



SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
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REMOTE PARTICIPATION ONLY

ENERGY AND ENVIRONMENT COMMITTEE

Thursday, November 5, 2020
9:30 a.m. – 11:30 a.m.

To Participate on Your Computer:
<https://scag.zoom.us/j/317727062>

To Participate by Phone:
Call-in Number: 1-669-900-6833
Meeting ID: 317 727 062

***Please see next page for detailed
instructions on how to participate in the meeting.***

PUBLIC ADVISORY

Given recent public health directives limiting public gatherings due to the threat of COVID-19 and in compliance with the Governor's recent Executive Order N-29-20, the meeting will be held telephonically and electronically.

If members of the public wish to review the attachments or have any questions on any of the agenda items, please contact Peter Waggonner at (213) 630-1402 or via email at waggonner@scag.ca.gov. Agendas & Minutes are also available at: www.scag.ca.gov/committees.

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Instructions for Public Comments

You may submit public comments in two (2) ways:

1. **Submit written comments via email to: EECPublicComment@scag.ca.gov by 5pm on Wednesday, November 4, 2020.**

All written comments received after 5pm on Wednesday, November 4, 2020 will be announced and included as part of the official record of the meeting.

2. **If participating via Zoom or phone, during the Public Comment Period, use the “raise hand” function on your computer or *9 by phone and wait for SCAG staff to announce your name/phone number. SCAG staff will unmute your line when it is your turn to speak. Limit oral comments to 3 minutes, or as otherwise directed by the presiding officer.**

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Instructions for Participating in the Meeting

SCAG is providing multiple options to view or participate in the meeting:

To Participate and Provide Verbal Comments on Your Computer

1. Click the following link: <https://scag.zoom.us/j/317727062>
2. If Zoom is not already installed on your computer, click “Download & Run Zoom” on the launch page and press “Run” when prompted by your browser. If Zoom has previously been installed on your computer, please allow a few moments for the application to launch automatically.
3. Select “Join Audio via Computer.”
4. The virtual conference room will open. If you receive a message reading, “Please wait for the host to start this meeting,” simply remain in the room until the meeting begins.
5. During the Public Comment Period, use the “raise hand” function located in the participants’ window and wait for SCAG staff to announce your name. SCAG staff will unmute your line when it is your turn to speak. Limit oral comments to 3 minutes, or as otherwise directed by the presiding officer.

To Listen and Provide Verbal Comments by Phone

1. Call **(669) 900-6833** to access the conference room. Given high call volumes recently experienced by Zoom, please continue dialing until you connect successfully.
2. Enter the **Meeting ID: 317 727 062**, followed by #.
3. Indicate that you are a participant by pressing # to continue.
4. You will hear audio of the meeting in progress. Remain on the line if the meeting has not yet started.
6. During the Public Comment Period, press *9 to add yourself to the queue and wait for SCAG staff to announce your name/phone number. SCAG staff will unmute your line when it is your turn to speak. Limit oral comments to 3 minutes, or as otherwise directed by the presiding officer.



ENERGY AND ENVIRONMENT COMMITTEE AGENDA

EEC - Energy and Environment Committee *Members – November 2020*

1. **Hon. David Pollock**
EEC Chair, Moorpark, RC District 46
2. **Hon. Carmen Ramirez**
EEC Vice Chair, Oxnard, RC District 45
3. **Hon. Ana Beltran**
Westmorland, ICTC
4. **Hon. Daniel Brotman**
Glendale, AVCJPA
5. **Hon. Margaret Clark**
Rosemead, SGVCOG
6. **Hon. Robert Copeland**
Signal Hill, GCCOG
7. **Hon. Maria Davila**
South Gate, GCCOG
8. **Hon. Ned Davis**
Westlake Village, LVMCOG
9. **Hon. Jordan Ehrenkranz**
Canyon Lake, WRCOG
10. **Hon. Sandra Genis**
Costa Mesa, OCCOG
11. **Hon. Shari Horne**
Laguna Woods, OCCOG
12. **Hon. Britt Huff**
Rolling Hills Estates, SBCCOG
13. **Hon. Elaine Litster**
Simi Valley, VCOG
14. **Hon. Diana Mahmud**
South Pasadena, SGVCOG
15. **Hon. Toni Momberger**
Redlands, SBCTA

OUR MISSION

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.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous



ENERGY AND ENVIRONMENT COMMITTEE AGENDA

- 16. Hon. Cynthia Moran**
Chino Hills, SBCTA
- 17. Hon. Oscar Ortiz**
Indio, CVAG
- 18. Sup. Linda Parks**
Ventura County
- 19. Hon. Jeannine Pearce**
Long Beach, RC District 30
- 20. Sup. Luis Plancarte**
Imperial County
- 21. Hon. Miguel Pulido**
OCTA Representative
- 22. Hon. Greg Raths**
Mission Viejo, OCCOG
- 23. Hon. Deborah Robertson**
Rialto, RC District 8
- 24. Hon. Richard Rollins**
Port Hueneme, VCOG
- 25. Hon. Meghan Sahli-Wells**
Culver City, RC District 41
- 26. Hon. Rhonda Shader**
Placentia, President's Appointment (Member at Large)
- 27. Hon. Jesus Silva**
Fullerton, President's Appointment (Member at Large)
- 28. Hon. Sharon Springer**
Burbank, SFVCOG
- 29. Hon. John Valdivia**
San Bernardino, SBCTA
- 30. Hon. Edward Wilson**
Signal Hill, GCCOG
- 31. Hon. Bonnie Wright**
Hemet, WRCOG

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ENERGY AND ENVIRONMENT COMMITTEE AGENDA

Southern California Association of Governments
Remote Participation Only
Thursday, November 5, 2020
9:30 AM

The Energy and Environment Committee may consider and act upon any of the items on the agenda regardless of whether they are listed as Information or Action items.

CALL TO ORDER AND PLEDGE OF ALLEGIANCE *(The Honorable David Pollock, Chair)*

PUBLIC COMMENT PERIOD

Members of the public are encouraged to submit written comments by sending an email to: EECPublicComment@scag.ca.gov by 5pm on Wednesday, November 4, 2020. Such comments will be transmitted to members of the legislative body and posted on SCAG's website prior to the meeting. Written comments received after 5pm on Wednesday, November 4, 2020 will be announced and included as part of the official record of the meeting. Members of the public wishing to verbally address the Energy and Environment Committee will be allowed up to 3 minutes to speak, with the presiding officer retaining discretion to adjust time limits as necessary to ensure efficient and orderly conduct of the meeting. The presiding officer has the discretion to reduce the time limit based upon the number of comments received and may limit the total time for all public comments to twenty (20) minutes.

REVIEW AND PRIORITIZE AGENDA ITEMS

CONSENT CALENDAR

Approval Items

1. Minutes of the Meeting - October 1, 2020
2. Public Release of Transportation Conformity Analysis for Draft 2021 Federal Transportation Improvement Program (FTIP)

ACTION/DISCUSSION ITEM

3. Climate Change Action Resolution
(Sarah Jepson, Planning Director)

RECOMMENDED ACTION FOR EEC:

Recommend that the Regional Council adopt the Climate Change Action Resolution.

INFORMATION ITEMS

4. SoCal Climate Adaptation Planning Guide 20 Mins.
(Kimberly Clark, Program Manager)

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ENERGY AND ENVIRONMENT COMMITTEE AGENDA

5. Climate Action Planning and Renewable Natural Gas 15 Mins.
(Joe Avila, Sr. Policy Director, SoCal Gas)

6. SunLine Transit Advancing Alternative Fuel Buses and Infrastructure 15 Mins.
(Lauren Skiver, Chief Executive Officer and General Manager, SunLine Transit)

7. Overview of 2022 South Coast Air Quality Management Plan and Near-term Air Quality Planning Challenges 30 Mins.
(Dr. Philip Fine, Deputy Executive Director, South Coast AQMD)

CHAIR'S REPORT

(The Honorable David Pollock, Chair)

STAFF REPORT

(Grieg Asher, SCAG Staff)

FUTURE AGENDA ITEMS

ANNOUNCEMENTS

ADJOURNMENT

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Southern California Association of Governments
Remote Participation Only
November 5, 2020

**ENERGY AND ENVIRONMENT COMMITTEE
MINUTES OF THE MEETING
THURSDAY, OCTOBER 1, 2020**

THE FOLLOWING MINUTES ARE A SUMMARY OF ACTIONS TAKEN BY THE ENERGY AND ENVIRONMENT COMMITTEE (EEC). A DIGITAL RECORDING OF THE ACTUAL MEETING IS AVAILABLE AT: <http://scag.igq2.com/Citizens/>

The Energy and Environment Committee (EEC) held its special meeting telephonically and electronically given public health directives limiting public gatherings due to the threat of COVID-19 and in compliance with the Governor’s recent Executive Order N-29-20. A quorum was present.

Members Present

Hon. David Pollock, Moorpark (Chair)	District 46
Hon. Carmen Ramirez, Oxnard (Vice Chair)	District 45
Hon. Daniel Brotman, Glendale	AVCJPA
Hon. Margaret Clark, Rosemead	SGVCOG
Hon. Robert Copeland, Signal Hill	GCCOG
Hon. Ned Davis, Westlake Village	LVMCOG
Hon. Shari Horne, Laguna Woods	OCCOG
Hon. Elaine Litster, Simi Valley	VCOG
Hon. Diana Mahmud, South Pasadena	SGVCOG
Hon. Toni Momberger, Redlands	SBCTA
Hon. Sandra Genis, Costa Mesa	OCCOG
Hon. Oscar Ortiz, Indio	CVAG
Sup. Linda Parks	Ventura County
Hon. Jeannine Pearce, Long Beach	District 30
Sup. Luis Plancarte	Imperial County
Hon. Greg Raths, Mission Viejo	OCCOG
Hon. Deborah Robertson, Rialto	District 8
Hon. Meghan Sahli-Wells, Culver City	District 41
Hon. Richard Rollins, Port Hueneme	VCOG
Hon. Rhonda Shader, Placentia	President’s Appointment
Hon. Jesus Silva, Fullerton	President’s Appointment
Hon. Sharon Springer, Burbank	SFVCOG
Hon. John Valdivia, San Bernardino	SBCCOG
Hon. Edward H.J. Wilson, Signal Hill	GCCOG

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Members Not Present

Hon. Ana Beltran, Westmoreland	ICTC
Hon. Maria Davila, South Gate	GCCOG
Hon. Jordan Ehrenkranz, Canyon Lake	WRCOG
Hon. Cynthia Moran, Chino Hills	SBCTA
Hon. James Osborne, Lawndale	SBCCOG
Hon. Miguel Pulido, Santa Ana	OCTA
Hon. Bonnie Wright, Hemet	WRCOG

CALL TO ORDER AND PLEDGE OF ALLEGIANCE

Chair David Pollock called the meeting to order at 10:00 a.m. Staff confirmed that a quorum was present. Chair Pollock led the Pledge of Allegiance.

PUBLIC COMMENT PERIOD

Chair David Pollock provided instructions for public comment and opened the Public Comment Period.

SCAG staff announced that no public comments were received.

Seeing there were no public commenters, Chair Pollock closed the Public Comment Period.

REVIEW AND PRIORITIZE AGENDA ITEMS

There were no requests to prioritize agenda items.

CONSENT CALENDAR**Approval Items**

1. Minutes of the Meeting - September 3, 2020

Receive and File

2. Updates on Regional Data Platform (RDP)

A MOTION was made (Copeland) to approve the Consent Calendar. Motion was SECONDED (Brotman) and passed by the following votes:

AYE/S:	Brotman, Clark, Copeland, Davis, Genis, Horne, Mahmud, Momberger, Ortiz*, Plancarte, Pollock, Ramirez, Rath, Rollins, Sahli-Wells and Springer (16)
NOE/S:	None (0)
ABSTAIN/S:	Silva (1)

While the voting results were being reviewed, Councilmember Oscar Ortiz, Indio, CVAG, informed SCAG staff that he was experiencing technical difficulties and intended to vote “Aye” for the motion for the Consent Calendar. The vote for Councilmember Ortiz* is annotated above.

INFORMATION ITEMS

3. CalSTA Zero Traffic Fatalities Task Force Findings and Recommendations

Ms. Courtney Aguirre, Program Manager, introduced Ms. Rachel Carpenter, Chief Safety Officer, Caltrans, to share an update on the Zero Traffic Fatalities Task Force and its evolving approach to safety and speed management strategies. SCAG was represented on the task force by Regional Councilmember Meghan Sahli-Wells, Culver City, District 41.

Ms. Carpenter began her presentation with a recap on the CalSTA Report of Findings. Assembly Bill 2363 in 2019 directed CalSTA to convene a task force and deliver a Report of Findings. The report was published in January 2020 after a nine-month research and discussion period. The 16 findings and 26 recommendations included span four categories: 1) establishing speed limits; 2) engineering; 3) enforcement; and 4) education.

Ms. Carpenter stated that a key initiative included is a new approach for speed-limit-setting methodology, based on safe system principles. The current methodology is based on the 85th percentile speed. A research project to develop a safe system approach to setting speed limits in California is expected to begin this fall. Key takeaways from the report include the need to provide agencies greater flexibility in setting appropriate speed limits by adjusting current speed-limit-setting procedures and the need to provide technical resources to guide agencies in the existing process of speed limit setting methodologies. The report also covers roadway engineering and design, including an initiative to formalize existing traffic control devices used in the California Manual on Uniform Traffic Control Devices (MUTC). Additionally, the report recommends making the pilot State-led traffic safety monitoring program that identifies and addresses locations with pedestrian- and bicyclist-related crashes permanent. Since the report has been released, this program has been made permanent. In closing, Ms. Carpenter shared contact information for suggestions and ideas for improvement and shared specific needs for suggestions.

Councilmember Sandra Genis, Costa Mesa, OCCOG, asked Ms. Carpenter about Shared Lane Markings (“sharrows”) safety data. Ms. Carpenter noted that this could be looked into and asked that members submit further feedback for MUTC updates.

Regional Councilmember Meghan Sahli-Wells, Culver City, District 41, commented on the 85th percentile methodology and the need for more tools for cities to implement better practices resulting in slower speeds and fewer fatal crashes. She also addressed expenses and costs of engineering studies and the progress made by the task force.

Councilmember Shari Horne, Laguna Woods, OCCOG, commented on golf cart usage on multi-modal trails in Laguna Woods and the independence that golf carts offer seniors. She asked if relevant recommendations were being considered by the task force. Ms. Carpenter responded that no specific considerations for golf carts were ongoing at this time, but all road users are considered in safety work.

Councilmember Jesus Silva, Fullerton, President’s Appointment, asked for a summary of ways for cities to ask for waivers to reduce speed limits. Ms. Carpenter acknowledged different understandings of flexibility offered under the law and mentioned the goal of developing a new approach to setting speed limits. She offered to further discuss the matter with Councilmember Silva.

Vice Chair Carmen Ramirez, Oxnard, District 45, commented on a recent traffic fatality. She also expressed concern about safety issues particular to electric vehicles and hearing-impaired individuals.

Councilmember John Valdivia, San Bernardino, SBCCOG, commented on the relevance of the topic and noted traffic-calming measures and road diets for traffic-sensitive corridors and school zones. He invited Ms. Carpenter to provide a presentation in his jurisdiction. Ms. Carpenter thanked Councilmember Valdivia for his comment and acknowledged the invitation.

Councilmember Daniel Brotman, Glendale, AVCJPA, asked what can be done by elected officials to support reduced speed and expressed interest in having Ms. Carpenter speak in his jurisdiction. He also asked if types of vehicles, in addition to speed, were being considered in terms of safety. Ms. Carpenter thanked Councilmember Brotman for his comment and acknowledged the invitation. She recommended speaking to Regional Councilmember Sahli-Wells and having more conversations to bring attention to the issue. She spoke to internal changes within Caltrans regarding safety programs and further analysis needed.

Supervisor Linda Parks, Ventura County, expressed appreciation for the work of Regional Councilmember Sahli-Wells and the work of Caltrans. She advocated for prioritizing separated

bicycle lanes for improved safety.

Councilmember Margaret Clark, Rosemead, SGVCOG, reiterated the importance of separated bicycle lanes and retrofits.

Councilmember Diana Mahmud, South Pasadena, SGVCOG, requested a follow-up presentation with the EEC regarding flexibilities under existing regulations.

Councilmember Richard Rollins, Port Hueneme, VCOG, commented on bicycle lanes and existing dangerous conditions on some lanes. He advocated for additional safety considerations. Ms. Carpenter acknowledged the comment and explained alternatives for bicycle lanes.

Regional Councilmember Meghan Sahli-Wells, Culver City, District 41, commented on the importance to include pedestrians in the conversation and the impact of high speeds on pedestrian safety.

4. Pathways to Clean Vehicle Technology and Alternative Fuels Implementation in San Bernardino County

Ms. Allison Linder, Senior Regional Planner, introduced Mr. Jeff Ang-Olson, ICF, and she provided background on a study recently conducted by SCAG and SBCTA titled “Pathways to Clean Vehicle Technology and Alternative Fuels Implementation in San Bernardino County.” The study was completed in July 2020 to explore the transition to cleaner goods movement transportation while being mindful of the impact of the industry within San Bernardino County. ICF was hired to hold workshops, conduct public outreach and create an action plan.

Mr. Ang-Olson began his presentation by explaining the project purpose and its scope, the vehicle-based portion of emissions in the South Coast Air Basin from a climate mitigation and ozone attainment perspective. The study focused on San Bernardino County and pinpointed two primary objectives: 1) implementation strategies for local governments and regional agencies; and 2) exploring an optimal path for achieving greenhouse gas (GHG) and nitrogen oxides (NOx) goals. He outlined the project roadmap, outlining four phases: 1) documenting and forecasting conditions; 2) analyzing alternative paths to clean vehicles and fuels; 3) considering implementation strategies at the local and regional level; and 4) developing a final report and action plan. He summarized the outreach completed, including an industry economic roundtable event and two focus groups. He then reviewed the study area and emissions baselines involved in scenario analysis.

Providing an overview of scenarios, Mr. Ang-Olson shared five models: 1) Electrification; 2) Aggressive Electrification; 3) Natural Gas as a Bridge; 4) Biofuels; and 5) Low NOx Diesel and Biofuels. He broke down sales fractions of electric vehicles and natural gas vehicles by scenario and

displayed graphs of respective GHG and NOx emissions impacts. He explained incremental costs of scenarios by year and cumulatively, with major fueling savings in most scenarios. Findings of scenario models showed the Electrification and Natural Gas as a Bridge can achieve large GHG and NOx reductions relative to the baseline by 2040, but none of the scenarios hit the NOx reduction target, and only the Aggressive Electrification scenario hits the GHG target. Biofuels and Low NOx Diesel scenarios can achieve significant emission reductions, but without operating cost savings.

Mr. Ang-Olson continued to describe the action plan approach, considering barriers and strategies to compile an action plan. He outlined implementation strategies for private vehicles, suggesting that local governments can gather information about electric vehicle (EV) registrations and charging stations. Jurisdictions can also revise building and zoning codes, streamline permitting processes and deploy public charging infrastructure. He noted that there may be fewer options for commercial vehicle implementation strategies afforded to cities, but cities can work towards information gathering, updating EV readiness provisions and streamlining other types of alternative fuels. Finally, for municipal fleets, over which cities and counties have more control, jurisdictions can conduct fleet assessments and develop clean vehicle procurement targets. Jurisdictions can also invest in deploying infrastructure and procuring low carbon fuels for remaining internal combustion engine vehicles.

Vice Chair Carmen Ramirez, Oxnard, District 45, thanked Mr. Ang-Olson for his presentation and commented on the polluting aspects of natural gas as a fossil fuel. She mentioned a report by the Sierra Club on natural gas.

Councilmember Oscar Ortiz, Indio, CVAG, asked if hydrogen fuels were considered in the scenarios presented. Mr. Ang-Olson confirmed that hydrogen fuels were taken into account in the analysis but were not part of the five scenarios, as they were not considered to be viable. Councilmember Ortiz then asked, when looking at GHG reductions in electrification, how estimations are made on the portion of renewable energy versus fossil fuel energy. Mr. Ang-Olson said that the state renewable portfolio standards were considered as well as California Energy Commission's forecasts on energy mix for the Southern California grid.

Regional Councilmember Meghan Sahli-Wells, Culver City, District 41, commented on a Regional Council agenda item regarding grant funds from Mobile Source Air Pollution Reduction Review Committee (MSRC) for implementing strategies for commercial fleets. She asked for clarification if the full lifecycle of different fuels were considered, including emissions during extractions. Mr. Ang-Olson confirmed that the upstream emissions, including extraction, processing and export, were considered. He clarified the difference between renewable natural gas and fossil natural gas. Councilmember Sahli-Wells commented on work of the Los Angeles Cleantech Incubator (LACI) and efforts in Culver City to transition its municipal fleet.

Councilmember Toni Momberger, Redlands, SBCTA, asked about the lifespan for batteries of EVs and whether the cost of disposing batteries were considered. Mr. Ang-Olson said that this was not captured, as this information is still uncertain.

Councilmember Diana Mahmud, South Pasadena, SGVCOG, asked about the calculation of the infrastructure cost, noting that it appeared similar for EVs and Natural Gas as a Bridge, and she mentioned planned obsolescence. Mr. Ang-Olson replied that Natural Gas as a Bridge assumes electrification for light-duty vehicle; thus, charging infrastructure makes these costs similar. In terms of planned obsolescence, Mr. Ang-Olson affirmed that any type of infrastructure has a lifespan, but he stated that the lifespan of a natural gas fueling station was assumed to be 20 years or more, extending beyond the 2040 timeframe for the study. Councilmember Mahmud asked if assumptions were made on the expected longevity for both the EV truck and natural gas heavy-duty vehicles. Mr. Ang-Olson stated that the study assumed the vehicles would be purchased in 2020 and would not be scrapped during the lifespan of the project. Councilmember Mahmud suggested this as an area of study in the future.

Councilmember Daniel Brotman, Glendale, AVCJPA, asked what kind of assistance jurisdictions can get from Mr. Ang-Olson and others, particularly regarding a plan for electrifying municipal fleets. Mr. Ang-Olson stated that the action plan is a starting point that points to other resources, including tools and total cost of ownership calculations.

5. Climate Adaptation Talks and Communication Toolkit

Ms. Kimberly Clark, Program Manager of Resource Conservation and Resilient Communities, shared resources from the Climate Adaptation Talks and Communication Toolkit, which is available for download on SCAG's website. She began her presentation by providing a project background on the SocCal Climate Adaptation Framework, which commenced in February 2019 and is funded by a Caltrans SB1 Adaptation Planning Grant. She stated that its focus is on developing tools and resources for local adjudications. The focus of her presentation was on outreach and communication strategies.

Ms. Clark introduced Ms. Lorianne Esturas, Assistant Regional Planner, to impart an overview on outreach. Ms. Esturas discussed the Climate Talk Box pop-up educational experience, which was displayed at five events throughout the region in 2019. She states that SCAG is developing an ESRI StoryMap to share content from the pop-up box, and she walked members through the StoryMap.

Ms. Clark then shared outreach workshop templates, and she displayed a slide deck and other communication strategies included within the toolkit. She applied insights of communication strategies from the toolkit to the example of the California wildfires in 2020. First, she presented facts and metrics on the wildfires and their impact, addressing financial and health damages and

the growing threat that wildfires pose. She further discussed its relevant Connect SoCal's plan goal.

She stated that the project has won a 2020 APA California Award of Excellence, and a video shown during the awards ceremony was played for members. She then shared a summary of impacts specific to the SCAG region and a list of engagement tools for adaptation planning. In closing, she provided a look ahead of steps for the SoCal Climate Adaptation Framework, leading to January 2022, when local jurisdictions' Safety Element updates are due.

Chair David Pollock suggested a direction and recognized issues being experienced throughout California and the SCAG region with wildfire season and extreme heat events. He stated that SCAG and the EEC has a responsibility to plan for climate change and increased resiliency. If members agreed, he stated that we would like to ask that SCAG staff develop a resolution for action at the November EEC meeting, and he suggested a gist for content of the resolution.

Vice Chair Carmen Ramirez, Oxnard, District 45, commented in support of Chair Pollock's suggestion. She offered to make a motion for such action.

Grieg Asher, SCAG staff, clarified procedures around motions and announced that staff will note Chair Pollock's request and prepare a resolution for consideration by the EEC at the next meeting in November 2020.

Councilmember Sandra Genis, Costa Mesa, OCCOG, commented on the need for adaptation strategies and the effects on land uses, practices and mitigation measures. She commented on scientific consensus around climate change and aberrations. Finally, she commented in support at further looking at a resolution.

Chair Pollock requested that a link to the video shown during Agenda Item No. 5 be shared with committee members.

CHAIR'S REPORT

A Chair's Report was not provided.

STAFF REPORT

Grieg Asher, SCAG staff, stated that staff has heard the sentiment of the committee, and staff will prepare an agenda item and report for discussion, with a drafted resolution, for the November 2020 EEC meeting.

FUTURE AGENDA ITEMS

Regional Councilmember Deborah Robertson, Rialto, District 8, discussed a keynote presentation for California Alliance for Retired Americans (CARA) that she made this morning, and she shared data from Connect SoCal. She encouraged conversation around investment in active transportation mobility. She asked for a future agenda item at EEC and the Emerging Technologies Committees to be given by Anaergia, a company that works on organic waste elimination. She mentioned that Anaergia will be constructing replications of the Rialto Bioenergy Facility, and she discussed benefits of organic waste-to-energy conversion. Chair David Pollock acknowledged her request.

Chair Pollock noted a future presentation by Southern California Gas Company to the EEC planned for November.

ANNOUNCEMENTS

Councilmember Daniel Brotman, Glendale, AVCJPA, announced that an ordinance to ban the sale of mylar balloons has been introduced in the City of Glendale. He discussed the impact of balloons on blackouts, and he expressed a goal of creating a regional safe haven.

ADJOURNMENT

There being no further business, Chair Pollock adjourned the Energy and Environment Committee meeting at 11:50 a.m.

Respectfully submitted,
Peter Waggoner
Energy and Environment Committee Clerk

[MINUTES ARE UNOFFICIAL UNTIL APPROVED BY THE EEC]

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ENERGY AND ENVIRONMENT COMMITTEE ATTENDANCE REPORT

2020-21

MEMBERS	Date Appointed if after 6/4/20	Representing	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total Mtgs Attended To Date
Beltran, Ana		Westmoreland, ICTC	0		0	0									0
Brotman, Daniel		Glendale, AVCJPA	1		1	1									3
Clark, Margaret		Rosemead, SGVCOG	1		1	1									3
Copeland, Robert		Signal Hill, GCCOG	1		0	1									2
Davila, Maria		South Gate, GCCOG	0		0	0									0
Davis, Ned		Westlake Village, LVMCOG	1		1	1									3
Ehrenkranz, Jordan		Canyon Lake, WRCOG	0		0	0									0
Genis, Sandra		Costa Mesa, OCCOG	1		0	1									2
Horne, Shari		Laguna Woods, OCCOG	1		1	1									3
Litster, Elaine		Simi Valley, VCOG	1		1	1									3
Mahmud, Diana		So. Pasadena, SGVCOG	1		1	1									3
Momberger, Toni		Redlands, SBCTA	1		1	1									3
Moran, Cynthia		Chino Hills, SBCTA	1		1	0									2
Ortiz, Oscar		Indio, CVAG	1		1	1									3
Osborne, Jim		Lawndale, SBCCOG	0		0	0									0
Parks, Linda		Ventura County	1		1	1									3
Pearce, Jeannine		Long Beach, District 30	1		1	1									3
Plancarte, Luis		Imperial County	1		1	1									3
Pollock, David (CHAIR)		Moorpark, VCOG	1		1	1									3
Pulido, Miguel		Santa Ana, OCTA	0		0	0									0
Ramirez, Carmen (Vice Chair)		Oxnard, RC District 45	1		1	1									3
Raths, Greg		Mission Viejo, OCCOG	1		1	1									3
Robertson, Deborah		Rialto, RC District 8	1		1	1									3
Rollins, Richard		Port Hueneme, VCOG	1		0	1									2
Sahli-Wells, Meghan		Culver City, RC District 41	1		1	1									3
Shader, Rhonda		Placentia, President's Appointment	1		0	1									2
Silva, Jesus		Fullerton, President's Appointment			0	1									1
Springer, Sharon		Burbank, SFVCOG	1		1	1									3
Valdivia, John		San Bernardino, SBCCOG	1		0	1									2
Wilson, Edward H.J.		Signal Hill, GCCOG	1		0	1									2
Wright, Bonnie		Hemet, WRCOG	0		0	0									0

Attachment: EEC Attendance Sheet 2020-21 (Minutes of the Meeting - October 1, 2020)



Southern California Association of Governments
Remote Participation Only
November 5, 2020

To: Energy & Environment Committee (EEC)
Regional Council (RC)

From: Rongsheng Luo, Program Manager II,
(213) 236-1994, LUO@scag.ca.gov

Subject: Public Release of Transportation Conformity Analysis for Draft
2021 Federal Transportation Improvement Program (FTIP)

EXECUTIVE DIRECTOR'S
APPROVAL

RECOMMENDED ACTION FOR EEC:

Recommend that the Regional Council authorize the release of the transportation conformity analysis of the Draft 2021 FTIP for public review and comment, beginning November 6, 2020 and ending December 7, 2020.

RECOMMENDED ACTION FOR RC:

Authorize the release of the transportation conformity analysis of the Draft 2021 FTIP for public review and comment, beginning November 6, 2020 and ending December 7, 2020.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 1: Produce innovative solutions that improve the quality of life for Southern Californians.

EXECUTIVE SUMMARY:

SCAG has developed the Draft 2021 FTIP in cooperation with its stakeholders. Pending approval by the Transportation Committee (TC) and Regional Council (RC), the Draft 2021 FTIP Report which includes the associated transportation conformity analysis will be released on November 6, 2020 for a 30-day public review. The conformity analysis demonstrates that the Draft 2021 FTIP meets all federal transportation conformity requirements. On February 4, 2021, after the public review period closes, the Draft 2021 FTIP is scheduled to be presented to TC and the final conformity analysis portion is scheduled to be presented to the EEC, for recommended adoption by the Regional Council (RC) on the same day.

BACKGROUND:

SCAG is the federally designated Metropolitan Planning Organization (MPO) for the six (6) counties region of Southern California and the designated Regional Transportation Planning Agency (RTPA) per state law. As such, it is responsible for developing and maintaining the Federal Transportation Improvement Program (FTIP) in cooperation with the State (Caltrans), the county transportation commissions (CTCs), and public transit operators. The FTIP is developed through a “bottom up” approach.

OUR MISSION

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.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

Over the past several months, staff has worked in consultation and continuous communication with the CTCs throughout the region to develop the Draft 2021 FTIP. The Draft 2021 FTIP is a programming document totaling over \$35.3 billion in programming and containing over 2,000 projects covering a six (6) year period. The Draft 2021 FTIP includes 62 projects for Imperial County programmed at \$67.4 million; 1,050 projects for Los Angeles County programmed at \$20.2 billion; 151 projects for Orange County programmed at \$2.3 billion; 388 projects for Riverside County programmed at \$7.3 billion; 193 projects for San Bernardino County programmed at \$4.3 billion; and 168 projects for Ventura County programmed at \$1.1 billion.

Under the U.S. Department of Transportation's metropolitan planning regulations and U.S. Environmental Protection Agency's transportation conformity regulations, the Draft 2021 FTIP needs to pass five transportation conformity tests: consistency with the adopted Connect SoCal, regional emissions analysis, timely implementation of transportation control measures, financial constraint, and interagency consultation and public involvement. Once approved by the federal agencies, the 2021 FTIP would allow the regional transportation projects to receive the necessary federal approvals and move forward towards implementation. Staff has performed the required transportation conformity analysis for the Draft 2021 FTIP, and the analysis demonstrates conformity.

At its meeting today, the Transportation Committee (TC) is considering recommended approval to the Regional Council of the public release of the Draft 2021 FTIP for a 30-day public review and comment period. On February 4, 2021, after the public comment period closes, the Draft 2021 FTIP will be scheduled for recommended approval by the TC and final approval by the Regional Council. On the same day, the transportation conformity determination will be scheduled for recommended approval by the EEC and final adoption by the Regional Council respectively.

The Draft 2021 FTIP would be accessible at: <http://ftip.scag.ca.gov/Pages/2021/draft.aspx> or www.scag.ca.gov.

FISCAL IMPACT:

Work associated with this item is included in the current FY 2020-21 Overall Work Program (025.0164.01: Air Quality Planning and Conformity).

ATTACHMENT(S):

1. Draft 2021 Federal Transportation Improvement Program Executive Summary



SCAG™

INNOVATING FOR A BETTER TOMORROW



DRAFT 2021 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM

EXECUTIVE SUMMARY VOLUME I OF III

FY 2020/21 - 2025/26
November 2020

Attachment: Draft 2021 Federal Transportation Improvement Program Executive Summary (Conformity Analysis for Draft 2021 FTIP)



VISION

Southern California’s Catalyst
for a Brighter Future.

MISSION

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.

Funding: The preparation of this report was financed in part through grants from the United States Department of Transportation – Federal Highway Administration and the Federal Transit Administration – under provisions of the “Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users” (SAFETEA-LU). Additional financial assistance was provided by the California State Department of Transportation.

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San Bernardino County Transportation Authority Alan D. Wapner

Transportation Corridor Agencies Peggy Huang

Tribal Government Regional Planning Board Representative Andrew Masiel, Sr., Pechanga Band of Luiseno Indians

Ventura County Transportation Commission Mike T. Judge

* Regional Council Officer

EXECUTIVE SUMMARY

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INTRODUCTION

The Federal Transportation Improvement Program (FTIP) is a federally mandated four-year program of all surface transportation projects that will receive federal funding or are subject to a federally required action. The SCAG 2021 FTIP is a comprehensive listing of such transportation projects proposed over fiscal years (FY) 2020/21 - 2025/26 for the region, with the last two years 2024/25-2025/26 provided for informational purposes. As the Metropolitan Planning Organization (MPO) for the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, SCAG is responsible for developing the FTIP for submittal to the California Department of Transportation (Caltrans) and the federal funding agencies. This listing identifies specific funding sources and fund amounts for each project. It is prioritized to implement SCAG's overall strategy for enhancing regional mobility and improving both the efficiency and safety of the regional transportation system, while supporting efforts to attain federal and state air quality standards for the region by reducing transportation related air pollution and greenhouse gas (GHG) emissions. Projects in the FTIP include highway improvements, transit, rail and bus facilities, high occupancy vehicle (HOV) lanes, high occupancy toll (HOT) lanes, signal synchronization, intersection improvements, freeway ramps, and non-motorized (including active transportation) projects.

The FTIP is developed through a bottom-up process by which the six County Transportation Commissions (CTCs) work with their local agencies and public transportation operators, as well as the general public, to develop their individual county Transportation Improvement Programs (TIPs) based on their project selection criteria for inclusion into the regional FTIP. The 2021 FTIP has been developed in partnership with the CTCs and Caltrans.

The FTIP must include all federally funded transportation projects in the region, as well as all regionally significant transportation projects for which approval from federal funding agencies is required, regardless of funding source.

The projects included in the 2021 FTIP are consistent with SCAG's approved Connect SoCal - 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The FTIP is developed to incrementally implement the programs and projects contained in the RTP/SCS.



PROGRAM SUMMARY

The 2021 FTIP includes approximately 2,000 projects programmed at \$35.3 billion over the next six years. By comparison, the total programming for the 2019 FTIP was \$34.6 billion. The increase in programming funds in the 2021 FTIP compared to the 2019 FTIP is due to a variety of factors. First, the passage of SB 1 in 2017 has increased programming for transportation projects throughout the state and in the SCAG region. Additionally, the passage of Los Angeles County's Measure M sales tax has increased funding for transportation projects throughout Los Angeles County. The 2021 FTIP shows that \$7.4 billion in previously programmed funds have been implemented (see listing of "Completed Projects" in Project Listing Volume III - Part A of the 2021 FTIP). In addition, the 2021 FTIP reflects \$19.3 billion in secured funding (see listing of "100% Prior Years" in Project Listing Volume III - Part A of the 2019 FTIP).

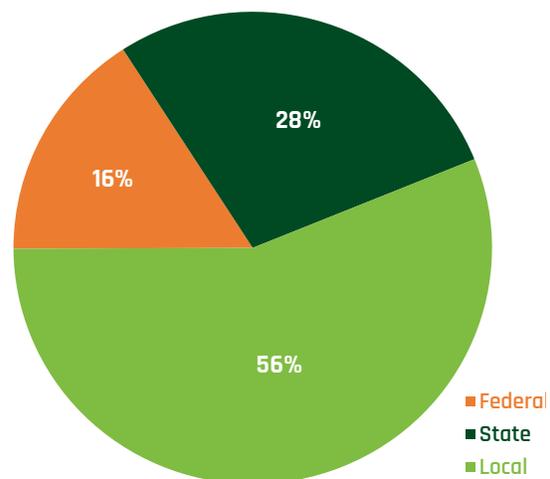
The following charts and tables demonstrate how these funds are distributed based on funding source, program, and county.

FIGURE 1 is a summary of funding sources categorized as federal, state and local sources. **FIGURE 1** and its accompanying pie chart illustrate that 16 percent of the program total is from federal funds, 28 percent from state funds, and 56 percent from local funds.

FIGURE 1 SUMMARY OF 2021 FTIP BY FUNDING SOURCE (IN 000'S)

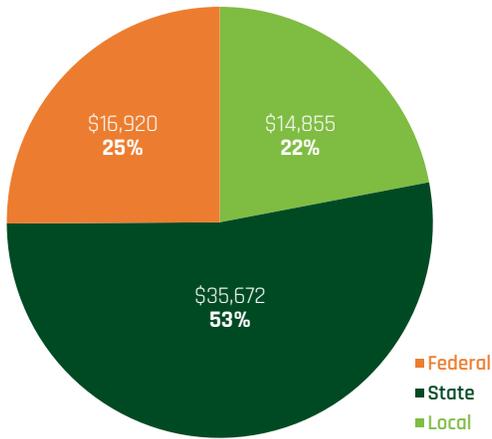
	FEDERAL	STATE	LOCAL	TOTAL
2020/21	\$1,967,541	\$5,305,507	\$3,975,931	\$11,248,979
2021/22	\$1,187,249	\$2,119,643	\$3,558,508	\$6,865,400
2022/23	\$1,254,329	\$502,695	\$2,662,077	\$4,419,101
2023/24	\$717,156	\$479,997	\$3,744,516	\$4,941,669
2024/25	\$265,100	\$1,234,697	\$2,465,258	\$3,965,055
2025/26	\$240,289	\$241,466	\$3,398,369	\$3,880,124
TOTAL	\$5,631,664	\$9,884,005	\$19,804,659	\$35,320,328
% OF TOTAL	16%	28%	56%	100%

SUMMARY OF 2021 FTIP BY FUNDING SOURCE

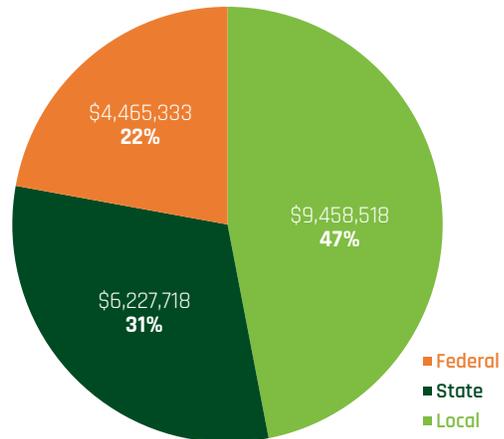


The six pie charts shown below summarize the funds programmed in the 2021 FTIP for each county in the SCAG region by federal, state, and local funding sources.

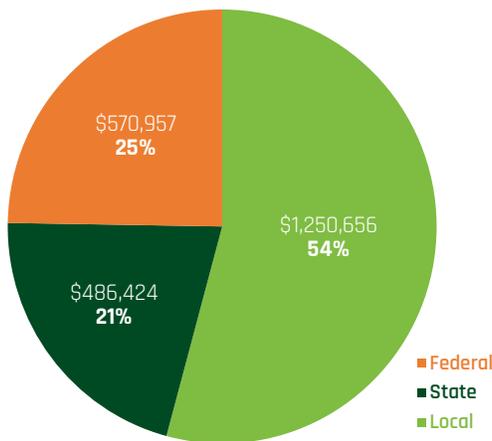
IMPERIAL COUNTY: \$67,447 (in \$000's)



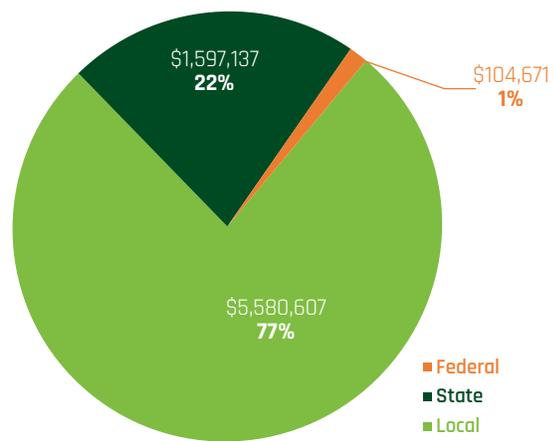
LOS ANGELES COUNTY: \$20,151,569 (in \$000's)



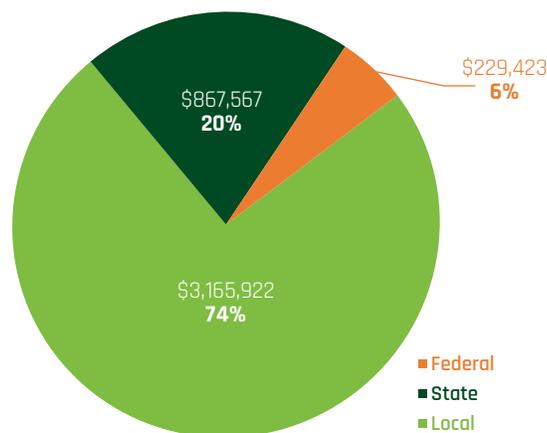
ORANGE COUNTY: \$2,308,037 (in \$000's)



RIVERSIDE COUNTY: \$7,282,415 (in \$000's)



SAN BERNARDINO COUNTY: \$4,262,912 (in \$000's)



VENTURA COUNTY: \$1,152,430 (in \$000's)

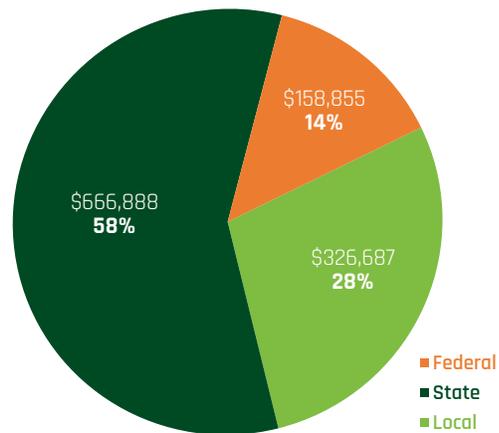


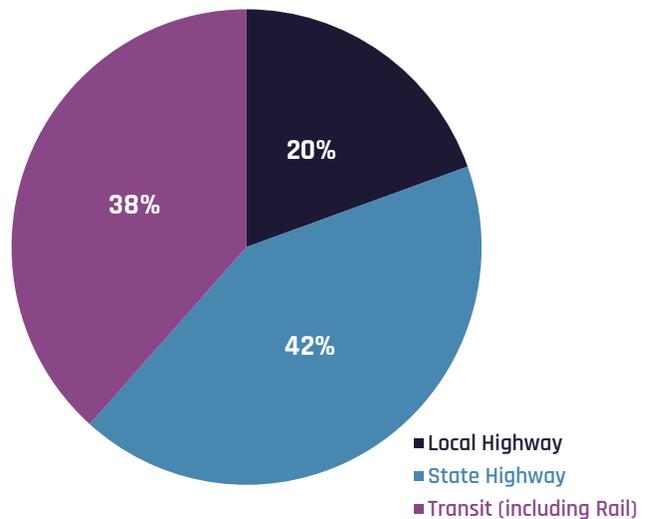
FIGURE 2 summarizes the funds programmed in the local highways, state highways, and transit (including rail) programs. **FIGURE 2** (and its accompanying pie chart) illustrate that 42 percent of the total \$35.3 billion in the 2021 FTIP is programmed in the State Highway Program, 20 percent in the Local Highway Program and 38 percent in the Transit (including rail) Program. For further information, please refer to the Financial Plan section of the Technical Appendix (Volume II) of the 2021 FTIP.

At the time of the development of the 2021 FTIP the SCAG region, along with every other region in the world, is facing the devastation of the COVID-19 pandemic. The national, state, county, and local stay-at home and quarantine orders have put a strain on the all aspects of society as well as the economy. As the public adjusts to the stay-at-home and quarantine orders, transportation demand has been drastically reduced and fuel consumption has decreased as people are driving less thereby consuming less fuel. The overall reduction in revenues due to the COVID-19 pandemic is unknown as the SCAG region relies heavily on local sales tax measures for the timely delivery of transportation projects.

FIGURE 2 SUMMARY OF 2021 FTIP BY PROGRAM (IN 000'S)

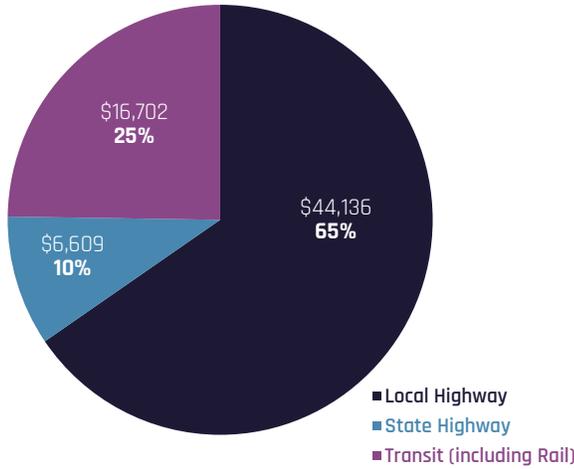
	LOCAL	STATE	TRANSIT (INCLUDING RAIL)	TOTAL
2020/21	\$1,909,560	\$5,399,986	\$3,939,433	\$11,248,979
2021/22	\$1,023,299	\$3,092,629	\$2,749,472	\$6,865,400
2022/23	\$570,324	\$1,220,181	\$2,628,596	\$4,419,101
2023/24	\$684,967	\$1,366,716	\$2,889,986	\$4,941,669
2024/25	\$1,130,418	\$2,101,509	\$733,128	\$3,965,055
2025/26	\$1,571,050	\$1,695,528	\$613,546	\$3,880,124
TOTAL	\$5,889,618	\$14,876,549	\$13,554,161	\$35,320,328
% OF TOTAL	20%	42%	38%	100%

SUMMARY OF 2021 FTIP BY FUNDING SOURCE

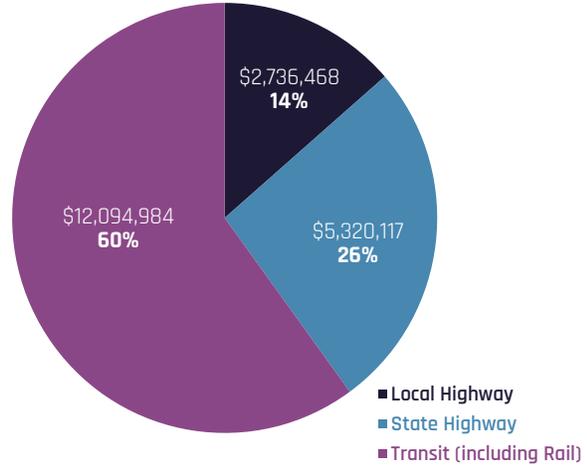


The six pie charts below summarize the funds programmed in the 2021 FTIP for each county in the SCAG region for State Highway, Local Highway, and Transit programs.

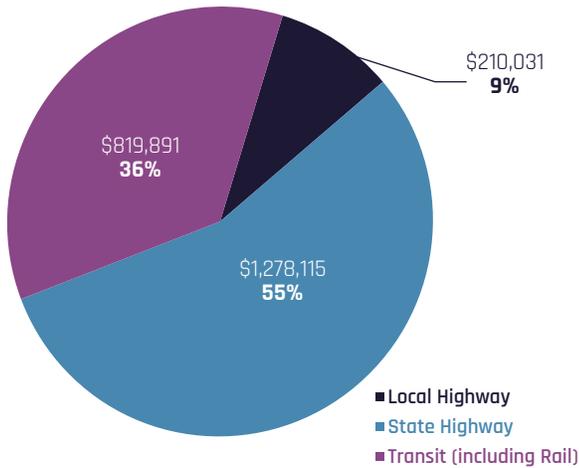
IMPERIAL COUNTY: \$67,447 (in \$000's)



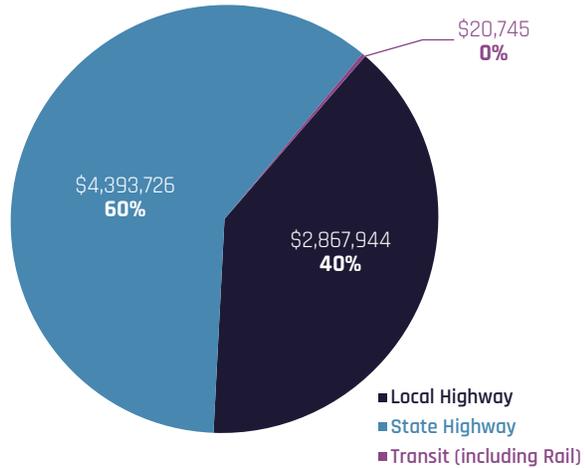
LOS ANGELES COUNTY: \$20,151,569 (in \$000's)



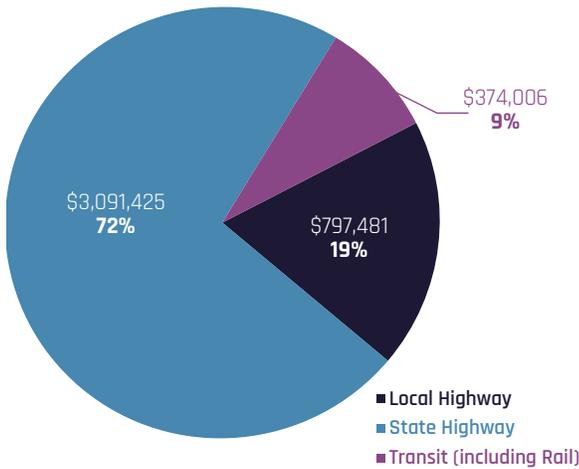
ORANGE COUNTY: \$2,308,037 (in \$000's)



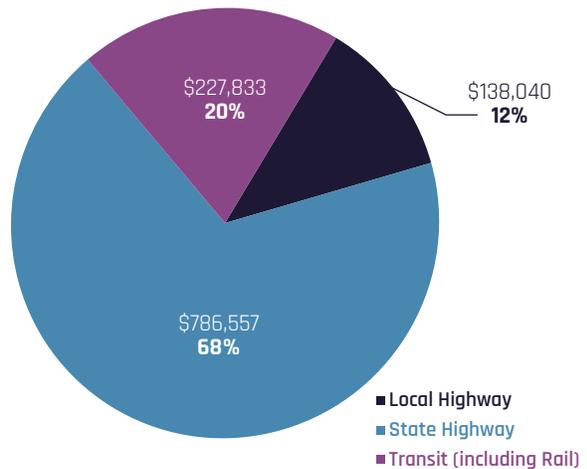
RIVERSIDE COUNTY: \$7,282,415 (in \$000's)



SAN BERNARDINO COUNTY: \$4,262,912 (in \$000's)



VENTURA COUNTY: \$1,152,430 (in \$000's)



ENVIRONMENTAL JUSTICE

The Connect SoCal - 2020 RTP/SCS, approved by the SCAG Regional Council on May 7, 2020 (and certified by FHWA/FTA with regard to transportation conformity on June 5, 2020), includes a comprehensive Environmental Justice analysis. On September 3, 2020, Connect SoCal - 2020 RTP/SCS was approved in its entirety and for all other purposes. The 2021 FTIP is consistent with the policies, programs and projects included in the Connect SoCal - 2020 RTP/SCS, and as such the Environmental Justice analysis included as part of Connect SoCal appropriately serves as the analysis for the transportation investments in the 2021 FTIP.

A key component of Connect SoCal's development process was to further implement SCAG's Public Participation Plan (PPP), which involved outreach to achieve meaningful public engagement with minority and low-income populations, and included the solicitation of input from our regional environmental justice stakeholders through the Environmental Justice Working Group which started in May 2018. As part of the environmental justice analysis for Connect SoCal, SCAG identified multiple performance measures to analyze existing social and environmental equity in the region and to assess the impacts of Connect SoCal on various environmental justice population groups. These performance measures included impacts related to relative tax burden, share of transportation system usage, jobs-housing imbalance, neighborhood change and displacement, access to essential services like jobs, shopping and parks and open space, air quality, public health, noise, and rail related impacts. For additional information regarding these and other environmental justice performance measures and the detailed environmental justice analysis, please see:

www.connectsocial.org/Documents/Adopted/fConnectSoCal_Environmental-Justice.pdf.

On September 6, 2018, SCAG's Regional Council adopted an updated **Public Participation Plan** designed to be accessible to a general audience and adaptable in anticipation of evolving technologies and practices. The updated plan addresses Title VI Requirements and Guidelines for Federal Transit Administration Recipients (FTA Circular 4702.1B; Effective October 1, 2012), including enhanced strategies for engaging minority and limited English proficient populations in SCAG's transportation planning and programming processes, as well as Environmental Justice Policy Guidance for Federal Transit Administration Recipients (FTA Circular 4703.1; Effective August 15, 2012).

INTERAGENCY CONSULTATION AND PUBLIC PARTICIPATION

As stated earlier in this document, the 2021 FTIP complies with applicable federal and state requirements for interagency consultation and public involvement by following the strategies described in SCAG's Public Participation Plan (PPP).

In accordance with the PPP, SCAG's Transportation Conformity Working Group (TCWG) serves as a regional forum for interagency consultation. For more information on SCAG's current PPP, please visit:

scag.ca.gov/Documents/Final2018PPP.pdf.

SCAG, in cooperation with the CTCs, TCWG, and other local, state, and federal partners, completed an update to the 2021 FTIP Guidelines. Development of these guidelines is the first step in drafting the 2021 FTIP. The guidelines serve as a manual for CTCs to develop their respective county Transportation Improvement Program (TIP) and for submitting their TIPs through SCAG's FTIP database. SCAG received comments from stakeholders and revised the document as necessary. The Final Guidelines for the 2021 FTIP were approved by the SCAG Regional Council on September 5, 2019. For additional information on the 2021 FTIP Guidelines, please visit: ftip.scag.ca.gov/Pages/Final2021/FTIPGuidelines.pdf.

On November 5, 2020, the Draft 2021 FTIP will be released for a 30-day public review period. During the public review period, two public hearings will be held on the Draft 2021 FTIP, the first on November 17th and the second on December 2, 2020. Given recent public health directives limiting public gatherings due to the threat of COVID-19 and in compliance with the Governor's recent Executive Order N29-20, the hearings will be held virtually via Zoom. These public hearings will be noticed in numerous newspapers throughout the region. The notices will be published in English, Spanish, Korean, Chinese and Vietnamese languages (copies of these notices are included in Section V of the Final Technical Appendix). The 2021 FTIP will be posted on the SCAG website and distributed to libraries throughout the region.

ECONOMIC IMPACTS OF 2021 FTIP PROGRAM EXPENDITURES

THE FTIP'S INVESTMENT PLAN IN TERMS OF ECONOMIC GROWTH AND JOB CREATION

The FTIP program budget includes spending on a mix of transportation projects – state highway, local highway, and transit – that are planned in six Southern California counties over a six-year time period beginning in FY 2020/2021 and ending in FY 2025/2026. Economic and job impacts were calculated using REMI, a structural regional impact model that estimates economic and employment gains arising from transportation and infrastructure investments. The REMI model uses a system of equations based on county-specific information to forecast how the region's economy changes over time and reacts to new conditions by county and by year.

FTIP expenditures are categorized by function into three broad industries: construction, transit operations and maintenance, and architectural and engineering services. Operations and maintenance expenditures for highways and transit facilities are included in the construction category given their similarity. Due to differences in economic impacts arising from different kinds of transportation spending, FTIP transportation project expenditure data is sorted by category, such as construction services, operations and maintenance for transit operations and architectural and engineering services. Right-of-way acquisition costs are excluded since these represent a transfer of assets and are generally considered to have no economic impact. Each category of spending was modeled separately and their impacts summed. Employment estimates are measured on a job-count basis for employment gains and are reported on an annual basis.

Over the six-year period, the FTIP program will generate an annual average of more than 104,000 jobs in the six-county SCAG region. The total employment impact of the 2021 FTIP transportation program is shown in **FIGURE 3**.

FIGURE 3 JOBS CREATED ANNUALLY BY 2021 FTIP INVESTMENTS (REMI ANALYSIS)

	FY20-21	FY21-22	FY22-23	FY23-24	FY24-25	FY25-26	AVERAGE
SCAG REGION	244,519	119,456	93,043	79,749	40,904	47,139	104,135
IMPERIAL COUNTY	240	228	51	30	17	28	99
LOS ANGELES COUNTY	166,863	69,281	59,168	44,672	7,562	6,844	59,065
ORANGE COUNTY	31,979	16,627	15,289	13,584	2,553	2,473	13,751
RIVERSIDE COUNTY	21,152	20,305	7,626	16,303	11,653	32,118	18,193
SAN BERNARDINO COUNTY	17,088	10,790	8,785	4,115	18,185	4,289	10,542
VENTURA COUNTY	7,196	2,225	2,122	1,045	934	1,388	2,485

In addition to supporting the economy and job creation in the SCAG region, the rest of California will also benefit from spillover impacts of these investments totaling an additional 4,760 jobs per year on average. This shows that investing for transportation in SCAG region is important for job creation not only for our region but also beyond.

These impacts are primarily related to the construction and maintenance-related benefits of the 2021 FTIP, or the economic and job creation impacts of the direct investment in transportation infrastructure. In addition, there are longer-term economic impacts as a result of the relative efficiency improvements of the regional transportation system. Connect SoCal - 2020 RTP/SCS, included an analysis of economic impacts arising from efficiency gains in terms of worker and business economic productivity and goods movement that will be beneficial in terms of economic development, competitive advantage, and overall improvement in the economic competitiveness of the SCAG region within the global economy. Projects that reduce congestion may help firms produce at lower cost, or allow those firms to reach larger markets or hire more highly skilled employees. A robust regional economy with a well-functioning transportation system provides a more attractive place for firms to do business, enhancing the economic competitiveness of the SCAG region.

Over time, these transportation network efficiency benefits become all the more important to regions such as Southern California in terms of enhanced economic growth and competitiveness, attraction and retention of employers and highly skilled employees, and creation of good-paying jobs. Economic analysis performed in support of the 2020 RTP/SCS estimated that job gains resulting from transportation network efficiency improvements derived from full implementation of the RTP to be an average of 264,500 jobs per year.

2021 FTIP PROGRAM PERFORMANCE

Connect SoCal set forth a vision to advance Southern California's mobility, economy, and sustainability objectives for the next several decades. To help realize this vision, Connect SoCal includes specific regional goals and policies. To measure the extent to which the RTP/SCS achieves these performance objectives, and to help guide the identification of preferred strategies and alternatives, SCAG developed a set of multi-modal performance measures as featured in the Connect SoCal Performance Measures Technical Report:

www.connectsocial.org/Documents/Adopted/fConnectSoCal_Performance-Measures.pdf.

The 'Moving Ahead for Progress in the 21st Century' (MAP-21) legislation, which was signed into law in July 2012, established new federal requirements for states and MPOs such as SCAG to implement a performance-based approach to transportation system decision making and development of transportation plans. The 'Fixing America's Surface Transportation' (FAST) Act, signed into law in December 2015, reaffirmed the federal commitment to the establishment of transportation performance measures. Although SCAG has been using performance measures in its metropolitan planning programs for many years, MAP-21 required the establishment of state and regional performance targets that address several performance measures specifically indicated in the federal legislation:

- Number of fatalities and serious injuries on all public roads
- Rate of fatalities and serious injuries on all public roads
- Total combined number of non-motorized fatalities and serious injuries on all public roads
- Pavement condition on the Interstate System and National Highway System (NHS)
- Bridge condition on the NHS
- Percent of reliable person miles travelled on the Interstate System and on the non-interstate NHS
- Percent of Interstate System mileage with reliable truck travel times
- On-road mobile source emissions
- Non-single occupancy vehicle mode share
- Transit system safety
- Transit asset management

MAP-21 also required that the FTIP include, to the maximum extent practicable, a description of the anticipated effect of the TIP program toward achieving the federal performance targets, thereby linking investment priorities to those targets. Federal rulemaking finalized in May 2017 provided performance measures for highway safety, National Highway System (NHS) performance, freight movement, the Congestion Mitigation and Air Quality (CMAQ) program, and for pavement and bridge condition. The Final Rule required that State Departments of Transportation and MPOs collaborate to establish targets in the identified national performance areas to document progress over time and to inform expectations for future performance. The performance discussion included in the 2021 FTIP will focus on key metrics from the 2020 RTP/SCS (Connect SoCal), which includes the federal MAP-21 performance measures.

For additional information regarding program performance, please see the Performance Measures chapter of the 2021 FTIP Technical Appendix at: ftip.scag.ca.gov/Documents/D2021-FTIP_TA_Sec07.pdf.

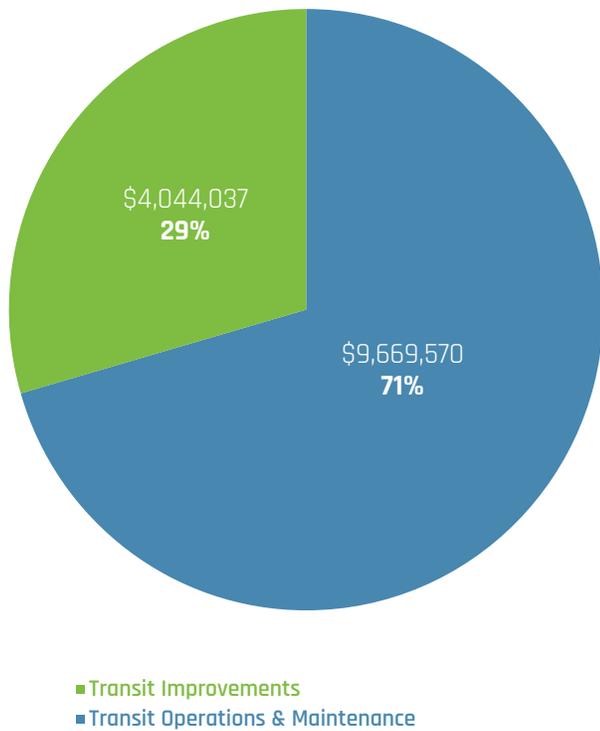
PROGRAMMING INVESTMENTS

The FTIP reflects how the region is moving forward in implementing the transportation policies and goals of the 2020 RTP/SCS (Connect SoCal). The 2021 FTIP funding breakdown (**FIGURE 4**) shows the region's transportation priorities, with an emphasis on operations and maintenance of the existing regional transportation system.

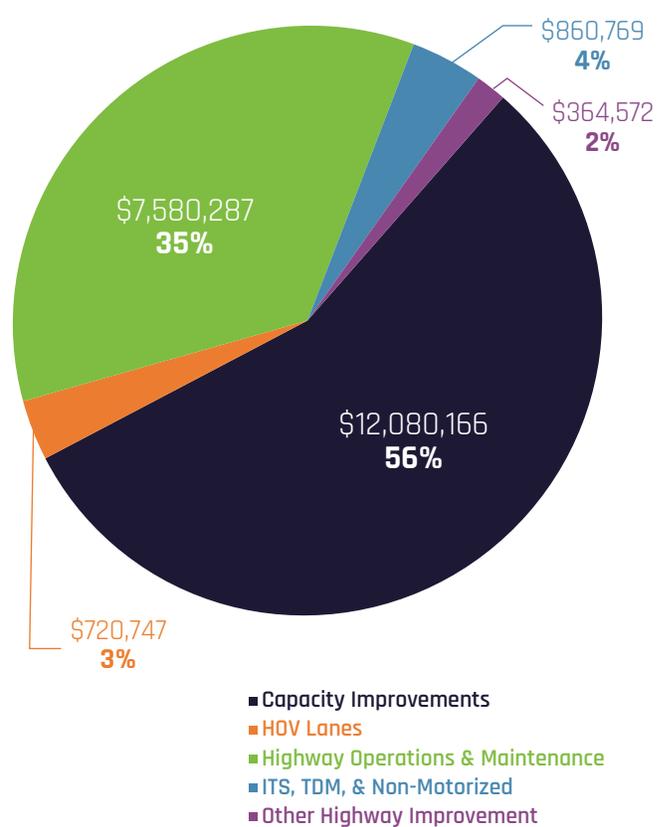
FIGURE 4 2021 FTIP AMOUNT PROGRAMMED (IN \$ MILLIONS)	
Transit Improvements	\$9,670
Transit Operations and Maintenance	\$4,044
Highway Improvements	\$12,801
Highway Operations and Maintenance	\$7,580
ITS, Transportation Demand Management, and Active Transportation	\$861
Other	\$365

2021 FTIP INVESTMENT CATEGORIES

TRANSIT INVESTMENT: \$13,713,607 (\$1,000's)



HIGHWAY INVESTMENT: \$21,607,721 (\$1,000's)



The 2021 FTIP includes an estimated \$1.15 billion programmed towards active transportation projects. While the FTIP presents an overview of federally funded investments in the region, it is not a complete picture of all the active transportation type projects that are delivered. This is because active transportation projects that are 100% locally funded or 100% state funded are not required to be programmed in the FTIP. The FTIP only includes federally funded projects and other projects that require federal action. In 2017, Senate Bill 1 the Road Repair and Accountability Act, was signed into law. SB 1 established \$56 billion in investments to California's transportation system through the establishment of a new tax on gasoline purchases. Funds are split equally between the State and Cities/Counties. Further, SB1 increased the investment in the State's Active Transportation Program (ATP) from \$123 million annually to \$223 million annually; nearly doubling the funding available in the program. Active transportation improvement projects tend to be smaller projects where state generated funds like SB1 are preferred by local agencies for implementation due to the reduction of cumbersome requirements common with federal funds.

FIGURE 5 provides a breakdown of how the \$1.15 billion programmed in the 2021 FTIP is allocated to different project types in the region. In addition to the amount currently programmed, Cycle 5 of Active Transportation Program (ATP) grants will be programmed once they are released by Caltrans, thereby increasing overall FTIP investments towards active transportation.

SCAG's RTP/SCS calls for increases in active transportation funding over the 25-year plan period, culminating in a total of \$22.5 billion through 2045. Overall, the level of investment described here closely aligns with Connect SoCal and demonstrates the region is on track to meet its goal.

FIGURE 5 ACTIVE TRANSPORTATION INVESTMENT (in Millions)

ATP PROJECT TYPE	SCAG REGION 2021 FTIP FY2020/21 - FY2025/26*	PERCENTAGE OF ATP INVESTMENT IN 2021 FTIP
Bicycle & Pedestrian Infrastructure	\$556.6	48%
Dedicated Bicycle Infrastructure	\$216.7	19%
Dedicated Pedestrian Infrastructure	\$139.7	12%
First Mile/Last Mile Strategies	\$104.6	9%
Bicycle Detection & Traffic Signals	\$24.1	2%
Safe Routes to Schools/Education	\$1.1	<1%
Planning	\$1.8	<1%
ATP as Part of Larger Project (est. average 5% of total cost)	\$103.7	9%
TOTAL AMOUNTS	\$1,148.3	

* Excludes ATP Projects for Cycle 5

TRANSPORTATION CONFORMITY

The 2021 FTIP must satisfy the following requirements to be in compliance with federal conformity regulations: It must be consistent with SCAG's 2020 RTP/SCS (Connect SoCal); it must meet regional emissions tests; it must demonstrate timely implementation of transportation control measures (TCMs); it must go through inter-agency consultation and public involvement process; and it must be financially constrained.

CONFORMITY DETERMINATIONS FOR THE DRAFT 2021 FTIP

The 2021 FTIP meets all federal transportation conformity requirements and passes the five tests required under the U.S. DOT Metropolitan Planning Regulations and U.S. EPA Transportation Conformity Regulations. SCAG has made the following conformity findings for the 2021 FTIP under the required federal tests.

CONSISTENCY WITH THE 2020 RTP/SCS TEST

FINDING: SCAG's 2021 FTIP (project listing) is consistent with the 2020 RTP/SCS (policies, programs, and projects).

REGIONAL EMISSIONS TESTS

These findings are based on the regional emissions test analyses shown in Tables 21-48 in Section II of the Technical Appendix.

FINDING: The regional emissions analyses for the 2021 FTIP is an update to the regional emissions analyses for the Connect SoCal - 2020 RTP/SCS.

FINDING: The 2021 FTIP regional emissions for ozone precursors (2008 and 2015 NAAQS) meet all applicable emission budget tests for all milestone, attainment, and planning horizon years for the Morongo Band of Mission Indians (Morongo), Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation (Pechanga), SCAB excluding Morongo and Pechanga, South Central Coast Air Basin ([SCCAB], Ventura County portion), Western Mojave Desert Air Basin ([MDAB], Los Angeles County Antelope Valley portion and San Bernardino County western portion of MDAB), and the Salton Sea Air Basin ([SSAB], Riverside County Coachella Valley and Imperial County portions).

FINDING: The 2021 FTIP regional emissions analysis for PM_{2.5} and its precursors (1997, 2006, and 2012 NAAQS) meet all applicable emission budget tests for all milestone, attainment, and planning horizon years for the South Coast Air Basin (SCAB) (Pechanga excluded under 2012 annual PM_{2.5} NAAQS).

FINDING: The 2021 FTIP regional emissions for CO meet all applicable emission budget tests for all milestone, attainment and planning horizon years in the SCAB.

FINDING: The 2021 FTIP regional emissions for PM₁₀ and its precursors meet all applicable emission budget tests for all milestone, attainment, and planning horizon years in the SCAB and the SSAB (Riverside County Coachella Valley portion).

FINDING: The 2021 FTIP regional emissions for PM₁₀ meet the interim emission test (build/no-build test) for all milestone, attainment, and planning horizon years for the MDAB (San Bernardino County portion excluding Searles Valley portion) and Searles Valley portion of San Bernardino County).

FINDING: The 2021 FTIP regional emissions analysis for PM_{2.5} and its precursors (2006 and 2012 NAAQS) meet the interim emission test (build/no-build test) for all milestone, attainment, and planning horizon years for the SSAB (urbanized area of Imperial County portion).

TIMELY IMPLEMENTATION OF TCM TEST

FINDING: The TCM project categories listed in the 1994/1997/2003/2007/2012/2016 Ozone SIPs for the SCAB area were given funding priority, are expected to be implemented on schedule and, in the case of any delays, any obstacles to implementation have been or are being overcome.

FINDING: The TCM strategies listed in the 2016 Ozone SIP for the SCCAB (Ventura County) were given funding priority, are expected to be implemented on schedule and, in the case of any delays, any obstacles to implementation have been or are being overcome.

INTER-AGENCY CONSULTATION AND PUBLIC INVOLVEMENT TEST

FINDING: The 2021 FTIP complies with all federal and state requirements for interagency consultation and public involvement by following the strategies described in SCAG's Public Participation Plan (PPP). For more information on SCAG's PPP, please visit <http://scag.ca.gov/Documents/Final2018PPP.pdf>. In accordance with the PPP, SCAG's Transportation Conformity Working Group (TCWG) serves as a forum for interagency consultation.

The 2021 FTIP was discussed with SCAG's TCWG, which includes representatives from the federal, state, and local air quality and transportation agencies, on multiple occasions throughout the development process (September 24, 2019; October 29, 2019; December 7, 2019; February 25, 2020; March 24, 2020; April 28, 2020; May 26, 2020; June 23, 2020; and July 28, 2020 August 25, 2020, and September 22, 2020). The draft conformity analysis will be released for a 30-day public review on November 6, 2020. Two public hearings will be held, the first on November 17th and the second on December 2, 2020. Given recent public health directives limiting public gatherings due to the threat of COVID-19 and in compliance with the Governor's recent Executive Order N29-20, the hearings will be held virtually via Zoom. The 2021 FTIP will also be presented to the Regional Transportation CEOs at their meeting held on January 15, 2021, fulfilling the consultation requirements of AB 1246 as codified in Public Utilities Code Sections 130058 and 130059. The 2021 FTIP is posted on the SCAG website, noticed in numerous newspapers, and distributed to libraries throughout the region. All comments on the 2021 FTIP will be documented and responded to accordingly.

FINANCIAL CONSTRAINT TEST

FINDING: The 2021 FTIP is fiscally constrained since it complies with federal financial constraint requirements under 23 U.S. Code Section 134(h) and 23 CFR Section 450.324(e) and is consistent with the Financial Plan contained in the Connect SoCal - 2020 RTP/SCS. SCAG's 2021 FTIP demonstrates financial constraint in the financial plan by identifying all transportation revenues including local, state, and federal sources available to meet the region's programming totals.



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Southern California Association of Governments
Remote Participation Only
November 5, 2020

To: Energy & Environment Committee (EEC)
Regional Council (RC)
From: Sarah Jepson, Planning Director,
(213) 236-1955, Jepson@scag.ca.gov
Subject: Climate Change Action Resolution

EXECUTIVE DIRECTOR'S
APPROVAL

RECOMMENDED ACTION FOR EEC:

Recommend that the Regional Council adopt the Climate Change Action Resolution.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 1: Produce innovative solutions that improve the quality of life for Southern Californians.

EXECUTIVE SUMMARY:

At the October meeting of the Energy and Environment Committee (EEC), the Chair and members of the committee requested that SCAG staff prepare a resolution affirming a climate change crisis in Southern California. Emphasizing SCAG's unique role in the region, members of the EEC asked that SCAG consider calling on local and regional partners to join together to further reduce greenhouse gas (GHG) emissions, improve regional resilience, and reduce hazards from a changing climate. Accordingly, staff has prepared the attached resolution for consideration and action as appropriate by the EEC and Regional Council.

BACKGROUND:

Climate change mitigation and adaptation planning have become more pressing with each passing year as the SCAG region experiences extreme climate-related health, safety and economic impacts from intensified wildfires, inland flooding and mudslides from torrential rainstorms, coastal flooding exacerbated by sea level rise, and intensified urban heat island effects from unusually high temperatures. Loss of life, destruction of property and infrastructure, transportation system interruptions, and diminished natural resources have been accelerated by our rapidly changing climate.

Extended dry heat days and extreme wildfires represent the most tangible and immediate examples of how climate change is impacting our region's health, safety and economic welfare. In 2020, California's record number of dry heat days increased overall fire risk to the highest degree that the state has ever endured. Moreover, California experienced over 6,000 fires that burned millions of acres, making 2020 the largest wildfire season recorded in the state's modern history, according to

OUR MISSION

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.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

the California Department of Forestry and Fire Protection.¹ Economic costs attributable to these wildfires are estimated to sum to \$10 billion dollars in 2020² with impacts also including damage to property, increased costs of health care, business disruption, lost tax revenue, and decreased property values. There have been more than 1,200 preventable deaths from respiratory illnesses directly linked to this year's wildfire smoke.³ Those experiencing the most severe COVID-19 outcomes are even more vulnerable to respiratory maladies exacerbated by long-term wildfire smoke exposure. Residents in SB 535 Disadvantaged Communities (DACs), who have historically been over-burdened by environmental hazards, are particularly vulnerable.

Events like California's wildfires have become persistent reminders to local governments, residents, workers and businesses throughout the SCAG region that systematic climate adaptation, mitigation, and resilience planning for all climate stressors is achievable – but must become a higher priority. This is especially clear when considering where people live in the region, since roughly 1.8 million people reside in very high fire hazard severity zones, over 300,000 people live in “100-year”⁴ flood hazard areas, more than 350,000 residents live in areas estimated to be impacted by three feet of sea level rise (conservatively projected to occur by 2050), and over 6 million people live in areas subject to extreme heat health events. Looking ahead to 2050, annual costs from climate change hazards are projected to exceed \$113 billion by 2050 – an expense of thousands of dollars per resident in California each year.⁵

Since greenhouse gas emissions and climate stressors do not follow jurisdictional boundaries, effective mitigation, management, and adaptation to risks posed by climate change will require cross-jurisdictional coordination and collaboration. SCAG's most recent long-range plan, “Connect SoCal,” features strategies that can reduce the region's GHG emissions if implemented. Connect SoCal includes goals for the region to adapt to a changing climate, promote conservation of natural and agricultural lands and restoration of habitats, promote healthy and equitable communities, and encourage regional economic prosperity.

Further, SCAG has developed a SoCal Climate Adaptation Planning Guide for local jurisdictions to utilize in identifying vulnerable areas and implementing adaptation strategies to reduce climate related hazards in their communities. As part of a larger Climate Adaptation Framework, SCAG launched a Climate Talks Outreach Strategies Toolkit for local jurisdictions and community-based

¹ <https://www.fire.ca.gov/stats-events/>; Accessed October 12, 2020

² Cowan, Jill. “How Much Will the Wildfires Cost?” <https://www.nytimes.com/2020/09/16/us/california-fires-cost.html>. Accessed October 12, 2020.

³ Burke, Marshall and Sam Heft-Neal. Indirect mortality from Wildfires in California. <http://www.g-feed.com/2020/09/indirect-mortality-from-recent.html>. Accessed October 12, 2020.

⁴ Areas known as Special Flood Hazard Areas (SFHAs) defined as areas that will be inundated by a flood event having a 1-percent chance of being equaled or exceeded in any given year.

⁵ California's Fourth Climate Change Assessment Summary Report; California Energy Commission; 2019

organizations to engage with residents and better understand how climate change is affecting local communities. The Framework also includes tools that help the region to work together to plan and prepare for the impacts of sea level rise, extreme heat, increasingly frequent and damaging wildfires, and other climate-related issues.

Since Southern California's natural and working lands – forests, rangelands, farms, wetlands, coast, deserts, and urban greenspaces – sustain the region's economy, help to reduce greenhouse gas emissions in the atmosphere, support the region's unique biodiversity, provide opportunities for land management strategies, SCAG is also developing a Southern California Greenprint that will be a new online regional mapping tool that highlights the benefits of natural lands, waters and agricultural lands, including access to parks and trails, habitat protection and connectivity, food production and increased resilience to climate change.

In moving forward with implementation of the Connect SoCal plan and PEIR, and in light of recommendations from members of the Energy and Environment Committee (EEC), the Draft Resolution states that SCAG will pursue a number of activities to address climate change and strengthen regional resilience. These include developing a regional resilience framework to help the region plan and prepare for a changing climate and other potential near- and long-term disruptions to Southern California; providing resource support and technical assistance for local jurisdictions to integrate climate planning in their local planning activities; and developing a regional advanced mitigation program (RAMP) as described in the Connect SoCal PEIR. Further, the Resolution states that the 2024 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) will include mitigation analysis and strategies, and that SCAG will continue to develop programs and outreach strategies to support adaptation to address regionally significant vulnerabilities and long-term regional resilience planning at the local level. Finally, SCAG's Planning Director will report to the EEC on a quarterly basis on the progress of these efforts.

With over 40 jurisdictions in the SCAG region having incorporated climate adaptation and mitigation strategies in local planning efforts, this resolution follows regional and local actions that advance the State of California's Global Warming Solutions Act of 2006 known as AB 32, as well as its associated legislation, SB 32 (2016), which established targets for GHG reductions from all sources in California 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

FISCAL IMPACT:

Work for this effort is funded in SCAG's Fiscal Year 2020-2021 Overall Work Program (OWP) under project 065-4092.01 (Adaptation Analysis).

ATTACHMENT(S):

1. Draft Climate Change Action Resolution
2. PowerPoint Presentation - Climate Change Action Resolution

**A RESOLUTION OF THE SOUTHERN CALIFORNIA
 ASSOCIATION OF GOVERNMENTS AFFIRMING A
 CLIMATE CHANGE CRISIS IN THE SCAG REGION AND CALLING ON
 LOCAL AND REGIONAL PARTNERS TO JOIN TOGETHER TO IMPROVE
 REGIONAL CLIMATE ADAPTATION AND RESILIENCE**

SOUTHERN CALIFORNIA
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REGIONAL COUNCIL OFFICERS

- President
Rex Richardson, Long Beach
- First Vice President
Clint Lorimore, Eastvale
- Second Vice President
**Jan C. Harnik, Riverside County
 Transportation Commission**
- Immediate Past President
Bill Jahn, Big Bear Lake

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- Executive/Administration
Rex Richardson, Long Beach
- Community, Economic &
 Human Development
Jorge Marquez, Covina
- Energy & Environment
David Pollock, Moorpark
- Transportation
Cheryl Viegas-Walker, El Centro

WHEREAS, SCAG is the largest metropolitan planning organization (MPO) in the United States covering six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura), and serving approximately 19 million people within 197 jurisdictions pursuant to 23 USC § 134 et seq. and 49 USC § 5303 et seq.;

WHEREAS, SCAG is responsible for bringing Southern California’s diverse residents and local partners together with unifying regional plans, policies, and programs that result in more healthy, livable, sustainable, and economically resilient communities;

WHEREAS, our changing climate represents a threat to the region’s economic security, public safety, health and wellness, transportation system, infrastructure, natural systems, and overall quality of life;

WHEREAS, steadily increasing global temperatures reflecting climate change have heightened the severity, duration, cost, and risk of wildfires; are escalating rising sea levels; and are contributing to more frequent extreme weather including intense precipitation, prolonged drought, and excessive heat events;

WHEREAS, California experienced a record number of dry heat days in 2020 due to a changing climate, and experienced over 6,000 fires that burned millions of acres, making 2020 the largest wildfire season recorded in the state’s modern history according to the California Department of Forestry and Fire Protection;

WHEREAS, economic costs from wildfires include resources involved in fighting the fires, damage to property, health care bills, costs of disrupted business, decreased property values, and lost tax revenue;

WHEREAS, wildfires have a direct linkage to respiratory health, and researchers at Stanford University found that recent wildfire smoke in California resulted in over 1,200 preventable deaths;

WHEREAS, as witnessed during the COVID-19 pandemic, long-term exposure to poor air quality, exacerbated by wildfires, increases vulnerability to those experiencing the most severe COVID-19 outcomes;

WHEREAS, one-third of the SCAG region’s residents live in areas recognized as disadvantaged communities based on state statute and are particularly vulnerable to health risks from worsening air quality;

Attachment: Draft Climate Change Action Resolution (Climate Change Action Resolution)

WHEREAS, a changing climate presents many potential hazards to Southern California residents now and into the future, since roughly 1.8 million people live in very high fire hazard severity zones, over 300,000 people reside in “100-year” flood hazard areas, more than 350,000 residents live in areas estimated to be impacted by three feet of sea level rise (conservatively projected to occur by 2050), and over 6 million people live in areas subject to extreme heat health events;

WHEREAS, annual costs from climate change hazards are projected to exceed \$113 billion by 2050 – an expense of thousands of dollars per resident in California each year;

WHEREAS, impacts from climate change in the SCAG region will be most acutely felt by children, seniors, low income populations, communities of color, and residents with unstable economic or housing situations;

WHEREAS, disruptions from a changing climate will impact to varying degrees our region’s public health, vulnerable populations, economy, natural resources, built environment, transportation system, housing and water supplies, utility infrastructure, and emergency services;

WHEREAS, the Office of the Governor has issued a series of executive orders that seek to address a range of aspirational climate mitigation and adaptation related goals for achieving carbon neutrality, conserving and managing land and coastal waters, supporting robust passenger vehicle and truck electric vehicle sales, providing cleaner energy sources, forging partnerships and taking actions to help achieve these goals;

WHEREAS, SCAG has been a leader in advancing the State of California’s Global Warming Solutions Act of 2006 known as Assembly Bill 32, and through its implementation of Senate Bill 375, as well as greenhouse gas reduction programs that advance objectives of Senate Bill 32 (2016), which establish targets for greenhouse gas reductions from all sources in California 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050;

WHEREAS, the Southern California region has successfully adopted a Sustainable Communities Strategy (SCS) as part of the 2020-2045 Regional Transportation Plan/SCS known as “Connect SoCal”, that has addressed the California Air Resources Board’s established per-capita greenhouse gas reduction targets since the enactment of Senate Bill 375;

WHEREAS, to implement its adopted SCS, SCAG has advanced numerous regional studies and programs to reduce greenhouse gas emissions, and established the Sustainable Communities Program to fund local jurisdictions’ conservation plans, climate action plans, and greenhouse gas reduction programs among other initiatives, and has supported over 200 projects since 2005;

WHEREAS, over 40 jurisdictions in the SCAG region have adopted climate action plans at the local level to reduce their greenhouse gas emissions and better prepare their communities for a changing climate;

WHEREAS, Connect SoCal, SCAG’s most recent long range regional plan, expands upon and strengthens the region’s vision for achieving established per-capita greenhouse gas reduction targets, features new strategies that will reduce the region’s greenhouse gas emissions and includes goals for the region to adapt to a changing climate;

WHEREAS, to enhance and increase value of Connect SoCal for local partners, SCAG, for the first time, prepared an accompanying Implementation Strategy for Connect SoCal and established an overarching set of priorities to consider in all planning activities and programs, including strengthening partnerships and accelerating programs that serve the immediate needs of communities, while also advancing the plan vision and strategies for a more sustainable and resilient region;

WHEREAS, extensive fires across Southern California region have further reinforced the need for regional leadership to adapt and become more resilient to the impacts of climate change by implementing strategies and programs building on its leadership in climate mitigation efforts to also focus on adaptation at the regional and local level to tackle environmental, social and economic challenges;

WHEREAS, SCAG supports coordination among state, regional, and local resilience efforts as a founding member of the Governor’s Technical Advisory Council for California’s Integrated Climate Adaptation and Resiliency Program (ICARP), established by Senate Bill 246 (2015), and is committed to working with the state to develop a cohesive and coordinated response to the impacts of climate change across California to further the success and impact of regional efforts;

WHEREAS, Southern California’s natural and working lands – forests, rangelands, farms, wetlands, coast, deserts, and urban greenspaces – sustain the region’s economy, help to reduce greenhouse gas emissions in the atmosphere, support the region’s unique biodiversity, and provide opportunities for land management strategies;

WHEREAS, SCAG is developing a Southern California Greenprint that will be a new online regional mapping tool that will highlight the benefits of natural lands, waters and agricultural lands, including access to parks and trails, habitat protection and connectivity, food production and increased resilience to climate change; and

WHEREAS, consistent with Regional Council Resolution 20-623-2, health, socio-economic, and racial equity considerations should be included in regional policymaking addressing climate hazards, and SCAG will work in partnership with others to close the gap of racial injustice and better serve our communities of color, and in so doing, serve all the people of the region.

NOW, THEREFORE, BE IT RESOLVED that the Regional Council of SCAG affirms a climate change crisis and calls on local and regional partners to join together to improve regional climate adaptation and resilience.

BE IT FURTHER RESOLVED by the Regional Council that:

1. SCAG shall develop a regional resilience framework to help the region plan and prepare for a changing climate, as well as potential near- and long-term disruptions to Southern California, such as earthquakes, extreme weather, drought, wildfires, pandemics and economic shocks.

2. SCAG shall provide resource support and technical assistance for local jurisdictions to integrate climate planning in their local planning activities by creating an information hub, identifying funding streams, and building a library of model policies that collectively foster climate change adaptation and resilience.
3. SCAG shall develop a regional advanced mitigation program (RAMP) as envisioned in Connect SoCal for regionally significant transportation projects to mitigate environmental impacts.
4. SCAG shall continue to include climate mitigation and explore opportunities to expand adaptation analysis and strategies in the 2024 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) for consideration by EEC and RC.
5. SCAG shall continue to develop and promote programs and outreach strategies to support near-term adaptation to address regionally significant vulnerabilities and long-term regional resilience planning, such as SCAG's Climate Adaptation Framework, SoCal Climate Adaptation Planning Guide, Climate Talks Outreach Strategies Toolkit, and the Sustainable Communities Program.
6. SCAG's Planning Director shall report to the EEC on a quarterly basis on the progress of these efforts.

PASSED, APPROVED AND ADOPTED by the Regional Council of the Southern California Association of Governments at its regular meeting this 7th day of January, 2021.

Rex Richardson
President, SCAG
Councilmember, Long Beach

Attested by:

Kome Ajise
Executive Director

Approved as to Form:

Justine Block
Acting Chief Counsel

Climate Change Action Resolution

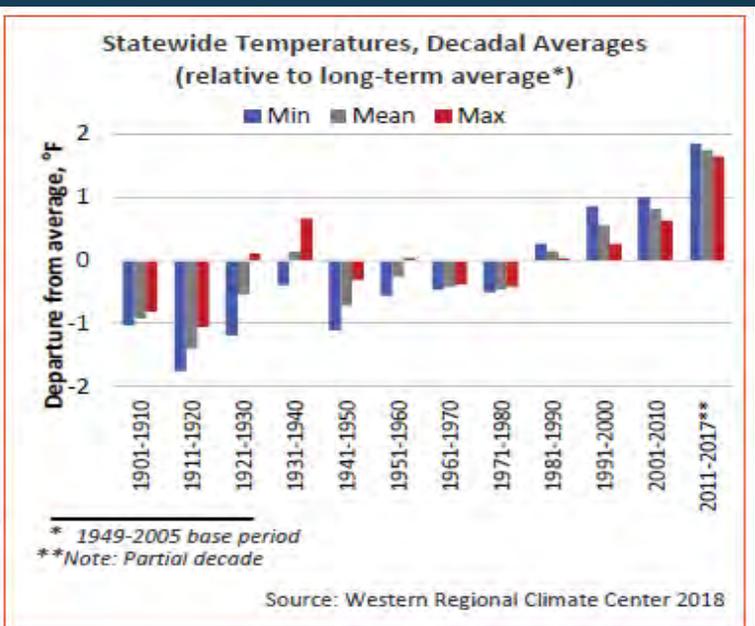
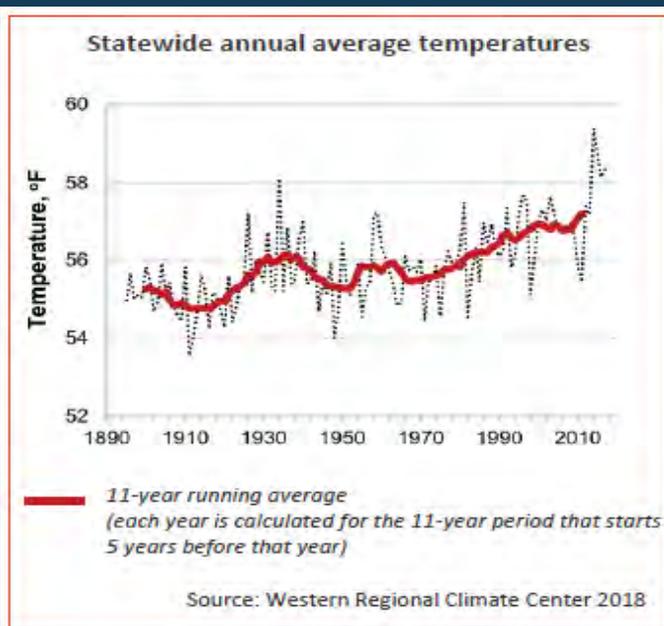
Presentation to Energy and Environment Committee

Sustainability Department
November 5, 2020

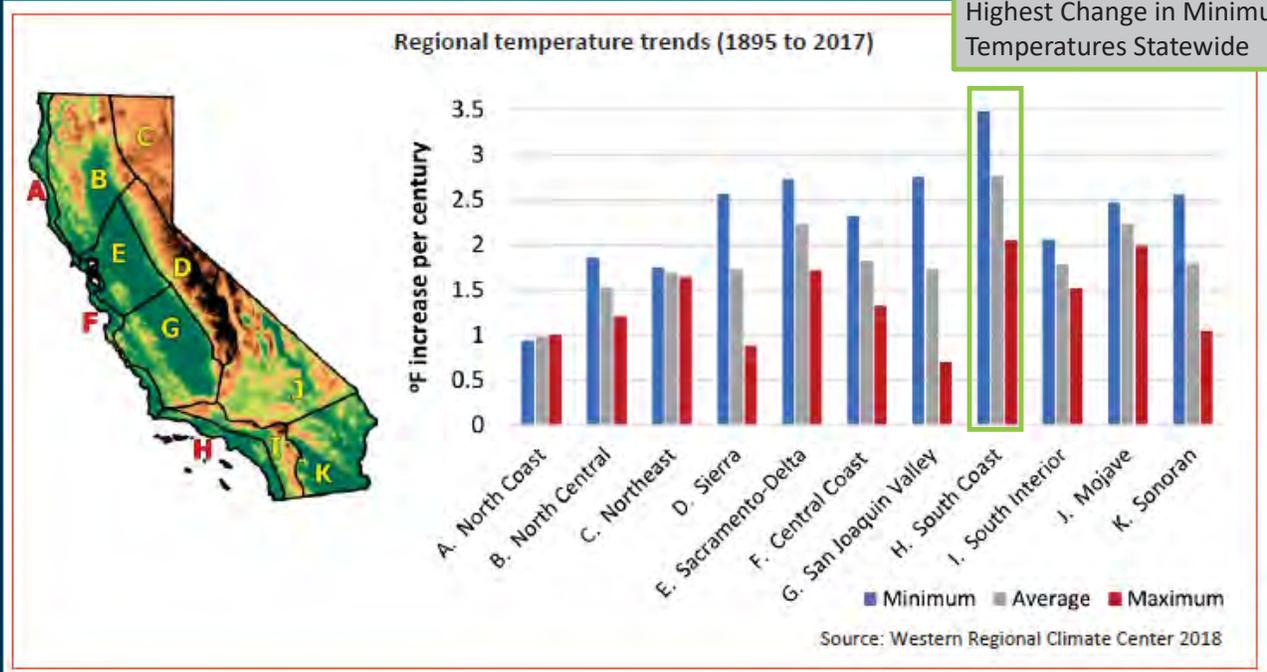
www.scag.ca.gov



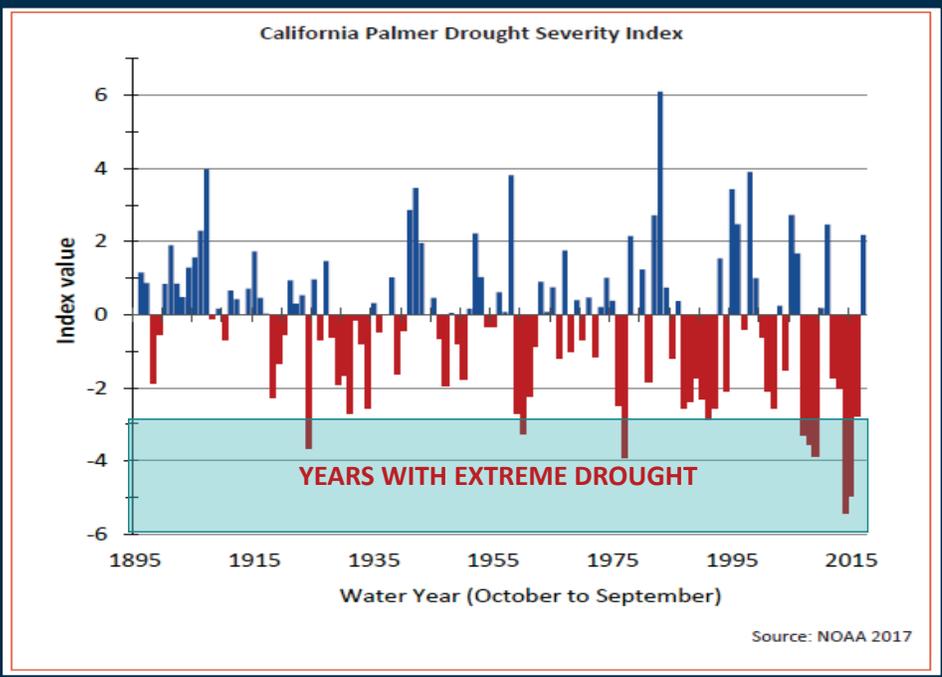
Warming Temperatures in California



Warming Temperatures at the Regional Level

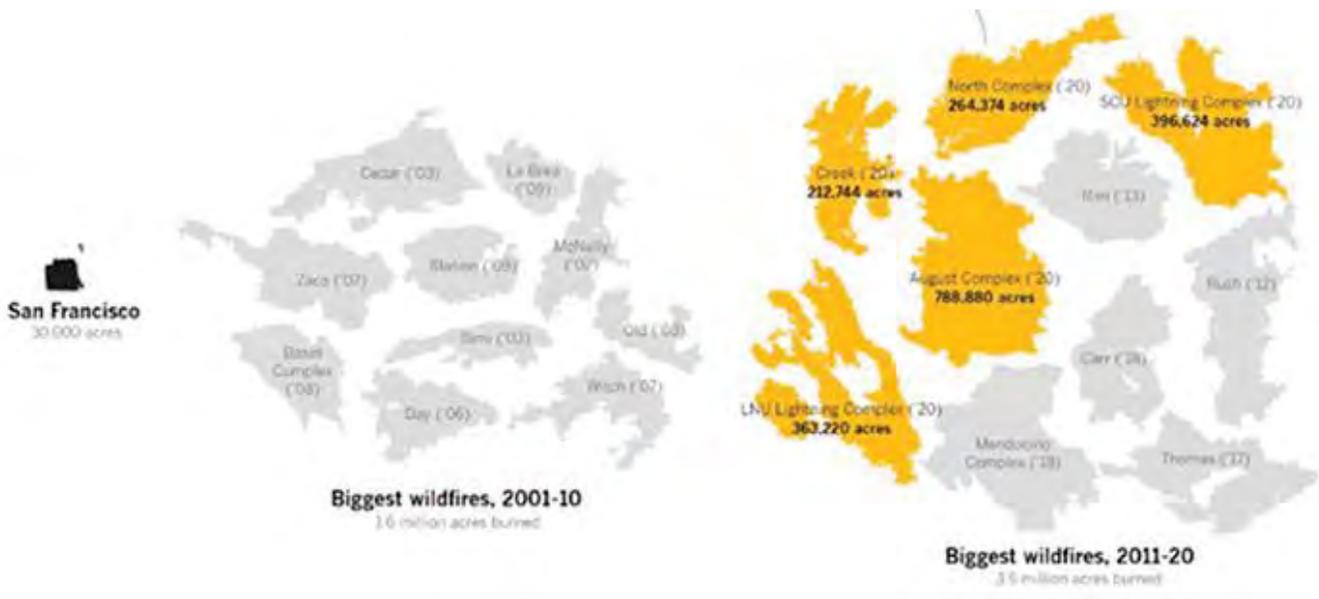


Increasing Severity of Drought in California



- Five of the eight years in recorded history that California experienced extreme drought fell between 2007 and 2016, with unprecedented dry years in 2014 and 2015.
- From 2012 to 2016, California experienced its most extreme drought on record, coinciding with years of record warmth and record low snowpack.

Largest Ten Wildfire Burn Areas: 2001-2010 vs. 2011-2020



1.6 Million Acres

vs.

3.5 Million Acres

Source: OCBC

6

Health Impacts of California Wildfires in 2020



“Researchers at Stanford University estimate that the pollution from an unprecedented stretch of heavy wildfire smoke is likely to have led to at least 1,200, and up to 3,000, deaths in California between Aug 1. and Sept. 10 that otherwise would not have occurred..” – SF Chronicle; 9/24/20



Source: PurpleAir.com

Attachment: PowerPoint Presentation - Climate Change Action Resolution (Climate Change Action Resolution)

Cost of California Wildfires in 2020



“Over the past 50 years, excluding the last four, wildfires averaged about the same in direct damages: a billion dollars per year, adjusted for inflation.

But in three of the past four years, including this one, fires are on track to cause damages in excess of **\$10 billion.**” – NY Times; 9/16/20



Source: CAL FIRE

Population Growth in California Wildfire Hazard Areas



- 1.8 Million People in Southern California reside in very high fire hazard areas in 2016
- By 2045, this could increase to 2.2 million based on local growth estimations

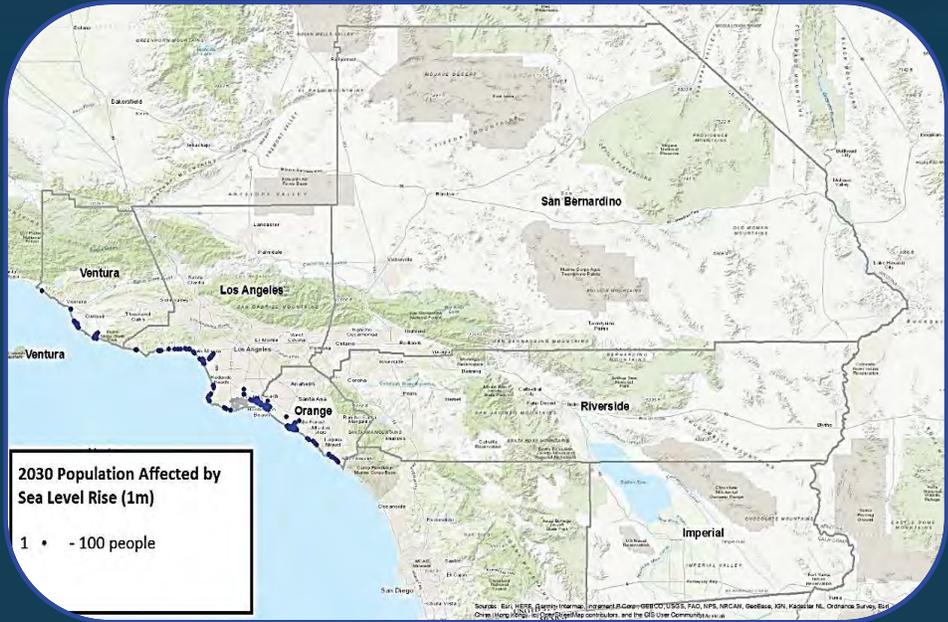


Source: CAL FIRE

Population Impacted by 1 Meter of Potential Sea Level Rise

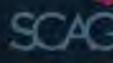


**350,000
People
in 2016**

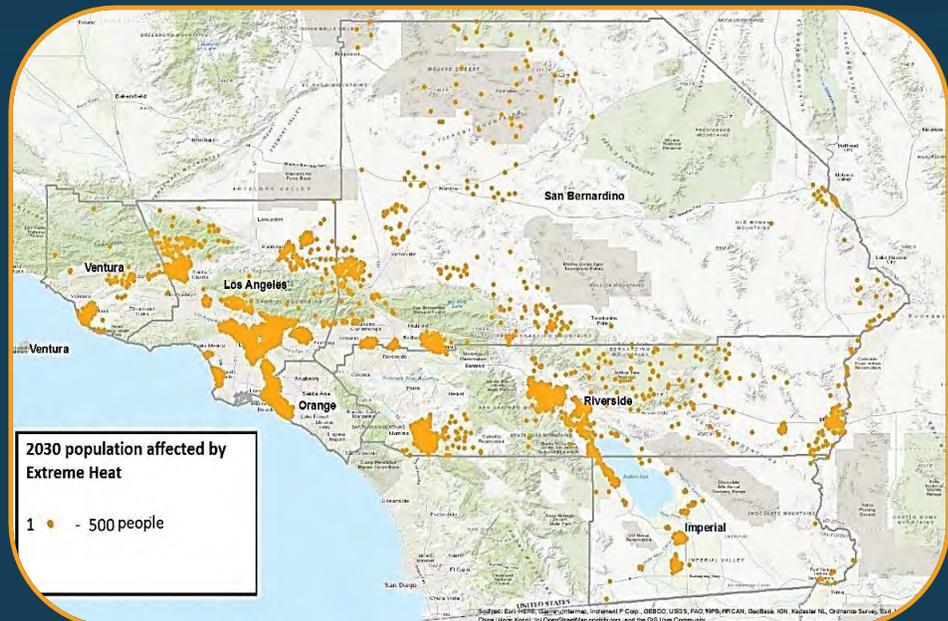


Source: SCAG, Coastal Storm Modeling System, USGS

Population Impacted by Potential Extreme Heat Health Events



**6 Million
People
in 2016**



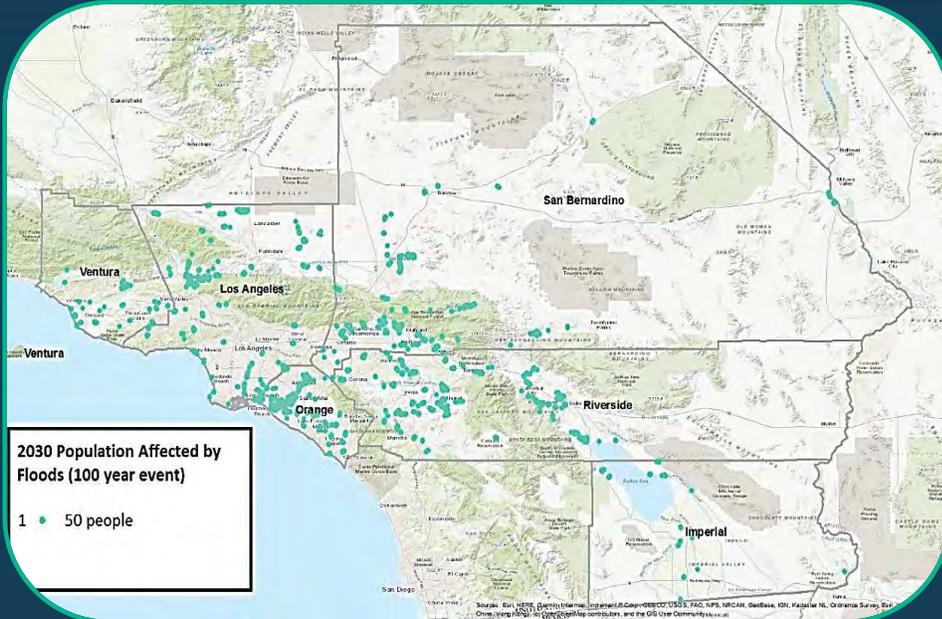
Source: SCAG, California Heat Assessment Tool

Attachment: PowerPoint Presentation - Climate Change Action Resolution (Climate Change Action Resolution)

Population Impacted by Flood Risk (100 Year Event)



300,000
People
in 2016

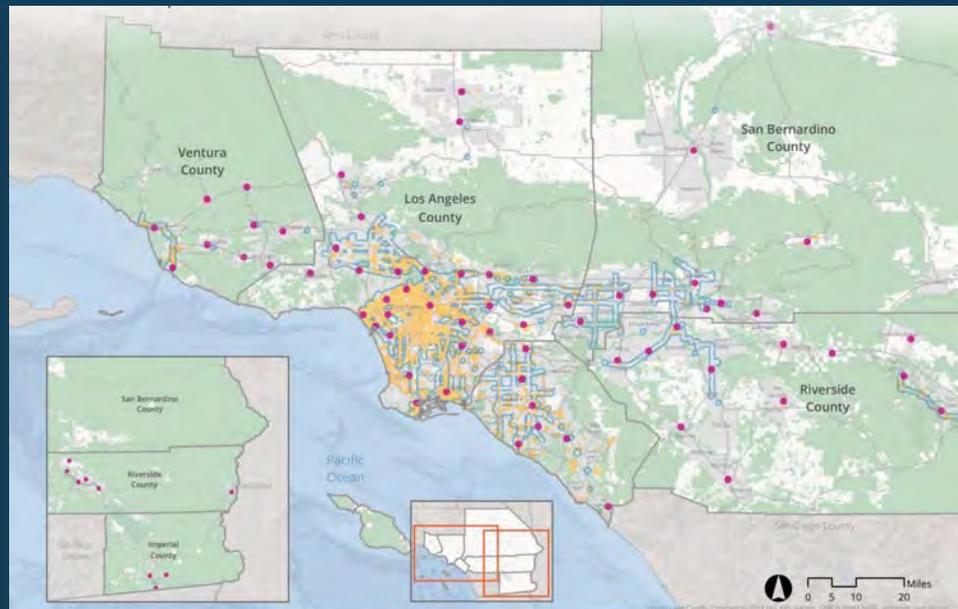


Source: SCAG, FEMA

Connect SoCal and Beyond



- Plan Goal - *Adapt to a changing climate and support an integrated regional development pattern and transportation network*
- **18,000** Fewer People in Very High Risk Wildfire Areas than baseline
- **1,000** fewer homes in 2 ft sea level rise areas



Priority Growth Areas vs. Regional Growth Constraints

- Job Center
- Neighborhood Mobility Areas
- High Quality Transit Area
- Regional Growth Constraints

Note: SCAG used locally informed data elements to determine Regional Growth Constraints including the absolute constraint areas shown in the map such as Tribal lands, Conserved Land and others. See the Sustainable Communities Strategy Technical Report for more details on these and the variable constraints used in plan development.

Source: CalBRACE, California Department of Conservation, CPAD, CCED, County Transportation Commissions, NOAA Coastal Services Center, SCAG, 2019

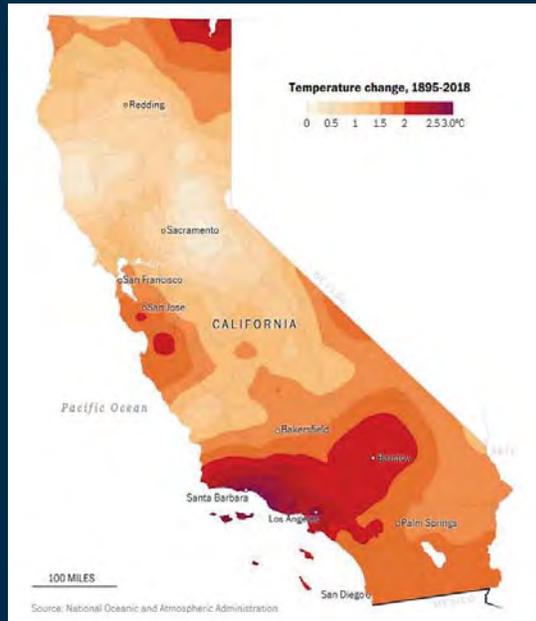
Attachment: PowerPoint Presentation - Climate Change Action Resolution (Climate Change Action Resolution)

SoCal Climate Adaptation Planning Guide



Summarize Climate Change Impacts Specific to SCAG Region

- Extreme Heat
- Sea Level Rise/Coastal Flooding and Erosion
- Severe Storms/Wind
- Inland Flooding
- Drought
- Wildfire
- Air Quality and Vector Borne Diseases
- Landslides
- Pests and Ecological Hazards



Attachment: PowerPoint Presentation - Climate Change Action Resolution (Climate Change Action Resolution)

DRAFT Climate Change Action Resolution



BE IT FURTHER RESOLVED that:

- SCAG shall develop a regional resilience framework to help the region plan and prepare for a changing climate, as well as potential near- and long-term disruptions to Southern California, such as earthquakes, extreme weather, drought, wildfires, pandemics and economic shocks.
- SCAG shall provide resource support and technical assistance for local jurisdictions to integrate climate planning in their local planning activities by creating an information hub, identifying funding streams, and building a library of model policies that collectively foster climate change adaptation and resilience.
- SCAG shall develop a regional advanced mitigation program (RAMP) as envisioned in Connect SoCal for regionally significant transportation projects to mitigate environmental impacts.
- SCAG shall continue to include climate mitigation and explore opportunities to expand adaptation analysis and strategies in the 2024 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) for consideration by EEC and RC.
- SCAG shall continue to develop and promote programs and outreach strategies to support near-term adaptation to address regionally significant vulnerabilities and long-term regional resilience planning, such as SCAG's Climate Adaptation Framework, SoCal Climate Adaptation Planning Guide, Climate Talks Outreach Strategies Toolkit, and the Sustainable Communities Program.
- SCAG's Planning Director shall report to the EEC on a quarterly basis on the progress of these efforts.

Discussion / Questions

Kimberly Clark
Clark@scag.ca.gov
213-236-1844
www.scag.ca.gov





Southern California Association of Governments
Remote Participation Only
November 5, 2020

To: Energy & Environment Committee (EEC)
Regional Council (RC)
From: Kimberly Clark, Program Manager,
(213) 236-1844, Clark@scag.ca.gov
Subject: SoCal Climate Adaptation Planning Guide

EXECUTIVE DIRECTOR'S
APPROVAL

RECOMMENDED ACTION:

Information Only - No Action Required

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 1: Produce innovative solutions that improve the quality of life for Southern Californians. 3: Be the foremost data information hub for the region.

EXECUTIVE SUMMARY:

SCAG developed the SoCal Climate Adaptation Planning Guide (SCCAPG) to help the region's jurisdictions improve resilience to climate-related stressors such as extreme heat, wildfire, drought, flooding, heavy precipitation and sea level rise. The SCCAPG addresses existing vulnerabilities through the lens of land use and transportation and provides implementation tools for local jurisdictions to adapt to climate change. It also includes tools for stakeholders to more effectively communicate about climate stressors and identify opportunities for the region's land use pattern and transportation system to be more adaptable, resilient, and respond to hazards relating to a changing climate. SCAG's consultant team will summarize the SCCAPG and provide an outlook of future engagements with stakeholders to publicize the resource.

BACKGROUND:

With discretionary resources available from the 2017-18 SB1-funded Adaptation Planning Grant Program, Caltrans awarded SCAG a \$941,700 competitive planning grant to prepare the comprehensive Southern California Regional Climate Adaptation Framework, which includes implementation tools, data, and resources for all SCAG regional jurisdictions to prepare vulnerability assessments, adaptation plans, general plans, and other documents. The SoCal Climate Adaptation Planning Guide (SCCAPG) is a product of the larger Framework and provides a step wise guide for exploring issues, assessing vulnerability, defining strategies, and implementing adaptation solutions at the local level.

Building on the State of California's Adaptation Planning Guide, the SCCAPG is available online at <http://sustain.scag.ca.gov/Pages/Climate%20Change/Regional-Climate-Adaptation-Framework.aspx>

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and includes vulnerability assessments tailored to Southern California's unique environment. The SCCAPG describes how jurisdictions can consider interconnected and interdependent systems in assessing community vulnerability. In addition to the direct impact to a physical asset, such as inundation by flooding, there are compound or secondary impacts to consider that may represent an elevated risk to safety or human life. For example, California's latest extended drought, occurring from roughly 2012 to 2017, resulted in extremely dry conditions and fuel build up, which in turn increased the risk and incidence of wildfires. The resulting wildfires in steep-sloped areas subsequently resulted in high-risk areas for mudslides due to the loss of vegetation that normally stabilizes soils and absorbs precipitation during intense rainfall events. Consideration should also be given to the cascading impacts that could occur when a climate-driven event results in the loss of service from critical facilities and infrastructure, such as water and wastewater systems, energy systems, essential facilities (e.g., hospitals), emergency response facilities, and local ecosystems.

The SCCAPG also features local examples of climate adaptation and walks jurisdictions through a detailed consideration of risk and strategy development, while emphasizing ongoing monitoring as essential to extracting maximum adaptation benefits. In considering local risk for climate-related hazards, the SCCAPG utilizes a risk-management or "tolerable risk" planning framework where risk is quantified as the product of the probability of a hazard occurring multiplied by the consequences of that event. This decision-making framework allows evaluation and assessment of risk for communities to identify strategies to reduce the impacts from hazards in an efficient and effective manner. A risk management planning framework is an excellent approach for planning in communities as diverse as the 197 jurisdictions in the SCAG region because it can be applied at any scale, and it can help decision-makers prioritize limited funding resources toward areas with the most urgent needs. A risk framework also is an excellent communication tool, and the evaluation of adaptation strategies enables jurisdictions to understand both the risks they are managing and whether the options they are considering will effectively and efficiently reduce those risks. In addition, a risk management framework considers life safety paramount, which promotes equity as a strong criteria in decision-making, beyond the standard economic benefits.

In early 2019, SCAG initiated a contract with Cambridge Systematics, Inc. for this effort. In addition to the SCCAPG, part of the project's scope includes preparation of a multipart analysis of transportation and land use impacts of climate events, including the use of the SCAG Regional Travel Demand Model, location based services data for transportation impacts, and development of a mapping tool for jurisdictions to evaluate land use impacts from climate hazards.

This winter, SCAG will be conducting a Toolbox Tuesday webinar to review the SCCAPG and release these additional resources for local stakeholders. Leading up to that event, SCAG staff have been making presentations to local planning directors and city managers at subregional organizations' regular meetings to advertise the upcoming resources. Additionally, SCAG hosts a Climate Adaptation Working Group quarterly with attendance from key regional stakeholders including local



jurisdictions, community-based organizations, local universities, state counterparts and other regional partners.

FISCAL IMPACT:

This project is funded in SCAG's Fiscal Year 2020-21 Overall Work Program (OWP) under project 145.4834.01 (Southern California Regional Climate Adaptation Framework).

ATTACHMENT(S):

1. PowerPoint Presentation - SoCal Climate Adaptation Planning Guide

SoCal Climate Adaptation Planning Guide

Presentation to Energy and Environment Committee

SCAG Sustainability Department, Cambridge Systematics, HereLA, and ESA

November 5, 2020

www.scag.ca.gov



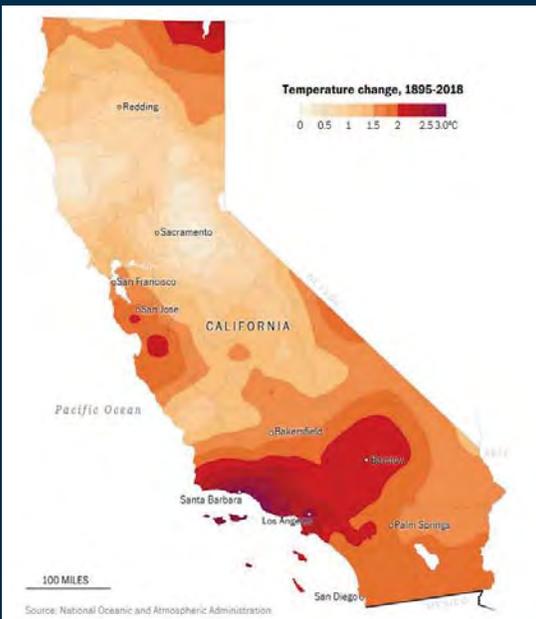
Project Background

SoCal Climate Adaptation Framework

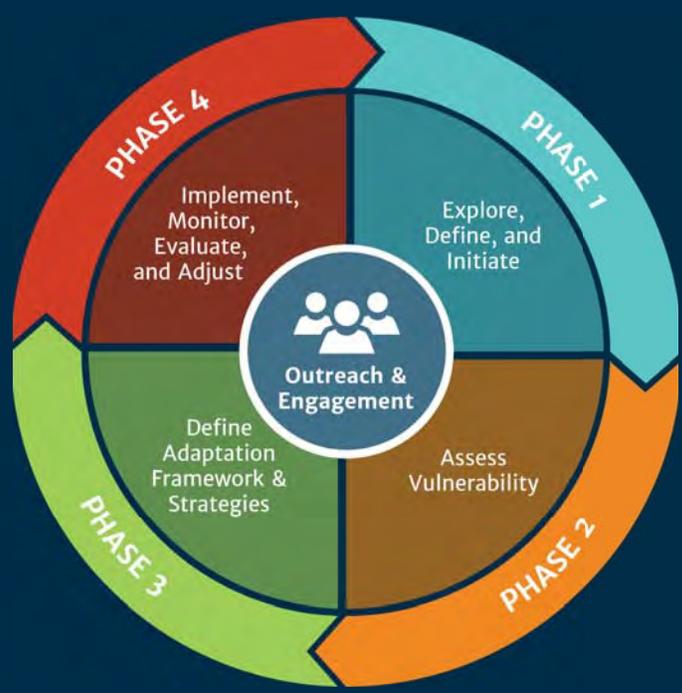
- February 2019 Kickoff
- SB 1 Adaptation Planning Grant
- SCAG, Cambridge Systematics, with ESA, Here LA, and Urban Economics
- **Tools and Resources**
- **Outreach and Communications Strategies**
- **Planning Guidance and Model Policy Language**
- **Vulnerability mapping and assessment tools**
- **Transportation and land use scenarios and modeling**
- **Finance and Funding Guidance**

Climate Change Impacts in the SCAG Region

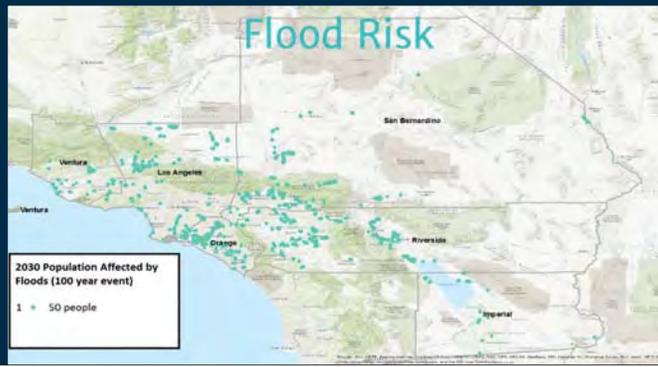
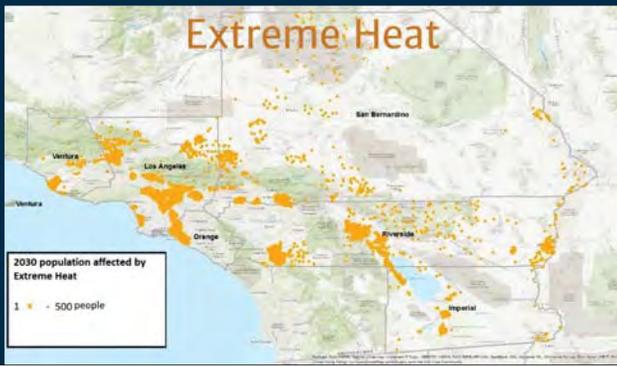
-  Extreme Heat
-  Sea Level Rise/Coastal Flooding and Erosion
-  Severe Storms/Wind
-  Inland Flooding
-  Drought
-  Wildfire
-  Air Quality and Vector Borne Diseases
-  Landslides
-  Pests and Ecological Hazards



Four Phases of Climate Adaptation Planning



Widespread Impacts



SoCal Water Supply: Threatened by Receding Dana Glacier



- Located in Yosemite National Park
- Part of a snowpack that supplies 60% of California's water supply when its snow melts
- Reduced 64% over the past 100 years, and this poses dire issues for our water supply

Sources: *The Long Journey of Los Angeles Water*, Sierra Nevada Conservancy, n.d. *Glacier Change*, Office of Environmental Health Hazard Assessment, 2019

Attachment: PowerPoint Presentation - SoCal Climate Adaptation Planning Guide (SoCal Climate Adaptation Planning Guide)

Ventura County Agriculture: Impacted by Fire, Heat, and Sea Level Rise



- Ventura is the 11th-largest crop producing county in the U.S.
- In 2017, the Thomas Fire caused over \$170M of damage to farmland
- Rising temperatures, extreme heat, and sea-level rise will also affect farmland

Sources: Farm Bureau of Ventura County, n.d.

Ventura County agriculture suffers over \$170 million in damages from Thomas Fire, VC Star, 2018

Joshua Tree National Park Area: Dangerous Floods



- The areas surrounding the national park are experiencing climate change
- Drier soil and intensified rainfall produce dangerous flood conditions
- In 2018, a thunderstorm left 13 vehicles buried in mud and 2,300 residents without power

Sources: Thunderstorm drenches Palm Springs, buries part of Highway 62..., Desert Sun, 2018 Inland Deserts Regional Climate Change Assessment, CA Natural Resources Agency et al., 2018

Capistrano Beach: Damaged by Rising Seas and Strong Storms



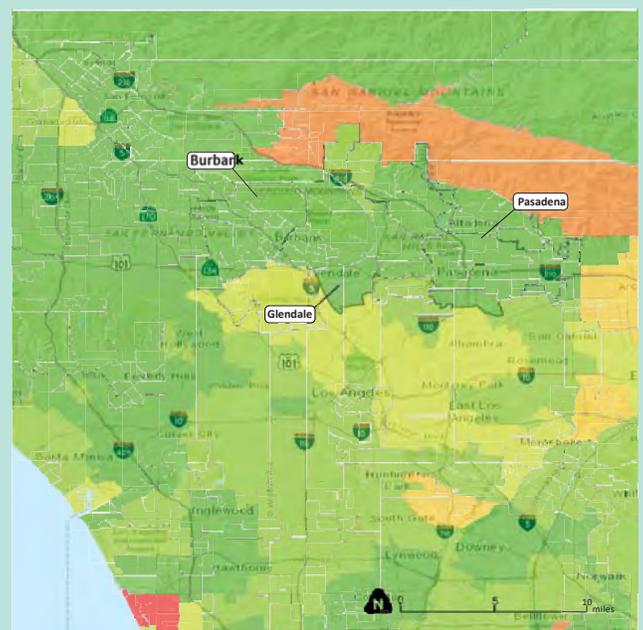
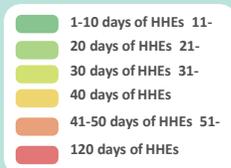
- Beaches are one of California’s greatest public assets
- A 2018 storm, featuring annual “king tides”, caused the flooding damage seen above
- Storm are getting more severe, while rising sea levels cause erosion damage year-round

Sources: Coastal Flooding in California, National Ocean Service, 2015
 Capo Beach crumbles with walkway destroyed..., Orange County Register, 2018

Heat Health Events in the Los Angeles Area

- Heat health events (HHEs) consider both absolute temperature and a local population’s vulnerability
 - Cooling centers, tree canopy, urban heat island affects, health care resources, elderly populations, etc. HHEs are concentrated in the San Fernando Valley and the South Bay

Sources: California Heat Assessment Tool (CHAT), California Natural Resources Agency



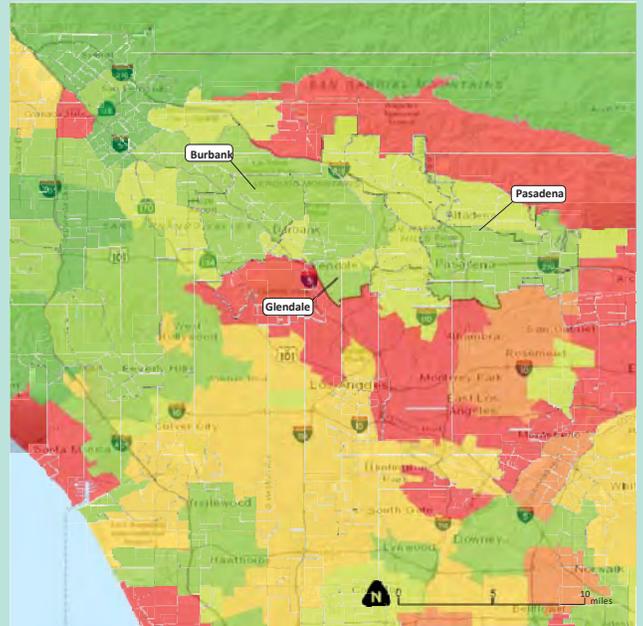
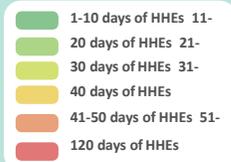
2020

Heat Health Events in the Los Angeles Area

2050

- As temperatures rise, HHEs increase countywide
- The effect is more drastic in LA's historically marginalized communities

Sources: California Heat Assessment Tool (CHAT), California Natural Resources Agency

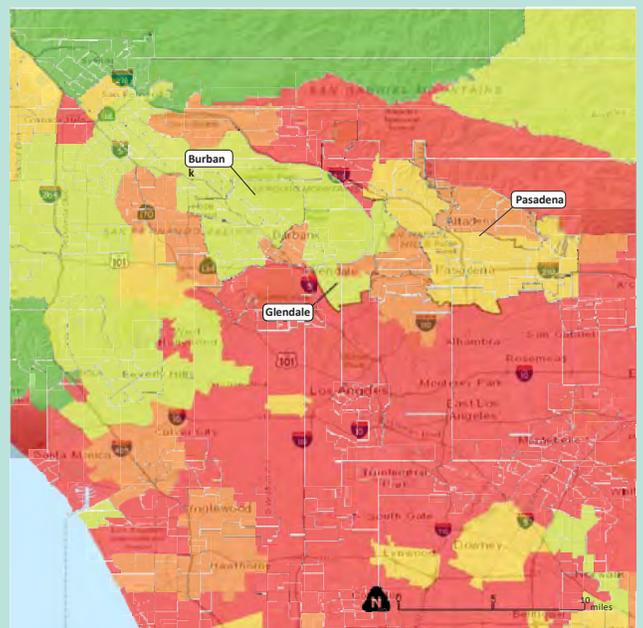
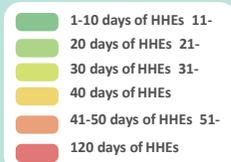


Heat Health Events in the Los Angeles Area

2070

- At this point, HHEs have become a countywide issue
- Only certain wealthy coastal regions have low impacts

Sources: California Heat Assessment Tool (CHAT), California Natural Resources Agency



Wildfires

In 2020 alone, 6,000 fires have burned millions of acres, making this year the largest wildfire season recorded in the state's modern history

Source: California Department of Forestry and Fire Protection

The Apple Fire burned through the foothills in Riverside and San Bernardino counties in August, 2020 forcing thousands to evacuate.



Regulatory Requirements

Senate Bill 379 – Safety Element of a General Plan and Local Hazard Mitigation Plan to address climate adaptation

Senate Bill 1035 – Safety Element regular updates to address climate change as part of Housing Element and Local Hazard Mitigation Plan updates

Senate Bill 1000 – Environmental Justice Element to be prepared when two or more elements are updated and the city or county has a disadvantaged community

Southern California Adaptation Planning Guide



Phase 1 Tools:

- Status of Vulnerability Assessments
- Decision Tree

Phase 2 Tools:

- Interactive Exposure Map

Phase 3 Tools:

- **Adaptation strategies worksheet**

Phase 4 Tools:

- Status of General Plans
- **Model policies**
- **Project checklist**
- Metrics to track progress
- **Adaptation project tracking**



Funding

Finding adequate funding to implement adaptation strategies is an ongoing challenge. As mentioned at the end of Chapter 1, the most significant source of funding is from integrating climate adaptation into existing local agency expenditures. In terms of new funding, there are state and federal grant programs currently available to support both adaptation planning and strategy implementation.

Additional funding programs are likely to emerge in coming years as more and more communities experience the impacts of climate change. Over time, communities should develop a layered funding strategy that uses local investments to leverage regional, state, and federal grants, and loans, as well as private sector investments. The variety of tools that local agencies can utilize to generate adequate funds are summarized in the table below.

Table 4.1: Local Revenue Sources for Climate Adaptation

Revenue Source	Applicability to Climate Adaptation	Revenue Potential	Ease of Authorization
Financing Districts¹			
Benefit Assessments ²	NARROW: Must provide direct benefit to assessed parcels	LIMITED: But critical to leverage funding from directly benefitting property owners	MODEST: Majority district property owner approval weighted by assessment ³
Community Facilities District Special Tax (Mello Roos)	MODEST: Wide range of facilities & services; but must benefit taxed parcels		MODEST: 2/3 district property owners ¹ , or 2/3 voter approval if more than 12 voters in district
Property Tax Increment ⁴	BROAD: Facilities (no services), environmental mitigation	LIMITED in the short run; INCREASING over time with new development	SIMPLE: Governing board approval subject to majority protest by property owners
Local/Regional Public Enterprises			
Water, Sewer & Refuse Charges	NARROW: Must support enterprise operations	MODERATE to SIGNIFICANT: Depends on climate adaptation priorities relative to other enterprise needs	SIMPLE: Governing board approval subject to majority protest by ratepayers
Sea & Airport Revenues			SIMPLE: Governing board approval

Adaptation Strategies and Actions

- Excel Spreadsheet
- Over 275 actions
- Filter by climate change hazard type (e.g., extreme heat, air quality)
- Filter by asset type (e.g., vulnerable populations, public health)
- Strategies and actions can be incorporated into Climate Adaptation Plans or as implementation programs for the General Plan

Adaptation Strategies



Key Strategies and Actions

	Wildfire	Extreme Heat Health Impacts	Sea Level Rise	Inland Flooding
Primary strategy	Preventative controlled burns	Increase tree canopy coverage	Strategically placed sea walls	Expand/reinforce levees
Other strategies	Harden structures	Expand cooling centers	Pumping stations	Natural buffers
	Rezoning	Expand health care facilities	Rezoning	Rezoning
	Firebreak walls	White roofs	Natural Buffers	
		Reduce impervious surfaces		

Model Policies for Local Coastal Programs and General Plans

Model policies organized by general plan element and climate hazard type

- Elements:
 - Environmental Justice
 - Circulation
 - Land Use
 - Safety
- Hazards:
 - Multiple hazards
 - Extreme heat
 - Air quality and human health
 - And other climate-related hazards

LAND USE ELEMENT

Extreme Heat

- **Shade for Livestock.** Amend local zoning ordinances to allow ancillary shade structures for vulnerable livestock populations. (Agriculture)
- **Green or White Roofs.** Require green or white roofs, depending upon sub-regional locations and water requirements, to reduce solar gain and heat island effects. (Buildings and Facilities)
- **Landscaping to Reduce Heat.** Develop landscaping standards and guidelines to encourage or require native-cultivar drought tolerant landscaping with enough coverage to provide shade and reduce heat absorption. (Public Health, Socioeconomics, and Equity)
- **Building Design Features.** Modify the community's zoning ordinance and/or design guidelines to allow and encourage awnings, canopies, arcades and/or colonnades that can encroach into the public sidewalk area to create shade for pedestrians. (Transportation)

Project Checklists

**TABLE 1
PROJECT SCREENING THRESHOLDS FOR CLIMATE HAZARDS (FOR PROJECT PROPONENT TO COMPLETE)**

Climate Hazard	Screening Threshold Questions <i>(If the answer to any of the following questions is "Yes", then the checklist for that hazard must be completed)</i>	Links or Sources of Information
Drought	<ul style="list-style-type: none"> Would project consume water resources in its construction or operation and if so, are the water sources supplying the project at risk from drought? Yes <input type="checkbox"/> No <input type="checkbox"/>	Urban Water Management Plan applicable to the project's location
Extreme Heat	<ul style="list-style-type: none"> Is the area where your project is located expected to experience more than 30 heat health days per year over the project lifetime? Yes <input type="checkbox"/> No <input type="checkbox"/>	Maps based on California Heat Assessment Tool (CHAT) https://www.cal-heat.org/
Inland Flooding	<ul style="list-style-type: none"> Is the project located in the 100-year or larger FEMA floodplain, otherwise known as the 1% annual chance flood? Using Cal-Adapt, will the project watershed be subject to an increase of extreme precipitation events? Yes <input type="checkbox"/> No <input type="checkbox"/>	FEMA Flood Maps https://msc.fema.gov/portal/home
Landslides	<ul style="list-style-type: none"> Is the project located in area of moderate or high susceptibility to landslide hazards? Yes <input type="checkbox"/> No <input type="checkbox"/>	USGS landslide susceptibility map https://maps.conservation.ca.gov/igc/sls/
Sea Level Rise/Coastal Flooding	<ul style="list-style-type: none"> Is the project in a SLR vulnerability zone, or will any infrastructure or resources that the project relies upon be affected by SLR (e.g., beaches, groundwater)? Yes <input type="checkbox"/> No <input type="checkbox"/>	Use detailed local SLR maps, if available. Alternatively, use Our Coast Our Future tool http://data.pointblue.org/apps/ocof/cm/index.php?page=flood-map
Wildfire	<ul style="list-style-type: none"> Is the project located in a high or very high fire hazard zone? Yes <input type="checkbox"/> No <input type="checkbox"/>	CalFIRE Maps - https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/

Template for incorporating climate change adaptation elements into local project approval process:

- Residential and commercial development
- Infrastructure projects

Two-step process:

1. Suggested screening thresholds for 6 hazards
2. Detailed checklist for each hazard

Project Checklists

Extreme Heat Checklist

Over the coming decades the SCAG region can expect longer and hotter heat waves. Average maximum temperatures are projected to increase around 4-5 degrees F by the mid-century, and 5-8 degrees F by the late-century. Extreme temperatures are also expected to increase in duration and intensity.

Exposure

1. **Historical exposure:** Has the site historically experienced extreme heat events? *(Provide supporting evidence; if yes, please describe past events or conditions: e.g., long heat spells, hot nights, etc.)*

Yes No Basis for conclusion: _____

2. **Future Conditions over Project Lifetime:**

- Extreme heat events are expected to increase in duration and/or intensity.
- Extreme heat events are not expected to increase in duration and/or intensity.
- Extreme heat events are expected to remain about the same.
- Unknown.

3. **Identify data source(s) or map(s)/modeling used for assessing past and future exposure of the asset** [check all that apply]:

- California Heat Assessment Tool (CHAT) found at <https://www.cal-heat.org>
- Cal-Adapt
- Site Specific Modeling (please provide date and source of information): _____

Sensitivity

1. **Human Health:** Using the CHAT (www.cal-heat.org), determine the Heat Vulnerability Index (HVI) for the census tract where the project is located.
Areas with HVI values over 50 are considered highly vulnerable to heat-related health impacts.

2. **Physical Asset:** Assess sensitivity to the climate hazard based on the following criteria:

- Low Sensitivity:** Climate hazard would have little or no impact on the asset's physical components or how the project functions.
- Moderate Sensitivity:** Climate hazard would have an impact on the project's physical components and/or its functionality, but the project would recover quickly once hazard subsides. The project would retain some ability to function while exposed.
- High Sensitivity:** Climate hazard would have a significant impact on the project/asset(s) physical components and/or its functionality, and the project would not recover quickly once the hazard subsides. The project would lose major functionality while exposed.

For each hazard of potential concern:

- a. Assess project's vulnerability based on exposure and sensitivity
- b. Assess potential consequences based on:
 - I. Estimated level of asset damage
 - II. Level of disruption of asset service or function
 - III. Cost to replace and/or repair and cost of losing the service/function of the asset

Project Checklists

Adaptation Assessment

Project Adaptation Measures:
From the following list of adaptation measures, identify those that the project will incorporate to increase adaptive capacity to extreme heat. For all "no" answers provide additional explanatory information, including whether the measure is not applicable to the project.

Robustness	<p>1. Would project expand and maintain the urban tree canopy? (e.g., by increasing tree cover for large parking lots) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>2. Would the project expand the use of cool roofs and reflective building materials? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>3. Would the project use alternative vegetative solutions to alleviate urban heat island: for example, green walls and green roofs where trees are not possible? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>4. Would the project expand the use of cool, porous, high-reflectivity pavement or sustainable materials in pavements? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p>
Resilience	<p>5. Would the project use alternatives to grid-powered air conditioners for cooling, such as propane air conditioners, fans and cold water systems? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p>
Adaptability	<p>6. Would the project limit or remove impervious surfaces to help combat urban heat island effects? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>7. Does the project expand access to cooling centers for vulnerable populations to use during heat health events? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p>
Redundancy	<p>8. Would the project have at least 2 routes for emergency vehicle access to allow for emergency services/first responders to access people at project site in the event of an emergency? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p>

- c. Assess project's adaptive capacity, based on the adaptation measures incorporated into its design
 - i. Suggested measures: customize to local needs
 - ii. Utilize the Strategy Matrix

Contact the project team

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Southern California Association of Governments
Remote Participation Only
November 5, 2020

To: Energy and Environment Committee (EEC)

EXECUTIVE DIRECTOR'S
APPROVAL

From: Grieg Asher, Program Manager,
(213) 236-1869, asher@scag.ca.gov

Subject: Climate Action Planning and Renewable Natural Gas

RECOMMENDED ACTION:

Information Only – No Action Required

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 3: Be the foremost data information hub for the region.

EXECUTIVE SUMMARY:

Joe Avila, Senior Policy Director for SoCal Gas, will present an overview of recent work on climate action plans, the role of renewable natural gas in the SoCal Gas service territory, and the utility's program and policies to address reducing greenhouse gas emissions.

BACKGROUND:

Many local jurisdictions in the SCAG region have prepared local climate action plans, climate adaptation plans, or a combination of the two. Key objectives in many of these plans include the potential for decarbonization, reduction of greenhouse gas (GHG) emissions, and developing more resilient communities.

Joe Avila, Senior Policy Director for SoCal Gas, will present an overview of the role natural gas can play in these plans. In many states, decarbonization has depended on greater efficiency of electricity and gas use in home appliances, such as heating, plus substitution of natural gas for coal in power generation. In 2019, the Integrated Renewable Energy Systems Network launched a project to develop the technical and economic information needed to help define the role that natural gas can play in climate action planning.

FISCAL IMPACT:

No Fiscal Impact. This is not a SCAG-funded project.

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Southern California Association of Governments
Remote Participation Only
November 5, 2020

To: Transportation Committee (TC)
Energy and Environment Committee (EEC)
From: Joseph Cryer, Associate Regional Planner,
(213) 236-1837, cryer@scag.ca.gov
Subject: SunLine Transit Advancing Alternative Fuel Buses and
Infrastructure

EXECUTIVE DIRECTOR'S
APPROVAL

RECOMMENDED ACTION FOR EEC AND TC:

Information Only – No Action Required

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 1: Produce innovative solutions that improve the quality of life for Southern Californians.

EXECUTIVE SUMMARY:

The CEO/General Manager of the SunLine Transit Agency will give a presentation on the agency's work to adopt zero-emission technologies for their bus fleet.

BACKGROUND:

SunLine Transit Agency's CEO/General Manager, Lauren Skiver, will provide a presentation that highlights SunLine's 20-year commitment to alternative fuel technology and their journey to zero emissions. Ms. Skiver will provide insight into the forward-thinking vision of the Board of Directors, the partnerships that have been key to success, and the infrastructure required for zero emission buses. She will also discuss the transformation for transit workforce and resources available to agencies and jurisdictions through the Zero Emission Bus Resource Alliance (ZEBRA) and the West Coast Center of Excellence in Zero Emission Technology and Renewable Energy.

FISCAL IMPACT:

None.

ATTACHMENT(S):

1. PowerPoint Presentation - SunLine Transit Agency's Innovative Approach to Transit and Alternative Fuel Technology

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SunLine Transit Agency's Innovative Approach to Transit & Alternative Fuel Technology

Southern California Association of Governments Presentation 11/5/20

Today's Transit for Tomorrow's World

Lauren Skiver
CEO/General Manager
SunLine Transit Agency



About SunLine Transit Agency



Operation – 370+ Employees

Routes

- 14 fixed routes
- 1 express route
- 1 regional route
- ADA Paratransit

Fleet

- 60 CNG
- 17 Hydrogen Electric Fuel Cell
- 4 Electric Battery BYD
- 39 CNG Paratransit Vehicles

Revenue Miles vs. Passenger Trips

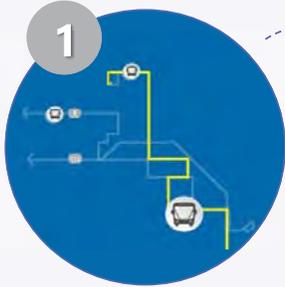
- 4.3 million revenue miles
- 4.5 million passenger trips



Creating a Transit System Transformation



Introducing Refueled



**CONSOLIDATED FIXED
ROUTE NETWORK**



10 COMMUTER LINK



SUNRIDE



ROUTE 111X

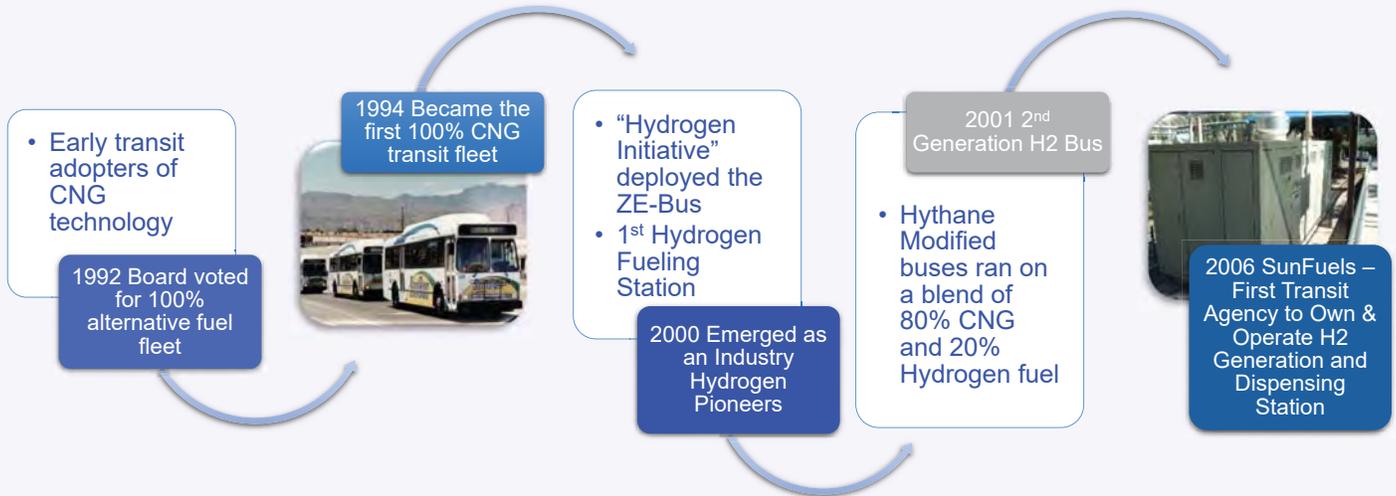
PROPOSED FOR JANUARY 2021

PROPOSED FOR MAY 2021

SunLine's History in Alternative Fuels



Early Zero Emissions Adopter



SunLine Board Policy

Purpose:

- “To establish policy advocating the purchase and use of only vehicles fueled by alternative fuels with the lowest possible emissions.”

Policy:

- “It shall be the policy of SunLine Transit Agency that the replacement and/or addition of all vehicles, revenue or non revenue, be made with vehicles fueled with alternative fuel that provides the lowest emissions.”

Actions to be Followed:

- “The State of California has established four categories of alternate fuel vehicles: 1) Zero Emission Vehicles; 2) Ultra Low Emission Vehicles; 3) Low Emission Vehicles; 4) Transitional Low Emission Vehicles. **SunLine will, whenever possible, purchase vehicles in the same order as listed above.** We do recognize that it may not always be possible to buy a vehicle from these categories as alternate fueled vehicles are still relatively new and are not always available. We also have to be practical and take into consideration the cost of the vehicle, and the cost of the continued use and maintenance.”

Approved March 24, 1993

SunLine's Zero Emission Fleet & Fueling Infrastructure



ZEB Fleet



4-BYD

11

El Dorado National

Ballard

US Hybrid

BAE

New Flyer

6

Ballard

Cummins Hydrogenics

Siemens



- 4 FC Shuttle Buses (Pilot Project)
- 5 awarded through VW Mitigation Settlement and vehicle replacement funds
- 5 awarded through EPA TAG

Hydrogen Fueling Station Overview



Proton/Nel PEM Electrolyzer

900 Kg per day production

380 Kg use per day

2 dispenser fast fill rate

\$8.7 Million CARB Grant



Hydrogen Fueling Station Lessons Learned



Ensuring utilities were able to support project



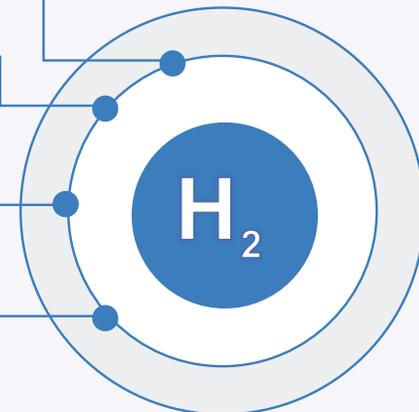
Ensuring we have personnel with the right credentials to execute the project



Correctly estimating the amount of civil work involved



Establishing a performance based statement of work



Solar Microgrid to Hydrogen Vision



Solar Microgrid to Hydrogen



SunLine is looking to expand its fueling systems with the creation of a micro-grid:

Phase 1 – Solar Farm

Phase 2 – Solar to Hydrogen for Electricity Storage

Phase 3 – 700 Bar Public Fueling Station

Phase 4 – Hydrogen / Electricity Truck Plaza

West Coast Center of Excellence in Zero Emission Technology & Renewable Energy



Mission & Vision



Mission



- To provide a transition pathway for current employees employed to operate and maintain carbon based vehicle and infrastructure by providing training on ZEB technologies
- To attract the next generation of technology technicians to be ready for green jobs being developed today and into the future

Vision



- For every investment in technology, there should be a focused investment in training. The West Coast Center of Excellence in Zero Emission Technology and Renewable Energy will be an instrumental resource for the State of California and the WORLD...

Renderings



Advisory Board Objectives

- Help identify new training programs and opportunities
- Create industry certified training programs and coursework to ensure the material and training meet the needs of the operators and manufacturers
- Advance the industry influence of the Board and training materials
- Build collaborations that will leverage the agreed to training programs and coursework
- Help secure funding for Board initiatives and programs

Advisory Board Members



Zero Emission Bus Resource Alliance (ZEBRA)



Mission & Vision



What is ZEBRA?

A national professional association for transit agencies to share lessons learned about zero emission buses (ZEB). Founders envisioned ZEBRA as a group of transit leaders exchanging information without the involvement of manufacturers or outside groups.

Mission

To advance transit agencies' capacity for ZEB adoption through information exchange, training programs, shared research and public education.

Vision

Formed to create a forum that allows transit agencies to inform, educate, and discuss regulatory, funding, and performance topics connected to ZEB deployments.

Current Members



Thank You! Questions?



Lauren Skiver
CEO/General Manager
SunLine Transit Agency

lskiver@sunline.org



Attachment: PowerPoint Presentation - SunLine Transit Agency's Innovative Approach to Transit and Alternative Fuel Technology (SunLine



Southern California Association of Governments
Remote Participation Only
November 5, 2020

To: Community
Economic & Human Development Committee (CEHD)
Energy & Environment Committee (EEC)
Transportation Committee (TC)
Regional Council (RC)

From: Rongsheng Luo, Program Manager II,
(213) 236-1994, LUO@scag.ca.gov

Subject: Overview of 2022 South Coast Air Quality Management Plan
and Near-term Air Quality Planning Challenges

EXECUTIVE DIRECTOR'S
APPROVAL

RECOMMENDED ACTION FOR EEC AND TC:

Information Only – No Action Required

RECOMMENDED ACTION FOR CEHD AND RC:

Receive and File

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 1: Produce innovative solutions that improve the quality of life for Southern Californians.

EXECUTIVE SUMMARY:

Despite much progress over the past decades, our region still faces significant air quality challenges with serious implications for funding and implementation of important transportation projects. Dr. Philip Fine, Deputy Executive Officer at the South Coast Air Quality Management District (SCAQMD), will provide a presentation on the recent and upcoming air quality planning efforts for the South Coast Air Basin (Basin) and Coachella Valley. Two draft air quality plans have been prepared to address the 2006 24-hour PM2.5 standard in the Basin and the 1997 8-hour ozone standard in the Coachella Valley. Both plans show attainment of these standards by 2023 based on continued implementation of existing regulations. The 2022 Air Quality Management Plan (AQMP) is also being prepared to address the attainment of the 2015 8-hour ozone standard in the Basin and the Coachella Valley by attainment deadlines of 2038 and 2033, respectively. Attainment of the 1997 8-hour ozone standard in the Basin by June 2024 attainment deadline continues to be very challenging because of the lack of federal actions to regulate federal sources and lack of adequate incentive funding.

BACKGROUND:

Pursuant to federal and state laws, the South Coast Air Quality Management District (SCAQMD) is

OUR MISSION

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.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

developing several air quality plans for the South Coast Air Basin (Basin) and Coachella Valley including the 2022 Air Quality Management Plan (AQMP).

As required by California Health and Safety Code, SCAG is responsible for providing socio-economic growth forecast and travel activity projection data to SCAQMD for the development of the 2022 AQMP. SCAG is also required to prepare a portion of the AQMP, commonly known as the Appendix IV-C Regional Transportation Plan/Sustainable Communities Strategy and Transportation Control Measures.

The 2022 AQMP will include an important component relative to regional transportation planning and federal transportation conformity requirements, the motor vehicle emissions budgets, which set an upper limit which on-road transportation activities are permitted to emit. The new emission budgets established as part of the 2022 AQMP process and approved in the final plan will become the functioning emission budgets for transportation conformity for future Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Federal Improvement Program (FTIP) and their amendments post the effectiveness date of the new emission budgets.

SCAG staff has been providing SCAQMD with the socio-economic growth forecast and travel activity projection data from the adopted Connect SoCal. Staff will also prepare our portion of the 2022 AQMP based on the Connect SoCal.

As presented in the Connect SoCal, it is a significant challenge to meet various federal health-based air quality standards in the SCAG region with potentially serious consequences. A particularly pressing challenge is for the South Coast Air Basin to meet the 2024 statutory deadline of attaining the 1997 ozone standard. An air quality plan has been prepared and recently submitted to U.S. Environmental Protection Agency (EPA) to specifically address the attainment challenge. However, if the U.S. EPA disapproves the air plan, a federal sanctions clock will be triggered which will lead to federal highway sanctions if the underlying deficiency cannot be resolved within 24 months. Highway sanctions restrict federal funding to transportation projects that expand highway capacity, nonexempt project development activities and any other projects that do not explicitly meet exemption criteria. If imposed, highway sanctions have the potential to impact billions of dollars of federal funding and tens of billions of dollars of important transportation projects in the SCAG region.

It is important to note that additional air quality plans are also being developed by the other four local air districts within the SCAG region in collaboration with the California Air Resources Board (ARB). Staff has been closely participating in and monitoring the various air quality planning efforts throughout the SCAG region and will report on any significant issues to EEC as appropriate.

FISCAL IMPACT:



Work associated with this item is included in the current FY20-21 Overall Work Program (21-025.0164.01: Air Quality Planning and Conformity).

ATTACHMENT(S):

1. PowerPoint Presentation – Overview of Recent and Upcoming Air Quality Planning Efforts and Near-term Air Quality Challenges



Overview of Recent and Upcoming Air Quality Planning Efforts and Near-term Air Quality Challenges

SCAG Energy and Environment Committee & Transportation Committee
November 5, 2020

Dr. Philip Fine
Deputy Executive Officer
Planning, Rule Development and Area Sources
South Coast AQMD

Cleaning The Air That We Breathe...



Presentation Outline

1. Recent Air Quality Planning Efforts
2. 2022 Air Quality Management Plan
3. 2023 Attainment Challenge

Recent Air Quality Planning Efforts

- 2006 24-hr PM2.5 standard – South Coast Air Basin
- 1997 8-hr Ozone standard – Coachella Valley



PM2.5 National Ambient Air Quality Standards – South Coast Air Basin

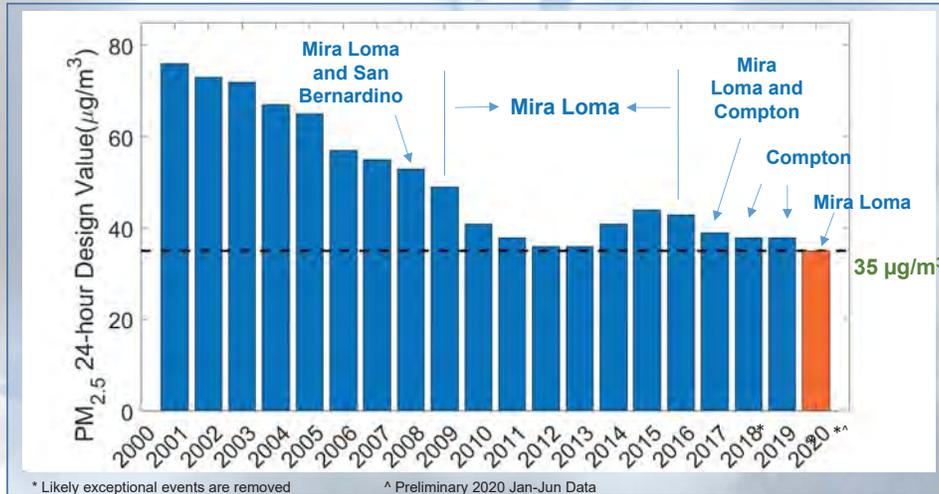
South Coast Air Basin Attainment Status

Standard	Level	Attainment Deadline	Attainment Status
1997 Annual PM2.5	15 µg/m ³	2015	Attained in 2013
1997 24-hour PM2.5	65 µg/m ³	2015	Attained in 2013
2006 24-hour PM2.5	35 µg/m³	2019	Serious Nonattainment
2012 Annual PM2.5	12 µg/m ³	2025	Serious Nonattainment

- Missed deadline due to two sites still exceeding the standard
 - Mira Loma very close to the standard – 50/50 chance of attaining this year
 - Compton design value high due to 3 unexplained high days in 2017 – very likely will attain this year
 - Exceptional event demonstrations (wildfires) will be critical
- New Plan due to EPA this year



Overall Progress Towards Attainment



5



Attainment Demonstration

- **Compton** – Supplemental weight of evidence and air quality trend analysis based on monitoring data
 - Traditional attainment demonstration using chemical transport modeling is not appropriate
 - High PM episodes observed in 2017 were likely driven by anomalous human activities which are not reflected in the emissions inventory
 - If local emissions causing non-attainment are unknown, difficult to develop an effective control strategy
 - Traditional control strategy for Compton would require unrealistic levels of emissions regional reductions and may not be effective
 - Compton will very likely be in attainment before U.S. EPA considers plan
- **Mira Loma** – Traditional Approach - Updated emissions inventory/regional air quality modeling
 - Modeling analysis indicates attainment by 2023 with baseline emissions (existing regulations) with recently adopted regulations providing further assurances

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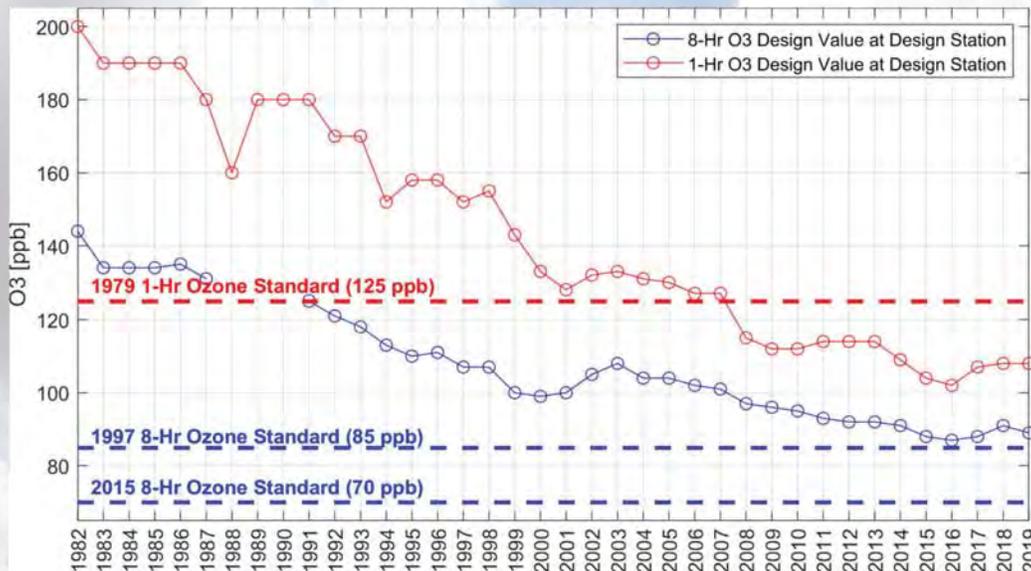
Ozone National Ambient Air Quality Standards – Coachella Valley

Coachella Valley Attainment Status

Criteria Pollutant	Averaging Time	Designation	Attainment Date
Ozone (O ₃)	(1979) 1-Hour (0.12 ppm)	Attainment	11/15/2007 (attained 12/31/2013)
	(1997) 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	(2008) 8-Hour (0.075 ppm)	Nonattainment (Severe)	7/20/2027
	(2015) 8-Hour (0.070 ppm)	Nonattainment (Severe)	8/3/2033



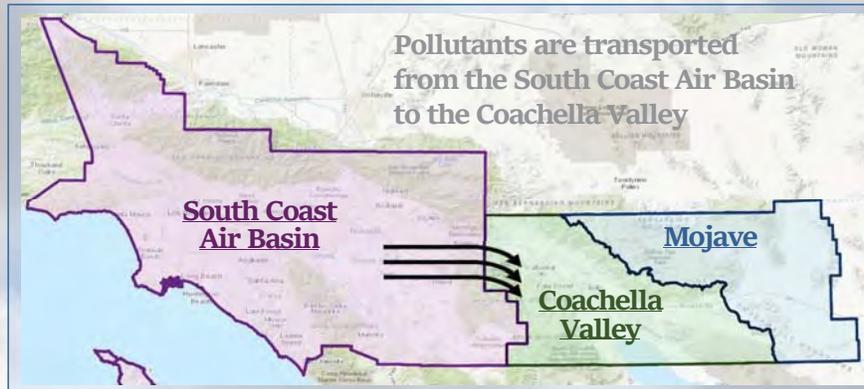
Ozone Trend in Coachella Valley (design value)





Air Quality Setting

- Ozone exceedances in Coachella Valley are primarily due to the direct transport of ozone and its precursors from the South Coast Air Basin



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Pathway to Attainment

- Attainment by 2023 is expected to be achieved based on baseline emissions
 - Adopted rules and regulations provide continued emission reductions in future years
- Recently adopted rules and regulations since 2016 AQMP as well as continued implementation of 2016 AQMP measures provide further assurance for 2023 attainment
- Based on preliminary modeling, attainment may be earlier (2022), but 2023 is retained as attainment year given uncertainties in meteorology, emissions inventory and modeling approach

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2022 Air Quality Management Plan



Ozone National Ambient Air Quality Standards

Attainment Status

Standard	Level	South Coast Classification	Coachella Valley Classification	Attainment Date
2015 8-hour Ozone	70 ppb	Extreme	Severe	August 3, 2038 (South Coast) August 3, 2033 (Coachella Valley)
2008 8-hour Ozone	75 ppb	Extreme	Severe	July 20, 2032 (South Coast) July 20, 2027 (Coachella Valley)
1997 8-hour Ozone	80 ppb	Extreme	Extreme*	June 15, 2024 (both South Coast and Coachella Valley)
1979 1-hour Ozone	120 ppb	Extreme	Attainment	February 6, 2023 (South Coast)

*Voluntary reclassification from severe to extreme in July 2019



Key SIP Elements for 2015 8-hour Ozone Standard

	8/3/2020	8/3/2021	8/3/2022	8/3/2028
Severe and Extreme Areas	Baseline Year Emissions Inventory	Nonattainment New Source Review	Attainment Demonstration	Section 185 Fee Program (Failure to Attain)
	Emissions Statement		Reasonably Available Control Measures	
	Reasonably Available Control Technology Demonstration		Reasonable Further Progress	
	Vehicle Miles Traveled Offset		Conformity	
Extreme Area Only		Clean Fuels for Boilers	Contingency Measures	
			Enhanced Inspection and Maintenance Program	

2022 AQMP



Overall Control Strategy for Attaining 2015 8-hour Ozone Standard

- Extensive transition to near-zero (NZE) and zero-emissions (ZE) technologies in mobile and stationary sources, where feasible
- Transition to cleanest available technologies if NZE/ZE not feasible
- Regulatory measures; Incentive programs
- Eliminate/minimize reliance on 182(e)(5) measures
- Seek legislative authority where applicable
- Seek new sources of funding for new/existing incentive programs
- Work closely with state and local governments to maximize reductions from residential and commercial buildings



2022 AQMP Control Measure Development

- Initiating three working Groups



Mobile Source
– On Road



Mobile
Source – Off
Road



Residential
and
Commercial
Buildings

- Bimonthly meetings (more frequent meetings as needed)
- November 2020 to October 2021 (expected)
- Open to all

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2022 AQMP Overall Schedule



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2023 Ozone Attainment Challenge



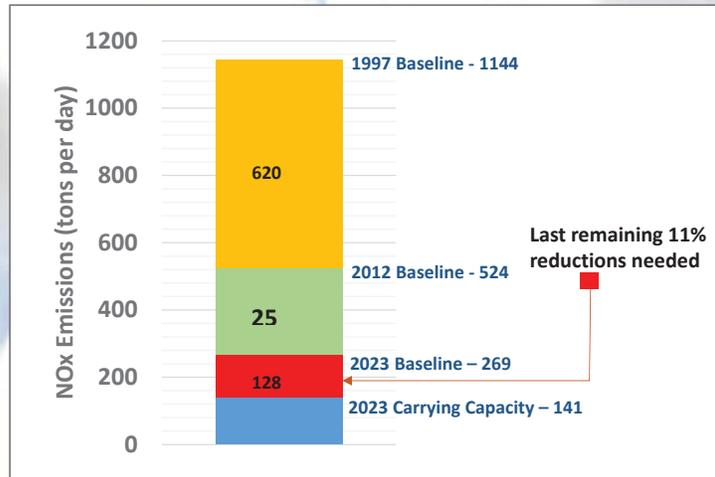
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Attainment Status

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1979 1-hour Ozone	120 ppb	Extreme	February 6, 2023



Progress in Overall NOx Reductions Since 1997

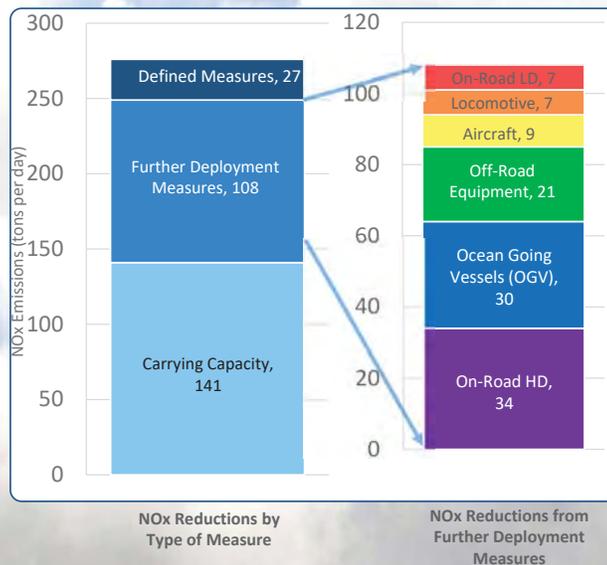


19



CAA Section 182(e)(5) for Extreme Non-Attainment Areas

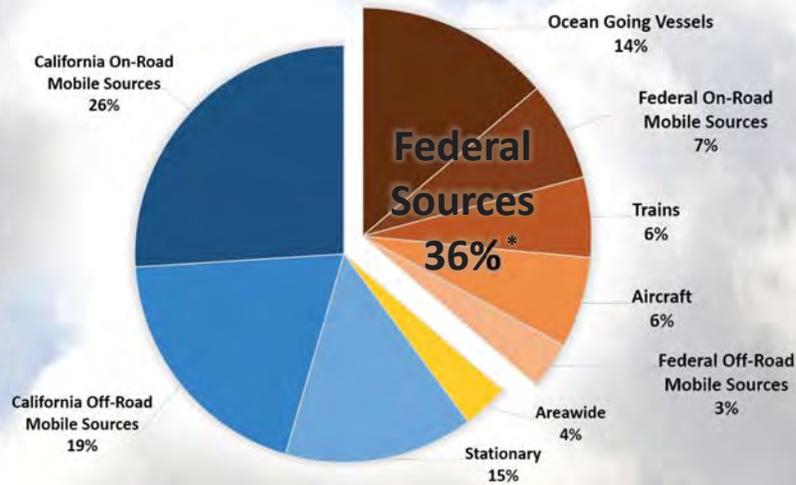
- Allows for reliance on emission reductions from anticipated new technologies or improvement of existing technologies
- EPA approved Further Deployment measures in the 2016 AQMP under section 182(e)(5) – 108 tpd
- Contingency measures required 3 years prior to implementation of plan provisions (i.e., 2023 attainment date)
 - Provide full reductions assigned to 182(e)(5) measures



20



Contribution of Federal Sources (2023 NOx emissions)



* Includes international sources under the responsibility of federal government

21



Contingency Measure Plan for Further Deployment Measures Reductions*

Strategy	2023 Reductions (tpd)
Identified Emissions Reduction Strategies	24 – 26
Additional Incentive Funding	15
Federal Measures and / or Funding	67 – 69
All Strategies	108

* Submitted to the U.S. EPA in December 2019

22



Additional Incentive Funding

- 2016 AQMP
 - Estimated need over \$1 billion per year over 14 years
 - Current effort will update this estimate based on latest information
- Expected Future Funding (approximately \$800 M over 4 years)
 - AB 617-Related Incentives – \$80-90 M/yr.
 - Carl Moyer - \$40-50 M/yr.
 - Prop 1B - \$30 M
 - VW Settlement - \$67 M
 - AB2766 Subvention Fund - \$22 M/yr.
 - Mobile Source Air Pollution Reduction Review Committee - \$17 M/yr.
- Additional Funding Needed
 - Voting District Authorization Legislation - \$1.4 B/yr.
 - Other Mechanisms - TBD
 - Expected 2023 NOx Reductions: 15 tons per day

23



Potential Federal Measures

Measures	Measure Description	2023 NOx Reductions (tpd)
Low-NOx Heavy-Duty Vehicles	Heavy-duty vehicles (above 14,000 lbs. GVWR) powered by low-NOx engines in 2023	Up to 35
Low-NOx Ocean-Going Vessels	Ocean-going vessels coming to California powered by Tier 3 engines in 2023	Up to 28
Low-NOx Locomotives	Locomotives coming to California powered by Tier 4 engines in 2023	Up to 11
Low-NOx Aircraft	Aircraft NOx reductions assumption of 20% if emissions are held at 2012 levels.	Up to 4
Total Possible Reductions Towards Further Deployment Commitment		Up to 78

24



2023 Attainment Challenge

- Attainment of the 1997 8-hour ozone standard continues to represent a major challenge for the region
 - Regulations/programs adopted since 2016 AQMP fall significantly short of needed reductions
- South Coast AQMD is doing all we can to reduce emissions with current funding and authority
- Significantly more incentive funding is needed to accelerate turnover of existing fleet to cleaner technologies
- Without federal action and/or funding to address federal sources, attainment is not likely

25



Additional Challenge

- 2020 has experienced some of the highest ozone levels in decades
- Extreme, unusual, early and late season heat waves, wildfire emissions, and COVID impacts are all important factors
- Emissions continue to decline
- Very complicated to assess, but ongoing research:
 - Research contract with UC Riverside to evaluate “Air Quality Modeling and Big Data analysis of Meteorological and Emissions Impact on Air Quality”
 - Changing climate scenarios, “Representative Concentration Pathway (RCP)”, as adopted in IPCC reports being evaluated
 - Evaluating biogenic VOC emissions from urbanized areas and year-to-year changes due to meteorological variations
 - On-going, in-house research in collaboration with academic institutes and research laboratories on the impact of COVID19 shelter-in-place order on Basin air quality

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