MEETING OF THE

TECHNICAL WORKING GROUP

Thursday, July 20, 2023
10:00 a.m. – 12:00 p.m.

SCAG OFFICES
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
(213) 236-1800

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MEETING ID: 142 774 637

If members of the public wish to review the attachments or have any questions on any of the agenda items, please contact Kevin Kane at (213) 236-1828 or via email at kane@scag.ca.gov. Agendas & Minutes for the Technical Working Group are also available at: https://scag.ca.gov/technical-working-group

SCAG, in accordance with the Americans with Disabilities Act (ADA), will accommodate persons who require a modification of accommodation in order to participate in this meeting. SCAG is also committed to helping people with limited proficiency in the English language access the agency’s essential public information and services. You can request such assistance by calling (213) 630-1402. We request at least 72 hours (three days) notice to provide reasonable accommodations and will make every effort to arrange for assistance as soon as possible.
1. **Connect SoCal 2024 Development General Update**  
   *Sarah Domínguez*  
   20 minutes  
   *Packet page 5*

2. **Model Peer Review Recap**  
   *Bayarmaa Alexsandr*  
   15 minutes  
   *Packet page 18*

3. **Connect SoCal 2024 Performance Measures**  
   *Mike Gainor*  
   15 minutes  
   *Packet page 26*

4. **Connect SoCal 2024 Equity Analysis Update**  
   *Annaleigh Ekman*  
   30 Minutes  
   *Packet page 33*

5. **Connect SoCal 2024 Work from Home Assumptions**  
   *Kevin Kane*  
   15 Minutes  
   *Packet page 40*

6. **Connect SoCal 2024 PEIR: Status Update on Additional Stakeholder Outreach & Preliminary Outline of Draft Contents**  
   *Karen Calderon*  
   5 Minutes  
   *Verbal update only*

7. **SoCal Greenprint TAC update**  
   *Kimberly Clark*  
   5 Minutes  
   *Verbal update only*
# Meeting Minutes (Abridged)

**May 18, 2023**

10 a.m. – 12 p.m.

The meeting was held via Zoom teleconferencing.

## Membership Attendance

### LAND USE AUTHORITIES

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Brekke, Kendall</td>
<td>City of Lancaster</td>
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<tr>
<td>Gable, Emily</td>
<td>City of Los Angeles</td>
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<tr>
<td>Hogan, Larissa</td>
<td>City of Culver City</td>
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<td>Lauffer, Amanda</td>
<td>City of Anaheim</td>
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<td>Lin, Tiffany</td>
<td>City of Irvine</td>
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<tr>
<td>Murray, David</td>
<td>City of Riverside</td>
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<tr>
<td>Pallini-Tipton, Conni</td>
<td>City of Los Angeles</td>
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<tr>
<td>Vander Hyde, Candice</td>
<td>City of Lancaster</td>
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### REGIONAL PARTNERS

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<thead>
<tr>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Brooks, Caitlin</td>
<td>VCTC</td>
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<tr>
<td>Garfio, Angel</td>
<td>OCTA</td>
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<td>Huddleston, Lori</td>
<td>LA Metro</td>
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<td>Lee, Josh</td>
<td>SBCTA/SBCCOG</td>
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<tr>
<td>Tso, Kristin</td>
<td>OCTA</td>
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### REGULATORY & COORDINATING AGENCIES

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Lugaro, Julie</td>
<td>Caltrans – D12</td>
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<td>Miranda, Jude</td>
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### FIELD EXPERTS

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<th>Name</th>
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<tr>
<td>Zaman, Ruby</td>
<td>CDR/CSUF</td>
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### ALTERNATES & PUBLIC ATTENDEES

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<tr>
<th>Name</th>
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<tr>
<td>Aranguri, Cesar</td>
<td>Indigenous Ark Urban Technologies</td>
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<td>Baker, Wally</td>
<td>Jobs 1st Alliance</td>
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<tr>
<td>Flocks, Violet</td>
<td>Southwest Mountain States Regional Council of Carpenters / ULI</td>
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<td>Hoenshell, Shawn</td>
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<td>McCarthy, Mike</td>
<td>R-NOW</td>
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<td>Pena, Tari</td>
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<td>Singer, Nathaniel</td>
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<td>Spindler-Ruiz, Pedro</td>
<td>AECOM</td>
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Meeting Summary

1. AB 2334 TECHNICAL ASSISTANCE

   Tom Vo presented on AB 2334 technical assistance that SCAG is providing to local and regional partners. The presentation included an overview of AB 2334, publicly available tools and data, and SCAG next steps. Participants provided no comment or questions.

2. JOB QUALITY INDEX

   Gigi Moreno provided an economic update with a focus on the SCAG Job Quality Index. The update included an overview of the job quality index, its purpose and value, and outreach efforts to gather feedback. Several participants provided comments and questions for discussion: Mike McCarthy (R-NOW, nonmember), Pedro Spindler-Ruiz (nonmember), Violet Flocks (Southwest Mountain States Regional Council of Carpenters, nonmember), and Wally Baker (Jobs 1st Alliance, nonmember).

3. CONNECT SOCAL 2024 – LDX SURVEY RESULTS

   Sarah Dominguez presented the results from the Local Data Exchange (LDX) Survey conducted last year. The presentation included an overview of the survey, response rate by county, specific responses relating to Land Use and Housing, Transportation, and Barriers, as well as next steps. Ruby Zaman (CDR/CSUF), Mike McCarthy, and Emily Gable (City of Los Angeles) participated in discussion.

4. RHNA REFORM UPDATE

   David Kyobe provided a quick update on the Regional Housing Needs Allocation (RHNA) Reform Timeline, including the kickoff and deadline of SCAG’s RHNA outreach on draft recommendations. No comments or questions were provided.
Outreach Summary
Spring 2023
Outreach Activities

- 20 in-person workshops
- 7 virtual workshops
- 20 Pop-Up and Street Team Engagements
- 15 Community Partners
- Regionwide advertising campaign
- Resulting in over **3,600** surveys collected

What We Heard: Survey

*When you think about the challenges our region faces, please choose three (3) that are most important to you.*

- Shortage of affordable and diverse housing options (51%)
- Limited reliable travel options besides driving to everyday destinations (37%)
- Climate change impacts (33%)
What We Heard: Survey

When you envision our region in 2050, which three (3) choices best describes what you’d like to see?

- Healthy for all people to live in (53%)
- Prosperous, with economic opportunity for all residents (46%)
- Safe for all modes of travel (39%)

What We Heard: Community Partnerships

- Limited transportation options and the housing affordability affect quality of life, particularly in historically disinvested areas.
- Infrastructure improvements should be coupled with direct benefits and protections for residents/small businesses at risk of displacement.
- Desire for continued engagement with community partners on Connect SoCal implementation including updates on strategies and performance metrics.
Policy Framework
July 2023 Update

Policy Development Framework Background

• First adopted by the Regional Council on June 2, 2022
• Documented draft vision and goals
• Outlined policy priorities from Connect SoCal 2020, recent Regional Council actions, and emerging issues
• Established the special subcommittees
• **Regional Council adopted the updated Policy Framework with Regional Planning Policies on July 6, 2023**
Regional Planning Policies

What is included in the Regional Planning Policies?
• Priorities established with the Core Vision of Connect SoCal 2020
• Policy direction from SCAG’s Policy Committees since 2020 and recommendations from Connect SoCal 2024 special subcommittees

What is the purpose?
• Articulate broad and established regional policies to achieve goals and realize the regional vision of Connect SoCal 2024
• Provide a resource for transportation agencies or local jurisdictions to demonstrate alignment with RTP/SCS when seeking funding from state or federal programs

Updated Draft Vision & Goals

Draft Vision: A healthy, accessible, and connected region for a more resilient and equitable future.

1. Build and maintain a robust transportation network. **(MOBILITY)**
2. Develop, connect, and sustain communities that are livable and thriving. **(COMMUNITIES)**
3. Create a healthy region for the people of today and tomorrow. **(ENVIRONMENT)**
4. Support a sustainable, efficient, and productive regional economic environment that provides opportunities for all. **(ECONOMY)**
Updated Draft Vision & Goals

Draft Vision: A healthy, prosperous, accessible and connected region for a more resilient and equitable future.

1. Build and maintain a robust transportation network. (MOBILITY)
2. Develop, connect, and sustain communities that are livable and thriving. (COMMUNITIES)
3. Create a healthy region for the people of today and tomorrow. (ENVIRONMENT)
4. Support a sustainable, efficient, and productive regional economic environment that provides opportunities for all. (ECONOMY)

3. Create a healthy region for the people of today and tomorrow. (ENVIRONMENT)
   • Develop communities that are resilient and can mitigate, adapt to, and respond to chronic acute stressors and disruptors such as climate change.
   • Integrate the region's development pattern and transportation network to improve air quality, reduce greenhouse gas emissions and enable more sustainable use of energy and water.
   • Conserve the restore the region's natural agricultural resources.
## Policy Categories by Goal

### MOBILITY
- System Preservation
- Complete Streets
- Transit & Multimodal Integration
- Transportation Demand Management
- Transportation System Management
- Technology Integration*
- Safety
- Funding the System/User Fees

### COMMUNITIES
- 15 Minute Communities *
- Housing the Region *
- Priority Development Areas
- Equitable Engagement & Decision-Making*

### ENVIRONMENT
- Sustainable Development
- Air Quality & Clean Technology
- Natural & Working Lands Preservation
- Climate Resilience*

### ECONOMY
- Goods Movement
- Broadband *
- Universal Basic Mobility*
- Workforce Development*
- Tourism

*New policy area for Connect SoCal 2024

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### Mobility Examples

**Draft Regional Planning Policies**

- **Transportation Demand Management:** Encourage the development of transportation projects that provide convenient, cost-effective and safe alternatives to single-occupancy vehicle travel (e.g., trips made by foot, on bikes, via transit, etc.).

- **Transportation System Management:** 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.

- **Technology Integration:** Support the implementation of technology designed to provide equal access to mobility, employment and economic opportunity, education, health and other quality of life opportunities for all residents within the SCAG region.
• **System Preservation and Resilience:** Prioritize repair, maintenance, and preservation of the SCAG region's existing transportation assets first, following a "Fix-It-First" principle.

• **Complete Streets:** Pursue the development of complete streets that comprise a safe multi-modal network with flexible use of public rights-of-way for people of all ages and abilities using a variety of modes (e.g., people walking, biking, rolling, driving, taking transit).

• **Transit Multimodal Integration:** Encourage and support the implementation of projects both physical and digital that facilitate multimodal connectivity, prioritize transit and shared mobility, and result in improved mobility, accessibility, and safety.

• **Safety:** Eliminate transportation-related fatalities and serious injuries on the regional multimodal transportation system.

• **Funding the System/User Pricing:** Promote stability and sustainability for core state and federal transportation funding sources.
• **Priority Development Areas:** Foster growth within the Forecasted Regional Development Pattern of Connect SoCal 2024 by prioritizing policies that encourage housing and employment in Priority Development Areas.

• **Housing the Region:** Encourage housing development in areas with access to important resources (economic, educational, health, social, and similar) and amenities to further fair housing access and equity across the region.

• **15 Minute Communities:** Promote 15-minute communities as places with a mix of complementary land uses and accessible mobility options that align with and support the diversity of places (or communities) across the region where residents can either access most basic, day-to-day needs within a 15-minute walk, bike ride, or roll from their home or as places that result in fewer and shorter trips because of the proximity of complementary land uses.

• **Equitable Engagement and Decision-Making:** Advance community-centered interventions, resources, and programming that serve the most disadvantaged communities and people in the region, like Priority Equity Communities, with strategies that can be implemented in the short-to-long-term.
• **Sustainable Development:** Promote sustainable development and best practices that enhance resource conservation, reduce resource consumption, and promote resilience.

• **Air Quality:** Reduce hazardous air pollutants and greenhouse gas emissions and improve the air quality throughout the region through planning and implementation efforts.

• **Clean Transportation:** Accelerate the deployment of a zero-emission transportation system and use near-zero emission technology to offer short term benefits where zero emissions solutions are not yet feasible or commercially viable.

• **Natural and Agricultural Land Preservation:** Prioritize the climate mitigation, adaptation, resilience, and economic benefits of natural and agricultural lands in the region.

• **Climate Resilience:** Prioritize the most vulnerable populations and communities subject to climate hazards to help the people, places, and infrastructure that are most at risk for climate change impacts, recognizing that disadvantaged communities are often overburdened.
**Economy Examples**
Draft Regional Planning Policies

- **Goods Movement:** Leverage and prioritize investments particularly where there are mutual co-benefits to both freight and passenger/commuter rail.

- **Broadband:** Support ubiquitous regional broadband deployment and access, to provide the necessary infrastructure and capability for Smart Cities strategies and to ensure that the benefits of these strategies improve safety and are distributed equitably.

- **Universal Basic Mobility:** Encourage partnerships and policies to broaden safe and efficient access to a range of mobility services to improve connections to jobs, education, and basic services.

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**Economy Examples**
Draft Regional Planning Policies

- **Workforce Development:** Foster a positive business climate by promoting regional collaboration in workforce and economic development between cities, counties, educational institutions, and employers.

- **Tourism:** Consult and collaborate with state, county, and local agencies within the region charged with promoting tourism and transportation.
Stakeholder Engagement and Feedback

• **April 2023:** SCAG shared draft Regional Planning Policies and solicited feedback from several stakeholder groups:
  • County Transportation Council (CTC) Planning Directors
  • Subregional Executive Directors
  • SCAG’s Regional Planning Working Groups (RPWG)
  • Technical Working Group (TWG)
  • Regional Transit Technical Advisory Committee (RTTAC)
  • Global Land Use & Economic (GLUE) Council

Next Steps

• **Draft release of Connect SoCal 2024 in October**
• **Plan Modeling & Data Analysis**
  • Incorporate feedback into:
    • Draft Implementation Strategies
    • Technical Reports

• **Policy Framework Update with:**
  • Updated Draft Vision and Goals
  • Revised Regional Planning Policies

• **Public Outreach**
• **Draft Regional Planning Policies development**

**Spring 2023**

**Now**

**Through Summer 2023**

**Fall 2023**

• **Draft release of Connect SoCal 2024 in October**
Questions?
Comments?

FOR MORE INFORMATION, PLEASE VISIT SCAG.CA.GOV/CONNECT-SOCAL
Background

• Model Peer Review procedure is recommended by RTP Guideline from California Transportation Commission (CTC)

• The purpose is to ensure that SCAG regional travel demand model (SCAG ABM) aligns with current state of practice and can effectively support SCAG’s various planning functions and analysis

• Peer review panel – experts from federal, state, MPOs, academic and professional

• Peer review covers various aspects - model framework, performance, 2019 base year validation, and sensitivity to policies and strategies

• Suggestion and recommendations proposed by the panel members are used for future model improvements
Overview

SCAG ABM was developed and used for 2020 RTP/SCS. The model has been updated since initial development. SCAG ABM model improvement for 2024 RTP/SCS includes model estimation using the most recent data, 2019 base year model calibration and validation, and new sub-models development.

- Refining & re-estimating coefficients for existing sub-models using the latest data
- Adding two new sub-models for future planning policy analyses
- Calibration and validation - utilizing local target metrics
- Software improvements - run time, code optimization and upgrade
- Incorporate emerging technologies – TNC
- Update - Heavy duty truck model
- Update - SED, network other inputs (AOC, WFH)
Peer Review Panel

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Guy Rousseau (Chair)</td>
<td>Modeling Manager</td>
<td>Atlanta Regional Commission</td>
</tr>
<tr>
<td>Anthony Catalina</td>
<td>Senior Director, Countywide Planning</td>
<td>LA Metro</td>
</tr>
<tr>
<td>Brian Gardner</td>
<td>System Planning and Analysis Team Lead</td>
<td>Federal Highway Administration</td>
</tr>
<tr>
<td>Konstadinos Goulias</td>
<td>Professor of Transportation</td>
<td>UCSB</td>
</tr>
<tr>
<td>Nesamani Kalandiyur</td>
<td>Manager, Transportation Analysis Section</td>
<td>CARB</td>
</tr>
<tr>
<td>Wu Sun</td>
<td>Manager of Regional Models</td>
<td>SANDAG</td>
</tr>
<tr>
<td>Mike Wallace</td>
<td>Principal</td>
<td>Fehr &amp; Peers</td>
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</table>

Charge to the Panel

- Review model documentation and provide recommendations intended to improve and/or demonstrate the performance of the model for regional analysis.

- Provide recommendations on future modeling directions and possible future model enhancements.

- Assess adequacy of the SCAG travel demand model
Agenda

8:30am - 8:55am Breakfast/ Networking

8:55am Welcome
Sarah Jepson - Chief Planning Officer

9:00-9:20 Introduction, Charge to Panel Chair

9:20 am - 9:35 am SCAG overview

9:35 am - 9:55 am SCAG ABM Model

9:55 am - 10:40 am Model Improvement and Enhancement

10:45 am - 10:50 am Break

10:50 am - 11:40 am Calibration and Validation

11:40 am - 12:00 pm Break/Lunch

12:00 pm - 12:45 pm Model Sensitivity Tests (Working lunch)

12:45 pm - 12:55 pm Break

12:55 pm - 2:00 pm Open Discussion

2:00 pm - 3:40 pm Panel Discussion

3:40 pm - 3:50 pm Break

3:50 pm - 4:20 pm Panel Recommendation

4:20 pm - 4:30 pm Wrap up

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2023 Transportation Modeling Peer Review

*A Peer Review of the Southern California Association of Governments (SCAG) Regional Travel Demand Model*

Final Report

An in-person peer review of the travel demand modeling process used to develop the SCAG Region’s Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP) was held at SCAG’s office on May 10, 2023. The review was conducted at the request of SCAG to evaluate their current activity-based model, and to provide recommendations pertaining to future model development efforts.

The peer review of the SCAG transportation modeling process featured a panel consisting of two transportation modelers from other Metropolitan Planning Organizations (MPOs) somewhat comparable in size to SCAG, an academic transportation modeler, a transportation modeling...
Positive Highlights of the SCAG Model

- Very well qualified modeling staff and consultants
- ABM is up and running for a very large region
- Aggressive and flexible in exploring data options
  - Quick response tool for the cordon model and external stations
- Validation results have improved since last peer review
- Sensitivity testing is very informative
- Leverage DMV data is a great initiative
- Trying to reflect and capture telemedicine, work-from-home, etc.

Positive highlights of the SCAG model

- Work location model is more representative
- School location model has also improved
- New mode choice model including TNCs is a great work in progress
- Model run-time has decreased
- Follow CARB guidelines for sensitivity testing
- New sub-models trip departure time choice have improved, to remove illogical mode switching, activities with negative trip duration have been removed
- Single TDM reduction factor has improved with work-from-home
Short Term Recommendations

- Travel market segmentation documentation
- Better document the ABM and ancillary models
- Mode shift between rail and trucks in freight model
- More transit validation by corridors and sub-areas
- Daily VMT by facility type
- Sensitivity testing around population and employment, as well as emerging technologies, and all pricing policies (parking, etc.)
- Better documentation on how the ABM is integrated with the land use model
- Coordination with Caltrans statewide travel demand model and adjacent MPO models (SANDAG, etc.)
- Compare model trip tables with CTPP data for smaller geographies and market segments

Long Term Recommendations

- Report work-from-home by industry / occupation
- Better define “Essential Workers” in the model
- All travel surveys need to be updated
- Employment patterns and change in the economy need to be better accounted for in the model, including flexible work space
- Feedback between the land use model and ABM
- Regional DTA: transit capacity and crowding levels on key corridors
- Regional DTA: macro-meso-micro hierarchy in scale, pseudo-DTA
- Explicit modeling of first-mile and last-mile deliveries
- EV and charging stations in ABM, vehicle type model
- Consider micro-zones to better model walk and bike trips
- Car-sharing micro-mobility
**Recommendation Summary**

- SCAG ABM was praised for having a well-qualified modeling team and consultants, being up and running for a large region, and being aggressive and flexible in exploring data options.
- Model also received praise for improved validation results since the last peer review, and informative, sensitivity testing.
- The panel provided short-term and long-term recommendations:
  - Short-term enhancements include model documentation and additional tests.
  - Long-term enhancements include travel survey data collection, analysis for post-pandemic travel patterns, sub-model development for special generators, and new modes analysis such as EV and CAV.

**Next step**

**Now**
- Short term recommendation
- Model documentations
- Additional sensitivity testing

**Future**
- Model enhancements based on peer review recommendation
Thank you

Contact to Modeling and Forecasting:
ABM and Travel Data Program Lead - Bayarma Aleksandr aleksandr@scag.ca.gov
Connect SoCal 2024
Draft Performance Measures

Mike Gainor, Senior Regional Planner

Connect SoCal 2024 Goals

Connect SoCal is guided by four foundational regional goals as we move toward 2050:

<table>
<thead>
<tr>
<th>Goal</th>
<th>Vision</th>
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<tbody>
<tr>
<td>Mobility</td>
<td>Build and maintain a robust transportation network.</td>
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<tr>
<td>Communities</td>
<td>Develop, connect, and sustain communities that are livable and thriving.</td>
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</tr>
<tr>
<td>Economy</td>
<td>Support a sustainable, efficient, and productive regional economic environment that provides opportunities for all.</td>
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</table>
Plan Performance Assessment Measures

- Plan assessment measures evaluate how well the regional transportation system will be expected to perform in 2050 relative to Connect SoCal goals.
- Quantitative measures are identified to evaluate plan performance under several sets of planning assumptions.
- Planning assumptions are input into SCAG models to project future (2050) regional performance relative to each modeled scenario.
- Scenarios based on comparative ‘Base Year’ representing existing regional conditions in 2019.
Plan Performance Assessment Measures

- The ‘Baseline’ projection forecasts 2050 regional conditions expected if Connect SoCal 2024 was not implemented.
- The ‘Plan’ scenario projects regional conditions in 2050 with the assumption that the program of regional multimodal transportation system improvement projects & strategies identified in Connect SoCal 2024 is fully implemented.
- SCAG models generate output relative to the plan measures to provide insight on how Connect SoCal impacts regional performance.

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<tr>
<th>Performance Measure</th>
<th>Connect SoCal Goal</th>
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<tr>
<td>Average Trip Distance</td>
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<td>Average Travel Time</td>
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<td>Travel Time Distribution by Mode</td>
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<td>Person Hours of Delay by Facility Type</td>
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<td>Person-Delay per capita</td>
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<td>Truck Delay by Facility Type</td>
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<td>Access to Jobs</td>
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<td>Major Destination Accessibility</td>
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<td>Transit Boardings per capita</td>
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<td>Percent of Trips Less than 3 Miles</td>
<td>Communities</td>
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<td>Physical Activity-Related Public Health Incidence &amp; Costs</td>
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<td>Share of Household Growth in PDAs</td>
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### Plan Performance Assessment Measures

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<th>Connect SoCal Goal</th>
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<tr>
<td>Vehicle Miles Traveled (VMT) per capita</td>
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<td>Water Consumption</td>
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<td>Criteria Air Pollutant Emissions *</td>
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<td>New Jobs Due to Transportation System Investments</td>
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<td>New Jobs Due to Improved Economic Competitiveness</td>
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<td>Transportation System Investment Benefit/Cost Ratio</td>
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<td>Share of Employment Growth in PDAs</td>
<td>Economy</td>
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* Federal performance measure

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### On-going Regional Monitoring Measures

- In addition to the plan assessment measures, SCAG develops a separate set of performance metrics to monitor progress being made over time toward achieving Connect SoCal goals.

- The monitoring of regional performance trends over time is key to understanding which investments & strategies are proving successful in meeting specific regional goals.

- An effective on-going monitoring program serves to inform & support future regional & local planning efforts & investments.
On-going Regional Monitoring Measures

- A total of 33 performance measures have been identified for the on-going regional monitoring program, 10 are new for Connect SoCal 2024.

- The on-going measures are correlated to the four Connect SoCal goal areas to ensure that progress toward achievement of regional objectives may be effectively monitored over time.

- The one-to-one correspondence is not exclusive, as many of the performance measures serve multiple regional goals.

On-going Regional Monitoring Measures

- Measures supportive of the Connect SoCal ‘Mobility’ goal relate to the efficiency of the regional multimodal transportation system for connecting people & freight to desired destinations.

- Mobility performance metrics include transportation infrastructure condition, system safety, multimodal options, & travel time reliability.

- The Mobility outcome is supported by 16 on-going regional performance measures.
On-going Regional Monitoring Measures

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Connect SoCal Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Travel Time</td>
<td>Mobility</td>
</tr>
<tr>
<td>Commute Travel Mode Share</td>
<td>Mobility</td>
</tr>
<tr>
<td>Active Transportation Mode Share</td>
<td>Mobility</td>
</tr>
<tr>
<td>Local Roads Pavement Condition</td>
<td>Mobility</td>
</tr>
<tr>
<td>Transit Boardings per capita</td>
<td>Mobility</td>
</tr>
<tr>
<td>Transit Seat Utilization</td>
<td>Mobility</td>
</tr>
<tr>
<td>Percent of Reliable Person-Miles Traveled on the NHS *</td>
<td>Mobility</td>
</tr>
<tr>
<td>Annual Hours of Peak Hour Excessive Delay per capita *</td>
<td>Mobility</td>
</tr>
<tr>
<td>National Highway System (NHS) Bridge Condition *</td>
<td>Mobility</td>
</tr>
<tr>
<td>National Highway System (NHS) Pavement Condition *</td>
<td>Mobility</td>
</tr>
<tr>
<td>Number &amp; Rate of Collision-Related Fatalities *</td>
<td>Mobility</td>
</tr>
<tr>
<td>Number &amp; Rate of Collision-Related Serious Injuries *</td>
<td>Mobility</td>
</tr>
<tr>
<td>Number of Active Transportation Fatalities &amp; Serious Injuries *</td>
<td>Mobility</td>
</tr>
<tr>
<td>Transit Equipment, Rolling Stock, Infrastructure, &amp; Facility Condition *</td>
<td>Mobility</td>
</tr>
<tr>
<td>Transit System Fatalities, Injuries, Safety Events, &amp; System Reliability *</td>
<td>Mobility</td>
</tr>
<tr>
<td>Managed Lanes Utilization **</td>
<td>Mobility</td>
</tr>
</tbody>
</table>

* Federal performance measure
** New measure for Connect SoCal 2024

- The ‘Communities’ goal is supported by on-going performance measures related to housing & public health (7 measures).
- Measures associated with the Connect SoCal ‘Environment’ goal focus on air quality, climate resilience, & land/habitat preservation (7 measures).
- The ‘Economy’ goal is supported by measures related to employment opportunities & freight movement (3 measures).
### On-going Regional Monitoring Measures

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Connect SoCal Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Cost Burden</td>
<td>Communities</td>
</tr>
<tr>
<td>Asthma Incidence &amp; Exacerbation</td>
<td>Communities</td>
</tr>
<tr>
<td>Percent of Residents within 1/2 Mile Walk to Open Space</td>
<td>Communities</td>
</tr>
<tr>
<td>Number of Park Acres per 1,000 Residents</td>
<td>Communities</td>
</tr>
<tr>
<td>Households Located Near High-Volume Roadways</td>
<td>Communities</td>
</tr>
<tr>
<td>Housing Vulnerable to Environmental Impacts **</td>
<td>Communities</td>
</tr>
<tr>
<td>Accessory Dwelling Unit (ADU) Development **</td>
<td>Communities</td>
</tr>
<tr>
<td>Vehicle Miles Traveled (VMT) per capita</td>
<td>Environment</td>
</tr>
<tr>
<td>Air Quality by Air Basin</td>
<td>Environment</td>
</tr>
<tr>
<td>Percent of Population in Climate Risk Areas **</td>
<td>Environment</td>
</tr>
<tr>
<td>Urban Heat Island Reduction Strategies **</td>
<td>Environment</td>
</tr>
<tr>
<td>Habitat Connectivity Investments **</td>
<td>Environment</td>
</tr>
<tr>
<td>Nature-based Mitigation Programs **</td>
<td>Environment</td>
</tr>
<tr>
<td>Williamson Act Contract Acres Impacted **</td>
<td>Environment</td>
</tr>
<tr>
<td>Percent of Interstate Mileage Providing Reliable Truck Travel Time *</td>
<td>Economy</td>
</tr>
<tr>
<td>Unemployment Rate **</td>
<td>Economy</td>
</tr>
<tr>
<td>Employment **</td>
<td>Economy</td>
</tr>
</tbody>
</table>

* Federal performance measure

** New measure for Connect SoCal 2024

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### Connect SoCal Performance Measures

THANK YOU!

Mike Gainor  
Senior Regional Planner  
gainor@scag.ca.gov
### Connect SoCal Survey

<table>
<thead>
<tr>
<th>Transportation Equity Issues</th>
<th>Regional Equity Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast, frequent and reliable transit and transportation options</td>
<td>Housing affordability</td>
</tr>
<tr>
<td>Safe streets for bicyclists and pedestrians</td>
<td>Air quality</td>
</tr>
<tr>
<td>Access to everyday destinations</td>
<td>Economic opportunities</td>
</tr>
<tr>
<td>Transportation affordability</td>
<td>Clean water</td>
</tr>
<tr>
<td>Freight and goods movement impacts</td>
<td>Workforce development and pathways to</td>
</tr>
<tr>
<td></td>
<td>good jobs</td>
</tr>
<tr>
<td>Access to zero emission vehicles and charging infrastructure</td>
<td>Housing not near jobs</td>
</tr>
<tr>
<td>Distribution of transportation investments</td>
<td>Resilience and climate vulnerability</td>
</tr>
<tr>
<td>Transportation noise impacts</td>
<td>Gentrification and displacement</td>
</tr>
<tr>
<td>Other</td>
<td>Access to broadband/internet</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Key Themes in Feedback

- **Equitable Outreach through proactive methods**
- **Equitable policies**
- **Economic justice**
- **Environmental justice**
- **Better resources**
- **Affordable and resilient housing**
- **Improve transit services and active transportation options**
### Equity Performance Measures

<table>
<thead>
<tr>
<th>Economy</th>
<th>Communities</th>
<th>Mobility</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Geographic Distribution of Transportation Investments</td>
<td>• Jobs-Housing Imbalance</td>
<td>• Share of Transportation System Usage</td>
<td>• Resilience and Climate Vulnerabilities</td>
</tr>
<tr>
<td>• Investments vs. Benefits</td>
<td>• Neighborhood Change and Displacement</td>
<td>• Travel Time and Travel Distance Savings</td>
<td>• Emissions Impacts Analysis</td>
</tr>
<tr>
<td>• Revenue Sources in Terms of Tax Burdens</td>
<td>• Rail-Related Impacts</td>
<td>• Access to Everyday Destinations</td>
<td>• Noise Impacts</td>
</tr>
<tr>
<td>• Impacts from Mileage-Based User Fee</td>
<td></td>
<td>• Bicycle and Pedestrian Collisions</td>
<td></td>
</tr>
</tbody>
</table>
**Equity Performance Measures**

**Bicycle and Pedestrian Collisions**

**Bicyclist and Pedestrian Injuries and Fatalities by Race/Ethnicity**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Fatal Victims</th>
<th>All Victims</th>
<th>Regional Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Pacific Islander</td>
<td>5.0%</td>
<td>5.6%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Black</td>
<td>6.3%</td>
<td>14.5%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td></td>
<td></td>
<td>48.5%</td>
</tr>
<tr>
<td></td>
<td>50.4%</td>
<td>49.1%</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td></td>
<td></td>
<td>28.1%</td>
</tr>
<tr>
<td></td>
<td>29.5%</td>
<td>30.7%</td>
<td></td>
</tr>
<tr>
<td>Multiracial/Native American</td>
<td>5.2%</td>
<td>6.5%</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Source: Statewide Integrated Traffic Records System (2021), American Communities Survey (2017-2021)

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**Equity Performance Measures**

**Neighborhood Change and Displacement**

**Gentrifying Neighborhoods**

- Targeting early signs of neighborhood change
- Low-income neighborhoods experiencing substantial immigration of college-educated individuals

**Eviction Filings**

- Comparing the prevalence of filings in gentrifying neighborhoods and the region
Initial Take-Aways

- Gentrification is more pronounced in neighborhoods with a higher concentration of immigrants and renters as well as communities of color.
- Gentrification does not indicate higher risk of displacement.
- Gentrifying neighborhoods are becoming more culturally and racially diverse, calling for planning efforts that foster cultural diversity.
Case Studies using Transportation Equity Zones
  • Adelanto – Victorville
  • North Hills – El Segundo

Comparison between:
  • Older Model Gasoline Powered Car
  • Newer Model Gasoline Powered Car
  • Electric Vehicle

Impacts from Mileage-Based User Fees

Initial Take-Aways
  • EVs would see the greatest impact from the shift but may still cost less factoring in gasoline/charging prices.
  • User Fee programs need to be designed with an equity lens to support low-income and underserved communities
  • Mobility Innovations and Pricing Report (2021)
Connect SoCal 2024 Work-from-Home Assumptions

Kevin Kane, PhD
Program Manager, Demographics and Growth Vision
July 20, 2023
Technical Working Group

“Fully-remote work:” American Community Survey

2019 = 6.08%; 2021 = 19.3%

Source: ACS Means of Transportation to Work

Varies subregionally; by industry
Remote + hybrid work: U.S. Survey of Working Arrangements and Attitudes (SWAA)

- Define work-from home (WfH) as the total number or percent of the days worked at home.
  - SWAA: First half of 2023: 28.1% of workdays were at home

- SCAG region example:
  - 9M workers x 5 days/week = 45M workdays
    - 12.6M days at home (28.1%)
    - 32.4M days on-site (71.9%)


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Connect SoCal 2024 Work from Home Assumption

- Work from home (as % of avg weekday work trips) peaked in 2021 at 27.3% based on ACS and UC Davis data
- We estimate by 2024 WfH could stabilize at 21.9% based on UC Davis and SWAA data
- Green bars show our Connect SoCal “baseline” which increases to 25.3% by 2050, composed of:
  - Full-time remote workers, which grow according to past trend
  - Hybrid workers, which stay flat at 2024 levels
- Blue lines provide for comparison with 2020 RTP assumption
Additional Considerations for Connect SoCal

• **Rebound effect**
  - Reduced commute opens up space in peoples' schedules (and on roadways)
  - Connect SoCal 2020 off-model strategy: 25 percent of commute savings reinvested into additional trips
  - UCLA ITS meta-analysis:
    - “telecommuting has long been touted as a potential solution to chronic transportation problems like traffic congestion and vehicle emissions, but the research has consistently found that it is more likely to increase, rather than decrease, overall driving among remote workers.”

• **Equity**
  - Ability to WfH is highly correlated with industry and wage levels

• **Resilience**
  - Sustainable development—focus on complete communities and multiple travel options

• **Next Steps**
  - Compete model runs; draft plan release.