog.com

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		Complete Streets Strategy	
115	Clarification	p. 125	Strategy #6. SCAG role, Partner? (Maybe Support?) SCAG has no land use authority, what would SCAG's role be as Partner.
116	Clarification	p. 125	Strategy #9. Not clear what this strategy entails
117	Clarification	p. 125, 128, 129, 132 Table footnote	"* (Asterisks) denote strategies that support quantified GHG emission strategies that help to reach SCAG's greenhouse gas reduction target set by CARB."
118	Clarification	p. 126	Strategy #3. What's the purpose of developing more TMAs/TMOs? Is this in areas where none TMA's exist? Does CTC initiate this?
119	Correction	p. 127	Strategy #s 5 and 8. Add Transit/Rail Agencies to "Other Responsible Parties" or add an asterisk to say the list of agencies under "Other Responsible Parties" is not exhaustive (unless if others feel its implied)
120	Clarification	p. 128	Strategy #4. This is the only Strategy under which, "Toll Authorities" are mentioned. How are toll authorities defined?
121	Clarification	p. 129, line 2 (second item under Priority Development Areas)	"~~Develop~~ Support housing in areas with existing and planned infrastructure and availability of multimodal options, and where a critical mass of activity can promote location efficiency." Change from "partner" to "support.
122	Clarification	p. 129	Strategy #1. SGC under Other Responsible Parties. Define at first use. (Strategic Growth Council)
123	Clarification	p. 129	Strategy #5, households of color, should this be BIPOC (Black, Indigenous and People of Color)
124	Clarification	p. 131	Strategy #s 2 and 7 No other responsible parties? Local jurisdictions. Private sector companies?
125	Clarification	p. 132	Strategy # 1. The strategy is for PPP but Private Sector Companies are not identified in the Other Responsible Parties
126	Clarification	p. 132	Strategy # 2. The strategy is to assist local jurisdictions, but the SCAG role disposition is "Lead" Consider changing to Support or Partner
127	General comment	p. 132	Natural and Agricultural Lands Preservation. While part of "natural lands" wetlands, due to their importance in the ecosystem should be called out. For example, ref to "..conserve and restore **wetlands**, natural and agricultural lands.." [The PEIR defines *Natural lands as Biologically diverse landscapes such as forested and mountainous areas, shrub lands, deserts and other ecosystems which contain habitat that supports wildlife and vegetation].*
128	General comment	p. 132	Strategy #6. RAMP VMT mitigation. "Work with implementation agencies to support, establish or supplement elective regional advance mitigation programs (RAMP) for regionally significant transportation projects to mitigate environmental impacts, reduce per-capita VMT and provide mitigation opportunities through the Intergovernmental Review Process"
129	General comment	p. 132	Strategy #8. Consider rewording to be consistent with Policy #62 on p119, you typically don't restore wildlife corridors. Suggest, "Support the integration of nature-based solutions into implementing agency plans to address urban heat, organic waste reduction, **protect and restore wetlands**

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			and natural habitats, ~~**habitat and wildlife corridor restoration**~~, greenway **and wildlife** connectivity and similar efforts."
130	General comment	p. 133	Strategy #2. SCAG role should be Partner/Support since local jurisdictions are responsible for developing their own CAPs
131	Clarification	p. 134	Strategy #2. Clarify if MSRC is a SCAG committee
132	Clarification	p. 134	Strategy #8. Who issues the regional/statewide universal permit?
133	Clarification	p. 135, column 1	"Continue to develop an understanding of low-income travel patterns and needs, and the impact of shocks (e.g., ~~COVID~~pandemic response and telework adoption) on low-income travel"
134	Clarification	p. 138	"This chapter … to meet milestones to implement Connect SoCal 2024."
135	Clarification	p. 139; all pages	"FIGURE 4.1 FY2024/25–FY2049/50 RTP/SCS Revenues (in Nominal Dollars, Billions)" • Add full fiscal year identifiers to clarify the years covered in all figures and references
136	Clarification	p. 139; all references to SCAG Financial Model 2023	"SCAG Connect SoCal Financial Model 2023 • Add Connect SoCal reference to sources regarding financial model • P. 150, 154, 155, 156, 171
137	Clarification	p. 139; Figure 4.2	"Operations and Maintenance (O&M) Transit"
138	Clarification	p. 135; column 2, sentence 2	"The COVID-19 pandemic response has had a significant impact on travel patterns and economic activity, and…"
139	Clarification	p. 144; Figure 4.3	• "FIGURE 4.3 Historical Inflation Trends (Year-Over-Year Annual Inflation)" • Add label "Inflation" to Y-axis • Why is inflation only through 2019? • X-axis only shows to 2018
140	Clarification	p. 145; Figure 4.4	Add label "Index (2020=100)" to Y-axis
141	Clarification	p. 146; column 1; paragraph 1; sentence 2	"Suppressed consumer spending during the initial pandemic response period resulted in significant declines in retail sales due to shutdowns in response to the pandemic. Likewise, recessions and economic slowdowns also reduce personal consumption."
142	Clarification	p. 146; column 1; paragraph 2; sentence 2	"…Though changes in regional vehicle miles traveled will continue to play a role during the Plan period, increases in conventional fuel efficiency and the adoption of alternative fuel and alternative-powered vehicles will reduce overall fuel consumption." • What is the reference to "regional" vehicle miles traveled?
143	Clarification	p. 146; column 2; paragraph 3; sentence 1	"At the time of the 2024 Connect SoCal Plan, three decades have passed without substantive Congressional agreement on a long-term solution…"
144	Clarification	p. 153; Table 4.2	• Replace "Total" with "SCAG Region" at bottom of table. • Add note that fiscal year indicates the date the fiscal year ends • Right-justify all data columns.
145	Correction	p. 154; column 1; paragraph 1; sentence 2	"The share of state sources (32 percent) is relatively unchanged since the 2020 ~~last~~ RTP/SCS."

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Irvine, CA 92606

info@occog.com

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146	Clarification	p. 154; Figure 4.8	• Add population share of region into the legend showing the share of revenue.
147	Clarification	p. 157; column 2; paragraph 1; sentence 5	"… These factors include technology and associated privacy issues, cost of implementation and administrative methods for fee collection/revenue allocation and potential equity concerns." • Add Oxford comma to clarify which statement is accurate: • These factors include technology and associated privacy issues, cost of **implementation, and** administrative methods for fee collection/revenue allocation and potential equity concerns." • These factors include technology and associated privacy issues, cost of implementation and administrative methods for fee collection/revenue **allocation, and** potential equity concerns."
148	Clarification	p. 159; column 2; Local Road Charge Program	"Local road charge program assumes a $0.020 (in 2019 dollars) per mile charge throughout the region that can be implemented on a county basis." • How would this be done for residents vs. visitors?
149	Correction	p. 160; column 2	"Transportation Development Act (TDA)… Description: The Local Transportation Fund (LTF) is derived from a ¼ <u>percent</u> ~~cent~~ sales tax on retail sales statewide."
150	Correction	p. 162; column 2; RMRA sentence 2	"Description: The RMRA… Although the RMRA also provides SHOPP funding, for purposes of the <u>2024</u> ~~2020~~ RTP/SCS financial plan, it only reflects the portion directed to counties and cities."
151	Clarification	p. 168; column 1; sentence 2	"Efforts are underway to explore transition from our current fuel tax-based system ~~based~~ to a more direct system of road user fees."
152	Clarification	p. 174; paragraph 2	"The Connect SoCal 2024 performance monitoring program integrates federal transportation system performance management and Equity/Environmental Justice measures and metrics specific to a set of federal transportation conformity planning, reporting requirements for designated criteria air pollutants and to support the achievement of regional greenhouse gas emissions reduction targets established by the California Air Resources Board." • Sentence is incomplete
153	Clarification	p. 178; column 4	~~"$1.00 < $2.00~~ <u>$1.00 = $2.00</u> INVESTMENT BENEFIT $754 <u>Average</u> Annual Transportation Cost Savings per Household 277,800 <u>Average</u> Annual New Jobs from Transportation Investments 480,100 <u>Average</u> Annual New Jobs from Transportation Investments and Increased Competitiveness"
154	Clarification	p. 182; paragraph 2; sentence 2	"Improving the region's mobility and enabling more sustainable development can provide ~~a~~ myriad of co-benefits, including reduced energy and water use."
155	Clarification	p. 183; column 2; paragraph 1; sentence 3	"A livable community is defined by a cohesive, <u>physically</u> active and engaged population."

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156	Clarification	p. 186; column 1; paragraph 2; sentence 3	"However, decreased travel during the shutdowns in response to the COVID-19 pandemic most likely helped the achievement of the 2020 target, so continued effort will be necessary to sustain progress and Plan implementation to reach the 2035 target."
157	Clarification	p. 188; column 1; paragraph 2; sentence 2	"The increased competitiveness and improved economic performance created ~~induced~~ by these expenditures will generate an additional 202,300 jobs per year on average due to enhanced network efficiency."
158	Clarification	p. 188; column 2; paragraph 1; sentence 2	"The purpose of the Equity Analysis is to evaluate the potential impacts of the implementation of the Plan on communities, including both protected populations, as defined by federal regulation, and priority communities, as identified by SCAG and regional stakeholders. The preparation of the Plan ~~report~~ relied heavily…" • Define 'protected populations' and 'priority communities'
159	Clarification	p. 188; column 2; paragraph 2; sentence 1	"One method SCAG used to determine if the Plan caused disproportionate and adverse impacts to historically marginalized and disadvantaged communities is through the identification and assessment of Priority Equity Communities." • Define 'historically-marginalized community'
160	Clarification	p. 188; column 2; paragraph 2; last sentence	"For more detail on the methodology used to develop Priority Equity Communities, see the Equity Analysis in Section… or in Technical Report…."
161	Clarification	p. 189; Map 5.1	• Add year to title • Add note to map: "Priority Equity Communities are census tracts in the SCAG region that have a greater concentration of populations that have been historically marginalized and are susceptible to inequitable outcomes based on several socioeconomic factors."
162	Clarification	p. 191; column 2; line 4	"Number of jobs???employers???~~employments~~ reachable within 15-30~~15/30~~ minutes by automobile and 15-45~~15/45~~ minutes by transit during morning peak period (6 a.m.–9 a.m.), plus 0.5- 0.75-, and 1-mile walksheds and 1-, 3- and 5-mile bikesheds"
163	Clarification	p. 191; column 2; line 5	"Number of retail establishments reachable within 15-30~~15/30~~ minutes by automobile and 15-30~~15/30~~ minutes by transit during the midday period (9 a.m.–3 p.m.), plus 0.5- 0.75-, and 1-mile walksheds and 1-, 3- and 5-mile bikesheds"
164	Clarification	p. 191; column 3; line 1	"This analysis confirmed the typical patterns that ~~of~~ higher income transit riders tend to ride the train, while lower income transit riders tend to ride the bus. Non-Hispanic Black travelers had the lowest automobile mode share, while Hispanic/Latino and non-Hispanic Asian travelers had the highest. non-Hispanic m~~M~~ultiracial travelers reported the highest walking and biking mode shares."
165	Clarification	p. 191; column 3; line 2	"Results anticipate increases in miles traveled on transit and decreases in miles traveled by auto in accordance with the integrated transportation and land use strategies proposed in Connect SoCal. There are slightly greater decreases in person miles traveled for lower income quintiles and for non-Hispanic Black and non-Hispanic Asian travelers."

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166	Clarification	p. 191; column 3; line 3	"Results anticipate increases in time spent on transit and decreases in time spent traveling by auto in accordance with the integrated transportation and land use strategies proposed in Connect SoCal. There are slightly greater decreases in person hours traveled for higher income quintiles and for Hispanic/Latino and non-Hispanic White travelers."
167	Clarification	p. 191; column 3; line 4	"Access to jobs is expected to improve for the overall population in the region and in Priority Equity Communities, however, there are several decreases in auto access to jobs for specific populations in Priority Equity Communities, including non-Hispanic Black, Hispanic/Latino, the two lowest income **quintiles, and** households below the Federal Poverty Level, limited-English proficiency **population, and** zero-vehicle households."
168	Clarification	p. 191; column 3; line 5	"Access to shopping is expected to improve for the overall population in the region and in Priority Equity Communities, however, there are slight decreases in auto access for the non-Hispanic Black population and in bicycle access for the Hispanic/Latino population in Priority Equity Communities."
169	Clarification	p. 192; column 2; line 1	"Percent of population that can reach a park location within 15-3015~~/30~~ minutes by automobile and 15-3015~~/30~~ minutes by transit during the midday period (9 a.m.–3 p.m.), plus 0.5- 0.75-, and 1-mile walksheds and 1-, 3- and 5-mile bikesheds"
170	Clarification	p. 192; column 2; line 2	"Number of schools within 15-3015~~/30~~ minutes by automobile and 15-3015~~/30~~ minutes by transit during morning peak period (6 a.m.–9 a.m.), plus 0.5- 0.75-, and 1-mile walksheds and 1-, 3- and 5-mile bikesheds"
171	Clarification	p. 192; column 2; line 3	"Number of health care facilities within 15-3015~~/30~~ minutes by automobile and 15-3015~~/30~~ minutes by transit during the midday period (9 a.m.–3 p.m.), plus 0.5- 0.75-, and 1-mile walksheds and 1-, 3- and 5-mile bikesheds"
172	Clarification	p. 192; column 3; line 1	"…The largest decreases are for non-Hispanic Hawaiian-Pacific Islander and non-Hispanic Native American populations where the decrease in auto access in Priority Equity Communities exceeds the regional change; and for the non-Hispanic Native American population where the decrease in bicycle access in the region exceeds the decrease in Priority Equity Communities. "
173	Clarification	p. 192; column 3; line 2	"Access to schools… while transit access decreases for non-Hispanic Black people and zero-vehicle households in the region but increases for the same populations in Priority Equity Communities. "
174	Clarification	p. 192; column 3; line 3	"Access to healthcare… except for auto decreases for non-Hispanic Black and Hispanic/Latino populations, all but the highest income quintile, and all other priority populations analyzed in Priority Equity Communities, despite increases at the regional level. "
175	General comment	p. 193	The section on "Other Freeway or Expressway" should be expanded to include a detailed coding of the region's freeway system (mixed-flow lane, auxiliary lane, HOV lane, HOT lane, toll lane, and truck lane, toll roads, etc.)
176	Clarification	p. 193; column 3; line 3	"Gentrifying neighborhoods and those with high eviction filings had higher percentages of non-Hispanic Black and Hispanic/Latino people…"
177	Clarification	p. 193; column 3; line 4	"In the base year, there is a higher concentration of low-income people???households???and some people of color in areas adjacent to railroads and railyards, and it is expected that this concentration may~~could~~ grow in the Baseline and Plan scenarios. SCAG anticipates nominal Plan

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Irvine, CA 92606

info@occog.com

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			impact, and that population changes would generally follow that of the SCAG region."
178	Clarification	p. 194; column 3; line 1	"The forecasted growth patterns included in the Plan reduced risks for non-Hispanic Asian households in earthquake zones, nominal changes to existing exposures to sea level rise, wildfires, extreme heat, drought and earthquake hazards. Although impacts from climate-related hazards are not always geographically isolated, overall non-Hispanic White populations reside disproportionately in climate hazard zones."
179	Clarification	p. 194; column 3; line 3	"…In 2050, non-Hispanic Asian and foreign-born populations are expected to grow in freeway-adjacent areas, though there are no significant differences with the Plan. Emissions reductions in freeway-adjacent areas are significant compared to the share of the region's total land area, but the Plan impact is still expected to be more pronounced in the region, compared to the freeway-adjacent areas, including areas that overlap with Priority Development Areas. Non-Hispanic Black…"
180	Correction	p. 195	Map 4-1. The Toll Roads in Orange County are not Interstate Highways, suggest adding a Toll Roads category or code as Other Freeway
181	Clarification	p. 195; column 3; line 1	"Increased air passenger demand itself has not resulted in increased aviation noise exposure, as increased air passenger activity but reduced aircraft operations have resulted in reduced aircraft noise." • Sentence is incomplete; please reword
182	Clarification	p. 195; column 3; line 4	"The Plan is expected to invest a greater proportion into projects that benefit the lowest income quintile, and non-Hispanic White, non-Hispanic Black and people who identify as another race (i.e., non-Hispanic Native American, non-Hispanic Native Hawaiian/Pacific Islander, some other non-Hispanic race alone, and two or more non-Hispanic races) compared to other income quintiles and Hispanic/Latino and non-Hispanic Asian populations."
183	Clarification	p. 196; column 3; line 1	"… Taxes that help fund projects in the Plan are expected to fall more heavily on non-Hispanic White and non-Hispanic Asian households."
184	Clarification	p. 197; column 1; sentence 4	"…Connect SoCal 2024 investments by race and ethnicity are more complicated; the Plan is expected to spend more on projects that non-Hispanic White and non-Hispanic Black people are more likely to use compared to Hispanic/Latino and non-Hispanic Asian travelers."
185	Clarification	p. 199; column 2	"Active Transportation (AT) – …"
186	Clarification	p. 200; column 1	"ADU – Accessory Dwelling Unit – A space, room or set of rooms in a residential unit ~~singlefamily home (and in a single-family zone)~~ that has been designated or configured to be used as a separate dwelling unit and has been established by a permit."
187	General comment	p. 201	The Regional Express Lanes Network discussion should be expanded to include HOT lanes and Toll Roads. Orange County Toll Roads are not categorized as express or HOT lanes, but collect tolls as a means of insuring low-emission, free-flow capacity and funding the construction and operation of the facility. TCA-operated Toll roads integrate with express lane and HOT lane facilities via the common FasTrak technology that allows inter-operability and convenience for drivers

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188	Clarification	p. 202; column 1	"CARB – California Air Resources Board (ARB) – California state…"
189	Clarification	p. 202; column 2	"CEHD – … This committee reviews projects, plans and programs of regional significance for consistency and conformity with applicable regional plans." • The CEHD is responsible for reviewing projects, plans and programs of regional significance for consistency and conformity with applicable regional plans? Is this the responsibility of the TCWG?
190	Clarification	p. 204; column 1	Add criteria pollutants
191	Clarification	p. 204; column 2	Add EEC
192	Clarification	p. 206; column 2	"GIS – Geographic Information System – Mapping software that links information about where things are with information about what things are like. GIS allows users to examine relationships between features. These include those distributed unevenly over space, seeking patterns that may not be apparent without using advanced techniques of query, selection,analysis and display."
193	Clarification	p. 206; column 2	"Greenfield – Also known as "raw land," land that is privately owned, lacks urban services, has not been previously developed, and is located at the fringe of existing urban areas." • "and is located at the fringe" or should it be "or ~~and~~ is located at the fringe"? • Add where the definition comes from. • Could this be publicly owned?
194	Clarification	p. 207; column 1	"GRRA – Green Region Resource Areas – Derived from SB 375 statute and Connect SoCal 2020 strategies, GRRAs highlight where future growth is not encouraged by SCAG due to presence of open space, habitats, farmland, and/or sensitivity to natural hazards and a changing climate."
195	Clarification	p. 207; column 1	"Habitat Connectivity – The extent~~degree~~ to which the landscape facilitates animal movement and other ecological flows." • Add where the definition comes from.
196	Clarification	p. 207; column 2	"Household – A household is a housing unit that is occupied by people and consists of all the people who occupy the ~~a~~ housing unit. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit, such as partners or roomers, is also counted as a household."
197	Clarification	p. 208; column 1	"IGR – Intergovernmental Review Process – The review of documents by several governmental agencies to consider~~ensure~~ consistency of regionally significant local plans, projects and programs with SCAG's adopted regional plans."
198	Clarification	p. 209; column 1	LAFCO~~LAFCo~~ – Local Agency Formation Commission – Regional service planning agencies of the State of California that exercise regulatory and planning powers. LAFCO~~LAFCo~~s regulatory powers are outlined in California Government Code Sections 56375 and 56133.

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199	Clarification	p. 209; column 1	"Livable Communities (LC) – Any…"
200	Clarification	p. 209; column 2	"Livable Corridors (LC) – Livable…"
201	Clarification	p. 209; column 2	"MAP-21 – Moving Ahead for Progress in the 21st Century – Signed into law by President Obama on July 6, 2012. Funding surface transportation programs at over $105 billion for fiscal years ending in (FY) 2013 and 2014, MAP-21 was the first long-term highway authorization enacted since 2005."
202	Correction	p. 210; column 1	"Measure A – Revenues generated from Riverside County's local half-percent~~cent~~ sales tax. Measure D – Revenues generated from Imperial County's local half-percent~~cent~~ sales tax. Measure I – Revenues generated from San Bernardino County's local half-percent~~cent~~ sales tax. Measure M – Revenues generated from Orange County's local half-percent~~cent~~ sales tax. Also refers to Los Angeles County's local, half-percent~~cent~~ sales tax which was authorized in 2018. Measure R – Revenues generated from Los Angeles County's local half-percent~~cent~~ sales tax."
203	Clarification	p. 211; column 1	"Multifamily Residential – For the purposes of the RTP/SCS, the category of "multi-family" residential units include townhomes, which are defined by the State of California Department of Finance and the U.S. Census Bureau as single-family homes. The category Connect SoCal refers to as 'multi-family' units are attached residences, including apartments, condominiums and townhouses. Multifamily residences are usually served by all utilities, are on paved streets, and are provided with or have access to all urban facilities such as schools, parks, and police and fire stations. Senior citizen apartment buildings are included in these classes. Also included are off-campus university-owned housing and off-campus fraternity/sorority houses." • Townhomes are single-family homes as defined by the State of California DOF and the U.S. Census Bureau.
204	Clarification	p. 211; column 1	"Natural Lands – Biologically diverse landscapes, such as forested and mountainous areas, shrub lands, deserts and other ecosystems, that contain habitat that supports wildlife and vegetation." • Add where the definition comes from.
205	Clarification	p. 211; column 2	"NIMBY – Not in My Backyard – The phenomenon where people oppose the location of a development perceived as undesirable (e.g., housing, landfill, freeway expansion) in their own neighborhood, and often ~~but~~ raise no objections of similar developments elsewhere."
206	Clarification	p. 213; column 1	"PEC – Priority Equity Communities – (Formerly Environmental Justice Areas, Disadvantaged Communities and Communities of Concern) Census tracts in the SCAG region with a greater concentration of populations that have been historically marginalized and are susceptible to inequitable outcomes based on several socioeconomic factors. *For more information, see the Equity Analysis Technical Report." • Define historically marginalized • Define socioeconomic factors

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Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	RTP/SCS NARRATIVE, COMMENT & RECOMMENDATION
			• List source of the definition
207	Clarification	p. 214; column 1	"Proposition 1A – Passed by California voters in 2006, Proposition 1A…"
208	Correction	p. 214; column 2	"Proposition A – Revenues generated from Los Angeles County's local half-percent~~cent~~ sales tax. Los Angeles County has three permanent local sales taxes (Propositions A and C, and Measure M) and one temporary local sales tax (Measure R). Proposition C – Revenues generated from Los Angeles County's local half-percent~~cent~~ sales tax. Los Angeles County has three permanent local sales taxes (Propositions A and C, and Measure M) and one temporary local sales tax (Measure R)."
209	Clarification	p. 218; column 2	"Small-Lot Development – A practice that allows for the subdivision of lots located within existing multifamily and commercial zones to develop fee-simple housing. Typically, small lot developments are not required to be part of a homeowner's association, thus reducing the cost for home buyers." • What is "fee-simple housing"?
210	Clarification	p. 219; column 1	"Sustainable Development – Sustainable development ***can support the region to thrive with essential*** resources that maintain quality of life and a growing economy in the present, such as water, energy and food supply, while also enabling future generations to thrive amidst both forecasted and unforeseen challenges." • Reword beginning of sentence (italics) to provide clarity; are the "essential resources" water, energy, food supply?
211	Clarification	p. 219; column 2	"TC – Transportation Committee – SCAG Policy Committee used to study problems, programs and other matters that pertain to the regional issues of mobility, air quality, transportation control measures and communications."
212	Clarification	p. 220; column 2	"Transportation Equity Zones (TEZs) – Communities across the SCAG region most impacted by transportation-related inequities"
213	General comment	p. 221	Congestion pricing discussion should include Toll roads and express/HOT lane networks that charge users a fee for travel, but typically offer less congested traffic lanes than nearby freeways and roadways. Reduced congestion provides improved and more efficient mobility with fewer air pollutants and GHG emissions caused by congestion.
214	Clarification	p. 221; column 1	"Universal Basic Mobility (UBM) – Programs that provide qualified residents with subsidies for transit and other mobility services. Urban Areas (UZA) – Urban Areas in the SCAG region represent densely developed territory and encompass residential, commercial and other nonresidential urban land uses where population is concentrated over 2,500 people in a given locale."
215	Clarification	p. 222; column 1	"Vehicle Revenue Hours – The hours that a public transportation vehicle actually travels while in revenue service. Vehicle revenue hours include layover/recovery time, but exclude deadheading (vehicles not in service and driving without passengers), operator training, vehicle maintenance testing, and school bus and charter services."

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	RTP/SCS NARRATIVE, COMMENT & RECOMMENDATION
216	Clarification	p. 227; column 2; last paragraph; last sentence	"Staff gathered input from residents primarily via a survey that provided contextual and educational information. <u>The outreach activities include:</u>"
217	Clarification	p. 227; column 2	"Public survey: 3,600+ responses" • Please clarify if this is the number of respondents or number of questions answered by respondent providing answer. It is misleading if the answer is the latter and should be clarified.

Table 2. PEIR COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	PEIR	General: For an EIR document, is it appropriate to use first-person references (e.g., "our expansive goods movement" or "our region"), or should an EIR, as an information document, exclude such first-person references and use "the SCAG region" or something similar?
2	General Comment	PEIR	GHG Emission Reduction Target: The Draft EIR makes reference throughout the document of the SCAG GHG emission reduction target being "19% below 2005 levels by 2035." Should these references identify that this is a per capita reduction target, to eliminate any potential misunderstanding of the 19% 2035 reduction target equaling the 2005 GHG emissions at the regional level, minus 15% of that regional total level?
3	General Comment	PEIR	Many of the source citations in the GHG Emissions chapter cite sources dated from 2007, 2016 and 2017. What is the protocol for the using up-to-date source references? Are these from prior documents and perhaps need to be updated? Or were they used because the analysis and source material were to relate to the Plan's 2019 Existing Conditions base year?
4	General Comment	PEIR	<u>GHG Emission Reduction Target</u>: The Draft EIR makes reference throughout the document of the SCAG GHG emission reduction target being "19% below 2005 levels by 2035." Should these references identify that this is a <u>per capita</u> reduction target, to eliminate any potential misunderstanding of the 19% 2035 reduction target equaling the 2005 GHG emissions at the regional level, minus 15% of that regional total level?
5	General Comment	All maps All documents	All maps in all reports/documents need to be branded with 2024 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular items and the maps need to be standalone documents.
6	General Comment	All pages; tables; figures	Black font on teal background is difficult to read in tables and figures
7	General Comment	All tables	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
8		ES-4; bullet 3	"Orange County. Orange County covers an area of <u>799</u>~~948~~ square miles. Anaheim is the city with the highest population level in the county, with approximately 347,000 people in 2019. Overall, the county had 3,191,000 residents that year."

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			• County of Orange Surveyor/Public Works' official information is that OC covers ~799 square miles. This does not include city boundaries that extend approximately 3 miles off the coastline, which is included by the U.S. Census Bureau from which the 948 estimate is cited. • Update land totals for Ventura and Los Angeles Counties to remove the ocean census tract area if U.S. Census Bureau geographic information was used
9	Transportation Network	ES-5	The inventory of the bus routes mileage on page ES-5 warrants some clarification. Clarify whether the total miles of bus routes includes or excludes the separately listed bullet of express bus lanes miles. Specifically, is the 2,302 miles of express bus lanes a subset of the 33,485 miles of total bus routes listed, or a separate and additive inventory.
10	Land Uses	ES-5	Incorrect, interchangeable use of "households" versus "housing units". Please see revised wording below. "The SCAG region is comprised of complex patterns of land uses including residential, commercial/office, industrial, institutional, agricultural, and open space land uses. The region has incredible diversity in its built environment and land use patterns (see Map ES-4, Existing Land Use, below). As of 2019, the SCAG region has a total of approximately 6.5 ~~6.2~~ million housing units ~~households~~ in its housing stock, with over half of the housing units ~~households~~ having been built before 1980. While 54 percent are single-family homes, 46 percent are attached ~~multifamily~~ homes—generically referred to as multi-family units for the purposes of Connect SoCal—such as condominiums, townhouses, and apartments. There are about 6.2 million households in the SCAG region (occupied housing units). …"
11	Clarification	ES-6; paragraph 2; sentence 1	"The Plan was also developed to achieve state targets for greenhouse gas (GHG) emissions reductions…"
12	Clarification	ES-7; footnote; sentence 4	"SCAG used its best efforts to incorporate the RHNA, but the data is inherently incomplete because only 12 of 197 jurisdictions had certified housing elements in May 2022, and some local jurisdictions may not be required to complete rezoning associated with housing elements until October 2024." • Is the October 2024 date accurate? The statement is unclear on if some jurisdictions have other deadlines before or after the date mentioned. Please check dates against statute and update as applicable throughout all documents regarding this topic.
13	Financial Plan	ES-11; 2-30	EIR states that "Transit-related costs comprise the largest share of O&M costs for the region, totaling approximately $250 billion." (1) Please refer the reader to the applicable table (Table 2-5, pp. 2-30 and 2-31). (2) Does "transit" include both bus and rail transit? Also, does transit include "passenger rail"?

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3972 Barranca Parkway, Ste. J127
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			(3) Table 2-5, page 2-31, identifies Transit O&M as $244.5 billion, in contrast to the $250 billion cited on page ES-11. Please review and correct.
14	Alternative 1: No Project Transportation Network	ES-12 4-9	Page ES-12 of the EIR states that the Alternative 1: the No Project Alternative includes the first two years of transportation projects in the previously-conforming RTP or FTIP. Other sections of the EIR (e.g., page 4-9) reference that Alternative 1 includes the first year of programmed transportation projects. Review and confirm and make consistent in the EIR document: is it one or two years of transportation programming that is included in Alternative 1?
15	Correction	ES-13; paragraph 2; sentence 1	"As discussed in Chapter 4, Alternatives, the summary comparison for the No Project Alternative, Intensified Land Use Alternative, and the Plan is presented in ~~Error! Reference source not found.~~7, Comparison of Significant Adverse Environmental Impacts for Connect" • Insert missing information
16	Clarification	ES-15; paragraph 2	Provide a clear statement here to the following effect: All mitigation measure recommendations to project sponsors and agencies are advisory. Lead agencies are responsible for identifying and addressing those measures they deem practical and feasible, or applicable to specific projects. This would remove the need to start every project level mitigation by stating, "Project-level mitigation measures can and should be considered by lead agencies as applicable and feasible."
17	Mitigation Measures: Project level	ES-18 to ES-77	The project level mitigation measures use various terminology to allow the Lead Agency to determine if EIR mitigation measures are applicable and reasonable for a project. Phrases used in the EIR include: • "as applicable and feasible" • "to the maximum extent practicable" * "wherever practicable and feasible" * "wherever feasible" a) Make the reference consistent in phrasing across all project-level mitigation measures. b) Apply said phrasing to all the project-level mitigation measures.
18	Mitigation Measures: Project level	ES-18 to ES-77	Many of the mitigation measures seem to reference policies, procedures, best practices, and documents from other agencies (e.g., Caltrans, air districts, etc.). a) When referencing other agency documents (such as PMM-AQ-1(i) that references Caltrans' Standard Specifications 10-Dust Control, 17-Watering and 18: Dust Palliative), is it better to just reference that a project should consider applicable Caltrans and other agency specifications, rather than detailing the specific reference documents, which may be amended over time and the references could have the potential to be outdated over the four years of the RTP/SCS Plan? b) Many of the mitigation measures contain an extensive inventory of "best practices" from other agencies. Where does one establish a line as to what constitutes a "best practice" versus a "mitigation measure"? Would many of these other agency "best practices" that are inventoried in the mitigation measures, be duplicative of comments that are received by the Lead Agency from said agencies, as part of an environmental review process of a specific project, or in conjunction with applying for a permit? What is the

Orange County Council of Governments

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			appropriate level of detail of other agency requirements that should be listed in the EIR, especially as mitigation measures?
19	Mitigation Measures: PMM-AES-1	ES-18	To address aesthetic impacts, MM PMM-AES-1 (c) includes language that the Lead Agency "Design new corridor landscaping to respect existing natural and man-made features and to complement the ***dominant landscaping*** of the surrounding areas." How would this emphasis on maintaining consistency with the surrounding area's dominant landscaping, conflict with efforts to support drought tolerant landscaping? There are other efforts already being conducted by local jurisdictions and county transportation commissions, which fund the removal of non-drought tolerant landscaping and replace it with drought tolerant landscaping as well as water conserving irrigation systems. How should the mitigation measure be amended, to best address potentially conflicting objectives between aesthetics and drought-tolerance?
20	Mitigation Measures: PMM-AES-2	ES-19	To address existing visual character and public views, MM PMM-AES-2 references Lead Agency measures such as developing design guidelines for projects, to make elements of proposed buildings and facilities visually compatible or to minimize the visibility of changes. While one recognizes that the proposed mitigation measure does emphasize that the application of the Mitigation Measure is *as applicable and feasible* by the Lead Agency, there lacks a sensitivity or recognition that for some residential projects, the looks, mass, height and general character of ministerial and by-right projects will not be negotiable between a Lead Agency and a project developer.
21	Mitigation Measures: SMM-AG-3	ES-21	To address farmland preservation, MM SMM-AG-3 references SCAG's development of the Greenprint web-based tool. a) The mitigation measure should identify that the Greenprint Tool is an <u>elective</u> tool for local jurisdictions and county transportation commissions. b) As referenced in the mitigation measure, is "scenario visualization" a component of the Greenprint Tool, with the current recommended directive that the Tool start small? c) Propose that the mitigation measure language be revised as follows: "... to support local jurisdictions and transportation agencies make ~~better~~ <u>informed</u> land use and transportation infrastructure decisions....".
22	Clarification	Table ES-3; ES-24	“PMM-AQ-1 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards<u>, where applicable and feasible</u>. Such measures may include the following or other comparable measures identified by the lead agency:”
23	Mitigation Measures: PMM-AQ-1: Enhanced Filtration Units	ES-26 ES-27	Mitigation Measure PMM-AQ-1(z) includes an extensive inventory of enhanced air filters monitoring, inspection and maintenance program, for projects located with 500 feet of freeways and other sources. The last element of the program requires the Lead Agency to "Develop a process for evaluating the effectiveness of the enhanced filtration units."

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			This last element seems to bring into question whether the enhanced air filters are effective, while nonetheless recommending a series of actions relating to their installation. Please clarify and appropriately re-word.
24	Mitigation Measures: PMM-AQ-1: Title 24 Building Code	ES-28	Mitigation Measure PMM-AQ-1(cc) states that a Lead Agency "Promote energy efficiency and ~~***exceed***~~ Title-24 Building Code Envelope Energy Efficiency Standards (California Building Standards Code). Clarify the appropriateness of a mitigation measure that seeks a Lead Agency to ask for exceeding state code requirements.
25	Mitigation Measures: PMM-AQ-1: Construction Period	ES-29	Mitigation Measure PMM-AQ-1(ee) states that a Lead Agency should consider whether to "Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time." Is this a recommended practice that is currently in place? Please clarify how the construction period would be lengthened? Is this to extend the construction period (e.g. hours) during the day, or ~~how many~~ the number of days of the week when construction could occur, or to ask a developer to take a longer amount of time to develop the project? Is this a realistic ask?
26	Mitigation Measures: PMM-AQ-1: Construction Period	ES-29	Mitigation Measure PMM-AQ-1(ee) states that a Lead Agency should consider whether to "Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time." Is this a recommended practice that is currently in place? Please clarify how the construction period would be lengthened? Is this to extend the construction period (e.g. hours) during the day, or how many days of the week when construction could occur, or to ask a developer to take a longer amount of time to develop the project? Is this a realistic ask?
27	Clarification	Table ES-3; ES-30	"PMM-AQ-2 For p~~P~~rojects subject to California Environmental Quality Act (CEQA) review (i.e., non-exempt projects) and located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and within one-quarter mile (1,320 feet) of a sensitive land use, project leads, as applicable and feasible, should~~shall~~ prepare an air quality analysis that evaluates potential localized project air quality impacts in conformance with SCAQMD methodology for assessing localized significance thresholds (LST) air quality impacts. If air pollutants are determined to have the potential to exceed the SCAQMD-adopted thresholds of significance, the project should~~shall~~ incorporate feasible mitigation measures to reduce air pollutant emissions."
28	Clarification	Table ES-3; ES-30-31	"PMM-BIO-1 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species, and species that meet the definition of "rare" as defined in CEQA Guidelines Section 15380(b)(2), where applicable and feasible."
29	Clarification	Table ES-3; ES-32	"PMM-BIO-2 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
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info@occog.com

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			should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities, where applicable and feasible. Such measures may include the following or other comparable measures identified by the lead agency:"
30	Mitigation Measures: PMM-BIO-3: In-lieu fees vs in kind services	ES-34	Mitigation Measure PMM-BIO-3() states that wetlands compensatory mitigation can include "Contribution of in-kind in-lieu fees." Is this an error and perhaps should read "Contribution of in-kind services or in-lieu fees"? In-kind typically refers to the payment of goods or services, as opposed to monies.
31	Clarification	Table ES-3; ES-34	"PMM-BIO-3 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands, where applicable and feasible."
32	Clarification	Table ES-3; ES-35	"PMM-BIO-4 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement, where applicable and feasible."
33	Mitigation Measures: PMM-BIO-4: Open space/nursery site areas	ES-37	Mitigation Measure PMM-BIO-4(p) identifies that where an RTP/SCS or other regionally significant project has the "potential to impact ***other open space or nursery site areas,*** " that compensatory coverage should be sought. The mitigation measure should clarify what is "other open space". Also, the reference to "nursery site areas" should be expanded to reference what type of nursery site area is governed by this mitigation measure. All plant nurseries, including commercial nurseries? And how would this address wildlife movement, which is the emphasis of the mitigation measure?
34	Mitigation Measures: PMM-BIO-4: Corridor Redundancy	ES-38	Mitigation Measure PMM-BIO-4(v) identifies that one comparable measure to address wildlife movement impacts, is to "Create corridor redundancy to help retain functional connectivity and resilience." The mitigation measure should include clarification on exactly what type of corridor redundancy is being recommended, to avoid confusion between a transportation corridor versus a wildlife or other corridor that the mitigation measure is addressing.
35	Clarification	Table ES-3; ES-38	"PMM-BIO-5 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources, where applicable and feasible."
36	Mitigation Measures: PMM-BIO-4: Tree Removal Timing	ES-39	Mitigation Measure PMM-BIO-5(h) identifies that debris to be removed as a result of tree removal work should be done within ***two weeks*** of debris creation. Recommend that the timing also include the phrase "or as determined by the local jurisdiction", to allow for compliance with any local agency requirements or timing needs.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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37	Clarification	Table ES-3; ES-40	"PMM-BIO-6 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs, where applicable and feasible."
38	Clarification	Table ES-3; ES-40	"PMM-CUL-1 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, where applicable and feasible."
39	Clarification	Table ES-3; ES-43	"PMM-CUL-2 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains, where applicable and feasible."
40	Clarification	Table ES-3; ES-44	"PMM-GEO-1 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider, where applicable and feasible, mitigation measures to minimize the potential for adverse effects associated with surface fault rupture, seismic ground shaking, seismic-related ground failure, liquefaction, and landslides for projects located on sites with unusual geologic conditions, the following measures should ~~shall~~ be considered:"
41	Clarification	Table ES-3; ES-45	"PMM-GEO-2 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to geological impacts, where applicable and feasible."
42	Clarification	Table ES-3; ES-46	"PMM-GEO-3 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources, where applicable and feasible."
43	Clarification	Table ES-3; ES-47	"PMM-GHG-1 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions, where applicable and feasible."
44	Mitigation Measures: PMM-GHG-1: EV	ES-48 ES-49	To promote GHG reduction, Mitigation Measure PMM-GHG-1(a)(ix), 1(j)iv and (l) promote electric vehicle infrastructure. Is the draft EIR solely promoting electric vehicle infrastructure, or should these references also include other alternative-fueled infrastructure, such as hydrogen? Also please see other minor comments on MM PMM-GHG-1 in the attached scanned document.
45	Mitigation Measures: SMM-LU-1: Siting New Facilities	ES-60	Mitigation Measure SMM-LU-1 requires SCAG to work with agencies and jurisdictions "when siting ***new facilities*** in residential areas...". Does this reference apply to new facilities related to transportation, such as new roads and freeways? If so, please include this clarifier, to prevent any misunderstanding on the types of new facilities the mitigation is supposed to address.
46	Clarification	Table ES-3; ES-60	"PMM-HYD-4 …Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. In areas affected by coastal flooding, new projects should be designed for

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			resilience against ~~with~~ 3.5 feet ~~of~~ sea-level rise, as per California Ocean Protection Council's strategic guidance."
47	Clarification	Table ES-3; ES-64	"PMM-NOI-2 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards, where applicable and feasible."
48	Mitigation Measures: PMM-POP-1	ES-66	Impact PPO-2 identifies that proposed Mitigation Measure PMM-POP-1 is to address the displacement of existing people and housing. PMM-POP-1(a) also includes a reference to the impacts of businesses on transportation route alignments. Please clarify if this mitigation measure is to apply to both existing homes and businesses, and if so, make the project impact and mitigation measure consistent in applicability.
49	Clarification	Table ES-3; ES-70	"PMM-TRA-1 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation impacts, where applicable and feasible. Such measures may include the following or other comparable measures identified by the lead agency: For future land use development projects, lead agencies should~~shall~~ encourage the incorporation of transit, bicycle, pedestrian, and micro-mobility facilities, features, and services"
50	Mitigation Measures: PMM-TRA-2 FHWA Document Reference	ES-71	Mitigation Measure PMM-TRA-2 addresses the consideration of TDM strategies in land use and transportation projects and plans. Said mitigation measure references, as guidance, an FHWA 2012 desk reference. Is 2012 the most current iteration of the document, and if so, has the document been reviewed to determine if it is up-to-date and relevant, with current technologies, strategies and trends?
51	Clarification	Table ES-3; ES-71	"PMM-TRA-2 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation impacts, where applicable and feasible."
52	Clarification	Table ES-3; ES-71	"PMM-TRA-3 A lead agency for a project should, where applicable and feasible, prepare ~~Prepare~~ a sight distance analysis as needed for locations where sight lines could be impeded. The sight distance analysis to be prepared according to the jurisdiction's applicable Municipal Code requirements and the Caltrans Highway Design Manual (HCM) standards and guidelines, and should recommend safety improvements as appropriate such as limited use areas (e.g., low-height landscaping), and on-street parking restrictions (e.g., red curb), and any turning restrictions (e.g., right-in/right-out)."
53	Clarification	Table ES-3; ES-72	"PMM-TCR-1 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources, where applicable and feasible."
54	Clarification	Table ES-3; ES-73	"PMM-UTIL-2 In accordance with provisions of Sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to ensure sufficient water supplies, as applicable and feasible. Such measures may include the following or other

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			comparable measures identified by the lead agency: a) Reduce exterior consumptive uses of water in public areas, and ~~should~~ promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings, using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives."
55	Mitigation Measures: PMM-UTIL-3	ES-75	Mitigation Measure PMM-UTIL-3 focuses on the reduction of solid waste. There are several references about ***developing*** opportunities to divert food waste from landfills. Perhaps there should be a reference to SB 1383, which is already law, and focus the emphasis on strengthening versus developing opportunities to divert food waste? • Think about removing J or rewording ordinance encouragement
56	Clarification	Map ES-1	• Add page number • Add label for Orange County
57	Clarification	Map ES-2	• Add page number • Add label for Orange County • Change source to SCAG • Map ES-2 illustrates 16 subregions in the Legend, but page ES-4 states there are 15 subregions in SCAG. Please review and correct inconsistency. • The legend color used for Orange County and SANBAG is almost identical. Is there any opportunity to change the color choice, especially since Orange County and San Bernardino County share a border?
58	Regional Location	ES-4; Map ES-2	EIR states that "the SCAG region consists of 15 subregional entities...". However, the referenced Map ES-2 illustrates 16 subregions. Please review and make consistent.
59	Clarification	Map ES-3	• Add page number • Reduce thickness of city boundary lines
60	Clarification	Map ES-4	• Add page number • Add year to title • Add note specifying land use categories were standardized by SCAG.
61	Clarification	p. ES-92; Map ES-5	• Add page number • Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation

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info@occog.com

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			measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
62	Clarification	Map ES-6	• Add page number • Add year to title • Change legend's "Freeway" to "Freeway/Toll Road"
63	Clarification	Map ES-7	• Add page number
64	Clarification	p. 1-2; paragraph 3; sentence 6	"…SCAG developed the LDX process to engage local jurisdictions ~~partners~~ and get information needed to fulfill state planning requirements."
65	Correction	p. 1-8; paragraph 3; sentence 2	"… Drafting an EIR […] necessarily involves some degree of forecasting (CEQA Guidelines Section 15144)." • Insert the missing reference information
66	Clarification	p. 1-14; paragraph 2; sentence 1	"In addition, the 2024 PEIR identifies project-level mitigation measures for lead agencies to consider which they "can and should" consider for adoption ~~adopt~~, as applicable and feasible, in subsequent project-specific design, CEQA review, and decision-making processes."
67	Clarification	p. 1-15; paragraph 2; sentence 5	"The notices ~~notice~~ are published in English, Spanish, Korean, Chinese, and Vietnamese languages. The Draft Connect SoCal 2024 documents are posted on the SCAG website and virtually distributed to libraries throughout the region, and physically distributed to libraries upon request."
68	Clarification	p. 1-18; Table 1-3	• Add horizontal lines between rows to make information easier to read
69	Clarification	p. 2-6; paragraph 4; last sentence	"Additionally, some local jurisdictions may not be required to complete rezonings associated with housing element updates until October 2024, rendering data on newly available sites inherently incomplete (or unavailable) for the purposes of Connect SoCal 2024." • Is the October 2024 date accurate? The statement is unclear on if some jurisdictions have other deadlines before or after the date mentioned. Please check dates against statute and update as applicable throughout all documents regarding this topic.
70	Clarification	p. 2-7; paragraph 3; last sentence	"As noted above, Connect SoCal 2024 utilized the LDX process to solicit land use and growth input directly from SCAG's local jurisdictions, and the Plan is the first RTP/SCS prepared by SCAG that did not modify the requested local data inputs of housing and employment."
71	Correction	p. 2-8; bullet 3	"Orange County. Orange County covers an area of 799~~948~~ square miles. Anaheim is the city with the highest population level in the county, with approximately 347,000 people in 2019. Overall, the county had 3,191,000 residents that year." • County of Orange Surveyor/Public Works' official information is that OC covers ~799 square miles from the coastline inland. This does not include city boundaries that extend approximately 3 miles off the coastline, which is included by the U.S. Census Bureau from which the 948 estimate is cited. Density calculations using 948 should be redone using the 799 square miles that does not include the ocean area.

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			• Update land totals for Ventura and Los Angeles Counties to remove the ocean census tract area if U.S. Census Bureau geographic information was used
72	Clarification	p. 2-8; Section 2.4.2; bullet 1	"40 miles of heavy and light rail" • There are only 40 miles of heavy & light rail in the region?
73	Clarification	p. 2-9; paragraph 1; sentence 4	"While 64 percent are single-family homes, 36 percent are multifamily homes such as condominiums, townhouses, and apartments." • Townhomes are single-family attached homes as defined by the State of California DOF and the U.S. Census Bureau. • Perhaps add language that says "For the purposes of the RTP/SCS, the category of "multi-family" is a short-hand reference for housing units other than single-family detached housing units. These include attached housing units, such as townhomes, which are single-family attached units; condominiums; and apartments."
74	Clarification	p. 2-9; paragraph 2; sentence 4-5	"… Much of the open space in the region has been left in its natural state, however many non-native species have transformed what was once native habitat. As of 2018, about half of California has been mapped and classified according to this standard; much of southern California has not yet been classified (CDFW 2023)." • Clarify "this standard"
75	Clarification	p. 2-9; paragraph 3;	"More than 20 million acres of open space within the SCAG region is currently conserved ~~protected~~ under a Habitat Conservation Plan or Natural Community Conservation Plan or will be protected by a future conservation plan that is currently in its planning stages. Data from CDFW and USFWS show 31 plans with durations of 16–80 years providing conservation efforts nearly 3 million acres in the SCAG region. These plans identify and provide for the regional protection of plants, animals and their habitats, while allowing compatible and appropriate economic activity." • Please cite sources of data and clarify numbers and language; is this additive or exclusive?
76	Clarification	p. 2-12; footnote; sentence 4	"SCAG used its best efforts to incorporate the RHNA, but the data is inherently incomplete because only 12 of 197 jurisdictions had certified housing elements, and some local jurisdictions may not be required to complete rezoning associated with housing elements until October 2024." • Is the October 2024 date accurate? The statement is unclear on if some jurisdictions have other deadlines before or after the date mentioned. Please check dates against statute and update as applicable throughout all documents regarding this topic.
77	Clarification	p. 2-13; paragraph 2; sentence 1	"SCAG has the opportunity to analyze and address the inequities that the public, government, and planning profession have created by systemically driving and perpetuating societal differences along racial lines." • Planners and government are not the only parties responsible
78	Clarification	p. 2-13; paragraph 3; last sentence	"This more compact form of regional development, if fully realized, can reduce travel distances, increase mobility options, improve access to workplaces and conserve the region's resource areas." • Clarify "if fully realized"

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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79	Clarification	p. 2-13; bullet 1; sentence 2	"Transit Priority Areas (TPAs). …Infill within TPAs can reinforce the assets of existing communities, efficiently leveraging existing infrastructure and potentially lessening impacts on natural and working lands." • Clarify how and explain the assets TPAs can reinforce
80	Clarification	Table 2-2;	• All goals should have same language as in Connect SoCal main report.
81	Clarification	Table 2-2; p. 2-18	"6. Support implementation of complete streets improvements in Priority Equity Communities*, and particularly with respect to Transportation Equity Zones*, to enhance mobility, safety, and access to opportunities." • Missing footnote for *
82	Correction	Table 2-2; p. 2-19	"15. Pursue efficient use of the transportation system using a set of operational improvement strategies that maintain the performance of the existing transportation system instead of adding roadway capacity, where possible. 16. Prioritize transportation investments that increase travel time reliability, including build-out of the regional express lanes network." • Language is not consistent with Connect SoCal
83	Clarification	Table 2-2; p. 2-19	"22. Reduce~~Eliminate~~ transportation-related fatalities and serious injuries on the regional multimodal transportation system."
84	Addition	Table 2-2; p. 2-20	Add new 42. Support a mix of housing types throughout the region; including single-family detached development, which can increase equity-building opportunities for all income levels.
85	Correction	Table 2-2; p. 2-22	"73. Advance comprehensive systems-level planning of corridor/supply chain operational strategies that is ~~,~~ integrated with road and rail infrastructure~~,~~ and inland port concepts." • Reword to match Connect SoCal p. 120
86	Correction	Table 2-2; p. 2-22	"79. Promote an atmosphere that~~which~~ allows for healthy competition and innovative solutions ~~which are speed driven~~, while remaining technologically neutral" • Reword to match Connect SoCal p. 120
87	Clarification	Table 2-2; p. 2-23	"89. Encourage the reduced use of cars by visitors to the region by working with state, county, and city agencies to highlight and increase access to safe alternative options, including transit, passenger rail, and active transportation."
88	Clarification	Map 2-1	• Add page number • Add label for Orange County • Change source to SCAG
89	Clarification	Map 2-2	• Add page number • Add label for Orange County • Change source to SCAG
90	Clarification	Map 2-3	• Add page number • Bus routes and freeways are hard to differentiate
91	Clarification	Map 2-5	• Add page number • Add year to title
92	Clarification	Map 2-6	• Add page number

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			• Why only major airports?
93	Clarification	Map 2-7	• Add page number • Add year to title • Add note specifying land use categories were standardized by SCAG.
94	Clarification	p. 2-42 Map 2-8	• Add page number • Add year to title • Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
95	Clarification	Map 2-9	• Add page number • Add year to title
96	Clarification	Map 2-10	• Add page number • Add year to title
97	Clarification	Map 2-11	• Add page number • Add year to title
98	Clarification	Map 2-12	• Add page number • Add city boundaries to legend
99	Clarification	p. 2-47	"U.S. Census Bureau American Community Survey 2017 1-Year Estimates~~, American FactFinder. 2017~~. 2017 Population Estimates. https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml. Accessed July 29, 2019."
100	Correction	p. 3-5; paragraph 5; sentence 3	"The regional growth forecast process incorporates extensive input and data including the most up-to-date local land use information, policy responses, demographic…"
101	Clarification	p. 3-5; footnote	"SCAG's regional growth forecasting process emphasized the participation of local jurisdictions ~~and other stakeholders~~. The Local Data Exchange (LDX) process was used to give local ~~jurisdiction's~~ jurisdictions the opportunity to provide input related to land use and the future growth of employment and households to ensure that the most updated information from local jurisdictions was gathered to link and align local planning with a regional plan that can meet federal and state requirements and reflect a regional vision. Therefore, LDX was a key component of allocation of growth across jurisdictions in the SCAG region with 67% of jurisdictions providing information as part of the LDX process. The deadline for local jurisdiction in the LDX process was December 2022."

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			• Who are the "other stakeholders"? Did the public or other groups have input into the growth forecast? Does this refer to the panel of experts?
102	Existing Conditions	3.8-7	The draft EIR states "The Safeguarding California Plan was updated in 2018 to present new policy recommendations and provide a road map of all the actions and next steps...". Is the Safeguarding California Plan supposed to be updated every three years? Has the State developed an updated list of policy recommendations and implementation actions that should also be referenced in this section? Or is the approach to keep the discussion to the 2018 California Plan, because of the emphasis on Existing Conditions?
103	Existing Conditions: SCAG Region	3.8-10 3.8-57 3.8-59	In the second paragraph to this section, please re-review and re-check the Table numbers, table titles, and percentage (for Imperial County assigned to transportation GHG emissions), and correct, as appropriate. For example, the title referenced in this paragraph for Table 3.8-7 does not match the title actually assigned to Table 3.8-7 on page 3.8-57. Also, there are references to county-level GHG data that are not in Table 3.8-7 (is it supposed to be Table 3.8-10 on page 3.8-59?). Further, there is a reference to Imperial County generating, in 2019, 1.7% of the region's total transportation GHG emissions, which is not illustrated in any applicable county table of data.
104	Regulatory Framework: Orange County	3.8-42	The section on Orange County's regulatory framework for GHG reductions cites a 2023 Orange County Register source on Orange County moving "forward with developing a county climate action plan to address ways the county could help slow climate change and mitigate the local effect." Please confirm and identify the agency/agencies in charge of developing an Orange County climate action plan.
105	Table 3.8-6: Jurisdictions Addressing Climate Change	3.8-44	Having two distinct listings of jurisdictions from distinct counties on the same page, with said listings extending into multiple pages, was initially confusing in Table 3.8-6.
106	Transportation Emissions: OGV	3.8-58 3.8-59	Please include the acronym OGV in the EIR Glossary.
107	SB 743 and VMT Guidance	3.8-65	This section of the draft EIR states "At the time of preparing this 2024 EIR it is unknown how CARB and the other state agencies, through statewide programs or in coordination with local and regional governments, ***would meet the identified higher VMT reductions***." Please include a short summary of what the higher SB 743 VMT targets are, to prevent the reader from having to research and understand the degree of context.
108	Mitigation Measures: GHG	3.8-66 to 3.8-69	Please see comments, proposed revisions and edits from the draft EIR Executive Summary, Table ES-3: Summary of Project Impacts, Mitigation

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			Measures and Residual Impacts, relating to the GHG mitigation measures (pages ES-47 through ES-50), and carry over to Chapter 3.
109	3.11.1: Environmental Setting Definitions: Recreation	3.11-2	Definition of "recreation". Please identify if recreation areas include both public and private-owned parks and open space areas. As an example, private parks and open space can satisfy local parks requirements for residential developments, with ownership of said private parks and open space by homeowner associations.
110	3.11.1: Environmental Setting Definitions: Subregion	3.11-2 Map ES-2 ES-4	Definition of "subregion". Map ES-2 illustrates 16 subregions in the map Legend, but page ES-4 (of the Executive Summary) and page 3.11-2 of this chapter state there are 15 subregions in the SCAG region. Please review and correct inconsistency.
111	3.11.1: Environmental Setting Definitions: Vacant Land Existing Land Uses	3.11-3	Definition of "vacant land" is described in this chapter as land that "is generally referred to land with no buildings on it." Please clarify if the designation of vacant land includes land with no buildings on it, but with improvements such as surface parking lots. This issue has come up in local jurisdiction review of parcel level existing land uses and how to appropriately classify such land uses. Perhaps the inclusion of the term "undeveloped" or "no improvements", as are used in the narrative on vacant lands on page 3.11-3, would be of benefit.
112	Clarification	p. 3.11-5; paragraph 1	"The SCAG region is composed of six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The Plan's policies and strategies encourage improvement in the jobs-housing balance by focusing new housing and employment in Priority Development Areas (PDAs). A general discussion of the land use patterns is provided for each of the six SCAG counties below and is sourced from each County government's General Plan:"
113	3.11.1: Environmental Setting Counties: Orange	3.11-5; paragraph 6	"Between 2000 and 2019, the total population of Orange County increased by 12.1 percent, which was slightly higher than the SCAG region increase of 14 percent. The County of Orange's General Plan assessed that Orange County would experience a steady but declining amount of land available for development." • Please re-check the numbers. The percentages comparison and the conclusion do not match.
114	Clarification	p. 3.11-6	"San Bernardino. Between 2000 and 2019, the total county population increased by 27.2 percent (U.S. Census Bureau 2002; SCAG 2021, 2023a); well above the SCAG regional ~~region~~ increase of 14 percent (SCAG 2021, 2023a). Much of the development in San Bernardino has occurred on unincorporated county land. The County of San Bernardino's General Plan…"
115	3.11.1: Environmental Setting Counties: Ventura	3.11-6	In the discussion of Ventura County, this chapter states "Between 2000 and 2019, Ventura County's population growth increase of 12.8 percent was slightly higher than the SCAG region increase of 14 percent." • Please re-check the numbers. The percentages comparison and the conclusion do not match.
116	Clarification	p. 3.11-8; paragraph 2; sentence 6	"~~City and county general plans must be consistent with each other.~~ Local jurisdictions implement their general plans through zoning ordinances. Zoning ordinances provide a much greater level of detail including the

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info@occog.com

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			general plan land use designations and such information as permitted uses, yard setbacks, and uses that would require a conditional use permit (Map 3.11-1, General Plan Land Use Designations, shows the general land use designations (consolidated for purposes of consistency and mapping) for the six ~~SCAG member~~ counties and 191 cities in the SCAG region)." • "City and county general plans must be consistent with each other." This statement is not accurate. Delete.
117	Clarification	p. 3.11-8; paragraph 3&4	"The land use elements of the county and city general plans within the SCAG region generally classify lands <u>into</u> ~~in to~~ 35 land use categories (Table 3.11-2, SCAG Region General Land Use Categories). According to <u>modeling results of the</u> SPM data, the Plan would add approximately 50,000 urbanized acres to the region by 2050 (SCAG 2023c)."
118	3.11.1: Environmental Setting Existing Land Uses by County	3.11-8	In the discussion of existing land uses by county, this chapter states "According to SPM data, the Plan would **add** approximately 50,000 urbanized acres to the region by 2050." To avoid any misinterpretation of the 50,000 acres comprising new acreage being added to the region, perhaps the verb "add" could be revised to explain that the Plan incorporates land use changes to existing acreage (i.e., through infill or redevelopment, in addition to greenfield development)?
119	3.11.1: Environmental Setting Existing Land Uses by County Table 3.11-2	3.11-8; Table 3.11-2	In the discussion of existing land uses by county, this chapter states "The **35** land uses noted in Table 3.11-2 are grouped into **three** Land Development Categories (LDCs) to describe the general conditions in a given area, including urban, compact and standard LDCs". In reviewing Table 3.11-2, there seems to be a mismatch between the narrative on page 3.11-8 and the presentation of information on Table 3.11-2. As an example, Table 3.11-2 seems to list 34 land uses. There also does not seem to be any correlation between LDC designations and Table 3.11-2, which is implied in the narrative. Perhaps clarify in the narrative on page 3.11-8 that the LDC grouping is a subsequent process.
120	Clarification	3.11-10; paragraph 3	"The majority of medium- and high-density housing in the region is found in the urban core of the region, in Downtown Los Angeles, East Los Angeles, the South Bay, and the "West Side" of Los Angeles. Large cities, such as Long Beach, Santa Ana, Glendale, Oxnard, and Pasadena, also have concentrations of high-density development in their downtown areas. Several beach communities, such as the Cities of Santa Monica, Manhattan Beach, Hermosa Beach, Redondo Beach, Huntington Beach, and Newport Beach, have high density close to the ocean." • Define 'high-density' • If density calculations were made using the Census Bureau geographic boundaries, which include ocean areas for coastal cities, the density calculations may need to be redone.
121	Clarification	3.11-11; paragraph 3	"Multifamily units<u>—a term that SCAG uses to generally classify homes other than single-family detached housing units—</u>are attached residences, apartments, condominiums, and <u>also include</u> townhouses<u>, which are classified by the State and U.S. Census Bureau as single-family attached homes</u>."

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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122	Clarification	3.11-11; paragraph 5	"Duplexes, Triplexes, and 2- or 3-Unit Condominiums and Townhouses. This category is composed of duplexes, triplexes, and 2- or 3-unit condominiums, which are all multi-family structures and townhouses—which are actually attached single-family units~~that are attached multifamily structures~~."
123	Clarification	3.11-11; paragraph 8	"Typically, low-rise apartments~~,~~ and condominiums~~, and townhouses~~ occur together in large contiguous areas since land use is restricted to multi-family zoned areas." • Townhomes are single-family housing units.
124	Correction	3.11-12; paragraphs 1 & 3	"Medium-Rise Apartments and Condominiums. This category includes multi-family structures of three to four stories and greater than ~~>~~18 units/acre…. High-Rise Apartments and Condominiums. This category includes multi-family structures of five stories or greater and greater than ~~>~~18 units/acre."
125	Clarification	3.11-14; paragraph 3	"OPEN SPACE, RECREATION, AND AGRICULTURAL LAND USES… In yet other instances, lands may be designated or zoned as open space but still allow for development of a single-family home. Lands evaluated as natural lands in the Plan are generally evaluated as wildlife habitat in Section 3.4, Biological Resources, and not agricultural lands. In general, in this 2024 PEIR, agricultural lands are farmlands, and natural lands provide valued habitat." • Some land that is currently used for agriculture is zoned for other purposes but is temporarily being used for agriculture and the long-term expectation is that the land will be developed for housing or commercial. Please clarify in the narrative whether land classification is by use or by zoning and update any calculations as applicable.
126	Clarification	3.11-16-17; Table 3.11-4	Use full name of Source in tables instead of acronyms. "Source: California Coastal Commission ~~CCC~~ 2019" and add link to source website
127	Clarification	3.11-21; paragraph 4	"The California Coastal Act constitutes the California Coastal Management Program for the purposes of the Federal Coastal Zone Management Act (California Coastal Act of 1976; PRC Section 30000 et seq.). The act established the California Coastal Commission (CCC), identified a designated California Coastal Zone, and established CCC's responsibility to include the preparation and ongoing oversight of a Coastal Plan for the protection and management of the Coastal Zone. Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop, and comply with, a coastal management plan. The Coastal Act requires that any person or public agency proposing development within the Coastal Zone obtain a Coastal Development Permit (CDP)…"
128	Clarification	3.11-21; bullet 1	"a) The project is in a transit priority area;" • List source and define transit priority area even if defined in a previous chapter
129	3.11.1: Environmental Setting	3.11-24; paragraph 2	Page 3.11-24, second paragraph, discusses the interrelationship between RHNA and the regional transportation plan processes. This section states "The RHNA, which is developed after the regional transportation plan, must

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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	Sustainable Communities and Climate Protection Act		also allocate housing units within the region consistent with the forecasted regional development pattern included in the SCS." • Is this an accurate statement relating to SCAG's RHNA and Connect SoCal planning processes?
130	Clarification	3.11-24; paragraph 2	"Previously, the RHNA determination was based on population projections produced by DOF. SB 375 requires the determination to be based upon population projections by DOF and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted used in the regional transportation plan is within a range of 1.5 ~~three~~ percent of the regional population forecast completed by DOF for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 1.5 ~~three~~ percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by DOF. Though SCAG's total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG's population projections from the applicable 2020 Connect SoCal Plan for the 6th Cycle of RHNA.
131	Mitigation Measures: SMM-LU-1	3.11-28	Mitigation Measure SMM-LU-1 states that SCAG shall work with the region's county transportation commissions and Caltrans in the siting of new transportation facilities in residential areas, to minimize future impacts to established communities. Is there any need or value to also referencing the Transportation Corridor Agencies in this mitigation measure? Also recommend that transportation be added to the mitigation measure language, to confirm what is implied intent.
132	Clarification	3.11-33; Map 3.11-1	• Add page number • Source year should be 2019 not 2016 • Add data year to title • Add link to where land use definitions are • Explain if these are the consolidated land use categories and not the original jurisdiction maps
133	Clarification	3.14-1; Bullet list	"Employment: Also known as "jobs", employment includes both wage and salary workers and self-employed workers. Paid, wage and salary employment consists of full- and part-time employees, including salaried officers and executives of corporations, who were on the payroll in the pay period. Included are employees on sick leave, holidays, and vacations; not included are proprietors and partners of unincorporated businesses."
134	Clarification	3.14-1; Bullet list	"Housing unit: A house, an apartment or other group of rooms, or a single room are regarded as housing units when occupied or intended for occupancy as separate living quarters. These include single-family and multi-family units as well as accessory dwelling units (ADUs). Different jurisdictions have slightly different definitions of what constitutes a housing unit."

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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135	Clarification	3.14-1; Bullet list	"Population: As used in this analysis, population is data available from the U.S. Census Bureau for the SCAG region for the period of 1900 through 2022~~2019~~ and from the State Department of Finance, with population projections available from SCAG in 2023 for the projected population growth through 2050."
136	Clarification	3.14-2; paragraph 2; sentence 5	"Historically, population within the SCAG region was heavily influenced by net migration, or the difference between people coming into an area (immigrating) and the people leaving an area (emigrating) as opposed to natural ~~the~~ increase, which is the number of births over deaths. However, since about 2000, net migration has slowed and has resulted in slower population growth across the SCAG"
137	Clarification	3.14-2; paragraph 3; sentence 3	"The change is largely attributed to four key factors: (1) lower birth rates (fewer children), (2) lower immigration rates (fewer immigrants, both domestic and international), (3) aging population (fewer at childbearing age), and (4) high housing costs (lack of housing) (SCAG 2023a).
138	Clarification	3.14-2; Table 3.14-1	Change rates in table to display in percentages instead of raw number, e.g., use 22.6% instead of 0.226 as seen in Table 3.14-7.
139	Clarification	3.14-3; paragraph 2; last sentence	"At a fundamental level, there is simply not enough housing for everyone who wants to live on their own in the state."
140	Correction	3.14-4; Table 3.14-3 source	"Connect SoCal 2024 base year, based on 2020 U.S. Decennial ~~decennial~~ Census P.L. 94-171 Redistricting data ~~PL-94-redistricting~~ file and 2019 DOF E-5 estimates"
141	Correction	3.14-4; Table 3.14-4 source	"4. U.S. Census Bureau ~~bureau 2020,~~ American Community Survey 2020 1-year estimates, Table ~~table~~ B17001 5. U.S. Census Bureau ~~bureau 2021,~~ American Community Survey 2021 1-year estimates, Table ~~table~~ S1701 Verify if these are rates (raw number instead of displaying as a percent) or if they are rates per another population number, e.g., per 1,000 people. If raw numbers, change rates in table to display in percentages instead of raw number, e.g., use 23.8% instead of 0.238 as seen in Table 3.14-7 Update title and add notes as needed to clarify.
142	Clarification	3.14-7 & 8; Tables 8-10	Ensure totals match data in main RTP report
143	Clarification	3.14-11; paragraph 3; sentence 2	"At the time of preliminary Plan forecast development (April 2022) only 12 of the region's 197 jurisdictions had 6th cycle housing elements which had been adopted and certified by the state."
144	Clarification	3.14-13; paragraph 2; last sentence	"In addition, decisions made regarding the building and expansion of transportation systems divided communities of color and primarily benefited non-Hispanic White~~white~~ suburban commuters."
145	Clarification	3.14-16; paragraph 2; sentence 3	"In accordance with SB 197, zoning must be updated to reflect the 6th cycle RHNA by October 2025." • October 2025 date is inconsistent with other dates of October 2024 listed throughout documents • Is the October 2024 date accurate? The statement is unclear on if some jurisdictions have other deadlines before or after the date

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#	COMMENT TYPE	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
			mentioned. Please check dates against statute and update as applicable throughout all documents regarding this topic.
146	Clarification	3.14-16; Table 3.14-11	• Title "Summary of Housing Goals by County Governments in the SCAG Region" • Header: County ~~and City~~ Policies and Ordinances [Note: these are pulled from the Counties' General Plans and not cities] • Change listing of 6 counties to • County of Imperial • County of Los Angeles • County of Orange • County of Riverside • County of San Bernardino • County of Ventura
147	Clarification	3.14-22; paragraph 2; sentence 2	"However, transit stations ~~station~~ are generally located in areas that are already developed or where growth is planned and desirable."
148	Clarification	3.14-22; paragraph 4; sentence 1	"As discussed above and in Chapter 2, Project Description, the Plan's forecasted ~~forecast~~ regional development pattern provides for a projected population distribution that could occur in 2050. The total SCAG region population is expected to increase by approximately 1.3 million persons by 2050. The Regional Planning Policies and Implementation Strategies included in the Plan would encourage growth in PDAs and reduce ~~minimize~~ growth in GRRAs."
149	Clarification	3.14-22; paragraph 7; sentence 1	Please clarify if this is referring to accommodating growth in PDAs and if the housing reference is also to growth. Consider revising to: "Implementation of the Plan would accommodate a majority ~~60.4 percent~~ of the region's future ~~population~~ growth in PDAs: 60.4 percent of the population growth, 61.2 percent of the household growth, ~~region's future housing units,~~ and 64.8 percent of ~~the future~~ employment growth ~~in PDAs~~ (SCAG 2023d)."
150	Clarification	3.14-23	"SMM-POP-1 SCAG shall continue to facilitate collaboration forums, such as through SCAG's Working Housing Group…"
151	Clarification	3.14-24; paragraph 6; sentence 1	"In urban areas, redevelopment often has the potential to displace affordable housing and can disproportionately affect people of color, particularly non-Hispanic Black and non-Hispanic Indigenous populations."
152	Clarification	3.14-28; Map 3.14-1	• Add page number
153	Clarification	3.14-29; Map 3.14-2	• Add page number • Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
154	Clarification	3.14-30; Map 3.14-3	• Add page number • Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
155	Clarification	4-5; paragraph 1; sentence 2	"As a result, Connect SoCal 2024 is SCAG's first RTP/SCS to not modify local data inputs for housing and employment."
156	Clarification	4-6; paragraph 1; sentence 2	"Key components include a forecasted regional development pattern based on expert projection, existing planning documents, and regional policies, and review by local jurisdiction through the year 2050, as well as a transportation network including a list of transportation projects and investments from CTCs on their planned near-term and long-term projects."
157	Section 4.3.2: Plan Elements: Transportation Elements: Work from Home	4-7	This section discusses and defines Work from Home. Please clarify if SCAG's definition of Work from Home applies both to full-time and part-time employees in SCAG's activities-based, travel demand model. Also, is there any estimate of the percentage of Work from Home employees that is assumed in the SCAG modeling?
158	Section 4.4.1: Alternative 1: Transportation Element	4-9 ES-12	The Alternative 1 transportation network is described as including the ***first year*** of the previously conforming FTIP. However, in the Executive Summary of the Draft EIR, the Alternative 1 transportation network is defined as including ***the first two years*** of transportation projects in the previously-conforming RTP or FTIP. Please review and correct.
159	Section 4.5: Comparison of Alternatives: Alternative 1: Aesthetics	4-12	This section of the Alternative 1 analysis states that "The No Project Alternative would not include any transportation projects that could affect State Scenic Highways or vista points. Has there been a specific review of the Alternative 1 transportation project list to confirm this statement?
160	Section 4.5: Comparison of Alternatives: Alternative 1:	4-13	This section of the Alternative 1 analysis states that under the Alternative 1: No Build/No Project scenario, that "The potential for conflicts with zoning land use designations, Williamson Act contracts, and/or other applicable regulations that protect agricultural and forestry resources and timberlands

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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	Agriculture and Forestry Resources		***would also be less*** because fewer agricultural lands would be converted to nonagricultural uses than under the Plan." Please re-review and verify if this statement is correct. If all the EIR Alternatives share the identical growth projections in population, households and employment, and if the Plan emphasizes infill development and a lesser impact on greenfield development, how would the No Build Scenario have a lesser impact on agriculture lands conversion to developed uses?
161	Clarification	4-14; paragraph 3; sentence 3	"For example, Segment 1 is in El Centro on the I-8; under the Plan, the segment would experience a decrease in VMT from light- and medium-duty cars of approximately 1,400 as compared to the No Project; however, heavy-duty truck traffic is expected to increase by over 200 daily trips under the Plan as compared to the No Project scenario. Since the majority of DPM <u>(diesel particulate matter)</u> emissions and the associated health risk results from heavy-duty vehicles, the health risk would be greater in this segment under the Plan. The health risk under the Plan is anticipated to be less in most segments as compared to the No Project scenario. The total health risk summed across the analyzed segments under the Plan (1,553 in 1 million <u>people</u>) would be less than the No Project (1,575 in 1 million)." • Please clarify the 1,400 reference
162	Comparative Discussion of EIR Alternatives	4-17 4-19 4-24	Especially within the same paragraph of EIR discussion, there are instances where the same EIR Alternative is given different terminology, which makes for a very confusing read for the reader to understand the differences, if any. As an example, on page 4-17 and page 4-24,, Alternative 1 is called the No Project Alternative, the No Plan, and the No Plan Alternative. Also, on page 4-19 and 4-24, the Plan is termed both The Plan and Connect SoCal 2024. It would be ideal if the same terminology could be used within the same paragraph to avoid initial confusion.
163	Clarification	4-19; paragraph 4	SCAG Natural Lands Conservation Areas- what are these?
164	Clarification	4-21; paragraph 1	"Alternative would result in greater impacts related to the ~~wasteful,~~ inefficient~~,~~ or unnecessary consumption of energy during construction activities and long-term operations and impacts would remain significant."
165	Clarification	4-21; paragraph 4	Add definition of "seiche" even if already included in previous chapter
166	Clarification	4-22; paragraph 4; sentence 4	"The same is true for existing requirements and regulations addressing potential safety hazards and excessive noise within an airport land use plan or within two miles of a public or public- use airport, so airport-related safety and noise impacts to people residing or working in the Plan area would be the same under this alternative." • What is the difference between public and public-use airport?
167	Clarification	4-22; footnote & p. 4-35	"Airport Ground Support <u>Equipment</u> (GSE) sources"

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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168	Clarification	4-22; last paragraph; last sentence 4-36	"Therefore, the more dispersed land use pattern of this alternative and lack of transportation system improvements would result in greater impacts associated with emergency access along with ~~and~~ emergency response and evacuation plans, and impacts would be significant." Please clarify the listings within the sentence.
169	Section 4.5: Comparison of Alternatives: Alternative 1: Population and Housing	4-25	This section of the Alternative 1 analysis states that under the Alternative 1: No Build/No Project scenario, that "the lack of large-scale transportation projects under this alternative would also reduce the potential" for right-of-way acquisition that would lead to potential displacement of existing housing and affected populations. Has the list of programmed FTIP projects in Alternative 1 been reviewed to confirm this statement?
170	Clarification	4-25; paragraph 2	"The No Project Alternative assumes a more dispersed growth pattern, which may result in less pressure to redevelop existing sites, and therefore ~~and that are the~~ result in ~~induce direct population growth by encouraging~~ new residential and commercial development within more rural or suburban settings ~~where such growth may not have been planned~~.
171	Section 4.5: Comparison of Alternatives: Alternative 1: Transportation	4-29	This section of the Alternative 1 analysis states that under the Alternative 1: No Build/No Project scenario, that "impacts related to design hazards for transportation projects would be ***greater***, as fewer transportation projects that meet current design standards would be constructed ***and the Plan's focus on safety would not be implemented***." Would this categorical statement be accurate? Is not safety still a requirement for the Connect SoCal 2020 projects that are programmed and included in Alternative 1?
172	Clarification	All pages; 4-31; Agriculture and Forestry Resources; e.g. 5-3	Pertaining to any discussion on farm land lost or at risk, it should be noted that **not all land used for farming is/was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming. Many of these areas are zoned for a different use and land owners farm the land for income until the development applications are approved and construction permits are issued. Additionally, farming was one of the few permitted uses allowed in areas designated flight hazard zones. For example, a great deal of the City of Irvine privately-owned land surrounding the former Marine Air Station El Toro was utilized for farming because no other uses were permitted. Once El Toro was closed, the land was rezoned to permit residential, but continued to be used as farmland for many years. Add notes to language and table or figures that indicate "**not all land used for farming was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming." Update any calculations or clarify language regarding land zoned as farmland or existing land used as farmland that was converted or will be converted to another use.
173	Clarification	4-34;	"This alternative would result in ~~less~~ fewer impacts related to ~~the wasteful,~~ inefficient~~,~~ or unnecessary consumption of energy during construction activities and long-term operations."

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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174	Clarification	4-40; paragraph 6	"The performance comparison for the alternatives ~~No Project Alternatives~~ and the Plan is included in the Connected SoCal 2025 Land Use and Community Technical Report."
175	Terminology	5-3 5-6	Page 5-3, Air Quality section, references the "Southern California *Air Quality* Management District (SCAQMD). Please correct as the "*South Coast* Air Quality Management District. Page 5-6, Wildfire section, references the need to discourage development in PGAs. In the Glossary, a PGA is defined as "Peak Ground Acceleration." Should the reference be PDA (Priority Development Area)?
176	Clarification	5-3	Agriculture and Forestry Resources section discusses land converted to non-agricultural use. Please clarify if the land is zoned for agriculture or being used temporarily with agriculture uses but zoned as another use.
177	Clarification	5-4	"Energy: Implementation of the Plan has the potential to result in ~~wasteful,~~ inefficient~~,~~ or unnecessary energy consumption in the SCAG region."
178	Clarification	5-4	"Greenhouse Gas Emissions (GHG): …Furthermore, while GHG emissions are anticipated to decrease compared to existing conditions, they are not anticipated to be reduced sufficiently to meet the statewide GHG emissions reduction targets and GHG emissions resulting directly and indirectly from the Plan may result in significant and unavoidable impacts." • Please clarify the reference to decreasing emissions [as of when] compared to existing conditions. • Reword second part of sentence to clarify the state as a whole isn't meeting the state-level targets even though SCAG has met the state-prescribed target.
179	Clarification	5-8; Paragraph 2	"However, construction activities related to transportation projects and land use development would nevertheless result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobile and construction equipment and aggregate supply used in construction." • Clarify what "fuel oil" is.
180	Section 5.3: Growth Inducing Impacts	5-10	This section, paragraph 6, page 5-10, states that the Plan does not plan "...for anything more than nominal or by-right growth in rural areas...", in addition to more efficient, compact growth in existing developed areas. Please confirm that the received Local Input from SCAG jurisdictions confirms the statement of there being nominal or by-right growth in rural areas, in the Plan.
181	Clarification	5-11; paragraph 1; last sentence	"However, the improved accessibility from the Plan's transportation projects, transit investments, and land use strategies could also facilitate population and economic growth in areas of the region that are currently not developed, despite policies designed to discourage ~~limit~~ such development."

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

Table 3. AVIATION AND AIRPORT GROUND ACCESS TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "2024" to all technical report page headers' titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
7	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
8	General Comment	All pages	Extra commas throughout . . . Example, page 15, 2nd paragraph, last sentence
9	Correction	p. 11	1st paragraph, there appears to be an unnecessary quotation mark before "on airport property…"
10	Correction	p. 11	3rd paragraph, second line, there appears to be an unnecessary parenthesis
11	Clarification	p. 12	2nd paragraph, spell out Imperial County Airport (IPL)
12	Clarification	p. 20	3rd paragraph. Should "Approximately 88 percent of travelers at LAX are O&D, and 22 percent are connecting passengers" be modified to add up to only 100%? Right now the total is 110%.
13	Clarification	p. 22	2nd paragraph, last sentence add "Region" to "Impact of COVID-19 on air passenger and cargo activity in the SCAG"
14	Correction	p. 33	2nd paragraph, extra parenthesis after NPIAS
15	Correction	p. 52	Last paragraph, delete "go" or "reach" in "economic impacts of airports ~~go~~ reach outside airport property"
16	Clarification	p. 58	3rd bullet point, is there an extra "ground" in "airport ground airside ground"?
17	Correction	p. 70	Second sentence, delete "from" in "…employees will also access from the region's airports…"
18	General Comment	p. 74	Should SCAG be studying airport operations? Or surface transportation? Should the aviation technical report conclude that SCAG will study surface transportation interplay with aviation, rather than conclude SCAG will study airport planning?

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

Table 4. CONGESTION MANAGEMENT TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "2024" to all technical report page headers' titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
7	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.

Table 5. DEMOGRAPHICS AND GROWTH FORECAST TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2024 RTP/SCS/Connect SoCal along with the specific technical report it is within. Maps are often pulled out as singular items and the maps need to be standalone documents.
2	General Comment	All maps with growth forecast and development types data	Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
3	General Comment	All pages	Add "Technical Report" and "2024" to the header of each page
4	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
			Local Profiles if original data source is U.S. Census Bureau American Community Survey data
5	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
6	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
7	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
8	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
9	General Comment	All pages	Note that when focusing growth in infill settings, existing/planned service areas, and within the planning boundary outside of an agency's legal boundary, otherwise known as "Spheres of Influence" the growth must be feasible
10	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
11	Clarification	All pages	Pertaining to any discussion on farm land lost or at risk, it should be noted that **not all land used for farming is/was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming. Many of these areas are zoned for a different use and land owners farm the land for income until the development applications are approved and construction permits are issued. Additionally, farming was one of the few permitted uses allowed in areas designated flight hazard zones. For example, a great deal of the City of Irvine privately-owned land surrounding the former Marine Air Station El Toro was utilized for farming because no other uses were permitted. Once El Toro was closed, the land was rezoned to permit residential, but continued to be used as farmland for many years. Add notes to language and table or figures that indicate "**not all land used for farming was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming." Update any calculations or clarify language regarding land zoned as farmland or existing land used as farmland that was converted or will be converted to another use.
12	Correction	All pages	References and source citations to the American Community Survey dataset should use the word "estimates" not "sample", e.g., "Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates" or for PUMS: "Source: U.S. Census Bureau; American Community Survey (ACS), Three-Year Public Use Microdata Sample (PUMS), 2019-2021"
13	Define	Add Glossary	Add glossary to technical report and define: ACS BLS DPH LDX LED NAICS Overcrowding/rates PDA People of color PUMS QWI racial/ethnic groups Sketch-planning sustainability p. 28 SWAA

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION		
			EDD GRRA Headship rates	PopSyn	WFH
14	Clarification	p. 5; paragraph 5; sentence 2	"Long-range growth in an entire region, or within individual neighborhoods, cannot be specifically predicted; however, probabilistically it is usually more likely to be nearer to the middle of a range than to the extremes."		
15	Clarification	p. 7; paragraph 2; sentence 1	"Between March and November 2022, SCAG staff ~~initiated and~~ completed one-on-one meetings with 164 of the region's 197 local jurisdictions to explain the methods and assumptions behind the preliminary small-area growth forecast, as well as to provide an opportunity to review, edit and approve data ~~the provided maps as well as~~ and provide jurisdiction and TAZ totals for households and employment in 2019, 2035, and 2050." Note: jurisdictions were not asked to approve maps—they were asked to approve data illustrated in map format.		
16	Clarification	p. 7; paragraph 3; sentence 2	Remove or provide definition of "overcrowding rates".		
17	Clarification	p. 7; paragraph 4; sentence 2	"In order to meet the greenhouse gas targets set by CARB and implement the policies of Connect SoCal, these projections must be regionally balanced."		
18	Clarification	p. 7; Table 2	• Add grey section header bar above SCAG Region HIOC row. • Bold SCAG region total rows		
19	Clarification	p. 8; paragraph 1; last sentence	"These county-level projections provide a starting point for an even better balanced vision of 2050 which will require ~~more~~ policies, strategies, and investments in order to achieve." Please clarify sources and responsible parties of policies mentioned.		
20	Clarification	p. 8; paragraph 2; sentence 1	"According to Census 2020, which is the most recent official count of record, the population of the SCAG region as of April 1, 2020 was 18,824,382."		
21	Clarification	p. 9; Figure 3	Change source wording to "U.S. Census Bureau Decennial Census P.L.94-171 downloaded from IPUMS NHGIS, University of Minnesota"		
22	Clarification	p. 10; Figure 4	Change and vary color and format of lines to better differentiate between all.		
23	Clarification	p. 10; paragraph 1	"While population decline is unprecedented in California, a substantial portion can…"		
24	Define	p. 13; paragraph 3	Please provide definition of "people of color".		
25	Clarification	p. 13; paragraph 3; sentences 2-3	"Rooted in historically and spatially embedded inequities, indicators such as household overcrowding and exposure to pollutants are typically higher for people of color; because~~. Because~~ of the markedly younger age structure for people of color, more children will also be disproportionately impacted ~~by this regional inequity~~.		
26	Clarification	p. 13; paragraph 4; sentence 2	"The groups whose share of the region are projected to grow by 2050 are (in descending order) non-Hispanic Asian, non-Hispanic Multiracial, non-Hispanic Native Hawaiian/Pacific Islander, and Hispanic/Latino (Table 4~~5~~)."		

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info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
27	Correction	p. 14; Figure 3.1.3	Shading of Baby Boomers should be much darker shade of blue or white/hollow.
28	Clarification	p. 15; paragraph 2; sentence 2	"This trend is nonlinear over the projection period ~~horizon~~. By 2035, Baby Boomers will be ages 75 and older, Generation X will be at or approaching their senior years ~~retirement age~~ (65 years+), and Millennials and Gen Z will be in prime working age (16-64 years) but both will have aged out of prime childbearing age (generally 15-44 years).
29	Clarification	p. 15; paragraph 3; last sentence	"By 2022 regional employment had also matched its 2019 pre-COVID peak—which was 447,000 jobs greater than at the 2016 base year of the last Connect SoCal plan (Figure ~~Table~~ 7)."
30	Clarification	p. 15; Figure 6	• Add descriptors of "Housing Units" and "Household Size" to vertical/Y axis on Figure 6. • Lighten color for Single-Family Units as it is difficult to differentiate. • Change title "Figure 6. New Housing Units Permitted and Average Household Size, SCAG Region, 2000-2022" • Change source "Source: ~~CA DOF E-5 and~~ Permits: Construction Industry Research Board New Units from Permits. Household Size: CA DOF E-5 January 1 Estimates. *2019 household size uses SCAG Growth Forecast in lieu of DOF to benchmark to Census 2020.
31	Clarification	p. 16; table 5	Define "headship by age".
32	Clarification	p. 16; paragraph 2; last sentence	"Due to aging alone, the number of households would be expected to increase by more than 26 percent, compared with 11 percent population overall growth."
33	Clarification	p. 16; paragraph 4	"Household sizes tend to increase in the years following low housing production. Housing production was especially low over 2008-2013 as a result of the Great Recession—household sizes plateaued at around 3.1 and began to decline ~~precipitously~~ thereafter. This is related to the population growth slowdown coupled with relatively robust housing production, in addition to new Census 2020 data indicating more housing units in the region than were previously known to exist—likely due to better canvasing of neighborhoods and identification of new or non-permitted structures and conversions."
34	Clarification	p. 16; paragraph 6; sentence 2 sentence 3	"The 53,745 new units permitted in the region in 2022 reflect a higher number of new units than at any single year since 2006. The higher number of units permitted is due in part to the increased in ~~These data likely undercount~~ accessory dwelling unit (ADU) production. A ~~—a~~ newly available data series from the Department of Housing and Community Development show a rapid rise of ADUs in the region in recent years and over 11,000 ADUs in 2021. ~~This suggests that total new unit construction in recent years is likely even higher than shown in Figure 6.~~" • Please clarify if 53,745 new units are referring to the number of units permitted or units completed. If using CIRB data, it is likely permits issued not units that completed construction. • Why would the data undercount ADUs and why is new unit construction higher? Is this referring to permitting or completed units or legal/permitted units vs. non-permitted units?

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3972 Barranca Parkway, Ste. J127
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			• Is CIRB is questioning whether jurisdictions are reporting permits for new ADUs and permits for legalizing non-permitted ADUs?
35	Correction	p. 18; Figure 8; paragraph 1 sentence 2	"Between 2016 and 2019, employment was growing and the P:E ratio declined (Figure ~~7~~8-B)." Recommend relabeling Figure 8 to Figure 8-A and Figure 8-B.
36	Correction	p. 20; paragraph 1	"Since 2000, SCAG ~~region~~ regional employment in the following four sectors…"
37	Correction	p. 21; paragraph 2	"In constant 2022 dollars, the median wage in the SCAG region was $23.23 in 2002, $22.88 in 2012, and $22.87 in 2022. Table ~~8~~7 summarizes the wage ranges for each category."
38	Clarification	p. 22; paragraph 1 sentence 3	"Although the region's economy recovered quickly from the COVID recession, … • Please clarify how recovery is defined--# of jobs? # of businesses? Unemployment rate? Many businesses closed permanently. In 2021, the share of workers working from home shot up to over 19 percent. This trend has stabilized nationally, with approximately 20 percent of U.S. workers able to work from home for all or a portion of their work week (see Kane, Moreno, and Myers 2022)."
39	Clarification	p. 23; paragraph 3; sentence 3	"This model computes population at a future point in time by adding to the existing residential population to the number of group quarters population, births, and in-migrants during a projection period and subtracting the number of deaths and out-migrants."
40	Correction	p. 26; paragraph 2; sentence 2	"Regional totals by 2-digit NAICS sector are provided at the SCAG region level for 2019 and 2050 (Table ~~6~~7)."
41	Clarification	p. 27; paragraph 1; sentence 3	"As such, the projection does not reflect a build-out scenario of all general plans throughout the region those some areas may reach first-stage build out or build out of a general plan's capacity."
42	Clarification	p. 27; paragraph 1; sentence 4	"Combining the general plan, existing land use, and 2020 Census data above indicate that in the aggregate, local plans in the SCAG region currently have a remaining physical capacity of roughly 8.2 million housing units—several times higher than anticipated household growth—but for these additional units to be realized, the existing structures would have to be demolished and replaced with higher density developments." • The 'remaining physical capacity' is only capable of coming to fruition if the existing structures are demolished and replaced.
43	Clarification	p. 27; paragraph 3; sentence 4	"The regional growth vision combines an allocation process rooted in ~~based on~~ Connect SoCal 2020 policies and sustainable growth strategies with a Local Data Exchange process to integrate local information and insights and improve accuracy."
44	Clarification	p. 27; paragraph 4	"For the purposes of the preliminary growth forecast and forecasted regional development pattern ~~growth vision~~, PDAs are areas within the SCAG Region where future growth can be located in order to help the region reach mobility or environmental goals."
45	Clarification	p. 27; paragraph 4	"As such, the regional growth vision aims to increase resilience within the region's built systems by taking advantage of existing infrastructure, social

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			system by promoting complete communities, economic systems by promoting proximity to jobs, and natural systems by mitigating growth in hazardous or sensitive areas." Should 'social system' be plural and what social system/s is being referred to?
46	Clarification	p. 28; paragraph 4	"This step improved forecast accuracy by linking it to entitlements and likely development sites while also providing an avenue to consider regional strategies and targets in local plans."
47	Clarification	p. 28; paragraph 4; sentence 2	"Unlike prior regional plans in which the locally-reviewed employment projection increased while the household projection decreased, local jurisdictions' traditional optimism about employment growth was not only matched but was substantially exceeded by optimism about future housing production." • Reword sentence. There are more entitled housing projects and units that are now included in the 2024 RTP; the higher household projection is not just due to optimism.
48	Correction	p. 29; paragraph 1	Change all instances of "PL-94 171" to "P.L. 94-171 Redistricting Data"
49	Clarification	p. 31; paragraph 1; sentence 4	"PUMS data is built by the Census Bureau ~~bureau~~ from hundreds of individual householders' and associated household members' responses to ACS survey questions." • Only hundreds of people responded to the PUMS/ACS survey? Clarify if these are hundreds of questions answered by individual householders or hundreds of householders answering questions.
50	Clarification	p. 33 Table 12	Add "(July)" to title to clarify these are July totals.
51	Clarification	p. 34; paragraph 3	"The population's age structure and racial/ethnic makeup are expected to continue their current, gradual pattern of change seen ~~to change in ways that they have been gradually changing~~ in prior decades (Table 5).
52	Clarification	p. 35; paragraph 1; sentence 3	"While ~~the non-White~~ racial/ethnic populations other than non-Hispanic White are ~~is~~ younger, the slower projected rate of total population growth means that most racial/ethnic groups would not see as dramatic share changes as they did in the last thirty years. The largest increases are expected in the non-Hispanic Asian and non-Hispanic two-or-more races populations."
53	Clarification	p. 35; paragraph 6; sentence 2+	"The top three growth sectors during this time period, in terms of jobs added, are Health Care and Social Assistance sector adding 415,000 ~~thousand~~ jobs, Construction sector adding 139,000 ~~thousand~~ jobs, and Accommodation and Food Service adding 106,000 ~~thousand~~ jobs. Job growth in these three sectors make up half of the projected overall job growth for the region. Sectors where a decrease in jobs is projected between 2022 and 2050 are Finance and Insurance sector of 32,000 ~~thousand~~ jobs and a decrease of 16,000 ~~thousand~~ jobs in the Administrative and Support and Waste Services sectors."
54	Clarification	p. 45; paragraph 6; sentence 2	"The Local Data Exchange (LDX) process allowed SCAG to harmonize high-level trends with bottom-up community visions and entitled projects."

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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55	Clarification	p. 45; paragraph 3	5.5 TAZ-Level Growth Forecast, Growth Vision, and SCS Consistency Replace section language and corresponding footnote—removing footnote—with the following language: "In order to assess the ability of the Connect SoCal 2024 Plan to meet federal air quality standards and achieve a state greenhouse gas reduction target, SCAG creates small-area projections data for housing, population, and employment, which are known as the Tier 2 traffic analysis zone (TAZ) socioeconomic dataset (SED). Although these data are based in part on input provided by staff from local jurisdictions during the Connect SoCal 2024 Local Data Exchange process, local jurisdictions and projects within the region shall not be held to meet any specific numbers within or aggregates of the TAZ data. Connect SoCal 2024's TAZ-level household and employment projections are created to provide estimated snapshots in time. These projections do not reflect subsequently available information (given that local jurisdictions provided their local input to SCAG between May and December 2022); and, concerning some jurisdictions, they also do not reflect all currently entitled and pending projects. Additionally, the TAZ data do not project the full build-out and realization of localities' general plans; and they do not conform to jurisdictions' current respective housing elements. The local plans and approvals have continued and will continue to evolve; and market forces will continue to play a major role in determining the timing, locations, and different types of development and redevelopment that will occur. Therefore, the applicable jurisdiction(s) should be contacted for the most up-to-date data available. The TAZ-level household and employment growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. They are advisory and non-binding because they are developed only to conduct required modeling. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level. SCAG's forecasted regional development pattern (FRDP) is not solely based on the TAZ-level household and employment spatial projections. It is utilized to estimate the overall effect of the many policies, goals, and strategies of Connect SoCal—which should not be uncritically applied, individually or en masse, to any particular project or plan. The TAZ-level household and employment growth projections support the region's ability to model conformity with federal air quality standards and its ability to achieve a state greenhouse gas reduction target; they do not, however, reflect the only set of growth assumptions that may meet these standards and that target. Therefore, insofar as housing and other laws or grants may require comparisons of projects or plans to Connect SoCal 2024, SCAG's projections that are illustrated in TAZ maps—along with any related documents or

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			modeling outputs—may not be used to determine the inconsistency of any plan or project in the region with Connect SoCal 2024. Given that land use decisions are properly made with attention to local contexts and circumstances, local jurisdictions and other lead agencies shall have the sole discretion to determine a local project's or plan's general consistency and overall alignment with Connect SoCal. For example, local jurisdictions' plans and approvals may be found to align with Connect SoCal 2024 if they directionally support a number of its objectives, such as by encouraging a mix of housing types that includes more affordable and multi-family housing rather than solely single-family, for-sale housing; providing for more housing located proximate to employment or vice versa; or encouraging increased use of transit, ridesharing, biking, walking or micro-mobility, or hybrid and remote work to reduce commuting trips. Such alignment is an appropriate basis for a local jurisdiction to determine that a plan or project is consistent with Connect SoCal 2024. Such determinations should be evaluated based on (i) the totality of the goals, policies, and objectives of Connect SoCal 2024 and its associated Program Environmental Impact Report (PEIR), and (ii) the attributes of the local project or plan in overall relation to Connect SoCal, and not in a prescriptive manner by applying SCAG's TAZ-level data, any aggregate thereof, or any particular one or more goals, policies, or objectives of Connect SoCal 2024 and its associated PEIR. This flows logically from the fact that Connect SoCal 2024 includes dozens of stated directives, policies, goals, objectives, and measurements, any number of which may not be individually applicable to any given project or plan. For example, a project that provides new housing units in conformity with a jurisdiction's approved housing element can and should be found to be in overall alignment with Connect SoCal 2024 given housing production's contribution to Connect SoCal 2024 goals and policies, especially those related to affirmatively furthering fair housing, social and economic justice, jobs-housing balance, and the like. Household or employment growth included in the Connect SoCal 2024 TAZ-level SED and maps may assist in determining consistency with the SCS for purposes of determining a project's eligibility for CEQA streamlining under SB 375 (Cal. Govt. Code § 21155(a)). TAZ-level maps and data may not otherwise be used or applied prescriptively to determine that a project is inconsistent or not in alignment with Connect SoCal 2024 for any purpose, given that myriad other development assumptions could also be found to be consistent or, on balance, aligned with the SCS. Specifically, the TAZ-level data and maps do not supersede or otherwise affect locally approved housing elements, including those adopted in compliance with the 6th Cycle of the Regional Housing Needs Assessment (RHNA)."
56	Clarification	p. 46; paragraph 1	"More small households will form as overcrowding pressures ease, particularly during the first half of the Plan period~~horizon~~."

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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57	Clarification	p. 46; paragraph 3	"While the region showed resilience in the recent recovery from the COVID~~Covid~~ 19 pandemic-related economic downturn, the pandemic hastened the acceptance of remote work and adoption of technologies that minimize human interaction or that automate work."
58	Clarification	p. 48; Map 2 p. 49; Map 3 p. 51; Map 5 p. 52; Map 6 p. 53; Map 7	Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone- (TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."

Table 6. ECONOMIC IMPACT ANALYSIS TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2024 RTP/SCS/Connect SoCal along with the specific technical report it is within. Maps are often pulled out as singular items and the maps need to be standalone documents.
2	General Comment	All pages	Add "2024" to all technical report page headers' titles
3	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
4	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
5	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
6	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
7	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
8	General Comment	All pages	Note that when focusing growth in infill settings, existing/planned service areas, and within the planning boundary outside of an agency's legal boundary, otherwise known as "Spheres of Influence" the growth must be feasible
9	General Comments	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
10	Clarification	All pages	Pertaining to any discussion on farm land lost or at risk, it should be noted that **not all land used for farming is/was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming. Many of these areas are zoned for a different use and land owners farm the land for income until the development applications are approved and construction permits are issued. Additionally, farming was one of the few permitted uses allowed in areas designated flight hazard zones. For example, a great deal of the City of Irvine privately-owned land surrounding the former Marine Air Station El Toro was utilized for farming because no other uses were permitted. Once El Toro was closed, the land was rezoned to permit residential, but continued to be used as farmland for many years. Add notes to language and table or figures that indicate "**not all land used for farming was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming." Update any calculations or clarify language regarding land zoned as farmland or existing land used as farmland that was converted or will be converted to another use.
11	Correction	All pages	References and source citations to the American Community Survey dataset should use the word "estimates" not "sample", e.g., "Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates" or for PUMS: "Source: U.S. Census Bureau; American Community Survey (ACS), Three-Year Public Use Microdata Sample (PUMS), 2019-2021"
12	General Comment	All pages	Add "2024 Technical Report" to the header of each page
13	Clarification	p. 2; paragraph 2	"In 2023, the economic impacts of Connect SoCal 2024 on the SCAG-region ~~SCAG region~~ economy are at least as important, if not more. The SCAG region is in a similar situation recovering from the economic shock of the response to the COVID-19 pandemic, which upended nearly every aspect of the regional (and global) economy. COVID-19 had unprecedented impacts on the labor market. For example, pandemic-induced workplace closures drastically changed commuting patterns and employment locations. The pandemic response accelerated the decades-long increasing trend of remote and hybrid work, and because of pandemic-induced technological and cultural change, is likely to persist into the foreseeable future (Barrero, Bloom, and David 2023)."
14	Clarification	p. 2; paragraph 3; sentence 2	"The SCAG region has proven resilient in its recovery from the short but sharp COVID-19 recession. Connect SoCal 2024 investments, policies, and strategies strive to be more than the sum of their parts and capture synergies for the Plan. The intent is to fulfill the Plan's vision of a healthy, prosperous, accessible, and connected region for a more resilient and equitable future[i]. Connect SoCal 2024 adds important emerging priorities for the region: a plan that fosters regional resilience, equitable and inclusive economic growth for all SCAG-region ~~SCAG region~~ residents." • Use footnotes instead of the single endnote in the document

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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15	Correction	p. 2; paragraph 5; sentence 2	"Connect SoCal 2024 details SCAG-region ~~SCAG region~~ transportation spending exceeding $413 billion…"
16	Clarification	p. 3; paragraph 2	"Achieving the Plan's promise of economic growth requires us to recognize that the region faces significant income inequality. For example, in 2021, in the SCAG region, • Hispanic workers earned 56 percent of White worker wages, • Black workers earned 72 percent of White worker wages, and • Women earned 81 percent of men's wages. (American Community Survey, 2021)" • Is this using median or average wages? • Are the comparisons controlled for years or experience, education or any other factors?
17	Clarification	p. 3; second set of bullet points	"9.7 percent of the region's households lived in overcrowded housing compared to 7.0 percent for the rest of California and 3.4 percent for the U.S., and • Housing costs overburdened 45 percent of the region's households" • Please define 'overcrowded' and include source • Please define 'overburdened' and include source
18	Clarification	p. 5; paragraph 4; sentences 1-2	"A mix of transportation projects is ~~is~~ planned in the six SCAG counties over the 26-year model timeframe. Of the total Connect SoCal 2024 expenditures exceeding $413 billion (constant 2023 dollars)." • Second sentence is incomplete
19	Clarification	p. 11; paragraph 2; sentence 2	"Under the Plan and incorporating the network efficiency gains would increase GDP by $48 billion (2023 constant dollars) annually, on average." • Sentence structure is awkward. Reword for clarity.
20	Clarification	p. 14; paragraph 1; last sentence	"However, the federal government and California agencies such as CARB and CalTrans rely on the SC-GHG based on the work of the Interagency Working Group on ~~Groupon~~ the Social Cost of Greenhouse Gases ~~Gasses~~ ("IWG"). Therefore, for our analysis, we utilized ~~adopt~~ the IWG's ~~IWG~~ SC-GHG."
21	Clarification	p. 14; paragraph 1; sentence 1 last sentence	"The IWG is a group of scientists convened in 2009 by the federal Council of Economic Advisers and the Office of Management and Budget… However, some damages are difficult to quantify and are omitted from the SC-GHG models, including impacts from increased wildfire…"
22	Clarification	p. 16; paragraph 1; sentence 1	"In addition to the co-benefit of reduced GHG emissions, vibrant, multi-modal places foster increased physical…"
23	Clarification	p. 17; Table 6	Table source: cite original data sources instead of other tables in the report so the table can be extracted and serve as standalone information.
24	Clarification	p. 17; paragraph 1; sentence 2	"However, the SCAG Regional Council adopted the Inclusive Economic Recovery Strategy in July 2021 and, with a grant from the State of California, started implementing strategies for equitable and inclusive economic growth (see Chapter 3 of the 2024 Connect SoCal report~~Main Book~~)—specifically focusing on racial disparities."
25	Clarification	p. 17; paragraph 1; sentence 2	"Figure 3 shows that, on average and not controlling for factors such as field of work, years of experience, or education, women earned 81 percent of

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			what men earned in the SCAG region in 2021. Non-Hispanic Black workers earned 72 percent, and Hispanic workers earned 56 percent of non-Hispanic White~~, non-Hispanic~~ workers' earnings in the SCAG region in 2021."
26	Clarification	p. 18; Figure 3	Change Title: " Percent of Non-Hispanic White Worker Wages" Update categories to Non-Hispanic White Non-Hispanic Black/AA Hispanic Non-Hispanic Nat Am Non-Hispanic Asian/PI Other Non-Hispanic "Notes: Based on 2021 American Community Survey 1-Year PUMS Sample. Includes wage and salary workers in the labor force, age 25-64. Excludes observations with labor income below 1st and above 99th percentiles. All races are non-Hispanic. Hispanic includes any race identifying as Hispanic or Latino."
27	Clarification	p. 19; paragraph 2; sentence 2	"For illustrative purposes, assuming ~~Assuming~~ that this gain in GDP is equally distributed across industries, we can infer that the economic growth from Connect SoCal 2024 transportation investments we computed in Section 3."
28	Clarification	p. 18; Figure 3	"Notes: Based on data from the 2021 American Community Survey PUMS 1-Year Sample. Includes wage and salary workers in the labor force aged 25-64. Excludes observations with labor income below 1st and above 99th percentiles. All races are non-Hispanic. Hispanic includes any race identifying as Hispanic or Latino. SCAG region GDP estimated at $1.4 trillion in 2021 (REMI)."

Table 7. EQUITY ANALYSIS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "2024" to all technical report page headers' titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
7	Correction	All pages	References and source citations to the American Community Survey dataset should use the word "estimates" not "sample", e.g., "Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates" or for

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			PUMS: "Source: U.S. Census Bureau; American Community Survey (ACS), Three-Year Public Use Microdata Sample (PUMS), 2019-2021"
8	Table 1: Summary of Performance Measures	p. 4 – 8; Table 1	In the Table 1: Summary of Analysis column, it would be helpful to the reader if the condition(s) reported for all the performance measures, are identified as a condition applicable to either an Existing or Plan timeframe. The approach used in Rail-Related Impacts (page 6) is an excellent approach in distinguishing between Base Year and the Plan. Others are unclear, such as Share of Transportation Usage (page 4), and Bicycle and Pedestrian Collisions (page 5).
9	Table 1: Summary of Performance Measures: Impacts From Mileage-Based User Fees	p. 8; Table 1	The Summary of Analysis for the "Impacts from Mileage-Based User Fees" states that ".... it is crucial to ensure user fee programs are designed equitable, to insure that vulnerable communities experience the benefits of road pricing without regressive financial impacts." Is there an associated policy recommendation to support this conclusion that should be referenced? In reviewing the Plan Strategies (Section 3.4: Plan Fulfillment), do any of the Regional Planning Policies incorporate this implementation finding? If not, should there be such a policy? The one policy that links closest to the issue is the Funding the System/User Pricing Strategy that states "Study and pilot transportation user-fee programs and mitigation measures that increase equitable mobility." Does "equitable mobility" clearly address tackling regressive financial impacts of any road pricing program to vulnerable communities?
10	4. Analytical Approach: 4.1 Outreach Efforts Not in Priority Equity Communiti4es	p. 17	There is a subsection bullet listing of what appears to be outreach workshop participant input of what should not be designated as Priority Equity Communities. It would help the reader if the bullet listing could be prefaced with an introductory sentence to provide context, such as "Workshop participants further identified several populations that should not be considered when analyzing equity. These include:" [if this is the correct context]
11	Table 3: Priority Population Descriptions Limited Vehicle and Transit Population	p. 21	Table 3 includes a "Limited Vehicle and Transit Population" priority population, and defines this population as "Households with more members than vehicles owned that are not within a census tract that intersects with a High-Quality Transit Corridor." Please clarify if the definition applies to "members *of driving age.*"
12	Figure 1: Population in Priority Equity Communities by County	p. 22	It would be helpful if Figure 1 also includes a SCAG Region bar of the regional percentage of Priority Equity Population of 48.6%, to provide the reader with immediate visual context of how each county percentage compares to the regional percentage, and avoid having the reader to refer to the preceding paragraph for the context.
13	4.4 Impact Assessment	p. 28	This section of the Technical Report states that "As described in the Main Book, SCAG conducts a 'Plan' vs 'No Plan' (or Baseline) analysis which compares how the region would perform with and without implementation of *Connect SoCal*. Please clarify if the reference to *Connect SoCal* is Connect SoCal 2020 or Connect SoCal 2024, since the use of the phrase has been used in SCAG documents to refer to both the 2020 and the 2024 plan.

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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14	5.1 Comparison of Existing Conditions in the Region and in PECs: Asian population	p. 30-31 Table 7	The technical report states that "In contrast, over 60 percent of the region's Hispanic/Latino population Asian population and Native Hawaiian/Pacific Islanders were in Priority Equity Communities." This data does not match with the data in Table 7. Specifically, Table 7 illustrates that the Asian population is at 44.2%. If the Table 7 data is correct, the narrative should delete the reference to Asian populations.
15	5.1 Comparison of Existing Conditions in the Region and in PECs: Average HH Size	p. 30	The technical report states that the average household size in Priority Equity Communities is larger than the region. Is there some comparison data that can be provided? This would be helpful, as there is then a subsequent sentence that states only 46.3% of the region's household were in Priority Equity Communities, as compared to 48.6 percent of the total regional population share. Since households are all the members living in a housing unit, is this comparison of value?
16	6. Analysis: Mobility Vehicle Ownership	p. 37 & 38 Table 6	The technical report, page 37, last paragraph, states that "Figure 6 shows the percentage of householders that do not own an automobile. Almost seven percent of all householders within the SCAG region, and nine percent of householders of color, do not have access to or own a vehicle." Technically, Figure 6 does not illustrate that nine percent of householders of color do not have access to or own a vehicle. Was this an average percentage that was calculated from the raw numbers?
17	6.1 Share of Transportation Usage System	p. 40 & 41 Table 10	Page 40 of the technical report, last paragraph, states that "Black travelers had the second highest share of bus trips at 18.9%, a rate three times the regional usage, the highest usage rate compared to other racial/ethnic groups." There are some internal inconsistencies within the sentence and with the information on Table 10. a) The sentence makes reference to Black travelers having both the second highest share of bus trips as well as the highest usage rate. Based on the information in Table 10, it appears that the Hispanic/Latino population has the highest bus transit usage. b) If the regional share of bus usage is 2.3%, according to Table 10, how did the report calculate that Black travelers use bus transit at a rate of three times the regional usage? Seems to be much higher than three times.
18	6.2 Travel Time and Travel Distance Savings 6.22 Results	p. 41 & 42 Figure 7 p. 43	The Technical Report, page 41, last paragraph, states that "As shown in Figure 7, people of color experience longer travel times and distances using public transportation than auto..." and then continues with certain populations have longer travel time distances than other populations. Page 43: Results, third paragraph, continues to identify comparisons by race and ethnicity for public transportation. a) In reviewing the data on the referenced Figure 7, is the "Bus, Rail, Taxi or Ferry" category for commute times the same as "public transportation"? If that is correct, please also label as "Public Transportation: Bus, Rail, Taxi or Ferry." b) In reviewing the data on the referenced Figure 7, is the "Car or Motorcycle" category for commute times the same as "auto"? If that is correct, please also label as "Auto" so the narrative matches the Figure.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			c) If Public Transportation represents those four categories: Bus/Rail/Taxi/Ferry, the narrative/conclusions on pages 41 and 43 do not seem to match up with the data in Figure 7. Please re-review and appropriately correct.
19	6.3 Access to Everyday Destinations: Travel Cost Threshold	p. 52	The Equity Technical Report identifies that it uses a "Travel Cost Threshold" as a metric to measure access to destinations. The narrative on page 52 would benefit from a definition and explanation of a travel cost threshold, to set the context for the information in Table 11: Survey of Metrics for Access to Everyday Destinations.
20	7. Analysis: Communities	p. 77 & 78 Figure 24	The narrative on page 77, last paragraph, states that Figure 24 (on page 78) identifies households without broadband access. Further, that Black households (4.3%) are most likely to not own a computer. When looking at the percentages in the referenced Figure 24, the figure is labeled as "people living in households". Please clarify if the percentages shown in Figure 24 are the number of households (which can be occupied by more than one person), or the percentage of the total population living in those households (i.e., number of households multiplied by an average population per unit factor).
21	7.3.2 Rail-Related Impacts Results	p. 96	The conclusion on rail-related impacts seems to be vague on explicitly explaining the impacts of populations living proximate to railroads and railyards between Baseline and the Plan (e.g., "SCAG anticipates nominal plan impact or small differences between the Baseline and Plan scenarios, and that population changes would generally follow that of the SCAG region.") From an equity perspective, does this section address if the existing Baseline condition is a problem and needs to be addressed, especially if the conclusion is that there will be no significant change with implementation of the Plan?
22	9.2.2 Investments vs Benefits: Results	p. 135 Figure 43	The technical report identifies that Figure 43 illustrates that the Connect SoCal 2024 investments in projects most used by Hispanic/Latino and Asian populations are lower compared to people of other races and ethnicities. Is this an equity issue that warrants greater discussion? Leaves the reader hanging.
23	9.4 Impacts from Mileage-Based User Fee 10. Equity Resources for Action Toolbox: 10.4.5 Road Pricing Programs	p. 142 p. 171	The last paragraph on page 142 states that a Community Advisory Committee "expressed skepticism about road pricing as a pathway to more equitable transportation." This needs to be expanded and summarized as to the concerns expressed by the Community Advisory Committee. If there is skepticism to the equity of road pricing, the technical report should flush out what the concerns were, and whether the three recommended bullet points for pricing-related advocacy, effectively eliminates the fundamental issue or if it still remains. This issue then carries over into the Equity Toolbox: 10.4.5 Road Pricing Programs, which recommends that local agencies and groups "Adjust mitigation of negative impacts on vulnerable communities to reflect the specific impacts of pricing programs and local conditions." This is very vague and unclear and warrants expansion and context narrative.

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

Table 8. GOODS MOVEMENT TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "Technical Report" and "2024" to all technical report page headers' titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
#	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.

Table 9. HOUSING TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "2024" to the header of each page
2	General Comment	All pages	Within all tables, columns with numbers and their header rows should be right justified.
3	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
4	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
7	General Comment	All pages	Note that when focusing growth in infill settings, existing/planned service areas, and within the planning boundary outside of an agency's legal boundary, otherwise known as "Spheres of Influence" the growth must be feasible
8	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
9	Clarification	All pages	Pertaining to any discussion on farm land lost or at risk,

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
			it should be noted that **not all land used for farming is/was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming. Many of these areas are zoned for a different use and land owners farm the land for income until the development applications are approved and construction permits are issued. Additionally, farming was one of the few permitted uses allowed in areas designated flight hazard zones. For example, a great deal of the City of Irvine privately-owned land surrounding the former Marine Air Station El Toro was utilized for farming because no other uses were permitted. Once El Toro was closed, the land was rezoned to permit residential, but continued to be used as farmland for many years. Add notes to language and table or figures that indicate "**not all land used for farming was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming." Update any calculations or clarify language regarding land zoned as farmland or existing land used as farmland that was converted or will be converted to another use.
10	Correction	All pages	References and source citations to the American Community Survey dataset should use the word "estimates" not "sample", e.g., "Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates" or for PUMS: "Source: U.S. Census Bureau; American Community Survey (ACS), Three-Year Public Use Microdata Sample (PUMS), 2019-2021"
11	General Comment	All pages	Any uses of racial/ethnic group data should be accurately described and reflect names of categories in data used, not truncated as the lack of ethnicity descriptor is a different category. Therefore, all instances where there are mentions of racial/ethnic categories should include the descriptor of "non-Hispanic" even if it seems redundant, e.g., non-Hispanic Black, non-Hispanic White…
12	Clarification	p. 1; paragraph 3; last sentence	"This report focuses on housing need and strategies that can support housing production and is complemented by the Land Use and Communities Technical Report which guides where and how development, including housing, may ~~should~~ occur in the region in a way that is in alignment with Connect SoCal 2024."
13	Clarification	p. 1; paragraph 4 p. 2 1. Executive Summary Existing Housing Need 2. Why Housing Matters	Page 1, fourth paragraph, discusses the current housing crisis and includes the statement that "A shortfall of housing to meet the ***needs*** of the SCAG region have created issues such as cost-burden and overcrowded households." As has been discussed during the 6th cycle RHNA process, one factor for the significant increase in the SCAG region's 6th cycle housing need number – as determined by State HCD – is a shortfall of housing to meet the housing needs of the existing population. This existing housing need number was then added to State HCD's calculation of the region's future housing need for future population for the State's 6th RHNA cycle. A discussion and clarification of existing housing need is recommended to be added to the Executive Summary and to Section 2: Why Housing Matters, to enable the reader to understand why there is a backlog of housing need.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
14	Clarification	p. 1; paragraph 5 1. Executive Summary Barriers to Housing Production	Page 1, paragraph 5, discusses barriers to housing production, which include "lack of resources, community opposition, increasing construction costs, and the fiscalization of land use...". a) For the layperson, an explanation of "fiscalization of land use" would be recommended. b) Also, other factors that challenge housing production include: insufficient funding that can be provided to developers, to help subsidize the cost of building affordable housing units, especially with the elimination of state redevelopment funds; and, conflicting state requirements over housing production versus coastal lands protection on lands governed by the California Coastal Commission. While the sixth paragraph states that "Funding is available from the State to implement plans and projects at the regional and local levels," this sentence downplays the extent of funding needed to assist in housing production.
15	Clarification	p. 1; paragraph 6; last sentence	"Long term SCAG implementation strategies include providing technical assistance to housing element implementation, aligning housing-supportive infrastructure, and continuing its outreach and education efforts." • What is 'aligning housing-supportive infrastructure'?
16	Clarification	p. 2; paragraph 3; sentence 2	"However, while its core function was to insure home mortgage loans made by banks and private lenders, the FHA refused to insure mortgages in Black neighborhoods, often forcing them to move into urban housing projects and rendering them unable to build generational wealth that accompanies homeownership."
17	Clarification	p. 2; paragraph 5; sentence 2	"Even in neighborhoods where people of color found housing, some urban renewal policies destroyed some existing communities and displaced their residents."
18	Clarification	p. 2; paragraph 6; sentence 1	"Today, the quantitative impacts of the housing crisis such as overcrowding, cost-burden, and low home ownership, disproportionately burden communities of color."
19	Clarification	p. 3; paragraph 2 2. Why Housing Matters	The last paragraph of the "Why Housing Matters" section states that the Technical Report does not specifically define a quantitative threshold for what constitutes affordable housing. Nonetheless, there should be an additional sentence that identifies that the SCAG region jurisdictions, as a whole, must plan for more than 40% of its RHNA housing to be affordable to Extremely Very Low, Very-Low and Low Income households, per the 6th cycle RHNA allocation. This is an important context for the reader to understand, especially when addressing the challenges of housing production.
20	Clarification	p. 3; paragraph 5; 3.1 Local General Plans and Housing Elements	This section, third paragraph, states that "Jurisdictions are required to update their housing elements to demonstrate how they would accommodate ***future*** housing need by preparing a sites inventory." As noted in the earlier comment, housing need comprises both ***existing and future*** housing needs. Please clarify in the above-referenced statement.
21	Clarification	p. 3; paragraph 5; sentence 3	"In addition to the sites inventory, the housing element must identify existing and special housing needs, such as units at-risk for conversion, overcrowding and cost-burden households, population and household characteristics, seniors, and people experiencing homelessness."

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			• Use semicolons to clarify meaning: "In addition to the sites inventory, the housing element must identify existing and special housing needs, such as units at-risk for conversion; overcrowding and cost-burden households; population and household characteristics; seniors; and people experiencing homelessness."
22	Clarification	p. 4; paragraph 1 3.2 RHNA Local COG	This section, first paragraph, states that "The [RHNA] allocation for each jurisdiction is developed by a ***local*** Council of Governments (COG) such as SCAG." Is a "local" COG an accurate description of SCAG, or is "regional" a more appropriate descriptor?
23	Clarification	p. 4; paragraph 1; sentence 4	"The RHNA process is repeated every eight years to ensure that the State's housing needs are being addressed ~~met~~ and coincides with the housing element update period."
24	Clarification	p. 5; paragraph 1; sentence	"Meanwhile, these factors strengthen SCAG's Connect SoCal regional strategies of growth near destinations and mobility options. These strategies include ~~such as~~ emphasizing land use patterns that facilitate multimodal access to work, educational and other destinations and prioritizing infill and redevelopment of underutilized land to accommodate new growth and increasing amenities and connectivity in existing neighborhoods."
25	Clarification	p. 5; paragraph 2	"The 6th cycle ~~final~~ RHNA plan was adopted by SCAG in March 2021."
26	Clarification	p. 5; paragraph 3	"Together with the General Plan and housing element, the RHNA allocation is a vision of a local jurisdiction's household need and the ways to accommodate its existing and future need while achieving its goals." • Clarify who and what goals is being referred to at the end of the sentence.
27	Clarification	p. 5, 6 4 Existing Conditions	This section, first paragraph, states that "An analysis of existing conditions for the region's housing characteristics provides insight on housing trends, helps identify housing issues communities are facing, and ***predicts*** the future needs of the region." How does an existing conditions analysis predict future needs? Please provide a clarifying example or eliminate the reference. The last sentence of Section 4 (on page 6) is perhaps a more appropriate descriptor: "Evaluating the region's housing existing conditions helps SCAG understand the challenges the region is facing to develop implementation strategies and policies to alleviate these challenges moving forward."
28	Clarification	p. 6; paragraph 2	"According to [insert agency data is sourced from], as of 20xx, the ~~The~~ SCAG region has ~~hosts~~ a total of 6,622,509 units in its housing stock. Over half of these units were built before 1980, approximately over 40 years ago. The SCAG region follows California's trend of increasing housing production until 1980 when housing production began ~~begins~~ to decrease ~~dramatically~~ each year thereafter, which has led to a housing shortage (Figure 1). Moreover, Senate Bill 375 (SB 375) became law in 2008, but since then, only 5 percent of total housing stock has been built. While this indicates that growth in housing supply has been slower than anticipated, it also indicates a significant barrier to realizing the vision of SB 375 as the only way to get more housing near transit is to also have more housing overall."

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3972 Barranca Parkway, Ste. J127
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info@occog.com

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			• In last sentence, why is housing supply 'slower than anticipated'? Sentence is unclear, please reword.
29	Clarification	p. 6; paragraph 2; last sentence 4.1 Housing Stock SB 375 reference	"...realizing the vision of SB 375 ... to get more housing near transit, is to have more housing overall." The directive of SB 375 is to reduce greenhouse gas emissions through a complement of land use planning and transportation investments. Please provide a statute citation that documents that SB 375 calls for having more housing overall in order to have more housing near transit.
30	Clarification	p. 6; paragraph 3	"~~Geographically in the SCAG region, as~~ As housing production continued to decrease ~~dwindle~~ in Los Angeles County, housing production stayed strong in the Inland Empire, which encompasses Riverside and San Bernardino Counties. Determining where housing is needed is a major ~~geographical~~ challenge. Housing production is needed across the region, and in addition to infill areas and other urban locations, housing is still needed in less dense and connected areas. The underproduction of housing has had negative impacts ~~implications~~ on people throughout the region, leading to overcrowding and additional cost burden that disproportionately affect communities of color. Figure 1. SCAG Counties' ~~Counties~~ 2021 Housing Stock"
31	Clarification	p. 7; paragraph 1; sentence 2 4.1 Housing Stock Housing Built before 1990	Page 7, first paragraph, makes an argument that living in a home built before 1990, "when combined with other conditions such as substandard facilities, cost burden, overcrowding and housing underproduction ... results in a scenario where the region is not meeting the housing needs of who is already here in the region." • Please provide a citation of source of this conclusion that housing structure age is a key determinant of why the region is not meeting its existing housing need. • And further, how the age of a housing structure "results in a scenario of disproportionate burden and inequity." • In looking at the Section 4.3: Complete Facilities narrative on pages 10-11, there is no discussion or presentation of data about the age of the housing structure as it relates to the units inventoried as lacking kitchen or plumbing facilities.
32	Clarification	p. 7; paragraph 2; sentence 3	"In every county in the SCAG region, there are more homeowners than renters, except for Los Angeles County which has a 55 percent renter-occupied housing rate. However, a look at housing tenure among communities of color reveals an inequitable distribution of homeownership."
33	Clarification	p. 7; paragraph 3; sentence 3	Any uses of racial/ethnic group data should be accurately described and reflect names of categories in data used, not truncated as the lack of ethnicity descriptor is a different category. Therefore, all instances where there are mentions of racial/ethnic categories should include the descriptor of "non-Hispanic" if that is the full category descriptor. This should occur throughout the narrative even if it seems redundant, e.g., non-Hispanic

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info@occog.com

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			Black, non-Hispanic White. Please verify original source data categories and update narrative accordingly. For example: "According to SCAG's 2022 Racial Equity Baseline Conditions Report, 61 percent of non-Hispanic White households owned their home compared to only 58 percent of non-Hispanic Asian/Pacific Islander households, 44 percent of Hispanic (or Latino) households, 36 percent of non-Hispanic Black households, and 47 percent of non-Hispanic Native American households. This means that non-Hispanic White household homeownership is nearly twice the rate of non-Hispanic Black households."
34	Clarification	p. 9 Figure 5 4.2 Housing Tenure By Race & Ethnicity	When discussing home ownership by race and ethnicity, the narrative on page 7 cites SCAG's 2022 Racial Equity Baseline Conditions Report, while Figure 5 cites U.S. Census Bureau data. The use of two cited sources results in homeownership percentage figures that are close but not consistent. • Please specify whether the racial/ethnic categories are all for non-Hispanic groups other than Hispanic (or Latino); if so, add "non-Hispanic" to categories other than Hispanic/Latino.
35	Clarification	p. 10 4.3 Complete Facilities	This section, first paragraph, states that "there are still 80,909 units lacking complete kitchen facilities and 22,282 units lacking complete plumbing facilities in the SCAG region." • Please also include the total number of housing units in the SCAG region, to provide context on the extent of substandard units. • Cite source and year of data. • Note that JADUs do not require a separate bathroom but are considered a housing unit. • The U.S. Census Bureau counted thousands of additional housing units in the SCAG region that were not estimated by State DOF or reported by cities and counties as officially permitted units. Many of these are presumed to be non-traditional living quarters and may not have full kitchen or plumbing. The Bureau states that "Even tents, old railroad cars, and boats are considered to be living quarters if someone claims them as his or her residence." (page B-8 https://www2.census.gov/programs-surveys/decennial/2020/technical-documentation/complete-tech-docs/summary-file/2020Census_PL94_171Redistricting_StatesTechDoc_English.pdf) If people were living in these structures/objects at the time of the 2020 Census, these were counted as 'housing units' and reported in the 2020 Census housing count that is used as a benchmark by DOF and most agencies.
36	Clarification	p. 10; paragraph 2	Any uses of racial/ethnic group data should be accurately described and reflect names of categories in data used, not truncated as the lack of ethnicity descriptor is a different category. Therefore, all instances where there are mentions of racial/ethnic categories should include the descriptor of "non-Hispanic" if that is the full category descriptor. This should occur throughout the narrative even if it seems redundant, e.g., non-Hispanic Black, non-Hispanic White. Please verify original source data categories and update narrative accordingly.

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Orange County Council of Governments (OCCOG)
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info@occog.com

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			For example: "This issue becomes more pronounced when analyzing rates among communities of color and comparing them to non-Hispanic White communities and regional averages. SCAG's 2022 Racial Equity Baseline Conditions Report found that in the SCAG region, non-Hispanic Native Americans and non-Hispanic Black residents are three times more likely to live in housing units without plumbing facilities than non-Hispanic White households (1.1 percent, 0.7 percent, and 0.3 percent, respectively). Across the region, 1.4 percent of non-Hispanic White residents live in housing units without complete kitchen facilities, compared to 2.0 percent for non-Hispanic Native Americans and 1.8 percent for non-Hispanic Asians/Pacific Islanders. This inequity is particularly apparent in rural Imperial County, where one out of every 20 non-Hispanic Black residents (about 5 percent) live in housing units without complete kitchen facilities, which is significantly higher than the overall county rate of 0.9 percent. A similar trend is found in Ventura County where 3.1 percent of non-Hispanic Black people live without kitchen facilities compared to non-Hispanic White people at 1.2 percent.6 The disproportionate rates of substandard housing in communities of color compared to non-Hispanic White communities and the overall average suggest that the production of more housing in these communities, especially in rural and non-infill areas, can address historical disparities."
37	Clarification	p. 11, Figure 8 4.3 Complete Facilities	a) Figure 8 does not have any bar illustrating the percentage of White households that lack kitchen and plumbing facilities. Is the first "Other" bar incorrectly labeled, and should be the "White" bar at 0.19%? b) Also, there is no discussion about the information in Figure 8, in the narrative. The narrative cites SCAG's 2022 Racial Equity Baseline Conditions Report, where the lack of kitchen facilities is independently quantified from the lack of plumbing facilities. Figure 8, on the other hand, tabulates the percentage of households (by race and ethnicity) lacking kitchen and plumbing facilities combined and not separately. As a result, the percentage numbers between the narrative and Figure 8 do not match. c) Please specify whether the racial/ethnic categories are all for non-Hispanic groups other than Hispanic (or Latino); if so, add "non-Hispanic" to categories other than Hispanic/Latino.
38	Clarification	p. 12; paragraph 1; sentence 3	"Households that spend more than 30 percent of their income on housing are considered cost burdened ~~"overpaying"~~ and will have less income to spend on both essential needs, such as food and transportation, and discretionary purchases." • "overpaying" is not the same as "cost-burdened"- overpaying is associated with the cost of the rent, not the share of income being paid on rent.
39	Clarification	p. 12, 13 Figure 9 Figure 10 4.4 Cost Burdened Households	This section discusses the percentage of cost burdened households, across several referenced years (2012, 2019 and 2021). However, the percentages cited in the narrative, do not match the information in Figure 9 or Figure 10. Please re-review and correct. One issue could be that the narrative separates a discussion of renters versus owners, whereas the Figures could possibly be a combination of all households (i.e., renters and owners). However, the discussion relating to all households (renters and owners) on

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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		2012, 2019, 2021	page 12 and supposedly illustrated in Figure 10, still does not match. And the conclusion: that 43.2% of all occupied housing units in the SCAG region are cost-burdened, does not seem to be illustrated in Figure 10. Depending on the corrections needed, update the last sentence: "However, in Orange County, the ratio of severely cost-burden households of all ~~overall paying~~ renters increased by 2.4 percent."
40	Clarification	p. 14; Figure 11	Please specify whether the racial/ethnic categories are all for non-Hispanic groups other than Hispanic (or Latino); if so, add "non-Hispanic" to categories other than Hispanic/Latino.
41	Clarification	p. 14; paragraph 1; sentence 2	"All other racial and ethnic households experienced greater cost burden regardless of whether they rent or own their homes than when compared to non-Hispanic White households. Hispanic (or Latino) and non-Hispanic Black homeowners and renters experience the greatest cost burden across racial and ethnic households in the SCAG region."
42	Clarification	p. 16; paragraph 1; sentence 2	"When considering income, there are emerging inequities for households with very low income." This sentence is unclear and does not explain emerging inequities. "Severe cost burden ~~overpayment~~ is a particular burden for low-income families, who have extremely limited resources to spend on daily needs such as transportation, food, and healthcare in addition to housing costs." Use consistent language throughout document.
43	Clarification	p. 16; paragraph 2 & 3	Any uses of racial/ethnic group data should be accurately described and reflect names of categories in data used, not truncated as the lack of ethnicity descriptor is a different category. Therefore, all instances where there are mentions of racial/ethnic categories should include the descriptor of "non-Hispanic" if that is the full category descriptor. This should occur throughout the narrative even if it seems redundant, e.g., non-Hispanic Black, non-Hispanic White. Please verify original source data categories and update narrative accordingly. For example: "A disparity in cost burden emerges in a further analysis between communities of color and non-Hispanic White communities. Across the region, non-Hispanic Black, Hispanic (or Latino), and non-Hispanic Native American households – regardless of whether they own or rent – experience the greatest housing cost burdens. While a little over one of four non-Hispanic White households pay more than 30 percent of their income on rent, almost one out of two Hispanic (or Latino) households do (46 percent). This figure is 41 percent for non-Hispanic Black households and 33 percent for non-Hispanic Native American households. The high burden of housing costs carries over into homeownership. For Hispanic (or Latino) home-owning households, 18 percent are cost burden and is 14 percent and 17 percent for non-Hispanic Black and non-Hispanic Native American households, respectively. This is significantly higher than the rate for non-Hispanic White home-owning households at 10 percent. Considering that communities of color have almost twice the rate of poverty (households below 200 percent the poverty line) than the non-Hispanic White community (41 percent and 22 percent, respectively), cost

Orange County Council of Governments

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3972 Barranca Parkway, Ste. J127
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info@occog.com

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			burden inequities further widen for these communities since fewer resources are available to spend on necessities such as food, transportation, and healthcare."
44	Clarification	p. 16 4.4 Cost Burdened Households By Race & Ethnicity	a) The page 16 discussion on cost-burdened households by race and ethnicity and the SCAG region overall, cites percentages that seem to lack a data source. Is this also SCAG's 2022 Racial Equity Report (the Source Reference #7 at the end of the last sentence in the third paragraph of this section)? b) It would also be helpful to the reader if the cost burdened information by race and ethnicity could also be presented in a Figure, to allow for a more streamlined comparison of the data.
45	Clarification	p. 16 & 18; +Figure 14 4.5 Overcrowding	a) The Overcrowding discussion, starting on page 16, states that the U.S Department of Housing and Urban Development defines overcrowding as more than 1.01 persons per room in a housing unit. Please include a footnote or clarification that there are certain rooms in a housing unit that are excluded from the 1.01 persons per room calculation, and identify said rooms that are excluded. b) Please reference in the narrative discussion, the associated Figures that illustrate the overcrowding data (e.g., Figure 12, Figure 13, Figure 14 and Figure 15, where applicable in the narrative discussion). c) The narrative also states that "Since 2012, these [overcrowding] percentages have slightly decreased." Please clarify if "these" refers to Los Angeles County or the SCAG region. Unclear. d) Figure 14 is: missing/mislabeled the bar to illustrate the percentage of White households experiencing overcrowding. The title of Figure 14 should also reference that it is households that is being depicted. e) Figure title suggests data is broken out by race and ethnicity; please clarify if all groups listed mutually exclusive or if it is 'select racial/ethnic' categories being reported if only Whites are broken out as being Hispanic or not. Figure should be labeled accordingly. f) The narrative on the second paragraph of page 18 states that Black and Asian/Pacific Islander households have overcrowding rates of 3 and 4 percent, respectively. If the report is rounding up the percentages illustrated in Figure 14, the percentage for Asian/Pacific Islanders should be revised from 4 to 5 percent, similar to what was done for the Black households data.
46	Clarification	p. 18; paragraph 2	Any uses of racial/ethnic group data should be accurately described and reflect names of categories in data used, not truncated as the lack of ethnicity descriptor is a different category. Therefore, all instances where there are mentions of racial/ethnic categories should include the descriptor of "non-Hispanic" if that is the full category descriptor. This should occur throughout the narrative even if it seems redundant, e.g., non-Hispanic Black, non-Hispanic White. Please verify original source data categories and update narrative accordingly. "Similar to other data on existing conditions shared in this chapter, communities of color represent a disproportionate amount of the SCAG region's overcrowded population~~overcrowding data~~. Across the region,

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3972 Barranca Parkway, Ste. J127
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info@occog.com

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			there is a much higher likelihood for Hispanic (or Latino) households to be living in overcrowded housing with approximately one out of 10 households in overcrowded conditions at 10 percent, while non-Hispanic White households have a rate of about one out of 100 (1 percent). While lower than Hispanic (or Latino) households, non-Hispanic Black and non-Hispanic Asian/Pacific Islander households also have higher overcrowding rates at 3 percent and 4 percent, respectively.8"
47	Clarification	p. 19; paragraph 1; last sentence	"Housing prices and rents increase further out of reach for existing residents." • Sentence seems incomplete.
48	Clarification	p. 19; paragraph 2	"This neighborhood change of a lower-income neighborhood ~~an initially lower socioeconomic status~~ transitioning to one of higher income and socioeconomic status, also known as gentrification, is considered as a precursor to rising housing costs and displacement….The same study noted there was no significant relationship between rent increases and losses of low-income White households.9" • Does the last sentence refer to Whites that may also be Hispanic or Latino or non-Hispanic Whites?
49	Clarification	p. 20-21; Figure 16 Figure 17 4.7 Homelessness	a) Label Figures 16 and 17 or revise the titles of these figures, to clarify that the numbers on the vertical axis represent the homelessness population. b) On Figure 14, there are references to the plotted data such as "Santa Ana, Anaheim/Orange County," "San Bernardino City & County," "Riverside City and County," and "Oxnard, San Buenaventura/Ventura County." Please include a footnote explaining if the "County" references refer to the homeless population in county unincorporated territory in addition to the cities cited, to avoid a misinterpretation that it refers to the number of homeless in the entire county boundary. Also, the graph approach is very difficult to read and perhaps a table of the data would be a better approach to identify the change in the homeless population across the years. c) are the geographic areas reported for Health Care Agencies or some other type of agency? Please add the agency type to the title of Figure 16.
50	Clarification	p. 21; paragraph 1	"According to California Continuums of Care (COC), the unhoused population count for CoCs across the SCAG region were 53,729 in 2012 and increased ~~jumped~~ by 38 percent to over 74,000 in 2019. However, in 2021 the count dropped ~~significantly~~ to less than 23,000 and then increased ~~jumped~~ to almost 85,000 in 2022~~;, meaning that~~ the unhoused population increased overall ~~jumped~~ by 58 percent in the last decade but is still lower than the 2006 count of XXXXX. The reason for the 2021 fluctuation may be caused by undercounting due to the pandemic and associated shutdowns." Please add count for 2006 into narrative.
51	Clarification	p. 22; paragraph 2; last sentence	"In contrast, only 14,000 units were permitted at its lowest point in 2009, during the low point ~~peak~~ of the most recent housing recession."
52	Clarification	p. 22, 23-24 Figure 18 Figure 19	This entire discussion about how many building permits were issued in the SCAG region, for single- and multi-family units, needs to carefully be re-reviewed and revised, both in the narrative discussion and in Figures 18 and 19. Does the data represent the number of building permits issued, or the number of units that were permitted? Clarity on this issue is especially

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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		5 Housing Production: Building Permits Issued versus Housing Units Permitted	critical for multi-family development, where one building permit can be issued for one building that incorporates tens or hundreds of residential units within that one building. This clarity would also affect the conclusions about trends. What should be depicted is the number of units that were permitted, not the number of building permits issued. The latter has no real relevance to housing supply diversity, since it does not represent the total number of housing units that were constructed. a) For example, if the data represent the number of units permitted, then change the title of Figure 18 to: "SCAG Region Number of Housing Units Permitted ~~Building Permits Issued~~" and "The share of total units permitted ~~permits~~ by housing type also fluctuated over the past four decades." b) Figure 19. SCAG Region Shares of Housing Units Permitted by Type ~~Building Permits Issued Percentage~~
53	Clarification	p. 23; paragraph 2; last sentence	"While one could conclude that the SCAG region collectively met a substantial portion of its total housing need, a significant percentage of affordable housing need was largely unmet as illustrated in Figure 19." • Explain how the affordable housing need was unmet and how Figure 19 illustrates that.
54	Clarification	p. 24 Figure 20 5 Housing Production: 5th Cycle RHNA	The discussion on the 5th cycle RHNA should: a) first reference that this discussion is HCD information on the 5th RHNA cycle, and should also include information on the dates of the planning period of the 5th RHNA cycle, in addition to the 6th RHNA cycle, to give the reader some context. b) What does "fulfillment" mean? Is it the number of building permits issued, or residential units finaled? Change title to "Figure 20. SCAG Region 5th Cycle RHNA Share of Income Category Fulfillment ~~Percentage~~(Units Permitted)"
55	Clarification	p. 24; paragraph 2	"The trend of producing only a small portion of affordable housing combined with factors such as homelessness, and for communities of color lower homeownership rates and increased cost-burden, overcrowding, and substandard housing, suggest a problem that extends beyond supply and demand." First sentence is difficult to understand. Reword or use additional punctuation to clarify.
56	Clarification	p. 25 Figure 21 Paragraph 2 5.2 Challenges in Meeting Housing Needs	The narrative in this section discusses the ratio of housing units produced per persons added to the region, over five distinct decades. When discussing how the ratio of units to population increased or decreased, is the correct relationship being understood? Would the use of the term "improved" or "worsened" be clearer? Change title to "Figure 21. SCAG Region Housing Unit vs. Population Growth Comparison"
57	Clarification	p. 26; paragraph 5	"In addition to the new requirements of realistic development capacity, achieving compliance has also become stricter. Jurisdictions in the SCAG region that achieved compliance by October 2022 have until February 2025 to complete any necessary rezonings. Jurisdictions that did not achieve compliance by October 2022 must now complete necessary rezonings

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

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			before they can receive HCD approval. This poses a problem for jurisdictions that need funding to implement their housing element but cannot achieve the grant requirement of housing element compliance due to the inability to undertake the rezonings." • Language regarding deadlines for rezoning is not consistent across RTP documents. Review and ensure correct dates are reported across all documents. • Is the February 2025 date accurate? The statement is unclear on if some jurisdictions have other deadlines before or after the date mentioned and inconsistent with other documents and sections that mention an October 2024 deadline. Please check dates against statute and update as applicable throughout all documents regarding this topic.
58	Clarification	p. 26; paragraph 6	"In the early 21st century, expansion on the urban fringe continued in some places, though the region's fragile and rugged natural landscape—as well as sheer distances—present substantial limits." • Remove "fragile" or expand on what this means
59	Clarification	p. 27; paragraph 4	"Beyond planning challenges, the cost of building residential units is another primary barrier to meet housing need. Not only does it include construction costs, such as the cost of land, materials, and labor, but jurisdictional processes, state mandates, and environmental requirements can also add cost to the process."
60	Clarification	p. 27; paragraph 7; sentence 2	"Issues such as a smaller workforce pool after the last recession in 20xx, an aging workforce where one in five workers is currently over 55, and strong competition from related…" • Specify which recession is being referred to.
61	Clarification	p. 28; Table 2	"Table 2. California ~~Cost~~ Construction Costs Annual Percentage Change" • Are these all types of construction or just housing? Perhaps include clarification in title.
62	Clarification	p. 29 Section 5.2	The Insufficient Resources discussion states that a lack of local jurisdiction staffing or funding to implement affordable programs or design zoning codes can be a restriction to encouraging housing production. Please cite the survey or source of this conclusion.
63	Clarification	p. 30 5.2 Challenges in Meeting Housing Needs: Development and Impact Fees	In the discussion on development impact fees on page 30, reference is made to needing these fees "to support the approval of the development such as staff time for permitting, inspections." There may be confusion between a local jurisdiction imposing a processing fee, where the fee is used to cover the cost of staff time to review and process the development application and associated environmental analyses, versus a development impact fee, which is used to assess a pro rata share of fees to cover local, county or regional need for schools, parks, or infrastructure that are needed to support the increased population generated by the proposed project.
64	Clarification	p. 31; paragraph 2	"As illustrated in previous sections, multiple factors that are found throughout the planning and building process contribute to ~~the causes of~~ the housing crisis ~~are at various points in the process to plan and build housing~~. … The following section describes a snapshot of funding for

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			planning and building housing, technical assistance offered by SCAG, and strategies implementable by local jurisdictions—all of which may contribute to increasing the~~— all various ways to increase~~ housing supply."
65	Clarification	p. 32; paragraph 2	"SB 2 also established the Permanent Local Housing Allocation (PLHA~~PHLA~~) program. Under this grant, the amount of PLHA funding for entitlement jurisdictions is based on the formula funding for the Community Development Block Grant (CDBG) Program for a five-year period, and through a competitive grant program to non-entitlement jurisdictions. As of Round 3, all awarded applicants in the SCAG region were entitlement jurisdictions…." • Briefly explain what 'non-entitlement' and 'entitlement' jurisdictions are and if this means that some agencies qualify under certain parameters or not. Perhaps refer reader to location to find more detailed information.
66	Clarification	p. 37; paragraph 1	"There are a variety of strategies and tools that local jurisdictions and stakeholders can employ to plan for and facilitate the building of ~~build~~ housing."
67	Clarification	p. 37; paragraph 5	"15-minute communities draw social and economic resilience benefits that address shocks and stressors including households with limited mobility options, the age dependency ratio, and limited tree canopy/urban heat island effect." Do 15-minute communities draw or create benefits?
68	Clarification	p. 38; Figure 23	Figure title suggests data is broken out by race and ethnicity; please clarify if all groups listed mutually exclusive or if it is 'select racial/ethnic' categories being reported if only Whites are broken out as being Hispanic or not. Figure should be labeled accordingly with "non-Hispanic" for each category other than Hispanic or Latino if the data actually reflect race categories broken out by Hispanic/Latino ethnicity. A note should be added to the Figure if only the White category is non-Hispanic and all others may include Hispanics or Latinos.
69	Clarification	p. 39; Age dependency ratio	The narrative discusses the age dependency ratio as being "measured by the percentage of the population younger than 20 years old and older than 64." The typical age dependency ratio is the population under 15 and 65+. Please verify SCAG's definition and if ratio used deviates from traditional ratio, explain why the ratio was changed.
70	Clarification	p. 39, 40 Figure 25 7 Best Practices for Jurisdictions and Stakeholders: Tree Canopy	Please clarify how an area that is or is not covered by tree canopy, is determined. Is this done on a parcel by parcel basis, or the number of trees located by area or acreage, or other factor? Please provide a summary of the State Department of Public Health's methodology, given that the SCAG region is identified as having more than 90% of its acre not covered by tree canopy. Also, perhaps there should be some discussion about the breadth of geography that the SCAG region encompasses, which includes high desert communities.
71	Clarification	p. 39; paragraph 2	"These communities are more susceptible to the effects of extreme heat events and offer less carbon sequestration, making the community overall a less pleasant place to engage in activities." • Please clarify if 'activities' include everything or if it is referring to physical and/or outdoor activities.

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Irvine, CA 92606

info@occog.com

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72	Clarification	p. 40; Figure 25	Include year of data being reported in title and source.
73	Clarification	p. 41; paragraph 1	"Once inefficiencies are identified, jurisdictions can implement strategies such as consolidating the review process, creating multiple points of entry to secure a building permit, creating an expedited process for certain types of projects such as affordable housing, updating permitting software, and lowering the threshold for project to receive a ministerial permit.32" • What are "multiple points of entry to secure a building permit"?
74	7.4 Housing Supportive Infrastructure	p. 42	The second paragraph on page 42 states "Moreover, many jurisdictions do not have an ***updated to date*** assessment of their utility infrastructure.....". Perhaps this should read "updated assessment" or "up-to-date assessment"?
75	Clarification	p. 44	Ensure language of regional planning policies is the same as in the main Connect SoCal document.

Table 10. LAND USE AND COMMUNITIES TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2024 RTP/SCS/Connect SoCal along with the specific technical report it is within. Maps are often pulled out as singular items and the maps need to be standalone documents.
2	General Comment	All maps with growth forecast and development types data	Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone-(TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
3	General Comment	All pages	Add "2024" to all technical report page headers' titles
4	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
5	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
6	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.

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Irvine, CA 92606

info@occog.com

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7	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
8	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
9	General Comment	All pages	Note that when focusing growth in infill settings, existing/planned service areas, and within the planning boundary outside of an agency's legal boundary, otherwise known as "Spheres of Influence" the growth must be feasible
10	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
11	Clarification	All pages	Pertaining to any discussion on farm land lost or at risk, it should be noted that **not all land used for farming is/was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming. Many of these areas are zoned for a different use and land owners farm the land for income until the development applications are approved and construction permits are issued. Additionally, farming was one of the few permitted uses allowed in areas designated flight hazard zones. For example, a great deal of the City of Irvine privately-owned land surrounding the former Marine Air Station El Toro was utilized for farming because no other uses were permitted. Once El Toro was closed, the land was rezoned to permit residential, but continued to be used as farmland for many years. Add notes to language and table or figures that indicate "**not all land used for farming was permanent farmland** and was not necessarily designated in the zoning code or general plan for farming." Update any calculations or clarify language regarding land zoned as farmland or existing land used as farmland that was converted or will be converted to another use.
12	Correction	All pages	References and source citations to the American Community Survey dataset should use the word "estimates" not "sample", e.g., "Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates" or for PUMS: "Source: U.S. Census Bureau; American Community Survey (ACS), Three-Year Public Use Microdata Sample (PUMS), 2019-2021"
13	General Comment	All pages	The phrase "natural and farmlands" is used throughout this and other documents. To clarify, amend phrasing, e.g., 'natural lands and farm lands' or 'natural and farm lands'. Example on page 2 paragraph 2 second sentence: "This chapter also covers climate resilience, and natural and farmland preservation, and complete communities"… where the current wording language does not make sense to say "…and natural preservation" Please revise phrasing and proliferate throughout all documents.
14	Clarification	p. 1; bullet 1	"Regional Housing Needs Assessment (RHNA), the state-mandated ~~state mandated~~ vehicle for identifying and allocating housing need in the state."
15	Clarification	p. 1; bullet 5 on page	"SCAG's Racial Equity Early Action Plan, defined racial equity for SCAG and established a series of goals and strategies for SCAG to advance racial equity in the region. The Racial Equity Early Action Plan has spurred

Orange County Council of Governments

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			additional racial equity centered work including the convening of the Racial Equity and Regional Planning Subcommittee, which developed a series of recommendations to advance racial equity in the Plan. These recommendations are reflected throughout the Plan."
16	Clarification	p. 2; paragraph 1; sentence 4	"The Local Data Exchange process informed the FRDP through a series of touchpoints with local jurisdictions where they were presented with information on project growth in their jurisdictions for input to ensure entitlements were accurately reflected and the PDAs and GRRAs were considered ~~these assumptions were reflected in local plans~~."
17	Clarification	p. 4; paragraph 2; sentence 1 last sentence	"Under SB 375, SCAG's role is to coordinate the development of the Connect SoCal 2024 land use pattern in partnership with local jurisdictions that are ultimately responsible for land use planning and management ~~implementing it~~." "This included information on land use, transportation, priority development areas, geographical boundaries, resource areas, and growth that was shared and exchanged through a combination of one-on-one meetings with and data submissions from ~~with~~ local jurisdictions."
18	Clarification	p. 5; bullet 5	"Did the MPO/RTPA who has federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP? (23 CFR 450.316(d))" • Define RTPA
19	Revision	P.6, paragraph 2	In the second paragraph, revise the first sentence to include the following language: Under SB 375, SCAG's role is to coordinate the development of the Connect SoCal 2024 land use pattern in partnership with local jurisdictions that are ultimately responsible for implementing it, **where applicable and feasible.**
20	Clarification	p. 6; paragraph 4; sentence 1	"Put simply, the emphasis of RHNA in the 6th ~~sixth~~ cycle expanded to a more comprehensive assessment of the need for housing: explicitly addressing the existing need plus the need to house anticipated population growth. In prior cycles it focused on need due to anticipated population growth, which addressed existing need through adjusting future households."
21	Clarification	p. 6; paragraph 5; sentence 2	"Some local updates are not due to HCD until October 2024 and at the time of the LDX conclusion in December 2022, only 84 of 197 jurisdictions had an adopted and certified housing element." • Is the October 2024 date accurate? The statement is unclear on if some jurisdictions have other deadlines before or after the date mentioned. Please check dates against statute and update as applicable throughout all documents regarding this topic.
22	Clarification	p. 10; paragraph 2; sentence 1-2	"In the early twenty-first century, expansion on the urban fringe has continued in some places, though the region's fragile and rugged natural landscape—as well as sheer distances—present substantial limits. As a result, there has been an increase in infill development and a higher share of new housing consisting of multifamily units in existing communities since the Great Recession, due in part to less available land to build on."

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			• Remove "fragile" or expand on what this means
23	Clarification	p. 10; paragraph 6; last line	"From 2012 to 2019, new development throughout the region resulted in the amount of natural lands decreasing by roughly 50,000 acres, or 0.2 percent. Household and employment growth that degrades or develops vital habitats reduces the environmental services they provide us that are crucial to our regional economy, health, and overall quality of life." • Define 'natural lands' and provide source • Define 'vital habitats' and provide source
24	Clarification	p. 11; paragraph 2; sentence 2	"From 2012 to 2018, however, new development in areas with longstanding agricultural resulted in farmland decreasing in Southern California by more than 40,000 acres, or 3.5 percent." • Was this land all zoned as agriculture or was it zoned for another use and temporarily used as agriculture? There are portions of the region where land is zoned for residential or commercial and temporarily being used as agriculture. • Conversion of some agriculture land may also be due to rezoning to accommodate RHNA allocations.
25	Clarification	p. 11; paragraph 3; sentence 2	"Additionally, development on natural and farmlands often occurs away from existing jobs, schools, retail, health care, and high-quality transit service, leading residents to drive longer distances to access key destinations."
26	Clarification	p. 12; map 1	• Map has poor resolution • Define 'Protected Open Space Areas' on the map page • Why are there several different data sources with different dates layered on top of one another?
27	Clarification	p. 15; paragraph 3; sentence 2	"As a result, the most reasonable utilization and, where appropriate, conservation of natural and farmlands is an important strategy to support SB 375 objectives. "
28	Clarification	p. 15; paragraph 5	"Broadly speaking, growing sustainably requires growing partly in places and ways that achieve substantial housing growth within complete communities while reasonably managing ~~minimizing~~ growth at the urban fringe and beyond. To a degree, h~~H~~ousing of various types can be located in areas that~~which~~ promote location efficiency, good accessibility, and do not result in the utilization of ~~risk~~ natural lands or risk environmental hazards."
29	Clarification	p. 18; table	"Stressors: Chronic challenges that weaken natural, built, or human resources… • Car-less Households" • Why is 'car-less household' a stressor? Aren't car-less households encouraged by State to reduce ghg? What if the lack of automobile is a purposeful choice?
30	Clarification	p. 19; paragraph 2; last sentence	"SB 375 requires that Connect SoCal 2024 contain a Forecasted Regional Development Pattern (FRDP) —a growth vision—that can be shown to achieve GHG emissions reductions targets when combined with transportation network data and additional Plan strategies. The Connect SoCal 2024 growth visioning process integrated sustainability considerations into a preliminary development pattern. This was then

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info@occog.com

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			shared with local jurisdictions through the Local Data Exchange (LDX) process, which is described more comprehensively in Section 5.5, for review and feedback and became the FRDP. This is a departure from previous plans where local review occurred much earlier in the plan development process, and jurisdictions could only provide public comment about the growth forecast after SCAG's visioning process and alternate growth forecasts were developed."
31	Clarification	p. 19; paragraph 4; sentence 1	"The Regional Growth Forecast, described in detail in the Demographics and Growth Forecast Technical Report, is the starting point for the Connect SoCal 2024 growth vision."
32	Clarification	p. 21; map 2	Add note specifying land use categories were standardized by SCAG.
33	Clarification	p. 23; paragraph 1	"The latest jurisdictional existing land use, general plan land use, and other data serve as the basis for future year population and household allocation in that they reflect supply. These measures of remaining capacity are matched with county and regional growth—demand—using ~~growth – demand – using~~ a mathematical approach. As such, the projection does not reflect a build-out scenario. Combining the general plan, existing land use, and 2020 Census data above indicate that in the aggregate, local plans in the SCAG region currently have a theoretical physical capacity of roughly 8.2 million housing units—several times higher than anticipated household growth. However, for these additional units to be realized, oftentimes the existing structures would have to be demolished and replaced with higher density developments. Using this capacity as a starting point, the Regional Growth Vision:"
34	Clarification	p. 23; bullet 3; sentence 4	"Edits received on growth are often reflective of local general plans, local growth policies, entitled and approved projects, historic preservation, anticipated job growth, amongst several other factors."
35	Clarification	p. 28; second bullet	"~~Implement~~ Promote the Forecasted Regional Development Pattern of Connect SoCal 2024, consisting of household and employment projections that have been reviewed and refined by jurisdictions and stakeholders to advance this shared framework for regional growth management planning…"
36	Clarification	p. 29; paragraph 3	"This data was mapped and functioned as a key informational resource during local review along with the PDAs. As a result of this process, growth in overlapping GRRAs has been de-emphasized but not completely eliminated in ~~eliminated. n~~ the Connect SoCal 2024 forecasted development pattern.~~pattern,~~"
37	Clarification	p. 29; paragraph 5; sentences 3-4	"CoSMoS is an online mapping viewer that makes detailed predictions over large geographic scales of storm-induced coastal flooding and erosion for both current sea level rise (SLR) scenarios. The data included in this technical report ~~book~~ depicts the potential inundation of coastal areas resulting" • What are the "both" scenarios?
38	Clarification	p. 34; paragraph 3; sentence 2	"Local jurisdictions were then engaged for review and feedback that was then incorporated ~~integrated~~ to best reflect local plans and conditions."
39	Clarification	p. 35; Map 6	Explain what is being shown or add a note referring the reader to the specific section that explains the map

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3972 Barranca Parkway, Ste. J127
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info@occog.com

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40	Correction	p. 36; paragraph 1; sentence 4	"132 local jurisdictions provided input on SCAG's draft growth forecast, while 148 percent provided input on other data elements such as GIS maps or surveys." • Correct the 148 percent
41	Clarification	p. 37;	"Data– For the one question assessing data collected by local jurisdictions, the most common are: Local road pavement management and performance data (52 jurisdictions), Collision data (51 jurisdictions) and Pavement Condition Index (49 jurisdictions)." • Please clarify
42	Clarification	p. 37; paragraph 1	"To ensure that the local edits to the development pattern appeared on-track to reach SCS objectives, ~~,~~ SCAG conducted a sketch-planning evaluation with the assistance of the Technical Working Group (TWG), which ~~this~~ occurred prior to development of subsequent Connect SoCal 2024 strategies and modeling[26]. ~~modeling[26].~~ According to this evaluation, the FRDP has slightly less growth in the most prioritized areas (steps 1-3 representing areas with more than one PDA and no GRRAs) than the preliminary projection ~~(steps 1-3 representing areas with more than one PDA and no GRRAs)~~; however, its performance exceeded that of the final, adopted Connect SoCal 2020. Similarly, the share of growth in areas with no more than one GRRA increased from 88 percent to 90 percent compared to the prior plan (Figure 1)."
43	Clarification	p. 37; Figure 1	Add note under figure with definitions of acronyms as figures can be pulled out as standalone items. Change title or add note explaining more about what the figure represents.
44	Clarification	p. 37; Figure 1	"On April 20, 2023, the TWG discussed the FRDP ~~and along~~ with staff and it was determined to be sufficiently able to further the plan's statutory objective to proceed with subsequent modeling and regional policy development."
45	Clarification	p. 38; Map 7	"Source: SCAG 2023. Priority areas refer to an area with more than one PDA and no GRRAs. Resource areas refer to two or more GRRAs. Add language to map and/or map page "Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone-(TAZ) level data developed and utilized to conduct required modeling analyses. Data at the jurisdiction level or at another geography smaller than the jurisdictional level, including TAZ, are advisory only and non-binding because they are developed only to conduct required modeling. The TAZ-level growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level."
46	Clarification	p. 39; paragraph 1; last sentence	"In addition, the region ~~will~~ can grow sustainably by incorporating climate resilience strategies and promoting and reasonably pursuing natural and farmland conservation, and broad complete communities strategies, including the concept of 15-minute communities."

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3972 Barranca Parkway, Ste. J127
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info@occog.com

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47	Clarification	p. 43; paragraph 1 under Natural and Farmland Preservation)	"Preserving and most reasonably utilizing the region's natural and farmlands will ensure that future generations will be able to enjoy Southern California's unique landscapes as we do, and benefit from the essential resources that natural lands provide."
48	Clarification	p. 44; paragraph 3	"Connect SoCal anticipates and projects that some of the existing natural and farmlands in the region will convert to urban uses as the region grows to accommodate 1.6 million additional households."
49	Clarification	p. 44; paragraph 5	"For natural lands, 48,590 acres are anticipated and projected to be converted to urban uses by 2050 from existing conditions. This represents 617 acres more than the Trend/Baseline and is consistent with jurisdictional feedback on locally anticipated growth. With the loss of natural lands, there are resulting impacts to habitat areas where implementation of Connect SoCal will lead to 18,032 acres of degraded habitat - 1,202 acres more than the Trend/Baseline. Some areas are improved, however, as Connect SoCal will result in a projected 1,891 acres of improved habitat - 666 acres more than the Trend/Baseline."
50	Clarification	p. 44; paragraph 6	"For agricultural areas, specifically, implementation of Connect SoCal would ~~will~~ result in the projected conversion of 8,156 acres to urban uses - a projected loss of an additional 1,464 acres of farmland over the Trend/Baseline. There ~~are~~ would be economic impacts due to this projected loss of farmland, where agricultural production value is anticipated to decline by roughly $9 million through year 2050 compared to the Trend/Baseline. With this Plan's projected loss of both natural and farmlands, groundwater recharge is anticipated to decline by 129,326 acre-feet - 24,862 more acre-feet than the Trend/Baseline scenario."
51	Clarification	p. 46	Asterisks are used in the bulleted lists but are not explained. Please explain.
52	Clarification	p. 47; paragraph 2	"Tax increment financing which includes but is not limited to Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), Neighborhood Infill Finance and Transit Improvements Districts (NIFTIs), and Affordable Housing Authorities (AHAs) is a tool that can allow local jurisdictions and public agencies to collaborate on achieving infrastructure, mobility, economic development, sustainability, and housing goals by leveraging tax increment (captures generated property tax as a result of invested dollars) to fund multifamily affordable housing, transit/rail capital projects, Transit-Oriented Development, Complete Streets capital projects, parking, parks and open space, and programs to reduce GHG emissions and VMT within TPAs. SCAG has supported the establishment of several EIFD districts in the SCAG region through funding and technical assistance programs." • Sentence 1 is a very long sentence. Try to break up if possible.
53	Clarification	p. 50; last bullet	"Support the development of ~~Develop~~ housing in areas with existing and planned infrastructure, availability of multimodal options, and where a critical mass of activity can promote location efficiency.
54	Clarification	p. 51	What is the reduction in GHG? This should be called out
55	Clarification	p. 51; bullet 2	"Improved pedestrian infrastructure - Pedestrian oriented design can create a more accessible and connected environment to key destinations and activity centers, increase transit ridership, and reduce the number of single-occupant trips. Continuous and cohesive sidewalk networks improve

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			the safety and comfort of streets, enabling people of all ages and abilities to get where they want to go. Improving walkability often means <u>installing</u> ~~implementing~~ new sidewalks, improving the quality of existing sidewalks and including street trees and other amenities."
56	Clarification	p. 51; bullet 3	"Co-working …This strategy was developed using a very conservative assumption that a small portion of long-distance commuters would substitute a single day per week of their commute for a co-working site within three miles of their home." • Are these co-working sites new? Informal? Is there some sort of inventory of these now? Are more expected/planned?
57	Clarification	p. 58; bullet list	What are LDCs?
58	Clarification	p. 58	Add new section: "7.5 TAZ-Level Growth Forecast, Growth Vision, and SCS Consistency In order to assess the ability of the Connect SoCal 2024 Plan to meet federal air quality standards and achieve a state greenhouse gas reduction target, SCAG creates small-area projections data for housing, population, and employment, which are known as the Tier 2 traffic analysis zone (TAZ) socioeconomic dataset (SED). Although these data are based in part on input provided by staff from local jurisdictions during the Connect SoCal 2024 Local Data Exchange process, local jurisdictions and projects within the region shall not be held to meet any specific numbers within or aggregates of the TAZ data. Connect SoCal 2024's TAZ-level household and employment projections are created to provide estimated snapshots in time. These projections do not reflect subsequently available information (given that local jurisdictions provided their local input to SCAG between May and December 2022); and, concerning some jurisdictions, they also do not reflect all currently entitled and pending projects. Additionally, the TAZ data do not project the full build-out and realization of localities' general plans; and they do not conform to jurisdictions' current respective housing elements. The local plans and approvals have continued and will continue to evolve; and market forces will continue to play a major role in determining the timing, locations, and different types of development and redevelopment that will occur. Therefore, the applicable jurisdiction(s) should be contacted for the most up-to-date data available. The TAZ-level household and employment growth projection data are utilized to understand how regional policies and strategies may be reflected at the neighborhood level in a generally illustrative manner. They are advisory and non-binding because they are developed only to conduct required modeling. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives to be consistent with Connect SoCal 2024's SED at any geographic level. SCAG's forecasted regional development pattern (FRDP) is not solely based on the TAZ-level household and employment spatial projections. It is utilized to estimate the overall effect of the many policies, goals, and

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			strategies of Connect SoCal—which should not be uncritically applied, individually or en masse, to any particular project or plan. The TAZ-level household and employment growth projections support the region's ability to model conformity with federal air quality standards and its ability to achieve a state greenhouse gas reduction target; they do not, however, reflect the only set of growth assumptions that may meet these standards and that target. Therefore, insofar as housing and other laws or grants may require comparisons of projects or plans to Connect SoCal 2024, SCAG's projections that are illustrated in TAZ maps—along with any related documents or modeling outputs—may not be used to determine the inconsistency of any plan or project in the region with Connect SoCal 2024. Given that land use decisions are properly made with attention to local contexts and circumstances, local jurisdictions and other lead agencies shall have the sole discretion to determine a local project's or plan's general consistency and overall alignment with Connect SoCal. For example, local jurisdictions' plans and approvals may be found to align with Connect SoCal 2024 if they directionally support a number of its objectives, such as by encouraging a mix of housing types that includes more affordable and multi-family housing rather than solely single-family, for-sale housing; providing for more housing located proximate to employment or vice versa; or encouraging increased use of transit, ridesharing, biking, walking or micro-mobility, or hybrid and remote work to reduce commuting trips. Such alignment is an appropriate basis for a local jurisdiction to determine that a plan or project is consistent with Connect SoCal 2024. Such determinations should be evaluated based on (i) the totality of the goals, policies, and objectives of Connect SoCal 2024 and its associated Program Environmental Impact Report (PEIR), and (ii) the attributes of the local project or plan in overall relation to Connect SoCal, and not in a prescriptive manner by applying SCAG's TAZ-level data, any aggregate thereof, or any particular one or more goals, policies, or objectives of Connect SoCal 2024 and its associated PEIR. This flows logically from the fact that Connect SoCal 2024 includes dozens of stated directives, policies, goals, objectives, and measurements, any number of which may not be individually applicable to any given project or plan. For example, a project that provides new housing units in conformity with a jurisdiction's approved housing element can and should be found to be in overall alignment with Connect SoCal 2024 given housing production's contribution to Connect SoCal 2024 goals and policies, especially those related to affirmatively furthering fair housing, social and economic justice, jobs-housing balance, and the like. Household or employment growth included in the Connect SoCal 2024 TAZ-level SED and maps may assist in determining consistency with the SCS for purposes of determining a project's eligibility for CEQA streamlining under

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			SB 375 (Cal. Govt. Code § 21155(a)). TAZ-level maps and data may not otherwise be used or applied prescriptively to determine that a project is inconsistent or not in alignment with Connect SoCal 2024 for any purpose, given that myriad other development assumptions could also be found to be consistent or, on balance, aligned with the SCS. Specifically, the TAZ-level data and maps do not supersede or otherwise affect locally approved housing elements, including those adopted in compliance with the 6th Cycle of the Regional Housing Needs Assessment (RHNA)."
59	Clarification	p. 59	SCAG should explain on this page how we are meeting the GHG reduction targets. Supply the metric associated with Land Use
60	Clarification	p. 61; endnote	"25-At the time of the release of the initial growth ~~preliminary~~ forecast ~~development~~ (~~April~~ May 2022), only 12 of the region's 197 jurisdictions had 6th cycle housing elements ~~which~~ that had been adopted and certified by the state. While local jurisdictions were requested to consider housing element updates in their review of LDX growth data, only 87 had adopted and certified housing elements ~~even~~ by ~~the~~ January 2023, immediately after the deadline for LDX input. Additionally, some local jurisdictions may not be required to complete rezonings associated with housing element updates until October 2024, rendering data on newly available sites inherently incomplete (or unavailable) for the purposes of Connect SoCal 2024. • Is the October 2024 date accurate? The statement is unclear on if some jurisdictions have other deadlines before or after the date mentioned. Please check dates against statute and update as applicable throughout all documents regarding this topic.

Table 11. MOBILITY TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "2024" to all technical report page headers' titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
7	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
8	4.3.2: Existing Transportation System: Local Streets and Roads	p. 205	Please clarify if the definition and discussion on local streets and roads pertains only to public local streets and roads, or if it also includes privately-owned streets. With the discussion on maintenance needs and funding sources, it appears that the discussion pertains to only public local streets and roads, and the reference to "public" is recommended to be included in the narrative.
9	4.6.1: Declining Infrastructure	Figure 4-4, p. 211	Figure 4.4: 2022 Bridge Conditions in the SCAG Region, is missing an information label for the "Y" axis. What do these numbers on bridge condition for each of the six SCAG counties represent?
10	4.6.2: Congestion and Delay: Daily Person Hours of Delay	p. 212, 213; Figure 4-6	The narrative discussing person hours of delay by facility type (page 212, last paragraph) does not match with the information presented in the corresponding Figure 4-6 on page 213. Please re-check the percentages called out in the narrative, against the calculation of percentages with the data in Figure 4-6 on daily person-hours of delay between Base Line (2050) and the Plan (2050). "Connect SoCal 2024 plan investments are estimated to decrease daily person-hours of delay of 17 percent overall, ~~highway and~~ 21.7 percent on highways and 8 percent on arterials compared to Base Year ~~Baseline~~ conditions." Or "Connect SoCal 2024 plan investments are estimated to decrease daily person-hours of delay of 20 ~~17~~ percent overall, ~~highway and~~ 19.2 ~~21.7~~ percent on highways and 17.8 ~~8~~ percent on arterials compared to Baseline conditions."
11	4.6.2: Congestion and Delay: Truck Delay by Facility Type	p. 213, 214 Figure 4-7	The narrative discussing average daily truck delay by facility type (page 213, last paragraph) does not match with the information presented in the corresponding Figure 4-7 on page 214. Please re-check the percentages called out in the narrative, against the calculation of percentages with the data in Figure 4-7 on truck delay by facility type, between Base Line (2050) and the Plan (2050). "Connect SoCal 2024 is estimated to reduce truck delay by 19 percent over Baseline conditions for the category of highway/expressway, with 13.8~~18.1~~ percent over Baseline conditions for the arterials and 18.1 percent overall."
12	4.6.6: Speed Management	p. 217	The last paragraph of this section discusses AB 645's pilot program for speed management. Since several SCAG local jurisdictions will be participating in the pilot program, a call-out of the participating jurisdictions is recommended.
13	4.9.3: Performance Measure 2: Pavement and Bridge	p. 228, 229 Figure 4-10: State Figure 4-11: SCAG	The narrative on page 228 discusses the pavement conditions of the State and SCAG region, for roads and bridges. Noting that most of the pavement condition falls within the Fair category, is there a reason why Figure 4-10 and Figure 4-11 do not display any information on the Fair Category, and only focus on the Good and Poor pavement and bridge conditions?
14	4.10: Where Do We Go From Here?	p. 233, 235	The first full paragraph on page 233 states that "...the cost of rebuilding roadways pavement could be 14 times more than preventive maintenance."

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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	4.10.4 Smart Cities		Later, on page 236, third bullet, the technical report states that "The cost of rebuilding roadways pavement is exceptionally more (up to eight times more) than preventative maintenance." Please re-examine the differing percentages, and reconcile.

Table 12. PERFORMANCE MONITORING TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add “2024” to all technical report page headers’ titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don’t cite SCAG’s Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as “the Plan”. Capitalize “Plan” consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
7	General Comment	All pages	Consider adding “Note: Numbers may not sum to total due to rounding” to applicable tables and graphics.
8	Clarification	p. 2; paragraph 1 Section 1.2: Connect SoCal 2024 Performance Summary	"The plan performance assessment demonstrates that implementation of Connect SoCal 2024 will propel the region toward achievement of the identified goals for *nearly* every identified plan performance measure." Please add narrative in the above paragraph or use another technique such as the use of asterisks within Table 1 (Connect SoCal 2024 Performance Assessment Results), to identify which performance measures do not achieve identified goals. This will greatly assist the reader from having to go through each of the performance measures in Table 1 to arrive at the answer.
9	Clarification	p. 3 Average trip distance (all modes)	Table 1: Connect SoCal 2024 Performance Assessment Results In the Average trip distance (all modes) performance measure, is "miles" the measure that is used for the average trip distance shown in the reporting years? If so, please add the reference to "miles" in the appropriate table columns for this measure.
10	Clarification	p. 6	Clarification is requested on the identification of "Savings" and "Change" for the Benefit Category of "Share of Population Living in PDAs".

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
		Share of Population Living in PDAs Table 2: Connect SoCal 2024 Co-Benefits	The Savings is identified as a 3.3% higher share of population living in PDAs, when comparing Connect SoCal to the Baseline. However, on the "Change" column, the entry is "+3.3 pct pts". Is that not the same as saying +3.3%?
11	Clarification	p. 17, p. 72 ADU Development Table 6: Connect SoCal 2024 On-Going Monitoring Performance Measures	In Table 6, this ADU-related performance measure is described as "Number of ADU units *developed* within Priority Development Areas (PDAs)." Further, within the page 72 narrative on this performance measure, the text states that "This new metric will track the number of ADUs *developed* in each county within the SCAG region over the Connect SoCal 2024 plan horizon." If this is to be a tracking measure, SCAG should clearly define what it is that would be tracked and use that descriptor in Table 6 and in the narrative on page 72. For example, is the tracking measure to be ADU approvals? Building permits? Building finals?
12	Clarification	p. 17, p. 75 Urban Heat Island Reduction Strategies Table 6:	In Table 6, there is an "Urban Heat Island Reduction Strategies" performance measure. The description provided in Table 6 and further discussed on page 75 identifies that the strategy is based on the implementation of urban tree canopy. How will this data be captured by SCAG, to be able to report on progress of this performance measure? Is there a specific data source(s) that would be used, or is this to be based on information from local governments in the SCAG region? Please clarify.
13	Correction	p. 45	Repetitive language “Priority Development Areas (PDAs) are areas that offer high levels of accessibility and connectivity to job centers and other primary destinations and opportunities that offer high levels of accessibility and connectivity to job centers and other primary destinations and opportunities.”
14	Clarification	p. 69	The housing crisis not just in California or SCAG region. Change to “Due to the housing crisis, which is not limited to just ~~in Southern~~ California or the SCAG region…”
15	Clarification	p. 87	The analysis for the increase in bicycle-related serious injuries and fatalities should consider and discuss the increased use of e-bikes, especially the increased use of e-bikes by people of a younger age and less decision-making skills. This may be evidenced by looking at the age of the injured/killed and referencing recent attempts at licensing in state legislation. In addition to Connect SoCal 2024 serving “as a catalyst toward improved regional bicycle safety performance”, can it (or SCAG) also serve as a catalyst for bicycle safety education and/or licensing?
16	Clarification	p. 113-114 Section 7.4.3	The narrative states that "A new performance measure was proposed for inclusion in the PM 3 program that will require the monitoring and reporting of surface transportation-related GHG emissions reductions." The narrative further states that "the proposed new GHG emissions reduction performance measure would require Caltrans to establish two- and four-

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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		GHG Emissions Reduction Measure	year statewide targets, while SCAG would establish four-year regional targets for reducing tailpipe CO2 emissions on the NHS." The narrative further states that final FHWA rulemaking is expected in November 2023. At present, is it correct to state that: a) the current inventory of performance measures presented in this Technical Report does not include this new federal GHG performance measure; b) the GHG Emissions performance measure listed in Table 4: Connect SoCal 2024 Plan Performance Assessment Measures (page 11), is the California Air Resources Board's GHG emissions reduction target for the SCAG region; and, c) the new federal GHG emissions reduction target could possibly be added to this Technical Report as a new performance measure, if the federal Rulemaking is accomplished in time?

Table 13. PROJECT LIST TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add “2024” to all technical report page headers’ titles
2	Correction	All Pages 2-430	Change “$1000’s” to “$1,000s”
3	Correction	p. 100; Table 1	Table 1, Row 9, ORA111207, Project cost should be $423,000 (per FTIP amendment #23-11)
4	Correction	p. 257	RTP ID 2T01135, Lead Agency should be “Various Agencies” and Project Cost should be $423,000

Table 14. PUBLIC PARTICIPATION AND CONSULTATION TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add “2024” to all technical report page headers’ titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don’t cite SCAG’s Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as “the Plan”. Capitalize “Plan” consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.

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Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
6	Clarification	p. 10; Section 9.1. Survey Findings, first sentence	Clarify if respondents had the opportunity to take the survey more than once. If so, did the 3,683 "completed surveys" actually come from 3,683 respondents? If not, that should be mentioned in the paragraph.
7	Clarification	p. 10; Figure 1. Survey Responses by County	Figure 1 shows that 50% of the survey respondents came from the County of LA. As such, the response are skewed and more LA-centric, which should be noted somewhere in this technical report when discussing survey results.

Table 15. TRANSPORTATION CONFORMITY ANALYSIS TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "2024" to all technical report page headers' titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
7	General Comment	All pages	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
8	Correction	All pages	References and source citations to the American Community Survey dataset should use the word "estimates" not "sample", e.g., "Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates" or for PUMS: "Source: U.S. Census Bureau; American Community Survey (ACS), Three-Year Public Use Microdata Sample (PUMS), 2019-2021"
9	Correction	p. 23 & 41 (2 occurrences)	"2020 Decennial Census PL-94 171 Redistricting File" Change to "2020 Decennial Census P.L. 94-171 Redistricting File"

Table 16. TRANSPORTATION FINANCE TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Add "2024" to all technical report page headers' titles
2	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g.,

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3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
3	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
4	General Comment	All pages	For data that is not derived from Connect SoCal models, cite source.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.
7	Clarification	p. 1, first paragraph	"However, the IIJA expires in Fiscal Year (FY).." – specify it is "Federal" fiscal year.
8	Clarification	p. 1; 1. Introduction: Revenue sources	Page 1, third paragraph, states that "Efforts are underway to explore how we can transition from our current system ***based on*** fuel taxes towards a more direct system of user fees." This sentence seems to downplay/contradict a preceding sentence which recognizes that local sales tax revenues for transportation purposes generate 58% of the region's core revenues, and highway tolls an additional 8%, according to Figure 6, page 10. Perhaps revise the reference of "based on" to a more appropriate reference.
9	Clarification	p. 2 1. Introduction: Equity Considerations of User Rees	Page 2, first full paragraph, states that "SCAG further considers the potential equity concerns that accompany user fee policies and assumes ***mitigation measures*** such as the establishment of a mobility equity fund." Please clarify; in reviewing the mitigation measures in the Draft Program EIR, there does not seem to be any mitigation measure that addresses the equity considerations associated with any user-fee system of revenues (See PMM-TRA-2). Please also see related comments that are provided on the Draft Plan Equity Technical Report.
10	Clarification	P. 7, Sec 2.6 P. 9, Table 1 P. 16, Table 3.1 Core Revenues - Local	Section 2.6 acknowledged that local sales taxes for three counties will expire during the term of the Plan, including Orange County's Measure M in 2041. However, the core revenue forecast shown in Table 1 show a significant increase in funding in OC for the period of FY2045-2050 ($25.1 billions in FY2045-2050 compared to $18.3 billions in FY 2040-2044 and $17.6 billions in FY2035-2039. Recommend providing clarifying information on the disproportionate increase and local sales taxes assumptions beyond their expiration. If a continuation of existing sales tax revenue (or other new taxes) is assumed through FY2045-2050, recommend categorizing this revenue under new reasonably available revenues to better illustrate the need to secure future funding.
11	General comment	p. 8, Appendix 1, p. 3	Core and Reasonably Available Revenues, identify federal, state and local sources of transportation funding for the plan and Highway Tolls identify toll road revenues and mitigation fees. Nowhere in the document is the private sector funding contribution assumed for the plan described, although toll road widenings, and tolled express lane facilities that are privately funded are included in the plan and in the total cost of the plan. Accurately describing the extent of private funding is an important public

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

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			disclosure, and an important element of the financial plan that relieves the burden on limited federal, state and local transportation funding.
12	Clarification	p. 11 & 12; Figure 8 3.1: Core Revenues Federal	The narrative on Federal sources of core revenues on page 11 states that FTA Formula and Discretionary funds cumulatively account for 61% of the federal funding for the SCAG region. Please confirm. In reviewing the referenced Figure 8, the sum of the two funds appears to be 58%.
13	Clarification	p. 12, 13 Tables 2-4 Table 3.4 3.2: New Reasonably Available Revenues: Mileage-Based User Fee (Replacement) vs Local Road Charge Program	a) This section of the technical report should include a figure, similar to Figures 1 through 8, that visually identify the amount of new revenue and the associated percentage of the total new revenues, that are being assumed and listed in Tables 2 - 4. And that per Figure 12 on page 33, new revenues represent $162.2 million or 22% of the Connect SoCal 2024 total revenues of $750 billion. b) The narrative discussion on New Reasonably Available Revenues on page 13 could also warrant more clarifying explanation about the distinction between the Mileage-based User Fee (Replacement) and the Local Road Charge Program. Technically, both are mileage-based fee programs: summarize the distinctions that are discussed in Tables 2 and 4, to assist the reader who is not going to delve into the detail of those tables, yet recognizing that both fees could be imposed on the driver starting in 2035. c) Table 4 includes a risk assessment of the proposed new sources of funding. The information in Table 4 should be referenced in the narrative discussion on page 13, to inform the reader of the potential risk analysis that was conducted for each new funding source and the risk mitigation measures identified.
14	Clarification	P. 14-15, Table 2	While the number is available later in the report, Table 2 should include the total sum of new reasonably available revenue.
15	Clarification	p. 26 4. Expenditures	a) Page 26 of this section references a ***Figure 11*** that represents the standardized template that the CTCs used to submit cost information for capital projects. Is it Figure 11 on page 32, or Figure 9 on page 26, that represents the standardized CTC template? b) Page 26 of this section references a ***Figure 12*** to illustrate changes in California highway construction costs. Is it Figure 12 on page 33 or Figure 10 on page 21, that represents the change in California construction costs?
16	Clarification	P. 28, Table 5 P. 31, Table 6 Expenditure	Both Table 5 and Table 6 refer to service expansion. Recommend adding language that differentiates what is included in each table. For example, specify infrastructure and equipment required for service expansion in Table 5. Also clarify if operating costs are included in Table 6 as the text description before it only suggests system preservation and maintenance needs.
17	Correction	p. 29	Table 5, Highways, Add toll roads to HOV/Express Lanes/**Toll Roads.** This change should also be made elsewhere in the main RTP/SCS document where highways and express lanes are discussed. Revise Description to include auxiliary lanes, general purpose lanes, carpool lanes, toll roads, toll lanes, and Express/HOT lanes.
18	Clarification	p. 30, 31	This section, second paragraph, outlines different factors that impact/damage roadways. One issue that has surfaced at SCAG policy

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		4.3 MultiModal System Preservation and Maintenance	committee meetings but which is not addressed herein, is the impact of EV vehicle weight on roadway pavement conditions. Please identify if this is a valid issue that merits discussion as a potential contributing factor to pavement distress during the 20+ year of the Plan.
19	Clarification	p. 30-31, Section 4.3 Multimodal System O&M	Descriptions in this section mainly focus on street preservation and only touch lightly on preservation of transit assets. The funding need for transit, however, is at least twice that of streets and roads. Suggest adding descriptions of existing transit needs (e.g. there are X number of buses and rail cars in our region that must be maintained in good working order as well as X miles of track infrastructure).
20	Clarification	p. 31, last paragraph	"… maintain exiting transit" should be "existing".
21	Clarification	p. 34-35, Table 7 Revenues	There is a significant increase in revenues between the 2040-44 and 2045-49 periods, greater than any other time period. The increase seems exaggerated and requires further verification and clarification. Is the disproportionate forecast due to inflationary increase?
22	Clarification	p. 7; Appendix 1, page 1 Local Option Sales Tax Measures	The overview of the local sales tax measures that are factored into the Local Core Revenue Sources, identifies that several county sales tax measures will expire during the forecast period of Connect SoCal 2024. Under the "Real Growth Rate" percentages by county in Appendix 1, would it be appropriate to further identify that this real growth rate is being applied up to the year of any applicable sales tax expiration? Also please note there is a duplicative sentence in the preceding paragraph, last sentence in Appendix 1.

TABLE 17. TRAVEL AND TOURISM TECHNICAL REPORT COMMENTS

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Technical Report should consider highlighting/emphasizing opportunities for travel for bicycle/e-bicycle throughout (e.g. the need for bikeways, bicycle use to and from transportation stops/hubs and tourist destinations, the existing bicycle network).
2	General Comment	All pages	Add "2024" to all technical report page headers' titles
3	General Comment	All pages	In all tables, figures, charts, maps and narrative, cite original data sources and not SCAG or SCAG reports unless SCAG is the original data source. E.g., OK to say SCAG Connect SoCal 2024 Economic Model; but don't cite SCAG's Local Profiles if original data source is U.S. Census Bureau American Community Survey data
4	General Comment	All pages	Connect SoCal is often referred to as "the Plan". Capitalize "Plan" consistently throughout all documents.
5	General Comment	All pages	If definitions come from specific source or statute, include the reference in the narrative.
6	General Comment	All pages	Note that for any type of growth, the infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.

Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

info@occog.com

#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
7	Correction	p. 1, Section 1	To address the CFR directive for the "continuous, cooperative~~.~~, and comprehensive…"
8	General Comment	p. 1, Section 2	Expand the description for Lake Arrowhead like on Page 7.
9	Correction	p. 2, Section 2.2	Contradicting sentences: "Moreover, due to the size of the region and variety of places to visit and things to do, much of the traveler spending is generated by people living within the region." (1st paragraph) "According to the Visit California 2021 Report, The Economic Impact of Travel, travel spending in the SCAG region totaled approximately $46 billion, of which about $41 billion was from people visiting from outside the region." (2nd paragraph) Reword to clarify statements.
10	Correction	p. 3, Section 2.3	"From 2019 to 2020, after the onset of the COVID-19 ~~Pandemic~~ pandemic, travel spending in the region went down by 50 percent."
11	Correction	p. 8, Section 3.1.2	The title for the section includes Old Town Tustin but there is no example of Old Town Tustin in the list.
12	Correction	p. 10, Section 3.1.3	~~Three~~ Eight of the 23 Cal State University campuses are in the SCAG region, Cal State Los Angeles, Cal State Long Beach, Cal State Fullerton, Cal State Northridge, Cal State Dominguez Hills, Cal State Channel Islands, Cal State San Bernardino, and Cal Poly Pomona. Why aren't private universities included, such as Chapman, Pepperdine, University of La Verne, and Loyola Marymount?
13	Correction	p. 10	3.1.4 Theme Parks and Movie Studies should probably read Movie Studi**o**s
14	Correction	p. 12; Bullet point #2 Bullet point #3 Bullet point #4 Bullet point #6	"National Football League" should be The Rose Bowl has hosted the National Football League (NFL) Super Bowl five times,…over the years." "The Coliseum has served as the home for the ~~National Football League's (NFL)~~ NFL's Rams and Raiders and is the current ~~homefield~~ home field for the USC Trojans." "It is home of MLS Los Angeles FC and the National Women's Soccer League's (NWSL) Angel City FC." "Opened in 1993 and formerly known as The Pond, the Honda Center is a~~n~~ multi-purpose indoor arena located in Anaheim, CA."
15	Correction	p. 19	"…there a various programs and projects…" should read "…there **are** various programs and projects…"
16	Correction	p. 23, Section 4.3	On the second paragraph it looks like there was supposed to be an image added, but it only shows OBJ
17	Correction	p. 24	3rd bullet point, should "For the 2024 Coachella Music Festival…" read "For the **2023** Coachella Music Festival…"?
18	Correction	p. 25; Bullet point #1; first sentence	"The 2028 Summer Olympics…Metro and Caltrans, has developed a~~n~~ LA 28 Games transportation plan.~~,~~"

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#	COMMENT TYPE	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
19	General Comment	p. 26, Section 5.1	The fourth sentence is almost a repeat of the first sentence. Please delete or reword.
20	Correction	p. 27	Change “city and county boarders” to “city and county **borders**”
21	Correction	p. 29	Last paragraph, correct to read as “California Coast**al** Commission”

January 12, 2024

Ms. Sarah Jepson
Planning Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Re: **Comments on the Draft Connect SoCal 2024, the 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy**

Dear Ms. Jepson:

Thank you for the opportunity to comment on the Southern California Association of Governments' (SCAG) draft Connect SoCal 2024, the 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The draft RTP/SCS reflects the transportation and funding challenges that the region will face in the coming years. These documents are critical to the region's ability to improve mobility, and to operate and maintain the transportation system.

The Orange County Transportation Authority (OCTA) appreciates that SCAG has included the commitments identified in OCTA's 2022 Long-Range Transportation Plan (LRTP) and utilized demographic forecasts approved and submitted by the Orange County Council of Governments. Additionally, OCTA recognizes the hard work and cooperation of SCAG staff throughout the RTP/SCS and Program Environmental Impact Report (PEIR) development process.

In reviewing the draft Plan, OCTA has identified several policy and technical matters to bring to SCAG's attention. These primarily focus on the core and new reasonably available revenue projections, regional planning policies, regional express lanes, passenger rail assumptions, and investments proposed by SCAG that go beyond the LRTP.

<u>Core and New Reasonably Available Revenue Projections</u>
The draft RTP/SCS shows a $750.1 billion revenue projection, 47 percent of which is from local sources. This projection includes revenues from both historic, or "core," revenues and new "reasonably available" revenue sources. The RTP/SCS recognizes the region relies heavily on local sales taxes that make up 58 percent of local core revenue sources. The projections assumed that revenues from local sales tax measures will grow consistent with county transportation commission (CTC) forecasts and historical trends.

The draft RTP/SCS also acknowledges that local sales tax measures for three counties will expire during the term of the RTP/SCS, including Orange County's Measure M2 in 2041. However, Table 4.2 shows that the core revenue forecast for Orange County continues to increase following the expiration of Measure M2, with a significant increase in the FY2045-2050 period ($25.1 billion in FY2045-

2050 compared to $18.3 billion in FY 2040-2044 and $17.6 billion in FY2035-2039).

Please review and clarify the reason for the increased core revenues for the periods that look beyond the expiration of local sales tax measures (i.e. inflationary adjustments or additional funding sources). SCAG should also further emphasize that extensions of expiring sales tax measures are not assumed in the revenue forecast.

With respect to the new reasonably available revenues that are assumed in the draft Plan, OCTA recommends that SCAG staff provide regular updates to the SCAG Transportation Committee and Regional Council regarding the key implementation factors, including but not limited to:

- Technology and associated privacy issues,
- Cost of implementation and administrative methods for fee collection/revenue allocation,
- Equity concerns and exemptions/credits, as applicable,
- Rate structures and associated impacts including evaluation of flat rates, differential pricing by type of vehicle including size and weight, time-of-day, and potentially emissions (including greenhouse gas emissions), and
- Economic assessment.

Further, OCTA recommends that SCAG staff also work with the county transportation commission and other stakeholders to evaluate the impacts of the new transportation user fees on existing local transportation funding mechanisms including local sales tax measures, express lanes, and toll facilities to consider how best to integrate the various transportation funding mechanisms. Additionally, any new user fees should include return-to-source criteria to ensure equitable distribution of funds.

Regional Planning Policies

The introduction of new regional planning policies states that they can provide guidance for the county transportation commission and local jurisdictions to integrate land use and transportation planning to align with the RTP/SCS vision. While the list is comprehensive, some policies lack coherence with one another for a clear direction in regional planning. As a county transportation commission

and self-help county member, OCTA recommends the following changes to improve the effectiveness of these policies:

- The role and contribution of self-help counties in advancing regional transportation goals and objectives should be more explicitly recognized and supported by the policies.
- SCAG should consider including a policy that encourages coordination and collaboration by SCAG and the county transportation commission on project prioritization and delivery.
- SCAG should acknowledge how the policies may have different effects within varying land use contexts. The policies should allow more flexibility for subregions and local communities to tailor their strategies and actions according to their specific needs and contexts. For example, consider including a policy that acknowledges the diversity of land-use patterns and transportation modes across the region and supports context-sensitive solutions.
- SCAG should provide additional guidance on how to address potentially competing policy priorities. Many of these policies include the action word "prioritize," implying these modes or projects are more important than others, which may not be appropriate or feasible in all contexts. For example, Policy #1 states that SCAG will prioritize repair, maintenance and preservation of the SCAG region's existing transportation assets following a "Fix-it-First" principle. However, this policy may conflict with other policies that prioritize new investments or expansions of the transportation system, such as Policy #6 that supports implementation of complete streets improvements in Priority Equity Communities or Policy #13 that prioritizes transportation investments that increase travel time reliability.

<u>Regional Express Lane Network</u>
The proposed regional express lane network assumes future operation of express lanes on the following segments in Orange County:

Facility	**From**	**To**
Interstate 5 (I-5)	Red Hill Avenue	Los Angeles County line
Interstate 405 (I-405)	State Route 73 (SR-73)	Los Angeles County line
State Route 57 (SR-57)	I-5	Los Angeles County line
State Route 91 (SR-91)	State Route 55 (SR-55)	Los Angeles County line

The proposed regional express lane network also identifies express lane connectors between SR-241 and SR-91 in Orange County.

The draft RTC/SCS should reflect the recent opening of the I-405 express lanes in December 2023 and the proposed I-5 express lanes project is being led by Caltrans, District 12. It should also be noted that the conversion from high-occupancy vehicle to tolled express lanes for SR-57 north of I-5 and SR-91 west of SR-55 would require approval by the OCTA Board of Directors prior to pursuing implementation. Furthermore, please clarify that the proposed regional express lane network is subject to further study to evaluate right-of-way impacts, community input, and overall feasibility.

Passenger Rail Assumptions

The draft RTP/SCS assumes the Metrolink Southern California Optimized Rail Expansion (SCORE) Program capital components are completed by 2035 at a cost of $10.5 billion year of expenditure dollars (YOE$). The SCORE Program would accommodate a significant increase in Metrolink service with up to 15-minute peak-period service on much of the Metrolink system. The draft RTP/SCS also assumes SCORE Program operating costs between 2035 and 2050 of $4.8 billion YOE$, funded by new reasonably available revenues. OCTA recommends SCAG staff assist Metrolink and the county transportation commission in detailing implementation steps for the SCORE Program including securing new revenue sources to support operations at the levels assumed in the draft RTP/SCS.

The draft RTP/SCS further includes phase one of the California High-Speed Rail (CAHSR) Project at a regional cost of $33 billion YOE$. Phase one includes a 500-mile system between the Cities of Anaheim and San Francisco, with the initial operating segment in California's Central Valley anticipated to start revenue service in 2033.

OCTA recommends that SCAG staff provide regular updates to the SCAG Transportation Committee and Regional Council regarding both the CAHSR Project and the Metrolink SCORE Program. This is particularly necessary for activities related to the Los Angeles to Anaheim Project Section Supplemental Alternative Analysis (SAA) recently released by the California High Speed Rail Authority (CHSRA).

Through the SAA, CHSRA recommends advancing the Shared Passenger Track Alternative, and eliminating other potentially viable alternatives, prior to preparing a Draft Environment Impact Report. The SAA lacks sufficient detail regarding modeling assumptions, operating speeds, station relocation, track reconfiguration, impacts to existing shared track agreements and the SCORE program implementation, amongst other potential impacts that may result from the implementation of the Shared Passenger Track Alternative. Therefore, OCTA recommends that SCAG facilitate coordination between the county transportation

commission county transportation commission, CHSRA, and Metrolink to ensure integrated capital and operating planning for the CAHSR Project and the Metrolink SCORE Program.

Other Investments Beyond the 2022 LRTP

The draft RTP/SCS proposes several other investments that are assumed to be funded by new reasonably available revenues that go beyond the LRTP assumptions. Examples include:

- $28 billion for system preservation and resilience on highway, local streets and roads
- $24 billion for additional O&M and preservation on transit system
- $19 billion for safe and active street improvements including complete streets
- $5 billion for supplemental transportation demand management strategies
- $5 billion for additional transportation system management and intelligent transportation system improvements
- $3 billion in a mobility equity fund
- $3 billion for housing-supportive infrastructure
- $2 billion for pooled incentives.
- $1 billion for additional transit priority and enhancement
- $1 billion for a plug-in electric vehicle rebate program, and
- $1 billion in regional advance mitigation

OCTA recognizes that it is within SCAG's purview to plan for regional strategic investments to reach performance targets and goals set by the RTP/SCS; however, it should be noted that OCTA is committed to delivering the projects within the LRTP. The draft RTP/SCS should clearly state that implementation of the regional strategic investments is subject to availability of new revenue sources and must undergo the necessary project development and review processes by the implementing agencies. OCTA will only consider investments beyond the LRTP project list after new revenues are realized and identified to account for these additional improvements.

Please refer to the attachment for detailed technical comments. OCTA appreciates SCAG's work on the RTP/SCS and PEIR and looks forward to the adoption of the final 2024-2050 RTP/SCS and PEIR in April. If you have further questions, please contact Greg Nord, Section Manager III, at (714) 560-5885 or gnord@octa.net.

Sincerely,

Kia Mortazavi
Executive Director, Planning

KM:kt

c: Executive Staff

Attachment

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Draft Plan

No.	Page/ Location	OCTA Comments
1	ES/21 - SMM-AG-3	Greenprint is called out here. Need to review language.
2	Pg. 40 | Map 2.2	No existing Rapid Bus/Bus Rapid Transit on SR 55 and SR 91. Please remove green line on map.
3	95	405 Express Lanes should be changed from 'under construction' to 'existing'.
4	Section 2; General	Provide more context or reference the corresponding technical report when introducing a figure/map. Many maps are included without any references to them in the texts.
5	Pg. 40 | Map 2.2	Define "Rapid Bus/BRT"
6	Pg. 42 | Map 2.4	Fix legend for freeway/highway.
7	Pg. 49	Is the figure on the right suggesting the there is a backlog of unmet needs of 250,000 housing units within the region (3 white houses x 83,333 units left after backfilling with green houses from 2000 - 2020)? Recommend clarifying in the report text.
8	Pg. 65	"SCAG has gained new responsibility for the selection of transportation projects to be funded with federal revenue sources" - please specify the specific federal funding sources this statement is referring to and its implementation status.
9	Pg. 81 | Table 3.1	Table 3.1 shows some notable differences on demongraphics projections when compared to Orange County Projects (OCP)-2022 projections. In particular, OCP-2022 projects a declining population within OC between 2035 and 2050, while Table 3.1 shows a 4% increase. While the Demographcnis & Growth Forecast Technical Report explains in more detail the need to regionally balance the projections of population, households, and jobs, it would be helpful to include a high-level explanation/clarification within the main RTP/SCS document for significant discrepencies between SCAG and county projections.
10	Pg. 94 | Map 3.1	OC Streetcar should be shown.
11	Pg. 95 | Map 3.2	The conversion from high-occupancy vehicle to tolled express lanes for SR-57 north of I-5 and SR-91 west of SR-55 would require approval by the OCTA Board of Directors prior to pursuing implementation. Furthermore, the draft RTP/SCS should clarify that the proposed regional express lane network is subject to further study to evaluate right-of-way impacts, community issues, and overall feasibility.
12	Pg. 95 | Map 3.2	Dual Express Lane facility on I-405 in Orange County began operation in December 2023.
13	Pg. 95 | Map 3.2	Update to show the following facilties are open as of 12/1/2023: - 405 HOT - 73 GP connector - 405 HOT - 22 HOV connector - 405 HOT - 605 HOV connector - Express dual lanes on I-405 between SR-73 and I-605

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Draft Plan

No.	Page/ Location	OCTA Comments
14	Pg. 114	# 10, specify the type of transportation project (similar to #6), otherwise the policy would be misunderstood without the subheading.
15	Pg. 115	#12, remove the phrase "instead of adding roadway capacity" as the phrase is not necessary to define this policy and efficient use of existing system should not be mutually exclusive with adding capacity.
16	Pg. 141	"... accompany user fee policies and assume mitigation measures, such as the establishment of a mobility equity fund." - recommend providing example usages for mobility equity fund. It is defined later on page 157 but not when it's first mentioned.
17	Pg. 153 | Table 4.2	Figure 4.9 shows that local sales taxes account for 58% of local core revenue, the largest single source of all sources. Page 149 acknowledged that local sales taxes for three counties will expire during the term of the Plan, including Orange County's Measure M in 2041. However, the core revenue forecast shown in Table 4.2 show a significant increase in funding in OC for the period of FY2045-2050 ($25.1 billion in FY2045-2050 compared to $18.3 billion in FY 2040-2044 and $17.6 billion in FY2035-2039. Recommend providing clarification on the revenue increase beyond the expiration of local sales tax measures (i.e. inflationary adjustments or additional funding sources). SCAG should also further emphasize that extensions of expiring sales tax measures are not assumed in the revenue forecast.
18	Pg. 171 | Table 4.5.2	Note the following "*" indicates the "Active Transportation" item includes $8.8 billion in addition to $29.2 billion of capital project investment for a total of $38 billion. Which line item is $8.8 billion contained under?

Notes:
FY - Fiscal Year
GP - General Purpose
HOV - High-Occupancy Vehicle
HOT - High-Occupancy Toll
I ## - Interstate #
OCP - Orange County Projections
SR ## - State Route ##

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Congestion Management

No.	Page/ Location	OCTA Comments
1	Page 14, Section 4.1.2, paragraph 1	***Please update language in red*** - "Orange County Transportation Authority (OCTA) uses four performance indicators which include vehicle headway, to measure how often service is available to transit patrons; Vehicle load, measuring how many standees there are on a transit vehicle; on-time performance (OTP); and service accessibility, which measures the percentage of the population that has access to their service."
2	Page 25, Section 5.2.2, Paragraph 2	***Please Update language in red*** - "OCTA is the latest CTC to have completed a state Congestion Management Program network analysis in 2023. Orange County's latest performance, using an average intersection capacity utilization (ICU) analysis rating, shows an improvement over the~~ir~~ 1991 baseline. Between 1991 and 2023, the average AM peak period ICU improved from 0.67 to 0.55, a 17.9 percent improvement, and the average PM peak period ICU improved from 0.72 to 0.58, a 19.4 percent improvement."
3	Page 25, Section 5.2.2, Paragraph 3	"Like OCTA, RCTC's minimum LOS standard is E." - ***This sentence implies that OCTA created the minum standard of LOS E, the standard is set by California State legislation. Please refer to California Government Code Section 65089(b) which outlines CMP elements/requirements. The full text of the Government Code can be viewed at https://leginfo.legislature.ca.gov/faces/codes.xhtml, sections 65088-65089.10.***
4	Page 37, Paragraph 1	***Please update language in red*** - "A specific example of a roadway ITS project is Orange County's Measure M2 Regional Traffic Signal Synchronization Program (RTSSP), also known as Project P, which provides funding and assistance to implement multi-agency signal synchronization. The target of the program is to regularly coordinate 2,000 signals along 750 miles of roadway as the basis for synchronized operation across Orange County. To date, OCTA and local agencies have synchronized more than 3,500 intersections along more than 903 miles of streets (101 completed projects). The OCTA Board of Directors, through a competitive process, have approved 13 rounds of M2 funding for Project P. On April 10, 2023, the Board awarded approximately $3.66 million dollars to three projects as part of the 2023 Call for Projects Regional Traffic Signal Synchronization Program (RTSSP). To date, OCTA has funded more than $162 million (including $30.5 million in external funding) to 131 projects.

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Mobility

No.	Page| Location	OCTA Comments
1	10 / Table 1-5	Can any conclusions be drawn from these numbers regarding what the charger deficit will be by a certain time? What about electricity infrastructure?
2	44 & 82	Change OC Streetcar opening from 2024 to 2025
3	49	Remove existing Rapid Bus/BRT from SR 55 and 91 on regional map
4	99	2nd bullet under "Policy and Planning", provide example of what kind of support SCAG will provide.
5	106 | Table 2-4	Safety Events should be defined somehwere.
6	115	Why aren't Class III e-bikes considered a bicycle under definitions? Based on current regulations, the only place Class III e-bikes are prohibited are unpaved wilderness trails.
7	118	Under "Bicycle Sales" consider changing "leisure" to "recreation"
8	118	Under "Transportation Safety Issues" it reads like there is going to be a list after "A variety of factors are thought to have contributed..." but only changing commut patters is listed outside of the parenthases. Consider changing parenthases.
9	118	There is mention in the main plan document of the importance of the land use/transportation nexus. It would be useful to discuss how reappropriating space on streets for active transportation supported land uses was used during the pandemic and what lessons can be learned.
10	122	Recommend switching the headers in Table 3-1. It would be easier to view "Existing" and "Planned" side by side.
11	125	Figure 3-7 is a bit unclear. Does this mean that the 2013-2017 bar show the change over that time, or the amount during that time? Please clarify.
12	196	Section 4.3.1 where it says "In some areas, VMT surpassed pre-pandemic levels", recommend providing discussion on if there's a pattern to the type of area/location that sees the most increase in VMT. Figure 4-1 on the next page illustrates the month where VMT surpassed pre-pandemic level, but doesn't really support the text.
13	196	1st paragraph under 4.3.1, last sentence, "as shown if figure 4-1" should say "in".
14	199	Under "Managed Lanes", "the current occupancy status of their vehicles using before..", the word "using" should be removed.
15	200	It's stated that for the purpose of Caltrans degradation analysis and reporting, HOV and HOT lanes are combined into a single total. Future reporting should separate HOV and HOT operations since mitigation straegies to address degrdation differ for each type of facility.
16	202	Dual Express Lane facility on I-405 in Orange County began operation in December 2023.

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Mobility

No.	Page| Location	OCTA Comments
17	203 | Map 4-2	It should be noted that the conversion from high-occupancy vehicle to tolled express lanes for SR-57 north of I-5 and SR-91 west of SR-55 would require approval by the OCTA Board of Directors prior to pursuing implementation. Furthermore, the draft RTP/SCS should clarify that the proposed regional express lane network is subject to further study to evaluate right-of-way impacts, community issues, and overall feasibility.
18	203 | Map 4-2	Update to show the following facilties are open as of 12/1/2023: - 405 HOT - 73 GP connector - 405 HOT - 22 HOV connector - 405 HOT - 605 HOV connector - Express dual lanes on I-405 between SR-73 and I-605
19	210 | Figure 4-3 & Figure 4-4	What is the targeted level for pavement conditions for the state highways and bridges? And how has ratios of good/fair/poor conditions shifted compared to the past RTP/SCS? How will implementation of the Plan result in pavement conditions improvements?
20	211 | Figure 4-5	What is the reason for declining delay under baseline (2050) conditions compared to base year (2019)?
21	213 | Figure 4-6	Does the total delay include additional facility types other than the 3 facility types shown (highway, HOV, arterial)? The sum of each facility type for each scenario does not add up to the total delay (i.e. for base year 2019, 1,249 +52 +828 = 2,129, not 2,214).
22	213	The introduction of truck delay in Figure 4-7 seems abrupt and does not appear to relate specifically to the descriptions preceding it.
23	221	Last sentence of the first paragraph under Section 4.8.2 states that condition of our roadways has progressively worsented over time and will continue to worsen without investment. Recommend showing data that clearly demonstrate this deficiency.
24	223	Recommend including discussion in Section 4.8.3 on how to address competing priorities when it comes to funding system preservation (fix-it-first) vs investing improvements in priority equity communities that have historically been underdeveloped.
25	225	Section 4.9 is difficult to follow as the subsections jump from one topic to a series of Performance Measures without structure or much introduction. It is unclear how targets are set for each performance measure and why the Year 2025 is set as the benchmark.
26	228	Provide sources and descriptions of the the targets shown in Figure 4-10 and 4-11. There is no information in the texts on how the targets are derived.
27	240	Section 4.10.7 includes discussion on AVs/CAVs and truck platooning technology which are not necessarily clean air vehicles. Consider revising the title to "Transportation Technology and Vehicles"
28	241	2nd pargraph mentions TOD. Clarify the part clean transportation technology plays in the development of TOD.

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Mobility

No.	Page| Location	OCTA Comments
29	Appendix 10/ Pg 5	Include plans " Orange County Bike Connectors (OC Loops) Gap Closure Feasibility Study" (2023) & "OC Loop 70/30 Plan" (2015)
Notes	AV - Autonomous Vehicle CAV - Connected Autonomous Vehicle BRT - Bus Rapid Transit VMT - Vehicle Miles Traveled GP - General Purpose HOV - High-Occupancy Vehicle HOT - High-Occupancy Toll I ## - Interstate # SR ## - State Route ## TOD - Transit Oriented Development	

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Transportation Finance

No.	Page/ Location	OCTA Comments
1	Pg. 1	"However, the IIJA expires in Fiscal Year (FY).." – specify it is "Federal" fiscal year.
2	Pg. 6	The State Highway System Management Plan (SHSMP) was updated in 2023. Funding need, revenue amount, as well as dedicated climate adaptation funding amounts have been updated. Updated information is on page 8-2 of 2023 SHSMP.
3	Pg. 7 Pg. 9/Table 1 Pg. 16/Table 3.1	Section 2.6 acknowledged that local sales taxes for three counties will expire during the term of the Plan, including Orange County's Measure M in 2041. However, the core revenue forecast shown in Table 1 show a significant increase in funding in OC for the period of FY2045-2050 ($25.1 billion in FY2045-2050 compared to $18.3 billion in FY 2040-2044 and $17.6 billion in FY2035-2039. Recommend providing clarification on the revenue increase beyond the expiration of local sales tax measures (i.e. inflationary adjustments or additional funding sources). SCAG should also further emphasize that extensions of expiring sales tax measures are not assumed in the revenue forecast.
4	Pg. 8	Last sentence states that Table 1 shows the core revenues in five-year increments. Suggest addding clarification that the period for FY2045-FY2050 includes 6 years.
5	Pg. 14-15	While the number is available later in the report, Table 2 should include the total sum of new reasonably available revenue.
6	Pg. 17	Provide clarification on the assumptions for TCA development impact fee program through the life of the RTP (i.e. does the revenue decline over time as developments are built out?)
7	Pg. 18, Table 3.2 Appendix 1, Pg. 4	Under STIP, it was stated that the decline of gas tax revenues is offset by Road Improvement Fee (RIF) revenues. Please clarify what the fee is referring to. It is our understanding that the tax increment financing (TIF) funding (the fee on zero emission vehicles) supports the Public Transportation Account (PTA). This funding is further split with a percentage going to the State where the State takes funds off the top to backfill weight fees that are used to pay down debt. PTA is supposed to support the STIP but there typically isn't any left over after paying for local improvements such as intercity rail. To our understanding, there is no other funding currently included in the STIP fund.
8	Pg. 18	Consider updating the plan with 2024 STIP fund estimate that was published in August 2023.
9	Pg. 21, Table 4	Under local option sales taxes, a potential risk of inability to gain voter approval to renew any expiring measures should be included.

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Transportation Finance

No.	Page/ Location	OCTA Comments
10	Pg. 28, 31	Both Table 5 and Table 6 refer to service expansion. Recommend adding language that differentiates what is included in each table. For example, specify infrastructure and equipment required for service expansion in Table 5. Also clarify if operating costs are included in Table 6 as the text description only suggests system preservation and maintenance needs.
11	Pg. 30-31	Descriptions in this section mainly focuses on street preservation but only touch lightly on preservation of transit assets. The funding need for transit, however, is at least twice that of streets and roads. Suggest adding descriptions of existing transit needs (e.g. there are X number of buses and rail cars in our region that must be maintained in good working order as well as X miles of track infrastructure).
12	Pg. 31	"… maintain exiting transit" should be "existing".
13	Pg. 34-35, Table 7	There is a significant increase in revenues between the 2040-44 and 2045-49 periods, greater than any other time period. The increase seems exaggerated and requires further verification and clarification. Is the disproportionate forecast due to inflationary increase?
14	Appendix 1, Pg. 9	Newer estimates are available for CMAQ and STBG. The new apportionment levels under IIJA are higher. Recommend updating with estimates for FY23/24.

Notes: CMAQ - Congestion Mitigation & Air Quality Improvement Program
FY - Fiscal Year
IIJA - Infrastructure Investment nd Jobs Act
PTA - Public Transportation Account
RIF - Road Improvement Fee
SHSMP - State Highway System Management Plan
STBG - Surface Transportation Block Grant Program
STIP - State Transportation Improvement Program
TCA - Transportation Corridor Agencies
TIF - tax increment financing

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Project List

No.	Table	OCTA Comments
1	Table 2	RTP ID ORA030605 - Update completion year to 2023. This comment was previously submitted via e-mail.
2	Table 2	RTP ID 2M0732 - Update lead agency from OCTA to Caltrans. This comment was previously submitted via e-mail.
3	Table 1 & 2	RTP ID ORA172201 - Inconsistent costs between the FTIP listing (Table 1) and the Constrained Project listing (Table 2).
4	Table 2	RTP ID 2200T003 - Cost matches FTIP cost for ORA172201, is this a duplicate of ORA172201?
5	Table 3	RTP ID S2120056 - remove; project has been removed from the OCTA LRTP.
6	Table 3	Remove the following projects as they have been moved to the constrained project list: RTP ID S2120062, S2120063, S2120064 and S2120065.
7	Table 3	Remove the following projects: - RTP ID S2003L001 - IMPLEMENT OC INTERSECTION ASSESSMENT RECOMMENDATIONS - RTP ID S2003L004 - IMPLEMENT COUNTYWIDE COMMUNICATIONS STUDY (ITS) RECOMMENDATIONS - RTP ID S2120056 - CONSTRUCT GRADE SEPARATED INTERSECTION AT HARBOR BOULEVARD AND BALL ROAD - RTP ID S2160003 - LOSSAN / NEWPORT AVE GRADE SEPARATION - RTP ID S2160004 - LOSSAN / RED HILL AVE GRADE SEPARATION - RTP ID S2120035 - 405 ADD HOV RAMPS AT BEAR STREET - RTP ID S2120036 - 405 ADD HOV RAMPS AT VON KARMAN AVENUE - RTP ID S2120024 - FULLERTON TRANSPORTATION CENTER STATION IMPROVEMENTS - RTP ID S2120028 - SANTA ANA REGIONAL TRANSPORTATION CENTER STATION IMPROVEMENTS
8	Table 3	RTP ID S2003L002 - revise description to "IMPLEMENT MPAH COMPLETE STREETS ASSESSMENT RECOMMENDATIONS - REUSE OF EXCESS CAPACITY"
9	Table 3	RTP ID S2160011 - revise description to match OCTA LRTP: "SR-73, SR-261, SR-241 NORTH - BUILDOUT TO PLANNED CAPACITY"
10	Table 3	RTP ID S1161O001 - Correct county column to "Los Angeles"
11	Table 3	Add Orange County project as followed. Description: PEDESTRIAN BRIDGE IMPROVEMENTS IN THE ANAHEIM RESORT AREA Lead Agency: Anaheim
12	Table 3	Add Orange County project as followed. Description: P133/GREAT PARK BLVD INTERCHANGE Lead Agency: Irvine
13	Table 3	Add Orange County project as followed. Description: SR-55 - EXTEND ML TO SOUTHERN TERMINUS Lead Agency: OCTA

SCAG Draft Connect SoCal 2024 (RTP/SCS)
Technical Report: Project List

No.	Table	OCTA Comments
14	Table 3	Add Orange County project as followed. Description: ENHANCED EAST/WEST OCTA TRANSIT CONNECTING ARTIC MOBILITY HUB TO AREAS OF HIGH DEMAND Lead Agency: OCTA
15	Table 3	Add Orange County project as followed. Description: NEW SOUTHERN OC METROLINK STATION Lead agency: OCTA

THE PORT OF LOS ANGELES
425 S. Palos Verdes Street Post Office Box 151 San Pedro, CA 90733-0151 TEL/TDD 310 SEA-PORT www.portoflosangeles.org

January 22, 2024

Annie Nam
Southern California Association of Governments
900 Wilshire Blvd., Ste.1700
Los Angeles, CA 90017

RE: Comments - Draft Connect SoCal 2024

The Port of Los Angeles has the following comments on the *Draft Connect SoCal 2024*:

1. Please revise the Port of Los Angeles' RTP list of projects per the attached document.
2. Please revise the highlighted portion of the following paragraph from the Goods Movement Technical Report, Page 52 (Page 54/198):

   "The Clean Air Action Plan (CAAP).....The program is funded through a rate charged on loaded containers moved by drayage trucks through the ports, with exemptions for zero-emission and some low-NOx trucks and is designed to help trucking companies transition to zero emission technologies while improving air quality in the surrounding communities. The program began on April 1, 2022, and is scheduled to run through 2035 and has collected over $130 million in funding to help replace older, high-emitting trucks with cleaner alternatives. ~~tariff on containers moving through the ports and is designed to help trucking companies transition to cleaner technologies while improving air quality in the surrounding communities. The program is scheduled to run through 2023 and has provided over $78 million in funding to help replace older, high-emitting trucks with cleaner alternatives.~~"
3. There are certain references throughout the Goods Movement Technical Report (https://scag.ca.gov/sites/main/files/file-attachments/23-2987-tr-connect-socal-2024-goods-movement-draft-110223.pdf?1698263285) regarding innovative concepts, such as Hyperloop. Please verify if the references are still valid given Hyperloop One company announced its closure last year.

If you have any questions, or need additional information please contact Mr. Shashank Patil at 424.267.7276.

Sincerely,

Kerry Cartwright, P.E.
Director of Goods Movement

Attachments

The Port of Los Angeles RTP List of Project

DRAFT CONNECT SOCAL 2024 PROJECT LIST	SCAG EDITS (KC)	Projet Completion
FTIP PROJECTS		
LOS ANGELES LOCAL HIGHWAY LA9919170 PORT OF LOS ANGELES CONSTRUCTION OF A FOUR-LANE, RAIL-ROADWAY GRADE SEPARATION THAT ELIMINATES A SIGNIFICANT TRUCK ACCESS IMPEDIMENT TO AN IMPORTANT CONTAINER TERMINAL SUPPORT FACILITY LOCATED ON TERMINAL ISLAND, AT THE CENTROID OF THE PORTS OF LOS ANGELES-LONG BEACH (POLA-POLB). $39,670		Jun-26
LOS ANGELES LOCAL HIGHWAY LA0G1543 PORT OF LOS ANGELES TERMINAL ISLAND RAILYARD ENHANCEMENT PROJECT. THIS PROJECT ENTAILS THE CONSTRUCTION OF FIVE STAGING/STORAGE TRACKS ABOUT 47,000 LINEAL FEET (47,000 LF = 31,000 LF OF STORAGE TRACKS + 16,000 LF OF CONNECTIONS) TO THE AN EXISTING RAIL YARD, LOCATED ON TERMINAL ISLAND, WHICH IS ALSO INCLUDES A SHORT RAIL BRIDGE OVER WATER. $61,395		May-24
LOS ANGELES LOCAL HIGHWAY LA0G173 PORT OF LOS ANGELES 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. $24,000	remove; correctly listed in "constrained list" (1200P002); no federal/State funding in place	
LOS ANGELES LOCAL HIGHWAY LA0G1540 PORT OF LOS ANGELES ALAMEDA CORRIDOR SOUTHERN TERMINUS GAP CLOSURE PROJECT. THIS PROJECT WILL PROVIDE SEPARATE RAIL ACCESS TO TWO ADJACENT ON-DOCK RAILYARDS, THUS ELIMINATING THE POTENTIAL FOR TRAIN COLLISIONS. THE NEW DOUBLE TRACK SEGMENT WILL ALSO REDUCE MOVING TRAIN BLOCKAGES AT TWO IMMEDIATELY ADJACENT RAIL CROSSINGS ON ROADWAYS, WHICH ALSO REDUCES THE POTENTIAL FOR TRAIN-VEHICULAR COLLISIONS. $14,050		Completed
LOS ANGELES LOCAL HIGHWAY LA9918927 PORT OF LOS ANGELES THE PROJECT WILL ADD FIVE NEW WORKING TRACKS JUST NORTH OF/PARALLEL TO THE EXISTING FENIX ON-DOCK RAILYARD, INCLUDING TAIL TRACK, PAVEMENT AND TURNOUTS. A TOTAL OF 15,000 LINEAR FEET OF TRACK WILL BE ADDED AS PART OF THIS PROJECT. $52,355		Jan-27
LOS ANGELES LOCAL HIGHWAY LA9918926 PORT OF LOS ANGELES THE AVALON PROMENADE AND GATEWAY PROJECT WILL DEVELOP THE 12-ACRES SITE SOUTH OF HARRY BRIDGES BLVD ALONG AVALON BOULEVARD AND WILL CONSTRUCT A SIGNATURE PEDESTRIAN BRIDGE (APPROXIMATELY 440 LINEAR FEET), WHICH WILL IMPROVE PEDESTRIAN ACCESS TO THE WILMINGTON WATERFRONT. A PEDESTRIAN BRIDGE WILL PROVIDE SAFE AND DIRECT PEDESTRIAN ACCESS OVER THE PACIFIC HARBOR RAIL LINE TRAIN TRACKS AND REALIGNED WATER STREET. $23,800		Jun-27
LOS ANGELES STATE HIGHWAY LA0G1290 47 PORT OF LOS ANGELES PREPARE CALTRANS PROJECT STUDY REPORT (PSR), PROJECT REPORT (PR), PRELIMINARY PLANS AND ENVIRONMENTAL DOCUMENTATION (ED) REPORTS TO OBTAIN CALTRANS APPROVAL AND ENVIRONMENTAL CLEARANCE; DESIGN (PLANS, SPECIFICATION AND ESTIMATE) AND CONSTRUCTION FOR THE SR 47/VINCENT THOMAS BRIDGE AND FRONT STREET/HARBOR BOULEVARD INTERCHANGE RECONFIGURATION PROJECT. $70,500		Nov-26
FINANCIALLY CONSTRAINED PROJECTS		
LOS ANGELES LOCAL HIGHWAY PORT OF LOS ANGELES 1160005 SAMPSON WAY TO 22ND STREET & MINER STREET - SAMPSON WAY WOULD BE REALIGNED AND EXPANDED TO TWO LANES IN EACH DIRECTION AND WOULD CURVE NEAR THE MUNICIPAL FISH MARKETS TO MEET WITH 22ND STREET IN ITS WESTWARD ALIGNMENT EAST OF MINER STREET. 2025 $30,000		2030
LOS ANGELES LOCAL HIGHWAY PORT OF LOS ANGELES 1160006 HARBOR BLVD WB SR47 ON-RAMP 7TH STREET HARBOR BLVD IMPROVEMENTS - AS PART OF THE SAN PEDRO WATERFRONT DEVELOPMENT PROJECT, HARBOR BLVD WILL BE RESTRIPED, AND THE MEDIAN IS REMOVED/RECONSTRUCTED AS NEEDED TO PROVIDE THREE NBT AND SBT LANES BETWEEN THE RECONSTRUCTED HARBOR BLVD./7TH ST. INTERSECTION AND THE WB ON RAMP/FRONT STREET INTERSECTION. THIS WILL RESULT IN THE REMOVAL OF PARKING AND THE BIKE LANE ON THE NORTHBOUND SIDE. THE PARKING AND 5' BIKE LANE ON THE SOUTHBOUND SIDE, SOUTH OF O'FARRELL STREET WILL BE PRESERVED. NORTH OF O'FARRELL STREET, THE PARKING AND THE PARKING LANE ON THE SOUTHBOUND SIDE WOULD NEED TO BE REMOVED TO ACCOMMODATE THE NORTHBOUND DUAL LEFT-TURN LANE. 2027 $5,000		2030
LOS ANGELES LOCAL HIGHWAY PORT OF LOS ANGELES 1160007 ALAMEDA CORRIDOR SOUTH TERMINUS/HENRY FORD AVE. RAIL CROSSING ADVANCED WARNING SYSTEM. 2025 $15,000		2030
LOS ANGELES LOCAL HIGHWAY PORT OF LOS ANGELES 224P001 PROVIDES STORAGE FOR CONTAINERS AND CHASSIS FOR POLA-POLB 2025 $160,000	remove; repeat of 1163O003	
LOS ANGELES LOCAL HIGHWAY PORT OF LOS ANGELES 1200L001 HARBOR BLVD SP SLIP 22ND STREET DESIGN HARBOR BLVD. (FORMERLY KNOWN AS SAMPSON WAY) INTO A SCENIC BOULEVARD ALONG THE WEST PERIMETER OF PORTS O'CALL VILLAGE. THIS PROJECT WILL FACILITATE PUBLIC ACCESS THROUGHOUT THE WATERFRONT AREA TO BETTER CONNECT THE WATERFRONT WITH DOWNTOWN SAN PEDRO AND THE SURROUNDING COMMUNITY. THIS PROJECT WILL BEGIN AT THE SP SLIP AND END AT 22ND STREET. 2024 $22,000		2030
LOS ANGELES STATE HIGHWAY PORT OF LOS ANGELES 1120007 47 SE-47/VINCENT THOMAS BRIDGE ON/OFF RAMP IMPROVEMENTS: NEW WESTBOUND SR-47 ON- AND OFF RAMPS AT FRONT STREET JUST WEST OF THE VINCENT THOMAS BRIDGE AND ELIMINATE THE EXISTING NON STANDARD RAMP CONNECTION TO THE HARBOR BOULEVARD OFF-RAMP; FRONT STREET IS AN NHS CONNECTOR. THE PROJECT ALSO INCLUDES REALIGNED EASTBOUND AND WESTBOUND SR47 ON RAMPS. 2026 $105,000	in FTIP (LA0G1290); remove from FC	
LOS ANGELES STATE HIGHWAY PORT OF LOS ANGELES 1M0430 47 SR-47 AT NAVY WAY SR 47/NAVY WAY INTERCHANGE: CONSTRUCTION OF INTERCHANGE AT SR 47 / NAVY WAY TO ELIMINATE TRAFFIC SIGNAL AND MOVEMENT CONFLICTS; PROJECT REMOVES LAST SIGNAL ON SR 47 BETWEEN DESMOND AND V. THOMAS BRIDGES; NHS INTERMODAL CONNECTOR ROUTE 2027 $63,000		2029

LOS ANGELES OTHER PORT OF LOS ANGELES 1161L007 PORT OF LOS ANGELES ALAMEDA CORRIDOR TERMINUS/CALIFORNIA COASTAL TRAIL EXTENSION GRADE SEPARATION (PEDESTRIAN/CLASS I BICYCLE PATH BRIDGE OVER FREIGHT MAINLINE): PROVIDE A PEDESTRIAN/BICYCLE BRIDGE OVER TWO RAIL MAINLINE TRACKS TO PROVIDE A DIRECT CONNECTION BETWEEN THE WILMINGTON COMMUNITY AND THE WATERFRONT. 2024 $23,800	in FTIP (LA9918926); remove from FC	
LOS ANGELES OTHER PORT OF LOS ANGELES 1163O003 PORT OF LOS ANGELES PORT OF LOS ANGELES TERMINAL ISLAND MARITIME SUPPORT FACILITY (MSF) 2026 $160,000	note the edit: removal of Grade sep, which is LA9919170; the MSF will also be added to FTIP with awarded PFIP funds	Aug-27
LOS ANGELES OTHER PORT OF LOS ANGELES 1163O004 PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: WEST BASIN CONTAINER TERMINAL RAILYARD - RECONSTRUCT A 7- TRACK RAILYARD OPERATED WITH DIESEL POWERED TOP-PICKS TO A 10-TRACK RAILYARD OPERATED WITH ELECTRIFIED RAIL-MOUNTED GANTRY CRANES 2030 $110,000		2029
LOS ANGELES OTHER PORT OF LOS ANGELES 1200P002 PORT OF LOS ANGELES PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: POLA RAIL SYSTEM PROJECTS (CP MOLE, PIER 400 SECOND LEAD TRACK, WEST BASIN 2ND LEAD TRACK, B200 RAILYARD CONNECTION - 2ND TRACK) 2026 $70,000		2030
LOS ANGELES OTHER PORT OF LOS ANGELES 1O0706LA02 PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: TERMINAL ISLAND ON-DOCK RAILYARD EXPANSION (TICTF MODERNIZATION). 2030 $100,000		2035
LOS ANGELES OTHER PORT OF LOS ANGELES 1O0707 PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: NEW CERRITOS CHANNEL RAIL BRIDGE 2030 $400,000		2035
LOS ANGELES OTHER PORT OF LOS ANGELES 1O0708 PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: TRIPLE TRACK S/O THENARD 2030 $34,015		2035
LOS ANGELES OTHER PORT OF LOS ANGELES 1O0710A PORTS OF LOS ANGELES PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: PIER 300 RAIL EXPANSION PHASE I 2026 $56,000	in FTIP (LA9918927), remove from FC	
LOS ANGELES OTHER PORT OF LOS ANGELES 1O0710C PORTS OF LOS ANGELES PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM:PIER 400 RAIL EXPANSION; 2) PIER 300 RAIL EXPANSION PHASE II 2030 $200,000		2035
LOS ANGELES OTHER PORT OF LOS ANGELES 224P020 PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM:PIER 300 RAILYARD EXPANSION/MODERNIZATION PHASE 1 2025 $100,000	in FTIP (LA9918927), remove from FC	
LOS ANGELES OTHER PORT OF LOS ANGELES 224P021 PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: PIER 300 WHARF EXPANSION 2025 $246,500		2030
LOS ANGELES OTHER PORT OF LOS ANGELES 224P022 PORT OF LOS ANGELES ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: BERTHS 121-127 IMPROVEMENT 2027 $335,100		2027
LOS ANGELES OTHER PORT OF LOS ANGELES 224P023 PORT OF LOS ANGELES RAIL MAINLINE/WILMINGTON COMMUNITY & WATERFRONT PEDESTRIAN GRADE SEPARATION BRIDGE 2027 $60,000	in FTIP (LA9918926); remove from FC	
LOS ANGELES STATE HIGHWAY ALAMEDA CORRIDOR TRANSPORTATION AGENCY LA0D45 47 SR-47 EXPRESSWAY: CONSTRUCT 4 LANE EXPRESSWAY AND 2-LANE FLYOVER TO SCHUYLER HEIM BRIDGE LA0D45 IS SPLIT INTO TWO PROJECTS; LA0D45 (EXPRESS WAY & FLYOVER) AND LA0D45A (BRIDGE REPLACEMENT) 2035 $420,000		2040
UNCONSTRAINED PROJECTS		
LOS ANGELES LOCAL HIGHWAY S1160110 HARBOR BLVD/7TH STREET: RECONFIGURE INTERSECTION AT THE JUNCTION OF HARBOR BLVD, SAMPSON WAY, AND 7TH STREET. WORK INCLUDES RETAINING WALL, STREET WORK, GRADING, PAVING, LIGHTING, RESTRIPING AND A NEW SIGNALIZED INTERSECTION. PORT OF LOS ANGELES	remove; project completed in 2018!!	
LOS ANGELES LOCAL HIGHWAY S1160111 RESTRIPE HARBOR BLVD AND RECONSTRUCT MEDIAN TO PROVIDE THREE NBT AND SBT LANES BETWEEN THE RECONSTRUCTED SAMPSON WAY/HARBOR BLVD. INTERSECTION AND THE WB ON RAMP/FRONT STREET INTERSECTION. PORT OF LOS ANGELES	remove; repeated, in constrained; (1160006)	

RailPAC
Rail Passenger Association of California and Nevada

[redacted]

www.railpac.org

To:

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

[to be submitted via online form]

January 11, 2024

Re: Public comment on Draft Connect SoCal 2024

Dear Connect SoCal,

The Rail Passenger Association of California and Nevada (RailPAC) is an all-volunteer non-profit passenger rail advocacy group representing the interests of rail passengers since 1978.

RailPAC appreciates this opportunity to provide public comment on the Draft Connect SoCal 2024 Southern California's Regional Transportation Plan/Sustainable Communities Strategy for the six-county region—as required by federal and state regulations. As the nation's largest federally-recognized metropolitan planning organization, the Southern California Association of Governments (SCAG) is in a unique position to encourage all levels of government to work together to improve passenger rail service and general mobility in Southern California.

Improved regional and intercity passenger rail must be a cornerstone of Southern California's transportation and land use investments between now and the year 2050. RailPAC sees improved regional and intercity passenger rail as critical, along with complementary improvements in the freight rail system. Aside from the obvious environmental benefits of reducing air pollution and providing additional transportation capacity, efficient passenger rail travel is vital to California's economic well-being. The livelihood and security of all Californians cannot be dependent upon increasingly congested and deteriorating highways, rail networks and airports. The needs of non-drivers are just as important as those of drivers. Millions of residents in the SCAG region do not drive because they are too young or too old, have a medical condition that prevents them from driving, or cannot afford a car/truck or the fuel needed for all trips. Rail and transit should be viewed in this context. Representation of 'non-drivers' thus needed on boards and other representative bodies governing transportation in the SCAG region.

Sincerely,

Brian Yanity

Vice President- South and Board Member,
Rail Passenger Association of California and Nevada (RailPAC)
[redacted]

[specific comments on draft Connect SoCal 2024 plan on following pages]

Mobility Technical Report

RailPAC has always focused on intercity passenger service and regional rail. While it is important to move large numbers of people short distances by transit, it is equally beneficial to the community to move smaller numbers of passengers over relatively longer distances. An intercity train journey of 70 miles or more is the equivalent to a dozen or so local transit journeys in terms of vehicle miles avoided. Investment in Intercity and Regional Rail in the SCAG region has been totally inadequate for decades. Southern California is also behind in the fight against air pollution, including greenhouse gas emissions- as transportation emissions rise while those of other sectors decline. Regionwide rail electrification is long overdue.

The Mobility Technical Report's vision for transit/rail (Ch. 2) sets a very positive tone for transit and passenger rail in the SCAG region over the next few decades, why it is important (2.10), with goals to grow ridership and provide more frequent, and new, rail services. The report also makes astute observations and recommendations about rail and transit funding (2.14.1) safety and security (2.14.2), the built environment and subsidization of driving (2.14.4), and transit-oriented development (2.17.8)- highlighting the need to mode shift from transit to rail.

RailPAC appreciates the report's highlighting of the importance of Amtrak *Pacific Surfliner*, connecting Amtrak Thruway buses, along with Amtrak's long-distance National Network trains: the *Coast Starlight*, *Southwest Chief* and *Sunset Limited* (p.45-46). In addition to connecting the SCAG region to the rest of the nation, the Amtrak long distance trains also provide a valuable transportation service *within* the region, as this section mentions- the only available passenger rail service to Palm Springs (*Sunset Limited*), as well as Victorville, Barstow and Needles (*Southwest Chief*).

It is anticipated the FRA's Daily Long-Distance Service Study[1] will recommend additional intercity passenger rail service between Salt Lake City and Los Angeles and a daily *Sunset Limited* (up from the current three days per week). In addition, future FRA Corridor ID initiatives may see recommendations for additional intercity passenger rail service between Tucson/Phoenix and Los Angeles. The expansion of on-dock loading of containers at the Ports of Los Angeles/Long Beach coupled with the establishment of inland ports in Las Vegas, Salt Lake City and Phoenix/Tucson should result in expanded container trains on UP's two key transcontinental routes, Los Angeles – Las Vegas/Salt Lake City and Los Angeles - Phoenix/Tucson. As a result of these initiatives additional rail line capacity will be needed, likely a 2nd main track on Cima Hill on the line to Las Vegas - Salt Lake City, and completing the 2nd main track between Coachella, CA and Yuma, AZ on the Yuma Subdivision of the Sunset Route. Additional capacity projects such as these will provide on-time performance benefits to Amtrak trains. Reliability and frequency of long-distance interstate Amtrak trains should be counted as another benefit of SCAG region capacity upgrades to the BNSF and UP mainlines on which they run.

RailPAC also supports restoration of the *Coast Daylight*, and appreciates SCAG acknowledging the planning efforts underway to run a new direct train between Los Angeles Union Station and San Francisco's new Transbay Terminal (under *Coast Starlight*, p. 45-46) on the existing Coast Route. SCAG should work with the Coast Rail Coordinating Council and San Luis Obispo Council of Governments to make a new *Coast Daylight* a reality.

Remote/telework/hybrid work (p. 69-70):

Remote and flexible work arrangements reinforce the need for more round-the-clock regional rail services by Metrolink and Amtrak, as trips between home and the office are less likely to be

[1] https://fralongdistancerailstudy.org/

traditional morning and evening commuting times. Note that this trend often results in longer trips as remote work enables individuals to live further from the core office or in the case of independent contractors work part time for two companies, one in city A the other in city B, in the opposite direction.

Climate change (2.14.3, p. 70-71) and the San Clemente inland bypass:

An inland, double-tracked and electrified inland bypass is needed for the LOSSAN Rail Corridor to avoid the near sea level alignment through San Clemente, a serious capacity constraint on the key route between California's two largest cities, and at increasing risk to climate change-driven coastal erosion and landslides. Most likely a tunnel underneath I-5, Caltrans, OCTA, LOSSAN Rail Corridor Agency and other agencies should start doing geotechnical, environmental and design studies on tunnel options through San Clemente, Dana Point and San Juan Capistrano. SCAG can help facilitate this process. Regardless of the resiliency risks to this vital piece of infrastructure, we still are trying to operate a modern service with many miles of single-track railroad between the 2nd and 8th largest cities in the United States. The LOSSAN corridor needs to be double-tracked and electrified the whole way between LA and San Diego.

Agency coordination (2.14.5 p. 72-73), regional rail governance and the role of the state:

The state government (CalSTA, Caltrans, CHSRA) needs to take a more leading role in governing regional rail in Southern California, especially on the LOSSAN Rail Corridor. County transportation agencies do not have the scope, capability and capacity to cohesively manage and improve the entire 351-mile corridor to its full potential. This is especially true in the case of the LOSSAN's needed megaprojects such as Link Union Station, San Clemente and Del Mar tunnels. One issue is that county transportation agencies tend to be hyper-sensitive to local neighborhoods often to the detriment of projects with regional benefits. On January 9, 2024, the California Senate Transportation Subcommittee on LOSSAN Rail Corridor Resiliency sent a letter to CalSTA "calling on the state to take a stronger role in managing the line and the many agencies involved with it"[2]. RailPAC, Streets for All and other organizations have written a joint letter echoing this sentiment and calling for a state-led reform of regional rail governance, to be submitted to SCAG separately.

Regional projects (2.16.1, p. 80-82):

California High Speed Rail, with its transformative plans to connect the Antelope Valley, Burbank, Los Angeles and Orange County with tremendous mutual benefits for LOSSAN and the Metrolink system, needs to be discussed in this section.

Link Union Station-

The railroad tracks approaching Los Angeles Union Station, the hub of the regional passenger rail network, are circuitous and serpentine, unnecessarily adding 5 to 10 minutes to every journey. The existing inefficient stub-end track configuration needs to be upgraded to a run-through layout, to avoid every train having to reverse in the station. Run-through tracks significantly increase the number of trains that can serve the station. The run-through tracks should have been completed with the original plan when Union Station was built in the 1930s, but here we are nearly a century later. It is past time to start building. The Link Union Station project, while

[2] https://twitter.com/SenBlakespear/status/1744895809928544468

briefly mentioned under ‘rail capacity constraints’ (2.14.8, p. 75), needs to be discussed in further detail as a critical regional project. SCAG should be working with LA Metro, California High Speed Rail Authority (CHSRA), SCRRA[Metrolink], and other public agencies in expediting its final design and construction.
p. 82:

San Bernardino County-

The statement, “in the near future, SBCTA will introduce its electrical multiple units (EMUs) on the Arrow service, using zero emission fuel cell propulsion”, is inaccurate. The Stadler multiple-unit train will not run on electricity, but hydrogen (the exact source of which has not been publicly disclosed).

Riverside County-

Extension of the Coachella Valley Rail to Calexico in Imperial County should also be studied.

2.17.1 System preservation and resilience:

Rail electrification (also discussed on p. 64-65 of the Clean Technology Compendium report)-

The brief discussion on zero-emissions rail (p. 85-86) acknowledges that overhead catenary rail electrification is ”relatively mature and have been deployed elsewhere – particularly outside of North America, such as many European and Asian countries”, yet neglects to mention how the plan for CHSRA to install 25 kV overhead catenary wire between Burbank, LA Union Station and Anaheim, could also be utilized by Metrolink and Amtrak trains sharing the same tracks. The Brightline West line between Rancho Cucamonga and Las Vegas will also be powered by 25 kV catenary on its new, dedicated tracks. Also slated to begin construction soon is 25 kV catenary on the initial operating segment of the CHSR project in the Central Valley. The new Caltrain electric Stadler trainsets will start carrying passengers in 2024 under 25 kV catenary wire between San Francisco and San Jose. California is thus emerging as a hub of 25 kV overhead catenary development in the United States, and the SCAG region stands to benefit from this ‘local know how’.

The superior performance, energy efficiency and reliability of conventional rail electrification has been proven for all types of rail operations around the world, with many different vendors and suppliers of the technology. The SCAG region’s core rail mainlines should be electrified with 25 kV overhead catenary, the world standard. Around the world, there has long been a well-documented increase in passenger train ridership following electrification, nicknamed the “sparks effect”. This is because electric trains have:

- Increased train speed and frequency due to better acceleration
- Passenger comfort (quieter, smoother ride, no smoke)
- Increased reliability (fewer train breakdowns)
- Lower equipment, operation and maintenance (O&M) costs means passenger railroads can invest more in frequent service.

Hydrogen rail propulsion is unproven, has very poor overall energy efficiency (less than 40%, compared to over 90% for conventional overhead catenary electric trains), is inherently more complex (with more potential points of failure) with higher O&M costs. One critical issue for

regional planning of electric transportation is the overall electric energy consumption of transportation. Because rail transportation is on average three times more energy efficient than road transportation, it takes one third of the electric energy consumption to move the same amount of passengers/freight with an electric train, compared to an electric truck or bus. Electric trains per passenger are even more energy efficient compared to electric cars. SCAG should be encouraging electric rail, in its most efficient form with overhead catenary, to make the most of energy available on the electric power grid.

The emissions comparisons of rail technologies (Tables 20, 21 and Figure 18 on p. 64-65 of the Clean Technology Compendium report) only show battery and hydrogen fuel cell technology, and not conventional rail electrification. This is a glaring omission. Electric trains using overhead catenary need to be compared as a technology option and on a lifecycle cost/total-cost-of-ownership basis, along with overall energy efficiency shown for each technology type.

The first hydrogen trains introduced in Europe cost four times more than their electric equivalents, and have been plagued with reliability problems and cost overruns. The price of hydrogen is also volatile as over 95% of it produced in the world comes from natural gas- a commodity highly vulnerable to market price swings and geopolitical risks. Green hydrogen- made from renewable electricity- is several times more expensive than dirty hydrogen from fossil fuels- and requires large amounts of freshwater for its production. This will be a challenge in dry regions such as Southern California. International experts, informed by the actual performance of different zero emissions rail technologies in revenue service in Europe and elsewhere, are coming to consensus that improved battery and hydrogen technology will not replace the need for overhead wire electrification on the busiest rail lines. As concluded by a 2021 report by the UK Railway Industry Association[3]:

> Evidence does not support the view that [overhead wire rail] electrification is unnecessary, thanks to hydrogen and battery systems improving rapidly: hydrogen trains are inherently less efficient than electric trains, due to the physical properties of the gas. Expert opinion predicts that battery capability might double by 2035. *Yet, whilst this might affect the hydrogen / battery traction mix required for decarbonisation, it is unlikely to change significantly the requirement for electrification.*
>
> The laws of nature make electrification a future-proofed technology that is a good investment, offering large passenger, freight, and operational benefits. Furthermore, railways cannot achieve net-zero carbon emissions without a large-scale electrification programme.

In a 2020 analysis of technical abilities of non-diesel rail traction technologies, from "Traction Decarbonization Network Strategy – Interim Programme Business Case –Executive Summary"[4] report by UK Network Rail, electric with overhead catenary was the only zero-emissions propulsion mode viable for all speeds of passenger and freight service. Hydrogen was only determined to be 'good' for passenger trains under 75 mph, fair for 100-125 mph, and poor for freight and passenger over 125 mph. Battery was judged to be 'fair' at best for passenger trains up to 100 mph, and poor for all other applications except certain freight (yard switching and short distances). The report concluded that, for the currently unelectrified lines in the UK, rail decarbonization requires overhead catenary electric, hydrogen and battery traction operating on respectively 86%, 9% and 5% of the rail network.

---

[3] https://riagb.org.uk/RIA/Newsroom/Publications%20Folder/Why_Rail_Electrification_Report.aspx

[4] https://www.networkrail.co.uk/wp-content/uploads/2020/09/Traction-Decarbonisation-Network-Strategy-Interim-Programme-Business-Case.pdf

It should be mentioned here that BNSF Railway has agreed to CHSRA's plan for 25 kV overhead catenary wire above two of its tracks between LA and Fullerton- tall enough to allow double-stack container trains to pass through on tracks shared with electric passenger trains. That a Class I railroad has agreed to electrification on its tracks is a hugely significant development, with national significance. The Connect SoCal 2024 documents should mention this historic milestone, happening in the SCAG region. SCAG did a study in 2012 on regional freight rail electrification[5], and a regional freight rail electrification plan should be discussed in the Goods Movement Technical Report sections on zero emissions vehicles (4.4.1 p. 76-7), freight rail service (5.6, p. 112) and community and environmental impacts (5.7, p. 112-115).

Project List

There is not space here for commentary on individual projects, given the size of the list. However, here are some general observations:

- Connect SoCal's stated goals of reducing emissions, environmental justice, 'fix-it-first' infrastructure funding, increased mode shift from road to transit/rail, etc. are compromised by the fact that there are so many road and highway expansion projects listed. The 'project pipeline' needs to be carefully reevaluated, with SCAG pushing back on county transportation authorities' excessive highway expansion plans, by more scrutiny of proposed and road projects, and directly offering alternatives.

- In addition to the San Clemente inland bypass described above, vital rail projects that are missing from the project lists include:

    - Serra Siding Extension (north and south, including 2nd San Juan Creek bridge)
    - Raymer-Bernson double tracking in the San Fernando Valley
    - Irvine-Laguna Niguel 3rd mainline
    - San Bernardino Line full double-tracking (including I-10 segment)
    - Completion Fullerton-Riverside-San Bernardino 3rd and 4th mainline track.
    - Completion of 2nd mainline track on UPRR Los Angeles and Alhambra Subs
    - Completion of Coachella-Yuma 2nd mainline track (UPRR Sunset Route)
    - Completion of Cima Hill 2nd mainline track (UPRR Cima Sub. to Las Vegas)
    - Simi Valley-Moorpark-Camarillo 2nd mainline track
    - Comprehensive regional (overhead catenary) rail electrification, for both passenger and freight

- It is commendable that many of rail-road grade separations are counted as 'local highway' projects in the project lists as opposed to 'passenger rail'. Grade separations should be chiefly funded from road and highway budgets, so as to not draw funds away from other rail and transit projects.

- One project listed under passenger rail (p. 483), "California/Nevada Super Speed Train System" Anaheim-Las Vegas "California/Nevada Super Speed Train Commission", needs to be deleted- this particular proposal has not made any progress, has no environmental document and has been replaced by Brightline West, which is about to begin construction.

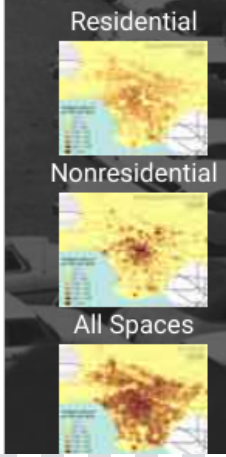
[5] https://scag.ca.gov/sites/main/files/file-attachments/crgmsais_-_analysis_of_freight_rail_electrification_in_the_scag_region.pdf?1605991886

Transportation LCA Growth of LA's Roadway Network Growth of the LA's Building Stock

GROWTH of PARKING INFRASTRUCTURE in LOS ANGELES

Mikhail Chester, Assistant Professor, Civil, Environmental, and Sustainable Engineering, Arizona State University
Andrew Fraser, Graduate Student, Civil, Environmental, and Sustainable Engineering, Arizona State University
Juan Matute, Associate Director, Lewis Center and Institute of Transportation Studies, University of California Los Angeles
Carolyn Flower, Undergraduate Researcher, Civil, Environmental, and Sustainable Engineering, Arizona State University
Ram Pendyala, Professor, Civil and Environmental Engineering, Georgia Institute of Technology

2010 PARKING SPACES per SQUARE MILE



MAPPED: ALL 200 SQUARE MILES OF PARKING IN LA COUNTY, AS ONE GIANT PARKING LOT

January 4, 2016

Giving "parking crater" a new meaning: All 18.6 million parking spots in LA County would take up enough space to create a parking lot 16 miles in diameter, obliterating a huge number of the communities and institutions that make LA such an attractive place to live, work, and visit. Even spread throughout the region, these parking spaces extend the distances between our destinations, raise prices and housing costs, and discourage healthier forms of transportation like walking and biking.

From: Michael McCarthy [redacted]
Sent: Monday, February 5, 2024 12:21 PM
To: 2024 PEIR
Subject: addendum to letter - post comment period
Attachments: EPA poised to reject Southern California smog plan - Los Angeles Times.pdf; Fight over I-15 express lanes exposes rift between freeway widening and California climate, pollution goals - Los Angeles Times Feb. 5, 2024.pdf

Dear SCAG,

I just wanted to follow up on the comment letters I wrote on the PEIR with a couple of recently breaking stories highlighting the results from SCAG's Goods Movement Exceptionalism.

The EPA just proposed rejection of the State Implementation Plan for zone in the SCAQMD. Additionally, there was a freight corridor improvement project to widen I-15 that fraudulently stated that truck VMT and AADT wouldn't increase by adding lanes. The I-15 express lanes 'Freight corridor improvement project' passed through SCAG's conformity analysis without appropriate skepticism or oversight. It raises serious questions about SCAGs role in upholding transportation conformity.

If the EPA follows through, the region will lose billions in federal funding for transportation projects due to your ongoing Goods Movement Exceptionalism policy that is undermining attainment of the air quality standards. Please do your part SCAG.

Mike McCarthy
Riverside Neighbors Opposing Warehouses
[redacted]

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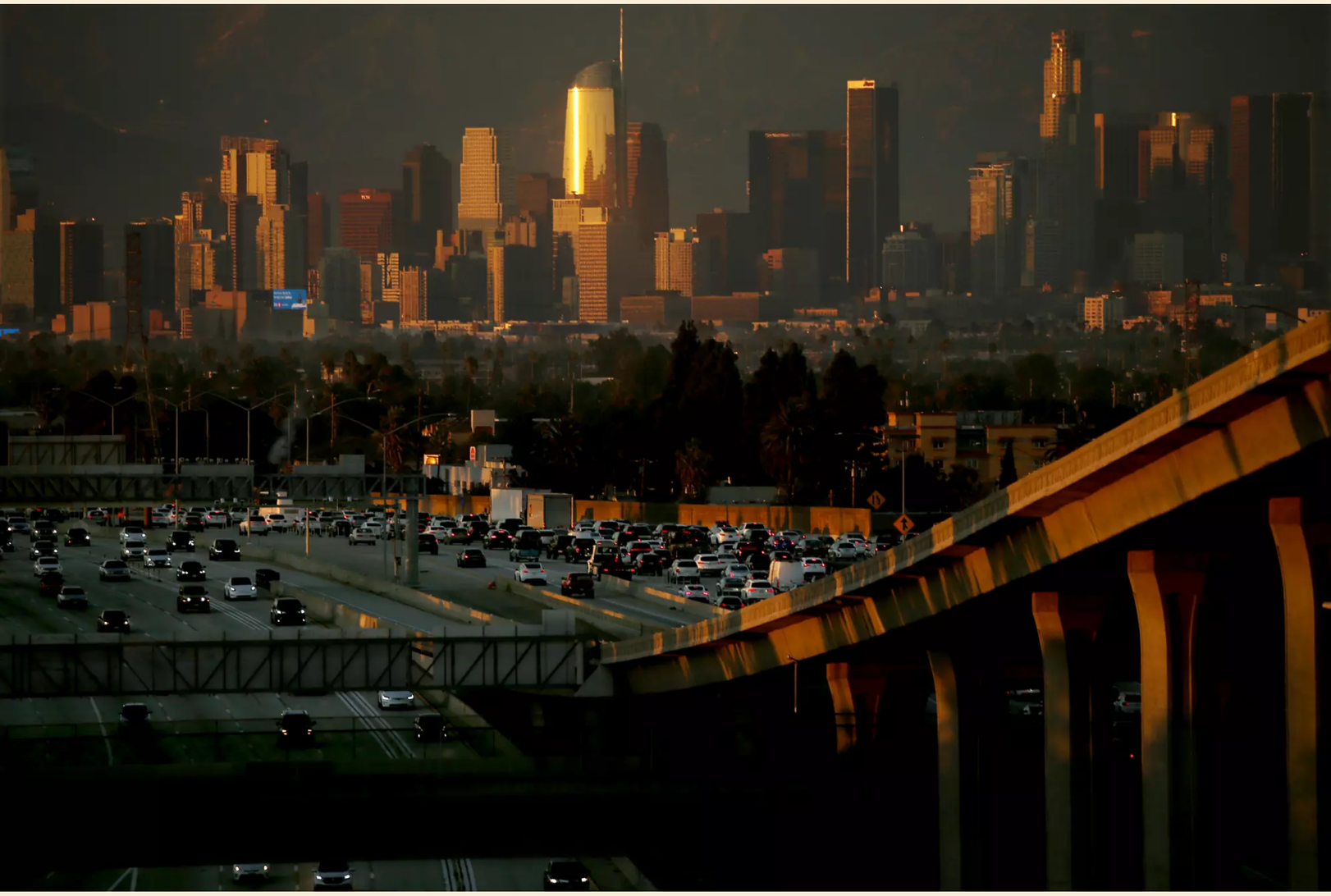
CLIMATE & ENVIRONMENT

Los Angeles smog woes worsen as U.S. EPA threatens to reject local pollution plan



Smog hangs in the air as the sun sets on downtown Los Angeles in October 2023. (Luis Sinco / Los Angeles Times)

BY TONY BRISCOE | STAFF WRITER

FEB. 4, 2024 3 AM PT

The U.S. Environmental Protection Agency is preparing to reject California's plan to curb air pollution in Los Angeles, a consequential move that could result in stiff economic sanctions and federal regulatory oversight of the nation's smoggiest region.

Despite having the strictest air pollution rules in the nation, Southern California has never complied with federal health standards for ozone, the lung-searing gas commonly called smog. Because of this, state and local air regulators are required to submit plans to the EPA detailing how they intend to reduce pollution and comply with federal standards.

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California air regulators acknowledge that the region still needs to reduce smog-forming nitrogen oxides by more than 100 tons per day in order to achieve the 1997 standard for ozone.

However, the South Coast Air Quality Management District proposal calls on the federal government to make most of those cuts — at least 67 tons per day — arguing that some of the largest sources of smog-forming emissions are federally regulated, such as ships, trains and aircraft. Local air quality officials lack the jurisdiction to regulate mobile sources of emissions, and can only control stationary sources, such as industrial facilities.

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In a recent draft response, the EPA has proposed rejecting California's plan, declaring "states do not have authority" under the Clean Air Act or the Constitution to order the federal government to reduce pollution.

CLIMATE & ENVIRONMENT

A fire burning deep inside an L.A. County landfill is raising new alarms over toxic air

Jan. 30, 2024

In a pointed response, local air officials claimed the EPA was responsible for the damaging health effects of Los Angeles area smog, because it has failed to offer solutions to curb emissions from “sources that they know are beyond our control.”

“U.S. EPA’s draft decision is disheartening,” read a statement from the air district. “South Coast AQMD intends to comment on this new proposal and take all appropriate actions in hopes that this decision does not become final. More importantly, U.S. EPA will need to answer the millions of residents, especially children, who have asthma, lung disease and other illnesses associated with air pollution that continue to suffer.”

The EPA has until July 1 to decide whether to finalize the rejection. If the state and local air regulators fail to submit a plan that the EPA finds acceptable within that time, the federal government could withhold billions of dollars in highway funding, place strict requirements on new permits and even impose a federal plan to curb smog.

The EPA has disapproved of the air district’s plans several times in the past, but the region has managed to avert potential sanctions.

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The proposed denial is the latest confrontation between Southern California air regulators and the Biden EPA — two unlikely adversaries who have clashed for nearly two years over how to solve the region’s long-standing issues with smog.

It has also highlighted the complex nature of regulating pollution in the region where at least three entities have authority — the local air district, which oversees smokestack emissions; the California Air Resources Board, which governs in-state vehicles; and the EPA, which handles interstate and international travel.

However, some environmental advocates say the dilemma is a collective failure by every level of government.

Adrian Martinez, a senior attorney with Earthjustice, said the conflict follows years of repeated delays and deadline extensions, when all three environmental agencies were capable of cutting more emissions.

“The plan to meet our clean air standards relied on these faith-based assumptions that we’ll figure out how to reduce the pollution at a later time. And what ended up happening is we never figured it out," Martinez said.

CLIMATE & ENVIRONMENT

Will storing CO2 in old oil fields slow global warming? First California plan nears approval

Jan. 14, 2024

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Historically, Southern California has been plagued by smog, which forms when the region's persistent sunlight interacts with vehicle exhaust and smokestack emissions. The region's mountainous terrain confines this toxic haze over the region, rather than allowing it to disperse.

Although there has been significant progress over the last several decades through the development of cleaner vehicle engines and pollution controls for industry, the region's smog remains the worst in the country.

Since 1997, nitrogen oxides have decreased 70% in the air basin. The majority of those emission reductions are the result of stricter vehicle standards imposed by the state, and locally imposed regulations on industry, according to the South Coast air district.

As emission reductions have stalled and aircraft emissions have risen, the air district has found itself under increasing pressure to force the EPA's hand. According to estimates, even if Southern California eliminates emissions from all building and industrial sources, it wouldn't be enough to meet federal standards.

The air district has sued the EPA for violating the Clean Air Act, arguing it was impossible for the region to comply with federal smog standards without massive cuts from federal sources. The move was intended to compel the EPA to adopt new regulatory strategies that would curtail pollution from ports, railyards and airports. The air district later settled the case.

For its part, the Biden administration last year adopted tighter vehicle emission standards, including for heavy-duty trucks, which is expected to reduce smog.

But these federal requirements still pale in comparison to rules in California — the only state that can implement its own vehicle emission standards with federal approval.

“We acknowledge that there are sources of air pollution in South Coast that the air district and CARB do not have the regulatory authority to control,” an EPA spokesperson said in a statement. “EPA has made it a very high priority to help reduce mobile source emissions through rulemaking and leveraging unprecedented federal funding … wherever possible.”

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CLIMATE & ENVIRONMENT

Could Culver City’s landmark deal to end oil production be a model for other cities?

Dec. 16, 2023

The EPA is accepting public comments on its proposed disapproval of the regional smog plan until March 4.

If the EPA finalizes this disapproval, California will have 18 months to obtain the federal agency’s approval for a new plan. By failing to meet that deadline, the federal government would require some newly permitted businesses to reduce twice as many tons of smog-forming as they emit.

Six months later, if the deadline still hasn’t been met, the Federal Highway Administration is required to impose a moratorium on highway funding (with exceptions for mass transit and public safety).

No more than two years after final disapproval, the EPA must enforce a federal implementation plan to achieve federal smog standards.

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CLIMATE & ENVIRONMENT CALIFORNIA

Tony Briscoe

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Tony Briscoe is an environmental reporter with the Los Angeles Times. His coverage focuses on the intersection of air quality and environmental health. Prior to joining The Times, Briscoe was an investigative reporter for ProPublica in Chicago and an environmental beat reporter at the Chicago Tribune.

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California says it prioritizes climate goals over freeway widening. So why is the 15 Freeway getting more lanes?

A view of the 15 Freeway south just north of the 10 Freeway interchange in Ontario. (Irfan Khan / Los Angeles Times)

BY RACHEL URANGA
STAFF WRITER | FOLLOW

FEB. 5, 2024 3 AM PT

FOR SUBSCRIBERS

Express lanes on eight miles of the truck-choked Interstate 15 will break ground this year and, officials promise, speed up commuters' slog through the Inland Empire's ever-growing sprawl of warehouses, subdivisions and polluted air.

But its contentious approval by the California Transportation Commission last month exposed a deepening rift in the state between its climate goals and the list of freeway widening projects that some say are gliding through without scrutiny and threatening the health of the people who live near them.

The U.S. Environmental Protection Agency is now looking into allegations that the San Bernardino County Transportation Authority and the California Department of Transportation may have misled it about the potential environmental harm the project could cause communities that breathe in some of the nation's worst air. Both say the project was vetted thoroughly and is sound.

In the Inland Empire, the $388-million express lane project is the centerpiece of a plan to improve traffic along one of the nation's most congested freight corridors, where commuters going to school or work must navigate the deluge of big rigs carrying goods to and from the area's massive distribution centers. The new lanes would run roughly from the 60 Freeway to a few miles south of the 210 Freeway and connect to Riverside County's toll lanes.

Plans for the lanes had been moving along for more than a decade with widespread support from federal, state and local agencies — until December, when Joseph Lyou, who was then a member of the California Transportation Commission, raised concerns about providing it $202 million in state funds.

Lyou is president of the Coalition for Clean Air and a former board member of the South Coast Air Quality Management District. He said he was "at the end of his patience" with traffic-inducing freeway expansions that California officials had pledged to end to meet ambitious climate goals.

At the end of a daylong meeting in Riverside on Dec. 7, he asked how planners could conclude that new lanes wouldn't cause more truck traffic in one of the nation's worst freight bottlenecks. The analysis, he said, must be flawed.

"At a place like this Inland Empire community where warehouses pop up every other day — million-square-foot warehouses," he told the commission. "Providing that additional capacity on that freeway influences whether we get more of those million-square-foot warehouses, and it will and can induce truck traffic."

It was late in the day, and several commissioners had already left the chambers.

"You know, we few of us here left all recognize this issue of induced traffic," he said. "And despite that, at every meeting, we are asked to make one or two exceptions to this rule, with this knowledge, and we widen freeway projects after widening freeway projects."

The concept of induced traffic means the more space made for vehicles, the more drivers will come, making congestion worse and increasing greenhouse gas and health-harming pollutants. The $1-billion 405 Freeway expansion through the Sepulveda Pass is an example. It was supposed to ease traffic , but it eventually grew worse, studies found.

HOUSING & HOMELESSNESS

A bid to stop freeway expansions in California hits a roadblock: Organized labor

May 6, 2022

Lyou didn't expect anyone to pay much attention to his objections. A longtime environmental justice advocate, he said he is used to taking on powerful institutions and being ignored and even lied to.

But to his surprise that evening, two other commissioners, Adonia Lugo and Darnell Grisby, both appointees of Gov. Gavin Newsom, joined him in voting against the project.

The 3-3 vote essentially stalled the plan.

The decision reverberated up and down the state.

“This may be a tipping point,” said Jeanie Ward-Waller, a former Caltrans executive and whistleblower who has accused the agency of skirting regulations to expand roads. “A lot of leaders have been saying for a long time that we don’t really do highway widening anymore, but they very much are still in the pipeline.”

Last year, Ward-Waller was demoted after accusing the $20-billion agency of bypassing rules to add highway lanes near West Sacramento. The commission determined that the agency acted legally.

Then in January, U.S. Secretary of Transportation Pete Buttigieg ordered the Federal Highway Administration to reopen its decision to exempt a highway expansion in Fresno from an environmental analysis. It came after a community group sued Caltrans for failing to adequately assess the environmental degradation that the already polluted, largely Latino neighborhoods around it could suffer.

In the Inland Empire, environmentalists argued that the planned express lanes on the I-15 will open up more space in other lanes for freight, stoking warehouse growth in an overwhelmed region.

“You’re just inviting more traffic which means more emissions, more cumulative impacts, more diesel, more exhaust, going into the communities,” said Ana González, executive director of the Center for Community Action and Environmental Justice in Jurupa Valley, where the lanes will be built. “Widening growth is not going to solve anything. In fact, it’s going to make it worse.”

She and several of her staff members who live in and grew up in the area have children with respiratory issues they suspect are linked to freight traffic.

“It was such a hard and stressful experience for me as a mom because you want to see your kids happy,” she said. “When they yell at you and tell you, ‘Mom, I can’t breathe,’ it’s like I feel helpless.”

The under-the-radar California Transportation Commission, or CTC, appointed by the governor and legislators, is charged with doling out billions of dollars in state transportation funds and it’s often the last stop for big projects that are decades in the making.

Most had expected the Interstate 15 vote to be procedural. The express lanes had already been assessed by the commission several times, and a bevy of other federal, state and local agencies had reviewed the plans.

Upset legislators and union trade representatives began to urge the commission to overturn the vote.

“If this can all be undone through a vote by the CTC,” a dozen legislators from the Inland Empire and surrounding areas said in a letter sent to the commission, “it would apply extreme risk to the local agencies seeking to advance these much needed projects to a status of readiness for our constituents.”

CALIFORNIA

A Caltrans executive questioned a freeway expansion. Then she was demoted

Oct. 10, 2023

Assemblywoman Sabrina Cervantes (D-Riverside), who represents the cities where the express lanes will go, noted that the county transit agency had already spent $26 million of taxpayer funds on permits, agreements, environmental mitigation credits and staff hours. “The credibility of CTC is at stake, and the implications of that fact extend well beyond the project,” she said.

Truck movement along the I-15 is a major driver of the Inland Empire economy.

The region has become the way station for the vast stream of Asian goods coming through the ports of Los Angeles and Long Beach, with one of the largest concentrations of warehouses in the U.S. Interstate 15 has become the gateway from those warehouses to the rest of the country, running from San Diego to Canada — and connecting to every interstate highway going to the Midwest and the East Coast.

Half of California's interstate heavy truck traffic is estimated to pass through the I-15 corridor.

But as new homes and warehouses grow closer to one another — and to increasingly congested freeways and side streets — more residents are exposed to ever more pollution.

The location of the project raised alarm bells for Lyou because it sits just upwind of Mira Loma, where he knew there was an air monitoring device that had recorded some of the region's most elevated levels of particulate matter 2.5, exceeding acceptable air standard levels. The pollutant is associated with diesel trucks and is known to cause asthma, heart disease and other ailments.

Lyou began to look deeper into the project's years-long record.

Among the documents he examined was a 2016 air quality review by a working group at the Southern California Assn. of Governments — the region's planning group and a clearinghouse for infrastructure projects. The group is made up of environmental regulators, Caltrans and other state and local officials. Failing its review could trigger a longer environmental analysis that could ultimately kill a project.

"No change in regional heavy — and medium trucks [is] anticipated," the San Bernardino County Transportation Authority, or SBCTA, declared in its report to the

group. Like most documents emanating from the project, the SBCTA wrote it and Caltrans approved it as the lead environmental agency.

But the EPA pressed the agencies on that point, later sending out a list of questions to planners, which were reviewed by The Times.

“Why doesn’t the additional capacity associated with movement of light and medium duty traffic to the express lanes open up additional capacity for truck traffic and support continuing growth in development of warehouses and associated truck traffic in the area?” an unnamed EPA official asked.

The new lanes would free up congestion in the regular lanes, SBCTA consultant Don Hubbard said. But, the consultant said, “there is not a convenient alternative route to the I-15” that the new lanes would draw new truck traffic from, “therefore the demand heavy truck volume for the corridor will be the same whether the Express Lanes are constructed or not.”

He added that there was little space left in the region for new warehouses and that I-15 was only one of many features that have drawn the logistics industry to the area. Others included the Ontario International Airport, other major freeways, the ports and rail service.

“While it would be a benefit to the logistics industry for the Express Lanes to be constructed, it is only one of the factors considered in deciding to locate in the area.”

CALIFORNIA

Warehouse boom transformed Inland Empire. Are jobs worth the environmental degradation?

Feb. 5, 2023

In the end, the group cleared the project.

Lyou found a subsequent application from 2020 for tens of millions of dollars in trade corridor state funds to improve freight movement.

"The addition of express lanes will open up room for more freight," Caltrans and SBCTA planners wrote in the application, reviewed by The Times. It projected that daily truck traffic would jump 20%.

Lyou says he came to believe that Caltrans and the SBCTA misled federal regulators to bypass environmental reviews that quantify the potential pollution from a project and force it to be offset. The costs of those offsets could be enough to kill a project.

Under the Clean Air Act, federally supported projects can't worsen air quality in polluted regions such as the Inland Empire.

The final vote on the Interstate 15 express lanes was scheduled for a hearing at the Stanislaus County Administration Building in Modesto on Jan. 25.

Lyou's group, the Clean Air Coalition, sent out an "action alert" asking to "Help Us Stop a Highway Expansion Project!" At the bottom of the email were talking points for those calling in, along with a donate button.

At the meeting, dozens of hard-hat-wearing union construction workers held signs like "Roads, Roads, Roads" to make the case for new jobs.

The SBCTA opened with a presentation about the project explaining how the new express lanes tie into another toll lane completed in Riverside County and fit into the larger regional plan that extends deep into Orange County. The lanes' northern end would be near the terminus of the future Brightline project, a planned high-speed rail line from Rancho Cucamonga to Las Vegas.

"While we are diligently working to transform the Inland Empire towards a more sustainable tomorrow, we must continue to make investments in our highways to address the growth in population and the increase in containerized goods," Raymond Wolfe, executive director of the SBCTA, told the commission.

Traffic at the port complex continues to grow, he said. The region needs the infrastructure inland that accommodates it.

"There is a clear disconnect in priorities because increasing throughput at the ports translates to more containers, which then require more warehouses and logistics capacity."

Public testimony on both sides stretched nearly two hours. On the pro side: The project would provide well-paying jobs, ease congestion and complement rail transportation projects in the works. On the con side: Asthma would get worse, and more warehouses would loom over neighborhoods and bring even more traffic.

As the vote neared, a commissioner made an unusual proposal.

"I'd like to suggest that we as commissioners, myself included, limit ourselves to the same two-minute limit that we respectively asked two of our speakers," said Carl Guardino, a four-term commissioner and former head of the policy trade association Silicon Valley Leadership Group.

The commission quickly approved the motion.

Lyou, who had prepared a 53-page slideshow to present his findings, was irate. In his four years there and decades attending government meetings, he can't recall anything like this.

He called the time limitation "absolutely ridiculous" and rushed through his slides.

He pointed out the discrepancy in the two different findings, saying that the SBCTA and Caltrans can't say there won't be more truck traffic to the working group, which enforces the Clean Air Act, and then ask the state for money for money to improve freight movement that it says will increase truck traffic.

"That's a problem. It may involve fraud. It may involve violations of a lot of laws. That's what happened here," he told the commission.

CALIFORNIA

A toll lane future is inevitable in California as traffic congestion worsens

Dec. 20, 2019

He moved that the commission suspend the vote and force Caltrans and the SBCTA to explain "what the heck is going on."

The SBCTA defended the statements, saying they came from two different analyses and each had its own purpose.

"You're comparing those two different numbers with two different methodologies," Steve Smith, SBCTA's director of planning, told the commission. "We do not engage in fraud, we do not engage in falsification of data."

The working group's standards for its environmental assessment are "misunderstood," Kome Ajise, executive director of the Southern California Assn. of Governments, explained to the commission. Big-rigs aren't factored in to the environmental assessment because they aren't discretionary traffic. "Those trucks are compelled to be there."

Nobody is "faking it," he said.

The executive director of the commission said the difference in numbers was “not uncommon.”

Other commissioners weighed in. The project had been reviewed many times , they said, and it was too far along in the process to throw it into reverse.

“It’s been said before, the project is under contract, so I think we know what our particular duties are in this case,” Grisby said, changing his earlier position.

The commission voted 9 to 1 to approve the project.

Lyou’s “accusations are grossly inappropriate and dismissive of the thorough process applied to both the environmental clearance and the funding pursuits,” Tim Watkins, a spokesman for the SBCTA, later said. “I find it ironic that a commissioner who would use his position to solicit opposition to the recommendation of the commission staff as well as to seek donations for his private endeavors would cast aspersions on a transparent and well-vetted project.”

The environmental analysis was transparent and made a strong case, he said. It assumed a “fixed distribution of trucks,” meaning there would be no net increase of trucks in the region. Whereas the later analysis assumed a redistribution of trucks as a “worst-case scenario.”

The challenge with traffic modeling studies is they can be used to say what you want them to say, said Michael Manville, a UCLA urban planning professor at the Luskin School of Public Affairs who has not reviewed this project. “From the moment we first started using these models many decades ago, they have aspects of being a black box.”

There is no single modeling standard, only best practices. And experts still haven’t settled on the degree to which a newly built toll lane induces driving, he said.

Lyou expects the commission to continue to approve these types of projects. But he won't participate. An appointee of California Assemblymember Anthony Rendon (D-Lakewood), Lyou was notified Wednesday by Assembly Speaker Robert Rivas (D-Hollister) that he would be replaced. Rivas named Bob Tiffany, a former San Benito County supervisor who ran a car dealership for decades, to the commission.

"So did they manipulate the process to get through the track and then be able to get their funding several years later?" Ward-Waller asked. "Why else would you provide different data?"

"Joe Lyou was asking some very appropriate questions," she said. "But asking them at this stage, I think, is really, really hard for people because they just expect the money to keep flowing."

But, she said, standards are changing and she isn't sure that, if the working group were presented with this today, it would fly.

"The world has changed, and the way California sees induced [traffic] demand and treats it in environmental documents has changed since that time," she said. "We're at a point in time where there's just a huge amount of pressure on not doing projects like this anymore. I think the highway builders, the labor and industry folks are seeing this as a huge threat."

MORE TO READ

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Jan. 4, 2024

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Dec. 24, 2023

Rachel Uranga

Rachel Uranga covers transportation and mobility for the Los Angeles Times. She previously reported for the Los Angeles Business Journal, Reuters in Mexico City and Southern California News Group, where she later served on its editorial board.

cog
Council of Governments

sb

cta
County Transportation Authority

January 12, 2024

Southern California Association of Governments
Attn: Mr. Kome Ajise
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

SUBJECT: COMMENTS BY SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY ON THE DRAFT 2024-2050 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (*CONNECT SOCAL*) AND DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

Dear Mr. Ajise:

The San Bernardino County Transportation Authority (SBCTA) appreciates the opportunity to provide comments on the Southern California Association of Governments' (SCAG's) draft 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and draft Program Environmental Impact Report (PEIR). Both documents have been very professionally prepared, with substantial input over the last several years from County Transportation Commissions (CTCs), councils of governments (COGs), local jurisdictions, other transportation agencies, advocacy groups, and the public. We appreciate the working relationship we have had with SCAG to bring the 2024 RTP/SCS to this point in its development. We look forward to the Regional Council's approval of the RTP/SCS and receiving subsequent federal approval for the RTP and state approval for the SCS.

Our comments can be classified into three general themes:

- A summary of SBCTA's transportation and sustainability activities over the last several years that support implementation of the 2020 RTP/SCS
- Overall perspectives on the 2024-2050 RTP/SCS
- Specific comments on the content of the draft RTP/SCS and PEIR.

SBCTA TRANSPORTATION AND SUSTAINABILITY INITIATIVES

As you are aware, SBCTA/SBCOG and our local partners (transit agencies and local jurisdictions) have made great strides in implementing projects and pursuing sustainability initiatives throughout San Bernardino County, consistent with prior cycles of the RTP/SCS. These activities represent important contributions to sustainability region wide, and we thought it would be appropriate to highlight some of these in our comment letter on the RTP/SCS.

1170 W. 3rd Street, 2nd Floor
San Bernardino, CA 92410-1715
goSBCTA.com
PLAN. BUILD. MOVE
909.884.8276 Phone
909.885.4407 Fax

In brief, the following are recent and ongoing sustainability initiatives of SBCTA:

- Transit investments – Since the adoption of the 2020 RTP/SCS, significant strides have been made on transit investments: the nine-mile Arrow rail system being put into revenue service in October 2022; initiation of construction on the Zero-Emission West Valley Connector Bus Rapid Transit (BRT) line, our second BRT line in the Valley; working with Brightline West and California Department of Transportation (Caltrans) to place high-speed rail in the median of I-15 from Apple Valley to Rancho Cucamonga and helping Brightline to secure funding; and working with all our transit agencies to bring transit service back to pre-pandemic levels.
- Zero-Emission (ZE) - Preparation of the ZE Bus Study Master Plan in 2020 and working with our transit agencies to incorporate ZE buses into their systems; working with industry to fund and implement two hydrogen fueling stations and one electric truck charging station on critical freight corridors to accelerate the transition to ZE trucks.
- Preparation of the Inland Empire Comprehensive Multimodal Corridor Plan in 2020, with an update in 2022, in collaboration with Riverside County Transportation Commission, Caltrans, and SCAG.
- Active transportation – we have delivered or are in the process of delivering significant bicycle/pedestrian projects and programs with the assistance of $60 million in State Active Transportation Program grants; completed the countywide Points-of-Interest Pedestrian Plan in 2022; and completed the Comprehensive Pedestrian Sidewalk Inventory Plan in 2023.
- Expansion of the rideshare/vanpool program in San Bernardino County. There are approximately 270 vans in the program between those managed by the Victor Valley Transit Authority and SBCTA.
- Completion of the Regional Conservation Investment Strategy, pursuant to AB 2087 and acceptance by the California Department of Fish and Wildlife.
- Completion of the San Bernardino County Regional Greenhouse Gas (GHG) Reduction Plan in 2021 and GHG Reduction Plan Environmental Impact Report in 2023. This was an update to address the GHG reduction goals of SB 32.
- Initiation of the Inland Regional Energy Network in 2022 with Western Riverside COG and Coachella Valley Association of Governments.
- Preparation of the Inland Empire Regional Climate Adaptation Toolkit

The SBCTA Sustainability web page has additional information and can be accessed at: Planning & Sustainability - SBCTA (gosbcta.com).

OVERALL PERSPECTIVES ON THE 2024 RTP/SCS

SBCTA has some overall perspectives for how the RTP/SCS can be used to achieve the mobility, safety, and sustainability goals of the region in the coming years. These comments relate to our Countywide Transportation Plan (CTP) and the current update to the Long Range Multimodal Transportation Plan (LRMTP, to be finalized in 2024), along with perspectives on our multimodal transportation system and managed lane network, goods movement, transit service, transit oriented development (TOD), and reduction in GHGs and vehicle miles of travel (VMT).

SBCTA's CTP/LRMTP and Relationship to the 2024 RTP/SCS

The CTP outlines a path forward for a sustainable transportation future, laying out an achievable strategy for highway and transit facilities, TOD, air quality, GHG reduction, freight, airports, transportation demand management (TDM), active transportation, and funding. The CTP analyzes two future scenarios: a "baseline scenario" that assumes traditional revenue sources (generally consistent with what the RTP/SCS defines as "core revenues") and an "aggressive scenario" (generally consistent with RTP/SCS "Plan" revenues, including the new reasonably available sources identified in the Plan). The projects and programs in the aggressive scenario of SBCTA's updated CTP are consistent with the lists in SCAG's RTP/SCS. SBCTA may provide SCAG with any technical corrections to the San Bernardino County portion of the RTP/SCS project list in a separate communication, pending discussions with our local jurisdictions, so that the changes can be incorporated into the final RTP/SCS project list, if necessary.

Need for a Balanced, Multimodal Transportation System

As noted above, SBCTA has a strong multimodal and ZE focus in our transportation programs, investing heavily in the transit system, TDM, and active transportation. At the same time, our residents and businesses remain extremely concerned about living up to the commitments in our Measure I half-cent sales tax. Much of the concern centers around the congestion on freeways, interchanges, and the regional arterial system. We have prioritized interchange improvements and are proceeding to deliver those improvements, having completed 13 major interchange projects in the last 15 years. We are under construction or nearing construction for ten additional interchanges and are working with local jurisdictions on strategic ramp improvements. Interstates 10 and Interstate 15 (I-10 and I-15) are being addressed largely through our managed lane strategy, as described in the next section. **In other words, we cannot afford to neglect highway improvements as we also aggressively pursue a sustainable future.**

We appreciate SCAG's acknowledgement of the need for Bottleneck Relief, as stated on page 112 of the RTP/SCS: "*As part of Connect SoCal and SCAG's comprehensive regional goods movement planning, bottleneck relief analysis and implementation strategy development has served to identify areas with the worst congestion and delay characteristics. Targeted regional investments will implement a menu of improvement strategies focused on freight corridors to improve the flow of people and goods.*" In other words, we appreciate that the RTP/SCS acknowledges that highway improvements are still necessary, even though most of the attention is being given to trip-reduction strategies, with the goal of reducing GHGs and VMT.

At the same time, it is important to acknowledge that each individual project should not be expected to reduce VMT. What is important is the impact of the overall strategy. In San Bernardino County, the RTP/SCS shows that VMT per capita is being reduced by 4% between 2019 and 2050 just with the "baseline" investment and by almost 11% with the "Plan" investment (see page 179). This represents billions of dollars of investment in regional transit and trip reduction measures over that time period and appears realistic for San Bernardino County to achieve. Some of the latest data on VMT compiled by SCAG (as reflected in the January 2024 Community, Economic, and Human Development Committee agenda), shows a VMT reduction of approximately 5-6%, from pre-pandemic to post-pandemic, attributed at least in part to the broad-based use of virtual

travel. While more aggressive VMT reduction goals have been identified in other statewide plans (e.g. 25% reduction in the California Air Resources Board Scoping Plan update), those numbers should be viewed as aspirational and cannot be defended with any credible analytics. SCAG's modeling for the RTP/SCS should be used as the authoritative source.

When it comes to specific projects in the RTP/SCS, some will reduce VMT and others will increase VMT, but the net effect will be a reduction in VMT per capita over time. SBCTA continues to contend that single projects should not be held to a VMT reduction target, and state/regional agencies should not impose that requirement at the project level. We will continue to work with Caltrans to come up with fair and reasonable ways of addressing VMT at some combination of the regional and project level, including a VMT Mitigation Bank concept to be pilot tested in San Bernardino County over the next two years in collaboration with SCAG.

It should be noted that the rate of population growth tends to outstrip the per capita VMT reductions that can be achieved. Therefore, expectations of VMT reduction need to be tempered based on what is realistic. This also means that, for mobile sources, the path to GHG reduction will largely fall on energy efficiency, technological innovations (including continued advancements in virtual travel), and more rapid turnover of vehicle fleets to zero-emission. The GHG analysis in the California Transportation Plan demonstrated that vehicle and fuels technology will be the primary way in which GHG reduction goals will need to be met. While VMT reduction is an appropriate goal, technology will be the principal path to long term GHG reduction. SBCTA looks forward to partnering with SCAG, the state, and the utility industry to pursue these opportunities, consistent with initiatives we have mentioned earlier, while doing what we can with VMT reduction. All parties need to recognize that no one-size-fits-all as far as the strategy for GHG and VMT reduction is concerned.

Regional Express/Managed Lane Network

As indicated in the RTP/SCS, SBCTA has two major express/managed lane initiatives: I-10 from the Los Angeles County line to Ford Street in Redlands, and I-15 from the Riverside County line, up the Cajon Pass and to the Victor Valley. These projects are not only multimodal projects for passengers, with pricing benefits for buses, vanpools, and 3+ carpools, but they will significantly improve freight mobility as well. Each project includes auxiliary lanes to improve truck operations and safety, and will take some of the auto travel out of the general purpose lanes.

It is noteworthy that the I-10/I-15 interchange, at the heart of Inland Empire logistics activity, is designated as the tenth most critical freight bottleneck in the United States (per the American Transportation Research Institute), and the I-10 and I-15 corridors represent the major gateway from/to Southern California to/from the rest of America. The express/managed lanes will also permit light duty (under 10,000 pounds) commercial traffic. Improvement of these corridors is a win-win for both multimodal passengers and freight, but will need to be staged over the duration of the RTP/SCS.

Goods Movement

As you know, San Bernardino County is a beneficiary of the logistics industry and is at the same time heavily impacted by it. SBCTA appreciates SCAG's analysis of bottlenecks in the RTP/SCS, especially the detailed analysis and explanation of the freight bottlenecks on Map 11 and pages 100 through 106 of the Goods Movement Technical Report. In fact, we would request that Map 2.1 on page 39 of the main RTP/SCS report be replaced by Map 11 on page 104 of the Goods Movement Technical Report. We make this suggestion for several reasons: 1) state policy has de-emphasized congestion from a person-movement standpoint, while recognizing the importance of congestion relief for freight; and 2) the freight bottleneck map provides a better representation at a regional level of the magnitude of the supply chain problems we are collectively trying to fix. The complete listing of bottlenecks does not need to be provided in the full report, but highlighting Map 11 and a basic explanation of the freight bottlenecks for context would be helpful in conveying the magnitude of the freight challenges we face on the highway system. Map 2.1 does not really accomplish that.

Aviation

Aviation receives very little mention in the main Connect SoCal report. Given the importance of aviation as a mode, we would suggest that SCAG add at least some of the background information from the Executive Summary of the Aviation and Airport Ground Access Technical Report. We appreciate that SCAG has drawn its airport passenger forecasts directly from the airport authority forecasts in this cycle of the RTP/SCS. We agree that the airport authorities are in the best position to make those assessments, in collaboration with the Federal Aviation Administration. Forecasts are presented in the Aviation Technical Report. Whether they need to be presented in the full report is a judgment call on the part of SCAG, but it is expected that there will be considerable interest in those forecasts. Ontario International Airport continues to be one of the fastest growing commercial airports in the United States, and San Bernardino International Airport has also begun to serve commercial passenger travel.

Greenhouse Gas (GHG) Reduction

The 2024 RTP/SCS demonstrates that the SB 375 GHG reduction targets for the region are met for 2035. SBCTA has been aggressively working on GHG reduction strategies and implementation within San Bernardino County through our Regional GHG Reduction Plan and the Climate Action Plans of our local jurisdictions. As highlighted earlier, we are being very proactive on sustainability and GHG reduction initiatives.

At the same time, it is important to recognize that we need a robust highway network to remain competitive from a logistics standpoint. A strong economy is required for both the private and public sectors to afford the technology needed to meet air quality standards and achieve the requisite GHG reductions. It should also be understood that a thriving economy in a growing county like San Bernardino can result in an increase in VMT. While we understand that reductions in VMT can be helpful to GHG reduction, there are limitations on the extent to which VMT can be reduced, as discussed previously.

Programmatic Environmental Impact Report (PEIR)

Regarding the PEIR, we appreciate the structure of the document and the mitigation measures. The mitigation measures encourage action, but do not put requirements on the CTCs or local jurisdictions beyond those already required by the State. It also acknowledges that project-level environmental studies will need to be conducted prior to the implementation of any specific project, which is why a lesser level of detail was provided in the PEIR. We have no further comments on the PEIR.

As stated earlier, SBCTA appreciates all the efforts by the SCAG Regional Council and SCAG staff to make the 2024 RTP/SCS a reflection of where the region is headed over the next 26 years. We look forward to continuing partnerships with SCAG to implement the projects and programs in the RTP/SCS. Attachment 1 provides a few more specific comments or suggested edits to specific pages of the RTP/SCS.

Sincerely,

Raymond W. Wolfe
Executive Director

cc: Steven Smith, SBCTA

ATTACHMENT 1.
SPECIFIC COMMENTS AND SUGGESTED EDITS ON THE 2024 RTP/SCS

Page 152 and following (Section 4.3) – In the discussion of core revenues, the importance of the local sales tax measures is highlighted several times. It is stated that "*These taxes account for more than half (58 percent) of local core revenue sources in the Plan.*" It is also noted that the current measures for Orange, Riverside, and San Bernardino Counties all sunset at about the same time, between 2039 and 2041. What is not clear is whether the core revenue forecast assumes extensions of the measures to provide revenue through the horizon year of 2050. It would appear the assumption is that the local sales tax revenue would continue through 2050, based on the county-level core revenue forecast in Table 4.2 on page 153, given that the revenue continues to increase in each of these three counties. But this is not explicitly stated. Please clarify.

Page 159, Table 4.3 – Please change the references to "Virgin Trains" to "Brightline West." The references to Virgin Trains should also be changed in the several locations where they occur within the RTP/SCS Project List.

Page 159, Table 4.3 – Section 4.3 of the RTP/SCS notes that $162 billion of the $750 billion total revenue will be from "new reasonably available sources." This represents about 22 percent of the total. Approximately 60% of the new revenue is shown to be from the Local Road Charge Program, as described on page 159. The program "*assumes a $0.020 (in 2019 dollars) per mile charge throughout the region that can be implemented on a county basis.*" Based on Table 4.5.1 on page 170, the Local Road Charge Program is projected to be fully operational in all counties beginning in 2035. While the schedule for implementation provides 10 years of planning and preparation, SCAG will need to provide additional information subsequent to approval of the RTP/SCS regarding how the Local Road Charge Program is expected to work and what the responsibilities of the CTCs are expected to be.

Page 171, Table 4.5.2 – It is noted that transit operations and maintenance costs are expected to triple between the first five years of the plan and the last five years of the plan from $26.3 billion (2025-2029) to $81.8 billion (2045-2050). The operations and maintenance costs for passenger rail will increase by over five-fold. Transit/rail operations and maintenance is the largest single category of costs in the RTP/SCS, representing 39% of the RTP/SCS expenditures. While this increase in transit operations and maintenance costs includes the effect of inflation, it also includes significant increases in service, as well as transition to zero-emission bus fleets and rail technology, in the effort to achieve the California State Legislature's goals of GHG and VMT reduction. It is critical that the transportation agencies in the SCAG region impress upon the legislature and Governor that the state must step up the plate to assist in the funding of transit operating and maintenance costs. The state has placed a great deal of emphasis on grant funding for capital expansion of transit systems. SBCTA has been very proactive in these investments for San Bernardino County. However, it is imprudent to build what we are unable to operate, and the state has an obligation to help local agencies in funding of the transit/rail operations and maintenance costs required to achieve the statewide goals. The state also needs to be proactive with the federal government to impress upon them the importance of increasing their funding share devoted to transit operations and maintenance.

SGVCOG

January 11, 2024

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

RE: SGVCOG Comments for SCAG Draft Connect SoCal 2024 RTP/SCS

Dear Mr. Ajise:

On behalf of the San Gabriel Valley Council of Governments (SGVCOG), I would like to submit the following comments on the Southern California Council of Governments (SCAG) Draft Connect SoCal 2024 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), specifically relating to the Technical Report - Project List.

In Table 1 (FTIP Projects) on page 57, please update the project with FTIP ID number "LA990359" as follows:

- Remove "- ITS 2318 SAFETEA #2178;1436 #1934 PPNO 2318. NOGALES(LA) PROJECT INCLUDES WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF E. WALNUT DRIVE NO. EAST OF NOGALES FOR 2600 LINEAR FEET AND WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF GALE AVE. WEST OF NOGALES FOR 1900 LINEAR FEET." as stated in the project description.
- Add "Alameda Corridor-East" to the beginning of the description.
- Update the project cost to $1,987,600 ($1,000's).

In Table 2 (Financially Constrained Projects) on page 213, please update the following projects as follows:

- RTP ID "LA990359"
  - Remove route name, from, and to.
  - Remove "- ITS 2318 SAFETEA #2178;1436 #1934 PPNO 2318. NOGALES(LA) PROJECT INCLUDES WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF E. WALNUT DRIVE NO. EAST OF NOGALES FOR 2600 LINEAR FEET AND WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF GALE AVE. WEST OF NOGALES FOR 1900 LINEAR FEET." as stated in the project description.
  - Add "Alameda Corridor-East" to the beginning of the description.
  - Update the project cost to $1,987,600 ($1,000's).
- RTP ID "1120015" - Montebello Blvd. (Montebello)
  - Update the completion year to 2027.
  - Update the project cost to $206,036 ($1,000's).

- RTP ID "1200L002" – Hamilton Blvd., Park Ave., Main St., Palomares St., San Antonio Ave., City of Pomona
  - Update project cost to $32,303 ($1,000's).
- RTP ID "1200L004" - Maple Ave., City of Montebello
  - Please remove project from Project List.
- Add RTP ID "120018" - Turnbull Canyon Road (Industry/LA County) on the Project List with the route name and description below. It was included in the 2020 RTP/SCS Project List but is not included in the 2024 RTP/SCS Project List. The project cost should now be $98,106 ($1,000's) and the completion date is 2027.

LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120018	TURNBULL CYN RD (INDUSTRY/LA COUNTY)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION

We appreciate the opportunity to comment on the Connect SoCal 2024 RTP/SCS. If you have any questions, please do not hesitate to contact me or SGVCOG Director of Government and Community Relations Ricky Choi at (626) 457-1800.

Sincerely,

Marisa Creter

Marisa Creter
Executive Director
San Gabriel Valley Council of Governments

SOUTH BAY CITIES
COUNCIL OF GOVERNMENTS

2355 Crenshaw Blvd., #125
Torrance, CA 90501
(310) 371-7222
sbccog@southbaycities.org
www.southbaycities.org

January 12, 2024

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Suite 1700
Los Angeles, CA 90017
ajise@scag.ca.gov
dominguezs@scag.ca.gov
ConnectSoCalPEIR@scag.ca.gov
update@scag.ca.gov
Uploaded via: https://scag.ca.gov/connect-socal-2024-comment-submission-form

Subject: South Bay Cities Council of Governments Comments for Connect SoCal 2024 RTP/SCS

Dear Mr. Ajise:

SoCal Connect is a comprehensive and complex policy document. Spanning 5 chapters plus glossary in 237 pages and then 15 Technical Reports totaling perhaps another 2,000 pages, the work is a wide-ranging representation of the policies guiding the nation's largest region into what will surely be the most turbulent and challenging future in history. A document that covers such a wide range of policy areas is also a challenge for relatively small organizations like the South Bay Cities Council of Governments (SBCCOG) to comment on.

Comment: From our review, the strategies and policies described in the document do not accommodate the projects we are implementing in the South Bay subregion. We recommend an amendment, perhaps as a case study in an appendix, that presents a summary of the concepts of the South Bay Sustainability Strategy.

We make this request because it is driven by a practical need. Continuation of our innovation implementation process depends on SCAG acknowledging and implicitly endorsing the strategy and policy innovations that we have developed and are now in the process of working with our cities to apply.

Our innovation utilizes personal use of micromobility devices for local trips integrating that with digital access for neighborhoods. This will result in greenhouse gas emissions reduction, less congestion on the arterials, more affordable personal transportation options for those that are disadvantaged, and reduction in vehicle miles traveled. Essentially, it addresses all of the state and regional goals. Yet, there is no acknowledgment of the personal use of micromobility devices which are becoming ubiquitous and need safe pathways on which to operate.

Similarly, there is no acknowledgment of the connection which integrates bringing digital resources to communities allowing for 'the trip not taken' to be a transportation strategy.

While the word 'rolling' has been added to Active Transportation, the definition still hinges on human power. Not recognizing the personal micromobility devices that are on the market at relatively low cost available today at local stores dismisses the viability of these devices to address 70% of the trips in the South Bay which are 3 miles or less. Local trips predominate in other parts of the SCAG region as well.

From page 24 discussion of priority development areas from the land us/neighborhood references in SoCal Connect:

- *Transit-oriented communities and transit-oriented development are key components of a development pattern that achieves SCAGs VMT/GHG reduction target and melds them into a single inclusive sustainable development pattern.*
- *Promote the growth of origins and destinations in areas with a proclivity toward multimodal options like transit and active transportation, to reduce single occupant vehicle dependency and vehicle miles traveled;*

Comment: SoCal Connect recognizes only public transit and the forms of active transportation as the legitimate forms of mobility in a sustainability strategy. Transit service is slowly catching up to pre-COVID levels and was actually in decline for several years before the pandemic. Walking and cycling have failed to scale up to levels necessary to address GHG emissions reductions required to avoid tipping points of climate sinks. Recognizing the proliferation of micromobility devices will help reach the goals that current strategies have not been able to.

Another example, the Congestion Management Chapter - page 56 – Active Transportation and First/Last Mile includes no acknowledgement of the new electric low speed vehicles on the market and how they fit into the existing system – for good or bad. The plan is silent.

Comment: Either the definition of Active Transportation has to change to allow for slow speed vehicles or a new category needs to be included so that projects addressing the infrastructure for these devices can be funded and properly addressed as part of the transportation system.

Additionally, broadband makes its way into the plan mostly as to how it will enhance ITS and the economy. Under Future Workplace (Chapter 3, page 92 - *This initiative focuses on the strategies, implementation and impacts of telework and tele-everything as the world shifts to post-pandemic behaviors—through the lens of smart cities and transportation demand management*.)

Comment: This explanation does not give direction that captures the incredible impact that a digital presence provides. The State is currently working on the adoption of a Digital Equity Plan which is not referenced in this plan. The importance of this is that digital access can make 'the trip not taken' a congestion reliever and reduce vehicle miles traveled. As a matter of fact, the mode share for telework is greater than the mode share for transit riders and yet providing digital access to neighborhoods is not addressed.

SBCCOG's Innovation Based on Research

The SBCCOG has been researching how people get around the South Bay for over 15 years. Survey responses were combined with published data, regression analyses were performed and combined with case studies. The result was the innovative South Bay Sustainability Strategy (SBSS) that was adopted by the SBCCOG Board of Directors in 2010. Adoption was fueled by passage of AB 32 (Global Warming Solutions Act of 2008) and SB 375 (Sustainable Communities and Climate Protection Act of 2008).

Adoption was followed by additional research and demonstrations focused on strategy implementation which culminated in a Strategic Growth Council grant to develop the key Chapters of Land Use and Transportation to be included in the Climate Action Plans that SBCCOG prepared for each of our cities and the subregion (LUTCAP). The subregional LUTCAP was adopted by the Board of Directors in 2018. The individual city climate action plans identify programs and policies that implement the strategies, and also model the expected VMT and GHG emission reductions. The SBCCOG LUTCAP resulting from this grant was presented to the Strategic Growth Council staff and accepted with its strategies and implementation methods.

Moving Forward

The primary means of fostering city implementation available to the SBCCOG is through demonstration projects and in-depth studies. In each case, external funding through state and regional government grants is essential.

The single most significant criterion when applying for government grants is consistency with SoCal Connect and, in many cases, also the relevant agency master plan. Typically, there is consistency between the region and state agency.

The SBCCOG has struggled winning some grants because the micromobility and digital access components of the SBSS and its synergistic implementation initiatives are not included in SoCalConnect. Without that, innovations are very slow to get implemented. Inclusion in SoCal Connect opens the door to funding by recognizing these concepts as components of the transportation system.

There is an urgency to include these revisions in the 2024 SoCal Connect. Predictions by some climate scientists are that the global carbon budget will be depleted at the current rate of emissions perhaps as early as 2030 and no later than 2035. We cannot wait another 4 years to implement these innovations. It is essential that we do not concede to business as usual, and that we try doing different interventions.

The SBCCOG also asks that micromobility and the 'trip not taken' through digital access be included as key components of a land use and transportation strategy at least recognized in SoCal Connect so that the initiatives and projects that implement the strategy are eligible for funding from federal, state, SCAG and Metro sources.

SCAG prides itself on developing the SoCal Connect through a bottoms-up process. SBCCOG Board adopted strategy and our Climate Action Plans should establish the credibility needed for inclusion

in SCAG's bottoms up process. Most importantly, SCAG holds a long standing position that one size does not fit all. As written, the strategies included in the 2024 SoCal Connect does not include and therefore do not recognize the strategies of the South Bay subregion. We respectfully request that you rectify the omissions identified in the final SoCal Connect policy document.

We have included a more thorough description of the South Bay Sustainable Strategy in the Appendix attached to this letter.

Thank you for your consideration of our comments.

Sincerely,

Cedric Hicks, SBCCOG Chair
Councilman, City of Carson

Appendix

Appendix

SBSS Summary

The option in Chapter 5 of the Land Use and Communities Technical Report that most closely resonates with the SBSS is that of "complete neighborhoods" (complete communities and 15 minute communities in that chapter). The foundation of the SBSS is formed through three innovations:

Neighborhood centers – the challenge is forming them in a suburban subregion with destinations distributed along major arterials or in large single function centers such as regional malls, medical centers, college and public school campuses, and business parks. The guiding principle for developing neighborhood centers derived from regression analyses is high density of destinations (destinations per acre) and a wide variety of destination types derived from case studies (number of 2-digit NAICs). Our research findings suggest that these centers can capture 50% of trips originating in housing within 1/2 mile with 50% of those trips walked.

Zero emission mobility – anchored by a micro-mobility ecosystem that deploys small, slow devices with a range limited to around 25 miles with charging through the ubiquitous 110v outlet. Micro devices are zero emission with low energy consumption. They include a variety of e-bikes, e-scooters (including seated and portable), e-trikes and cargo bikes, standing self-balancing scooters (like Segway) and neighborhood electric vehicles. And micro mobility includes traditional pedal bikes as well as walking mode.

Micro mobility fits the travel demand in the South Bay. The catch phrase we use is "drive what you need." While SoCal Connect includes microtransit, it does not specifically address personal use of micro-mobility devices as a way to encourage local trip making.
The micro-mobility ecosystem includes:

- Policy and infrastructure for micro residential and micro destination parking and charging
- Mobility hubs that facilitate connections to individual long distance modes and various public transit services
- Public education about mode options and safety around slow speed devices
- An online tool for understanding mobility needs, and
- Street amendments that create the sense of safety while traveling on city streets

Current implementation activities include the 243 mile South Bay Local Travel Network which is a "slow speed boulevard" (appears in law as a bike boulevard). It is a different concept than a complete streets bike lane which stripes a lane adjacent to vehicle traffic on busy arterials with speed limits faster than 35MPH.

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In other words, the SBSS will retrofit the suburban development pattern into a series of complete neighborhoods by locating physically and virtually a robust set of frequently accessed destinations in small footprints in order to increase density supported by micro mobility devices and infrastructure for when the needed physical destinations require movement beyond the walking distance to the nearby center. It brings as many destinations as possible to the center and facilitates walking, pedal biking and electric devices when movement is needed.

New housing fits into this framework through redevelopment of underperforming commercial parcels within the catchment area of the center and surface parking lots available as demand reduces due to high rates of walking and small micro devices. Housing developed in that manner will have walk options and zero emission devices for all trips.

While the SBSS is based on policies and infrastructure not included in the 2024 SoCal, the ideas were introduced 30 years ago by William Garrison, a UCB professor who initiated the conversation in 1977 and began in 1991 studying options for small, relatively inexpensive, environmentally benign vehicles specialized for short distance travel. This resulted in a 1993 publication entitled: "Small Cars in Neighborhoods" (PATH Research Report UCB-ITS-PRR-93-2, January, 1993.)

This 1993 report articulated three insights with significance for today:

- Replacing the dominant multi-purpose, multi-passenger vehicle with different kinds of specialized vehicles (such as the short range, low speed vehicle) could save gasoline and improve air quality;
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SOUTH BAY CITIES
COUNCIL OF GOVERNMENTS

2355 Crenshaw Blvd., #125
Torrance, CA 90501
(310) 371-7222
sbccog@southbaycities.org
www.southbaycities.org

January 12, 2024

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Suite 1700
Los Angeles, CA 90017
ajise@scag.ca.gov
dominguezs@scag.ca.gov
ConnectSoCalPEIR@scag.ca.gov
update@scag.ca.gov
Uploaded via: https://scag.ca.gov/connect-socal-2024-comment-submission-form

Subject: South Bay Cities Council of Governments Comments for Connect SoCal 2024 RTP/SCS

Dear Mr. Ajise:

SoCal Connect is a comprehensive and complex policy document. Spanning 5 chapters plus glossary in 237 pages and then 15 Technical Reports totaling perhaps another 2,000 pages, the work is a wide-ranging representation of the policies guiding the nation's largest region into what will surely be the most turbulent and challenging future in history. A document that covers such a wide range of policy areas is also a challenge for relatively small organizations like the South Bay Cities Council of Governments (SBCCOG) to comment on.

Comment: From our review, the strategies and policies described in the document do not accommodate the projects we are implementing in the South Bay subregion. We recommend an amendment, perhaps as a case study in an appendix, that presents a summary of the concepts of the South Bay Sustainability Strategy.

We make this request because it is driven by a practical need. Continuation of our innovation implementation process depends on SCAG acknowledging and implicitly endorsing the strategy and policy innovations that we have developed and are now in the process of working with our cities to apply.

Our innovation utilizes personal use of micromobility devices for local trips integrating that with digital access for neighborhoods. This will result in greenhouse gas emissions reduction, less congestion on the arterials, more affordable personal transportation options for those that are disadvantaged, and reduction in vehicle miles traveled. Essentially, it addresses all of the state and regional goals. Yet, there is no acknowledgment of the personal use of micromobility devices which are becoming ubiquitous and need safe pathways on which to operate.

Similarly, there is no acknowledgment of the connection which integrates bringing digital resources to communities allowing for 'the trip not taken' to be a transportation strategy.

While the word 'rolling' has been added to Active Transportation, the definition still hinges on human power. Not recognizing the personal micromobility devices that are on the market at relatively low cost available today at local stores dismisses the viability of these devices to address 70% of the trips in the South Bay which are 3 miles or less. Local trips predominate in other parts of the SCAG region as well.

From page 24 discussion of priority development areas from the land us/neighborhood references in SoCal Connect:

- *Transit-oriented communities and transit-oriented development are key components of a development pattern that achieves SCAGs VMT/GHG reduction target and melds them into a single inclusive sustainable development pattern.*
- *Promote the growth of origins and destinations in areas with a proclivity toward multimodal options like transit and active transportation, to reduce single occupant vehicle dependency and vehicle miles traveled;*

Comment: SoCal Connect recognizes only public transit and the forms of active transportation as the legitimate forms of mobility in a sustainability strategy. Transit service is slowly catching up to pre-COVID levels and was actually in decline for several years before the pandemic. Walking and cycling have failed to scale up to levels necessary to address GHG emissions reductions required to avoid tipping points of climate sinks. Recognizing the proliferation of micromobility devices will help reach the goals that current strategies have not been able to.

Another example, the Congestion Management Chapter - page 56 – Active Transportation and First/Last Mile includes no acknowledgement of the new electric low speed vehicles on the market and how they fit into the existing system – for good or bad. The plan is silent.

Comment: Either the definition of Active Transportation has to change to allow for slow speed vehicles or a new category needs to be included so that projects addressing the infrastructure for these devices can be funded and properly addressed as part of the transportation system.

Additionally, broadband makes its way into the plan mostly as to how it will enhance ITS and the economy. Under Future Workplace (Chapter 3, page 92 - *This initiative focuses on the strategies, implementation and impacts of telework and tele-everything as the world shifts to post-pandemic behaviors—through the lens of smart cities and transportation demand management*.)

Comment: This explanation does not give direction that captures the incredible impact that a digital presence provides. The State is currently working on the adoption of a Digital Equity Plan which is not referenced in this plan. The importance of this is that digital access can make 'the trip not taken' a congestion reliever and reduce vehicle miles traveled. As a matter of fact, the mode share for telework is greater than the mode share for transit riders and yet providing digital access to neighborhoods is not addressed.

SBCCOG's Innovation Based on Research

The SBCCOG has been researching how people get around the South Bay for over 15 years. Survey responses were combined with published data, regression analyses were performed and combined with case studies. The result was the innovative South Bay Sustainability Strategy (SBSS) that was adopted by the SBCCOG Board of Directors in 2010. Adoption was fueled by passage of AB 32 (Global Warming Solutions Act of 2008) and SB 375 (Sustainable Communities and Climate Protection Act of 2008).

Adoption was followed by additional research and demonstrations focused on strategy implementation which culminated in a Strategic Growth Council grant to develop the key Chapters of Land Use and Transportation to be included in the Climate Action Plans that SBCCOG prepared for each of our cities and the subregion (LUTCAP). The subregional LUTCAP was adopted by the Board of Directors in 2018. The individual city climate action plans identify programs and policies that implement the strategies, and also model the expected VMT and GHG emission reductions. The SBCCOG LUTCAP resulting from this grant was presented to the Strategic Growth Council staff and accepted with its strategies and implementation methods.

Moving Forward

The primary means of fostering city implementation available to the SBCCOG is through demonstration projects and in-depth studies. In each case, external funding through state and regional government grants is essential.

The single most significant criterion when applying for government grants is consistency with SoCal Connect and, in many cases, also the relevant agency master plan. Typically, there is consistency between the region and state agency.

The SBCCOG has struggled winning some grants because the micromobility and digital access components of the SBSS and its synergistic implementation initiatives are not included in SoCalConnect. Without that, innovations are very slow to get implemented. Inclusion in SoCal Connect opens the door to funding by recognizing these concepts as components of the transportation system.

There is an urgency to include these revisions in the 2024 SoCal Connect. Predictions by some climate scientists are that the global carbon budget will be depleted at the current rate of emissions perhaps as early as 2030 and no later than 2035. We cannot wait another 4 years to implement these innovations. It is essential that we do not concede to business as usual, and that we try doing different interventions.

The SBCCOG also asks that micromobility and the 'trip not taken' through digital access be included as key components of a land use and transportation strategy at least recognized in SoCal Connect so that the initiatives and projects that implement the strategy are eligible for funding from federal, state, SCAG and Metro sources.

SCAG prides itself on developing the SoCal Connect through a bottoms-up process. SBCCOG Board adopted strategy and our Climate Action Plans should establish the credibility needed for inclusion

in SCAG's bottoms up process. Most importantly, SCAG holds a long standing position that one size does not fit all. As written, the strategies included in the 2024 SoCal Connect does not include and therefore do not recognize the strategies of the South Bay subregion. We respectfully request that you rectify the omissions identified in the final SoCal Connect policy document.

We have included a more thorough description of the South Bay Sustainable Strategy in the Appendix attached to this letter.

Thank you for your consideration of our comments.

Sincerely,

Cedric Hicks, SBCCOG Chair
Councilman, City of Carson

Appendix

Appendix

SBSS Summary

The option in Chapter 5 of the Land Use and Communities Technical Report that most closely resonates with the SBSS is that of "complete neighborhoods" (complete communities and 15 minute communities in that chapter). The foundation of the SBSS is formed through three innovations:

Neighborhood centers – the challenge is forming them in a suburban subregion with destinations distributed along major arterials or in large single function centers such as regional malls, medical centers, college and public school campuses, and business parks. The guiding principle for developing neighborhood centers derived from regression analyses is high density of destinations (destinations per acre) and a wide variety of destination types derived from case studies (number of 2-digit NAICs). Our research findings suggest that these centers can capture 50% of trips originating in housing within 1/2 mile with 50% of those trips walked.

Zero emission mobility – anchored by a micro-mobility ecosystem that deploys small, slow devices with a range limited to around 25 miles with charging through the ubiquitous 110v outlet. Micro devices are zero emission with low energy consumption. They include a variety of e-bikes, e-scooters (including seated and portable), e-trikes and cargo bikes, standing self-balancing scooters (like Segway) and neighborhood electric vehicles. And micro mobility includes traditional pedal bikes as well as walking mode.

Micro mobility fits the travel demand in the South Bay. The catch phrase we use is "drive what you need." While SoCal Connect includes microtransit, it does not specifically address personal use of micro-mobility devices as a way to encourage local trip making.
The micro-mobility ecosystem includes:

- Policy and infrastructure for micro residential and micro destination parking and charging
- Mobility hubs that facilitate connections to individual long distance modes and various public transit services
- Public education about mode options and safety around slow speed devices
- An online tool for understanding mobility needs, and
- Street amendments that create the sense of safety while traveling on city streets

Current implementation activities include the 243 mile South Bay Local Travel Network which is a "slow speed boulevard" (appears in law as a bike boulevard). It is a different concept than a complete streets bike lane which stripes a lane adjacent to vehicle traffic on busy arterials with speed limits faster than 35MPH.

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January 12, 2024

Southern California Association of Governments
Attn: Ms. Karen Calderon
900 Wilshire Blvd., Suite 1700
Los Angeles, CA 90017

via electronic mail at: ConnectSoCalPEIR@scag.ca.gov

Re: The Business Coalition's Comments on the Draft Connect SoCal 2024 Plan (Regional Transportation Plan/Sustainable Communities Strategy) and the accompanying Program Environmental Impact Report

Dear Ms. Calderon and the Connect SoCal Team:

On behalf of the Southern California Business Coalition ("Business Coalition") and its members that are signatories to this letter, we appreciate this opportunity to both comment on the Draft 2024 Regional Transportation Plan/Sustainable Communities Strategy ("Connect SoCal 2024," "RTP/SCS," or the "Draft Plan") and accompanying program environmental impact report (the "PEIR"), and express our thanks to you and your staff for your collaborative and forthcoming approach to the drafting of these documents. We appreciate that SCAG's executive leadership and staff have provided our members with many occasions on which to ask questions during the RTP/SCS development process, and to provide our comments and suggestions along the way.

On July 18, 2023, the Business Coalition provided SCAG's leadership and its Connect SoCal 2024 team with a copy of the policy principles we developed for our use when reviewing and evaluating the Draft Plan. These included:

- **Accounts for Technological and Societal Change –** that Connect SoCal 2024 should account for the benefits of all recent technological and societal changes, such as ongoing increases in the number of people who work from home, in developing and calculating its GHG and VMT reduction strategies;

- **Supports Housing Production –** that Connect SoCal 2024 supports the accelerated production of new housing to address the housing crisis, in compliance with recent reforms to state housing laws. Also, Connect SoCal 2024 must be crafted to avoid problems associated with CEQA abuse and so as to assure that projects, to the extent possible, enjoy the benefits of CEQA exemptions and streamlining;

- **Respects Local Control –** that Connect SoCal 2024 respects local control by giving cities, counties and local transportation agencies appropriate control and flexibility in matters related to land use and transportation;

- **Provides Positive Economic Impacts –** that Connect SoCal 2024 supports economic growth, encourages job creation and that the Plan include a true cost/benefit analysis that delineates the plan's positive economic outcomes for the region;

- **Applies Appropriate Criteria for New Revenue Sources –** that Connect SoCal 2024 ensures that new transportation revenue sources are fair, equitable and economically sound, so that new revenues are drawn fairly and proportionally from those who would benefit from the related transportation infrastructure or improvement; and

- **Assures Transparency and Disclosure –** that SCAG commits to transparency and disclosure in the drafting, development, and public review of the Draft Plan.

In the same letter, we requested that SCAG prepare and share the results of modeling of a land use scenario that reflects the realization of the local governments' respective housing elements that are approved, or are pending approval, and reflect the local governments' planning to accommodate the sixth cycle RHNA process. Although we understand that such modeling was not undertaken, we appreciate that Connect SoCal 2024 modeling does indeed accommodate the 1,341,827 housing units which were required by the current sixth cycle of RHNA.

We are pleased that the Draft Plan largely addresses our policy principles noted above and has resolved most of the concerns that we raised in our meetings with SCAG's executive leadership and staff during the Plan development process. We therefore write today to express our general support for the

Connect SoCal 2024 draft plan, provided that some remaining matters expressed in this letter are satisfactorily addressed in the Final Draft, in the accompanying PEIR as needed, and in SCAG's planning efforts going forward.

First, we wish to express our appreciation and support for certain elements of the Draft Plan which demonstrate SCAG's efforts to assure that Connect SoCal 2024 will provide tangible economic benefits to the region. Most importantly, we wish to express, as representatives of businesses that are vital to the regional economy, our support for the extensive transportation improvements that are envisioned in the RTP/SCS, which will total a cumulative investment of $750 billion over the duration of Connect SoCal 2024's term. Our region's transportation network and the aging infrastructure that underpins it are essential to our regional economy. Every constituent and all persons in the SCAG region are dependent on our transportation infrastructure. For the region to become more livable, prosperous, and accessible, transportation investments of the scale indicated in the RTP/SCS are indeed necessary.

We also wish to express our specific support for the following two transportation-related aspects of the Draft Plan:

- **Goods Movement:** The importance of the Goods Movement & Transportation ("GM&T") sector to Southern California's economy – not to mention the state and national economies – cannot be overstated. The San Pedro Bay Ports handle goods valued at $1.37 billion a day ($500 billion annually), and there are more than 307,000 trade-related jobs in Los Angeles County alone. More than any other sector in the region, GM&T creates more high-wage jobs for people who do not have a college education, and as such has provided a path for thousands upon thousands of Southern Californians to achieve long-term financial security.[1] We therefore appreciate that the Draft Plan includes $65 billion in capital expenditures for goods movement projects. Moving forward, we encourage SCAG to pursue pragmatic pathways to keep the Region competitive by meeting the goods movement sector's infrastructure and energy needs in light of State mandates for GHG reductions and the conversion of both fixed and mobile sources to cleaner energy options. We encourage SCAG to lead a regional initiative to research, communicate, and implement policies that will increase a better understanding of the economic importance of our ports and the entire goods movement sector to our region, state, and nation. We look forward to working with SCAG to create opportunities for regionwide communication, coordination, and understanding between businesses, utilities, regulatory agencies and regional planning agencies to better prioritize projects, secure sufficient funding, and increase system-wide integration and efficiencies in support of improved goods movement.

- **Express Lanes:** We appreciate that the Draft Plan commits to the planning, permitting, funding and building of additional express lanes throughout the region. Express lanes can be effective in

[1] The average salary of Los Angeles County trade-related employees is $73,106 *[LAEDC 2020]*, with the average annual salary of jobs at the ports in the $117,000 to $139,000 range, approximately double the overall Los Angeles County average wage for all workers of $68,900.

the management of travel demand by alleviating congestion and encouraging ridesharing, which helps to reduce GHG emissions. As nearly all future highway expansion projects in the SCAG region will involve the provision of new express lane capacity, one of the most essential roles for SCAG and its member jurisdictions will be to develop a coordinated and strategic approach for the buildout of the region's express lane network. This is particularly important because the response to Senate Bill 743 implementation is still evolving,

Beyond the sections of the Draft Plan directly related to transportation projects, we also support the following elements of the draft:

- **Housing:** As noted above, we appreciate that the Draft Plan addresses and accommodates the sixth cycle RHNA requirement of 1.34 million new housing units in the region and includes SCAG's own goal of 1.6 million new housing units regionwide by the horizon year of the plan. We appreciate the various policies and strategies in the Draft Plan that can support greater regional housing production; but, as explained below, we urge SCAG to assume more of a leadership role in efforts to identify and champion development opportunities beyond existing urbanized areas, to include master-planned new towns, new so-called edge communities, and their related infrastructure. We fear that the Draft Plan assumes too much growth within the centers of urbanized areas and around particular transit nodes, which will provide far too limited opportunities for new development, especially affordable new development; and this will in turn constitute a major impediment to meeting the RHNA and SCAG's targets for new housing production. The highly constrained growth pattern that is inherent in the Draft Plan will, if it is not revisited and reasonably relaxed, lead to a continuing and severe shortage of available and affordable housing. The SCAG region will not have the amount of additional housing supply needed to solve the housing affordability crisis unless a larger palette of development opportunities can be realized – one that includes a more balanced typology of new development in addition to redevelopment. As is noted in the Draft Plan (on page 21 of the Economic Impact Analysis technical report), if housing production is not increased, the region's economy will suffer.

  That said, we appreciate the inclusion of the Housing Technical Report, which provides a good summary of the region's housing challenges and highlights the connectivity between resolution of the housing crisis and sound regional transportation planning. We also appreciate that the Plan anticipates that the region will leverage $6 billion for critical housing-supportive infrastructure, like water, sewer and electrical utilities, which is essential to spurring housing development across the region. We support both this approach and additional efforts to assure local government has the resources, funding, and flexibility that they need to meet the growing demand for infrastructure maintenance and expansion, as is needed to support and enable housing.

- **Workforce Development and Technology:** We appreciate the discussion in Chapter Two of the Draft Plan regarding changes to the future of the workplace and SCAG's assumptions regarding continuing increases in telework rates. SCAG must continue to track these trends and incorporate them into their modeling and analysis, because they should cause changes to the assumptions used in modelling VMT for new housing, and the levels of transportation-related GHG emissions. We stated in the policy principles noted above that Connect SoCal 2024 should support economic development and job creation. Accordingly, we appreciate the inclusion of the workforce development policies, and in particular recognition of the need to foster a resilient workforce, especially given the positive cost/benefit analysis and job creation projections that are reflected in the Draft Plan.

Whereas we applaud the Draft Plan as expressed above, the Business Coalition nonetheless has remaining areas of concern, which we believe should be addressed through SCAG's ongoing planning efforts. Specifically, we see the need to better address the following areas of concern:

- **The Need for More Effective Approaches to Increased Housing Production:** Simply put, the SCAG region needs a staggering amount of new housing supply added within a short period of time, and we are concerned that the Draft Plan's emphasis on overly-concentrated, transit-oriented and urban-centric infill development will not lead to the amount of housing that is needed, especially affordable housing, if it is not reasonably expanded. SCAG, as the region's planning hub, should strive to make it easier to meet housing supply goals by removing barriers to the development of new towns and master-planned communities, particularly in unincorporated areas of the six counties in the region, where land is available and can be improved more economically when compared to building predominantly in urban centers and near public transit routes. Consequently, we encourage SCAG to undertake a greater leadership role in seeking a better balance between transit-oriented and urban development and, in addition, new development outside of existing urban boundaries. For example, the Draft Plan indicates a projected limitation on such development through 2050 to just 40 square miles throughout the entire 1.8-million-square-mile SCAG region, as stated in the performance measurement tables in Section Five of the Draft Plan. We view this limitation as wildly unrealistic and restrictive, given the economics of housing production, the challenges relating to adding infrastructure, and especially the current massive undersupply of adequate housing for the region's population. SCAG should be championing and pursuing plans that will lead more surely to more housing production throughout the region, especially the development of homes which are more affordable to the working-class Southern Californians who are now priced out of home ownership and denied the significant economic and social benefits it provides.

  There is ample evidence that the housing typology currently favored by state housing policy and in recent regional housing planning (i.e., as are reflected in Connect SoCal 2024) have inherent associated costs that make adequate housing unattainable for a great many Californians, even if economic incentives and regulatory streamlining are provided. The Terner Center for Housing

Innovation at UC Berkeley recently explained the current predicament in its study, *Making It Pencil: The Math Behind Housing Development* (originally published in 2019 and updated with current market data in December 2023.)[2] The study used as its example a 30,000 square foot, 120-unit multistory residential building with 120 parking spaces and 1,500 square feet of first-floor retail space. The example assumed a construction type which was a concrete podium first floor (classified under the state's residential building code as "Type 1") and wood frame construction above (classified as "Type 5"), or "five-over-one" construction. Even though their study deliberately ignored the effects of many costs, such as the foreseeable need for environmental study, affordable housing subsidization, demolition costs, infrastructure exactions, and made generously low assumptions about many other costs, the study ultimately found this typology of construction to be largely uneconomical. Specifically, the study states:

> *We found that it has become increasingly difficult to get projects to pencil in many parts of California, including the Bay Area, Sacramento, and Los Angeles. The example case study "deals" we created in 2019 for the most part are no longer financially viable in current market conditions. These changing market conditions help to explain why many typical market-rate multifamily projects are stalling across the state. (p. 2)*

If projects like the one modeled in the study – which are like the projects that Connect SoCal 2024 envisions will be the solution to the state's housing crisis – cannot pencil out in the areas of the state that have the highest housing costs, they certainly would not be economically viable in the region's more affordable, non-coastal markets, where many Californians now must look to find affordable housing options. There are places for these types of projects, but the goal of providing ample housing for all our region's residents will not be met unless a wider variety of housing types is supported by policy, especially that which can foster new housing in non-urban areas, where land costs are lower.

Given how the Terner Center's study underscores the importance of an understanding the economics of housing to the resolution of the housing crisis, we invite SCAG to study and compare new and developing towns like Valencia (which currently has the highest job-generation rate in the entire SCAG region) with development and redevelopment projects within urban centers and narrowly-defined transit-oriented areas. We believe such a study will show that (1) the amount of public funding required to build or improve the infrastructure needed to support population growth is less for new towns and large master-planned communities, (2) that new towns and large master-planned communities can be as successful as urban developments in the generation of new jobs, if not more so, and that current VMT assumptions should be revised to address the amount of jobs generated by these new

[2] Garcia, David et. al, *Making It Pencil, The Math Behind Housing Development,* Terner Center for Housing Innovation, UC Berkeley, Dec. 19, 2023. https://ternercenter.berkeley.edu/wp-content/uploads/2023/12/Making-It-Pencil-December-2023.pdf

developments, (3) that it is more affordable to achieve climate resiliency goals like net zero energy use in new developments than in existing, more developed areas, and (4) that new towns and large master-planned developments can effectively set aside ecologically significant open space and generate funds necessary for the ongoing protection and enhancement of that open space.

- **Include Clear Limitations on the Prescriptiveness of the RTP/SCS:** We appreciate that the Draft Plan's Demographics and Growth Forecast Technical Report (the "Growth Technical Report") explains that SCAG's technical, demographic growth modeling and mapping using transportation analysis zones (TAZs) should not be misinterpreted as being unduly prescriptive or prejudicial. Specifically, such text within the Draft Plan is found in the Growth Technical Report at page 45, which is labeled "5.5 TAZ-Level Growth Forecast, Growth Vision, and SCS Consistency," and in footnote 3 on page 54. We believe that such helpful and important text should be significantly expanded upon and relocated to within the text of the Connect SoCal 2024 document itself, and be reflected in SCAG's responses to comments in the final PEIR, rather than being relegated, as it is now, to only an accompanying report and a footnote. More specifically, we urge SCAG to include within the final Connect SoCal 2024, and reflect in the PEIR, the alternative text that is recommended in comments submitted by the Orange County Council of Government ("OCCOG").

As Connect SoCal 2024 was developed over time, our Business Coalition has endeavored to follow the excellent work of SCAG's staff and the thoughtful input from its Technical Working Group and the COGs within the region. The investment of time we made in understanding their work has greatly benefitted us as we analyzed the Draft Plan. In particular, we would like to draw your attention to the exhaustive review by OCCOG of the Draft Plan and the PEIR, which we understand will be included in their comment letter. We have reviewed this work and their recommendations to SCAG; and we believe the inclusion and reflection of the OCCOG's work in the final Connect SoCal 2024 will enhance and improve it.

In summation, we wish to emphasize that the Business Coalition embraces the Draft Plan's vision of a Southern California region that is more livable, prosperous, and accessible than it is today. Beyond the potential adoption of this plan, we look forward to working with SCAG on an expanded vision for the region that not only achieves important environmental and economic goals, but also provides the tools to foster the volume of housing production that is so desperately needed.

Finally, we appreciate the tremendous amount of time and effort that SCAG's staff and leadership have put into this plan, and we further appreciate the opportunities for input and engagement that were afforded to the business community and other stakeholders throughout the 2024 RTP/SCS development process. Please let us know if you have any questions regarding our comments, concerns, and recommendations as outlined in this letter and we look forward to working with you to assure a Final Connect SoCal 2024 that strengthens our region and enhances the quality of life for all Southern Californians.

Sincerely,

Richard Lambros, Managing Director
Southern California Leadership Council

Tracy Hernandez, Founding Chief Executive Officer
Los Angeles County Business Federation (BizFed)

Jeff Montejano, Chief Executive Officer
Building Industry Association of Southern California (BIASC)

Maria Salinas, President & CEO
Los Angeles Area Chamber of Commerce

Jon Switalski, Executive Director
Rebuild SoCal Partnership

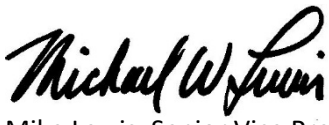
Jeff Ball, President & CEO
Orange County Business Council (OCBC)

Paul Granillo, President & CEO
Inland Empire Economic Partnership (IEEP)

Luis Portillo, President & CEO
San Gabriel Valley Economic Partnership

Jeremy Harris, President & CEO
Long Beach Area Chamber of Commerce

Dexter McLeod, Founder & Chairman/CEO
L.A. South Chamber of Commerce



Mike Lewis, Senior Vice President
Construction Industry Air Quality Coalition
(CIAQC)

METROLINK

Mr. Kome Ajise
Executive Director
Southern California Association of Governments (SCAG)
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

January 12, 2024

Dear Mr. Ajise,

As the operator of the Metrolink regional passenger rail system in Southern California, the Southern California Regional Rail Authority (Metrolink) appreciates the opportunity to comment on Connect SoCal 2024, the Southern California Association of Governments' (SCAG) draft Regional Transportation Plan / Sustainable Communities Strategy. We have divided our comments into those pertaining to the Mobility Technical Report and those on the general Connect SoCal 2024 plan.

Comments on the Mobility Technical Report
The Mobility Technical Report includes a thorough and laudable exploration of active transportation, streets, and highway plans and projects, and Metrolink suggests the Rail/Transit chapter could be similarly strengthened. Metrolink recommends the Connect SoCal 2024 plan include a more rigorous discussion of the region's transit systems' outstanding capital and maintenance needs. Transit Asset Management Plans (TAM) can be cited to better determine regional needs. For example, Metrolink's TAM Plan, published in 2022, evaluates construction costs, condition assessments, and backlog totals for our system. Our TAM Plan specifically identifies rolling stock, trackwork, and systems/train control as being the largest, and among the most critical, needs. Metrolink's 2023 Metrolink Rehabilitation Plan draft report further quantifies these needs, estimating an existing backlog of $780.43 million (2023$), with annual state of good repair (SOGR) costs averaging $121.97 million (2023$) for the next 25 years. It is important to note that the SOGR funding deficit is structural in nature under current federal and state funding mechanisms and will not improve or cure unless there is change to how these repairs are funded.

SOGR projects are vital for the safe and reliable operation of transit services and help passenger railroads attract and retain customers. When unaddressed, maintenance backlogs often result in emergency repairs, which can be upwards of six times more costly than capitalized maintenance. These repairs also negatively impact service reliability, which is consistently cited as among the most important factors needed to regain, retain, and increase ridership lost due to the COVID-19 pandemic. Adding specificity about the regional transit and rail network's unfunded needs to the Mobility Technical Report will help policymakers and stakeholders better understand the level of investment required to meet ambitious greenhouse gas reduction goals, foster mobility, and support economic competitiveness as outlined in other parts of Connect SoCal 2024.

The Mobility Technical Report should also include an exploration of Metrolink's transition from commuter to regional rail service. As the agency seeks to recover ridership in the aftermath of the COVID-19 pandemic, a reconsideration of how our network meets the needs of our customers is needed. More frequent, all-day service that connects the entire region – rather than the suburbs with downtown LA during commuting hours only – will foster mobility, meet greenhouse gas reduction goals, and help Metrolink earn back riders. Metrolink's Strategic Business Plan explores this transition with its discussion of enhancing off-peak service and delivering SCORE projects that will increase train frequency.

Additionally, the Mobility Technical Report touches on High-Speed Rail and Brightline West but lacks a comprehensive discussion of the related necessary infrastructure investments at legacy stations. We encourage SCAG to acknowledge both the Rancho Cucamonga station enhancements as well as the extensive improvements to LA Union Station that will be required to ready our system for high-speed rail in the next decade and beyond.

Metrolink also requests a few corrections related to ridership recovery data cited in the report. Page 7 erroneously states Metrolink ridership is "currently 57 percent lower than it was pre-pandemic at this time." As of November 2023, Metrolink had recovered 57 percent of pre-pandemic ridership levels. Relatedly, page 56 should be modified to note that Metrolink is now carrying "approximately 24,000 boardings per day." Finally, Table 2.3 – Transit Asset Management Targets – should be modified. Metrolink's rolling stock target of .4% should be replaced with 2.%.

Comments on Connect SoCal 2024
Rail and bus operators face different operational and infrastructure needs and goals. We encourage SCAG to differentiate between bus and rail in the implementation section. We suggest that the final plan acknowledge these differences and bifurcate the strategies associated with them to more comprehensively plan for regional mobility in the coming years.

We believe the final iteration of the Connect SoCal 2024 should also address and quantify the cost of the clean energy transition beyond zero-emission bus fleets. Development and deployment of zero-emission heavy rail technology to meet the California Air Resource Board's In-Use Locomotive Emission Regulation, the nation's most stringent, and other sustainability thresholds will require new funding sources and collaboration among stakeholders.

The final SCAG plan also provides a unique opportunity to engage in a robust discussion about the 2028 Olympic Games. The Games present a generational opportunity to permanently change travel patterns, improve regional mobility, and support long-term sustainability. For example, Metrolink's Southern California Optimized Rail Expansion (SCORE) program will not only upgrade Metrolink's system in time for the millions of visitors in 2028, but improved safety and added service will foster better access to jobs and housing for our residents for decades to come. Once completed, the $10 billion in SCORE

investments will support bi-directional passenger rail service every 30 minutes throughout the entire day. A more thorough exploration of the nexus between 2028 Olympics preparation and the long-term shifts in regional mobility could be detailed in the final Connect SoCal 2024 plan to highlight and justify investment in one to benefit the other.

Further, the discussion of the Olympics should acknowledge the fact that many of the projects needed to prepare the region for the Games, to improve air quality and add transit capacity remain unfunded. As of December 2023, Metrolink has a $7.6 billion funding gap in its $10 billion SCORE Program. Consequentially, some of the benefits of SCORE will remain unrealized if support from local, state, and federal partners is not secured. Metrolink encourages SCAG to specifically reference to the Mobility Technical Report's FTIP in Connect SoCal 2024 for those interested in learning more about specific unfunded project needs.

Finally, the LINK US Project at Los Angeles' Union Station is a linchpin for successful transit and rail in the region. Metrolink encourages SCAG to consider including the project in *Section 2.16.1, Regional* Projects to underscore the importance of the completed investments in fostering regional mobility and economic competitiveness.

I sincerely appreciate the opportunity to comment on SCAG's Connect SoCal 2024 plan, and for your consideration of these comments. Questions regarding this letter may be directed to Jeff Dunn, Director, Government & Community Relations, at dunnj@scrra.net or 213.452.0369.

Sincerely,

Paul Hubler
Chief Strategy Officer

Robert Redford
CONSERVANCY
for Southern California Sustainability
PITZER COLLEGE

January 12, 2024

Dear SCAG,

Thank you for this opportunity to comment upon Connect SoCal. I write as a lifelong Los Angeles County resident. For the past twenty years, my professional and scholarly work has focused on the Inland Empire—on San Bernardino and Riverside Counties. I have a special interest in logistics, warehouse environmental impacts, and the ports, as well as in public health, environmental, agricultural, and climate issues. I am embedded in a major mapping project of the region as well as in teaching, learning, and research around climate resilience and multiple forms of planetary crisis (biodiversity loss, toxicity, waste, ocean health, etc.).

As a beginning note, I wanted to flag that the appropriate document to comment upon was difficult to find. I spent most of my time reading through the Connect SoCal Plan and technical reports, rather than the PEIR, because I thought the Connect SoCal Plan and associated documents were the targets for comment. I saw the PEIR only yesterday, as it was located on a sidebar of the website rather than a direct link in the request for comments. This was confusing and has limited my ability to produce CEQA-specific commentary. My hope is that these comments will be applicable regardless. I wanted to flag this in particular because, if I had issues figuring this out, likely other commenters did as well.

In terms of climate change, last year was the hottest year on record. This year is predicted to exceed that. Our ocean is warming at twice the rate of other regions due to a particular geographic phenomenon known as upwelling. Immediate-term change with a 2030 target is imperative if we are to have any chance at all of not triggering multiple tipping points that will irrevocably change our lives and create cascading climate impacts. 2030 itself might be too late—and 2050 is unimaginably so from a climate perspective. We need to do all we can as a region *in the immediate term* in order to plan for and respond to climate change. SoCal Connect has many opportunities to be part of that imperative, but doesn't go far enough. Some additional ideas are outlined in what follows, which treats the relationship between Connect SoCal and Greenprint Data, notions of Consultation and Community input, Goods Movement issues and climate change, preservation of Farmland and Open Land and their need for an analysis of carrying capacity of the region for the Goods Movement. More broadly, I ask that SCAG recheck assumptions about population growth and consider scenarios of economic reshoring. I am also requesting an articulation and/or plan for dealing with the fact that some aspects of the plan are in clear conflict with one another.

SCAG is responsible for convening "local governments and agencies to address regional transportation, land use, and other issues of mutual concern" and its mission is to "foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing and promoting best

practices." Values of openness, leadership by example, impact, and courage are excellent aspirational goals that both underpin and need development within the Connect SoCal Plan.

Connect SoCal and Greenprint Data

Upon first reading through the Connect SoCal document, I was reminded of SCAG's years' long delay of the SoCal Greenprint Dataset, which I understand will go to Council Feb 1, albeit in a truncated form. The delay and limitations around it are truly a loss, as the full Greenprint at this pivotal time in history would have created opportunities for spatially-driven data analysis to determine the scope of problems, appropriate or problematic land uses, and strategies for solutions in Connect SoCal. SCAG's difficulty in navigating multiple political pressures in order to move forward with these materials has been a loss to Southern California communities during this planning process of Connect SoCal, especially as our near future is impacted by extreme weather as well as localized patterns of unchecked environmental injustice. Regional planning without the excellent dataset that was tailor made for our region is at best a lost opportunity and at worst a violation of the public trust. As a longtime supporter of the SoCal Greenprint, I have been disheartened with the divorce of the dataset from the RAMP (Regional Advance Mitigation Plan) as well as the desire to suppress justice and equity layers or ruling out the use of terms such as "the best available science."

My concern is this: If Connect SoCal's discussions of development, equity, open and working land conservation, biodiversity, water health, tree canopy, climate vulnerabilities and more did not use the best available data due to political interference (ie. the BIA – Building Industry Association, BizFed, and the Southern California Leadership Council), that is a potential interference in the CEQA process for Connect SoCal. It has limited data transparency and also a potential misuse of public funds. That is clearly a broader problem with the Greenprint's history within SCAG but it also impacts this PEIR directly.

The highly politicized process with the SoCal Greenprint colored my reading of Connect SoCal. It made me question the framing language of the document around innovation, transparency, justice, equity, climate, information sharing, and community engagement. Though much of the document reads well on paper, some of it rang hollow, in part due to the suppression of the Greenprint from the public eye. The problem is that the public has been denied access to the data and the ability to use these data in order to understand the region's issues as presented in Connect SoCal, which has minimized our ability to join in the discussion in meaningful ways. Indeed, publicly available Greenprint data might have allowed a more significant, informed, and meaningful community engagement process on the part of everyone from municipalities to nonprofits to environmental organizations. I also want to recognize SCAG staff who have clearly worked hard on this document whose work on Connect So Cal might have benefited by this robust dataset had it been available in full and in its public form.

Consultation and Community Input

At various points in the document, the word “consultation” is used. In terms of community engagement processes, consultation is on the weaker end of the spectrum of engagement. True community engagement would involve a cultural shift at SCAG that I encourage you to build into Connect SoCal as an aspirational goal. Establishing specific metrics for involvement would be important and fall in line with best practices as well as SB 1000. Even though SCAG is not a government agency, Connect SoCal articulates a desire for meaningful community and stakeholder engagement. Because SCAG leads government agencies, it also has the ability to incentivize, train about, and encourage momentum around compliance with SB 1000 among local municipalities. I ask that these goals be included in the form of true community engagement for the region.

Community-engaged planning is critical in disadvantaged communities and environmental justice communities that are already impacted by locally unwanted land uses, many of which are noted in the Plan. This is in part because:

- Historic inequities and the siting of toxic facilities in proximity to DACs and EJ communities have decreased land values, leading to intergenerational cycles of detrimental project siting.
- Evaluating individual projects within individual municipalities puts collective and regional impact and planning on the back burner. A single project generally has a much broader impact than the parcel of land where it is built, joining with other past, present and future projects. Corporate capital and developer influence have shifted the loyalties of local decision makers away from residents, despite vocal opposition to health or environmental detriments that are deemed "significant and unavoidable." But community members experience their lives, regions, and neighborhoods holistically, thus providing an important lens to view any specific project.
- Community voice is easily tokenized, ignored, or coopted by the current planning process, resulting in box checking and lack of democratic engagement.

Regional planning and support of community-led planning by SCAG is badly needed. In terms of Connect SoCal, meaningful community-engagement is important because community members are intimately tied to neighborhoods and understand the potential impacts of projects, the specific problems they face, and potential solutions better than anyone. Residents have unique insights into sustainable planning for long-term success and quality of life.

Considering community members as experts in full collaboration should be named and prioritized in Connect SoCal even if this model has not been used in the development of the plan. A stated goal to help municipalities move from consultation to collaboration and, eventually, community control would be appropriate, for example.

Goods Movement—Climate change, Trade Loss Scenarios, and Reshoring of the Economy

The technical document about Goods Movement needs to consider climate change among the other supply chain challenges listed. Right now, the Goods Movement technical report references COVID-19, security issues, labor issues, and changing supply chain dynamics. A major omission among these is climate change, which will massively impact our home ports and ocean resources, and those of our trading partners, who will also be facing increased drought, heat, flooding, monsoons, typhoons, wildfires, and storm surges. SCAG projections predict triple the growth of TEUs entering the ports by 2035. But it's also important to consider opposite: trade-loss scenarios due to strategic choice and/or the following:

- Some of the most critical port infrastructure globally exhibits low climate planning and high climate vulnerability; Asian ports are extremely vulnerable to sea level rise and flooding, which will impact Southern California imports and thus its economic role. Some of the below is contained in a report about partner port climate vulnerability we recently conducted if you wish further information.
- Major changes to the viability of shipping routes will occur within the next 5-10 years due to climate change: The Panama Canal may become compromised due to lack of freshwater resources; US Gulf and Eastern ports within the US may become compromised; the Arctic is projected to be ice free by 2030 and will likely open as a shipping corridor, which will shift global trade routes; maritime chokepoints for food and goods need further assessment.
- Rapidly changing climatic conditions, more frequent and intense storms, feedback loops leading to increased atmospheric and oceanic warming, and sea level rise will create different impacts around the globe. The next five to ten years will increase the severity and duration of disruptions to global trade to and from Southern California, particularly impacting low-lying Asian port infrastructure especially in China, Japan, Korea, and surrounding populations. Our own ports are also at risk, though less so. These vulnerabilities will combine with additional disruptions, such as those experienced during the pandemic, as well as changing policies, tariffs, and security issues that are outlined already in Connect SoCal.

The Intergovernmental Panel on Climate Change (IPCC) reports "widespread, rapid, intensifying" challenges–in other words, our changing climate is producing faster and more intense warming patterns and disaster impacts than previously anticipated (IPCC 2021). Maritime communities have recognized the need to collaborate around climate issues, forming groups such as the World Port Sustainability Program, World Port Climate Action Program, and the Just Transition Maritime Task Force (IAPH 2018, IAPH 2023, MJTTF 2022). In addition, several reports have been published regarding shipping vulnerabilities due to tropical storms, ocean warming, and sea level rise due to the melting of the polar ice sheets. The periodic, paced, and semi-manageable disruptions of today will follow the same pattern as climate change, leading to increasingly rapid cycles of intense flooding, fire, and drought at many of our trading partner ports. Planning for these impacts is imperative. Connect SoCal needs to project and plan for what the goods movement may become in the next decades due to climate challenges. These need to be treated explicitly in

the Goods Movement plan and might be considered in the following ways within Connect SoCal projections:

- Assess trade relationships and port infrastructure through a climate lens.
- Assess the climate vulnerability of maritime chokepoints and how they will impact the SoCal region, the viability of our region, our ability to get food and goods, and our quality of life; plans for if these things are compromised.
- Assess the impact of possible compromise or loss of the Panama Canal and Asian, Gulf, and Eastern Seaboard ports and the opening of the Arctic on Southern California trade and transportation.
- Develop tiered trade-loss scenarios as part of *intentional* long-term climate vulnerability planning; assessing what portion of port imports and exports can be relocalized or reshored for and by SoCal residents.
- Assess how Southern California can help to benefit from economic relocalization/reshoring in terms of its transportation plan, equity and employment opportunities.
- Consider SCAG's role in protecting ocean resources such as kelp and whales, which are both massive carbon sinks. There is more to say here, but I'll leave it there for now.

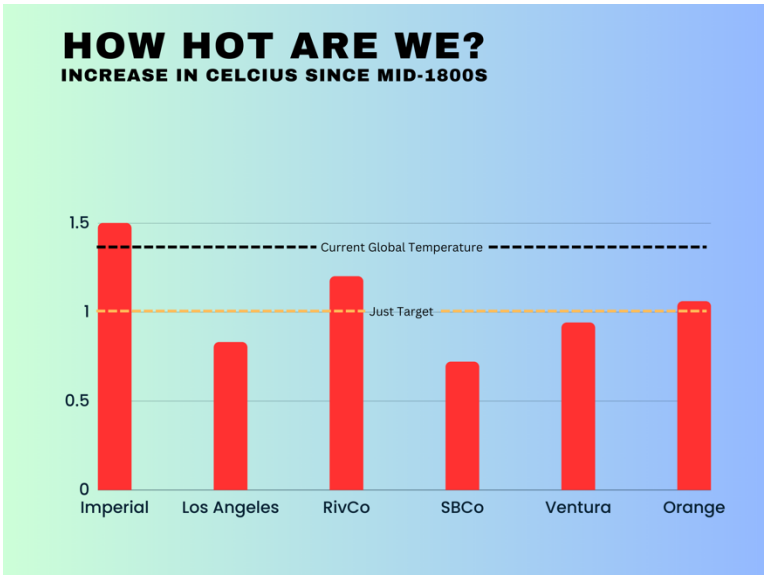
Opportunities to reshore the economy, to minimize emissions, and to create resilience and self-reliance are major missing pieces in Connect SoCal. Targeted (or even beginning) analysis or at least a mention of trade-loss scenarios and what it might mean to transition to a more localized economy is critically important, given that the instability of supply chains will increase in the coming years. This falls squarely into SCAG's mandate to consider "discussion of regional goods movement systems, including seaports, rail, air cargo and trucking—and their relationships to industrial and retail facilities; global and national supply chains; local and national consumption; regulatory frameworks; technology transitions and community impacts." Just as SCAG is invested in land-based resources, so too should it be invested in working with government agencies to protect ocean-based resources.

Economic reshoring is a double win because of the decrease in emissions and pollutants, that also exacerbate and/or reduce contributions and/or impacts to climate change. It's a triple win when considering associated opportunities for green, high road job creation. Automation and AI will likely facilitate economic reshoring, but SCAG should be thinking of setting guardrails around automation and AI by establishing expertise and leadership around this.

Preservation of Farmland and Open Land

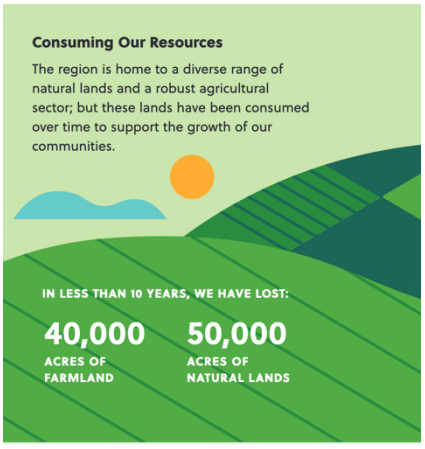
I greatly appreciated reading about the importance of preserving farmland and open land for nature-based solutions to climate change and to improving equity and quality of life. The problem is that some of the goals of Connect SoCal are in conflict with one another on the ground. The plan doesn't address how these conflicting goals will be approached simultaneously without cancelling each other out. For example, prioritization of goods movement will mean continued loss of open and working lands particularly within the Inland Empire and increasingly

into the desert. Building housing also may compromise land conservation—and while the plan for infill is a clear priority in Connect SoCal, the goods movement shares no parallel plan or else it will continue to take up remaining open and working lands. As the report notes, open and working land is critical as a nature-based solution to climate change.



Imperial County is currently the center of agriculture in the region and has already reached 1.5 degrees of warming—the highest of any SCAG county. This year will likely exceed those measures. This is cause for alarm that should be noted in the document. The point is that we cannot give up on local agriculture; in fact, we need to calculate whether we can feed ourselves. As noted above, at some point we may be faced with supply chain breakdowns that compromise our food supply, as well as drought, flood, and land loss and food production problems within the central valley. In terms of projections to 2050, determining the percentage of our ability to feed ourselves through ocean and land resources should be at least mentioned in Connect SoCal.

Farmland is important to conserve because it is also an untapped resource for the production of energy through agrivoltaics.



There is a need for transparency and further data related to the role of the goods movement in the graphic “Consuming Our Resources” at left. The graphic states that 90,000 acres of natural and working lands have been lost in the past 10 years in order to “support the growth of our communities.” The “growth of our communities” implies housing, and perhaps jobs, but is misleading for several reasons. First, significant amounts of agricultural land and farmland have been lost to industrial development in addition to housing—in particular to the goods movement and warehousing. This is particularly true within the Inland Empire, where land loss has come at a fairly even split between residential and industrial uses, with industrial uses now taking up over 60 square miles of land.

I would like to request that this statistic on land loss be broken out, by county, and between at least three land use types, including residential, industrial and commercial uses.

The statement "for the growth of our communities" is also misleading in multiple additional ways:

- Significant outsider ownership of warehousing. SoCal municipalities have ceded significant amounts of land to outsider ownership, eroding our own sense of sovereignty either between counties (overwhelming ownership of IE warehouses by OC developers) or outside of the State of California. This phenomenon also bleeds profits from warehouse heavy regions, meaning that local communities see more harm than benefit for this kind of land use
- The utilization of land to service the needs of the broader United States in addition to (and largely instead of) local SCAG counties. Your own reporting emphasizes that most of the goods that enter the ports of LA and Long Beach leave the SCAG region and the state of California. Thus, undue amounts of land are being sacrificed to a purpose that is explicitly not for our communities;
- The document rightly points out that housing is a critical piece. But industrial uses have also demolished housing—particularly in low-income communities of color within the Inland Empire. Rezoning land from residential to industrial is a clear trend and the demolition of housing is growing more common. Much of the land loss has come at a clear detriment to communities and with significant community opposition. SCAG should provide leadership to eliminate the practice of rezoning from residential and open lands to industrial and develop appropriate kinds of infill industrial development where appropriate. We have some data on this if it is of interest.

Without breaking down land loss data to the public, the public does not have a chance to comment upon this role of industrial development that takes from local populations to benefit non local populations during a time of housing crisis. Though the jobs might be said to provide community benefit, there are multiple problems with warehouse jobs, which have grown exponentially while the Inland region remains locked into cycles of low education and poverty (see Region in Crisis report).

I request that SCAG present numbers and statistics by county for land loss according to residential, commercial, and industrial categories, as the story of land loss is incomplete without them.

The Carrying Capacity of the Region for Goods Movement.

SCAG should include in Connect SoCal an analysis of the carrying capacity of the region for heavy duty trucks and warehouses that focuses on land coverage, roadway conditions, congestion, and the cost of truck-related roadway repairs. Peripherally, this could form the basis of a broader cost-benefit analysis that examines land use, light, noise, health impacts, and economy of the logistics sprawl of the goods movement sector.

The nexus of land use and transportation is well laid out in the document for housing and residential sprawl, but remains untouched regarding industrial land use and logistics sprawl, which is not looked at critically in Connect SoCal.

Industrial uses such as warehouses that benefit non-SCAG and non-California populations are taking up an increasing share our limited resources of not just land, but energy and water. They create harms to SCAG populations in the form of GHG emissions, poor air quality, congestion, roadway and infrastructural damage, low-wage (and increasingly automated) employment, light, noise, and heat. Right now, the unstated assumption within Connect So Cal is one of unlimited growth within the goods movement sector. Please note in the document that this is a *choice* rather than a foregone conclusion. Industrial and logistics-based demand management strategies should be included and be comprised of tiered, data-driven, well-justified and clearly stated goals for *appropriate rather than unlimited* growth and or regional transformation based on the best available data.

The carrying capacity of the region should be a core part of any regional transportation plan due to the wear and tear on municipal and county roads, increased congestion, slowed emergency services due to truck-related congestion, and compromise of subterranean infrastructure such as pipes—including gas pipes that can leaks and cause explosions—subterranean cables and wires, and even fiberoptics, which have all kinds of uses in monitoring environmental hazards and changes beyond their original intended use.

Analyzing the carrying capacity of the region for Heavy Duty Trucks and logistics even just on roadways is a win on many levels. It is squarely within SCAG's role to convene "local governments and agencies to address regional transportation, land use and other issues of mutual concern." Our current logistics footprint is already outsized and residents absorb the costs of road and other infrastructural repairs through taxation. This stands in contrast to the building of industrial infrastructure, which services outsider populations and is underwritten by private corporate interests. But there is no equivalent tax for roadway repair, which is inevitably needed in logistics heavy duty truck usage.

A carrying capacity study could also identify future opportunities for the trades to create union jobs, apprenticeship and pre-apprenticeship programs for subterranean roadway, pipe, and fiberoptic maintenance and repair. It could also determine the viability of widespread shifting to permeable surfacing, curb cuts and other measures that could help with water retention and percolation, the incorporation of green and/or cooling infrastructure, and also the possibility of energy producing surfaces or roadways.

One of SCAG's primary roles is to coordinate with local municipalities around land use. I understand the constraints of local government control, but also hold SCAG accountable for a one-sided view within the entire document that limits sprawl and VMT, as well as the solutions to these, to residential and commuting purposes for individuals. The goods movement has become some kind of third rail due to the significant amount of influence commercial and

industrial developers has over SCAG leadership. This deserves more critical attention in the document.

Please include a more robust engagement of the goods movement to connect the dots between transportation, infrastructural compromise and cost due to truck-related wear and tear, land use changes, equity and environmental justice, and climate change.

There is no mention of demand-management strategies related to heavy duty trucks and trade. As mentioned above, this is a missed opportunity due to the win-win of what it might mean to re-shore the economy. Relocalization efforts are increasingly supported by the federal government; thus funding will become available to support such efforts. Automation and AI will facilitate some of this movement. There is a need to project how will that change transportation planning. SCAG could lead on this in the state and nationally, which would be an exciting direction for our region, especially as a leader in global trade. SCAG could work directly with the Ports on planning such an initiative through projections into 2050.

Achieving SCAG's GHG and Emissions Reduction Targets is easiest accomplished by encouraging and incentivizing local agencies to collaborate across boundaries and think through demand management strategies. Connect SoCal does this for commuters but not for HDDT, whose significant impact makes their treatment paramount in a transportation plan.

For example, the statement that "the most significant and impactful strategies that are within the decision-making influence of the region include land use, user fees/pricing, transit/shared mobility and active transportation" needs to include responsible demand management strategies for trucks. This is the lowest cost, tech free, most expedient method of reducing emissions. SCAG could lead the state on this as well as the nation. Such an approach might give us a fighting chance at one day being able to be in attainment with our air quality and emissions reduction mandates as well as staving off the worst impacts of climate change. There are many ways this could happen and many possible approaches to such a study in the realm of sustainable development.

Electrification and Increased Heat

One last major concern that needs to be within Connect SoCal is the interlinkage between cleaner air via electrification and increased heat. This is one of the reasons why demand management strategies for goods movement are so important. Pollutants (particulate sulfur mostly) actually cause heat to decrease, because they reflect sunlight back out to space. Our goal, of course, should be to reach air quality attainment, so please do not misinterpret the following as a plea for the opposite. But warehousing in particular is something you can't have both ways. Both warehouse infrastructure and electrification increase the urban heat island effect, which causes an array of cascading problems from increased heart issues to increased heat stroke to increased energy usage via air conditioning.

You mention green infrastructure and this is most importantly deployed in two ways: both as facilities for electric vehicles and electrified trucks, but also to build out tree canopy, and urban greenspace and to preserve and conserve greenspace for the valuable and cooling resource that it is. I would like to request that SCAG note the increase in heat due to fleet and passenger vehicle proposed electrification, and to examine priorities in light of that reality. When combined with climate change, this increased heat will be a real killer.

I am counting on SCAG to be true to its mission: open, innovative, and courageous in its approach to Connect SoCal. All of the critiques made in this document are offered in the spirit of partnership and collaboration. Thank you again for the opportunity to weigh in on this plan. Please feel free to contact me if you require further information.

Sincerely,

Susan A. Phillips
Director, Robert Redford Conservancy for Southern California Sustainability
Associate Dean, Pitzer College
Professor of Environmental Analysis
[redacted]

San Joaquin Hills
Transportation
Corridor Agency

Vice Chair: Janine Heft
Laguna Hills

Transportation Corridor Agencies™

Foothill/Eastern
Transportation
Corridor Agency

Chair: John Taylor
San Juan Capistrano

January 12, 2024 Via Email: ConnectSoCalPEIR@scag.ca.gov

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

RE: Comments on the Draft Connect SoCal Plan 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy and associated Draft Programmatic Environmental Impact Report

Dear Mr. Ajise:

The San Joaquin Hills Transportation Agency and the Foothill/Eastern Transportation Corridor Agency ("TCA") appreciates the opportunity to review and provide comments on the Draft Connect SoCal Plan 2024-2050 Regional Transportation Plan ("RTP")/Sustainable Communities Strategy ("SCS") and associated Draft Programmatic Environmental Impact Report ("PEIR"). TCA commends the Southern California Association of Governments (SCAG) staff and consultants for the tremendous amount of work and effort in putting these documents together. TCA also recognizes and supports the timely adoption of the RTP/SCS to enable the Southern California region to proceed with the planning and implementation of regionally significant transportation projects. Further, TCA recognizes that the SCS is particularly important for the region to meet its state-mandated greenhouse gas (GHG) emissions reduction goals and federal Clean Air Act requirements.

TCA generally supports the comments submitted by the Orange County Council of Governments (OCCOG) on behalf of Orange County jurisdictions, the Center for Demographic Research, the Orange County Transportation Authority, and other Orange County jurisdictions.

In addition, please find below TCA's specific comments applicable to both the draft RTP/SCS and PEIR.

Page 92, Regional Express Lanes Network: Concept of Operations and Buildout

The Draft Connect SoCal Plan should include toll roads in the description of projects included in this category. TCA-operated Toll roads are complimentary to express lane and HOT lane facilities via FasTrak technology that allows interoperability and convenience for drivers.

Recommended Clarification

Revise the text in the first sentence under Regional Express Lanes Network on page 92 to read, "The regional express lane network, including toll roads, and Express/HOT lanes, integrates congestion pricing to…

Transportation Corridor Agencies™

- The text under this section should discuss that all priced facilities in the SCAG region ensure inter-operability by using a common technology, FasTrak, to collect user fees.

Project List Technical Report

Page 100, Table 1: FTIP Projects, FTIP ID ORA111207

County	System	FTIP ID	Route	LEAD AGENCY	Description	Project Cost ($1,000's)
ORANGE	STATE HIGHWAY	ORA11 1207	241	VARIOUS AGENCIES	241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241.	$423,000

Recommended Clarification

- In Table 1, we request that the Project Cost be updated to $423M, consistent with FTIP Amendment number 23-11.

Page 257, Table 2: Financially Constrained Projects, RTP ID 2T01135

COUNTY	SYSTEM	RTP ID	ROUTE	ROUTE NAME	FROM	TO	DESCRIPTION	COMPLE-TION YEAR	PROJECT COST
ORANGE	STATE HIGHWAY	2T01135	241		SR-91		241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241	2035	$423,000

Recommended Clarification

Project 2T01135, please change Lead Agency to "Various Agencies" consistent with Table 1 and update the project cost to $423M consistent with the FTIP Amendment number 23-11.

Transportation Corridor Agencies™

TCA thanks you in anticipation of your written responses to these comments. We look forward to the amendments in the final 2024-2050 RTP/SCS and associated PEIR to incorporate the recommended changes. Should you have any questions or require any clarification regarding these comments, please feel free to contact me at 949.754.3454 or via email at sblanco@thetollroads.com.

Sincerely,

Stephanie Blanco
Chief Capital Programs Officer

cc: Doug Feremenga, Transportation Corridor Agencies, Environmental Manager

World Be Well Organization

RE: Public Comment Connect SoCal 1/12/2024

World Be Well appreciates the opportunity to comment on the Southern California Association of Governments' (SCAG) Draft Connect SoCal 2024, Southern California's Regional Transportation Plan/Sustainable Communities Strategy (SCS). We applaud your vision that in 2050, Southern California will be a healthy, prosperous, accessible, and connected region for a more resilient and equitable future. It is reassuring to know that despite the staggering complexities involved in implementing that vision, as comprehensive as the plan is, it acknowledges that implementation happens at the local level.

Thankfully, the leadership team was comprised of representatives from our cities, counties, and local agencies where land use planning occurs. Collaboration is crucial to address our challenges.

World Be Well also congratulates SCAG on receiving a planning grant from the Strategic Growth Council under their Sustainable Agriculture Land Conservation (SALC) program.

World Be Well was also awarded a SALC grant to build organizational and financial capacity in Riverside and San Bernardino Counties. The Oswit Land Trust and Native American Land Trust were also awarded grants. We intend to serve as a conservation developer, seeking opportunities to work with landowners and developers to implement smart development that reduces the loss of agricultural lands and open spaces.

[redacted]

[redacted]

www.WorldBeWell.org

Since 1984, Inland SoCal has traded 191,00 acres of farmland and open space for forty square miles of warehouses. We welcome the opportunity to collaborate with other land trusts and with SCAG on the planning grant award for an **Agricultural Lands Economic Benefit Study**.

World Be Well was instrumental in convincing CDFA to reconsider leaving Riverside San Bernardino off the regions list for the 2023 Urban Agriculture Grant Program. Neither Riverside nor San Bernardino have populations of 500,000 or more, yet we comprise the twelfth largest metro statistical area in the U.S. plus we have thirty cities over 50,000. We alerted them that according to their own criteria, our region would rank number one in tribal populations, second in low-income communities behind the eight county Bay Area, and number three in disadvantaged communities. Their reconsideration guarantees an $800,000 block grant to the region, in addition to individual urban agriculture project awards. Our region's share of total funds available is projected to be around $12 million.

Resistance by communities to zoning criteria that extract value, equity, health, and longevity from them is growing. A reconsideration of the costs and externalities that go unmitigated by our zoning decisions is warranted. We also recognize the realities of our rising land valuations and the pressure that bears on SCAG's target of preserving forty-one square miles of open space infill development.

SCAG's work helps facilitate implementation, but the agency does not implement or construct projects or have land use authority. SB 375 did not give SCAG and other metropolitan planning organizations any land use authority.

In the role of conservation developers, World Be Well will take advantage of potential match funds from NRCS-ACEP and RCA. Funding is also available via SCAG, private land developers, and other private donors. We have several market-based solutions to leverage potential tax incentives

and match funding incentives for master community developers, who can capture value by including conservation development in the form of agrihoods in their projects. This is also one of the qualifying CEQA mitigation requirements for SCAG's plan.

In your Supplemental Information section, you list the legislative mandates that informed this plan, and that impact your Healthy Communities Strategy. When I got to the letter **S**, I expected to see a reference for **SB 1000**.

SB-1000 (2015-2016) requires local governments to identify environmental justice communities in their jurisdictions and address environmental justice in their general plans, which serve as a local government's "blueprint" for how the city and/or county will grow and develop.

It provides a policy framework for thriving communities. Taken as a collaborative lens and shared at the municipal level, SB 1000 should be considered a catalyst for managing the vital conditions required for thriving communities.

Reliable transportation is one of the seven vital conditions needed for health and well-being. Given the urgency and overwhelm cities endure as they attempt to manage vital conditions that are out of balance and in an endless crisis mode, SB 1000 is a way to engage community and to speed up much needed capacity building to match the urgency our cities are facing.

Community-based organizations (CBOs) are best suited to press local governments to adhere to SCAG's Sustainable Communities Strategy through the implementation of SB1000.

SCAG should work with CBOs to improve local government adherence to the SCS. SCAG should also make available its Regional Greenprint, web-based tool, to assist CBOs with the best available scientific data and scenario visualizations to support the SB1000 toolkits that organizations

use to implement environmental justice elements into the general plans of their local jurisdictions.

Word Be Well suggests incorporating the SB 1000 Implementation Toolkit available from the Environmental Justice Alliance. It offers a detailed and comprehensive way for cities to analyze and implement their strategies guided by the community's voice. It's a roadmap to a thriving region and consistent with SCAG's Healthy Communities Strategy.

World Be Well is encouraged by SCAG's commitment to mitigate loss of farmland where such loss will have significant and unavoidable Impacts. Most developers within the SCAG region that submit Environment Impact Reports under CEQA also note that while loss of farmland may have significant and unavoidable impact, they also claim that such loss is not mitigable.

World Be Well encourages the use of SCAGs advanced mitigation programs as tools that developers can use to mitigate their projects. However, enforcing mandatory mitigation mandates may adversely impact the use of voluntary mitigation that may provide charitable contribution benefits to landowners and developers under Section 170 of the U.S. Tax Code.

World Be Well looks forward to working with SCAG to minimize Greenfield development through the implementation of this Regional Transportation Plan/Sustainable Communities Strategy.

Yours in a world being well,

Gurumantra Khalsa
Executive Director

[redacted]

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Monograph

Historical racial redlining and contemporary patterns of income inequality negatively affect birds, their habitat, and people in Los Angeles, California

Eric M. Wood,[1,*] Sevan Esaian,[1,2] Christian Benitez,[1] Philip J. Ethington,[3] Travis Longcore,[4] and Lars Y. Pomara[5]

[1]Department of Biological Sciences, California State University Los Angeles, Los Angeles, California, USA
[2]Ecology, Evolution, and Marine Biology, University of California Santa Barbara, Santa Barbara, California, USA
[3]Van Hunnick Department of History, Dornsife College of Letters, Arts and Science, University of Southern California, Los Angeles, California, USA
[4]Institute of the Environment and Sustainability, University of California Los Angeles, Los Angeles, California, USA
[5]U.S. Department of Agriculture Forest Service, Southern Research Station, Asheville, North Carolina, USA
[*]Corresponding author: ericmwood@calstatela.edu

ABSTRACT

The Home Owners' Loan Corporation (HOLC) was a U.S. government-sponsored program initiated in the 1930s to evaluate mortgage lending risk. The program resulted in hand-drawn "security risk" maps intended to grade sections of cities where investment should be focused (greenlined areas) or limited (redlined zones). The security maps have since been widely criticized as being inherently racist and have been associated with high levels of segregation and lower levels of green amenities in cities across the country. Our goal was to explore the potential legacy effects of the HOLC grading practice on birds, their habitat, and the people who may experience them throughout a metropolis where the security risk maps were widely applied, Greater Los Angeles, California (L.A.). We used ground-collected, remotely sensed, and census data and descriptive and predictive modeling approaches to address our goal. Patterns of bird habitat and avian communities strongly aligned with the luxury-effect phenomenon, where green amenities were more robust, and bird communities were more diverse and abundant in the wealthiest parts of L.A. Our analysis also revealed potential legacy effects from the HOLC grading practice. Associations between bird habitat features and avian communities in redlined and greenlined zones were generally stronger than in areas of L.A. that did not experience the HOLC grading, in part because redlined zones, which included some of the poorest locations of L.A., had the highest levels of dense urban conditions (e.g., impervious surface cover), whereas greenlined zones, which included some of the wealthiest areas of the city, had the highest levels of green amenities (e.g., tree canopy cover). The White population of L.A., which constitutes the highest percentage of a racial or ethnic group in greenlined areas, was aligned with a considerably greater abundance of birds affiliated with natural habitat features (e.g., trees and shrubs). Conversely, the Hispanic or Latino population, which is dominant in redlined zones, was positively related to a significantly greater abundance of synanthropic birds, which are species associated with dense urban conditions. Our results suggest that historical redlining and contemporary patterns of income inequality are associated with distinct avifaunal communities and their habitat, which potentially influence the human experience of these components of biodiversity throughout L.A. Redlined zones and low-income residential areas that were not graded by the HOLC can particularly benefit from deliberate urban greening and habitat enhancement projects, which would likely carry over to benefit birds and humans.

Keywords: avifauna, ethnicity, HOLC, Los Angeles, legacy effect, luxury effect, race, socioeconomic

How to Cite

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LAY SUMMARY

- Redlining was a racially biased investment and lending practice established in the 1930s and applied in 239 cities across the United States.
- The program was terminated in 1968 but has since been linked with strong segregation of human communities, wealth, and green amenities in cities nationwide.
- In Greater Los Angeles, California, redlining continues to be negatively related to avian community patterns, their habitat and the people who may experience them.
- Luxury-effect patterns, where biodiversity is positively associated with affluence, largely predicted avifaunal patterns in Greater Los Angeles
- Legacy-effect patterns due to historical redlining also showed strong relationships and patterns of bird habitat and community composition, suggesting the practice is potentially a powerful force structuring contemporary urban avifauna and human communities.
- Careful yet deliberate action in urban greening could likely benefit birds and humans in redlined zones and other low-income areas of Greater Los Angeles.

Submission Date: October 12, 2022. Editorial Acceptance Date: July 23, 2023

La discriminación racial histórica en la delimitación de zonas y los patrones contemporáneos de desigualdad de ingresos afectan negativamente a las aves, su hábitat y a las personas en Los Ángeles, California.

RESUMEN

La Corporación de Préstamos para Propietarios de Hogares (HOLC, por sus siglas en inglés) fue un programa patrocinado por el gobierno de EEUU, iniciado en la década de 1930, para evaluar el riesgo en la concesión de hipotecas. El programa resultó en la creación de mapas de "riesgo de seguridad" dibujados a mano, destinados a clasificar secciones de ciudades donde la inversión debería centrarse (áreas resaltadas en verde) o limitarse (zonas marcadas en rojo). Los mapas de seguridad han sido ampliamente criticados posteriormente por ser inherentemente racistas y se han asociado con altos niveles de segregación y niveles más bajos de comodidades verdes en ciudades de todo el país. Nuestro objetivo fue explorar los posibles efectos heredados de la práctica de calificación de HOLC en las aves, su hábitat y en las personas que podrían experimentarlos, en toda una metrópolis donde los mapas de riesgo de seguridad se aplicaron ampliamente, el Gran Los Ángeles, California (L.A.). Utilizamos datos recopilados en el terreno, obtenidos de forma remota y censales, junto con enfoques descriptivos y de modelado predictivo, para abordar nuestro objetivo. Los patrones de hábitat de las aves y de las comunidades de aves se alinearon fuertemente con el fenómeno del efecto de lujo, en el que las comodidades verdes fueron más sólidas y las comunidades de aves fueron más diversas y abundantes en las partes más ricas de L.A. Nuestro análisis también reveló posibles efectos heredados de la práctica de calificación de HOLC. Las asociaciones entre las características del hábitat de las aves y las comunidades de aves en las zonas marcadas en rojo y verde fueron generalmente más fuertes que en las áreas de L.A. que no experimentaron la calificación de HOLC, en parte porque las zonas marcadas en rojo, que incluían algunas de las ubicaciones más pobres de L.A., tuvieron los niveles más altos de condiciones urbanas densas, como la cobertura de superficie impermeable, mientras que las zonas marcadas en verde, que incluían algunas de las áreas más ricas de la ciudad, tuvieron los niveles más altos de comodidades verdes, como la cobertura de dosel arbóreo. La población blanca de L.A., que constituye el mayor porcentaje de un grupo racial o étnico en las áreas resaltadas en verde, se correspondió con una abundancia considerablemente mayor de aves afiliadas a características de hábitat natural (e.g., árboles y arbustos). Por el contrario, la población hispana o latina, que es dominante en las zonas marcadas en rojo, estuvo relacionada positivamente con una abundancia significativamente mayor de aves sinantrópicas, que son especies asociadas con condiciones urbanas densas. Nuestros resultados sugieren que la discriminación histórica en la delimitación de zonas y los patrones contemporáneos de desigualdad de ingresos están asociados con comunidades de avifauna distintas y con sus hábitats, lo que potencialmente influye en la experiencia humana de estos componentes de la biodiversidad en todo L.A. La delimitación de zonas marcadas en rojo y las áreas residenciales de bajos ingresos que no fueron calificadas por HOLC pueden beneficiarse especialmente de proyectos dirigidos al enverdecimiento urbano y a la mejora de hábitat, que probablemente a su vez beneficiarán a las aves y los humanos.

Palabras clave: avifauna, efecto de lujo, efecto heredado, etnicidad, HOLC, Los Ángeles, raza, socioeconómico

BACKGROUND

In 1933, the U.S Federal Home Loan Bank Board initiated a program named the Home Owners' Loan Corporation (HOLC), which was intended to assist homeowners who were in default on their mortgages to avoid foreclosure as well as to identify prime areas for real estate investments (Hillier 2003, Aaronson et al. 2018, Mitchell and Franco 2018). The decline in homeownership during the Great Depression was a major concern for political and financial leaders as high homeownership rates in the U.S. were considered a cornerstone of American national identity and a bulwark against radicalism (Leuchtenberg 2009). Another aspect of the HOLC was to evaluate mortgage lending risk to stabilize the nation's mortgage lending system, which was in disarray following the Great Depression (Mitchell and Franco 2018). To identify prime areas for lending, the HOLC hand drew "security risk" maps with four color-coded zones intended to indicate areas where investment, via lending, should be focused and where it should also be limited. The graded zones were colored green ("best," HOLC grade = A), blue ("still desirable," HOLC grade = B), yellow ("definitely declining," HOLC grade = C), and red, which is the notion of redlining where areas were labeled as "hazardous" for lending (HOLC grade = D). The HOLC security risk maps were drawn and applied in 239 cities throughout the U.S. in the early to mid-portions of the 20th century before the practice was formally halted in 1968 when the Fair Housing Act was passed (Squires 1992).

It has been debated whether the HOLC security-risk maps were intended for secret use or whether they were planned to be shared and utilized by appraisers in making decisions regarding lending (Hillier 2003). Nevertheless, the drawn boundaries of the security maps were inherently racially biased. The security maps were based on "Area Descriptions," and the ratings of these descriptions were based, in part, on the race or ethnicity of the inhabitants rather than on the physical qualities or amenities of the neighborhoods (Ethington 2001). This was especially true for Black or African American communities, among other communities of color, and neighborhoods dominated by older and poorer households (Mitchell and Franco 2018). Despite the stated objectives of rescuing homeowners from default on their mortgages, the racially biased method of evaluating property values has been related to patterns of racial injustice and economic inequality in cities across the U.S. (Squires 1992, Rothstein 2017, Aaronson et al. 2018, Swope et al. 2022). For example, redlining is negatively correlated with numerous urban functions, including climate mitigation (Wilson 2020), public health (Krieger et al. 2020, Nardone et al. 2020b, d), subjection to freeway development (Stermon and Lukinbeal 2021), and uneven distribution of greenness (Locke et al. 2021, Nardone et al. 2021, Nowak et al. 2022, Burghardt et al. 2022) throughout most major cities in the U.S. It is important to note that redlining was one of the numerous forms of systemic racism that occurred throughout the 20th century in the U.S. (e.g., racial housing covenants, blockbusting, and single-family zoning; Sadler and Lafreniere 2017, Menendian et al. 2022) that continues to affect the structure of urban centers (Schell et al. 2020). Nevertheless, it remains uncertain whether the legacy of redlining is associated with the current distribution of urban wildlife and their habitat (Schell et al. 2020).

Our goal was to explore the potential legacy effects of the HOLC grading practice on birds, a ubiquitous component of wildlife, a provider of ecosystem services, and an indicator of biodiversity in most cities worldwide (Marzluff et al. 2001,

Whelan et al. 2008, Lepczyk et al. 2017), their habitats, and the people who may experience them throughout Greater Los Angeles, California (L.A.). We present our analysis as a case study, where we used the conceptual frameworks of the "luxury"- and "legacy-effect" hypotheses to test whether modern patterns of income inequality have led to stronger effects on L.A.'s avifauna and their habitat compared with historical patterns of disinvestment throughout the city. The luxury-effect hypothesis posits that there is a positive relationship between affluence and biodiversity in cities (Leong et al. 2018)—with a focus on green amenities (e.g., tree cover, Schwarz et al. 2015) and wildlife diversity and abundance (Wood and Esaian 2020). The luxury effect applies in many cities worldwide (Chamberlain et al. 2019, 2020) and is our baseline for measuring the potential legacy effects of redlining on urban biodiversity. The legacy-effect hypothesis suggests that environmental changes result from historical human activities (Schell et al. 2020). Legacy effects are common explanatory pathways for patterns found in natural communities (Foster et al. 2003) and have gained attention in urban ecosystems when focused on relationships between development patterns and biodiversity (Clarke et al. 2013, Grove et al. 2018, Ziter and Turner 2018). Our analysis was thus designed to understand whether avifauna, their habitat, and human communities in L.A. were related to the luxury effect and then if patterns and effects were stronger in redlined zones (legacy effects) due to the historical barriers to lending compared with sections of the city that the HOLC did not grade. We organized our analysis into the following five objectives.

Objective No. 1: Patterns of Residential Housing Variables, Urban Habitat, and Avifauna

We documented patterns of residential housing variables, urban habitat, and distributions of birds in the nonbreeding season, hereafter nonbreeding birds, related to the HOLC grading scheme in L.A. We also measured habitat and avifauna in non-graded zones throughout L.A. to compare the effects between the HOLC-graded zones and areas of the city that were not part of the practice. We predicted that there would be distinct bird habitat and avian communities, with greater green amenities in "best" and "still desirable" zones (hereafter A and B zones) compared with "definitely declining" and "hazardous" (or redlined) areas (hereafter C and D zones), which is in line with patterns found for tree cover across numerous cities in the U.S. (Hoffman et al. 2020, Namin et al. 2020, Locke et al. 2021, Nowak et al. 2022). Further, we predicted that habitat features and avifauna in non-graded affluent areas would align with A and B zones, and non-graded lower-income areas would align with C and D zones, following luxury-effect patterns in L.A. (Wood and Esaian 2020).

Objective No. 2: Relationships Between Residential Housing and Habitat Variables and Avifauna

We quantified relationships between a collection of residential housing and habitat variables and nonbreeding bird abundance with HOLC-graded and non-graded zones. We predicted that nonbreeding birds affiliated with natural ecosystems during the breeding period would be positively related to tree cover and street-tree density (Belaire et al. 2014, Wood and Esaian 2020), which would be greater in A and B zones (Locke et al. 2021, Nowak et al. 2022) and non-graded affluent areas. Natural ecosystems refer to any non-urban terrestrial ecosystem which contains trees, shrubs, and grasses. The nonbreeding birds in our system, except for synanthropic species, typically breed in forests, woodlands, shrublands, or grasslands. We focus our habitat associations on the breeding period as most are well understood and carry over to the nonbreeding period (Billerman et al. 2021). Further, we predicted negative relationships with nonbreeding birds affiliated with natural ecosystems to built features of the urban landscape (e.g., building density; Lepczyk et al. 2008, 2017), which would be more common in C and D zones and non-graded low-income areas (Nardone et al. 2021). Lastly, we predicted synanthropic bird species would show opposite relationships due to their associations with human development (Marzluff 2001, Wood et al. 2014, 2015).

Objective No. 3: Predictions of Bird Abundance throughout Greater Los Angeles

We compared patterns from HOLC-graded and non-graded zones based on predictions of nonbreeding bird abundance throughout L.A. to understand how pervasive potential patterns are throughout the city. We predicted that C and D zones would harbor a higher predicted abundance of synanthropic species and a lower abundance of nonbreeding birds affiliated with natural ecosystems during the breeding period (e.g., forest-breeding birds), with opposite relationships for A and B zones, similar to our expectations for objective two. We also predicted that zones not part of the HOLC grading practice that are currently wealthy or poor would show similar patterns in predicted nonbreeding bird abundance to either A and B (assumed wealthy) or C and D (assumed poor) zones.

Objective No. 4: Human Population Patterns of Race and Ethnicity in Relation to HOLC Grading

Because redlining was a racist practice, we explored how race and ethnicity have shifted among HOLC-graded zones and non-graded areas from the 1940s, just after the HOLC practice went into effect in L.A., to the current time. We expected to find the White population to dominate in A and B zones and the Black and Hispanic or Latino population to dominate in C and D zones (Perry and Harshbarger 2019). Furthermore, we expected that race and ethnicity patterns would change drastically from the 1940s to the present, with the White population declining within the study area across time and the Hispanic or Latino population surging, following patterns from the decadal census ("US Census 2020" 2022) and detailed by Perry and Harshbarger (2019).

Objective No. 5: Relationships Between Race and Ethnicity and Urban Avifauna

We were interested in how the current racial and ethnic makeup of L.A. related to patterns of nonbreeding avifauna and habitat features. We generally expected to find differences in parcel land values, tree canopy coverage, and the distribution of distinct components of the nonbreeding avian community throughout L.A. concerning race and ethnicity, following patterns during the nonbreeding and breeding period from Phoenix, Arizona, a city with a similar demographic makeup (Kinzig et al. 2005, Lerman and Warren 2011). More specifically, we predicted that areas of L.A. with a greater proportion of the White population

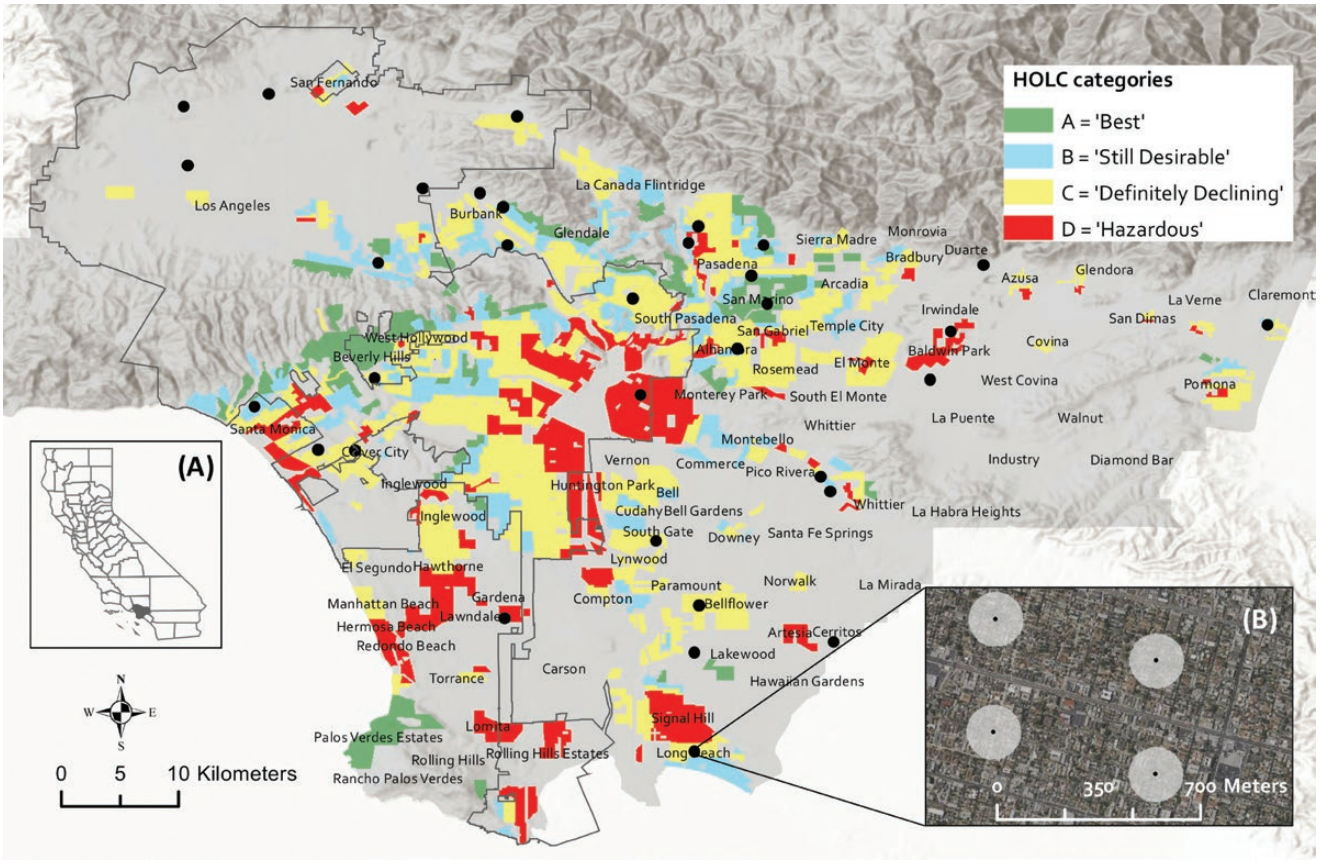

FIGURE 1. Distribution of 33 survey locations (black dots) within residential neighborhoods among HOLC-graded and non-graded zones across (**A**) Greater Los Angeles, CA. (**B**) The inset map depicts the sampling design at each survey location, where we established 4 locations, that were >350 m from one another for bird and habitat surveys.

would have higher parcel land values with greater tree coverage and subsequently harbor more nonbreeding birds associated with natural ecosystems during the breeding period (e.g., forest birds) than synanthropic birds. Additionally, we predicted that the Asian population, which generally has a high median household income in L.A. (Asante-Muhammad and Sim 2020), would show similar patterns as the White population. We expected opposite patterns for the Black or African American and Hispanic or Latino populations. Our expectations were derived from patterns of the distribution of urban forest cover and access to nature with race and ethnicity patterns in cities across the U.S. (Gerrish and Watkins 2018, Grade et al. 2022).

METHODS

Study Area and Sampling Design

To address objectives nos. 1 and 2, we used an established sampling design of bird and habitat survey locations in 33 residential communities throughout L.A. (Wood and Esaian 2020; Figure 1, Supplementary Material Figure 1). Within the 33 residential communities, we located four sample points > 350 m from one another (n = 132 total) for bird and habitat assessment (Figure 1). Because of potential issues with spatial autocorrelation, we aggregated bird, remote sensing, and street-tree data within each cluster of 4 sample points (see below). Twenty-four of the 33 clusters were in each of the 4 categories of the HOLC security maps: A (n = 3), B (n = 9), C (n = 8), and D (n = 4). To address limitations in sample size, we combined data from zones A and B, as these were areas where lending was more likely and plentiful by the HOLC (n = 12, hereafter: AB). Additionally, we combined data from zones C and D, as these were areas where lending was historically limited (n = 12, hereafter: CD). We obtained spatial boundaries for the HOLC-graded zones from the "Mapping Inequality Project" at the University of Richmond (Nelson et al. 2020). Nine clusters were located in areas that were non-graded by the HOLC and were developed primarily in the 1960s (median parcel age, 1961). Parcels in the AB and CD zones were developed in the 1930s and 1940s (median parcel age, 1933 and 1943, respectively). The median housing price for parcels in the non-graded zones of our study in 2018 was $644,000 USD, compared to $607,000 for CD zones, and $1,030,000 for AB zones (Redfin 2018). Thus, data from the 9 non-graded zones provided a measure of how newer developments on the lower socioeconomic spectrum compared with the AB and CD zones.

Data from 13 of our 33 aggregated point-count locations had conflicting overlapping boundaries with the spatial extents of the HOLC boundaries. For each aggregated set of HOLC and non-graded data, we assigned a designated HOLC grade based on the point-count locations that were embedded within. In three instances, we aggregated data from point-count locations that were within A and B zones; and in

another case, we combined data from point-count locations within C and D zones, which we deemed acceptable as we grouped these categories for analysis (see above). In 3 cases, we combined conflicting groups. In the first 2 cases, which included 1 cluster where there were 3 point-count locations in the B zone and one in the D zone of the San Rafael Hills and Rose Bowl sections of Pasadena, and another cluster in central Claremont with 3 point-count locations in the B zone and 1 point-count location in the C zone, we opted for combining in the AB category, as each area currently has high median income values (Wood and Esaian 2020). For the third cluster (Glendale, Riverside Rancho), 2 point-count locations fell within C-graded zones and 2 point-count locations were in B-graded zones but had overlapping 100-m radius boundaries with the C zones. We combined these point-count locations into the CD category. In 6 cases, we grouped data from non-graded zones with HOLC-graded zones. We did so because current conditions in the non-graded sections of neighborhoods superficially resembled those of the HOLC-graded sections. This happened in Baldwin Park where 1 point-count location was graded as D and 3 were non-graded. We categorized the Baldwin Park cluster in the CD category. There were 2 clusters in Whittier, where in 1 cluster, 3 point-count locations were graded as B and another was non-graded; whereas in the other cluster, 1 point-count location was graded as B and 3 were non-graded. We added the Whittier clusters to the AB category. In Carson, there was a cluster where 3 point-count locations fell within the D-graded zone with the fourth point-count location in a non-graded zone. In Southgate, 2 point-count locations of the cluster were graded as C, and 2 were non-graded; and in Venice, the cluster included 3 point-count locations that were graded as C and 1 that was non-graded. We added the Carson, Southgate, and Venice clusters in the CD category.

Residential Housing and Habitat Variables

To investigate the influence of residential housing and habitat features on avifauna, we used 3 data sources. First, we quantified habitat features remotely using a light detection and ranging (LiDAR) derived data product that yielded data on a suite of variables for every parcel in the L.A. region (hereafter: "parcel data"; Galvin et al. 2016). We considered 6 variables from the parcel data that characterized residential housing patterns, including the year parcels were built, the building density, the land value, the last sale amount, the number of bedrooms and bathrooms, and the square footage of parcels. Further, we included 5 cover variables that we expected would describe patterns of urban avifauna, including the % cover of the tree canopy, grass, impervious surfaces, buildings, and paved areas. For each variable, we computed the sum (building density), median (year parcels were built, the land value, the last sale amount, the number of bedrooms and bathrooms, and the square footage of parcels), or mean (cover variables) across all parcels within 100-m circular buffers of the 132 sample points, and then further aggregated using the sum, median, and mean as described above for the associated metrics within the 33 clusters. Our justification for our approach is that we first needed to compute the parcel data metrics within the range of our 100-m circular bird sampling locations. We then needed to match the extent of the predictor data with that of the aggregated bird data (see below).

Second, we included street-tree data from all sampling locations, which strongly affects bird-feeding behavior in L.A. (Wood and Esaian 2020). We measured the diameter at breast height of all street trees within sample points and the walking routes linking sample points (7,126) and identified each species as described in Wood and Esaian (2020). We then calculated relative street tree density, relative street tree dominance, and the importance values of all street tree species along a walking route (Wood et al. 2012). For further information on the street tree data used in this analysis, please refer to Wood and Esaian (2020). We used street-tree data along the walking routes linking sample points to generally capture street-tree conditions of the neighborhood where we completed bird surveys.

Third, we quantified the geographic position of sample points within L.A. to 6 green space features adjacent to and within the city. We determined the Euclidean distance using the *Near* tool in ArcGIS (ESRI 2016) from the centroid of each of the 33 clusters to the nearest (A) natural areas and wildlife sanctuaries (e.g., Angeles National Forest); (B) ecological sites (e.g., locations within Santa Monica Mountains); (C) regional parks and gardens (e.g., the Huntington Gardens); (D) golf courses; (E) cemeteries; and (F) beaches and marinas, assuming each may be influential in providing habitat for birds that may utilize residential areas in L.A. The distance variable for beaches and marinas was intended to generally capture climatic trends that may influence bird communities, whereas the other distance variables captured the geographic position in the city of sampling locations in relation to green spaces within and adjacent to L.A. We obtained boundaries for the green spaces from the "Countywide Parks and Open Space" layer, which are public data hosted by the County of Los Angeles (Los Angeles County 2016).

Avian Point Counts, Abundance Estimation, Habitat Guilds, and Richness Calculations

We conducted standardized 5-min 100-m radius point counts at the 132 sample points for 2 field seasons (2 visits per season) from October to March 2016–2018 (Ralph et al. 1995) to characterize the nonbreeding bird community in L.A. (Garrett et al. 2012). The data from 2016 to 2018 represent the training data for our spatial models (see below). We then revisited a subset of sample points (n = 88 sample points, n = 22 clusters) during the winter season of 2019–2020 as testing data for the spatial models (see below). We followed identical counting protocols for the testing and training data. One observer collected the training data (SE) and another the testing data (CB).

To account for detection probability, we calculated *N*-mixture models (Royle and Nichols 2003). We fitted the intercept-only *N*-mixture model, using the *pcount* function in the R package *unmarked* for 30 bird species, including individuals belonging to one family group (*Amazona* spp.) (hereafter, 31 species) (Fiske and Chandler 2011; Supplementary Material Table 1). We combined avian observation data for the training dataset across the 2 winter seasons for a database composed of 4 visits (2 per count season). A critical assumption for estimating detection probability within a season is "closure" (MacKenzie et al. 2017). While birds move frequently during the nonbreeding period, we assumed that the species included in this study were present and available for detection during the winter months throughout our

surveys. To account for potential season-to-season differences in species abundance in the training models, we allowed for detection probability to be estimated by a distinct intercept between seasons. From the intercept-only models, we then estimated the posterior distribution of latent abundance for the 31 candidate bird species at each sample point from either the training or testing datasets using empirical Bayes methods from the unmarked package function *ranef* (Fiske and Chandler 2011).

We computed the intercept-only estimated abundance, which we used in further analyses, for 3 reasons. First, our exploratory analyses indicated substantial overdispersion in fitted models, and thus we needed to use a negative binomial error structure. *N*-mixture models perform poorly when fit using negative binomial errors (Kéry 2018). Abundance was a key metric that we desired to model in our analysis. Therefore, we first estimated latent abundance in the *N*-mixture models using a Poisson distribution, from which we then used the abundance estimates as response variables in negative binomial generalized linear models (GLMs; see below). We display the errors of our models in Supplementary Material Table 1. Second, we desired to create avian habitat guilds based on the species-specific abundance estimates. We explored coding our data to sum counts of all individuals within a guild and then run the *N*-mixture models; however, this was a problem when considering further modeling routines due to the potential overdispersion in our data. Third, we desired species-specific estimates of the abundance of the avian community based on our count data (a matrix with rows as sample-point clusters and columns of the abundance values of each species), which we used in our multivariate analyses (see statistical analysis). We were unable to fit *N*-mixture models for 14 of the 31 species because detection probabilities were low (mean detection probability, $P = 0.05$) leading to unreliable estimates Supplementary Material Table 1. Nearly all the 14 bird species were common, synanthropic species that were essential to our analysis. Therefore, we included the raw abundance (unmodeled, high count across visits) for each Supplementary Material Table 1. The raw abundance data were highly correlated with the estimated abundance data ($r > 0.9$) for species in which we could fit the *N*-mixture models. Thus, when we present the bird abundance results, we refer to the *N*-mixture or raw abundance values summed among sample points within the 33 sample-point clusters.

To focus components of our analysis on segments of the bird community that may have variable responses to urban habitat features, we aggregated (total sum) the estimated abundance data from the 31 species into 7 groups: 4 habitat-specific groups (forest and woodlands [forest], shrub, natural lands, and synanthropes), 1 group based on geographic origin (exotic), and 2 groups based on migratory behavior (migratory or resident) (Supplementary Material Table 2). The forest and shrub birds are affiliated with forested or shrubland ecosystems during the breeding period (Allen et al. 2016, Billerman et al. 2021). We also created a composite variable called "natural-lands birds," which was the summed values of the forest and shrub bird groups. The synanthropes are species affiliated with human development and commonly found throughout L.A. (Billerman et al. 2021). The exotic species are those with geographic origins outside our coastal Southern California study area (Billerman et al. 2021). Lastly, the migratory and resident birds are those that migrate from L.A. to nesting locations farther north during the breeding period (migratory), or those that generally remain in the L.A. area throughout the year (resident) (Garrett et al. 2012, Allen et al. 2016, Billerman et al. 2021). In addition to abundance measures, we also computed cumulative species richness for all birds and each of the groups described above.

Race and Ethnicity Data

To quantify the spatial distribution of race and ethnicity throughout our study area, related to objectives nos. 4 and 5, we used 3 data sources. First, we incorporated race and ethnicity data for census tracts using a decadal census product from 1940 to 2000, which were based on the 2000 census tract outlines (Ethington et al. 2000). From these data, we quantified the percentage of the population within each census tract that was Black or African American (hereafter "Black"), Hispanic or Latino (hereafter "Hispanic"), or Non-Hispanic White (hereafter "White"), which were generally the racial or ethnic groups affected by the HOLC grading practice. We used race and ethnicity names given by the Office of Management and Budget Standards in the 2020 U.S. Census (U.S. Census 2022). To complete the time series from 2000 to 2020, we used 2 additional data sources. We incorporated comparable data (i.e., the percentage of the population of the race and ethnic groups described above from the 2010 census) with the 1940–2000 dataset (U.S. Census 2010). Lastly, we included additional data on the race and ethnicity groups from estimates derived from the American Community Survey (ACS) for 2015–2019 ("ACS," U.S. Census 2020) as a measure of trends in census data towards 2020 (hereafter "2020 data"). In addition to focusing on the Black, Hispanic, and White populations, we included the Asian population from the ACS dataset to characterize the current and dominant race and ethnicity patterns in L.A. (U.S. Census 2020, 2022). For the 2010 and 2020 data, we merged boundaries using an intersect with the 2000 census tract outlines to compile a time series spanning from 1940 to 2020. Thus, the 1940 to 2020 time series were used in an analysis to characterize shifts in race and ethnicity in L.A. over the past 80 years, following the application of the HOLC security maps, the halting of the practice, and general immigration and emigration patterns of the city (see Statistical Analysis, objective no. 4). The 2020 data were used in exploring relationships between race and ethnic groups and bird and habitat variables (see Statistical Analysis, objective no. 5).

STATISTICAL ANALYSIS

Objective No. 1: Patterns of Residential Housing Variables, Urban Habitat, and Avifauna

To address our first objective of documenting patterns of residential housing variables, urban habitat, and bird distributions with regard to the HOLC grading scheme in L.A., we completed 3 analyses. First, we explored differences in the means or medians of the predictor and response variables among AB, CD, and non-graded zones. We used either a one-way analysis of variance (ANOVA) or a Kruskal–Wallis test, depending on whether assumptions for parametric models were satisfied, with the AB, CD, or non-graded groups as the categorical factor. When ANOVA or Kruskal–Wallis tests were significant, we conducted a multiple comparisons routine using

either a parametric Tukey Kramer or nonparametric multiple comparisons routine (*nparcomp* package in R; Konietschke 2011). We evaluated pairwise comparisons among groups using a Bonferroni-adjusted alpha value (0.05/3 = 0.02). We also computed parametric Cohen's *d* or non-parametric *z*-scores to quantify the effect sizes between pairwise comparisons (Zar 1999).

Second, to identify the degree of dissimilarity in residential housing and habitat variables and the bird community in relation to the redlining practice, we conducted a one-way analysis of similarities test (ANOSIM) (Oksanen et al. 2019), using the Bray–Curtis dissimilarity of the square-root transform of residential housing, habitat, and bird abundance data, grouped into AB, CD, and non-graded zones. The ANOSIM analyses assessed whether ranked dissimilarities of the residential housing and habitat variables and the bird community within the AB, CD, and non-graded zones were greater than among zones (Oksanen et al. 2019). We used 999 Monte Carlo permutations to generate the random test statistic, *R*, which ranges from –1 to 1. An *R*-value near zero indicates that the habitat and bird community variables did not differ among the AB, CD, and non-graded zones; whereas *R*-values farther from zero indicated increasing dissimilarity. Because we made 3 comparisons among the AB, CD, and non-graded zones, we used a Bonferroni adjustment to the alpha value of 0.05/3 = 0.02 to assess significance. We computed the ANOSIM analysis using the *vegan* package (Oksanen et al. 2019) in R (R Core Team 2017). For all other analyses, we also used the R statistical software package. For graphics, we used either base R capabilities, *ggplot2* (Wickham 2016), or the *ggpubr* packages (Kassambara 2020) in conjunction with Adobe Illustrator software (Adobe Inc. 2019).

In a third analysis related to our first objective, to further quantify dissimilarities in the avian community among the AB, CD, and non-graded zones, we conducted a non-metric multidimensional scaling (NMDS) analysis. We used the Bray-Curtis dissimilarity of the square-root transform of the abundance data of the 31 bird species to compute an ordination graph of the 2-D representation of the avian community using the *vegan* package. Further, we overlaid residential housing and habitat vectors on the ordination using the *envfit* function in vegan to quantify general associations between the bird community and predictor variables (Oksanen et al. 2019). The *envfit* function assessed the correlation between residential housing and habitat vectors and avian species vectors with the first two axes of the ordination (Oksanen et al. 2019). The resulting output thus provided a measure of continuous change in the avian community concerning residential housing and habitat variables across the AB, CD, and non-graded zones.

Objective No. 2: Relationships Between Residential Housing and Habitat Variables and Avifauna

To address our second objective of quantifying relationships between residential housing and habitat variables and bird abundance in relation to redlining practices, we fit a series of linear regression models. We structured our analysis to understand the relationships between predictor and response variables both among and within AB, CD, or non-graded groups. To quantify the among-group relationships, we first fit 7 model sets, in which each set consisted of 1 of the 7 bird abundance response variable groups, 20 predictor variables, and the intercept-only model. Many predictor variables were highly correlated (Supplementary Material Figure 2). We intended, however, to understand the strength of the relationship of each variable to bird abundance as all are important for urban ecological studies and city planning. Therefore, we included all predictors as univariate models in each set and compared them using the Akaike information criterion (AIC). We performed an identical analysis for the bird richness groups.

We assessed all assumptions of linear models, including normality, heteroscedasticity, and independence (Legendre and Fortin 1989, Zar 1999; Supplementary Material Figure 3). In a few cases, we transformed our predictor data using natural logarithmic transformations and refit models to adhere to model assumptions (e.g., normality of the residuals of a fitted model). For the shrub-bird abundance group, we could not meet assumptions for either linear models or Poisson GLMs due to overdispersion in our data. Thus we fitted models using negative binomial GLMs to account for the non-normal distribution of the residuals of fitted models (*MASS* package; Venables and Ripley 2002). We checked for overdispersion and the overall fit of the negative binomial models using chi-square (χ^2) goodness-of-fit tests, which revealed adequate fits. We fitted the models with a quadratic term when initial visualizations of model fit indicated hump-shaped patterns. To evaluate the fit of the models within each set relative to one another, we used a model-selection framework, with models having ΔAIC values <2 indicating substantial support (Burnham and Anderson 2002).

To quantify the within-group relationships, we fit a similar set of models where we included the interaction term between a predictor variable, a response variable, and the AB, CD, and non-graded zones as groups. The purpose of the within-group analysis was to understand whether relationships were similar between a predictor and response variable (similar slopes) among the 3 groups. If we detected similar slopes, especially between CD and non-graded zones, this would provide support that the CD and non-graded zones yielded similar data, and thus fail to provide support for legacy-effect patterns concerning redlining. In visual inspections of our within-group data, there were no instances that suggested quadratic fits or the application of GLMs. Similar to the among-group analysis, we assessed all assumptions for each model.

Objective No. 3: Predictions of Bird Abundance Throughout Greater Los Angeles

To address our third objective of comparing patterns of bird abundance from HOLC-graded and non-graded zones, we created spatial predictions of bird abundances for the forest- and synanthropic-bird groups. We focused on abundance patterns as they were similar yet stronger than richness patterns (see results). Forest-bird abundance was correlated with the natural lands ($r = 0.95$), shrub ($r = 0.66$), and migratory-bird group abundances ($r = 0.92$, all $P < 0.01$). Synanthropic-bird abundance was correlated with exotic ($r = 0.70$) and resident-bird abundances ($r = 0.70$, both $P < 0.01$).

To create the spatial predictions, we developed area-weighted averages of the land value and tree cover of all parcels within a 200-m buffer centered on the centroid of each parcel, assigning the average values to the center parcel (n = 1,377,068 parcels). We focused on the parcel land-value data because this variable directly measured the luxury effect and

possible disparities in affluence among HOLC-graded zones. Furthermore, parcel land value was the top predictor for the forest-bird guild and highly correlated with the top variable for the synanthropic-bird group, which was parcel square footage ($\rho = 0.82$, $P < 0.01$) (see results). We also included the percent tree cover because this is a common variable of focus in other redlining and urban vegetation studies (Locke et al. 2021, Nowak et al. 2022). We used the 200-m buffers of each parcel because our bird surveys encompassed four sample points with 100-m radius circles, which cover an area of $A = 125{,}664$ m^2. The area of a 200-m radius circle is identical ($A = 125{,}664$ m^2), thus providing an appropriate match for our spatial predictions given our field sampling design. Our approach was similar to a moving window analysis in smoothing unusually high or low parcel values within the dataset while quantifying the average land and tree cover values within residential zones of L.A. We then created a prediction for forest- and synanthropic-bird abundances for every parcel, using the coefficients from a multiple linear regression model including both land value and percent tree cover as predictor variables regressed against forest- or synanthropic-bird abundance, and wrote the outputs of each model prediction for every parcel to a shapefile for analyses. Tree-canopy cover and land value were moderately correlated ($r = 0.54$, $P < 0.01$). However, we included both in the multiple regression given the substantial amount of variation that was uncharacterized. For the forest-bird abundance model, the adjusted R^2 was 0.72, $P < 0.01$, and for the synanthropic-bird abundance model, the adjusted R^2 was 0.56, $P < 0.01$. We completed all spatial data processing steps using the *sf* package in R (Pebesma 2018).

Following the creation of the spatial predictions, we quantified the average predicted abundances of each bird group within graded zones of the redlining practice (A, B, C, and D), as well as high-, medium-, and low-income areas of non-graded zones. We used census tracts based on the 2000 census boundaries (see methods, Race and ethnicity data) to delineate a spatial reference boundary for the high-, medium-, and low-income non-graded areas. We then quantified the average land value of all parcels within census tracts that were not part of the HOLC grading criteria and then calculated the lower, middle, and upper 33% of the parcel land value. We then performed ANOVA analyses of the average predicted bird abundances among the HOLC grading criteria as well as high-, medium-, and low-income non-graded zones. The purpose of this analysis was to understand whether HOLC-graded zones across L.A. consistently harbored distinct avian communities and whether potential patterns were similar to non-graded high- and low-income areas of the city. This analysis is in line with objective no. 1 and and our expectations regarding the luxury- and legacy-effect hypotheses but is designed to assess the influence of redlining across the entirety of L.A.

To validate our predictive maps, we used the testing dataset (see avian counts) (Guisan and Zimmermann 2000). At each of the $n = 88$ sample points, we calculated the abundance of forest and synanthropic birds following identical methods to the training dataset. We then aggregated these data (summed abundances) within each cluster for a sample size of 22. We then extracted the predicted forest- and synanthropic-bird abundances based on the spatial models at all 88 sample-point locations and averaged the predicted values within clusters. While it is customary to use testing data that are spatially distinct from training data, our approach provided a measure of the model error, across seasons, and thus an adequate validation of the predictive maps. We completed 2 analyses comparing predictions to the abundance estimates from the testing data. First, we calculated a chi-square analysis, comparing observed and predicted data (Guisan and Zimmermann 2000). Second, we fitted Pearson's correlations of observed and predicted data (Guisan and Zimmermann 2000). For the chi-square analysis, a P-value of >0.05 would indicate that the expected outcome of the observed and predicted data were similar providing support for the model predictions. Further, if we noticed significant correlations with a similar positive slope between observed and predicted data, we assumed that the spatial predictions adequately characterized bird abundance patterns (Guisan and Zimmermann 2000).

Objective No. 4: Human Population Patterns of Race and Ethnicity in Relation to HOLC Grading

To address our fourth objective of understanding how race and ethnicity have shifted among HOLC-graded zones and non-graded areas since the 1940s, just after the HOLC practice went into effect in L.A., to 2020, we completed 2 analyses. First, we used linear mixed models to quantify the shift in the proportion of the Black, Hispanic, or White populations in the HOLC-graded and non-graded zones. We fitted the linear mixed models, with year as an ordinal fixed factor, the percentage of a racial or ethnic group within a census tract as a continuous response variable, and the census tract number as a random effect, which allowed for a random shift in the intercept based on the repeated sampling at a census tract across years. To align census tract boundaries with HOLC-graded zones, we used an intersect of the 2000 census tract boundaries with the HOLC boundaries. Our resolution for analyses related to objectives nos. 4 and 5 was the census-tract boundary; thus if there were multiple HOLC-graded polygons within a given census tract, we assigned a HOLC grade based on the security-risk map category covering the most area within a census tract boundary. To compare pairwise differences in the percentage of the population that was a given race or ethnicity between decadal time steps, in a forward direction (e.g., 1940 to 1950, etc.), we computed the least-squares means of the percentage data based on the estimates from the linear mixed model analysis, and subsequently computed a Tukey–Kramer test. We fitted the mixed models and the P-values using the *lmer* and *lmerTest* packages (Bates et al. 2015, Kuznetsova et al. 2017), and the least-squares means and Tukey–Kramer test using *lsmeans* (Lenth 2016).

Second, we fitted ANOVA models to compare differences in the mean percentage of a racial or ethnic group within HOLC categories and non-graded zones based on 2020 census data. If ANOVA models were significant, we fitted a Tukey–Kramer test to quantify pairwise comparisons of race and ethnicity among HOLC and non-graded zones. We checked all assumptions for fitted models, which indicated parametric models were appropriate. Our intention with this analysis was to understand which segments of the human population currently reside in HOLC and non-graded zones. As we made nine pairwise comparisons in the Tukey–Kramer analysis, we used a Bonferroni adjusted P-value of 0.05/9 = 0.006 to assess significance.

Objective No. 5: Relationships Between Race and Ethnicity and Urban Avifauna

To address our fifth objective, in which we sought to test the relationship between the current racial and ethnic make-up of L.A. and the patterns of avifauna and residential housing and habitat features, we completed 2 analyses. First, we compared patterns of parcel land values, tree canopy cover, and forest- and synanthropic-bird abundance among racial and ethnic groups. Because many census tracts in L.A. are composed of a highly diverse human population, we computed the majority of a racial or ethnic group within each census tract (>55% of the population) and assigned whichever race or ethnic group was the majority to that census tract. If there was no majority >55% in a census tract, we omitted that census tract from this analysis. We then used ANOVA and Tukey–Kramer analyses, to test for patterns in the means and variances of the predictor variables among racial and ethnic groups within the categorized census tracts.

Second, we fitted negative binomial GLMs including the predictor variables of the percentage of the Asian, Black, Hispanic, or White population in a census tract from the 2020 census data regressed against the response variables of predicted forest- or synanthropic-bird abundance (average values within census tracts). Like our objective two regression analysis, we completed this analysis both among- and within-HOLC categories. For the within-HOLC category analysis, many of the fitted relationships required quadratic terms. Thus, due to complications with fitting interactions with quadratic functions, we omitted this approach from our analysis and instead simply explored general similarities in the slopes and model fits within the HOLC categories for each racial or ethnic group. For both among and within HOLC-category analyses, we checked for overdispersion between fitted Poisson and negative binomial regression models and chose the latter which was appropriate for our dataset. We calculated R^2 values using the Kullback–Leibler-divergence-based R^2_{kl} values, which were generated from calculating the likelihood ratio index of fitted models (Cameron and Windmeijer 1997). Further, if there were apparent hump-shaped effects in the among-group models from initial inspections of scatterplots, we fitted models including a quadratic term.

RESULTS

Objective No. 1: Patterns of Residential Housing Variables, Urban Habitat, and Avifauna

The residential housing and habitat variables associated with income and greenness were strongly skewed towards the AB zones (Figure 2). Outside of building density, which was significantly greater in CD than in AB zones, the land value, the last sale price, the number of bedrooms and bathrooms, and the square footage of parcels were all roughly two times greater in AB than in CD zones (Table 1, Figure 2A and B). Like the bird-response data, the non-graded zones were generally similar to the CD zones, indicating in some cases that patterns associated with contemporary income levels can resemble those from the HOLC-graded zones. The notable exception was the square footage of homes, which was 22% smaller in CD zones than in non-graded zones indicating that newer developments on the lower-income side were larger, whereas parcels in CD zones were the smallest in all of L.A.

Distance variables to the green habitat features, including natural areas and wildlife sanctuaries, ecological sites, regional parks and gardens, golf courses, cemeteries, and beaches and marinas were not significant among zones. However, the percentage of tree cover was significantly greater in AB than in CD and non-graded zones (30% greater; Table 1, Figure 2C); whereas the cover of impervious surfaces, buildings, and pavement was upwards of 30% greater in CD and non-graded zones (Table 1, Figure 2D). Street-tree variables trended towards higher values in AB zones (upwards of 24% greater) (Table 1).

Forest, shrub, natural lands, and migratory birds trended towards greater abundance in AB than in CD or non-graded zones (Table 1, Figure 2E, Supplementary Material Table 3). Forest birds were upwards of 24% more abundant in AB zones; whereas migratory birds were 17% more abundant, followed by natural lands (15%) and shrub birds (8%) (Table 1). Compared with AB zones, the most abundant birds in the CD and non-graded zones were synanthropic (upwards of 22% greater abundance), exotic (38%), and resident (11%) species (Table 1, Figure 2F). Importantly, we detected greater effect sizes for synanthropic and exotic birds in CD than in non-graded zones when compared with AB zones (Table 1, Figure 2F).

Bird richness patterns somewhat mirrored abundance patterns with a few notable exceptions (Table 1). The richness of synanthropic birds was similar across AB, CD, and non-graded zones, suggesting that L.A. can generally be characterized by a similar synanthropic bird community throughout, though with highly variable abundance patterns depending on location in the city. Importantly, however, the richness of natural-lands birds was greater in AB zones, suggesting these residential communities provide amenities that attract species affiliated with natural ecosystems (Table 1).

Bird composition was significantly dissimilar among AB, CD, and non-graded zones (ANOSIM R = 0.14, P < 0.01). This pattern was primarily driven by more substantial dissimilarities in the bird community between AB and CD zones (ANOSIM R = 0.26, P < 0.01), followed by a weaker dissimilarity of avifauna between AB and non-graded zones (ANOSIM R = 0.09, P = 0.10). Avian communities were similar between CD and non-graded zones (ANOSIM R = 0.04, P = 0.21), whereas predictor variables were similar across AB, CD, and non-graded zones (ANOSIM R = 0.04, P = 0.18). The mean ranked within-group dissimilarity was greatest in AB zones (337) and was 1.9 times greater than in CD (179.5) and 2.4 greater in non-graded zones (139.5) (Figure 3). The greater within-group dissimilarity for survey locations within the AB zones suggested a broader composition of bird species among the AB residential communities. The CD and non-graded zones were often in valley locations that have been heavily developed, and therefore, potentially harbor a narrower range of species acclimated to the dense urban areas.

The NMDS analysis revealed important distinctions in residential housing and habitat variables and avian communities among HOLC-graded and non-graded zones (Figure 3). Overall, axis 1 characterized a gradient of affluence. The affluence gradient was positively associated with AB zones and negatively with CD and non-graded low-income zones. Bird species aligned predictably with this gradient, with forest and shrubland species, positively associated with AB zones and likely attracted to the larger lot sizes and denser green

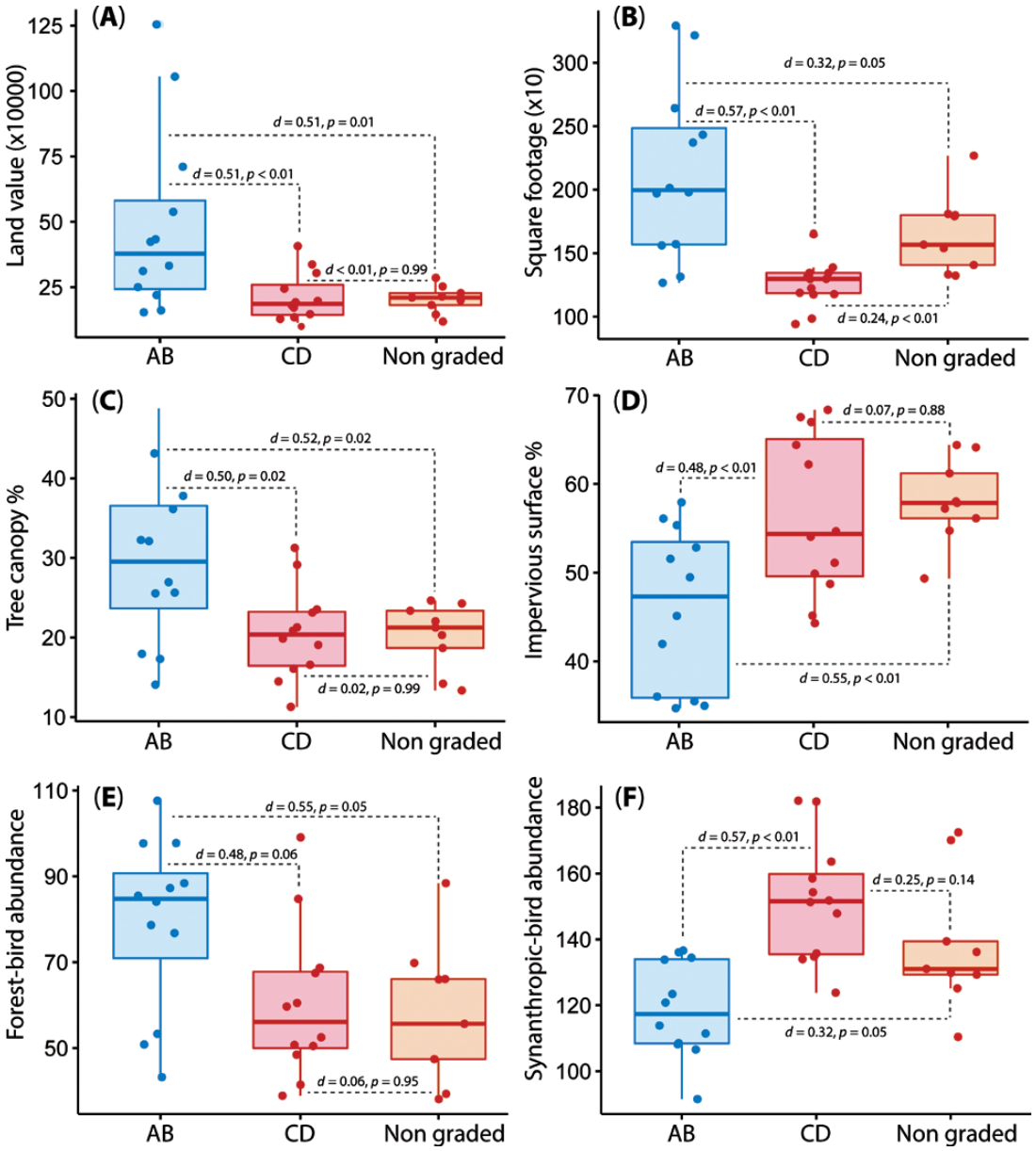

FIGURE 2. HOLC-graded AB zones (best and still desirable) contained a higher abundance of (**A**) forest birds, a lower abundance of (**B**) synanthropic birds, greater (**C**) land values, larger (**D**) parcels (square footage), higher (**E**) tree canopy cover, and lower (**F**) impervious surface cover than HOLC-graded CD (definitely declining and hazardous) and lower-income non-graded zones. These data are from field-collection (bird) and remote sensing efforts (residential housing and habitat cover variables) at 33 residential community locations within the HOLC-graded and non-graded zones throughout L.A. The *d* scores are Cohen's *d* values and are a measure of effect size. Values further from zero indicate an increasing effect. The *P*-values were computed based on a Tukey's post hoc test following a significant one-way analysis of variance test.

cover—both in street trees and yard vegetation. On the other hand, synanthropic species were affiliated with dense urban conditions (i.e., the CD zones and ungraded low-income zones; Figure 3). There were fewer notable patterns with axis 2, which somewhat characterized a gradient of affluence as well as geographic position in the city (Figure 3)

Objective No. 2: Relationships Between Residential Housing and Habitat Variables and Avifauna

The top-fitting model for explaining patterns of bird abundance among HOLC categories was overwhelmingly parcel land value, which was the top model in 5 of the 7 model sets Supplementary Material Table 4). Parcel land value was strongly and positively related to the abundance of forest, shrub, natural lands, and migratory birds, and negatively with synanthropic and exotic birds (Figure 4A and B), explaining upwards of 70% of the variability in bird abundance (Figure 5A–D). The only bird groups where land value was not the top-performing variable were synanthropic and resident birds, where the parcel square footage was the top explanatory variable (Figure 5A–D, Supplementary Material Table 4). Other important predictor variables that were related to bird response groups were the square footage of parcels, tree-canopy cover, distance to golf courses, and street-tree importance values (Figures 4C–H and 5B,C). All were correlated with parcel-land values (Supplementary Material Figure 2).

TABLE 1. Mean ± SE summaries of 20 predictor variables associated with residential housing, habitat cover, street-tree metrics, or distance measures and the abundance and richness of birds within 33 residential communities throughout Los Angeles.

	AB			CD			Non-graded		
Residential housing variables									
Building density	130	±	6.46	155	±	6	141	±	8.3
Year built	1935^{A}	±	1.32	1938^{A}	±	2.2	1958^{B}	±	1.2
Land value, $	487K^{A}	±	61K	213K^{B}	±	15K	204K^{B}	±	9K
Last sale price, $	1,765K	±	3,405K	1,434K	±	3,158K	134K	±	40K
Bedrooms and bathrooms	5.67^{A}	±	0.21	4.2^{B}	±	0.1	5.65^{A}	±	0.1
Square footage	2163^{A}	±	118.02	1279^{B}	±	28.2	1648^{A}	±	52.8
Cover variables									
Tree canopy cover, %	29.8^{A}	±	1.85	20.5^{B}	±	0.9	20.20^{B}	±	0.7
Grass cover, %	23.3	±	0.77	21.7	±	0.8	19.7	±	0.8
Impervious cover, %	46^{A}	±	1.57	56.4^{B}	±	1.5	58.10^{B}	±	0.8
Building cover, %	31.5^{A}	±	0.84	36.5^{B}	±	0.8	36.30^{AB}	±	0.5
Paved surface, %	14.2^{A}	±	0.92	19.8^{AB}	±	1.1	21.80^{BC}	±	0.6
Street trees									
Street-tree density	3.2	±	0.23	2.4	±	0.2	1.98	±	0.1
Street-tree dominance	3.3	±	0.35	2.5	±	0.3	1.84	±	0.1
Street-tree importance value	3.3	±	0.26	2.5	±	0.2	1.91	±	0.1
Distance (km)									
Natural areas and wildlife sanctuaries	1.7	±	0.2	2	±	0.2	1.9	±	0.3
Ecological sites	3.7	±	0.4	5.4	±	0.8	4.8	±	0.7
Regional parks and gardens	0.7	±	0.1	0.7	±	0.1	0.8	±	0.1
Golf courses	1.6	±	0.2	2.5	±	0.2	2.7	±	0.4
Cemeteries	2.7	±	0.2	2.4	±	0.2	4.1	±	0.4
Beaches and marinas	28.1	±	2.4	19.6	±	2.2	25.5	±	1.9
Bird abundance									
Forest abundance	79.3^{A}	±	3.5	60^{BC}	±	3.1	58.5^{C}	±	2.8
Shrub abundance	90.5	±	2.2	83.5	±	3.4	85.9	±	1.9
Natural-lands abundance	170	±	5.3	144	±	6.1	144	±	4.6
Synanthrope abundance	119^{A}	±	2.5	152^{B}	±	3.2	138^{AB}	±	3.6
Exotic abundance	36.7^{A}	±	1.9	60.5^{B}	±	3.6	47.4^{A}	±	3.4
Migratory abundance	84.1	±	2.9	70	±	2.9	71.9	±	2.6
Resident abundance	190^{A}	±	2.2	214^{B}	±	2.4	198^{AB}	±	2.2
Bird richness									
Cumulative richness	20.2	±	0.6	20.5	±	0.5	21.4	±	0.8
Forest richness	7.9^{A}	±	0.3	5.6^{AB}	±	0.4	5.3^{B}	±	0.4
Shrub richness	4.4^{A}	±	0.2	3.3^{B}	±	0.2	3.4^{AB}	±	0.2
Natural-lands richness	10.8^{A}	±	0.3	7.9^{B}	±	0.5	7.6^{B}	±	0.4
Synanthrope richness	9.4	±	0.3	10.1	±	0.2	9.7	±	0.2
Exotic richness	2.6	±	0.2	2.6	±	0.2	2.3	±	0.2
Migratory richness	5.3^{A}	±	0.2	4.1^{AB}	±	0.3	3.8^{B}	±	0.2
Resident richness	15.5	±	0.3	14.8	±	0.3	14.2	±	0.2

(1) The HOLC group AB is a combination of "best," HOLC grade = A and "still desirable" HOLC grade = B zones. The CD group is a combination of "definitely declining," HOLC grade = C, and red, HOLC grade = D zones. The non-graded zones are sections of L.A. that were not subjected to the HOLC grading system.

(2) Variables with the same superscript letter do not differ significantly among groups (AB = best and still desirable; CD = definitely declining and hazardous) and non-graded zones) based on a one-way ANOVA with Tukey–Kramer test, or Kruskal–Wallis test with nonparametric multiple comparisons procedure, with Bonferroni adjusted *P*-value: 0.05/3 = 0.02.

(3) Birds were grouped by whether they are associated with forest and woodland (forest), shrub, urban (synanthrope), or natural lands (forest and shrub combined) during the breeding period, whether they are non-native in their geographic origin to our Southern California study area (exotic), or whether they are nonbreeding migratory birds (migratory) or resident breeders to the L.A. study area (see Supplementary Material Table 2 for further details).

The within-group regression analyses revealed important relationships between predictor and response variables (Supplementary Material Appendix 1). In general, slopes were similar within groups for the distance and street-tree variables explaining patterns of bird abundance, which mirrored patterns from the among-group analysis. Concerning the parcel land value, the slopes for AB and CD zones were also similar for the abundance of most bird response groups (Figure 6A). Notably, for the relationships between parcel land value and synanthropic-bird abundance, there was a significant interaction between non-graded zones and AB and CD zones. The slope for the non-graded zones dropped off steeply compared

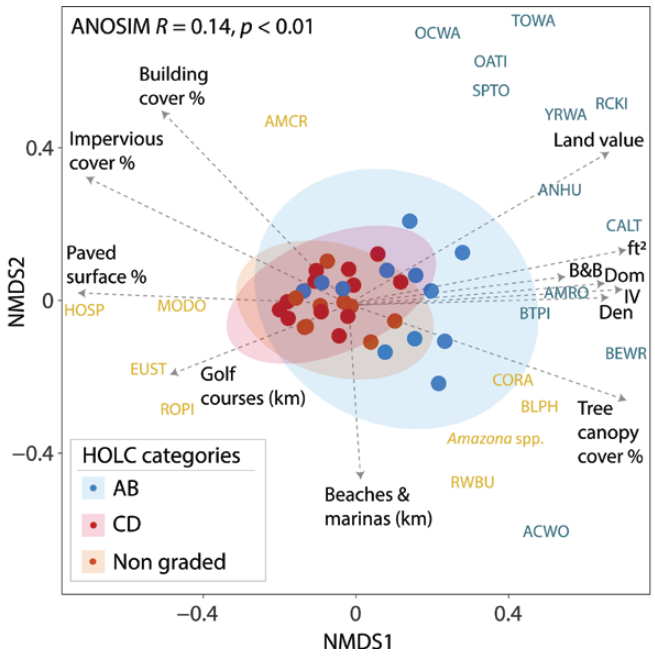

FIGURE 3. Two-dimensional non-metric, multidimensional scaling ordination (NMDS) indicating the shifts in avian species composition (*N*-mixture estimated or raw abundance per species) among HOLC and non-graded zones within 33 residential communities across L.A. Avian communities in HOLC-graded AB zones (best and still desirable) were composed of a higher abundance of forest birds (teal font) and were distinct from CD (definitely declining and hazardous) and non-graded zones, which were generally characterized by synanthropic bird species (yellow font). The ellipses are the bivariate confidence interval assuming a student's *t*-distribution and indicate the potential composition of the avian community within a HOLC-graded or non-graded zone. The dotted lines represented vectors of environmental variables that were significantly associated with the ordination scores. The four-letter codes are the plotted Bray-Curtis dissimilarity of 21 avian species and one family group (see Supplementary Table 2) that were significantly correlated with axes one or two scores. Their placement from the center node indicates the strength of association with a given axis. Vector abbreviations are as follows: ft² = Square footage, B&B = Bedrooms & bathrooms, Dom = Street-tree relative dominance, Den = Street-tree relative density, IV = Street-tree importance value.

with the other zones, indicating that CD zones, in particular, harbor a higher abundance of synanthropic species at higher land values (Figure 6B). Other notable patterns included the interacting slopes between AB, CD, and non-graded zones for the year a parcel was built and forest and synanthropic bird abundance (Figure 6C and D). For forest, shrub, natural lands, migratory and resident birds, data from non-graded zones showed consistent positive slopes that trended toward significant interactions compared with negative or flat slopes for AB or CD zones—with the opposite pattern for synanthropic birds (Figure 6C and D). These findings suggest that newer developments, which were all low-income in our analysis, were constructed in a way that supported a higher abundance of forest birds, and a lower abundance of synanthropic birds compared with CD zones.

Overall, both the among and within-group differences among predictor variables (residential housing and habitat variables), bird-group richness response variables, and HOLC categories were generally similar, though weaker than the abundance results (Supplementary Material Table 5). Of note, street-tree importance was the strongest predictor of the richness of shrub, natural lands, migratory, and resident birds either among or within HOLC categories (Supplementary Material Appendix 1 and Table 5).

Objective No. 3: Predictions of Bird Abundance throughout Greater Los Angeles

There were substantial differences in tree canopy cover, parcel land values, and the predicted forest- and synanthropic-bird abundances throughout L.A. (Figure 7A–D). The spatial patterns of avifaunal abundance were opposite, similar to patterns from the objective 2 analyses.

There was a significant trend from high to low predicted forest-bird abundance among A, B, C, and D zones, with the opposite patterns uncovered for synanthropic birds (Figure 8A and C). In non-graded zones of the city, there was a general alignment where high-income areas of L.A. had a significantly higher abundance of forest birds than low-income areas, with the opposite pattern for synanthropic birds (Figure 8B and D). The differences in the means between predicted forest bird abundance in A and D zones were 36.47 birds per 200 m radius (from the prediction data) and between high- and low-income areas of L.A. that were non-graded was 32.83 (10% difference). The differences in the means for synanthropic birds were similar. However, the effect sizes were stronger between A and D zones (Cohen's $d = 0.27$) than in high and low-income areas (Cohen's $d = 0.09$) (Figure 8A and B). We note that the differences in sample sizes likely influenced the effect-size calculations, and thus, we stress focusing on the differences in the means among groups. The differences in the means appear to be driven by the A zones, which harbor more forest birds than other zones of the city with a mean predicted abundance of 94 compared with 77 in high-income non-graded zones (18% difference). On the other hand, low-income, non-graded zones appear to have the lowest predicted forest bird abundance (mean of 44 compared with 58 in redlined zones, 24% difference). The mean predicted synanthropic-bird abundance in A and D zones (110 and 145, respectively, 24% difference), was similar to the difference in the means between high- and low-income areas in the non-graded zones (125 and 161, respectively, 22% difference; Figure 8C and D).

Objective No. 4: Patterns of Race and Ethnicity in HOLC Grades

The distribution of race and ethnicity throughout L.A. was highly variable, yet also generally spatially segregated (Figure 9). The highest percentage of the Asian population was in the San Gabriel Valley, and east L.A. County, with pockets along the southeastern border with Orange County and the Palos Verdes Peninsula (Figure 9A). The highest percentage of the Black population was along a corridor that extended from the interior of west L.A. southeast into South L.A. (Figure 9B). The highest percentage of the Hispanic population was throughout downtown and South L.A., East L.A., the eastern San Gabriel, and Pomona Valleys, and the central and northeastern portion of the San Fernando Valley (Figure 9C). The highest percentage of the White population ranged from the Palos Verdes Peninsula, north along the Pacific Coast and into the Santa Monica Mountains, the border of Orange County, and the foothills of the San Gabriel Mountains (Figure 9D).

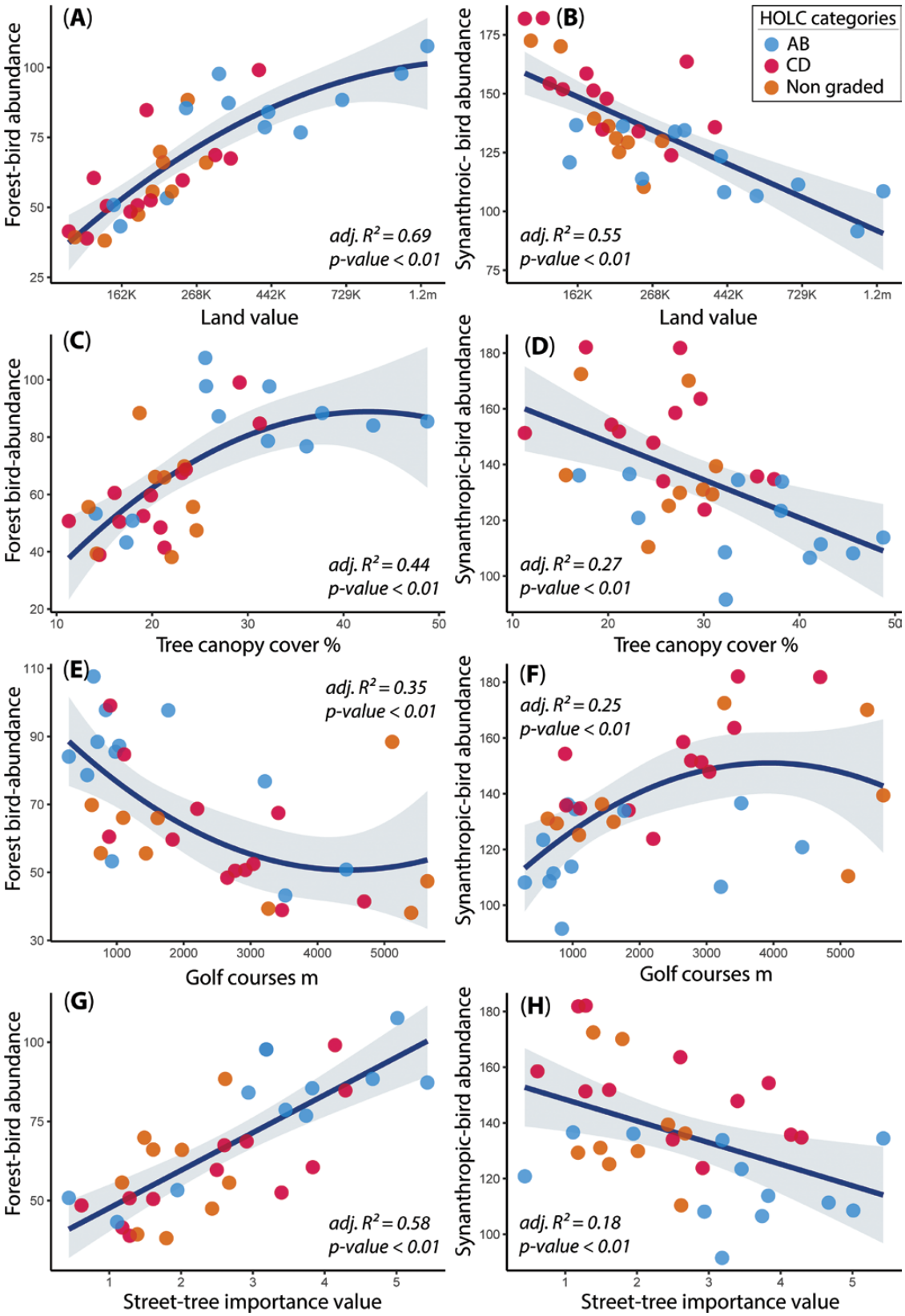

FIGURE 4. Scatterplots characterizing the positive relationship between (**A**) forest-bird abundance and the negative relationship for (**B**) synanthropic-bird abundance with parcel land values and the variable relationships between (**C–H**) habitat variables with bird response variables among HOLC-graded zones (AB = best and still desirable; CD = definitely declining and hazardous) and non-graded areas. The negative slope for (**E**) forest birds with distance to golf courses indicates a higher abundance of forest birds the closer to a golf course, with opposite patterns for (**F**) synanthropic species. The associated adjusted R^2 and *p*-values for each relationship were based on a least-squares regression analysis.

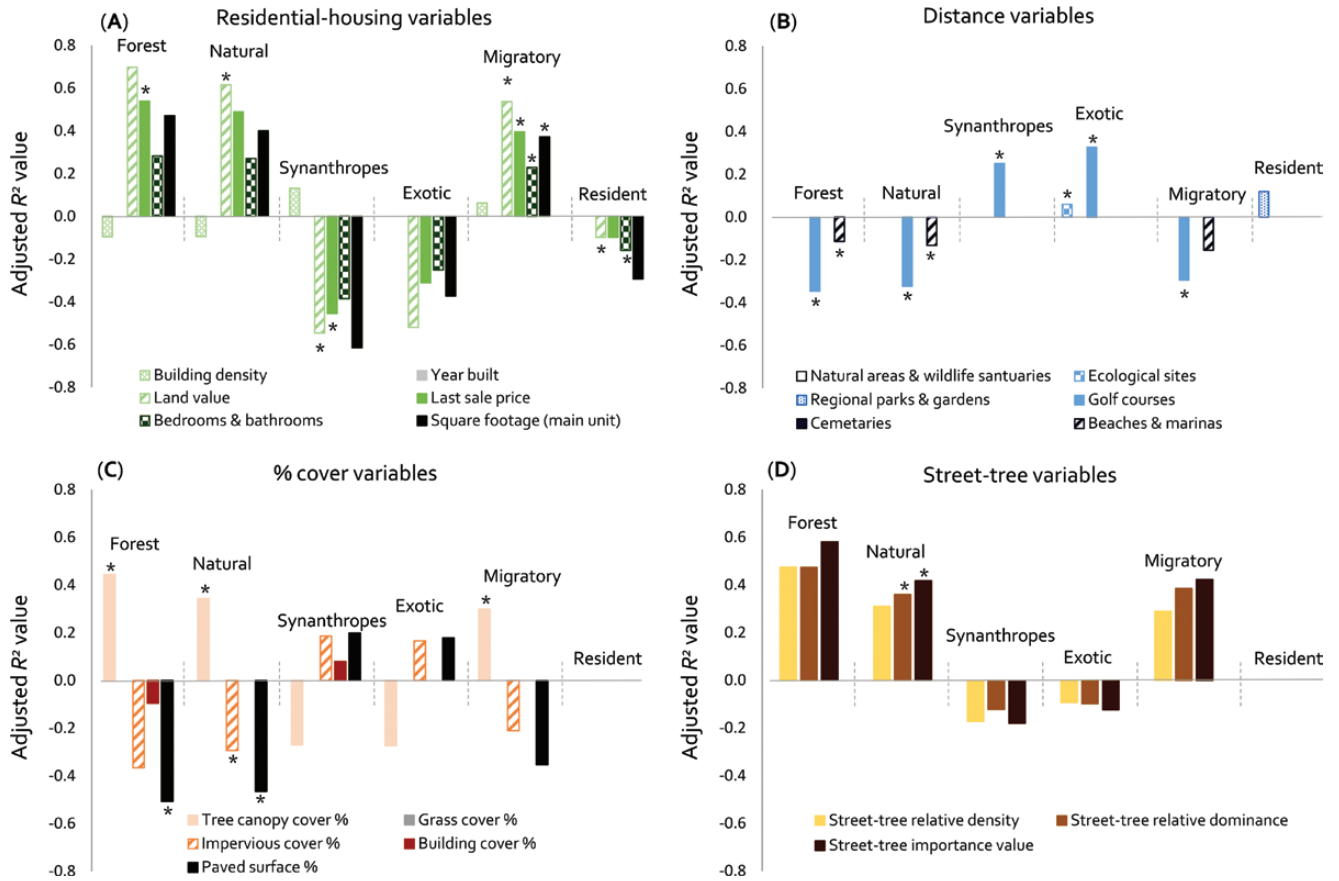

FIGURE 5. Forest, natural lands (natural), and migratory birds were generally positively related (bars above zero line) with (**A**) parcel land values and larger parcels, (**B**) distance to golf courses and beaches and marinas (negative relationships, which equates to a closer distance), (**C**) tree canopy cover, and a well-developed (**D**) street tree canopy. The relationships were opposite for synanthropes and exotic bird species, with resident bird species responding less to the residential housing, distance, cover, and street-tree variables. The bars were derived from the adjusted R^2 values from least-squares regression models. Bars are displayed in either a positive or negative direction depending on the coefficient estimate from the model. Asterisks (*) indicate models are fitted with a quadratic function in which we only display the initial direction of the quadratic shape. If a bird group does not contain bars for a particular variable, models were not significant.

The race and ethnicity patterns of L.A. have shifted markedly from 1940 to 2020 (Figure 10A-E, Supplementary Material Appendix 2). The White share of the population has declined precipitously throughout our L.A. study area from composing 94% of the population in 1940 to 25% of the population in 2020. The Black share of the population generally increased from 1940 to 1990, from 1% to 10% of the population but declined to 7% in 2020. The Hispanic population has had the most dramatic increase in the region from composing 2% of the population in 1940 to 45% in 2000 but has since declined to 35% of the total in our study area in 2020 (Figure 10). Patterns were generally similar among HOLC and non-graded zones, with the most muted shifts in A zones (Figure 10A).

Percentages of the Asian and Black populations were generally similar across A, B, C, D, and non-graded zones (Figure 11A and B). A notable deviation was for the Black population between A (median of 2.1% of the population was Black) and D (3.3%) zones, which trended towards a significant difference ($P = 0.02$). The Hispanic population was greater in C (36.3%) and D (58.7%) zones compared with A (6.8%), B (17.8%), and non-graded zones (25.2%) (Figure 11C). Of note, there was nearly 9 times the Hispanic population in D than in A zones (Figure 11C). All other comparisons for the Hispanic population among HOLC and non-graded categories were strongly and significantly different ($P < 0.01$). The White population was more likely to live in A-graded zones (48.8%) than in B (14.3%), C (7.6%), D (4.1%), or non-graded zones (14.6%) (Figure 11D). The percentage of the White population was 12 times greater in A- than in D-graded zones, and all pairwise comparisons for the White population among zones were strongly significantly different ($P < 0.01$).

Objective No. 5: Relationships Between Race and Ethnicity and Urban Avifauna

We detected substantial differences in the patterns of parcel land values, tree canopy cover, and predicted forest- and synanthropic-bird abundances among racial and ethnic groups (Figure 12A–D). Census tracts that were majority White were associated with the most expensive land values, greater tree canopy cover, the highest abundance of predicted forest birds, and the lowest predicted synanthropic-bird abundance (Figure 12A–D). The patterns for predictor variables were similar for the Asian population—although they were more muted and significantly lower from patterns in the majority White census tracts—ranging from a low of 26% in difference (tree-canopy cover) to 60% in difference (back-transformed scale) for land value. Patterns for census tracts

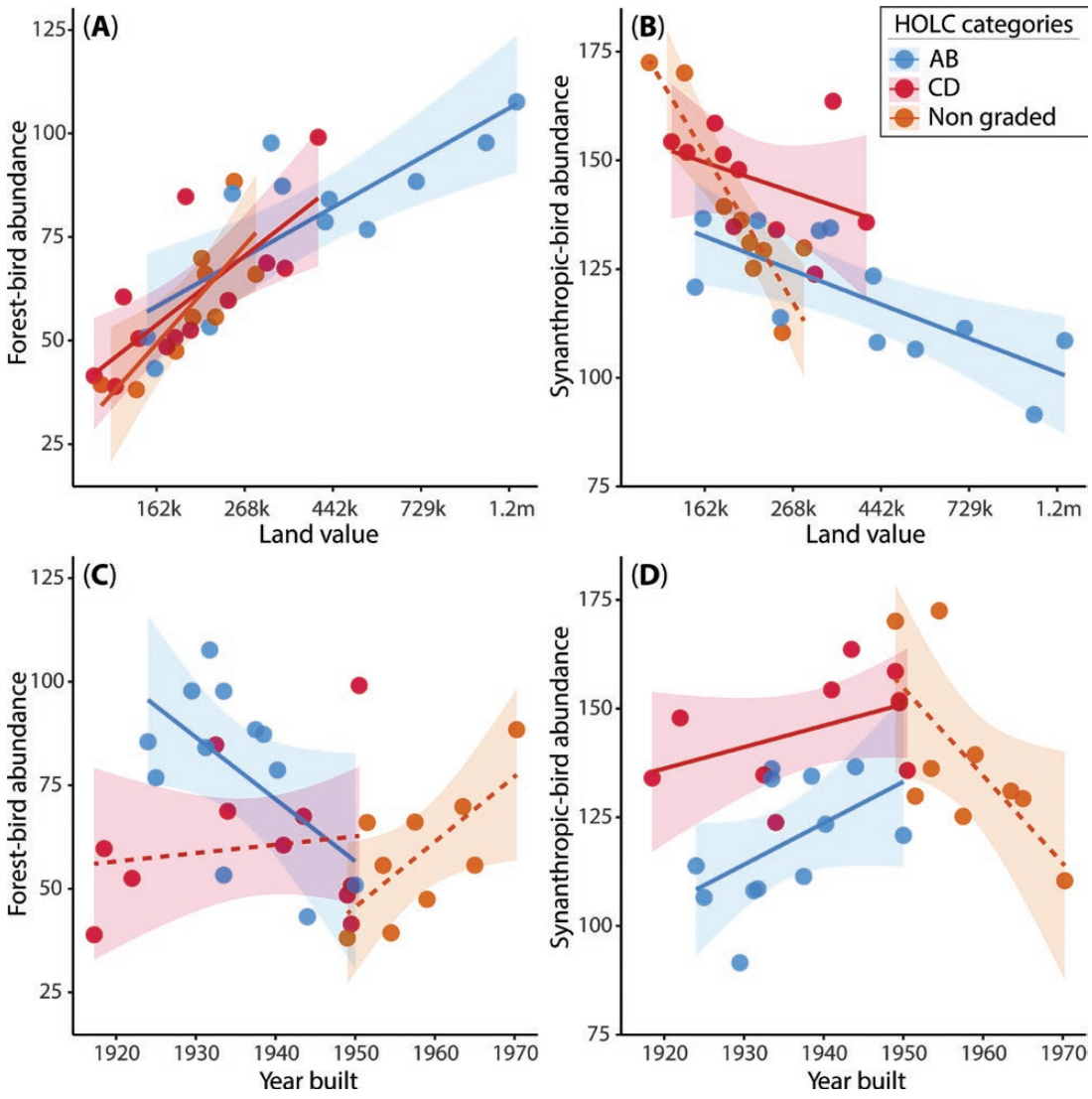

FIGURE 6. Relationships between (**A**) forest-bird abundance and parcel land values were consistent within HOLC-graded zones (AB = best and still desirable; CD = definitely declining and hazardous) and non-graded zones. (**B**) Synanthropic-bird abundance dropped considerably in non-graded zones in relation to parcel land values in comparison with AB and CD zones. (**C**) Forest-bird abundance was highest in AB zones with parcels developed in the 1920s and 1930s and dropped considerably based on housing age—with opposing patterns for forest birds in CD and non-graded zones. The response of (**D**) synanthropic bird species was generally opposite to the patterns for forest-bird abundance. The fitted lines were computed based on a least-square regression analysis. Dotted lines within a scatterplot indicated a significant interaction with a variable with a solid line(s).

where most residents were either Black or Hispanic were strongly different than majority White census tracts (Figure 12A–D). Census tracts where the majority of residents were Black had the lowest tree canopy coverage, the lowest parcel land values, the lowest abundance of forest birds, and the highest abundance of synanthropic bird species (Figure 12A–D). The Cohen's *d* value for tree canopy cover between majority Black and majority White census tracts was 0.16, which was the greatest effect size of all comparisons. Census tracts that were majority Hispanic also had relatively low land values, lower levels of forest-bird abundance, and higher levels of synanthropic-bird abundance (Figure 12A–D). Notably, data within census tracts that were majority Hispanic had a larger variance than majority Black census tracts for each assessed metric indicating a more substantial range between poor and rich majority-Hispanic communities including the amenities that are typically affiliated with income gradients in cities (e.g., tree canopy cover, Figure 12A–D). Outside of tree canopy cover, the effect sizes between majority Black and Hispanic census tracts compared with majority White census tracts for parcel land values, and forest- and synanthropic-bird abundance were generally similar with Cohen's *d* values ranging from 0.10 to 0.11.

For the among-HOLC category regressions concerning race and ethnicity and birds, there were weak associations between the Asian and Black populations with patterns of predicted forest bird and synanthropic-bird abundance (Figure 13A–D; for a colorblind-friendly version of Figure 13, please view Supplementary Material Figure 4). The Hispanic population was negatively related to predicted forest-bird abundance (R^2_{kl} = 0.38, P < 0.01), and positively to synanthropic-bird abundance (R^2_{kl} = 0.33, P < 0.01) (Figure 13E and F). The White population had opposite patterns to the Hispanic population with a positive relationship with forest bird abundance

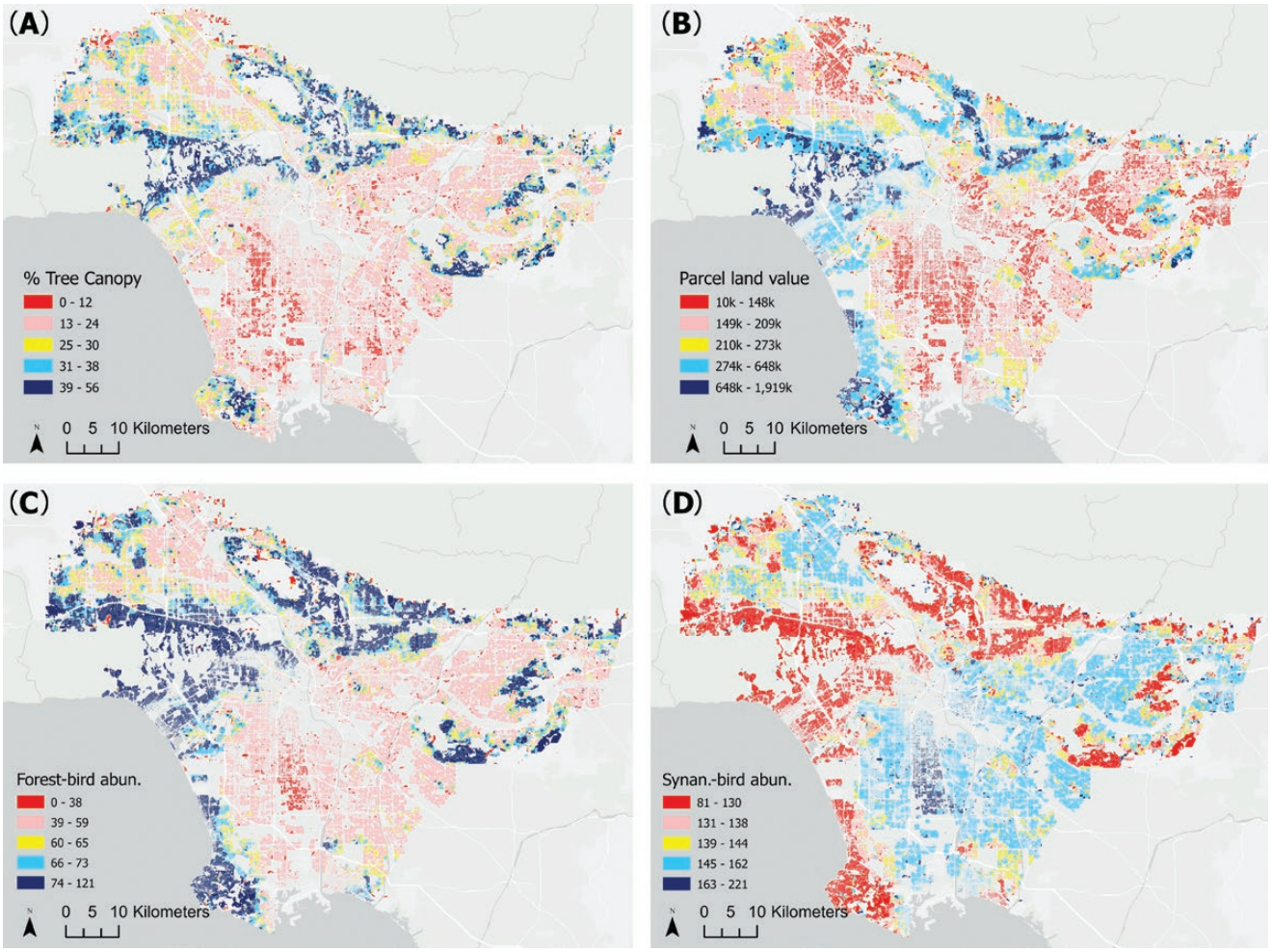

FIGURE 7. Maps characterizing the strong spatial variability in (**A**) percent tree canopy cover, (**B**) parcel land values, and predicted (**C**) forest- and (**D**) synanthropic-bird abundance across our L.A. study area. The predicted forest- and synanthropic-bird abundance maps were derived from the coefficients of a multiple linear regression model, that included both (**A**) and (**B**).

(R^2_{kl} = 0.41, P < 0.01) and a negative relationship with synanthropic bird abundance (R^2_{kl} = 0.37, P < 0.01; Figure 13G and H).

Interestingly, the within-HOLC category regressions concerning race and ethnicity and birds generally showed nearly the same relationships as the among-group results (Supplementary Material Appendix 3). Regardless of whether in an A- or D-graded zone, the percentage of the White population generally had a positive relationship with forest birds and a negative relationship with synanthropic birds, with the opposite patterns for Hispanic residents.

DISCUSSION

Our analysis provided substantial evidence that redlining is negatively associated with urban avifauna, their habitat, and the people who may experience them in L.A. Further, and expectedly, our results suggested that other zones of L.A. that were not part of the HOLC grading process but fall on the low end of the spectrum of land-value lack an avian community associated with "natural features" (e.g., trees, compared with affluent zones). Overall, our results strongly supported the luxury-effect hypothesis stating that affluent areas of cities experience unique components of biodiversity presumably because residents and municipalities have the means to afford amenities, such as greenery, that support wildlife (Leong et al. 2018). Moreover, and more importantly, our findings also provided considerable support for the legacy-effect hypothesis, layered on top of the patterns of luxury, where disparate patterns of urban avifauna and the potential human experience of birds were often stronger between redlined zones than in non-graded low-income areas of the city. Taken together, our results illuminate patterns of income inequality, both past and present, that carry over to influence urban biodiversity.

Disinvestment, and more accurately, reduced lending, was historically driven by racism throughout the nation (Hillier 2003, Aaronson et al. 2018, Mitchell and Franco 2018). In cities everywhere, and very much so in L.A., the legacy effects due to the HOLC grading criteria appear to remain a considerable hurdle for urban greening (Locke et al. 2021, Nardone et al. 2021, Nowak et al. 2022, Burghardt et al. 2022), which influences the composition of birds throughout the city. It is abundantly clear, based on our findings, that the Black and Hispanic population in L.A. experience far less urban greening and biodiversity than the affluent White population. Many studies of urban systems have focused on the adverse effects of income inequality on urban function (Schell et al. 2020). Our study supports those and strongly indicates that

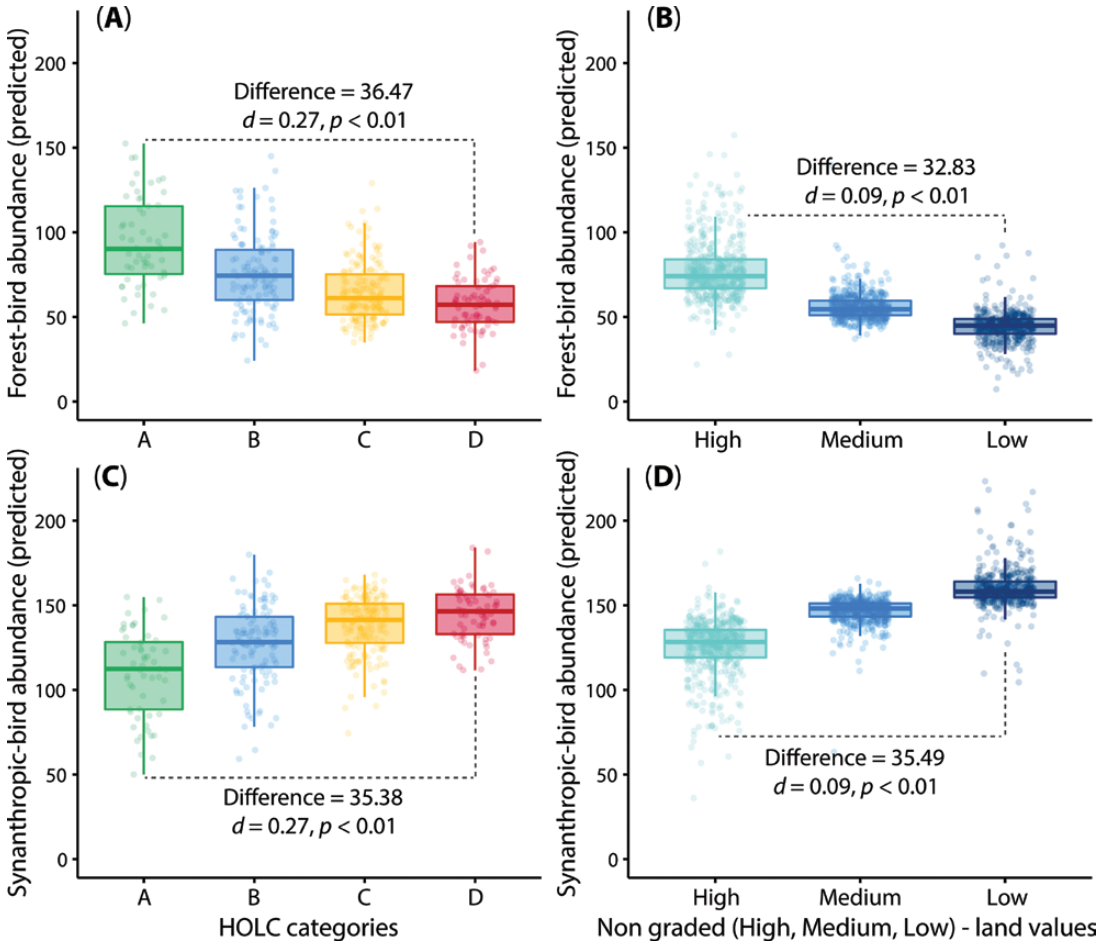

FIGURE 8. Box plots highlighting the increase in (**A, B**) predicted forest-bird abundance based on a categorized affluence gradient with the opposite patterns for (**C, D**) predicted synanthropic-bird abundance. The categorized gradient in (**A**) and (**C**) is based on the historical HOLC grading practice [green ("best," HOLC grade = A), blue ("still desirable" HOLC grade = B), yellow ("definitely declining," HOLC grade = C), and red, (HOLC grade = D)]. The gradient in (**B**) and (**D**) characterizes a contemporary high-to-low-income gradient as it is focused on data from locations of L.A. that were not graded by the HOLC. The *d* scores are Cohen's *d* values and are a measure of effect size. Values further from zero indicate an increasing effect. "Differences" refers to differences in the means of relationships highlighted by the dotted lines. The *P*-values were computed based on a Tukey's post hoc test following a significant one-way analysis of variance test.

failure to act will continue to negatively influence avifauna by the uneven filtering of bird species across L.A. and likely other cities throughout the world.

Bird and Habitat Patterns

Globally, urban biodiversity is primarily for the affluent (Matthew McConnachie and Shackleton 2010, Kaoma and Shackleton 2014, Richards et al. 2017, Gerrish and Watkins 2018, Chamberlain et al. 2019, Kuras et al. 2020, Schell et al. 2020, Venter et al. 2020). This is clear in L.A., where, nearly across the board, habitat features that support birds are far greater in the wealthiest portions of the metropolis. Whether it is for public resources (e.g., street trees; Wood and Esaian 2020) or private amenities (e.g., yard plant diversity; Clarke et al. 2013), our findings move beyond the simple, yet persistent explanation of the luxury-effect hypothesis (Leong et al. 2018) and build on the narrative of a city struggling to cope with its past segregationist history affecting its contemporary character. Los Angeles is not alone in this venture, as cities across the U.S. continue to display inequities in urban habitat features that carry over to affect biodiversity (Schwarz et al. 2015). This is especially true considering the redlining practice, as numerous cities have lower tree-canopy cover in redlined areas (HOLC grade = D) than in best zones (HOLC grade = A) (Locke et al. 2021, Nardone et al. 2021, Nowak et al. 2022, Burghardt et al. 2022). The disparity in green amenities is amplified when considering the cascading effects on wildlife because most animals in cities that are not strictly synanthropic require habitat features that superficially resemble the ecosystems they are adapted to. Indeed, forest, shrub, and natural-lands birds were far more abundant in the wealthiest portions of L.A, whereas the opposite patterns were apparent for synanthropes, supporting patterns from other cities across the U.S. (Chamberlain et al. 2020) and the world (Dubovyk et al. 2020)—although patterns may differ for other taxonomic groups (Longcore and Rich 2008).

Socioeconomic variables associated with wealth, such as income level, are commonly a strong predictor of plant and wildlife diversity in other cities throughout the world (Leong et al. 2018, Avolio et al. 2020, Schell et al. 2020, Blanchette et al. 2021). However, what remains a question is why the residential housing variables (e.g., parcel land values) were overwhelmingly the strongest explanatory variables in our study. While it is of course not money the birds respond to,

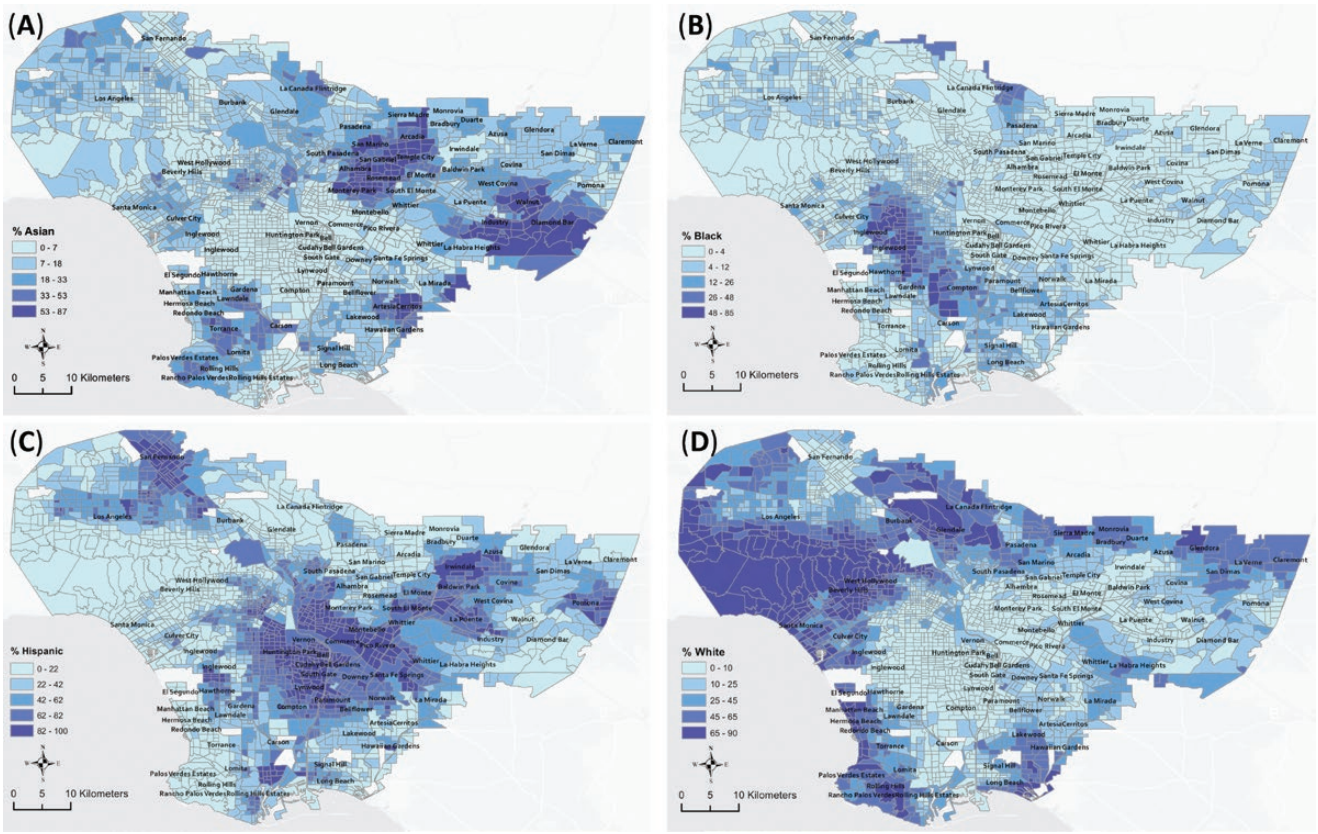

FIGURE 9. Maps characterizing the spatial variability in the (**A**) Asian, (**B**) Black, (**C**) Hispanic, and (**D**) White populations within census tracts based on census projections from 2015 to 2019 across the L.A. study area.

we suggest that the land value and parcel size variables were a surrogate for numerous amenities that our residential housing and habitat variables did not capture (Lee et al. 2010). These could include manicured vegetation in yards (Lerman and Warren 2011, Smallwood and Wood 2023), landscaping practices (Polsky et al. 2014) or preferences (Hope et al. 2003), irrigation and mesic vegetation (Neel et al. 2014, Chamberlain et al. 2020), supplemental water or food (Greig et al. 2017, Lerman et al. 2021), or larger yard spaces (Belaire et al. 2014)—all related to and requiring money—that likely attract distinct avian communities affiliated with green amenities (e.g., a well-developed tree canopy). Interestingly, the percent cover, distance, and street tree variables were generally weaker predictors, which was surprising given their important roles in describing bird distribution patterns in other urban systems (Donnelly and Marzluff 2004, Lerman and Warren 2011, Wood and Esaian 2020).

Another residential-housing variable that we did not measure, but which could be an important variable in describing patterns of urban wildlife is homeownership. Homeownership may result in converging landscaping practices to the norms of one's neighbors (Locke et al. 2018), or where broader urban greening initiatives are typically targeted (Perkins et al. 2004). In the Los Angeles region, homeownership is associated with greater tree cover (Lee et al. 2010). Further, with homeownership comes control, where a homeowner can simply do as they prefer with their property. Control is often not possible if renting, thus highlighting another avenue where wealthier neighborhoods, with high rates of homeownership, may have more distinct and possibly diverse and abundant landscaping, that may carry over to attract a diversity of wildlife. While land values, or income levels, continue to be important for describing urban wildlife, we suggest that the field of urban ecology needs to continue quantifying additional predictor variables that may play an important and interwoven role in better explaining wildlife assemblages and associated characteristics (e.g., diversity or abundance). This is especially critical when considering urban management actions—especially at the scale of the householder or the community.

Birds, Humans, and Redlining

One of the most glaring findings from our work was the disparity in the potential of the human population in L.A. to experience distinct avifaunal communities. Our findings suggest, overwhelmingly, that the White population is in a position to experience the highest abundance of forest birds and other species that require features in the cityscape that resemble natural conditions (e.g., trees and shrubs). This is the opposite pattern for the Black and Hispanic populations which are in a position to experience high abundances of synanthropic birds that are affiliated with dense, urban conditions. Our findings strongly point to a carry-over effect of inequities. In addition to the inequities in services (Mays et al. 2011), food insecurity (Algert et al. 2006), and quality of life (Centers for Disease Control and Prevention 2001) in the Black and Hispanic communities of L.A., our results strongly suggest and support that a large proportion of the Black and Hispanic populations likely also experiences inequities in urban biodiversity and greening and their potential ability to experience them in

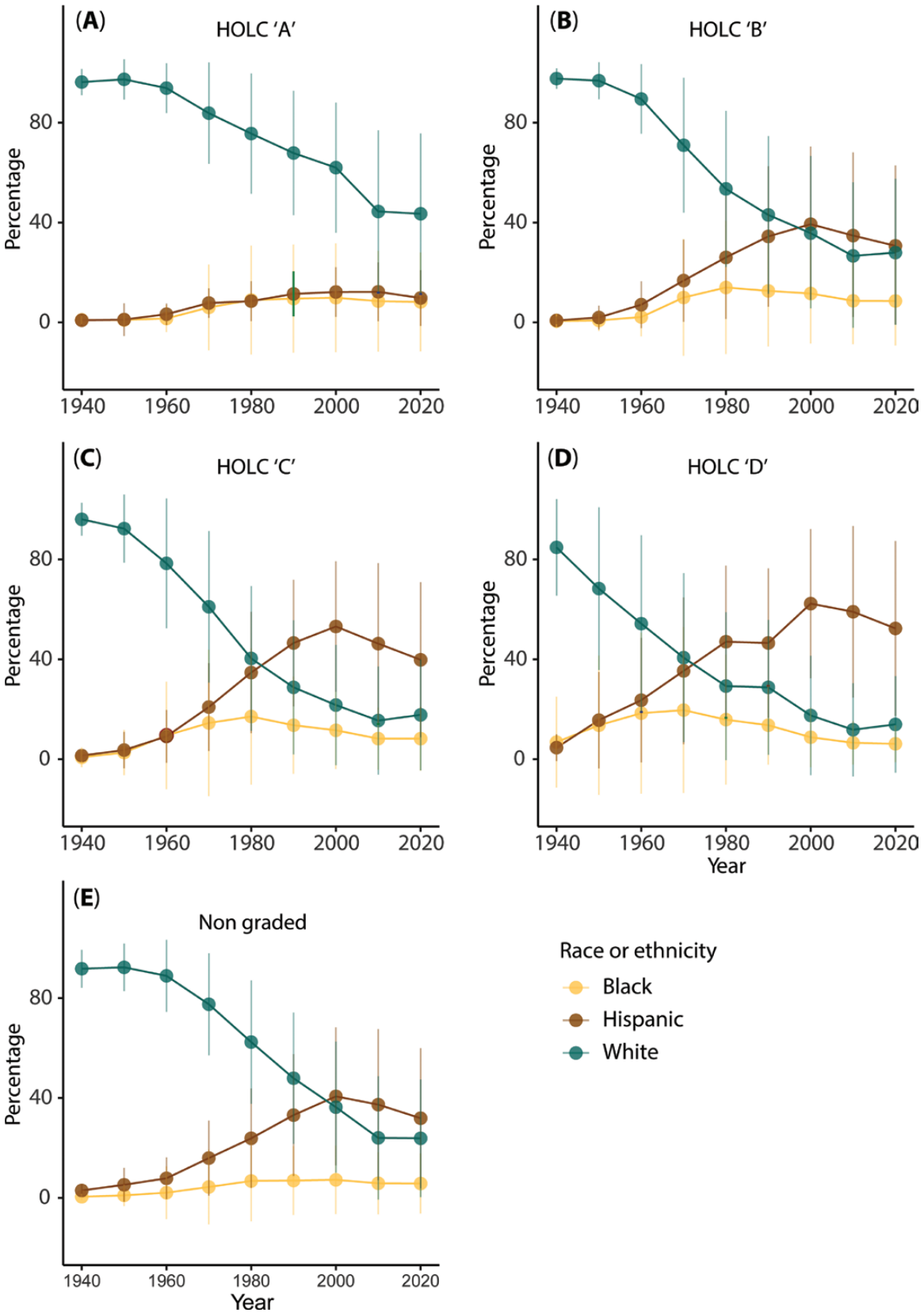

FIGURE 10. Line plots depicting the decrease in the White population, the increase in the Hispanic population, and the relative similarity in the Black population among all HOLC zones in L.A. from 1940 to 2020 (**A–E**). Dots represent the mean of the percentage data and the whiskers on either side of a dot are the standard deviation.

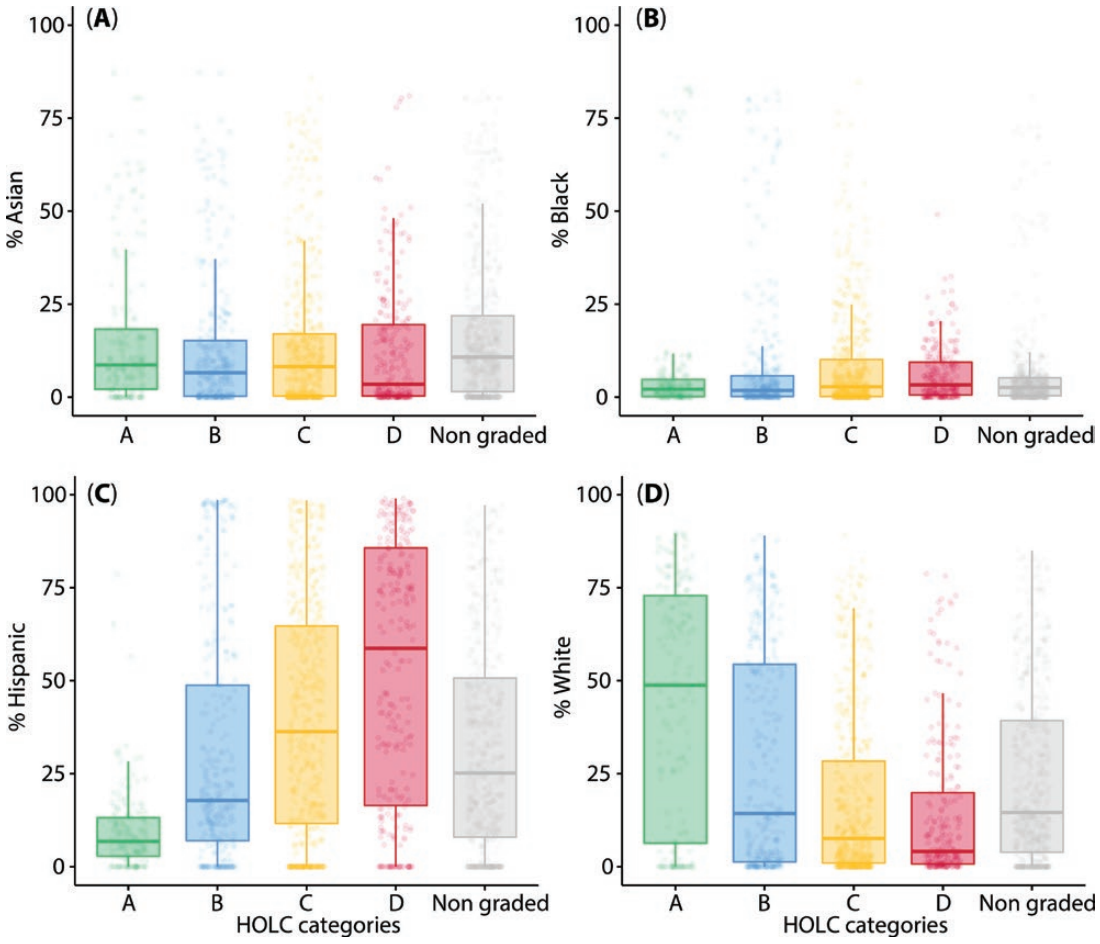

FIGURE 11. Box plots characterizing the relative similarity in the (**A**) Asian population among HOLC categories, the slightly higher proportion of the (**B**) Black population in C and D zones compared with other zones, the substantially higher proportion of the (**C**) Hispanic population in C and D zones compared with A zones, and the considerably higher proportion of the (**D**) White population in A, B, and non-graded zones relative to the C and D zones. The HOLC groups are categorized as, green ("best," HOLC grade = A), blue ("still desirable" HOLC grade = B), yellow ("definitely declining," HOLC grade = C), and red, (HOLC grade = D). The boxes were drawn based on census projections from 2015 to 2019 in HOLC-graded zones and zones that were non-graded.

their community of residence (Wolch et al. 2013). Our findings echo those from Milwaukee, Wisconsin, Tampa, Florida, and Phoenix, which found Hispanic (Tampa and Phoenix) and Black communities (Milwaukee and Tampa) repeatedly were associated with less urban biodiversity (e.g., birds and trees; Kinzig et al. 2005, Heynen et al. 2006, Landry and Chakraborty 2009, Lerman and Warren 2011). Similar findings where the Black and Hispanic populations experience less urban greenness than the White population were also uncovered in both a spatial and meta-analysis of urban forest cover, income, and race and ethnicity in cities across the U.S. (Gerrish and Watkins 2018, Nesbitt et al. 2019).

Our results paint a clear picture of division, not unlike that which is found in other countries in the world that have experienced deep racism and classism. One of the clearest examples illustrating this pattern is South Africa, where the country's race-based history under the apartheid system has led to patterns in which green amenities in cities and towns across the country are overwhelmingly found in affluent White communities (Matthew McConnachie and Shackleton 2010, Venter et al. 2020). Further, inequities in urban biodiversity across socioeconomic classes are found in numerous cities across the world including Vancouver, Canada (Melles 2005), Brisbane, Australia (Shanahan et al. 2014), Paris, France (Cohen et al. 2012), and cities in Latin America (e.g., Rio de Janeiro, Brazil, Pedlowski et al. 2002). In the Vancouver study, aboriginal communities were segregated from wealthy White and Asian communities and generally experienced a bird community with species that would fall in our synanthropic-birds group (Melles 2005). The studies in Brisbane, Paris, and Rio de Janeiro effectively illustrate the luxury effect and do not explicitly link patterns of race and ethnicity with socioeconomic class (Pedlowski et al. 2002, Cohen et al. 2012, Shanahan et al. 2014). However, given that there is a strong link between these two factors throughout the world (Dumont 1980, Williams 1996, Nesbitt et al. 2019), it is not a stretch to assume inequities exist in cities across the globe in which race and ethnic groups (or class) may experience urban biodiversity like what we observed in L.A.

Inequities in the experience of nature in urban centers are a cause for concern when considering public health outcomes in low-income communities in cities across the U.S. (Williams 1996, Corburn 2016, Nardone et al. 2020a, c) and poorer countries throughout the world (Popkin and Doak 1998, Prentice 2006). Numerous lines of research have linked experiencing nature with increases in human health (Brown and

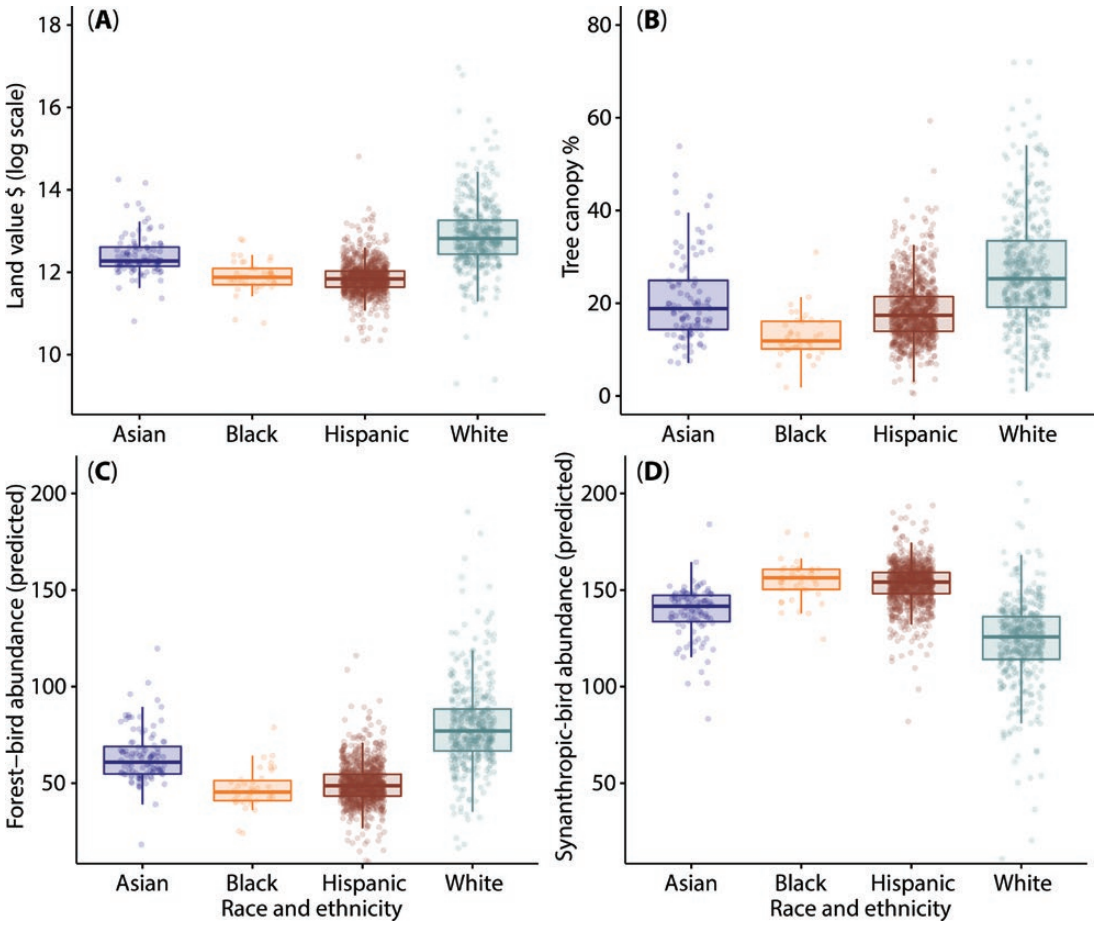

FIGURE 12. Box plots detailing how census tracts dominated by the White population had higher (**A**) parcel land values, (**B**) tree canopy cover, and (**C**) predicted forest-bird abundance, with similar, yet more muted patterns for census tracts dominated by the Asian population. Census tracts dominated by the Black and Hispanic populations had the lowest (**A**) parcel land values and (**B**) tree canopy cover, and the highest predicted abundance of (**D**) synanthropic-bird species. The census data are based on projections from 2015 to 2019 and are meant to capture the demographic composition of L.A. in 2020. The land value and tree canopy cover data were derived from a LiDAR-remote sensing product capturing conditions in 2016, from which the bird predictions were computed.

Grant 2005, Fuller et al. 2007, Bratman et al. 2012, Russell et al. 2013). This may be especially true in urban ecosystems as experiencing nature has many positive effects on residents' lived experience in cities, ranging from psychological benefits to a commitment to community-based conservation actions (Fuller et al. 2007, Hartig and Kahn 2016, Prévot et al. 2018, Colding et al. 2020). Nevertheless, one confounding question from our work is whether it matters from a public health perspective if humans are experiencing forest versus synanthropic birds. Humans have distinct preferences for which birds they prefer, from larger, more colorful, or rarer birds to those that are charismatic, or that sing beautiful songs (Yang and Kang 2007, Garnett et al. 2018, Andrade et al. 2022, Stoudt et al. 2022). In each of our bird groups, there are colorful birds such as the Townsend's Warbler (*Setophaga townsendi*) in the forest and natural lands group and the House Finch (*Haemorhous mexicanus*) in the synanthropic-birds group. Further, some birds sing complex and beautiful songs during the spring before their departure to the breeding grounds, including the forest-breeding Yellow-rumped Warbler (*Setophaga coronata*), or during the breeding season in the city, such as the Northern Mockingbird (*Mimus polyglottos*), a common urban-dwelling species in L.A. Therefore, from a public health perspective, our results suggest there should be birds available for each resident of the city to enjoy if an individual can find space outside where the birds in their neighborhood occur. Yet, we suggest this assumption is too simplistic as there is a chasm of difference between the low- and high-income neighborhoods of L.A., especially between many A and D zones, and the conditions available to residents (e.g., green cover, access to green amenities; Trust for Public Land 2021, Vasquez and Wood 2022).

Building on the differences in access to nature, there are safety concerns (Cohen et al. 2016, Han et al. 2018) and other urban unpleasantries such as pollution that are more prevalent in low-income communities (Rigolon et al. 2017) that likely negatively affect the experience of nature (Kelly et al. 2022). Thus, when attempting to link experiencing nature and public health in cities and considering the question of whether it matters if human residents are experiencing different aspects of the avian community, we suggest a more holistic approach. This may include addressing the differences in access to nature (Trust for Public Land 2021), considering the potential lack of ecosystem services or an increase in disservices delivered by birds (Bolund and Hunhammar 1999), or simply the disparity in urban green amenities (Schwarz et al. 2015) that may positively influence the lived experience of people living far from natural areas.

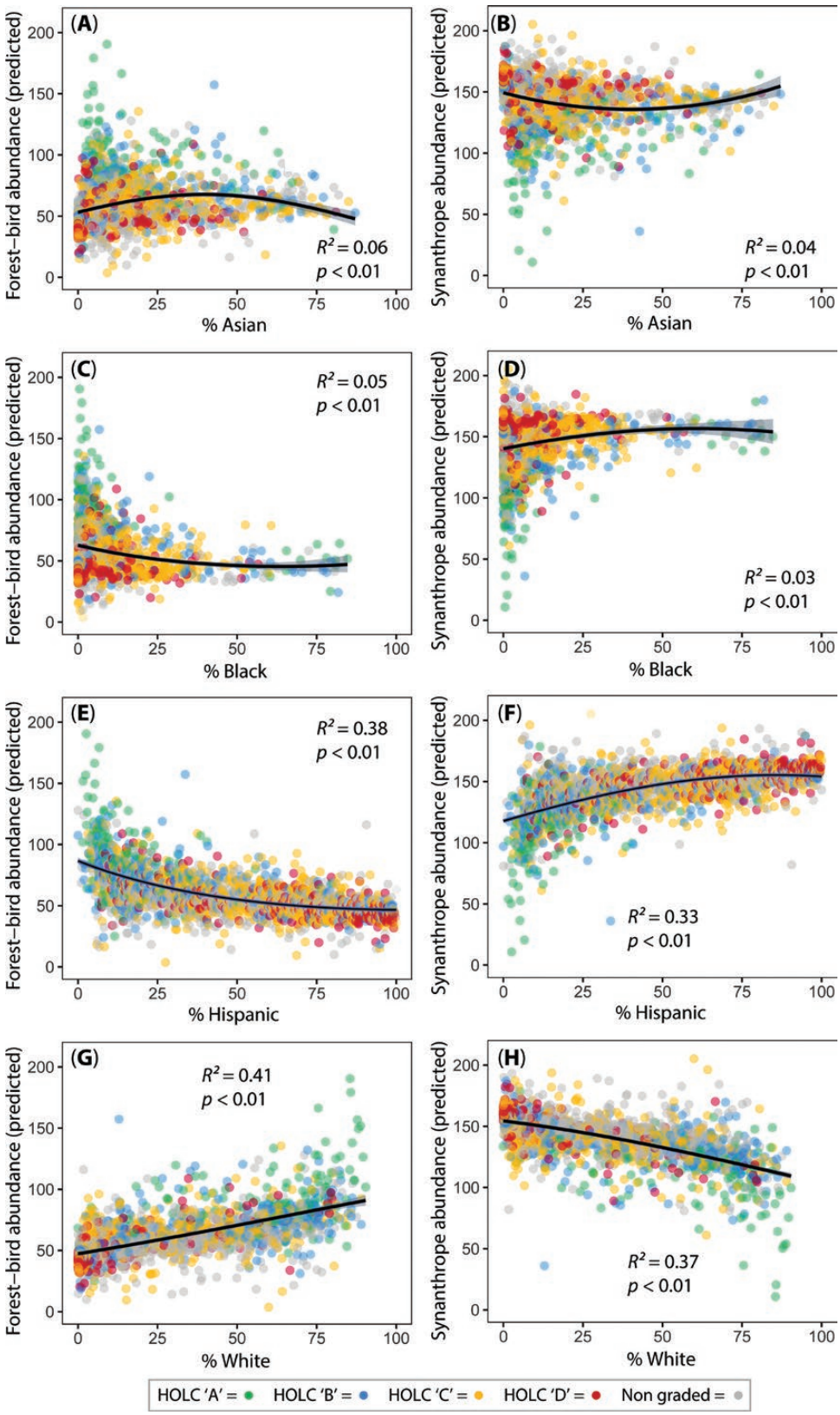

FIGURE 13. Percentage of the (**A, B**) Asian and (**C, D**) Black population within census tracts was generally weakly related to the predicted abundance of forest- and synanthropic birds. The percentage of the Hispanic population in census tracts was negatively related to (**E**) forest-bird abundance and positively to (**F**) synanthropic-bird abundance, with opposite patterns for (**G, H**) the White population. The fitted lines and confidence intervals were derived from negative binomial generalized linear models. The R^2 values are Kullback–Leibler-divergence-based R^2_{kl} values were generated by calculating the likelihood ratio index of a fitted model.

One other alternative explanation for differences in green amenities across urban centers, as well as our within-HOLC category regression and race and ethnicity analysis, could involve preferences and values of natural amenities among racial and ethnic groups (Kaplan and Talbot 1988, Jay et al. 2012, Ordóñez-Barona 2017). "Biocultural diversity" focuses on the interrelationships between nature and culture and has been suggested as a framework for recognizing the inherent cultural differences and preferences among urban dwellers to avoid a one-size-fits-all approach to managing city amenities (Buizer et al. 2016). While our work did not focus on biocultural diversity per se, our findings (e.g., the differences in tree canopy cover among race and ethnic groups) potentially point towards differences in people's preferences for components of urban biodiversity.

Cultural preferences and values are important when considering urban greening projects. For example, in Chicago, Illinois, in the 1990s the Chicago Park District studied user preferences for park attributes for the master planning effort for Lincoln Park, the largest park in the city and one developed for use by all its residents. While across the board, Black, Hispanic, Asian, and White respondents all appreciated the park and its natural settings, there were key differences including a higher preference for trees among White respondents (18.7% of 898 respondents), compared with Hispanic (11.1%), Asian (7.1%), and Black (3.7%) (Gobster 2002). In Southern California, wealthy residents, which correlate generally with being White, and to a lesser extent Asian, preferred trees on their property compared with lower-income residents (Avolio et al. 2015), which generally correlated with the Black or Hispanic populations in our study. Additionally, based on a questionnaire study of urban park preferences in Atlanta, Georgia, and Philadelphia, Pennsylvania, Ho et al. (2005) found that Hispanic and White respondents more strongly preferred wildlife than Black and Asian respondents. There are numerous correlative examples of race and ethnicity with urban green amenities (Schwarz et al. 2015), and each can help provide clues to how cities can reach shared goals (e.g., urban greening for heat mitigation). Our study cannot offer any evidence of cultural or race and ethnicity preferences for wildlife or urban green amenities as it is merely correlational without the inclusion of focus groups or experimental approaches. Nonetheless, given the evidence from other cities, and the patterns we observed, considering cultural preferences for city planning and management of its green amenities are likely critical to promoting community-centered approaches towards urban stewardship.

The Luxury Effect, the Legacy of Redlining, Urban Avifauna, Habitat, and People

We designed our study to weave a thread through the complicated story of redlining, avifauna, people, and the combination of each across L.A. Further, we used the conceptual frameworks of the luxury- and legacy-effect hypotheses, to test whether historical investment patterns structured by redlining have led to stronger effects on L.A.'s avifauna and their habitat compared with more modern patterns of income inequality throughout the city. We expected to find strong support for the luxury-effect hypothesis—regardless of whether parcels were in HOLC-graded or non-graded zones—where wealthier communities have greater green amenities that attract a higher abundance of birds affiliated with natural ecosystems. Indeed, our work strongly supports our expectation that the luxury effect is an overarching theme regarding avifauna and their habitat in L.A. (Wood and Esaian 2020, Table 2, Figure 14). Notable patterns we uncovered included the general alignment of the bird community with an affluence gradient, a strong positive relationship for forest birds and a strong negative relationship for synanthropic birds in relation to parcel land values, and non-graded zones having 23% less forest-bird abundance than redlined zones (HOLC D zones) (Table 2, Figure 14). Further, the response of the abundance and richness of some bird groups (e.g., see bird richness patterns), parcel land values, and some habitat variables (e.g., tree canopy cover, street-tree density) were similar between non-graded and CD zones and distinct from AB zones (Table 2). These findings suggest that newer housing developments on the low end of the economic spectrum provide similar conditions for birds as historically redlined areas (Table 2, Figure 14). Our results highlight that the income gradient, prevalent throughout much of L.A., generally structures the avian community and their habitat, which is similar to a related investigation focused on the importance of street trees to feeding migratory birds in the city (Wood and Esaian 2020).

Interestingly, we also uncovered numerous lines of evidence supporting the legacy-effect hypothesis, framed in our case, through the lens of redlining (Table 2, Figure 14). While it was clear that the avifauna of L.A. is structured along an affluence gradient, avian community dissimilarity was greatest between AB and CD zones indicating a wide gap in avifauna between sections of the city that experienced greenlining and redlining (Table 2). Additionally, based on our field surveys, synanthropic birds were more abundant in CD than in AB zones, indicating CD zones of the city have the highest abundance of species affiliated with dense urban conditions (Table 2, Figure 14). Further, synanthropic birds decreased in their abundance much more starkly in low-income non-graded areas of L.A. than in CD zones in relation to parcel land values, suggesting CD zones support a higher number of synanthropic species throughout the city, even at relatively higher levels of parcel land values (Table 2, Figure 14). Our L.A.-wide predictions indicated forest-bird abundance was substantially greater in greenlined (HOLC-A) zones than high-income non-graded zones, possibly due to the historical patterns of investment in large lots, leafy streets, and quiet neighborhoods—conditions that are similar in historically greenlined zones today (Table 2, Figure 14). Regarding the human population, changes in race and ethnicity patterns were less drastic across time (1940-2020) in A-graded zones than in B-, C-, and D-graded zones as well as non-graded areas. This result indicates a strong "island effect" that the historical investment patterns had on buffering change within communities (A-graded zones) in relation to other sections of the city (Table 2). Lastly, our results suggest a strong and potentially different experience for residents of A-graded zones (generally White) and D-graded zones (generally Hispanic) with forest and synanthropic birds (Table 2). The support we uncovered suggests that roughly 80 years following the application of the HOLC security maps in L.A. in 1939, the investment and disinvestment practices appear to continue driving a wedge between A- and D-graded zones in L.A., including the avifauna, their habitat, and the people that are associated with either.

TABLE 2. Lines of support for the luxury- and legacy-effect hypotheses.

Objective	Support	Description
Luxury-effect hypothesis support		
Objective no. 1 (NMDS)	Figure 2	Bird composition and habitat features were generally aligned with an affluence gradient.
Objective no. 1 (ANOVA)	Figure 3C, E, F	Bird abundance and richness for some groups, along with land values, tree canopy, and impervious cover of parcels were similar in CD and non-graded zones but distinct from AB zones, suggesting a general low-to-high-income gradient for variables regardless of redlining designation.
Objective no. 2 (Regression)	Figures 4A, B and 5, 6A, B	The land value of parcels was the strongest predictor in the among- and within-group regression analyses.
Objective no. 3 (Predictive maps)	Figures 7C, D and 8B	Spatial patterns of avifaunal distributions were strongly correlated with parcel-land values, and thus the luxury effect. Low-income non-graded communities had the lowest levels of forest-bird abundance—23% less than redlined zones—highlighting the low-end of luxury-effect patterns in the more recently developed, low-income portions of L.A.
Legacy-effect hypothesis support		
Objective no. 1 (ANOSIM)	ANOSIM	Avian community dissimilarity was strongest between AB and CD zones. Avifaunal communities were similar in AB and non-graded zones.
Objective no. 1 (ANOVA)	Figure 3B, D and Table 2	There were greater differences between AB and CD zones for the abundance of synanthropic- and exotic birds, and natural-lands bird richness when compared with non-graded zones. Also, there were notably smaller parcels in CD zones than in non-graded zones.
Objective no. 2 (Regression)	Figure 6B–D	The opposing slopes for synanthropic-bird abundance in the non-graded group concerning land value, when compared with AB and CD zones, suggested a strong drop-off in the abundance of synanthropes in more expensive non-graded parcels—potentially due to the more expensive properties being developed in a way that attracted more forest birds (e.g., trees). Note that most parcels in our non-graded group from our field data had relatively low parcel land values. Synanthropes in the AB and CD zones concerning parcel land values had similar and more muted slopes suggesting potentially less change in bird-habitat conditions from baseline levels in the HOLC zones. The opposing slopes for forest and synanthropic birds related to the year parcels were built within AB or CD zones compared with non-graded newer homes suggested that newer developments were constructed in a way that potentially attracted distinct avifauna. Parcels in AB or CD zones had opposite or similar patterns for forest- and synanthropic birds regardless of when built suggesting potentially different habitat conditions among HOLC zones based on when parcels were constructed compared with non-graded zones.
Objective no. 3 (ANOVA)	Figure 8A, B	Forest birds were more abundant in HOLC-graded A zones than in high-income zones of the city that were not graded by the HOLC. The mean value within an A-graded neighborhood was 94, and 77.2 in high-income non-graded neighborhoods—a 17.8% difference.
Objective no. 4 (LMM)	Figure 10A–E	Changes in race and ethnicity patterns were less drastic across time (1940-2020) in A-graded zones than in B-, C- and D-graded zones as well as non-graded areas.
Objective no. 5 (GLM)	Figure 13E–H	Strongly opposing patterns among relationships between White and Hispanic residents in L.A. and which segments of the avian community either population has the potential to experience in their neighborhood of residence. Note the location and spread of the A- and D-graded dots in each scatterplot.

Notes: The HOLC categories referenced in the table are as follows: the AB group is a combination of "best," HOLC grade = A, and "still desirable" HOLC grade = B zones. The CD group is a combination of "definitely declining," HOLC grade = C, and red, HOLC grade = D zones. The non-graded zones are sections of L.A. that were not subjected to the HOLC grading system.

Recommendations and Conclusion

We recommend that researchers in urban settings interested in income inequality, racial injustice, and biodiversity focus first on luxury-effect patterns (e.g., income levels across a city), as differences in wealth strongly characterize urban biodiversity and race and ethnicity patterns in L.A. and likely many cities across the country—both large and small. If luxury-effect patterns are well understood, our

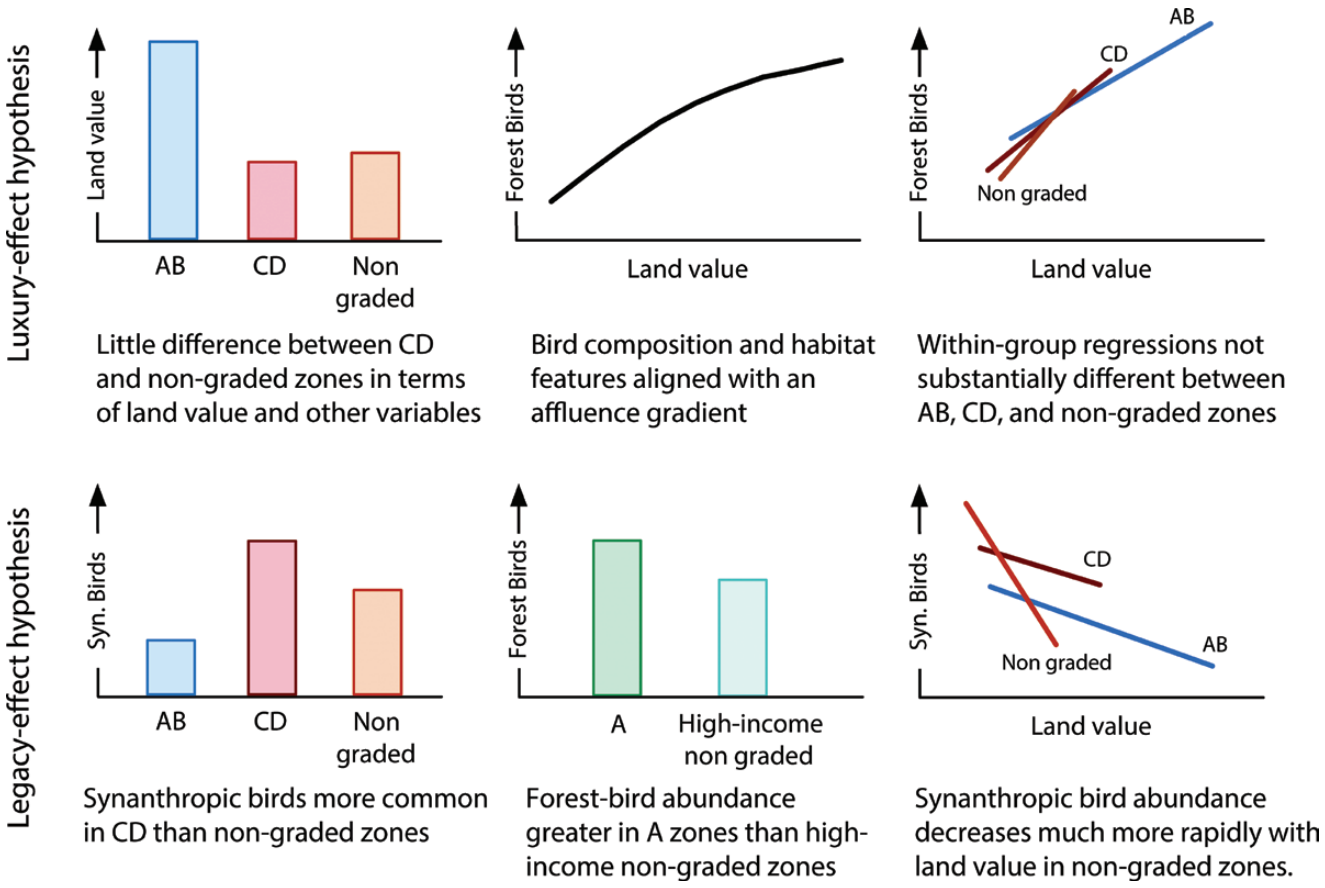

FIGURE 14. Lines of support for the luxury- and legacy-effect hypotheses (Table 2). For a full summary of supporting evidence for either the luxury- or legacy-effect hypotheses. Please see Table 2.

results indicate there are likely numerous avenues for further investigating the potentially lasting effects of redlining on urban biota. Redlining was one of many institutionalized forms of racism in the U.S. that continues to affect urban centers. Thus, moving beyond redlining and understanding other forms of oppressive development (e.g., freeways), or actions (e.g., "slum clearance"), which were often targeted in redlined zones because of the people living there, could be important for better understanding current urban function and equitable development practices.

If promoting biodiversity is a goal, cities across the U.S. and the world must work to understand their racist and segregationist histories (e.g., redlining, blockbusting, single-family zoning, racial housing covenants; Sadler and Lafreniere 2017, Schell et al. 2020, Menendian et al. 2022), which is a necessary step towards creating conditions that support urban wildlife along with a more equitable experience of wildlife for a city's inhabitants. Otherwise, urban wildlife—in our case, birds—will likely continue to be as segregated as a city's population, which calls into question the entire notion of cities as homogenous zones for wildlife (McKinney and Lockwood 1999) or hotspots for regional biodiversity (Spotswood et al. 2021). Currently, in the case of L.A., our results suggest it is neither throughout the entirety of its boundaries. Without strong, yet careful intervention (e.g., Agyeman et al. 2003, Wolch et al. 2014, Rigolon and Németh 2020), residential urban biodiversity will continue to be primarily for the affluent in the City of Angels.

Supplementary material

Supplementary material is available at *Ornithological Applications* online.

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Ethics statement

No animals were handled during this research. Further, no human subjects were included in this work. This research was conducted in compliance with the Guidelines to the Use of Wild Birds in Research.

Conflict of interest statement

There are no conflicts of interest with our work.

Author contributions

E.M.W conceived the research; E.M.W and S.E designed the study; S.E, C.B, L.Y.P, P.J.E, and E.M.W conducted fieldwork and data development; E.M.W and L.Y.P analyzed data and produced figures; all authors contributed to writing and editing the manuscript.

Data availability

Data, including markdown files, which are on Zenodo, can be found in Wood et al. (2023).

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Table 12. Work Purpose Trip Reductions

Category	2025 Build	2025 No Build	2026 Build	2031 Build	2032 Build	2035 Build	2035 No Build	2037 Build	2040 Build	2045 Build	2045 No Build	2050 Build	2050 No Build
Work-at-Home (5 days per week)	7.54%	7.54%	7.67%	8.33%	8.46%	8.85%	8.85%	9.11%	9.50%	10.16%	10.16%	10.81%	10.81%
Telework/Hybrid (1-4 days per week)	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%	14.48%
Total Trip Reduction	22.03%	22.03%	22.16%	22.81%	22.94%	23.33%	23.33%	23.60%	23.99%	24.64%	24.64%	25.29%	25.29%
Increase over 2019 Base Year	13.28%	13.28%	13.41%	14.06%	14.19%	14.58%	14.58%	14.84%	15.24%	15.89%	15.89%	16.54%	16.54%
Telemedicine													
< 18	5.0%	5.0%	5.3%	6.8%	7.1%	8.3%	8.3%	9.1%	10.6%	13.6%	13.6%	17.5%	17.5%
18-29	6.6%	6.6%	6.9%	8.9%	9.3%	10.8%	10.8%	12.0%	13.9%	17.9%	17.9%	22.9%	22.9%
30-44	5.0%	5.0%	5.3%	6.8%	7.1%	8.3%	8.3%	9.1%	10.6%	13.6%	13.6%	17.5%	17.5%
45-64	4.1%	4.1%	4.3%	5.5%	5.8%	6.7%	6.7%	7.4%	8.6%	11.0%	11.0%	14.2%	14.2%
65-74	3.9%	3.9%	4.1%	5.3%	5.5%	6.4%	6.4%	7.1%	8.2%	10.6%	10.6%	13.6%	13.6%
75+	2.5%	2.5%	2.6%	3.4%	3.5%	4.1%	4.1%	4.5%	5.3%	6.8%	6.8%	8.7%	8.7%

HOMEGROWN: THE HEMP PROJECT

HOMEGROWN THE HEMP PROJECT CURRENT HOMEGROWN PROPOSAL

To see the survey, please visit the full sit here:

https://homegrown-thehempproject.art/homegrown-the-hemp-project-1

Current HomeGrown Proposal

Main Objective

Organize a system enabling everyday people to grow hemp in their backyards, patios, balconies, community gardens, and places of business to sequester carbon.

Sub Objectives

1. Compensate growers with utility credits to lower the impact of rising utility costs and create some relief for struggling families.
2. Suspend hemp growing restrictions for home growers.

3. Educate the public on the benefits of hemp.

A. Participation in the growing program

B. Art will be posted on social media and public spaces through interviews and articles.

C. Private moderated online communication hub for the growers & organizers. This area will help educate program participants and create material to post to the public.

D. A public website that would include curated material from the private communication hub, full-length interviews with program participants (growers, community partner participants, community leaders, and people using hemp they have grown, craft ideas, and innovations.

E. Town halls, and public informational meetings, these meetings can also happen online.

4. Create a partnership with educational institutions to explore innovation and to further the understanding of the material.

A. Work with science students/departments so they can test and experiment with the plant to see how it interacts with the environment and what else it can be used for.

B. Provide students in various departments like art and engineering hemp materials to experiment with and create new things.

C. Provide students and the university in general with products made from hemp: like paper, plastic, seeds, soil, mulch, hempcrete, particle board, fiber, and biofuel, to replace products we currently use that put a strain on our environment and supply chain, like petroleum-based products, and or products made from trees.

5. Intensely increase demand for hemp-based products. Help hemp farmers and Indigenous communities make higher profits and incentivize more people to grow hemp. Get more carbon sequestered.

A. Public Education

B. Grower communities

C. School integration

6. Partner with the city, county, and state infrastructure programs and use hemp products to update materials into carbon-neutral fixtures.

A. Hempcrete (hemp-lime) continues to absorb carbon in this state.
B. Hemp-based particle board, when possible, to avoid using trees
C. Hemp rebar and bio-metal
D. Hemp bioplastic

7. Create jobs, students will be able to supplement some positions if we can make those partnerships, but we will also need teams assigned to help large groups of home growers. They will be responsible for teaching them how to grow and harvest the plants. They will teach them about retting. Help with the website and online forums. They will be available for growers who have questions about their plants' health and provide them with any help they might need.

Positions, Tasks & Goals

1. Data collection and planting should be done in intervals to track how weather affects the plants, water restrictions, and growing methods.

2. Incentive exchanges, working with the power company, negotiating incentive agreements and implementing them to ensure growers are adequately compensated.

3. Paying the workers, including student workers. Student workers may be able to be compensated with a combo of class credit and monetary compensation.

4. Community site & public website building and maintenance, along with

monitoring, in case a grower needs help or a member of the public has a question, the community stays family-friendly. (i.e., restricting the use of "bad" words, staying on topic, i.e., talking about their experience with the growing project and the plants themselves. Other topics will be removed so that the online community does not alienate anyone and everyone feels safe.)

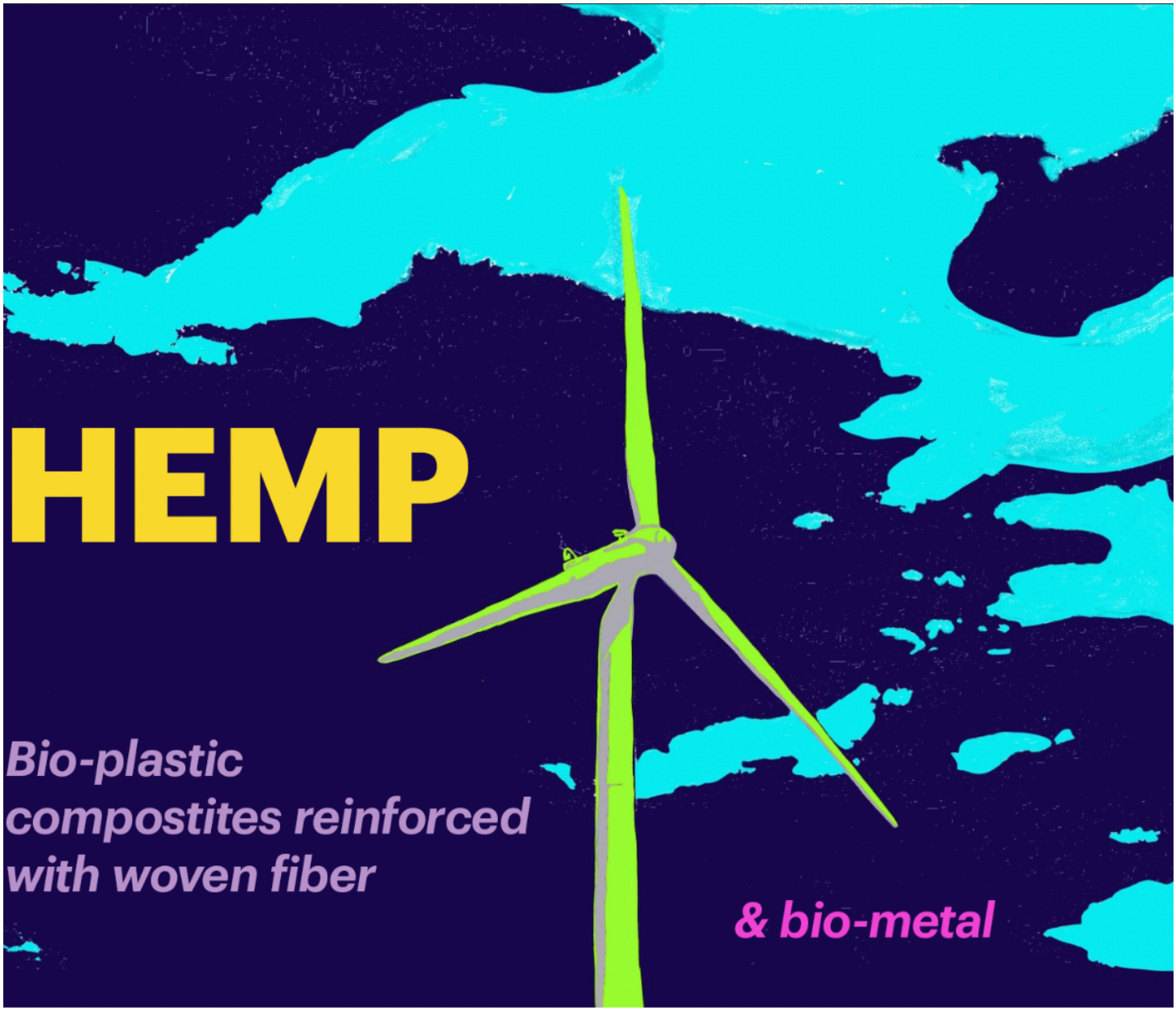
5. Art and media team. They will need to create educational art that engages with the public respectfully and generatively. We want people to dream of new ways to use this material and feel comfortable participating in the program.

6. Organizing and negotiating donated hemp material allocation, keeping track of which growers need to make testing appointments if they want to sell the hemp or make items to sell using the hemp and new grow communities.

7. Planning and execution involving the pickup and processing methods.

8. Negotiate fair compensation terms for the growers. It is essential to compensate growers with non-monetary compensation so that we do not undercut farmers and Indigenous communities directly written into the 2018 Farm Bill as the benefactors of monetary compensation for growing this product. Eventually, having people at home grow hemp should help benefactors make more money than they are currently making. Right now, the demand is low thanks to the stigmatism attached to hemp motivated by industry giants looking to save their industries and profits over the well-being of the people on the planet. However, implementing this program will create interest and demand and help the farmers and Indigenous communities make a higher profit. We will be growing fiber hemp in backyards and community garden spaces and shorter grain hemp at homes that have smaller outdoor spaces to work with. In addition, hemp in this program will be grown in shorter cycles so that the plants do not get taller than 12 feet for the fiber plants and 6 feet for the grain. Farmers grow hemp year-round to produce the tallest plant, reaching up to 22 feet. Because of this, we will not be able to compete in the same markets because farmers have created the standard. The inability to conform to these standards is another reason I suggest working with educational institutions vs. established commercial markets. We can make new markets by giving away the hemp to not go against any of the current restrictions on hemp production that does not get tested for THC (Tetrahydrocannabinol) levels before being harvested.

(If we can not get utility companies on board, we need to find different types of compensation, like debt relief vouchers which could be applied to credit, medical, and student debt. Alternatively, saving plans for people without debt can be used for education, medical expenses, and home improvements that align with an environmental conservation metric, like maybe Energy Star).



Obstacles

The 2018 Farm Bill allows farmers, Indigenous communities, educational

institutions, and research institutions to grow industrial hemp. However, it does not let everyday American citizens grow industrial hemp at home. (McConnell, Merkley, Paul, Wuden, 2018)

California state law allows citizens 21 and older (18 and older for medical reasons) to grow up to 6 marijuana plants at home. Depending on city and county ordinances, the plants can be grown outside or must be grown inside, and the local law enforcement agency must be aware of residents growing marijuana in their yards or homes.

Farmers, Indigenous communities, and institutions that plan to have their hemp crop participate in commerce must have their plants tested for THC (Tetrahydrocannabinol) levels 11 days before harvesting. Farmers have to destroy approx. 10% of their harvest each season because plants test over .03% but are usually under 1%, which is still an insufficient amount to make anyone high. The issue is that marijuana is still listed as a narcotic by the DEA, and non-psychoactive industrial hemp is still associated with marijuana. According to the 2018 Farm Bill, industrial hemp is not considered marijuana if it tests under .03% THC when dry but is considered a class one narcotic if it does test over.03% THC because, at that point, it is considered marijuana again. (McConnell, Merkley, Paul, Wuden, 2018) It is not a problem in science-based research papers, but it is listed as a problem on government sites and some college sites that teach industrial hemp cultivation.

Farmers do not understand what causes hemp plants to get hot. Farmers call hemp plants that test over .03% THC "hot." This program might also help us determine why hemp goes hot because growers will grow such low amounts. We will monitor how they produce them, along with natural occurrences, like temperature and watering. Plus, we will be trying out different methods of watering conservation. Like DIY (Do it yourself) irrigation methods and growing seedlings in smaller containers to limit water use during the first six weeks when hemp plants need the most water and then transplanting them afterward when they need less water. (Place, 2019)

Ideally, growers at home could grow up to 10 plants. Unfortunately, not everyone can accommodate that amount, like those in apartments, condos, and townhouses, which will have to grow shorter grain varieties instead of the fiber hemp people with yards, community gardens, and businesses can opt into growing. However, since California residents are already allowed to grow six marijuana plants per household by a citizen 21 and older (and 18 and over with a doctor's permission), maybe we can share that privilege with non-psychoactive industrial hemp. Marijuana plants are

not subject to testing because they are expected to have high levels of THC, so this is not an issue they have to deal with.

Another exception for testing within California's legislation is that untested hemp that stays out of commerce.

a. Industrial hemp produced by registered hemp breeders that does not enter the stream of commerce shall not be subject to the sampling requirements outlined in Section 4941(b) if the sampling method to test THC concentration has the potential to ensure at a confidence level of 95 percent that the plants grown will not test above the acceptable hemp THC level pursuant to Part 990.3 in Title 7 of the Code of Federal Regulations (October 31, 2019), which is hereby incorporated by reference
(CDFA, 2022, pg.26)

As a pilot project, hopefully, we can find a compromise between these two laws so that growers can grow hemp plants in their backyards to help curb the effects of climate change because hemp is such an effective carbon sink.

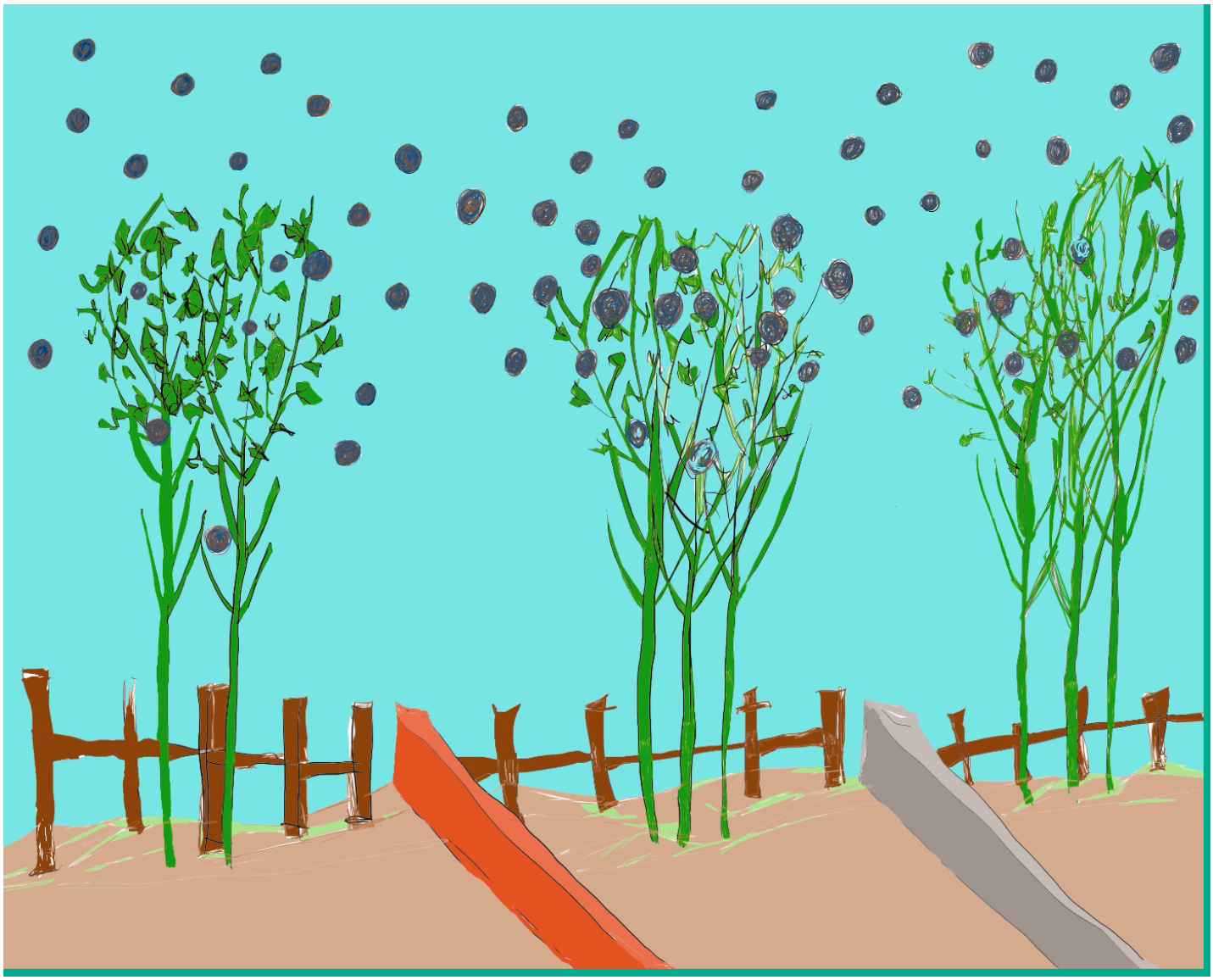
If we let growers hold on to the hemp, they grow to use as compost, to experiment with processing, to use in arts and crafts (if a person wants to

use their hemp in commerce, then they may have the option to get the hemp tested themselves), home improvement projects. All projects and experiments would have to be documented and posted on the community website, which would, in turn, help promote the various uses for hemp along with different ways to process it. Home growers would only be permitted to use dry retting. They would be prohibited from using wet retting due to water/drought restrictions and chemical retting to protect growers, animals, and the environment from adverse effects.

Growers not interested in experimenting and or using the hemp they have grown may donate their plants to the city, which can decide how to use the hemp in infrastructure projects and/or educational institutions.

Hemp plants could also be burned, turned into hemp char, and buried to keep sequestering carbon underground.

Growers will be compensated for growing hemp and sequestering carbon independently from how the hemp is used afterward.



Related Research

What is Carbon Sequestration & how does it work?

Carbon sequestration is the process of capturing, securing, and storing carbon dioxide from the atmosphere. The idea is to stabilize carbon in solid and dissolved forms so that it doesn't cause the atmosphere to warm. The process shows tremendous promise for reducing the human "carbon footprint." There are two main types of carbon sequestration: biological and geological.

In many ways, carbon is life. A chemical element, like hydrogen or nitrogen, carbon is a basic building block of biomolecules. It exists on Earth in solid, dissolved, and gaseous forms. For example, carbon is in graphite and diamond but can also combine with oxygen molecules to form gaseous carbon dioxide (CO_2).

Carbon dioxide is a heat-trapping gas produced both in nature and by human activities. Manmade sources of carbon dioxide come from the burning of fossil fuels

such as coal, natural gas, and oil for uses in generation and transportation. Carbon dioxide is also released through land use changes, biologically through oceans, the decomposition of organic matter and forest fires. (Think agriculture and food waste in landfills)

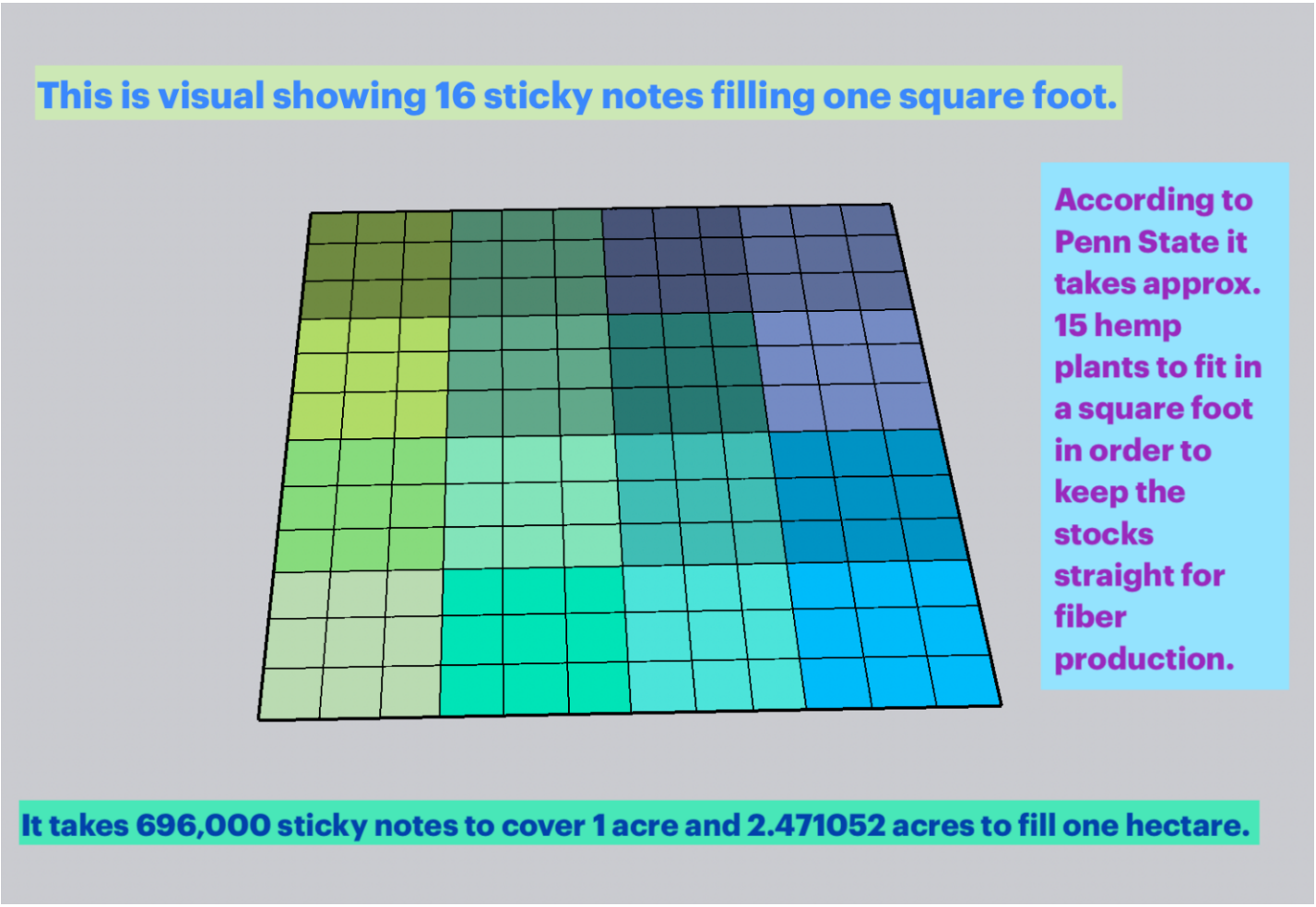
The build-up of carbon dioxide and other greenhouse gases in the atmosphere can trap heat and contribute to climate change.

Learning how to capture and store carbon dioxide is one way scientists want to defer the effects of warming in the atmosphere. This practice is now viewed by the scientific community as an essential part of solving climate change.

Biological carbon sequestration is the storage of carbon dioxide in vegetation such as grasslands or forests, as well as in soils and oceans. About 25 percent of global carbon emissions are captured by plant-rich landscapes such as forests, grasslands, and rangelands. When leaves and branches fall off plants or when plants die, the carbon stored either releases into the atmosphere or is transferred into the soil. Wildfires and human activities like deforestation can contribute to the diminishment of forests as a carbon sink. (CLEAR Center, UC Davis, 2019)

Non-psychoactive hemp (Cannabis Sativa L.) absorbs 3 times as much CO2 per hectare as forests. Hemp grows exceptionally tall and fast like a small thin tree enabling it to absorb more carbon in a shorter period.

(Plants are grown close together to discourage excessive leaf growth and to promote stalk growth which is the part of the plant that absorbs the most carbon.)



(Collins, Harper, Kime, Manzo, Roth, 2018 and Jacobs, date not listed)

These are quotes from 9 different papers and studies from around the world that have researched the environmental benefits of using hemp to curb the effects of climate change, both as a carbon sink and as a material that could be used to replace current problematic materials. Some studies also emphasize the need to educate the public to increase the demand for hemp-based products to improve the overall success rate of hemp being used as a carbon sink.

(I am using quotes because I am an artist, not a scientist, so they can explain the science much better than I can):

Hemp's fast growth and development makes it one of the fastest sources of CO2-to-

biomass converter. Hemp has been proven to be an ideal carbon sink as it can capture more CO2 per hectare than other commercial crops or even forests. For example, one hectare of hemp can absorb 22 tons of CO2 per hectare. High

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biomass

crops like hemp, that are grown for fiber, can sequester higher amounts of carbon by

photosynthesis and then store it in the plant's body and roots through bio-sequestration. Most of the carbon is stored in the harvested hemp stem and less in roots and leaves. Hemp could produce at least 13 tons of biochar per hectare annually. One of the other potential uses of hemp biomass would be the production of biochar for soil applications that could potentially improve soil carbon sequestration and reduce greenhouse gas emissions. (Adesina, Bhowmik,

Sharma, Shahbazi, 2020, pg.5)

When hemp grows it takes in CO2 and converts it into glucose, cellulose, hemicellulose and lignin. The CO2 molecule is broken down, with the carbon locked

up in the plant and the oxygen given back to the atmosphere. It takes 1.84 tons of CO2 to make each ton of dry hemp. So the more hemp we use, the more CO2 is removed from the atmosphere.

(Cazac, Mutean, Galatanu, Taus, 2016, pg. 6/23) (*pdf. pg. #/ article pg. #)

Hemp is an annual plant characterized by a well-developed leaf system and is one of

the fastest growing plants on Earth. It can absorb approximately 10 t of CO2 (depending on plant variety) from the atmosphere during one vegetation period, improving air quality, thermal balance and ensuring a positive environmental impact.

(Zimniewska, 2022, pg.2/1-3/2), (*pdf. pg. #/article pg. #)

According to Defra, UK farming emits a total CO2 equivalent of 57 million tonnes in greenhouse gases (GHGs). UK agricultural land use is 18.5 million hectares. This amounts to an average of around 3.1 tonnes of CO2 per hectare total embodied emissions. In comparison, one hectare of industrial hemp can absorb 15 tonnes of CO2 per hectare. Hemp contains around 65-70% cellulose (wood contains around 40%, flax 65-75% and cotton up to 90%); Hemp represents a sustainable and carbon- negative source of plasticizing material. (Wilson, date not listed, pg.2)

Hemp absorbs four times the amount of carbon dioxide as trees to amid its snappy 12-14 week development cycle. Delivering hemp plastic likewise requires 22-45% less energy than non-renewable energy source based items. (Karachi (Professor), Karachi

(Student), Modi, Saeed, Shahid, Younas, 2018, pg. 3)

Hemp is attracting more attention in different industrial sectors for competitive physical properties against man-made counterparts and capability of higher carbon sinking. Industrial hemp has emerged as a highly successful commercial crop due to its carbon- sequestering property, higher biomass production, and various end-use products. Researchers believe that it can be successfully used as a cover crop

since it can remediate contaminated soils through phytoremediation and can be produced without pesticides. Even hemp residues can act as botanical insecticides or miticides and inhibitors to soil nematodes and pathogenic fungi. It can replenish the soil by killing and displacing other tiny crops or weeds and absorbing heavy metals from soils. Hemp can be used for insulation and acoustic purposes in the building sector, paper industry, medical purpose, textile industry, biofuel, cosmetics industry, food and beverage industry, and fiber can be used as reinforcement in polymer matrix composites pr in biocomposite as a substitute of glass and carbon fiber. (Ahmed, Islam, M.S. Mahmud, Sarker, M.R. Islam, 2022, pg. 2/3), (*pdf. pg. #/article pg. #)

Hemp yields more biomass than wood, offering even two times more usable fibers than forests. Industrial hemp consists of a maximum of 77% cellulose which is three times more than wood and other agricultural wastes. This indicates a quadruple amount of paper can be produced from hemp against forests grown in the same area. In addition, hemp is a short rotation crop that can be harvested after four months of cultivation, whereas hardwood and softwood plants require 8 to 12 years and 20 to 80 years, respectively in rotation cycles. Again, the opportunity to recycle hemp bast fiber-made papers is twice that of wood based papers. Hemp stalks are composed of long bast fibers and hurds, where the latter is four times more by weight than fiber. Hemp's central woody portion contains 36% cellulose and 27% lignin, whereas bast fiber contains 72% cellulose and 4% lignin. The whole hemp stem contains 47% cellulose and 18% lignin, which is more favorable than pine and birch wood. Hemp stalk contains the highest percentage of cellulose, with the lowest lignin content over almost all non-woody stalks.

However, hemp bast fiber secures second for alpha-cellulose after cotton. The lignin and cellulose content in hemp stalks considerably vary among cultivars and growing seasons. (Ahmed, Islam, M.S. Mahmud, Sarker, M.R. Islam, 2022, pg. 5/6), (*pdf. pg. #/article pg. #)

"As mentioned earlier, climate change has emerged as one of the foremost threatening facts for lives on earth. Various types of initiatives are being implemented for the encapsulation of the threat. The European Union has set a goal of reducing greenhouse emissions by 40% by 2030. Construction of buildings and roads consumes nearly half of the raw material and energy across the world [169],

and the inside utility services like lighting, heating, and air conditioning emit almost 47% CO_2 in the UK. Thereby, it can be concluded that this sector is a major contributor to world climate change and requires intensive focus for a review of material design, sourcing and building design as green buildings for reducing greenhouse gas emissions.

As an alternative to conventional filling material, hempcrete can be a better choice for its lighter weight, hydrothermal and acoustic performance, carbon negativity, and natural sink of CO_2. It has been reported that 260 mm thick 1m2 hemp-lime wall requires up to 394 MJ of energy and sinks up to 35 kg CO_2 over a 100-year life span, whereas Portland cement-based equivalent concrete wall requires 560 MJ of energy with an additional release of52.3 kg of CO_2 [189]. Therefore, the most potential use of hempcrete in terms of

CO2 sinking is that its regrowth cycle is in one year, much shorter than forest regrowth for storing carbon over the lifetime of the composite and thereby delaying the emission of greenhouse gas. (Ahmed, Islam, M.S. Mahmud, Sarker, M.R. Islam, 2022, pg. 20/19), (*pdf. pg. #/article pg. #)

Industrial hemp is a strain of Cannabis Sativa that contains lower concentrations of tetrahydrocannabinol (THC), the narcotic component of cannabis and can be utilized as a carbon sink. Hemp can capture between 10 Mt and 22 Mt of CO2 per hectare, making it more efficient at CO2 sequestration than agroforestry. It was found by that hemp production might boost net CO2 abatement by up to 21 Mt Co2e annually by replacing 25% of oilseed rape (OSR) and sugar beet production.
(Madden, Ryan, Walsh, 2022, pg.2)

First qualitative data in the form of environmental policy in Ireland is studied, followed by quantitive data analysis in the form of CO2 emissions and carbon tax. This will bring together a comprehensive account of the benefits and limitations of the cultivation of industrial hemp as an agricultural crop to sequestrate CO2. This is aimed at gaining in- depth contextual knowledge and exploration of the environmental and economic CO2 sequestration of hemp in Ireland. (Madden, Ryan, Walsh, 2022, pg.3)

Plants with large biomass, such as hemp, can sequester more carbon through photosynthesis and then store it in the plant's body and roots through bio sequestration. Hemp stems store the most carbon, while roots and leaves store the least. Industrial hemp can sequester between 9 to 28 Mt CO2e. The carbon storage estimation for this study areas follows. A low scenario conservative estimation, a mid scenario mid estimation and a high scenario overestimation. This is based on hemp capturing between 10 Mt and 22 Mt of CO2 per hectare. The annual carbon sequestration estimations for hemp in this study are based in a single and double crop per year, as hemp can be cultivated twice annually. It is assumed due to the novelty of this crop and licensing timeline that only one crop of industrial hemp was cultivated. Low scenario underestimation: 1 hectare of hemp on average sequesters on average 10 tonnes of net CO2 per hectare. (Madden, Ryan, Walsh, 2022, pg.3-4)

Mid scenario mid estimation: 1 hectare of industrial hemp can absorb on average 15 tonnes of CO2 per hectare. High scenario high estimation: 1 hectare of industrial hemp absorbs an average 22 tonnes of CO2

per hectare. (Madden, Ryan, Walsh, 2022, pg.3-4)
Farmers participating in the programme will be paid for environmental functions such as biodiversity enhancement, improved water quality, improved soil health, and CO2 sequestration.

(Madden, Ryan, Walsh, 2022, pg.7)

The results show that in 2019 the total CO2 emissions from agriculture was 21,151 million Mt. In the same year, at its peak, there were 547 hectares of industrial hemp cultivated, which accounted for 0.0079% of total land use and 0.0123% of total agricultural land use in Ireland. Due to the novelty of industrial hemp and the nature of the licensing timeline, it is assumed for this study that one crop of industrial hemp was cultivated annually during this time, the results that follow show the ranges of possible carbon sequestration from underestimates, mid estimates to overestimates of possible CO2 sequestration benefits of industrial hemp cultivation in Ireland.

Low scenario underestimates, based on a sequestration rate of 10 MT of CO2, it is estimated a single cultivated crop could sequester a total of 14,660 million of CO2 and a double crop could have sequestered 29,320 million of CO2 from 2017 to 2021.

Mid scenario mid estimates, based on a sequestration rate of 15 Mt of CO2 , it is estimated a single cultivated crop 2017 to 2021 could sequester a total of 21,900 million of CO2 and a double crop have sequestered 43,980 million Mt of CO2.

High scenario overestimater, based on a sequestration rate of 22 MT of CO2 CO2e per hectare. It is estimated a single cultivated crop could sequester up to 32,252 million Mt of CO2 and double crop could have sequestered a total of 64,504 million Mt of Co2 from 2017 to 2021. (Madden, Ryan, Walsh, 2022, pg.10)

Due to hemp's ability to re-mediate contaminated soils through phytoremediation, convert high levels of atmospheric CO2 into biomass through biosequestration, and produce bioenergy from hemp biomass, hemp has significant environmental benefits. Hemp also has excellent potential to remove heavy metals from land. It is a promising candidate for soil remediation because of its high biomass

output and ability to thrive in a variety of situations. The fertilizer requirements vary with the type of hemp grown, whether for seed, fibre, or CBD oil and can require a wide range of nutrients. Growing energy crops does not inflict an impact on the environment when compared to potato and wheat. Cultivating hemp does not affect agricultural lands used for food production. It is also possible to incorporate hemp into other crops. The use of the entire hemp plant could be the key to long-term economic, environmental, and social viability. (Madden, Ryan, Walsh, 2022, pg.12)

Removing toxins from the soil has shown promise in small-scale testing in Italy and the United States. (Madden, Ryan, Walsh, 2022, pg.14)

Hemp crops require little potassium. According to, the dry matter of the stem (where 80 percent of the atmospheric carbon is stored) increases as the nitrogen balance of the soil changes, with nitrogen levels between 0 and 120 kg/ha having the potential to sequester up to 22 Mt tons of CO2 per hectare. When slow-release fertilizers like UREA are utilized instead of synthetic fertilizers like ammonium nitrate, hemp farming has a superior vegetative development and seed quality.

Industrial hemp is a scalable crop that has the potential to improve both the economy and the environment, the true valorization of industrial hemp will hinge on the significant innovation and the development of high-value applications. The newest technological applications of hemp may be the most promising. Stem material from hemp can be harvested in large quantities, at between 10 Mt and 14 Mt tons per hectare. Ref. Using no agrochemical input and with only minimal fertilization, hemp produced a high biomass yield in Ireland (>10 t /ha). The carbon sequestration rate of fibre-based hemp crops can surpass both urban and forest tree plantations. (Madden, Ryan, Walsh, 2022, pg.15)

Due to its physical and genetic similarities to its psychoactive-rich (>0.3 percent tetrahydrocannabinol (THC), extensive community outreach and education are required to eliminate the stigma associated with industrial hemp. (Madden, Ryan, Walsh, 2022, pg.16)

"Industrial hemp is a scalable crop that could provide significant and environmental benefits; however, the true valorization of industrial hemp will hinge on significant innovation and the development of high-value applications. Utilization of the whole hemp plant may be key to attaining economic, environmental, and social

sustainability. Further, strong community outreach and education is required to overcome the stigma attached with industrial hemp due to its morphological and genetic similarities to its psychoactive- rich (>0.3% tetrahydrocannabinol (THC)) analog. This editorial identifies critical research, educational and community outreach, platdors to develop a robust US industrial hemp program, with a goal to enable the renaissance of this miracle crop. (Lucia,Pal*, 2019, pg. 1)

Hemp has been described as the most heralded and traded commodity in the world until 1830's and such a favorable past reputation has been attributed to the diversity and importance of its byproducts. There are approximately 30 countries that currently permit farmers to grow industrial hemp, while is was only recently that the United States reintroduced its production through the 2018 Farm Bill. Industrial hemp, which has the Latin name Cannabis sativa L., is defined as containing less than 0.3% content of delta-9 tetrahydrocannabinol (psychoactive substances). This makes it unsuitable as a narcotic, but very useful for a myriad of other applications. (Lucia,Pal*, 2019, pg. 1-2)

Hemp can be reharvested after just four months of cultivation to give a fiber that consists of an outer ring of more valuable long phloem fibers ("bast") and an inner core of less valuable short xylem ("hurd") fibers. The separation of hurds from fibers can be accomplished either by using a traditional process commonly known as "retting" (related to rotting") through several methods for selectively removing binding substances (such as pectin) or using a modern decortication process resulting in nearly 3 tons of bast fibers and 7 tons of hurds per hectare. Bast fibers are the long fibers favored for composites, textiles, and specialty papers. Hurd fibers, on the other hand, are widely regarded as a low-value byproduct primarily used for animal bedding and hemp-lime construction applications. (Lucia,Pal*, 2019, pg. 2)

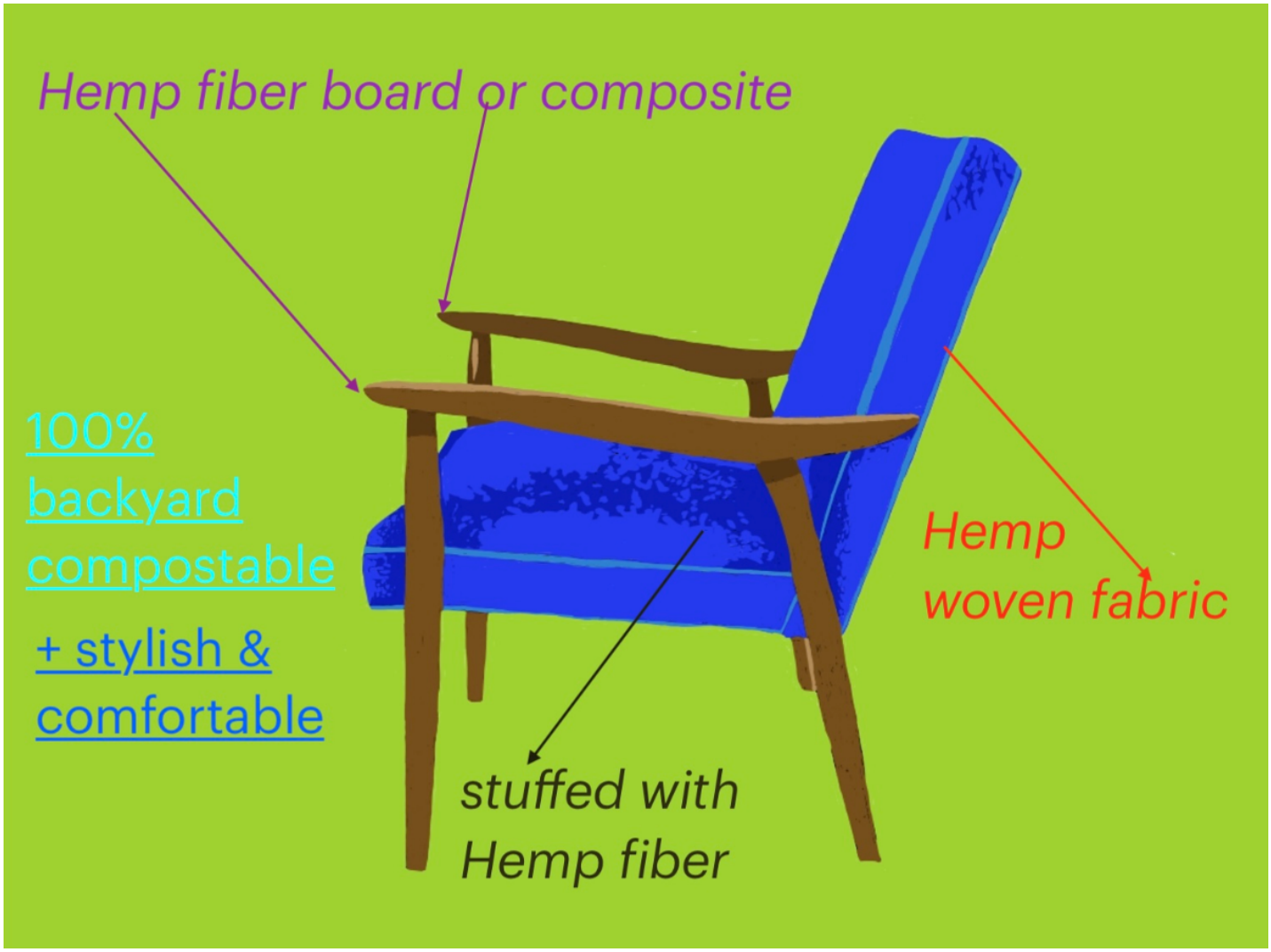
Industrial hemp has some favorable features as a pulp resource. The core fibers of hemp hurds allow facile pulping liquor penetration due to their thinness. Sodium carbonate, the alkalinity of which is too weak to be effective for most wood resources, can be used for its pulping and fibrillation. Autohydrolysis, in conjunction with enzymes, is another approach that has proven efficient for the defibrillation of fibers from hemp without harsh chemicals associated with pulping (e.g., the Kraft process).

Though the hemp hurd fibers cannot be expected to provide the levels of strength associated with typical wood-pulp fibers, they may be suitable as part of fiber

blends in products where such attributes as absorbency and smoothness are needed. The longer bast fibers of industrial hemp can be considered, along with softwood fibers, for reinforcement of tissue and associated products. Packaging and heat-molded can also be considered." (Lucia,Pal*, 2019, pg. 4)

Major considerations for noval crops as identified by the expert panel during workshop discussions: Marketability: Market price and required economics of scale consumer demand, either local or otherwise - is there a niche market available? Contract issues with purchasers Consumer perception of the product (e.g., hemp's association with marijuana) (Gardner, Gaston, Maclean, 2021, pg.5)

The panel were enthusiastic about the huge diversity of industrial applications for hemp, which include use as a bioplastic and graphene substitute, but raised the ‘chicken and egg’ problem, similarly high-lighted by, that many industries that could and would use hemp products are challenged by lack of supply, yet producers will not invest in growing crops to supply a market that does not yet exist. Hemp is grown mostly for its oil and fibre, but hemp seed protein is also sold as a vegetarian food supplement. Experts discussed that, given the right environment, yields could be very high compared to other crops and hemp was also considered environmentally friendly due to little harmful accumulation or emission of chemical in- puts and the ability to reduce greenhouse gas emissions by carbon sequestration. However, it was emphasized that a major drawback to growing hemp is the crop’s association with the use of the illegal narcotic marijuana. This means it can be difficult to acquire seeds and that a licence from the Home Office is required to grow hemp in the UK. The licence lasts only for one growing season and both new licences and licence renewals involve a fee. Licence applications from farms near to ‘sensitive areas’ such as schools or areas of public access are more likely to be rejected. (Gardner, Gaston, Maclean, 2021, pg.7)



The Plan Details

*(Please note the original proposal that Elizabeth Ene from Bob Blumenfield's office has a copy of includes a specific plan for that district. This is because I live in this district and want to participate in the program as a grower while also running the program. However, now that Elizabeth Ene has advised me I must get all the city council members on board for the city of Los Angeles, I think including the whole city in the pilot program would be better.)

Organize a system enabling everyday people to grow hemp in their backyards, patios, balconies, community gardens, and places of employment to sequester carbon.

1. Find funding. This project embraces the goals found in California Governor Gavin Newsom's plan for climate action and the country's climate goals in the Inflation Reduction Act. Hopefully, we can work together on this project, and the city can allocate funding from those sources to help to complete and grow this project. If other funding sources are available,

that would also be helpful. Ideally, we can start working on this project as soon as possible. (California Climate Commitment, 2022 & New York Times, Shoa, 7 Key Provisions in the Climate Deal, 2022)

2. Create an agreement with utility companies. Maybe they could qualify for a tax credit through the Inflation Reduction Act if they worked with this program since the main goal is to sequester carbon and cut consumer utility costs. (New York Times, Shoa, 7 Key Provisions in the Climate Deal, 2022)

3. Produce educational materials about hemp, its benefits, how to grow hemp, and what can be made with it. We should have something we can show people they can read and watch in person and online. We will also start a social media campaign for the project that highlights the program's benefits and hemp. Design and produce hemp project participation signage.

4. Recruit people to help recruit growers, build websites & databases, to organize and keep track of growing schedules, payments, incentives, growing and processing methods, and develop art and marketing teams.

5. Train people on how to recruit growers and teach them everything they need to know about hemp & the program. They will need to be able to explain the benefits of hemp for the environment and recognize which people might be more interested in saving money on their utilities versus helping the environment. The areas I have picked for the pilot project have a varied population when it comes to positions regarding climate change, but everyone likes to save money. This incentive will be particularly popular here in The Valley, with rising utility costs due to air conditioning during extremely high temperatures. They will also need to feel comfortable discussing the differences between industrial hemp and marijuana. It will be helpful for them to have visual material on hand and easily accessible online information.

6. We will also need to design and build the websites and databases and register with the national hemp grower database if that is applicable for this pilot project.

7. Develop educational programming. This educational programming should include images used on social media, plant care tutorials, troubleshooting, information on what hemp can be used for, and how it can replace petroleum-based material to help fight climate change even more.

Also, explain how growing hemp here in the US helps to create a bigger domestic market for hemp and hemp-based products. We can also talk about the health benefits associated with using hemp. We can host workshops in person and online. Talk to and interview people in the program, growers, scientists, activists, students, city and state officials, 'and maybe even utility company representatives if they are interested. Use the community resources this project will build and share them with the rest of the community and anyone willing to listen.

8. Recruit growers and work with the city to decide on the areas and numbers best suited for the project. We will recruit growers until we hit our target or reach the last planting session, which will be 12 months after the first planting month. Alternatively, we could spend the first 3 months recruiting growers. If additional people are interested in participating, we could have a signup sheet available online for the next project cycle happening in their area.

9. Acquire seeds. (There is a seller in California, Hemp Traders, that sells hemp seeds to farmers; we could get them there, or maybe the city knows of a place, Field teams (the people who recruited the growers) will hand out the seeds, and we will keep track of how many plants each person is growing. Plus, how well they are doing and what kind of plant management system they use.

10. Create partnerships with community colleges and universities to help research the hemp and find people interested in working on the project. Students at Pierce College's agricultural program and students from other college science departments, including their climate science, biology, geoscience, engineering, and biochemistry programs, can work with the hemp directly to be able to talk to the public via interviews and workshops and to be able to find new uses for the plant. It would also be great if they could help us measure the amount of carbon being sequestered, improvements to soil quality, and help recruit growers. We could work out a deal to do a project with the students that also gave them class credit and monetary compensation—creating a project partnership with the colleges' art departments. Ideally, students would have access to the hemp used in the project to make art. This availability will help us understand the material's flexibility and what we can make with hemp. Art projects would also be a great way to illustrate to the public how these materials work and what they look like and inspire even more possibilities.

11. Start tracking and mapping grower locations and planting schedules.

12. Meet with local law enforcement, share maps, and schedules, and agree upon the place to put signage for the growers so that law enforcement is always aware of who is and is not participating in the program to help keep the growers safe.

13. Start planting. Planting should be done in cycles and using succession planting to see how the plants react to different changes in the weather. So the various care methods, including watering routines, can be tested to determine the most successful results.

14. Establish check-in dates and procedures for growers and helpers. Schedule pick-up dates for those who want to donate their hemp back to the city/program. Ask them how they would like the hemp to be used (mainly for curiosity and to see if the educational programming is working). If they keep the hemp, show them how to do dry retting and explain that they are not allowed to do chemical or water retting. Establish online community groups so that the growers, advisors, researchers, and other people involved in the program can participate in troubleshooting issues as well as celebrating successes. Have active moderators to ensure the space remains safe. Use success stories and troubleshooting issues on the website to help educate the public, including the growers.

15. Have meetings with growers, and vote for community-based grow leaders with high success rates and who would like to help other growers in the area. A community leader who would be taking on more responsibility could earn more utility discounts.

16. Find new communities that want to participate in future versions of this project, and have a sign-up sheet on the website expressing interest. Contact city officials to talk to them about the project and see if it can be done there too.


Hemp
is
Pesticide
Free
&
Gets
Softer
the
More
You
Wear It!

Drought Considerations

California is experiencing extreme drought conditions right now, which this project is very mindful of. (I could not find studies that addressed this problem at this scale because hemp around the world is being grown in farm scenarios or labs and is not being studied from the perspective of a home grower, only raising approximately 10 plants at a time.) So instead of looking at this problem through the studies of others, utilize more of a DIY (do it yourself) approach to how gardeners are handling short water supplies in general when it comes to managing their home gardens. Here is some referenced information from a hemp farmer in central California connected to the company Hemp Traders.

Hemp plants need the most water during the first 4 weeks. They need well-drained soil. One study looked at growing hemp in pots due to drought concerns, but the study also looked at the use of Nitrogen and not just water discrepancies. This study was the only one I could find. They did say that hemp plants could bounce back from significant water stress, The Hemp Trader's farmer suggests that hemp is grown best using an irrigated drip system because it needs a constant amount of water, but the soil needs to drain well because the roots do not like to be wet.

Different methods should be used to determine which works best and under what conditions. We should try keeping some of the hemp plants in pots for 4 weeks and then transplanting them when they need less water. Most of the plants' growth takes place after the first four weeks. Sprouting occurred at 2-3 weeks after planting.

It should be noted that areas of the field which did not get adequate water with our sprinkler system did not germinate. However, the seeds did germinate later when we added our drip irrigation system. Plants which germinated earlier outcompeted the plants which germinated later, resulting in a higher mortality rate. Therefore to achieve a lower mortality rate and a higher yield, make sure you get all the plants to sprout evenly at the same time.

Fiber hemp has an incredible growth rate. Densely planted hemp limits the lateral branches and forces the plant to grow taller to compete for sunlight. At four weeks, the plants just averaged 4 inches. But by seven weeks, they averaged 2-3 feet. And by 10 weeks, the plants were 6-7 feet, increasing in height by 1 foot per week. By harvest time, the plants were 15-20 feet tall. (Sebin, no date listed)

(Their growth cycle is year-long, so we are capping our growth cycle at four months (15-16 weeks) so that plants do not grow higher than 12-14 feet. Limiting the number of plants may also affect how high the plants grow because there will not be as much competition for sunlight)

Other hemp plants can be grown in the ground directly, whereas other plants will stay in pots. Some may have to get transferred into larger containers.

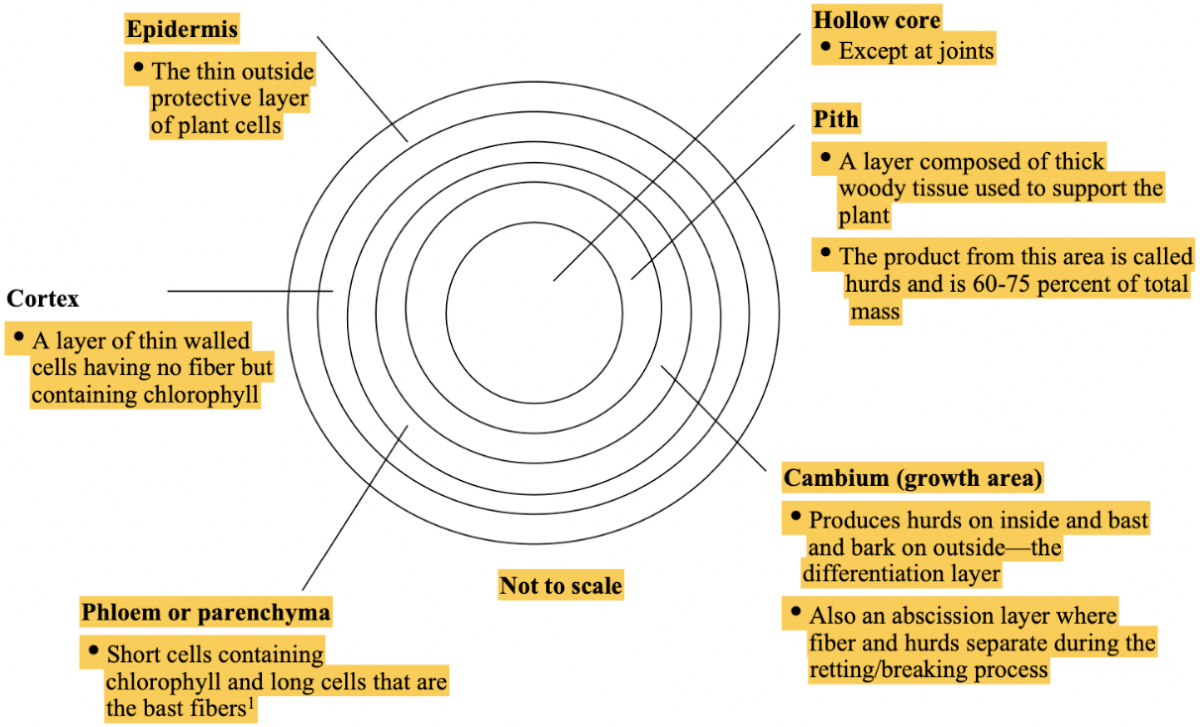
We will try various DIY (do it yourself) watering systems. There are a lot of water bottle conversion ideas. Some use cotton swabs to control the water dispersion, while others use cotton string. Some use rocks at the bottom of the water. At the same time, others use physics to control the bottle's pressure by poking a hole at the bottle and loosening the lid to deliver different amounts of water pressure. These regulate when the water comes out of the bottle and how fast. Other options include using terracotta pots to release the water/moisture into the soil a little bit at a time. We could also use methods that recycle the water in a closed or covered container so mosquitoes are not attracted. Other people could use an irrigation hose if they already have something like that available. New solutions should come up in the online community area since growers will get to grow 4 different cycles of hemp for the pilot project.

For processing, we will use dry/dew retting, which entails cutting down the stalks at the base of the plants. Then, take the leaves off (which can be composted) and lay the stalks on the ground for about 2 weeks. The process plays out when dew makes the stalks wet in the morning, and then they dry out during the day. The process initiates a bacterial response, and the bacteria eat the sticky substance embedded between the layers inside the stalk. When the stalks are completely dried, the layers become easier to separate and process. {USDA, date not listed}

The fiber needs to be beaten and combed serval times to be softened and untangled before it can be spun into yarn. It is easier to spin wet, so if the grower or processor wants to dye the fiber, it would be more water efficient to dye it right before spinning it.

The hurd can be broken down into various weights to make compost, hempcrete, or hemp plaster, or growers could experiment and find more ways to use the plant if they decide not to give the plants back to the city.

Figure 1. Cross section of a hemp stem



[1] Bast fibers are composed of primary bast fibers, which are long and low in lignin, and secondary bast fibers, which are intermediate in length and higher in lignin.

Source: Oliver and Joynt, p. 3.

If they decide to donate the plants, we could work with a processing company to process the plants for us. Alternatively, we could donate the plants to educational institutions, and they could explore new ways to use the plants. We could cut the plants down at harvest time and pick them up at harvest, but without a processing plan or destination point, we will have to find another location to ret the plants. Alternatively, we could let growers ret the plants and then pick them up when they are dry.

The Ask

Please remove or pause the restrictions surrounding hemp to complete this project. Then, after its success, we can expand it to all of LA County, Southern Ca., all of California, and then across the United States.

The restrictions that need to be lifted include where hemp can be grown. Only farmers, members of Indigenous communities on Indigenous land, and established educational and research facilities are allowed to grow hemp. Additionally, anyone 21 and over or 18 and over with a doctor's permission can grow up to 6 plants of marijuana at their home. It would be great to have people grow up to 10 plants in their yards, but starting with 6 plants per cycle is also a great way to start.

People should be allowed to help solve climate change in a way that does not force them to spend money they do not have and allows them to participate even if they are not homeowners. Even if curbing climate change does not end up being the motivation for their participation, everyone should still be able to benefit from this program. Communities rarely have the opportunity and the ability to come together and help solve life-threatening problems. It is a situation usually reserved for movies and tv, along with stories about the Greatest Generation that pulled together to help defeat a common enemy during a war. Like then, this moment allows us to provide a better future by working together now. We are already suffering through the

effects of climate change; each year is projected to be worse than the last. So allowing everyday people to participate by growing this plant to absorb CO2 from the atmosphere could make a huge difference. It could create understanding, innovation, and a higher demand for those allowed to sell this product for profit.

While at the same time, it could also clean our soil and sever our reliance on fossil fuels and foreign ties. It could help us establish cleaner production practices. It could help companies reach Newsom's goal for plastics to become completely compostable or recyclable by 2030. It could help Biden achieve the climate goals set in the inflation reduction act by removing greenhouse gases from the atmosphere.

Funding is needed for this project, which should qualify for financial assistance in the form of grants under Governor Newsom's Climate Bill for California and the federal bill that just passed, The Inflation Reduction Act. Both bills have allocated funding for innovative projects that reduce CO2 emissions and promote innovation to curb the effects of climate change.

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**denotes 2023 proposal updates*

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Charles and Le Digou, Antoine and Bar, Mahadev and Malhautier, Luc and De Luycker, Emmanuel and

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Hochschule Bremen, City University of Applied, Sciences, Neustadtswall 30, 28199 Bremen, Germany b Department of Sustainable Crop Production, University Cattolica del Sacro Cuore, Via Emilia Parmense, 84, 29122 Piacenza, Italy, Université Bretagne Sud, UMR CNRS 6027, IRDL, F-56100 Lorient, France, INRAE, UR1268 Biopolymères Interactions Assemblages, 44316 Nantes, France, ELSEVIER, Composites Part C: Open Access, Science Direct, Pgs. 1-24

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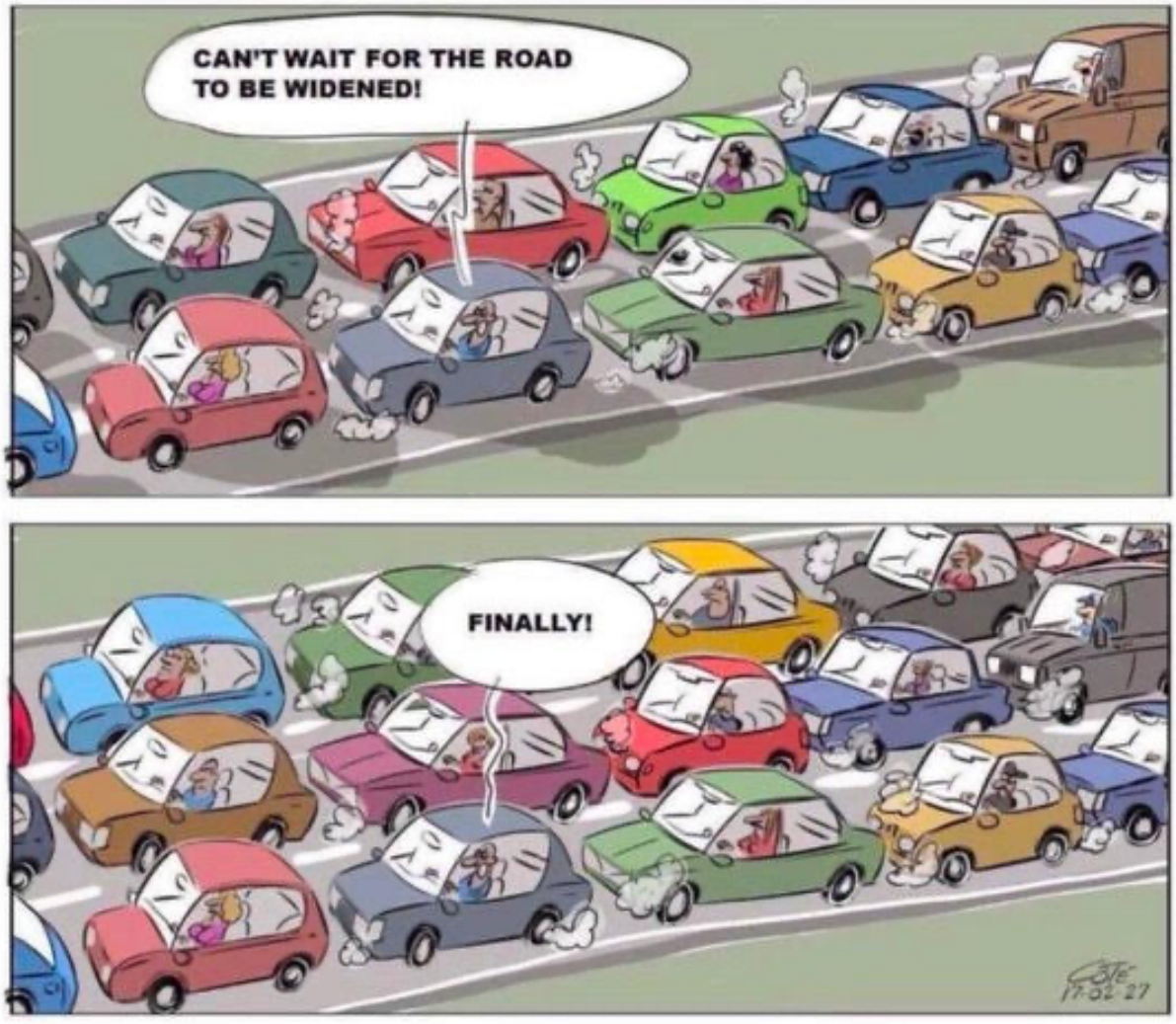
↑ Back to Top

January 12, 2024
Southern California Association of Governments (SCAG)
Ms. Karen Calderon

RE: Public comment on record for the Connect SoCal 2024 (2024-2050 Regional Transportation Plan/Sustainable Communities Strategy)

I thank you for the opportunity to express my concern about induced traffic and how this plan is inadequate in addressing this growing issue — especially in the Inland Empire.



The above expresses visually my thoughts on adding lanes to existing roads which only adds more vehicles and more pollution without really improving safety over time.

Wider highways mean more vehicles and more pollution. Across the US, transportation is already responsible for 27% of the country's greenhouse gas emissions.

Some states and cities are looking at alternatives. In Los Angeles, an expansion to Interstate 710 was abandoned in 2022 after the chief planning officer noted the city didn't see "widening as a strategy" for the city.

In Portland, young climate activists have been fighting against a $1.2 billion plan to widen the I-5 in a section which runs through a neighborhood called Albina, a historically Black neighborhood.

So, what's the answer? Matt Turner, an economics professors at Brown University, noted if you want more cars on the road, add more lanes. But that's not what most people want.

On the contrary, Transportation Secretary Pete Buttigieg said: "Connecting people more efficiently and affordably to where they need to go is a lot more complicated than just always having more concrete and asphalt out there."

Other options include more express bus lanes, cycle lanes, walking bridges, and light rail. Basically, people need affordable options to get them out of cars and off the roads.

"This is a make-or-break moment," . Ben Holland, an urban design and land use expert at clean energy non-

profit RMI, told The Guardian. “How the states use highway funds will basically determine whether we meet our transportation emissions goals."

This proposed plan will become a major part of the problem for us not meeting our emission goals. Much needs to be revised instead of thinking that in 30 years zero emission vehicles will save us.

Widening roads and inducing traffic also has the problem of destroying neighborhoods — many times in minority communities — and also destroying important habitat directly with the roads and indirectly with encouraging more sprawling development.

I look forward to reading how the revised plan addresses the concerns expressed above which must address both car traffic and goods movement.

Please keep me informed on all future documents and meeting related to Connect SoCal 2024 (2024-2050 Regional Transportation Plan/Sustainable Communities Strategy

Sincerely,

George Hague
[redacted]

The bold print in my letter comes from “Business Insider” by James Pasley (Feb 5. 2023) titled

"Some of the widest highways in the US have more than 20 lanes — but widening them won't solve traffic congestion"

Copy 1

1994 REGIONAL TRANSPORTATION PLAN

February, 1994

FEBRUARY 1994

San Diego

ASSOCIATION OF GOVERNMENTS

First Interstate Plaza
401 B Street • Suite 800
San Diego, California 92101

(619) 595-5300

This report was financed with federal funds from the U.S. Department of Transportation, Federal Transit Administration (FTA), U.S. Department of Transportation, Federal Highway Administration, state funds from the California Department of Transportation, and local funds from SANDAG member jurisdictions.

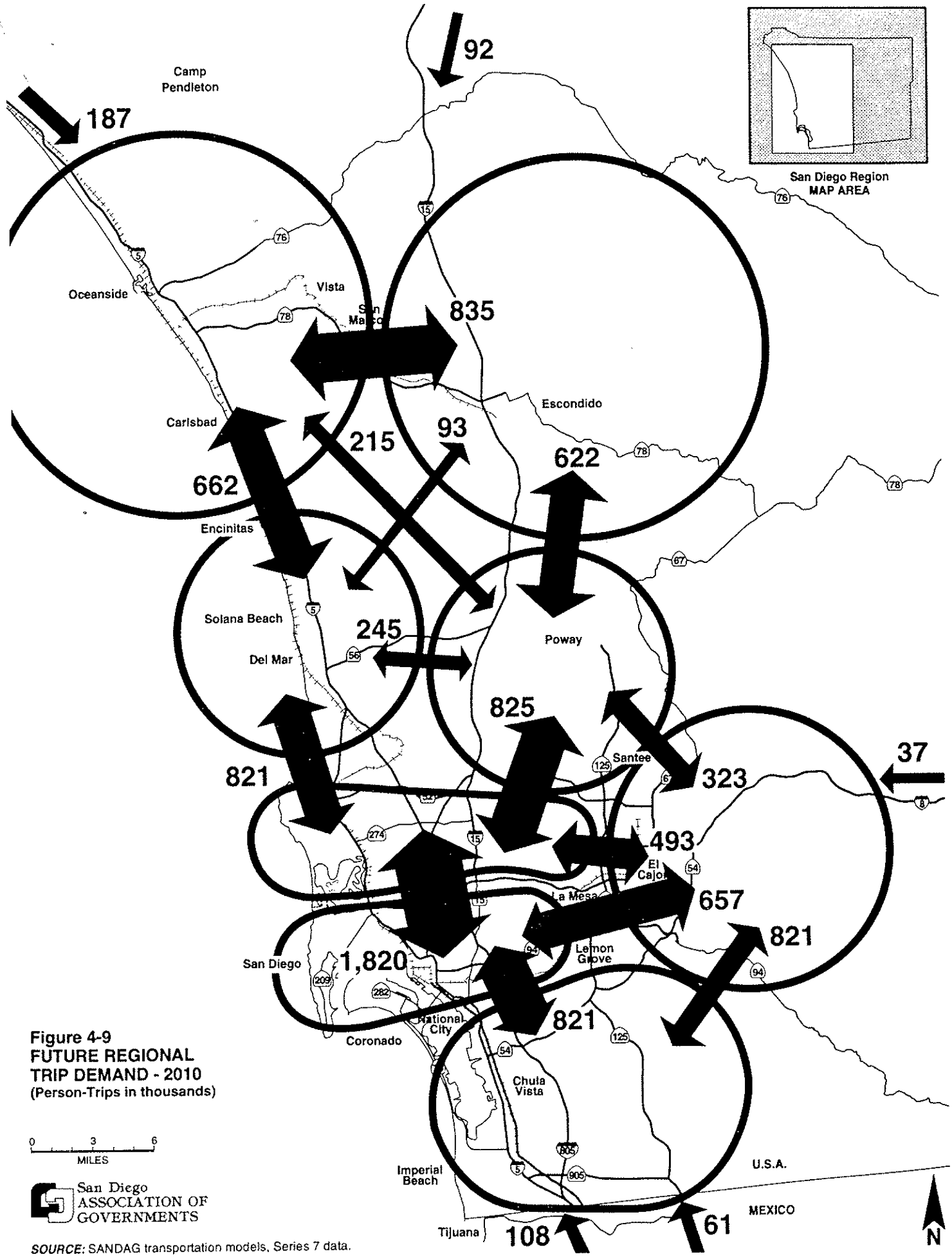


Figure 4-9
FUTURE REGIONAL TRIP DEMAND - 2010
(Person-Trips in thousands)

San Diego ASSOCIATION OF GOVERNMENTS

SOURCE: SANDAG transportation models, Series 7 data.

Gmail Mark <mark.jolles@gmail.com>

SCAG Region - Modeling unconstrained long range regional trip projections

Brian.Gardner@dot.gov <Brian.Gardner@dot.gov> Fri, Jun 12, 2015 at 12:31 PM
To: [redacted]
Cc: jack.lord@dot.gov, Richard.Backlund@dot.gov

Mark,

Thank you for taking the time to call and share your concerns and insights regarding SCAG's travel modeling work. I found your comments refreshingly constructive. The background information you emailed was also enlightening.

Regarding typical analyses to consider demand for travel, the RSA desire line plots are very close to the district concepts we discussed. Also I spoke with Jeremy regarding the "spider networks" you shared with me; the networks used in the RSA desire lines plots are very similar to this concept. Finally, the SANDAG bubble map could be nearly replicated using crossing volumes on the SCAG screenlines.

I'm a long way from California. Jack, Rick, and the other folks at the FHWA Division Office work closely with SCAG and technical experts within the agency, including my team, and we remain available to assist them when needed. I encourage you to continue your discussions with SCAG staff on the analysis and modal investment concerns you are raising as these are central to the planning work going on there.

With regards,

Brian

Brian Gardner

Team Leader

Systems Planning & Analysis Team

Office of Planning
Federal Highway Administration
1200 New Jersey Ave, SE HEPP
Washington DC 20590

Brian.Gardner@dot.gov

phone: (202) 366-4061
fax: (202) 366-3409

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CHAPTER 11.

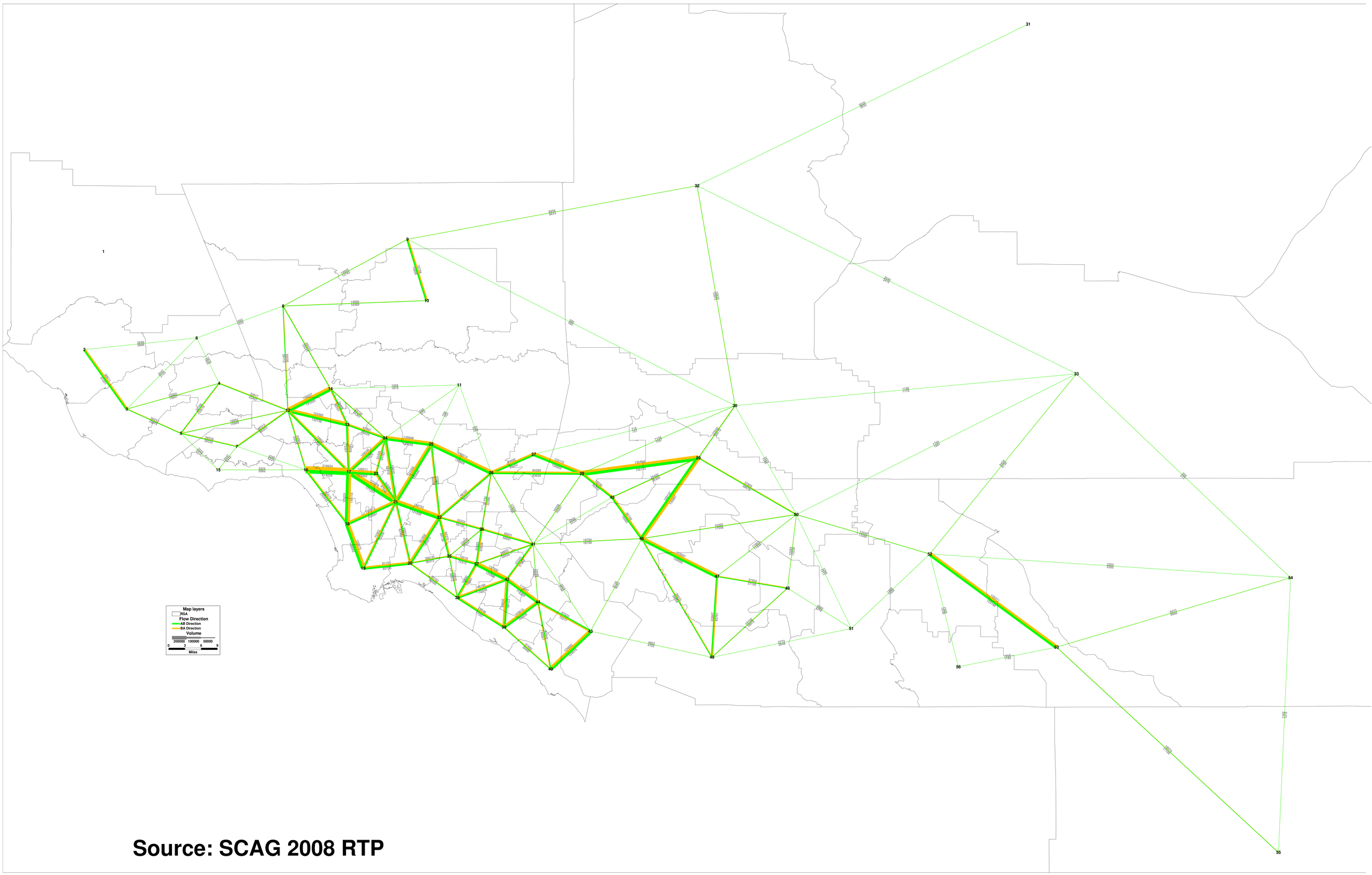
CHAPTER 11: SECOND STEP OF FOUR STEP MODELING (TRIP DISTRIBUTION)

Abstract

This chapter describes the second step of the four-step travel demand modeling or trip distribution. It focuses on the procedure that distributes the trips generated from or attracted to each zone in the study area. In this step, the trip distribution input is the trip generation step's output and the interzonal transportation costs. Based on the concepts of the gravity model, the trip flows between each pair of zones can be calculated as an OD matrix. The chapter discusses essential concepts and techniques, such as growth factors and calibration methods.

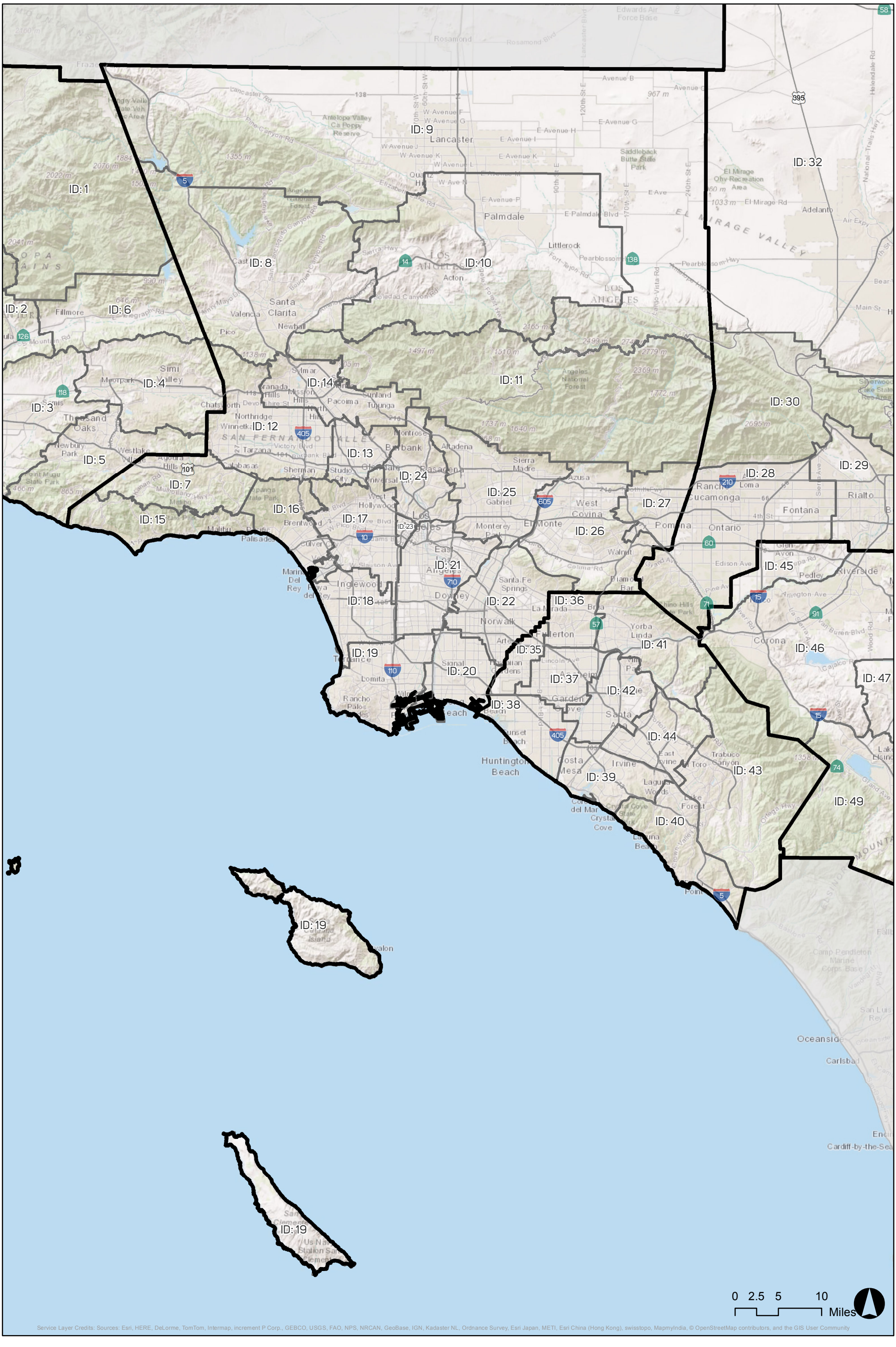
Learning Objectives

SCAG Region 2035 Adajcency Origin and Destination Map



Source: SCAG 2008 RTP

RSA Map in Los Angeles and Orange County



LOS ANGELES

Traffic fatalities eclipse murders in Los Angeles in 2023

Year-end data shows the number of homicides and shootings declined, police shootings, retail theft increased

By **Eric Leonard** • Published January 9, 2024 • Updated on January 10, 2024 at 10:29 am

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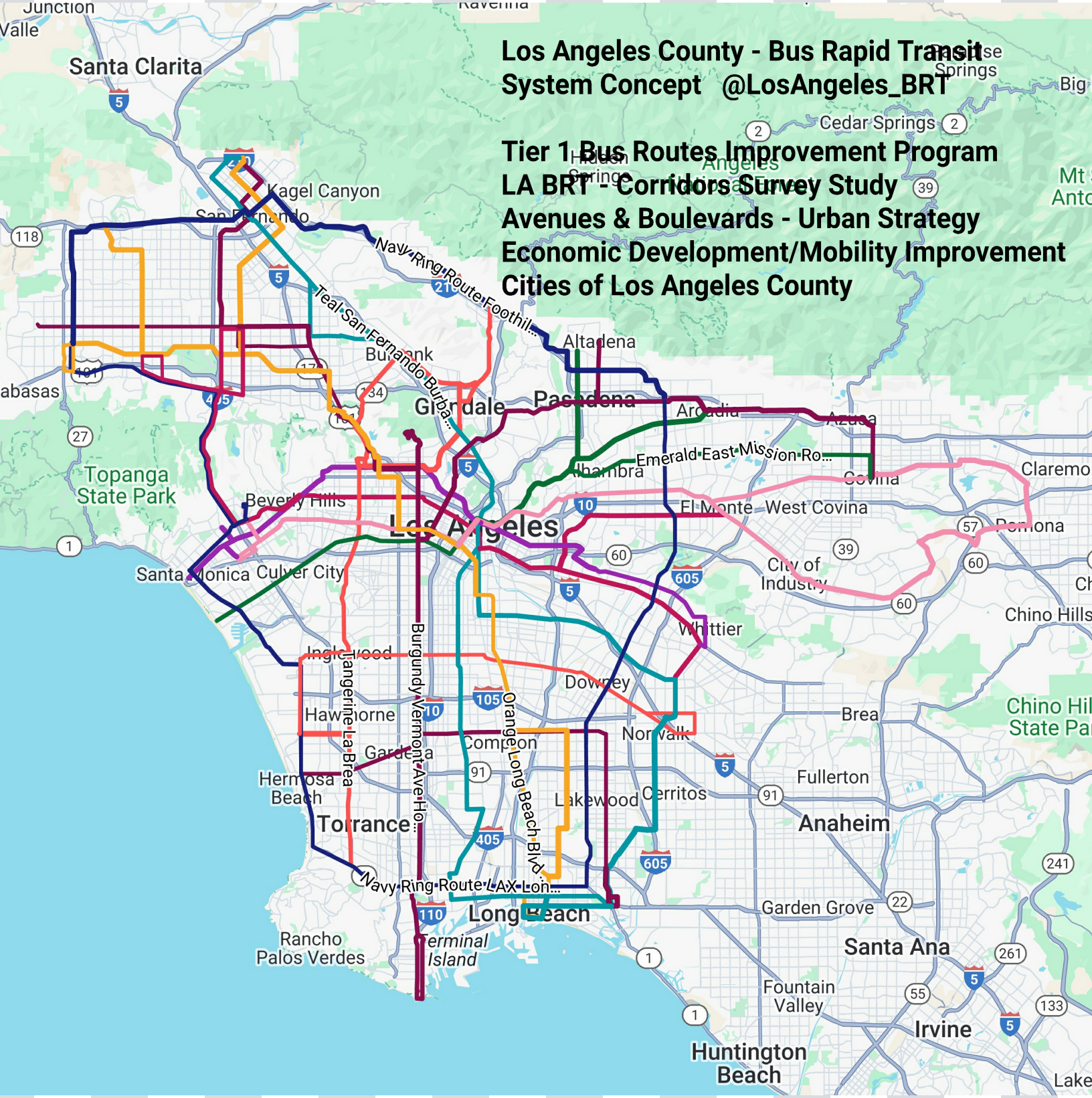
Los Angeles County - Bus Rapid Transit System Concept @LosAngeles_BRT
Tier 1 Bus Routes Improvement Program
LA BRT - Corridors Survey Study
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Teal San Fernando Burba...
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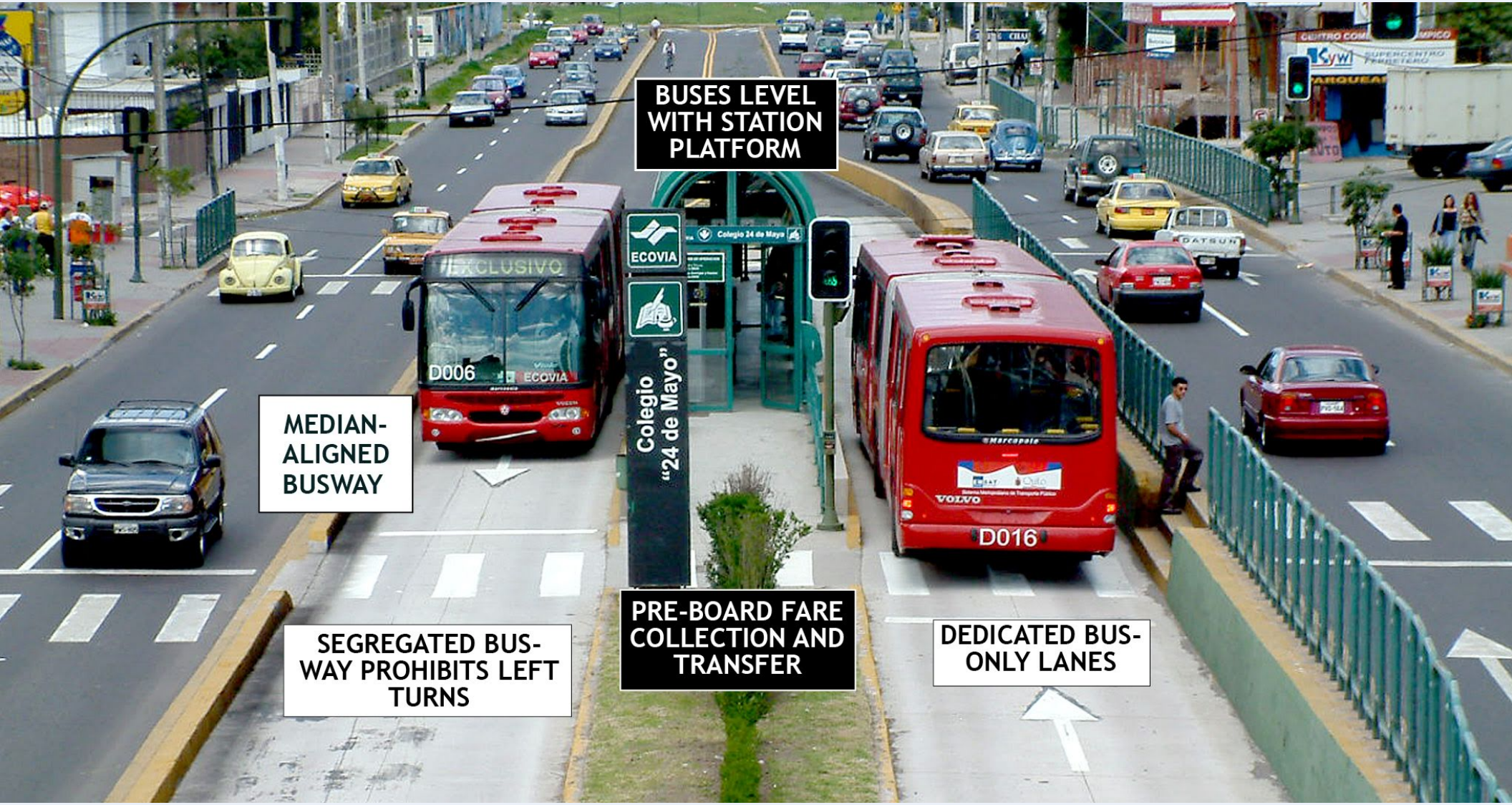
BUSES LEVEL WITH STATION PLATFORM
MEDIAN-ALIGNED BUSWAY
SEGREGATED BUS-WAY PROHIBITS LEFT TURNS
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DEDICATED BUS-ONLY LANES
ECOVIA
Colegio "24 de Mayo"
D006
D016
EXCLUSIVO
VOLVO

U.S. Department of Transportation
Federal Transit Administration

Administrator

400 Seventh St., S.W.
Washington, D.C. 20590

FEB - 2 2007

Mr. Harry Berezin
Office of Senator Dianne Feinstein
One Post Street, Suite 2450
San Francisco, CA 94104

Re: Questions from Mr. Mark Jolles pertaining to the Los Angeles Exposition Light Rail Line

Dear Mr. Berezin:

This letter is in response to Senator Dianne Feinstein's letter to Mr. Wes Irvin, Associate Administrator, for Office of Communications and Congressional Affairs for the Federal Transit Administration (FTA), seeking to respond to questions from Mark Jolles regarding the Los Angeles County Metropolitan Transportation Authority (LACMTA) Exposition Corridor Light Rail Line. FTA representatives have had numerous meetings and phone conversations with Mr. Jolles prior to this correspondence. Based upon his January 10, 2007, letter to your office, he feels that FTA has not previously provided sufficient responses to his questions. Below are specific responses to his questions:

1) We would like specific information that was provided by FTA to the LACMTA regarding project modeling and failure to meet the New Starts project justification criteria.

FTA Response: In the Fall of 2004, FTA notified LACMTA that it appeared the majority of the project's forecasted travel time savings resulted from: 1) increases in bus speeds and timed transfers from feeder buses, and 2) the use of an asserted travel time benefit (modal constant) for high-income transit riders that did not benefit other transit riders. As a result of these assumptions, FTA believed that a large proportion of the project's benefits did not reflect the benefits of the proposed project, but resulted from the impacts of an improved feeder bus network for the light rail system. FTA requested that LACMTA correct these issues so that the travel forecasts would better reflect the benefits of the proposed light rail extension, and not the impact of feeder bus service and modal constant that benefits high-income transit riders.

At that time, LACMTA believed it would be too time consuming to recalibrate the regional model and re-code the bus feeder network. LACMTA decided to pursue the project without Section 5309 New Starts funding for the project, to expedite project implementation. FTA has not received revised forecasts for the Exposition Corridor project. Because LACMTA is not seeking Section 5309 New Starts funds for construction, the calculation of transportation system user benefits is not required because a rating for project justification is not required.

12 January 2024

Southern California Association of Governments
900 Wilshire Blvd. Ste. 1700
Los Angeles, CA 90017
Submitted via online portal at https://scag.ca.gov/connect-socal-2024-comment-submission-form.

Re: 2024 Connect SoCal

Dear Connect SoCal team,

I am writing to provide comments on the 2024 Connect SoCal plan which has been made available for public review and comment. Based on the information contained in the main document as well as the Technical Reports, the Plan endeavors to address many complex topics with far-reaching impacts. Undoubtedly, the Plan will provide some improvements over what the region currently experiences. However, it remains woefully short on truly meeting the needs of the region in a way that would provide a true change of the experience of getting around.

The glaring issue of the current plan is the lack of considering the VMT reduction goals of the CARB 2022 Scoping Plan. In 2022, CARB passed its most recent Scoping Plan which identified a target of reducing per-capita VMT in the state by 25% below 2019 levels by 2030 and a total of 30% below 2019 levels by 2045. While Connect SoCal does identify that some level of VMT reduction would occur due to the Plan (page 179), the reduction identified would come far short of meeting the goal of the Scoping Plan both in amount and time.

Though the goal is ambitious, it is within reach as long as the right steps are taken by SCAG and local agencies, but it is a goal which simply cannot be put off until the next Connect SoCal cycle to address. The most critical issue is to prioritize VMT-reducing projects. As noted several times in the various Connect SoCal documents, there is currently an extensive road network spanning tens of thousands of miles and reaching to the hinterlands of the region and the network continues to expand. However, the same simply cannot be said for the transportation network for those who travel by other means. The Plan does acknowledge this, but the provided remedies are woefully inadequate, particularly outside of the LA Basin and Orange County. Map 2-4. 2050 High Quality Transit Corridors indicates that there will be only a handful of those corridors throughout the region in that year while leaving millions of people with no access to those amenities, including in some of the fastest-growing areas of the SCAG region.

While it is good to see that the Plan notes that improvements are being made, there appears to be a lack of vision at SCAG, the regional transportation agencies, and local agencies. For example, RCTC is planning Coachella Valley rail service and is actively seeking grants for Tier II environmental clearance, yet their plan for that service is woefully inadequate to meeting any real transportation needs despite being predicated on well over a billion dollars in investment for new track. However, with proper planning, that investment could establish a real travel option with multiple daily departures which would reduce driving from new communities going up in the Cherry Valley/Yucaipa/Beaumont/Banning region where people then still drive to work in points west, increasing VMT. Were RCTC to plan that service properly such as providing hourly departures (potentially to include working with SBCTA/LA Metro/Metrolink to route some trains over San Bernardino Line as well as with Imperial County on the other side to extend service to Calexico), there would be a real travel option for the thousands of people moving to the Pass communities.

Other rail opportunities include reconfiguring the Ontario area to better connect Brightline West, CAHSR Phase 2 to San Diego, and the Metrolink Riverside Line (as well as rerouting it to the west as well) to provide a seamless high-quality connection to points both elsewhere in the region and beyond (i.e. Las Vegas, San Diego). Closing the gap between the Metro C Line and LOSSAN in Norwalk is also crucial and cannot wait until the 2050s to be completed. Instead, it should be accelerated and completed as soon as possible, potentially by using toll revenue from the planned HOT lanes on I-105 to fund it.

In addition to the greater investment in rail, we also need better bus services. The Project List includes many “widening” projects all across the region which would add lanes. Many of these should simply be nixed, but if they really must go through, they should happen as bus-only lanes to help speed up transit service and make it a more viable option. This is especially true in areas where two or more bus routes use the same portion of a route. This should not be considered “bus rapid transit” but simply a commonsense approach to making sure that transit can move and is viable.

As referenced above, there are many areas of the region which are still growing with greenfield development. These are opportunities to do far better than the status quo for the region and build communities which naturally foster lower VMT daily life. This is crucial for several reasons. Not only is it important to make sure that we are doing as much as possible to lower VMT from areas which often increase it, but research has shown that when people are making big life changes presents a prime opportunity for them to also consider new ways to get around. Building communities which make it easier to walk, bike, or use transit instead of drive will be indispensable to achieving the VMT reduction targets.

Part of what is needed for achieving the VMT reduction targets is to rethink how the transportation network itself is constructed. While it is concerning to see the vast number of widening projects in the Project List, many of those projects can be repurposed to be beneficial to the goal of lowering VMT, instead of the hinderance which they currently would be, by updating standards which are used to design and build roads. In 2022, Senate Bill 932 (Portantino) was passed which mandated that starting in 2025, all general plan mobility plans must include essentially an active transportation plan and vision zero/zero deaths goals. While SCAG has historically been the source of a fair amount of complete streets planning in the region, I will say from personal experience in a number of them that the output is still lackluster in terms of what is truly needed due to a variety of factors. Thus, with time already ticking for the 2030 deadline, jurisdictions cannot wait until the next time they are doing their General Plan updates to begin to address SB 932 and any currently undergoing an update which technically do not have to comply if finished within the next 11 months nevertheless still should as getting good plans available is essential so that they can start impacting construction which realistically at this point, might not even happen until maybe the 2028 timeframe at earliest.

As noted in the report, San Pablo Avenue in Palm Desert is a pretty good regional example of the type of changes we need and which the widening projects in the Project List really should be modeled after. That should be standard practice. Further benefits can be realized by adopting standards based on research-proven designs to both improve safety of the transportation system as well as convince more people to not use their cars, particularly for those 59% of trips which are less than three miles.

Thank you for the time to provide these comments.

Attachments:

Sustainable safety road design guidelines

Ontario International Airport Intermodal rail connections map

LOSSAN service proposal

Sustainably Safe Road Classification Chart
Urban/Suburban/Exurban Surface Streets

Classification	Design speed	Parking	Driveways	# of Lanes	Walkway	Bikeway	Departure zone	Center line	Crosswalks	Traffic calming
Local	20 MPH max	Bays, on sidewalk	Allowed	Up to one per direction	Four-foot sidewalks per side, six-foot sidewalk one side, "yield street"	Bike boulevard, edge lane road, "yield street"	No	No	Marked, raised, refuge island	Chicanes, speed tables, raised intersections, pinch points, gateway, horizontal deflection
Collector	20 MPH		Suboptimal	One per direction	Six-foot sidewalk per side	Edge lane road, bike lane				
	30 MPH	Avoid if possible	Consolidated		Six-foot sidewalks per side with parkway	Separate bikeway preferred, bike lane	None preferred	No < 6000 AADT	Marked, raised, refuge island, RRFB	Speed tables, horizontal deflection
Arterial		Not allowed	No (access only via local from roundabout/ signal)			Separate bikeway (bidirectional preferred), MUP		Yes		Speed tables, cameras
	40 MPH			Two per direction w/ curbed median	Four-foot sidewalk in areas w high demand		Hard shoulder, curb	N/A	Marked, refuge island, PHB or signal	Speed cameras

Sustainably Safe Road Classification Chart Rural Surface Streets								
Classification	**Design speed**	**Parking**	**Driveways**	**# of Lanes**	**Bikeway**	**Departure zone**	**Crosswalk**	**Traffic calming**
Local	Up to 25 MPH	Bays	Allowed	One per direction	Bike boulevard, edge lane road, "yield street"	Minimal	Marked, raised, refuge island	Chicanes, speed tables, raised intersections, pinch points
Collector	20 MPH	Bays	Allowed	One per direction	Edge lane road, bike lane			
	30 MPH	Bays	Discouraged	One per direction	Separate bikeway preferred, bike lane	Context		Speed tables, horizontal deflection
Arterial	40 MPH	No	Allowed	One per direction	Separate bikeway (bidirectional preferred), MUP		Marked, refuge island	Speed tables, cameras
	50 MPH	No	Discouraged	One per direction		Yes	Marked, refuge island	Speed cameras

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Main Office

900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
Tel: (213) 236-1800
www.scag.ca.gov

Regional Offices

Imperial County

1503 N. Imperial Ave., Ste. 104
El Centro, CA 92243
Tel: (213) 236-1967

Orange County

OCTA Building
600 S. Main St., Ste. 1143
Orange, CA 92868
Tel: (213) 236-1904

Riverside County

3403 10th St., Ste. 805
Riverside, CA 92501
Tel: (951) 784-1513

San Bernardino County

1170 W. Third St., Ste. 140
San Bernardino, CA 92410
Tel: (213) 630-1499

Ventura County

4001 Mission Oaks Blvd., Ste. L
Camarillo, CA 93012
Tel: (213) 236-1960