



**Inland Empire  
Regional  
Broadband Consortium**



**Caltrans Sustainable Communities Grant to Southern California Association of Governments  
Expert Advisory Committee  
Friday, June 11, 2021  
8:00AM – 11:00AM  
Summary Notes**

**I. Convene Meeting and Welcome**

Southern California Association of Governments (SCAG) Executive Director Kome Ajise convened the inaugural Meeting of the Expert Advisory Committee and welcomed everyone to a vital and historical project funded by the California Department of Transportation (Caltrans) through a Sustainable Communities Grant to determine to what extent that ubiquitous deployment and adoption of broadband (a generic term for high-speed Internet infrastructure, including both wireline and wireless networks) could help reduce vehicle trips and vehicle miles traveled (VMT) and associated greenhouse gas (GHG). (Attached is the PowerPoint Presentation for this Agenda Item.)

Executive Director Ajise shared that SCAG has been assigned by the California Air Resources Board (CARB) a target to reduce GHG by 19% and the question is whether or not broadband can be a “green strategy” to contribute to achieving that objective. Executive Director Ajise underscored that there are many benefits that will be derived from ubiquitous broadband, and that the SCAG Board of Directors is fully supportive of achieving Digital Equity, while emphasizing the focus of the Caltrans Grant Study is to quantify the potential contribution, if any, by broadband to reducing trip generation, VMT, and GHG.

Executive Director Ajise recognized SCAG Senior Regional Planner Tom Bellino as the lead staff person for the study and expressed appreciation to the California Emerging Technology Fund (CETF) and the Regional Broadband Consortia (RBCs) as partners in the Grant Study.

## **II. Introductions of the Grant Project Partners and Role of Regional Broadband Consortia**

The following Regional Broadband Consortia (RBCs) leaders introduced themselves and explained their responsibilities to assist the California Public Utilities Commission (CPUC) achieve the State's goal for broadband deployment and their role in the Grant Study:

- Martha van Rooijen, Inland Empire Regional Broadband Consortium (IERBC)
- Bruce Stenslie and Bill Simmons, Broadband Consortium of the Pacific Coast (BCPC)
- Tim Kelley, Southern Border Broadband Consortium (SBBC)

## **III. Self-Introductions of Expert Advisors**

CETF President and CEO Sunne Wright McPeak added words of welcome and appreciation to the members of the Expert Advisory Committee for contributing their time and expertise to the Caltrans Grant. She invited all Expert Advisors to introduce themselves and share their expertise being contributed to the Grant Study. (Attached is the Attendance List.)

## **IV. Overview of Broadband and Environmental Benefit Data and Literature Report**

IERBC Executive Director Martha van Rooijen presented an overview of the Broadband and Environmental Benefit Data and Literature Report, which had been distributed in advance to the Expert Advisory Committee. (Attached is the PowerPoint Presentation for this Agenda Item.) Expert Advisors again were asked for feedback and suggestions for additional relevant research papers and published literature. (No input has been received.)

## **V. Summary of COVID-19 Transportation Impacts**

University of California, Davis Institute of Transportation Studies Giovanni Circella, Ph.D. presented data and an analysis of trip patterns during the pandemic 2020 shelter-in-place orders and trends in 2021 trip generation and commute patterns. (Attached is the PowerPoint Presentation for this Agenda Item.) The data presented by Dr. Circella highlighted the complicating factors for assessing the interrelationships between broadband-VMT-GHG which need to be taken into account in designing Stakeholder Engagement and Surveys and Focus Groups.

## **VI. Presentation of 2021 Survey on Broadband Adoption**

University of Southern California (USC) Annenberg School for Communication and Journalism Hernán Galperin, Ph.D., provided an overview of the 2021 Statewide Survey on Broadband Adoption and highlighted information about residents' vehicle trips during the pandemic shelter-in-place and their preferences going forward, which reveals that more than half of the households would prefer to work remotely 3 or more days a week. However, 57% of the Statewide Survey respondents identified themselves as "essential workers" with less ability to work remotely. (Attached is the PowerPoint Presentation for this Agenda Item.)

## **VII. Questions and Answers**

Questions were asked by Expert Advisors at the end of each Agenda Item and answered by the Presenters. In addition, Expert Advisors posted in Chat several comments and additional resources, which are attached.

## **VIII. Broadband Investment and Penetration Study**

Magellan Advisors Vice President of Digital Innovation Jory Wolf and DKS Associates Managing Director (Sacramento) Jim Damkowitch presented an overview about the scope of work of the Technical Consultants for the Grant Study. (Attached is the PowerPoint Presentation for this Agenda Item and Agenda Item IX.) Jory Wolf said the Study was groundbreaking and would provide valuable data to inform broadband-friendly policies.

## **IX. Quantification and Analysis: VMT and GHG Reductions**

This Agenda Item was addressed in the presentation for Agenda Item VIII.

## **X. Expert Advisors Observations and Comments**

Expert Advisor Jennifer Hernandez commented about the relationship of VMT to emissions and shared the attached graph and study from the San Diego Association of Governments. Other Expert Advisors posted observations and comments in Chat (attached).

## **XI. Projected Schedule of Meetings for Expert Advisory Committee**

Sunne McPeak said the current work plan anticipated the next meeting in the fall 2021, depending on the completion of work products by the Technical Consultants and partners, with additional meetings in January-February 2022 to review and approve the Final Report.

## **XII. Adjourn**

The Expert Advisory Committee Meeting was adjourned by Tom Bellino.



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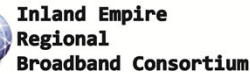


**Caltrans Sustainable Communities Grant to Southern California Association of Governments**  
**Expert Advisory Committee**  
**Friday, June 11, 2021**  
**8:00AM – 11:00AM**  
**Videoconference**  
**AGENDA**

8:00	I.	Convene Meeting and Welcome <ul style="list-style-type: none"> <li>• Purpose and Overview of the Caltrans Grant</li> <li>• Responsibilities of Technical Consultant</li> <li>• Role of Expert Advisory Committee</li> </ul>	Kome Ajise <i>SCAG Executive Director</i> Tom Bellino <i>SCAG Senior Regional Planner</i>
8:15	II.	Introductions of the Grant Project Partners and Role of Broadband Regional Consortia	Martha van Rooijen <i>Inland Empire Regional            Broadband Consortium (IERBC)</i> Bruce Stenslie Bill Simmons <i>Broadband Consortium of the            Pacific Coast (BCPC)</i> Tim Kelley Alessandra Muse <i>Southern Border Broadband            Consortium (SBBC)</i>
8:30	III.	Self-Introductions of Expert Advisors <i>(About 1-Minute Each Self-Introduction)</i> <ul style="list-style-type: none"> <li>• Name, Title, Affiliation</li> <li>• Primary Expertise to Contribute</li> </ul>	Sunne Wright McPeak <i>CETF President and CEO</i>
8:45	IV.	Overview of Broadband and Environmental Benefit Data and Literature Report <ul style="list-style-type: none"> <li>• Summary of Existing Studies and Analysis</li> <li>• Additional Recommended Resources by Advisors</li> </ul>	Martha van Rooijen <i>IERBC Executive Director</i>



9:00	V.	Summary of COVID-19 Transportation Impacts <ul style="list-style-type: none"> <li>• Trip Patterns During 2020 Shelter-In-Place Orders</li> <li>• Trends in 2021 Trips and Commute Patterns</li> </ul>	Giovanni Circella, Ph.D. <i>UC Davis Institute of Transportation Studies</i>
9:15	VI.	Presentation on 2021 Survey on Broadband Adoption <ul style="list-style-type: none"> <li>• Statewide Broadband Adoption Rates</li> <li>• Resident Preferences for Future Trip Generation</li> <li>• Opportunities for Additional Investigation</li> </ul>	Hernán Galperin, Ph.D. <i>USC Annenberg School for Communication and Journalism</i>
9:30	VII.	Questions and Answers on Presentations	Sunne Wright McPeak Tom Bellino
9:40	VIII.	Broadband Investment and Penetration Study <ul style="list-style-type: none"> <li>• Methodology</li> <li>• Assumptions</li> </ul> Data Collection and Gap Analysis <ul style="list-style-type: none"> <li>• Data Obtained</li> <li>• Data Collected by Regional Consortia</li> <li>• Data Requested</li> <li>• Broadband in Transportation Projects</li> </ul>	Jory Wolf Greg Laudeman <i>Magellan Advisors</i>
10:05	IX.	Quantification and Analysis: VMT and GHG Reductions <ul style="list-style-type: none"> <li>• Baseline Condition Analysis</li> <li>• Market Analysis</li> <li>• Sensitivity Analysis</li> <li>• VMT Reduction Evaluation</li> <li>• VMT and Speed Activity Processing</li> <li>• GHG Emissions Analysis</li> </ul>	Alan Clelland Jim Damkowitch <i>DKS Associates</i>
10:20	X.	Expert Advisors Observations and Comments <ul style="list-style-type: none"> <li>• Study Design Considerations To Be Addressed</li> <li>• Additional Priorities for Analysis to Ensure Integrity of Results and Analysis</li> </ul>	Jory Wolf Tom Bellino
10:55	XI.	Projected Schedule of Meetings for Expert Advisory Committee	Sunne Wright McPeak
11:00	XII.	Adjourn	Tom Bellino



**Caltrans Sustainable Communities Grant to Southern California Association of Governments**  
**Expert Advisory Committee**  
**Friday, June 11, 2021**  
**ATTENDANCE**

First Name	Last Name	Title	Dept	Company
Kome	Ajise	Executive Director		Southern California Association of Governments
Robert	Apodaca	Vice President		California Community Builders
Duane	Baker	Executive Director		San Bernardino County Transportation Authority (SBCTA)
John	Barna	President		Anrab Associates, Inc.
Mark	Baza	Executive Director		Imperial County Transportation Commission
Tom	Bellino	Senior Regional Planner		Southern California Association of Governments
Donald	Camp	Transportation Expert		Individual
Giovanni	Circella	Honda Distinguished Scholar for New Mobility Studies, and Director, 3 Revolutions Future Mobility Program	Institute of Transportation Studies	University of California Davis
Jim	Damkowitz	Managing Director		DKS
Lucy	Dunn	President and CEO		Orange County Business Council
Hernan	Galperin	Associate Professor of Communication and Assistant Dean for Excellence in Teaching	Annenberg School for Communication	University of Southern California
Lane	Garcia	Program Supervisor		South Coast Air Quality Management District
Paul	Granillo	President and CEO		Inland Empire Economic Partnership
Jennifer	Hernandez	Partner	Holland & Knight LLP	California Community Builders
Tim	Kelley	President & CEO		Southern Border Broadband Consortium
Darren	Kettle	Executive Director		Ventura County Transportation Commission
Greg	Laudeman	Senior Consultant		Magellan Advisors
Philip	Law		Planning and Programs	Southern California Association of Governments
Sunne Wright	McPeak	President and CEO		California Emerging Technology Fund
Ron	Moskowitz	Chief Information Officer		South Coast Air Quality Management District
Tom	Mullen	Chief Data Officer	Riverside County Information Technology (RCIT)	County of Riverside
Alessandra	Muse			Southern Border Broadband Consortium (SBBC)
Hilary	Norton	Chair		California Transportation Commission



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First Name	Last Name	Title	Dept	Company
Alana	O'Brien	Vice President		California Emerging Technology Fund
Gladys	Palpallatoc	Associate Vice President		California Emerging Technology Fund
Pedro	Peterson	Manager	Climate Investments Implementation Section	California Air Resources Board
David	Salgado	Policy & Public Affairs - Regional Services		Southern California Association of Governments
Teri	Sanders	Chief Operating Officer	California K-12 High Speed Network	Imperial County Office of Education
Wally	Siembab	Research Director		South Bay Cities Council of Governments (SBCCOG)
Bill	Simmons	Principal	I~PRISE Communications, Inc.	Broadband Consortium of the Pacific Coast (BCPC)
Bruce	Stenslie	President and CEO	Economic Development Collaborative - Ventura County (EDC-VC)	Broadband Consortium of the Pacific Coast (BCPC)
Samuel	Sudhakar	Vice President/CIO	Information Technology Services	California State University, San Bernardino
Tony	Tavares	District Director		California Department of Transportation
Terry	Theobald	Acting Chief Information Officer		County of Ventura
Martha	van Rooijen	Consortium Manager		Inland Empire Regional Broadband Consortium
Joe	Wallace	CEO and Chief Innovation Officer		Coachella Valley Economic Partnership
Jennifer	Ward	Senior Vice President		Orange County Business Council
Jory	Wolf	VP of Digital Innovation		Magellan Advisors

# Caltrans Sustainable Communities Grant to SCAG

Kome Ajise

Executive Director, SCAG

6/11/21

[www.scag.ca.gov](http://www.scag.ca.gov)



## Purpose

- Study, analyze and quantify the effect of broadband access on travel and subsequently vehicle miles traveled (VMT) and greenhouse gas (GhG) emissions
- Provide justification for Caltrans to include broadband infrastructure as part of the “dig once” policy of utility upgrades when doing roadwork

## Partners

- SCAG, Tom Bellino
- California Emerging Technology Fund (CETF), Sunne Wright- McPeak
- Inland Empire Regional Broadband Consortium, Martha van Rooijen
- Southern Border (Imperial) and Pacific Coast (Ventura) Broadband Consortia

## Scope

- Literature review
- Existing conditions
- Website
- Analysis of travel patterns
- Final report

## Technical Consultants

- Magellan Advisors, Jory Wolf
- DKS Associates, Alan Clelland

# Expert Advisory Committee

- Panel of community leaders in government, academia, business and other community organizations
- Will guide aspects of the project and build connections to community needs
- Still accepting members
  - Contact Tom Bellino or Sunne Wright McPeak to join

# Thank you!

Tom Bellino

Bellino@ scag.ca.gov

[www.scag.ca.gov](http://www.scag.ca.gov)







## Inland Empire Regional Broadband Consortium

### SCAG Caltrans Broadband Grant

### Broadband and Environmental Benefit Data and Literature Report

- **National, California, and industry-based studies** show that there is a relationship between internet and technology use and reduction in Vehicle Miles Traveled (VMT) and Greenhouse Gas Emissions (GHG).
  - Telecommuting, Telehealth, Distance Learning, Online Government, Meetings, Shopping, Delivery, etc.
- **Even with the existing studies, prior to COVID-19**, there was no significant rally from leadership to promote telecommuting, or other online services, as Transportation Demand Management (TDM) strategies.
- **Broadband planning**, including broadband conduit as an eligible project cost on freeways, bridges, regional and local roads, needs to become a standard TDM measure to reduce VMT and GHG, and be part of the modern concept of “complete streets.”
- **Internet service providers (ISPs) will have incentive** to improve internet service as they will be viewed as integral to reducing VMT and GHG, helping with climate change, and finding ways to reduce cost of improved service--the ISP costs can be leveraged with public infrastructure projects (dig-once), especially in disadvantaged and rural underserved areas.
- **Outreach is needed to ensure community understanding** of the nexus between broadband, technology-based activities (telecommuting, etc.) and reduced VMT and GHG in supporting the environment and climate change, improved internet service, especially for underserved disadvantaged and rural areas, as well as helping to sustain the over-burdened transportation system.



**Inland Empire  
Regional Broadband Consortium**

## Questions and Discussion



Inland Empire Regional Broadband Consortium

Contact:

**Martha van Rooijen**

Executive Director

[martha@iebbroadband.com](mailto:martha@iebbroadband.com)

[www.iebbroadband.com](http://www.iebbroadband.com)





# Investigating the Temporary vs. Longer-Term Impacts of the COVID-19 Pandemic on Mobility

Caltrans Sustainable Communities Grant to Southern California Association of Governments  
Expert Advisory Committee

Dr. Giovanni Circella

Director, 3 Revolutions Future Mobility Program, UC Davis

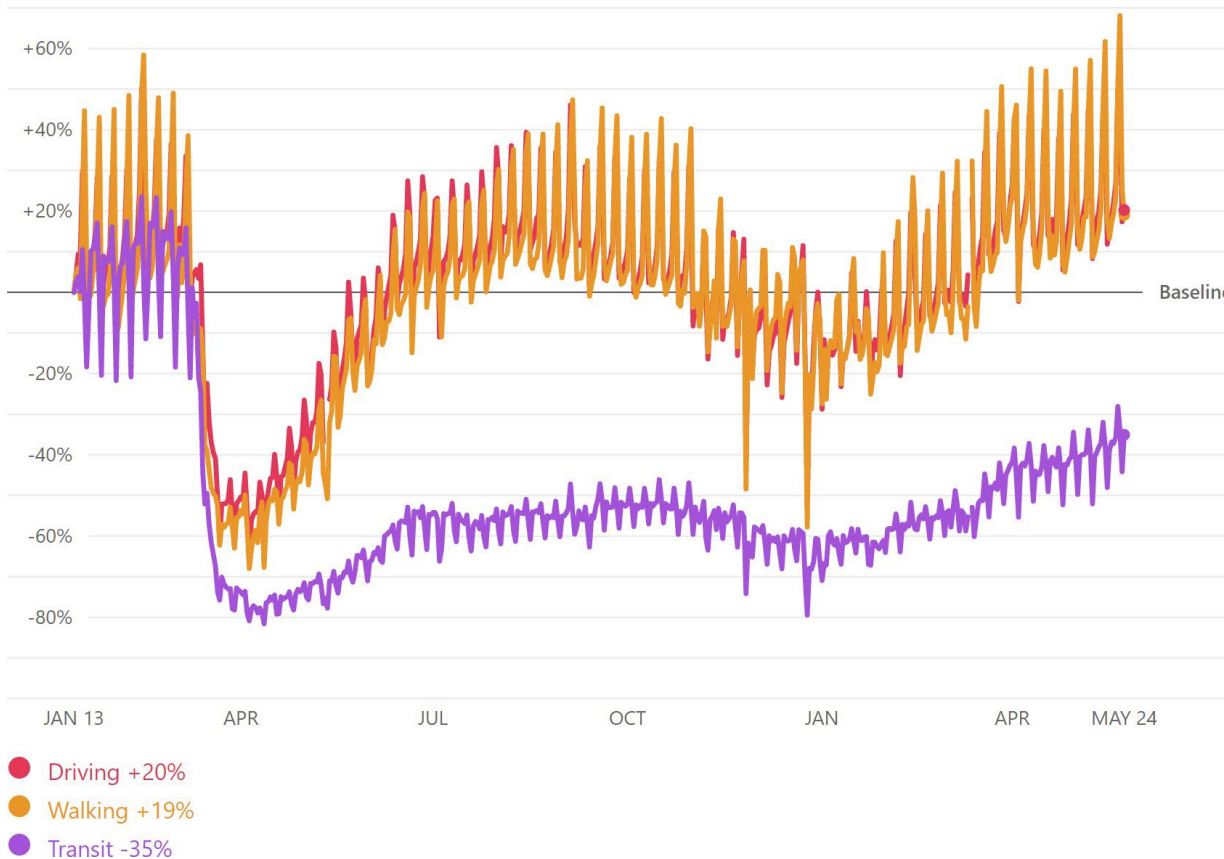
June 11, 2021

[www.scag.ca.gov](http://www.scag.ca.gov)



# Car Travel Declined in the US (Less Than Transit) and It Is Rebounding

California



Changes in routing requests since January 2020 in California.

Source: *Apple mobility trends*

During the pandemic, the United States experienced:

- Steep decline in air travel
- Steep decline in use of public transportation
- Sharp reduction in use of shared mobility
- Suspension of pooled rides (e.g. UberPOOL, Lyft Share)
- Temporary reductions in vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions
- Increase in adoption of teleworking
- Devastating impacts on employment
- Recovery in car travel after reopening of activities

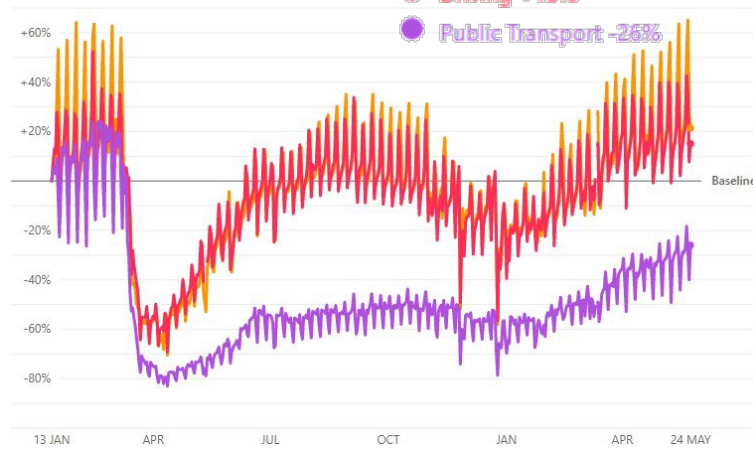
UC Davis blog on impacts of pandemic on transportation:

<https://its.ucdavis.edu/blog-post/what-the-present-pandemic-means-for-the-future-of-transportation/>

# Car Travel Declined in the US (Less Than Transit) and It Is Rebounding (2)

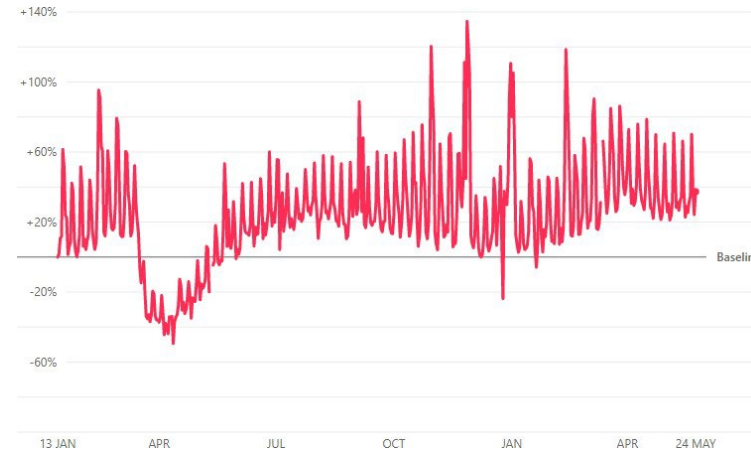
Los Angeles County

Walking +21%  
Driving +15%  
Public Transport -26%



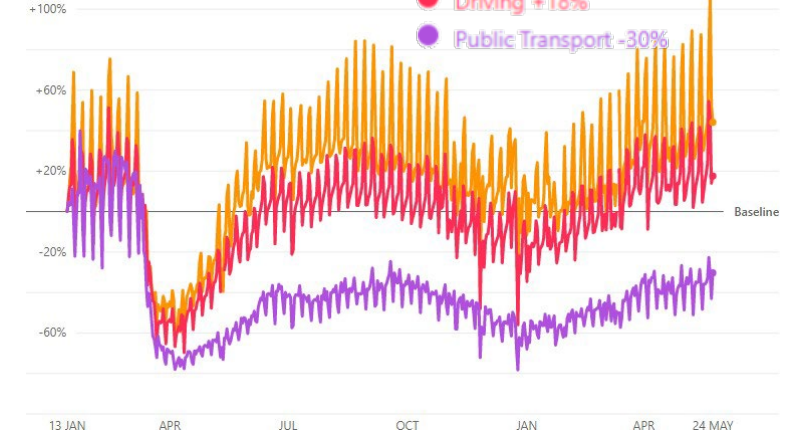
Imperial County

Driving +37%



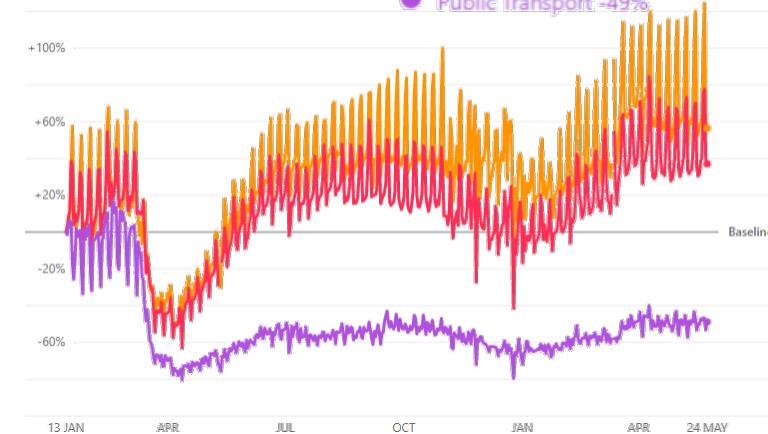
Orange County

Walking +44%  
Driving +18%  
Public Transport -30%



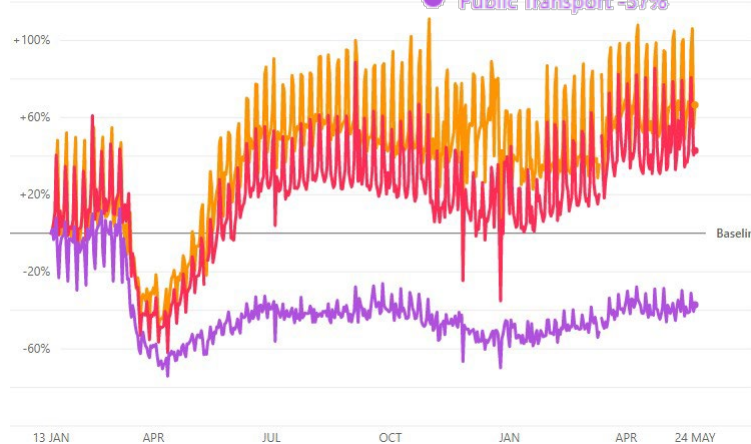
Riverside County

Walking +56%  
Driving +37%  
Public Transport -49%



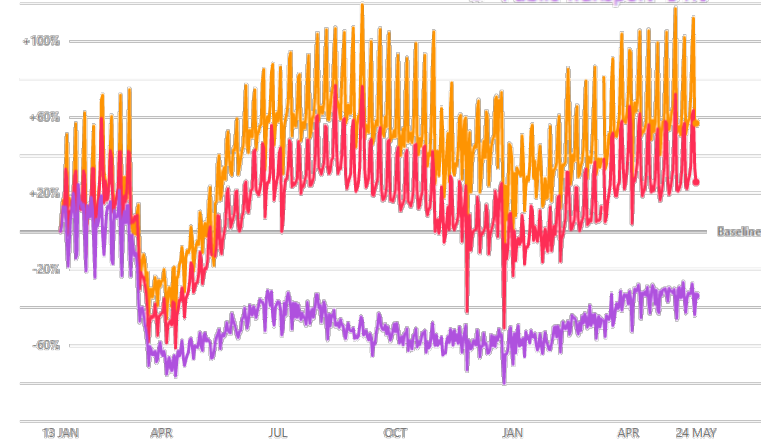
San Bernardino County

Walking +67%  
Driving +43%  
Public Transport -37%



Ventura County

Walking +57%  
Driving +26%  
Public Transport -34%



# UC Davis Mobility Study

- Research on temporary vs. longer-term impacts of the pandemic
- Targeted data collection in 15 regions of the United States and two regions in Canada (+ convenience sample internationally)
- Special focus on SCAG region starting in Fall 2020

## Previous 2018-2019 data

Information on many topics, e.g.

- Household organization
- Telecommuting patterns
- E-shopping behaviors
- Travel patterns
- Vehicle ownership
- Emerging delivery services
- Personal attitudes and preferences
- Shared mobility adoption
- Propensity towards AVs



## COVID-19 Spring 2020 data

Data collection on:

- Impacts of the COVID-19 on lifestyles
- Employment and activities
- Household organization and child care
- E-shopping behaviors
- Emerging delivery services
- Current travel patterns
- Vehicle ownership
- Shared mobility adoption
- Personal attitudes and preferences



## COVID-19 Fall 2020 longitudinal data

- Sampling Method: Recall of participants from previous surveys:
- Recruitment Method: Direct e-mail
- Valid Emails for Recontact: 9980
- Response Rate: 33.5%
- Incentives: \$10 gift card from Amazon, Starbucks, Target or Walmart to each respondent
- Survey administration: Dec. 2020 – Jan. 2021

- Next waves of data collection in Spring 2021 and Spring 2022
- More information at [postcovid19mobility.ucdavis.edu](https://postcovid19mobility.ucdavis.edu)
- Selected *preliminary* findings are presented in the next slides





# UC Davis Mobility Study: COVID-19 Spring 2020 Datasets

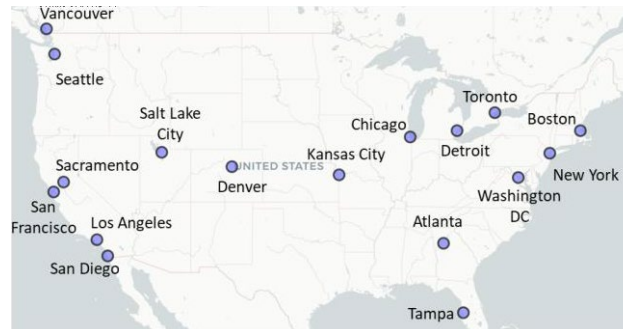
## Dataset L (Longitudinal, N=1,339)

- **Sampling Method:** Recall of participants from:
  - 2018 California Mobility Study
  - 2019 “8 Cities” (Boston, Kansas City, Los Angeles, Sacramento, Salt Lake City, San Francisco, Seattle and Washington DC) Study
- **Recruitment Method:** Direct e-mail
- **Valid Emails for Recontact:** 3,466
- **Response Rate:** 38.6%
- **Incentives:** \$10 Amazon gift card to each survey respondent
- **Survey administration:** May to July 2020



## Dataset O (Op. Panel, N=8,834)

- **Sampling Method:** Convenience sample through online opinion panel
- **Study Regions: 17 in the US and 2 in Canada:**
  - *United States:* Los Angeles, Sacramento, San Diego, San Francisco, Seattle, Chicago, Denver, Detroit, Kansas City, Salt Lake City, Atlanta, Boston, New York, Tampa and Washington D.C.
  - *Canada:* Toronto and Vancouver
- **Recruitment Method:** E-mail from online opinion panel
- **Sociodemographic Targets:** Age, gender, race and ethnicity, employment and HH income
- **Incentives:** Airline miles/points from opinion panel
- **Survey administration:** May to July 2020



## Dataset C (Convenience, N=1,266)

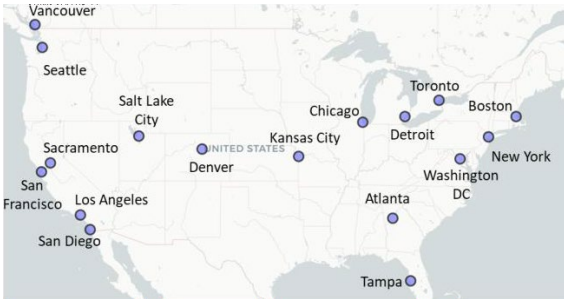
- **Sampling Method:** Convenience sample
- **Study Regions:** Open to all respondents with survey link
- **Recruitment Method:** Various channels, including
  - Professional listservs, online social media
  - Facebook and Instagram ads in the US and Canada
- **Incentives:** Participation in random drawing to win one of 200 \$10 gift cards or one of 10 \$100 gift cards from Amazon
- **Survey Administration:** May to July 2020



# UC Davis Mobility Study: COVID-19 Fall 2020 Datasets

## Dataset L (Longitudinal, N=3,385)

- **Sampling Method:** Recall of participants from:
  - 2018 California Mobility Study
  - 2019 “8 Cities” (Boston, Kansas City, Los Angeles, Sacramento, Salt Lake City, San Francisco, Seattle and Washington DC) Study
  - 2020 COVID-19 Spring Survey
- **Recruitment Method:** Direct e-mail
- **Valid Emails for Recontact:** 9980
- **Response Rate:** 33.5%
- **Incentives:** \$10 gift card from Amazon, Starbucks, Target or Walmart to each respondent
- **Survey administration:** Dec. 2020 – Jan. 2021



## Dataset O (Op. Panel, N=3,766)

- **Sampling Method:** Convenience sample through online opinion panel
- **Study Regions:** Greater Los Angeles region (SCAG)
- **Recruitment Method:** E-mail from online opinion panel
- **Sociodemographic Targets:** Age, gender, employment, and household income
- **Incentives:** Airline miles/points from opinion panel
- **Survey administration:** Dec. 2020 – Jan. 2021



## Dataset C (Convenience, N=878)

- **Sampling Method:** Convenience sample
- **Study Regions:** Open to all respondents with survey link who live in greater Los Angeles region
- **Recruitment Method:** Various channels, including
  - Professional listservs, online social media
  - Facebook ads in the Los Angeles region
- **Incentives:** Participation in random drawing to win one of 10 \$100 or one of 200 \$10 gift cards from Amazon, Starbucks, Target or Walmart
- **Survey Administration:** Dec. 2020 – Jan. 2021



# COVID-19 Survey Content

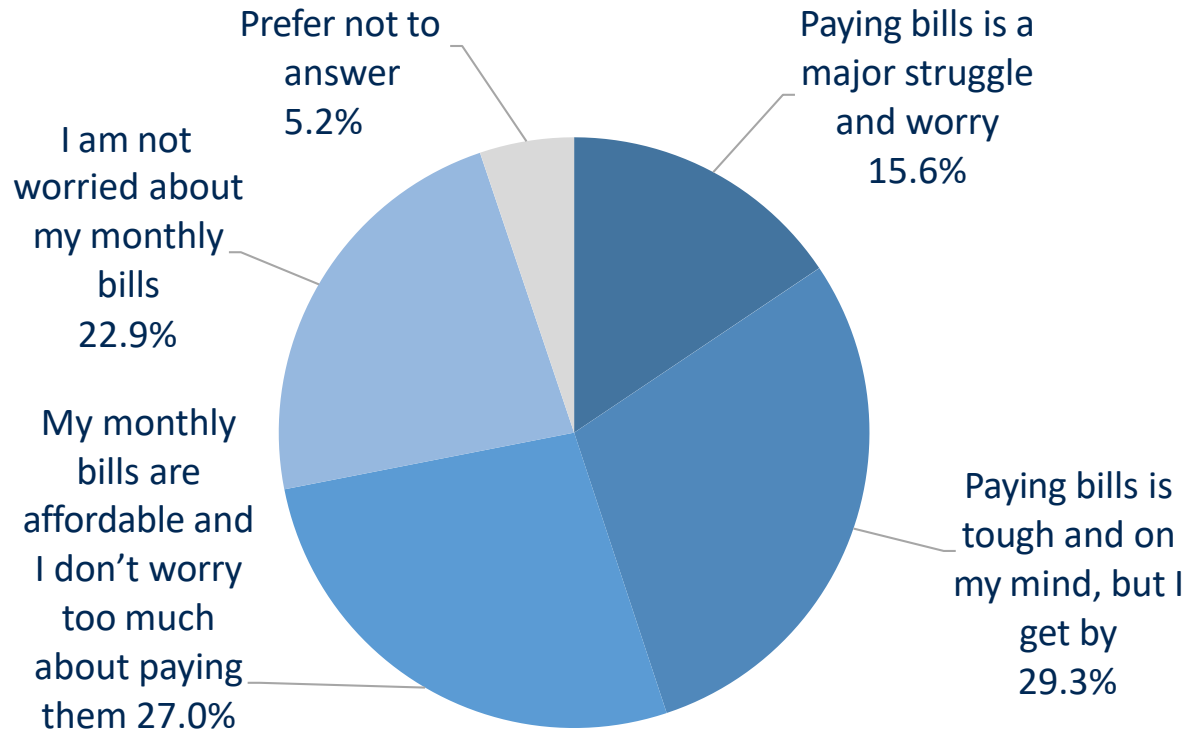
All survey versions include nine main sections:

1. Attitudes and preferences on transportation, residential location, environmental topics, etc.
2. Impacts of COVID-19 pandemic on lifestyle, including use of technology
3. Employment status, work and study activities
4. Household organization and child care
5. Online and in-person shopping patterns (for groceries, food delivery services, visits to restaurants, etc.)
6. Current travel choices (by trip purposes and modes)
7. Use of emerging transportation services
8. Household vehicle ownership and eventual plans for vehicle purchase
9. Household and individual sociodemographics



*The online survey was available in both desktop and mobile version, even if the use of a computer or tablet was encouraged*

# Impacts of COVID-19 Pandemic on Jobs and Financial Situation



- Individuals in lower-income households are more likely to report they are financially struggling.
- Lower-income workers are more likely to have been furloughed without pay, to have lost their job or to have place of employment go out business.

	Household Income		
	Less than \$50,000	\$50,000 to \$99,999	\$100,000 or more
Total sample (n=8,834)	31.82%	31.12%	37.06%
I'm furloughed with pay from my previous job (n=136)	33.10%	41.90%	25.00%
I'm furloughed without pay from my previous job (n=425)	37.20%	30.60%	32.20%
I was let go from my job during the COVID-19 pandemic (n=340)	49.70%	28.20%	22.10%
My place of employment went out of business during the COVID-19 pandemic (n=115)	55.70%	28.70%	15.70%

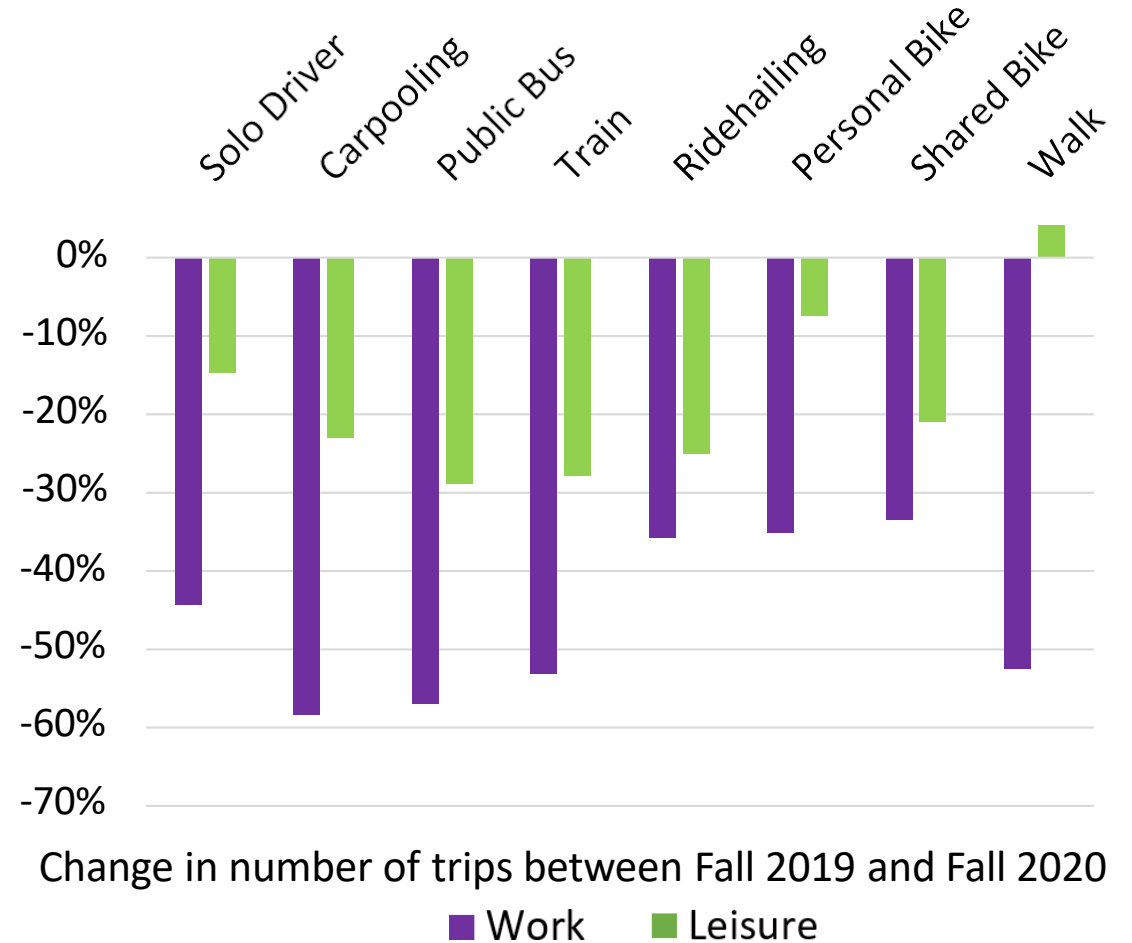
Spring 2020, Dataset O (N = 8,834)

# Changes in Travel Patterns

COVID-19 caused a sizable reduction in the number of trips between Fall 2019 and Fall 2020

This is true for all modes with the exception of walking

Non-shared modes (private vehicle, bicycle) decreased the least for leisure trips

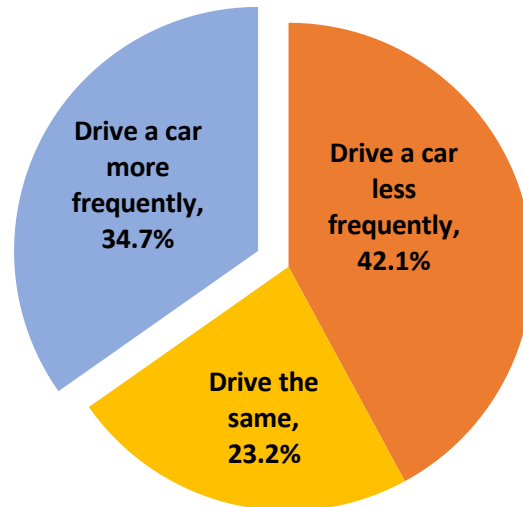
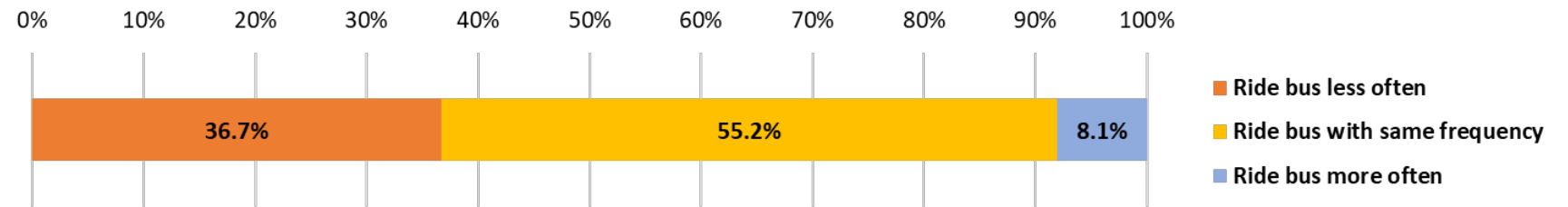


# Changes in the use of various travel modes

- A substantial portion of those reducing their trips by public transportation are found to increase their use of private vehicles:



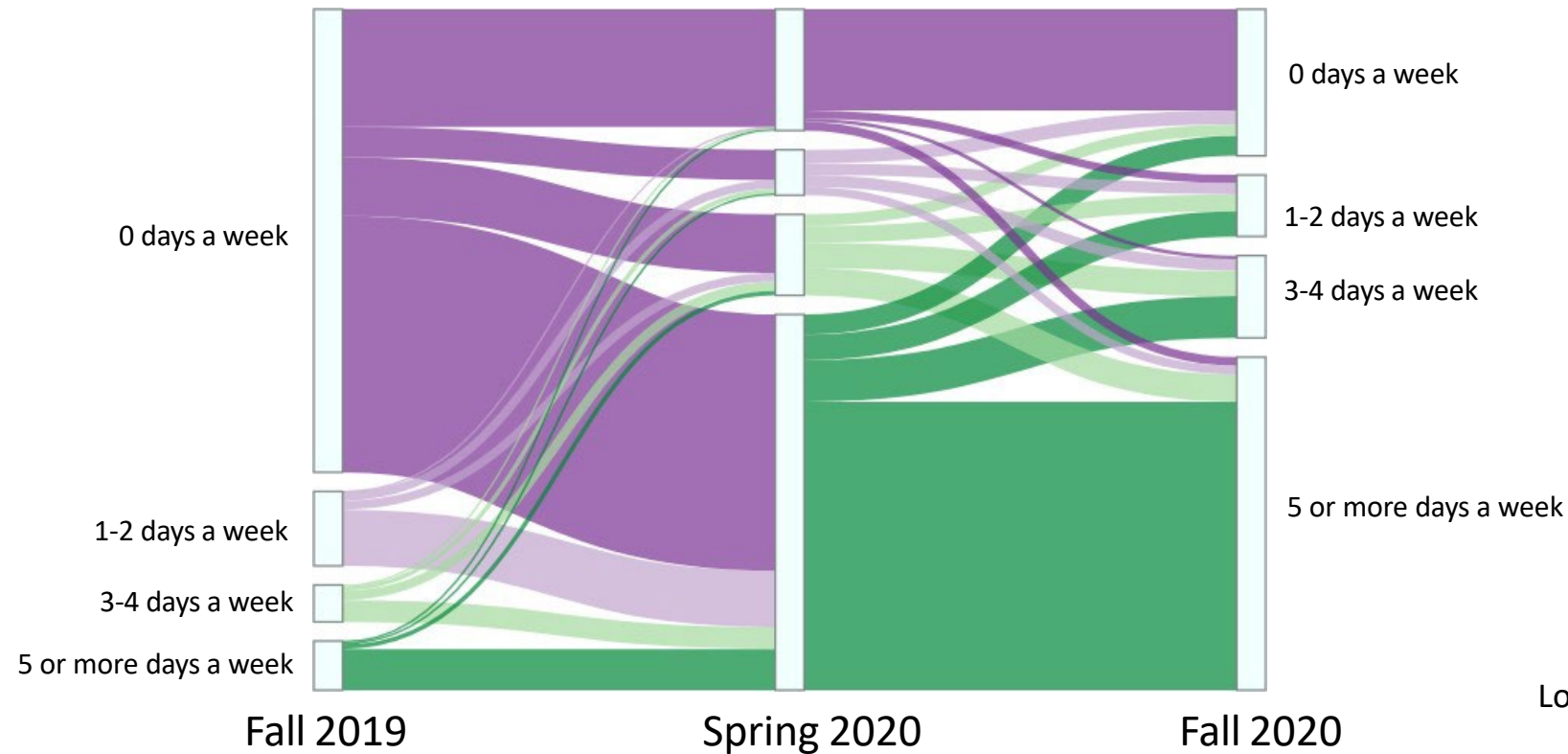
Changes during the COVID-19 pandemic in the use of buses:



Dataset L ( $N = 705$ )

# Commuting and Telecommuting

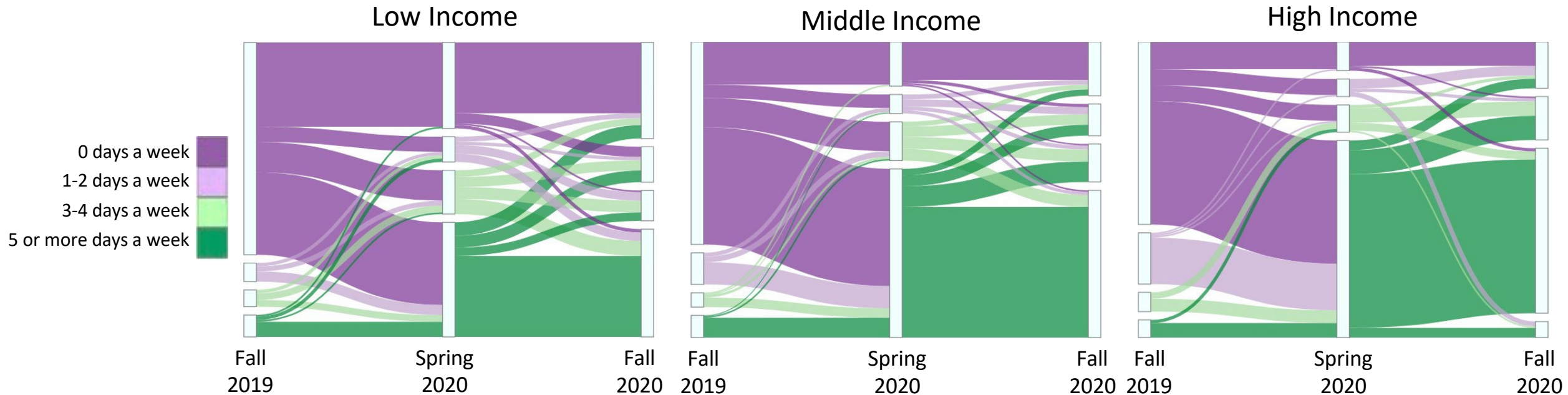
- Remote work and telecommuting have been more broadly accepted by employers and employee during the pandemic.
- The average self-reported number of telecommuting days in a week increased substantially during the pandemic:



Longitudinal Dataset ( $N = 863$ )

# Commuting and Telecommuting

- Lower-income workers are more likely to be considered essential workers and to have continued to physically commute during the pandemic.
- Higher-income, higher-educated and white-collar office workers are much more likely to be able to work remotely.



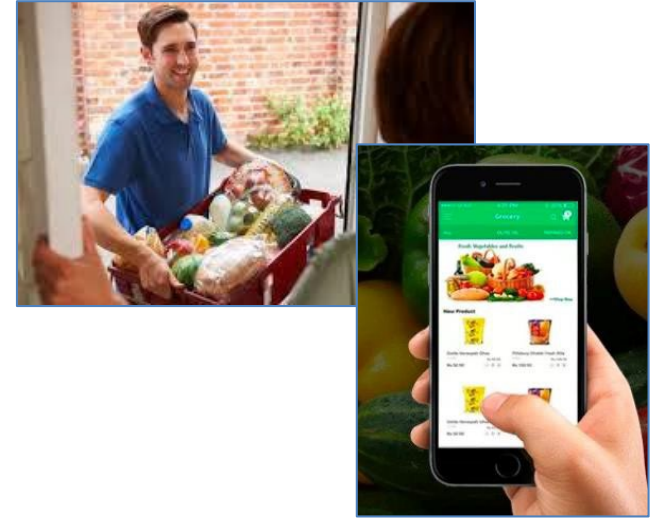
- No sizable differences in the increase in telecommuting frequency were observed by age and gender.
- A sizable portion (~25%) of the Fall 2020 respondents, across all income groups, reports an expectation to continue to work remotely more often than they used to do before the pandemic.



# How did the pandemic affect shopping behaviors?

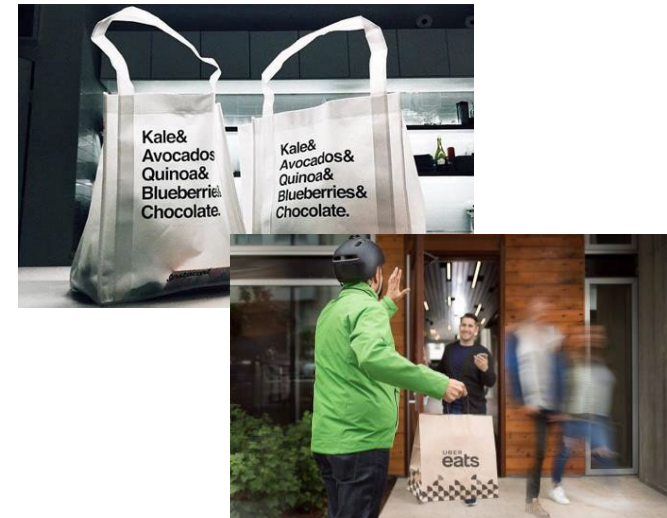
## Online Shopping:

- “Democratization of e-shopping”, with increased adoption among broader population segments, including elderly and those concerned about health impacts of the pandemic, but low-income households are still lagging behind
- Large impacts on goods movement for the delivery of purchased products
- The pandemic accelerated an existing trend in growth of e-shopping, with potential for longer-term changes on transportation



## Food Delivery Apps:

- Higher adoption among younger, urban, dynamic segments of population
- Increase in food delivery highly correlated with reduction in restaurant visits
- Eventual (at least partial) reversal of this trend when patrons return to restaurants?



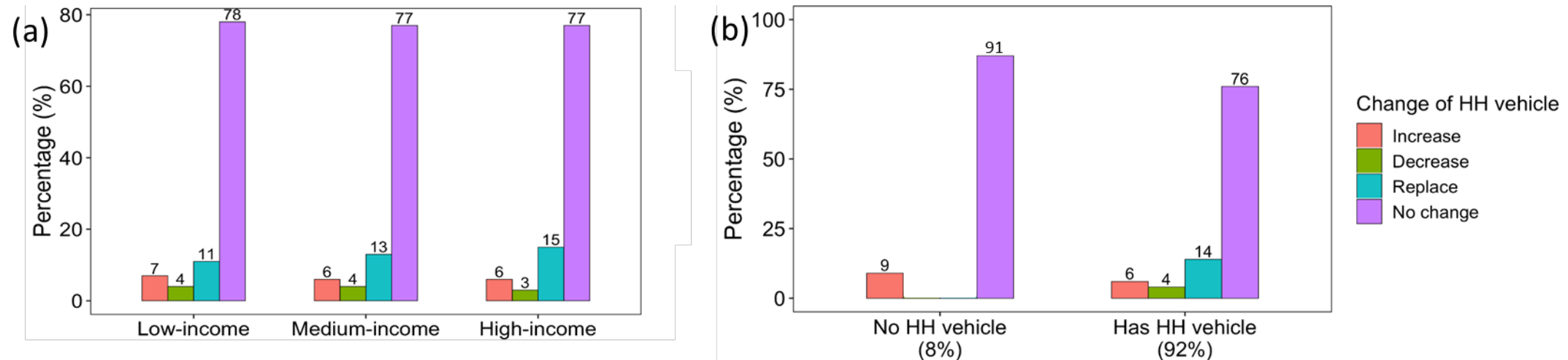
# How is the COVID 19 Pandemic Changing the Relationship with Vehicle Ownership?





# An Increase in Car-dependence of Society?

- A sizable portion of survey respondents report an interest in increasing vehicle ownership:
  - The percentage of those planning to increase vehicle ownership is slightly higher among those living in zero-vehicle households.
- The reported intentions match car sales data from dealers during 2020.



Expected change in number of vehicles in the households in the next six months by (a) income category, and (b) vehicle ownership status

Dataset O (N = 8,285)

- The interest in adopting a *car-light* and multimodal lifestyle is found to be lower than in the 2018 and 2019 data collections.

# The Pandemic is Increasing Equity Gaps, and Might Worsen Environmental Challenges

## Equity Issues:

- Lower-income individuals are more likely to have lost their job during the pandemic and to be financially struggling.
- A larger proportion of lower-income workers are essential workers and have continued to physically commute to work.
- Technological solutions are more often adopted by younger and tech-savvy individuals with senior citizens, less-educated individuals and minorities more likely to be left behind.



## Traffic Congestion and Environmental Impacts:

- Discretionary trips (often made by car) at least partially compensate for reduced volume of commuting trips.
- Increased car dependence, higher vehicle ownership and substitution of airplane trips with car travel might contribute to increased traffic congestion.



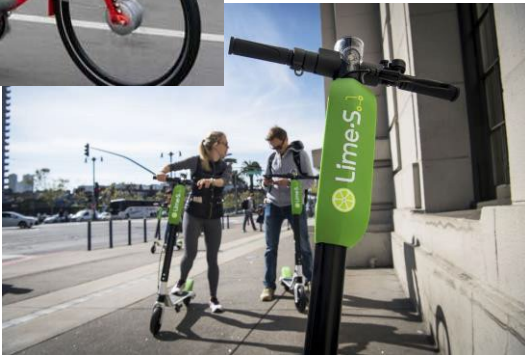


## Changes in transportation supply and business models

- Changes in supply side (e.g., JUMP-Lime merger) will affect demand.
- Potentially affected sectors include shared mobility, airline sectors, etc.



Source: Uber



Source: Lime

## Cities Have Reclaimed (Some) Space from Cars

- *“Small window of opportunity to transform short-term responses into long-term change—and to create livable, breathable cities for all”*

[World Bank Blog, August 2020]



New York City (Sources: 6sqft.com)

## More Space for Bicyclists?

- City level policies have promoted walking and bicycling.
- Some temporary changes are being converted into permanent.



Source: Elizabeth Conley, Houston Chronicle



When you're still wearing your Zoom meeting outfit after then quarantine is lifted.

## *Will we go back to our previous life...?*

- There are reasons to believe that after the large disruption, individuals will to a certain extent go back to their behaviors (and habits) from before the pandemic
- However, the longer the disruption, the more likely longer-term impacts might derive (and modifications in lifestyles might persist). Besides, among other effects...
  - Increase in e-shopping will likely persist
  - Retail space will likely be modified forever (some stores are shutting down and will not reopen)
  - Economic activities will need time to recover
  - At least for some time, (some) travelers will remain hesitant to use shared modes
  - Transportation supply might change in the meantime due to funding issues, changes in investments, mergers and acquisitions
  - A big role will be associated with policy making, in particular if efforts are made to promote active modes of travel and avoid resurgence of car travel



# Next Steps in the Project

---

- New round of data collection being carried out in Spring 2021
  - Resampling of previous survey respondents, plus recruitment of new respondents with **stratified random sampling of households** also with paper questionnaires, to reduce sampling biases towards tech-savvy and higher-education respondents
  - Identification of **priority areas** with high proportion of Hispanics and lower-income communities who are sampled with higher sampling rate
  - Survey available in two languages: English and Spanish
- Development of weights to correct for non-representativeness of the population in the various regions
- Selected priority themes for data analyses:
  - **Travel behavior choices** focusing on who stopped using transit, who is buying vehicles, and distinguish between voluntary and involuntary carless individuals
  - **Sustainability** with focus on the impacts on vehicle miles traveled, greenhouse gas emissions, and ability to achieve environmental goals in transportation
  - **Equity issues** with focus on marginalized, low-income and minority communities, as well as lower-density communities in the region
  - **Telecommuting** with interest in better understanding who can and will continue to work remotely, and assess potential persistence of work from home
  - **E-shopping** with emphasis on how the pandemic has accelerated pre-existing trends towards digital technologies and the adoption of online-shopping, app-based services, and other tele-services, and how these patterns vary across groups by income, age groups, urban vs. rural residents, etc.
  - **New mobility technologies**, to establish whether future likelihood to use new forms of mobility (e.g. ridehailing, bikesharing) and adopt EVs have changed
  - **Household changes** in terms of household structure and residential location decisions, as well as the travel behavior impacts these changes may entail

# Research Team



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# Acknowledgements

- Dan Sperling
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- Mikayla Elder
- Kailai Wang
- Tho Le

*Many other colleagues at UC Davis, other institutions and partner agencies have also contributed to this research.*

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NISSAN  
GROUP OF NORTH AMERICA

faurecia





**More info on the UC Davis COVID-19 Mobility Study available at:**  
**[postcovid19mobility.ucdavis.edu](https://postcovid19mobility.ucdavis.edu)**

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# Statewide Survey on Broadband Adoption 2021

Internet Adoption and the “Digital Divide” in California

*Results from a survey conducted for the  
California Emerging Technology Fund  
(CETF)*

University of Southern California

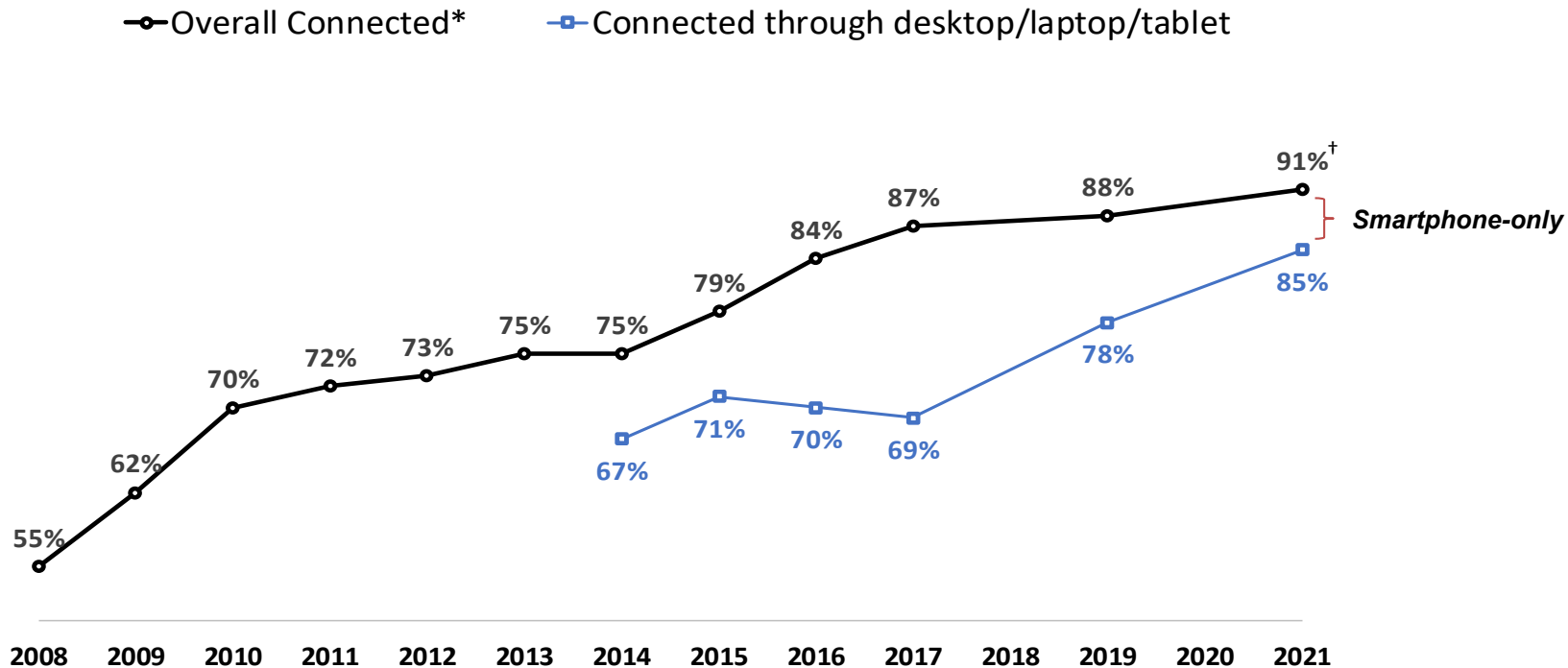
Principal Investigators: Dr. Hernan Galperin/Dr. François Bar

June 2021



# Broadband adoption in California continues to rise while the share of smartphone-only users drops.

## Broadband Adoption in California (2008-2021)



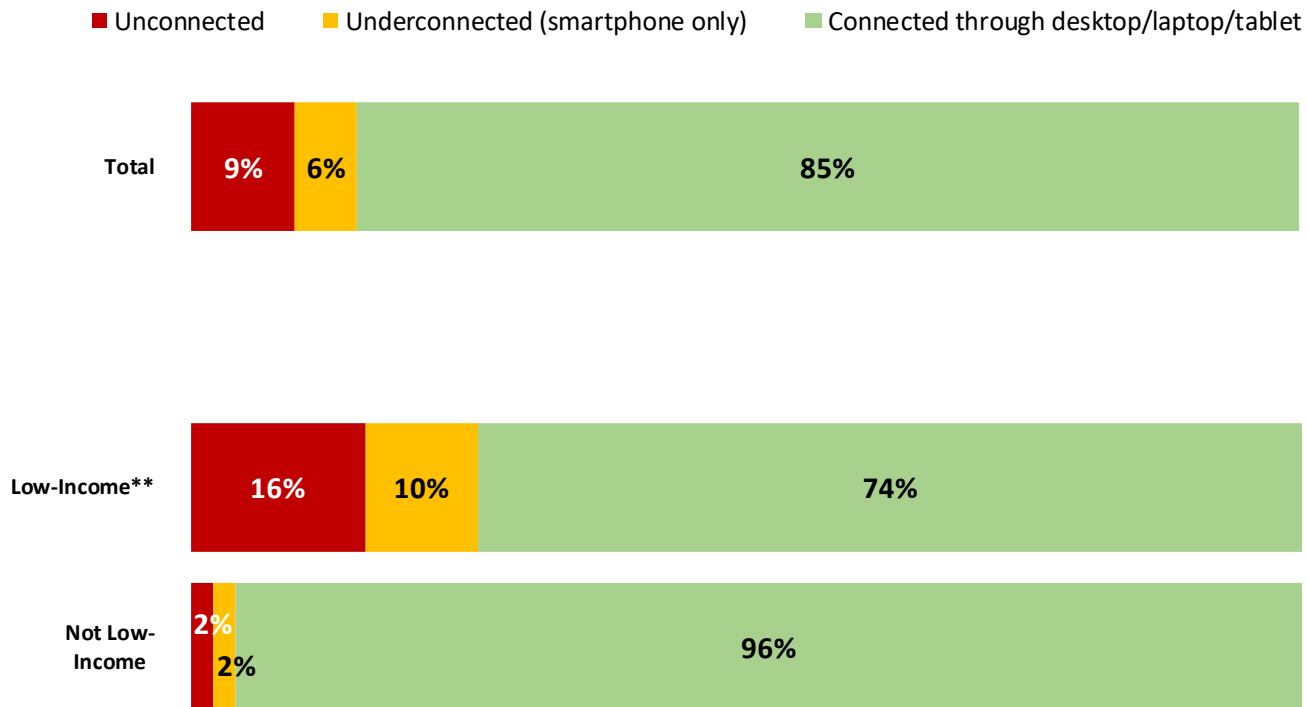
Source: 2021 from USC; 2017/2019 from Berkeley IGS Poll; 2014 to 2016 from The Field Poll; 2008 to 2013 from PPIC.

\*Includes those who can connect to the Internet either through a desktop, laptop, tablet computer, or smartphone.

<sup>†</sup> 90.5% of households are connected, rounding to 91%. 84.8% are connected with a laptop, desktop or tablet, and 5.7% are smartphone only.

# More than 1 in 4 low-income households are unconnected or underconnected, in contrast to near universal adoption among higher-income households.

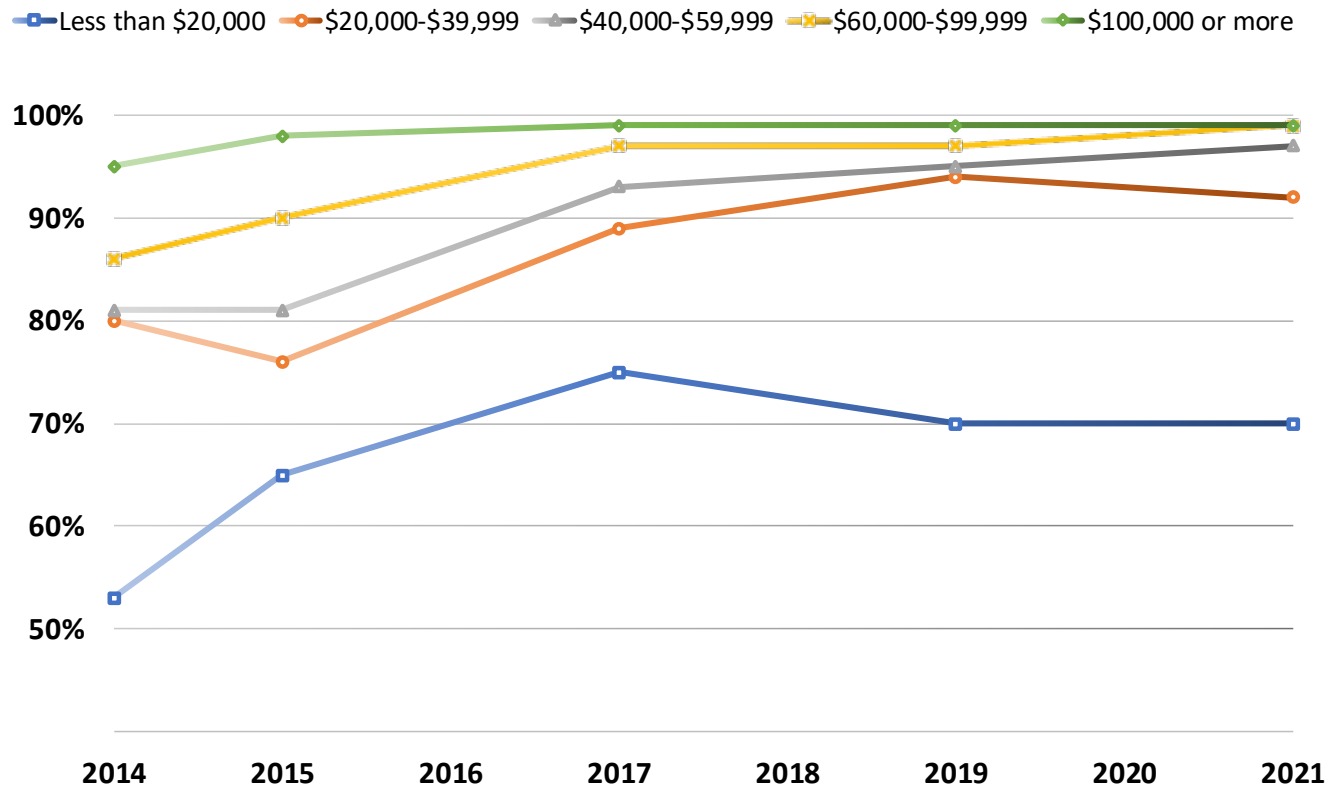
## Broadband Adoption by Income Status



*\*\*Low-income is defined as households with income lower than 200% of the Federal Poverty Line depending on number of household members.*

# Overall, earlier gains in broadband adoption among lower-income households have slowed.

## Broadband Adoption by Household Income (2014 - 2021)

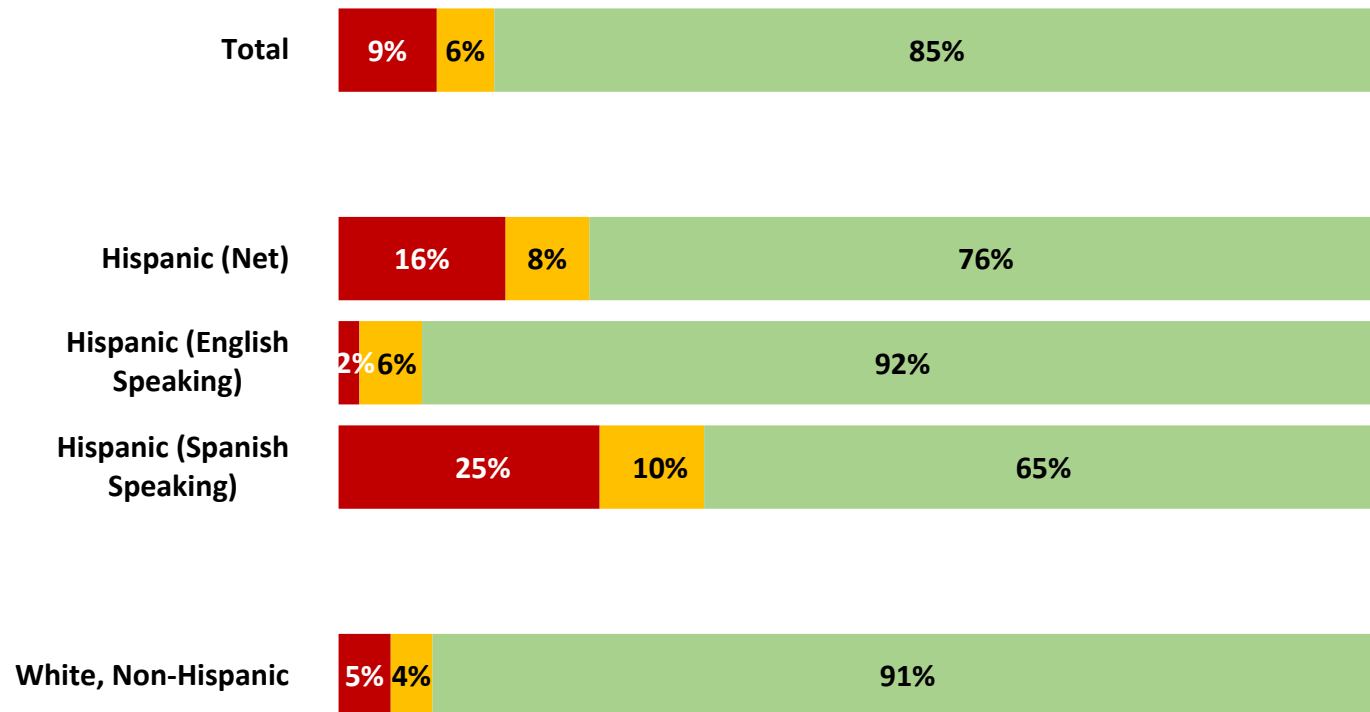


Source: 2021 from USC; 2017-2019 from Berkeley IGS Poll; 2014 to 2016 from The Field Poll.

**Nearly 1 in 4 Hispanics are unconnected or underconnected, significantly behind other racial/ethnic groups.**

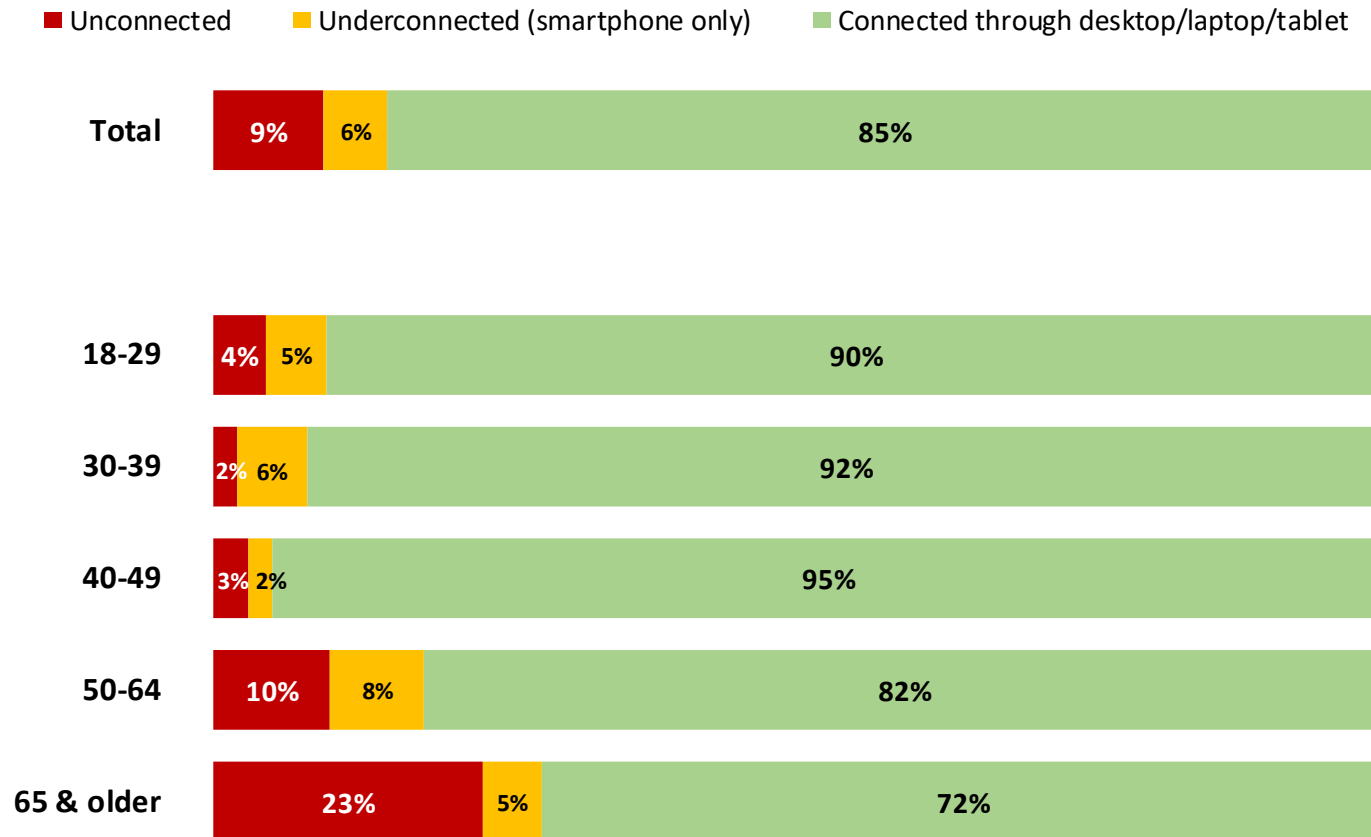
## Broadband Adoption by Race/Ethnicity

■ Unconnected    ■ Underconnected (smartphone only)    ■ Connected through desktop/laptop/tablet

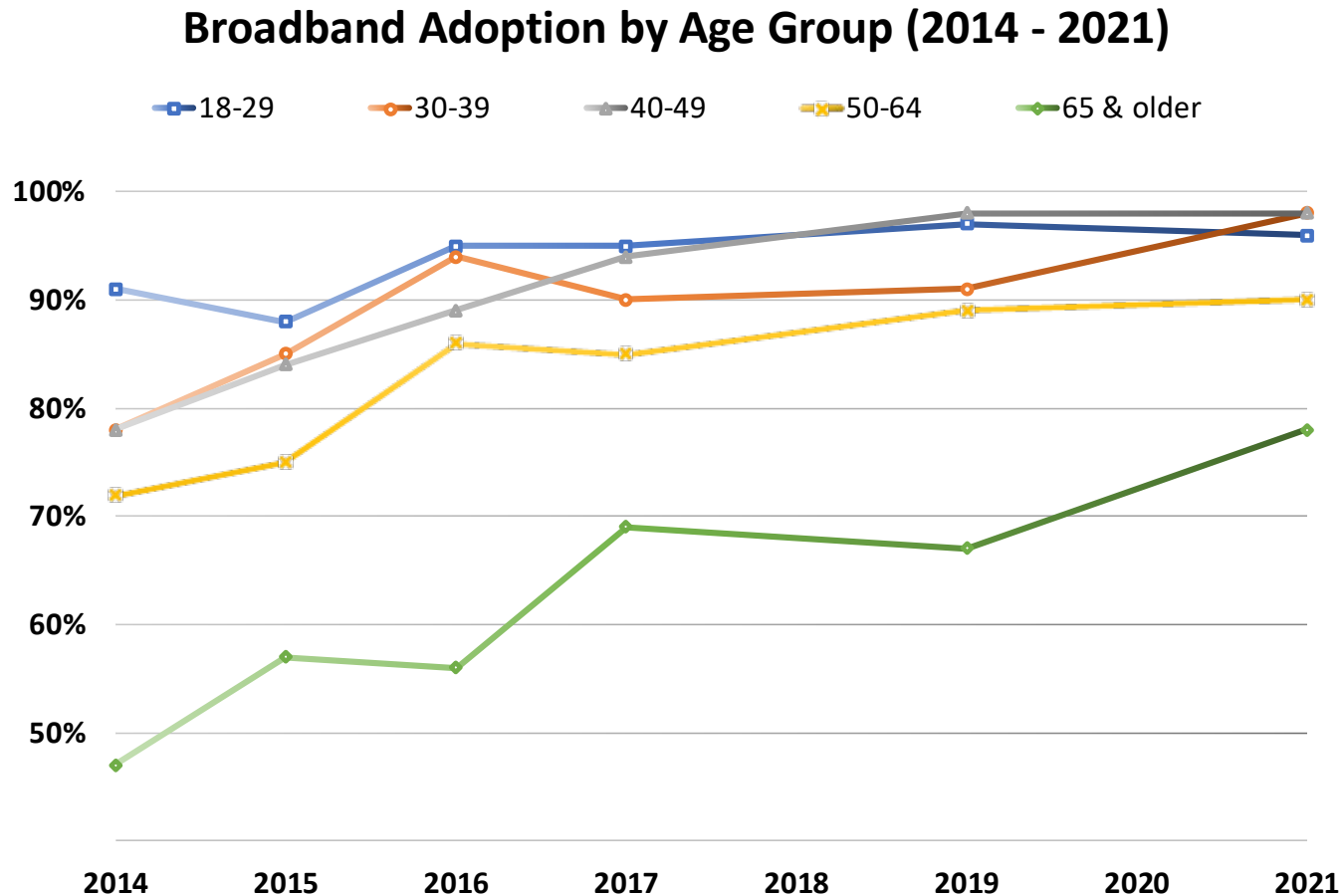


# More than 1 in 4 residents age 65 and older are unconnected or underconnected.

## Broadband Adoption by Age Group



**However, there have been significant gains in adoption among older adults since 2019.**

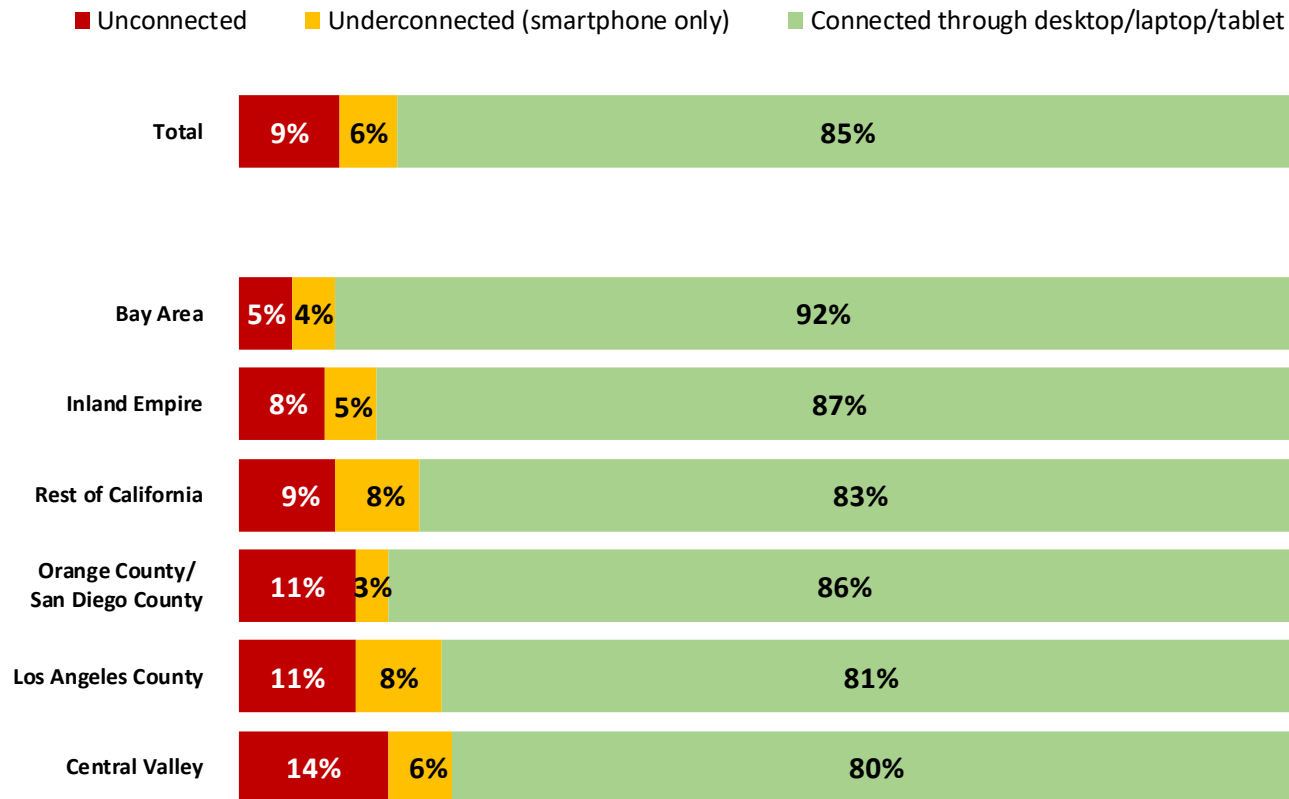


Source: 2021 from USC; 2017-2019 from Berkeley IGS Poll; 2014 to 2016 from The Field Poll.



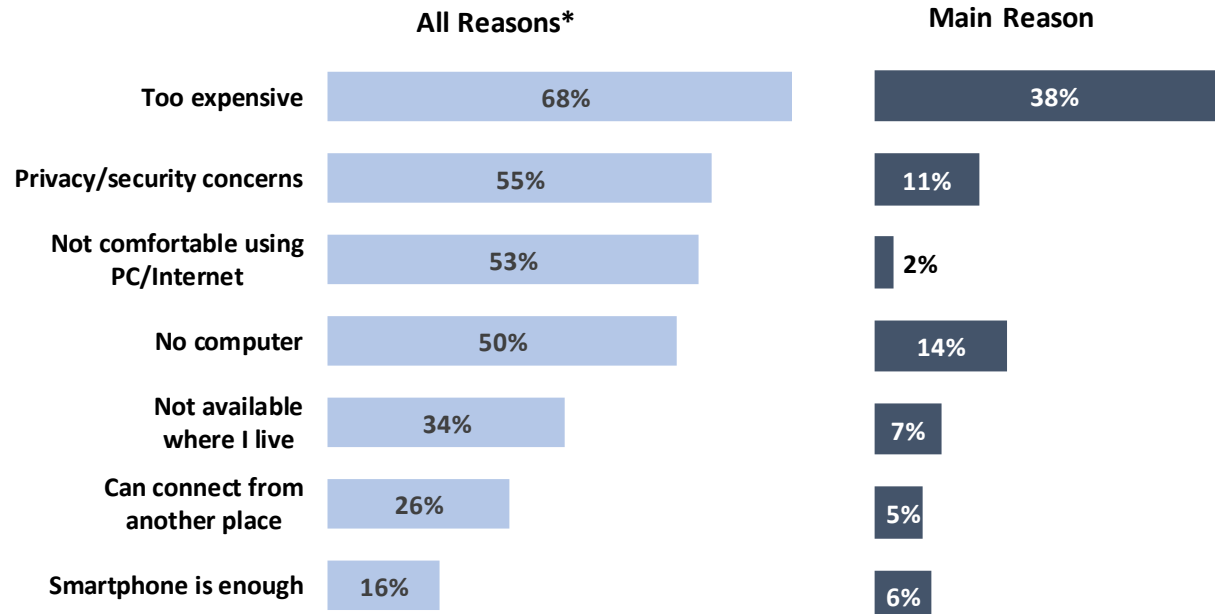
# There are significant disparities in broadband adoption across California, with Los Angeles County and the Central Valley lagging behind other regions.

## Broadband Adoption by Region



**Affordability is the main reason that keeps households from adopting broadband; digital literacy and lack of an appropriate device are also relevant factors.**

**Self-Reported Reasons for Lack of Internet Connectivity  
at Home Among Unconnected and Underconnected**

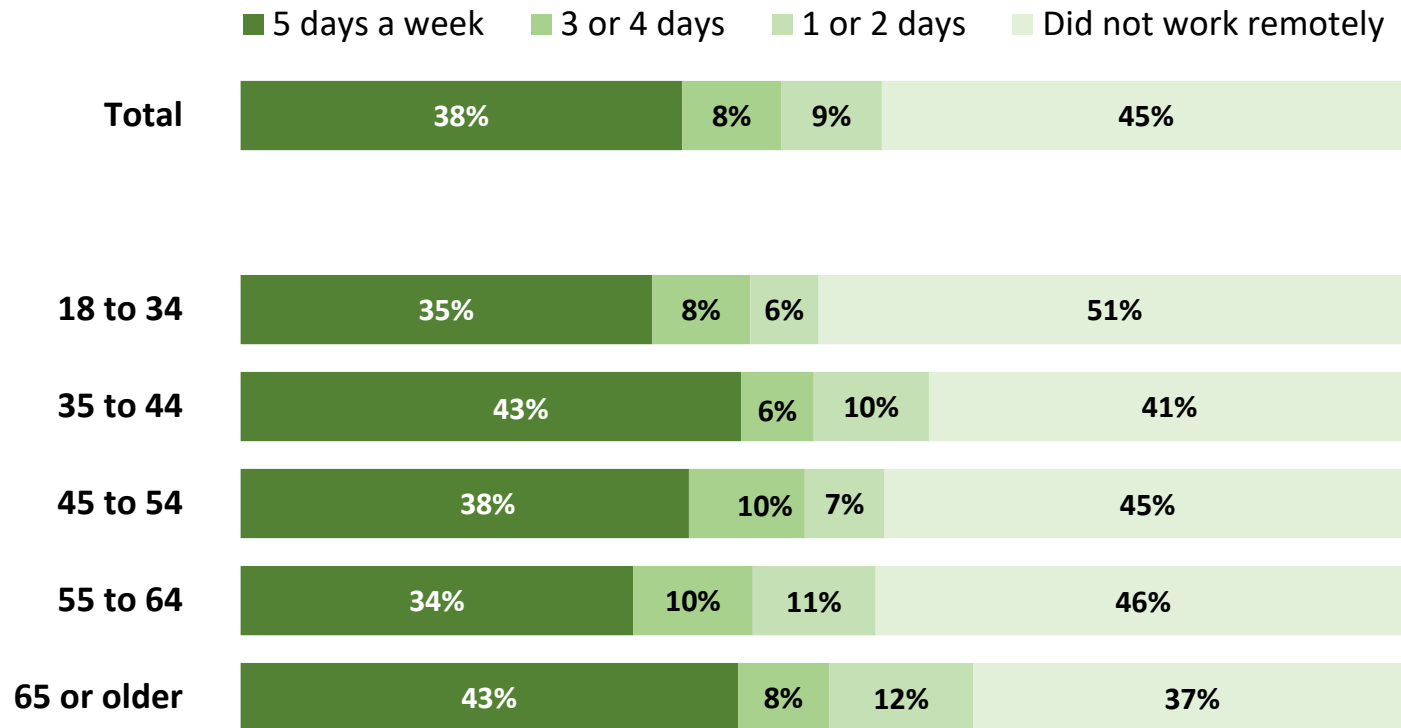


*\*Percentages add to more than 100% due to multiple responses*

*Note: Subsample for unconnected and underconnected n=212 (unweighted)*

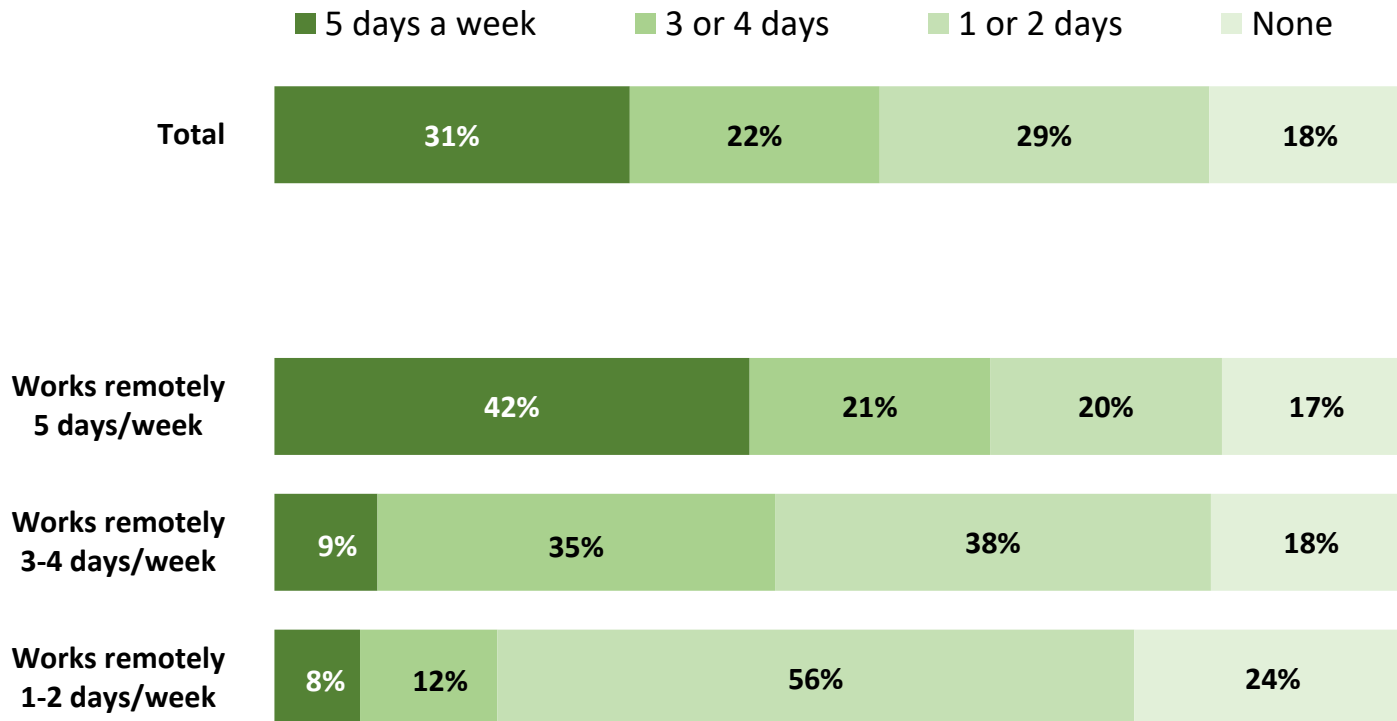
# Over half of workers with broadband at home are currently working remotely

## Number of days a week employed adults worked remotely by age group



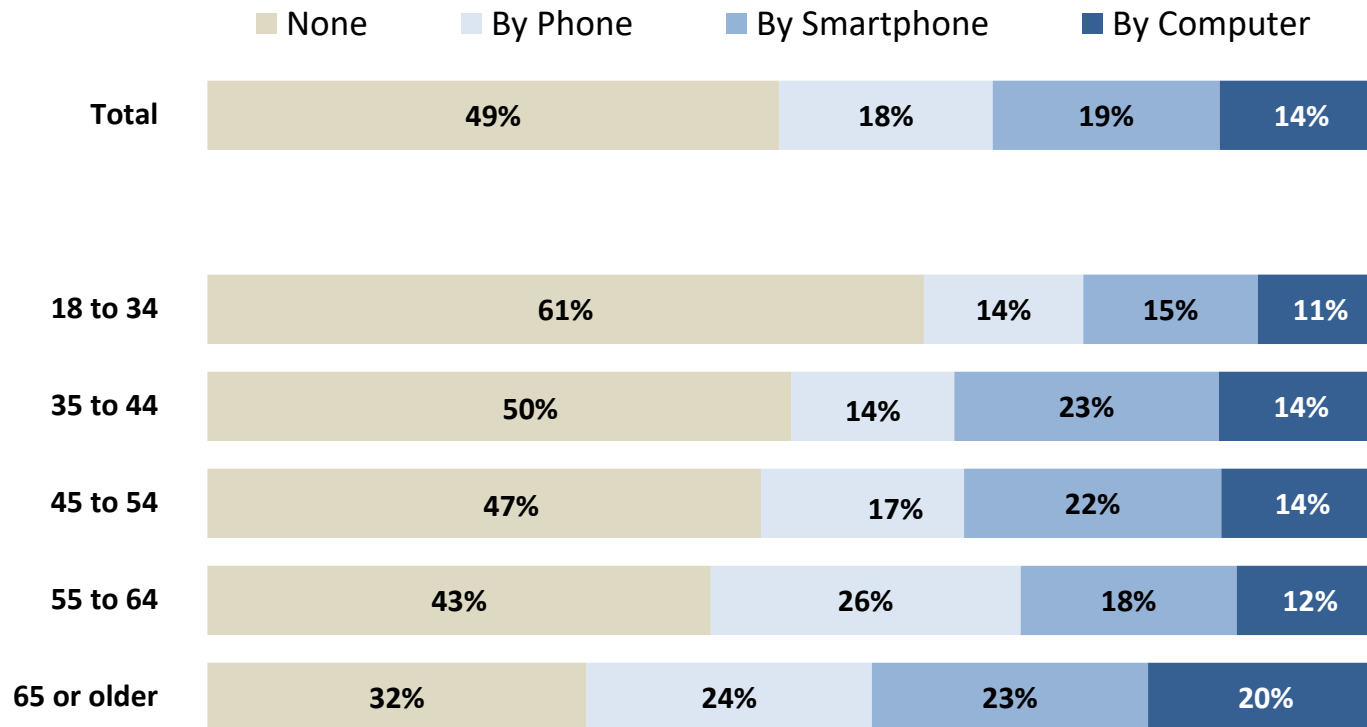
# If working from home, less than 1 in 5 would return to in-person, potentially offsetting 55% of work trips

## Number of days a week employed adults would prefer to work remotely by current work status

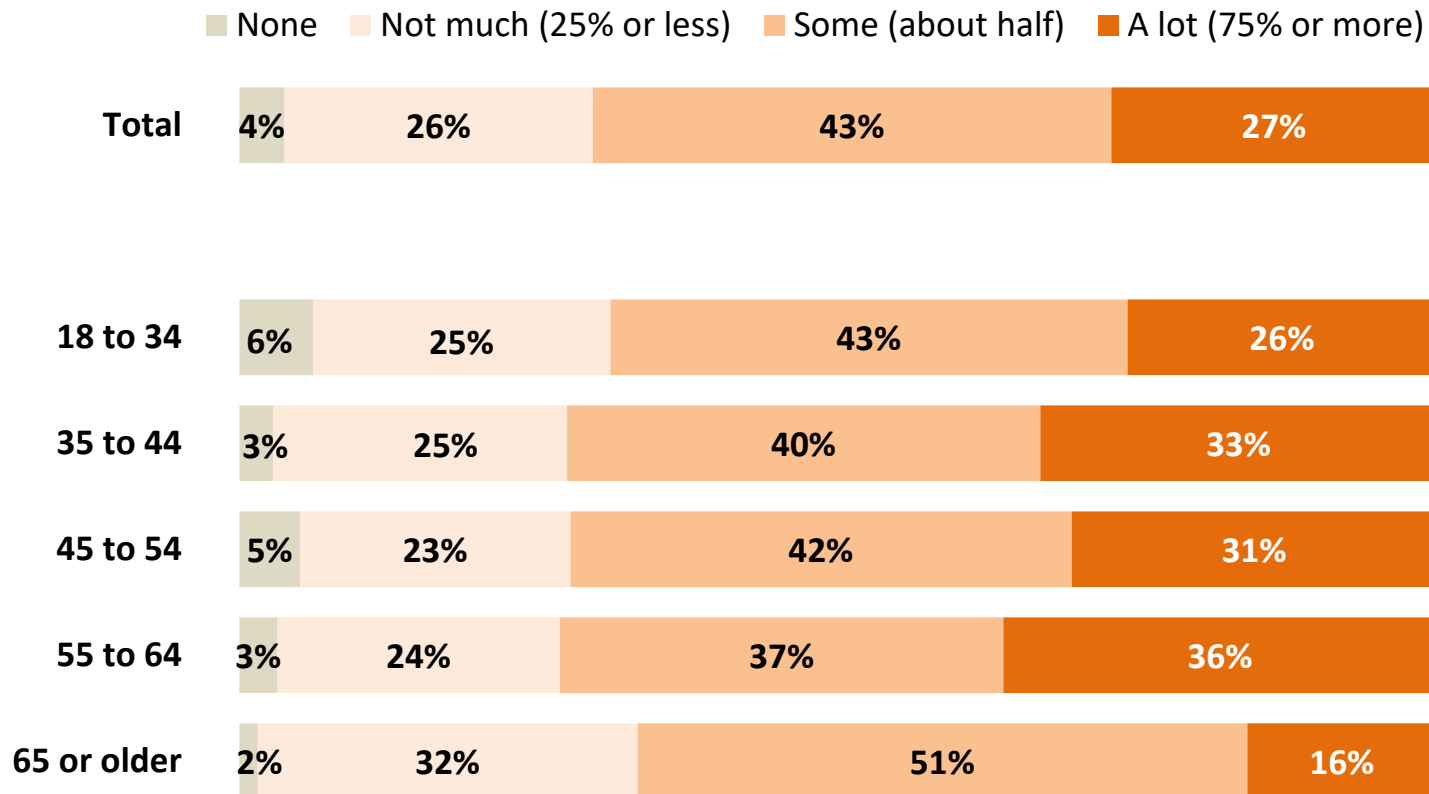


# Over half of respondents have used telehealth in past year, use increases with age

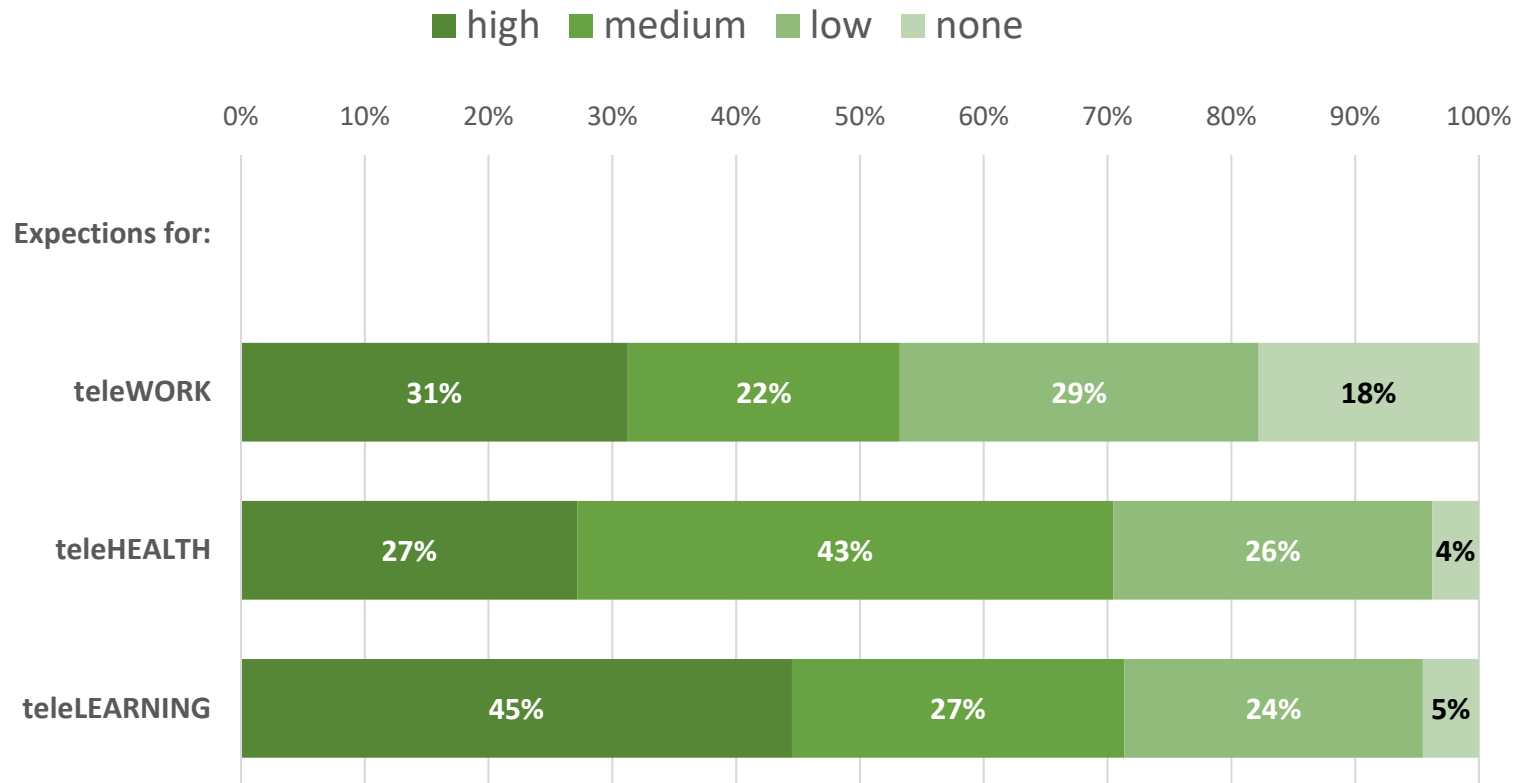
## Telehealth utilization by age group



# “How many vehicle trips to a health facility do you expect to reduce by continuing to have remote health consultations?”



# To what extent remote activities can substitute for vehicle trips in work, health and education (18+)?





THANK YOU

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DATA EXPLORER/VISUALIZATION (beta):

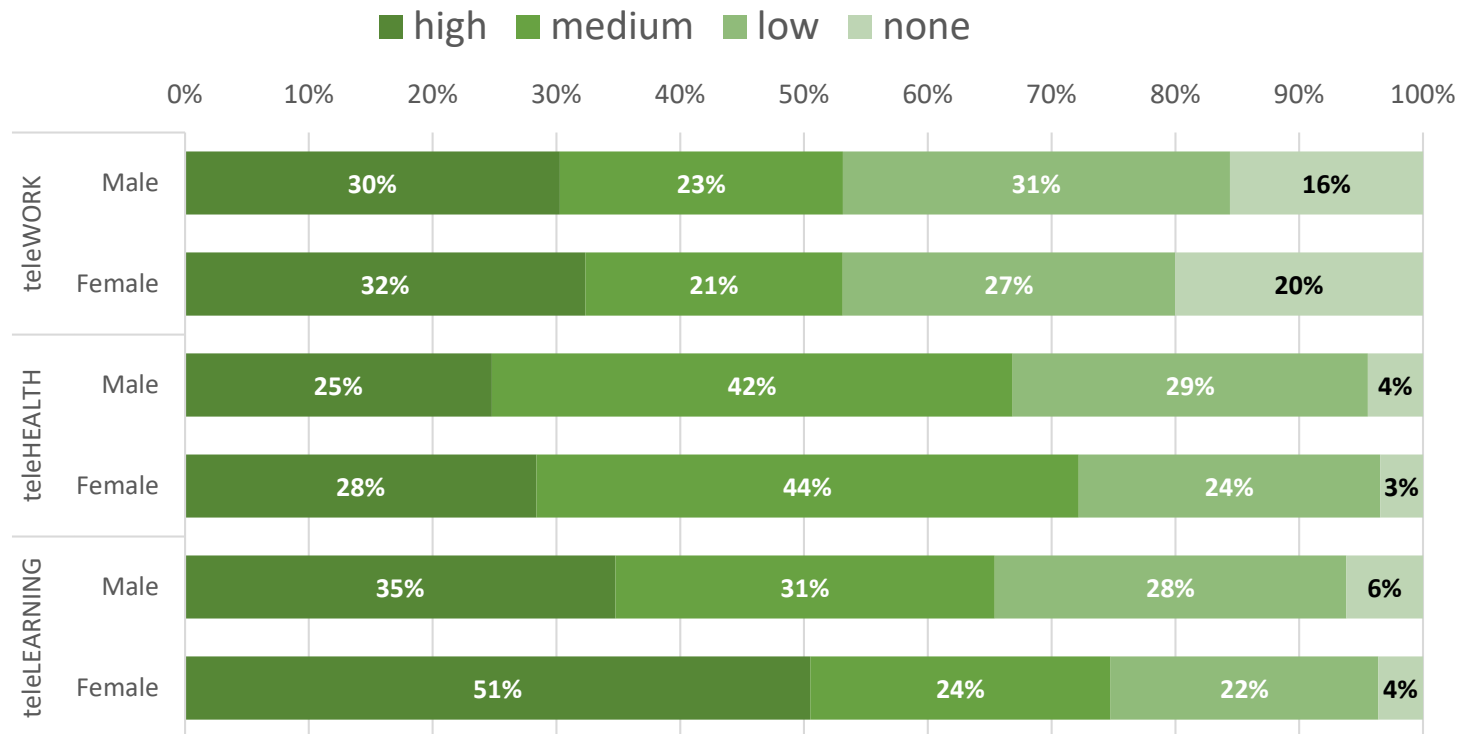
[https://tiny.cc/CETF-USC\\_data\\_explorer](https://tiny.cc/CETF-USC_data_explorer)

# Comparing across domains

<b>Scales re-mapping</b>				
Telework during pandemic	<b>11 or more trips</b>	<b>6 to 10 trips</b>	<b>1 to 5 trips</b>	<b>0 trips</b>
Telework future	<b>5 days a week</b>	<b>3 or 4 days</b>	<b>1 or 2 days</b>	<b>None</b>
Telehealth future Telelearning future	<b>A lot (75% or more)</b>	<b>Some (about half)</b>	<b>Not much (25% or less)</b>	<b>None</b>
<b>MAPPED TO:</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>None</b>

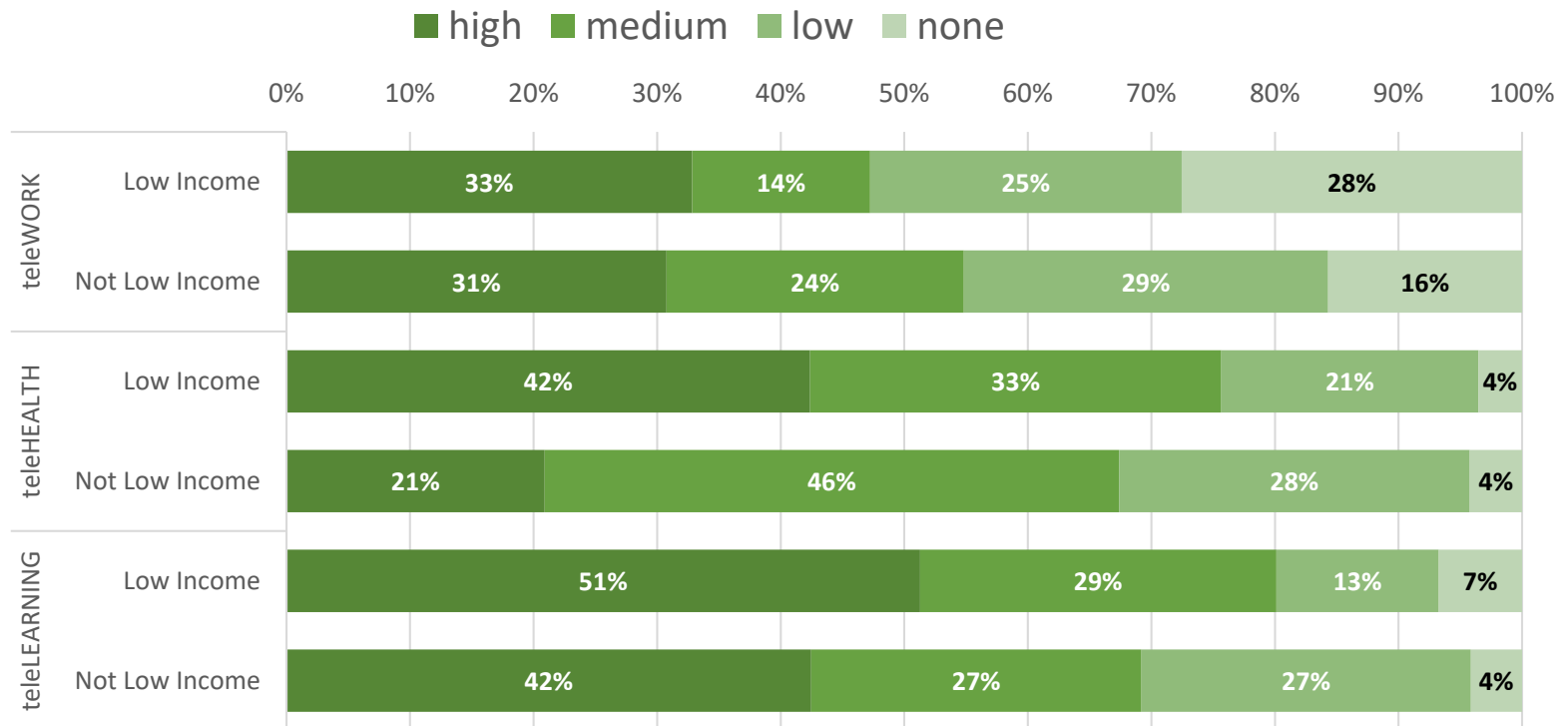
# Trip avoidance by gender

Extent to which telecom would replace vehicle trips  
by gender



# Trip avoidance by income

Extent to which telecom would replace vehicle trips  
low income vs not low income

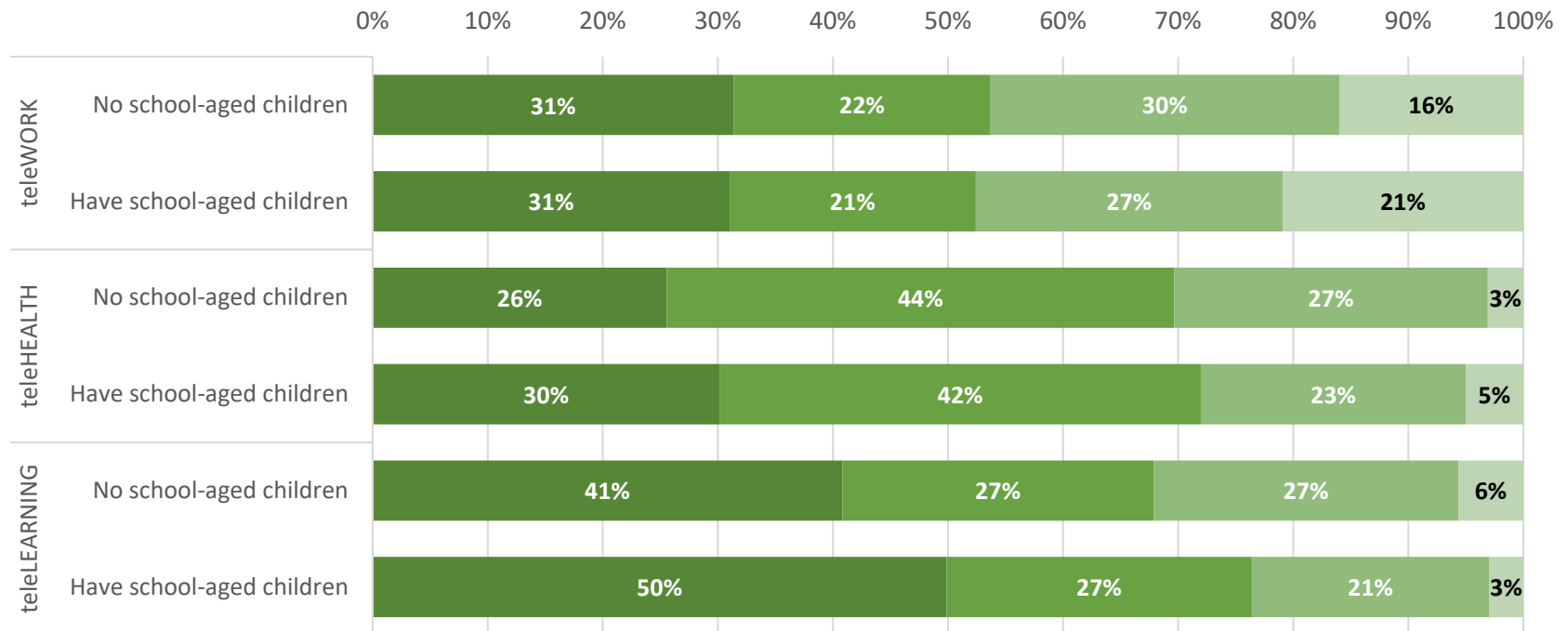




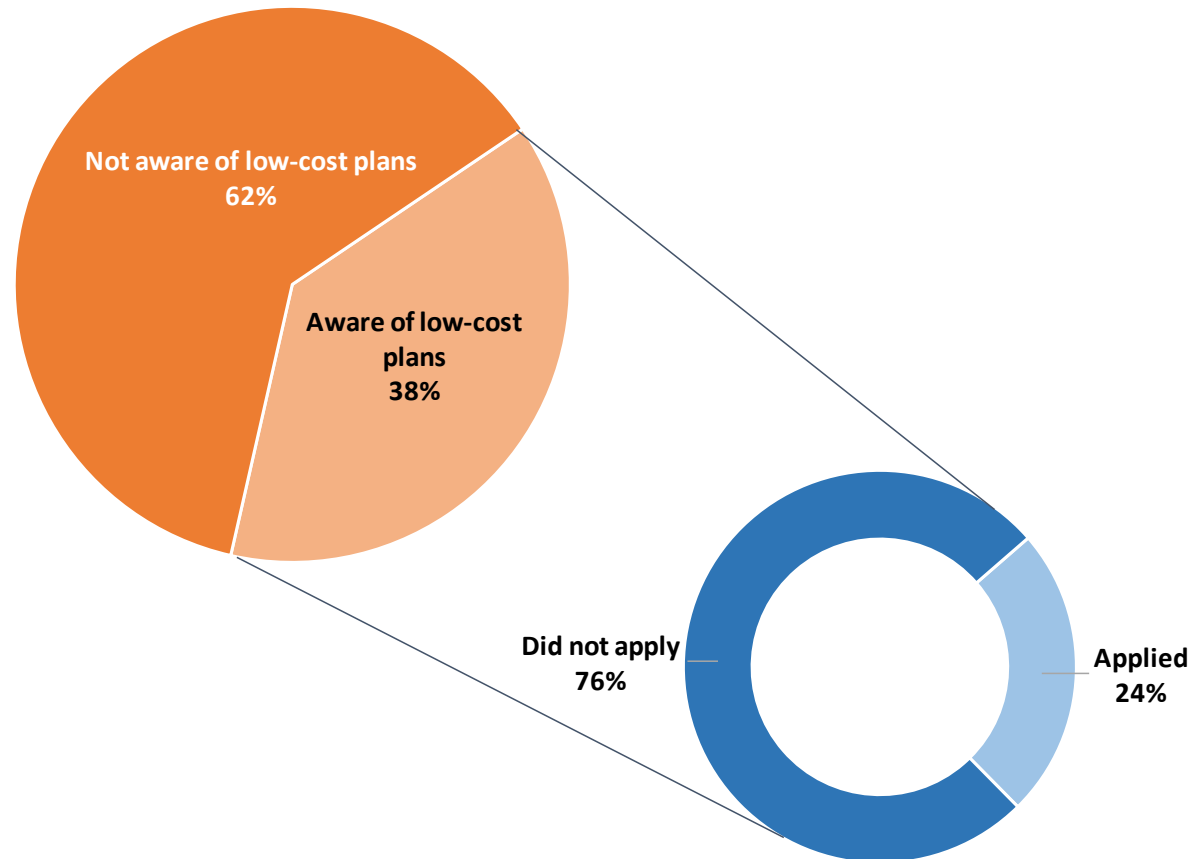
# Trip avoidance by parental status

Extent to which telecom would replace vehicle trips  
School-age children

■ high ■ medium ■ low ■ none



**Nearly 2 in 3 unconnected or smartphone-only households are unaware of discount Internet plans, and fewer than 1 in 4 of those aware report having ever applied.**



*Note: Subsample for unconnected and underconnected n=212 (unweighted)*

# About the Statewide Survey on Adoption

---

- **Population:** California Adults (age 18 and older)
- **Sample Size:** 1,650 Households
- **Method of Collection:** Telephone Survey
- **Sampling Method:** Random-Digit Dialing (RDD) of Cellphones (94%) and Landlines (6%) in California
- **Languages:** English, Spanish, Mandarin, Vietnamese
- **Margin of Error:** ~2% for 95% Confidence Level
- **Weights:** Results Were Adjusted for Age, Gender, Race/Ethnicity, Education and Region based on ACS 2019
- **Fieldwork Dates:** February 10 – March 22, 2021

# TRANSPORTATION BROADBAND STRATEGIES TO REDUCE VMT & GHG





## Southern California Association of Governments

Presented By:

- Jory Wolf – Magellan Advisors
- Greg Laudeman – Magellan Advisors
- Alan Clelland – DKS Associates
- Jim Damkovich – DKS Associates
- Randy Johnson – DKS Associates

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June 11, 2021

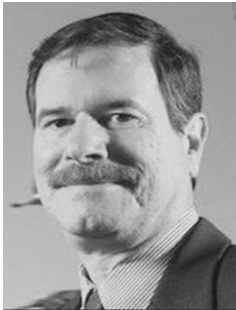


1


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## INTRODUCTIONS







**JORY WOLF**  
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- 2

2

Southern  
Governments

1



## APPROACH



### Broadband Investment and Penetration Study

1. Levels of broadband availability (deployment) will be mapped using GIS to identify areas for broadband expansion.
2. Broadband adoption (subscriptions) will be mapped to commuting patterns and demographics to determine how VMT is reduced by broadband use.
3. Reductions of VMT and GHG emission will be estimated based on broadband expansion using SCAG's 2045 travel demand model.

### Assumptions

- Data on broadband deployment and subscriptions collected by the consortia through a survey and/or outreach
- Demographic and economic data from US Census Bureau
- Pre-COVID, shelter in place order, and post-COVID commuting data from StreetLight Data, Inc.

- 3

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## DATA COLLECTION & GAP ANALYSIS



### Data we have:

- Demographics – Census data
- Limited broadband data – CETF, CPUC, FCC, I3 Connectivity Data
- Travel data (StreetLight Data, Inc., via SCAG)

### To be collected by consortia:

- Geo-referenced data on broadband adoption
- Use of internet as substitute for travel patterns and trends

### Data we have requested (in process):

- SCAG ABM – Model and Forecast Data Request Form
- UC Davis Research – SCAG Permission

### Full data gap analysis report in July

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## BROADBAND IN TRANSPORTATION PROJECTS



### Objective:

- Demonstrate how broadband planning and deployment in transportation facilities result in improving mobility and reducing VMT and GHG
- Impacts based on VMT and GHG analysis

### Costs

- Incorporate broadband into transportation planning
- To expand broadband in areas with limited availability and deployment

### Funding Strategies

- Identify a range of funding strategies and sources
- State, regional, and local transportation projects

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## QUANTIFICATION AND ANALYSIS OF VMT AND GHG REDUCTION



### 1. Baseline Condition Analysis

- Congestion Levels (SCAG ABM)
- Safety (FARS and TIMS – On-line Data Bases)
- Origin and Destination Matrix (SCAG ABM)

### 2. Sensitivity Analysis

### 3. Market Analysis

- Socio-economic data and analysis geography (SCAG ABM)
- Telecommuting Literature Review (provided by Consortia)
- UC Davis Research "Investigating the Temporary and Longer-term Impacts of the COVID-19 Pandemic on Mobility in the SCAG Region"
- Google Workplace Data (DKS)
- Shelter In Place Behaviors
- StreetLight Data (will be providing SCAG the timeframes and geography based on Shelter in Place Behaviors)

### 4. VMT Reduction Evaluation

- Control Strategy Effectiveness (Broadband Expansion Mapping and Streetlight Data)

### 5. VMT and Speed Activity Processing

- AB 32 & SB 743 Inventory
- SB 375 Activity Data

### 6. GHG Emissions Analysis

- EMFAC

- 7

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02:08:48 **Jennifer Hernandez:** Kate Gordon from OPR repeatedly claims that remote work INCREASES VMT and INCREASES trips

02:15:02 **Martha Van Rooijen:** Something to think about: Peak hour trips cause the very high amount car emissions and the time in traffic may increase fear of going to electric car. The longer the trip a person may have resistance to electric cars thinking they will stall in traffic. Moving to electric cars is affected by distance of trip and time in traffic

02:15:22 **Walter Siembab:** From June 7, we have a steep hill to climb despite pandemic; Carbon Dioxide in Atmosphere Hits Record High  
Despite Pandemic Dip - The New York Times (nytimes.com),

02:17:21 **Martha Van Rooijen:** So distribution of traffic trips throughout the day through telecommuting, etc. could turn out to improve GHG. It is important as noted to keep VMT and GHG reduction strategies separate in analysis.

02:21:29 **Martha Van Rooijen:** Here is an article from today on Route Fifty "A report from StreetLight Data found the average daily number of vehicle miles traveled was down 15% overall in 2020 but as of March has started to return to normal levels."  
<https://www.route-fifty.com/tech-data/2021/06/pandemic-subsides-traffic-creeping-back/174658/>

02:28:32 **Lucy Dunn:** It's one metric to ask employees what they'd prefer. But have you asked employers? Most I've polled informally are all over the map: one bank wants everyone back July 1. Another will allow hybrid so long as performance metrics are achieved.

02:34:59 **Jennifer Hernandez:** San Diego County VMT PP deck from Board of Supe meeting and VMT/criteria pollutant graph sent to Sunne via email for distribution to group

02:35:26 **Sunne Wright McPeak:** Lucy's question invites OCBC to facilitate outreach to and conversation with employers to get direct input about acceptable work pattern policies going forward.

02:36:08 **Sunne Wright McPeak:** Thanks, Jennifer.

02:37:55 **Duane Baker:** Glad to see that broadband subscriptions will be mapped and identified. As Dr. Galperin showed cost is a key factor in adoption of broadband.

02:44:43 **Tom Mullen:** How will the Consortiums collect geo referenced broadband adoption data? Particularly those HH that are not connected  
Riverside County (because of infrastructure or adoption \$)

02:46:12 **Sunne Wright McPeak:** Tom:

02:49:17 **Hilary Norton CTC Chair:** I have a question for the Magellan/DKS team: Are you also analyzing the need for/benefits of permit streamlining for broadband and electric grid expansion, as federal and state funds are being identified to "grow the grid" and expand broadband. Returning from COVID, I believe that people will select broadband/EV-enabled mobility options that keep us connected and healthy as we travel.

02:49:53      **Sunne Wright McPeak:**      Tom: The exact methodology is being developed and will come back to the Expert Advisors to review. What do you recommend? As you know, for the broadband mapping that SCAG and SANDAG are doing (of which you are co-chairing the oversight), we want to get the location-level data of those who are unconnected and under connected from Counties (CalFresh recipients), School Districts (students who were missing in action for classes during the last year), and Health Systems (members for which they have no email addresses). We think this data will do a lot for enhancing geographic information. But, we really invite and welcome your recommendations.

02:51:04      **Hilary Norton CTC Chair:**      Which engineering organizations/labor unions are working on streamlining the joint installation of broadband and EV grid i  
Improvements?

02:52:00      **Greg Laudeman:**      Hillary: Expedited permitting is an important part of broadband-friendly policies and we do recommend the consortia gather this  
info, but our analysis won't go any deeper than "yes/no" for this element.

02:54:40      **Pedro Peterson (CARB):**      Do you plan to model the impact of broadband expansion on housing choices? In other words, how will broadband impact not just  
how people commute where they currently live, but how broadband access might change household decisions of where to live, and the land use impacts of those decisions?

02:57:54      **Donald Camph:**      Key observation in the NY Times article is that congestion is a non linear phenomenon. So, for example, a 5% decrease in VMT  
may have an impact on congestion ranging from zero to something in excess, and possibly far in excess, of 5%. The actual impact is facility/corridor-dependent. So translating broadband into VMT reduction and, in turn, VMT reduction into GHG reduction depends on the facts on the ground for a particular corridor. Few reporters and fewer elected officials seem to understand this, although I'm assuming that the technical folks do.

02:59:54      **Greg Laudeman:**      Pedro: That is a very important question. Long-term decisions such as where to live interact with broadband availability and  
adoption in complex ways: Those with broadband can find homes better; low-income persons may be restricted to housing options in places with poor broadband; etc. Unfortunately, though, this is beyond the scope of this study. We will look at development patterns but not to level of where to live.

03:00:40 **Lucy Dunn:** Sunne: good idea. And add to that what incentives might persuade employers to be more flexible should we have ideas in that arena.

03:00:57 **Pedro Peterson (CARB):** Thank you Greg

03:01:44 **Samuel Sudhakar:** In the short term how do we leverage existing broadband providers?

03:02:18 **Walter Siembab:** My research suggests that an effective way to use broadband to reduce VMT and carbon VMT (GHG emissions) is to consider deployment in the context of complementary strategies for land use, mobility and organizational innovation. By doing so, a broader set of policies can be articulated. This should be especially useful to SCAG. Is it possible to include that perspective in this project?

03:06:35 **Greg Laudeman:** Wally: That would be challenging, particularly the organizational innovation factor. On the other hand, these factors are included in SCAG ABM.

03:06:36 **Jim Damkowitz:** To respond to Don's comment - you are correct. VMT is a systemic metric and is not a good indicator of congestion or operational characteristic at a given corridor. Not all VMT is created equal. So to equate VMT to vehicle emissions you need to stratify the VMT by speed class as by technology class, fuel type etc etc. CARB's emissions model EMFAC addresses all that. Our challenge will be to surgically identify the VMT reduction by speed classification and by what vehicle populations.

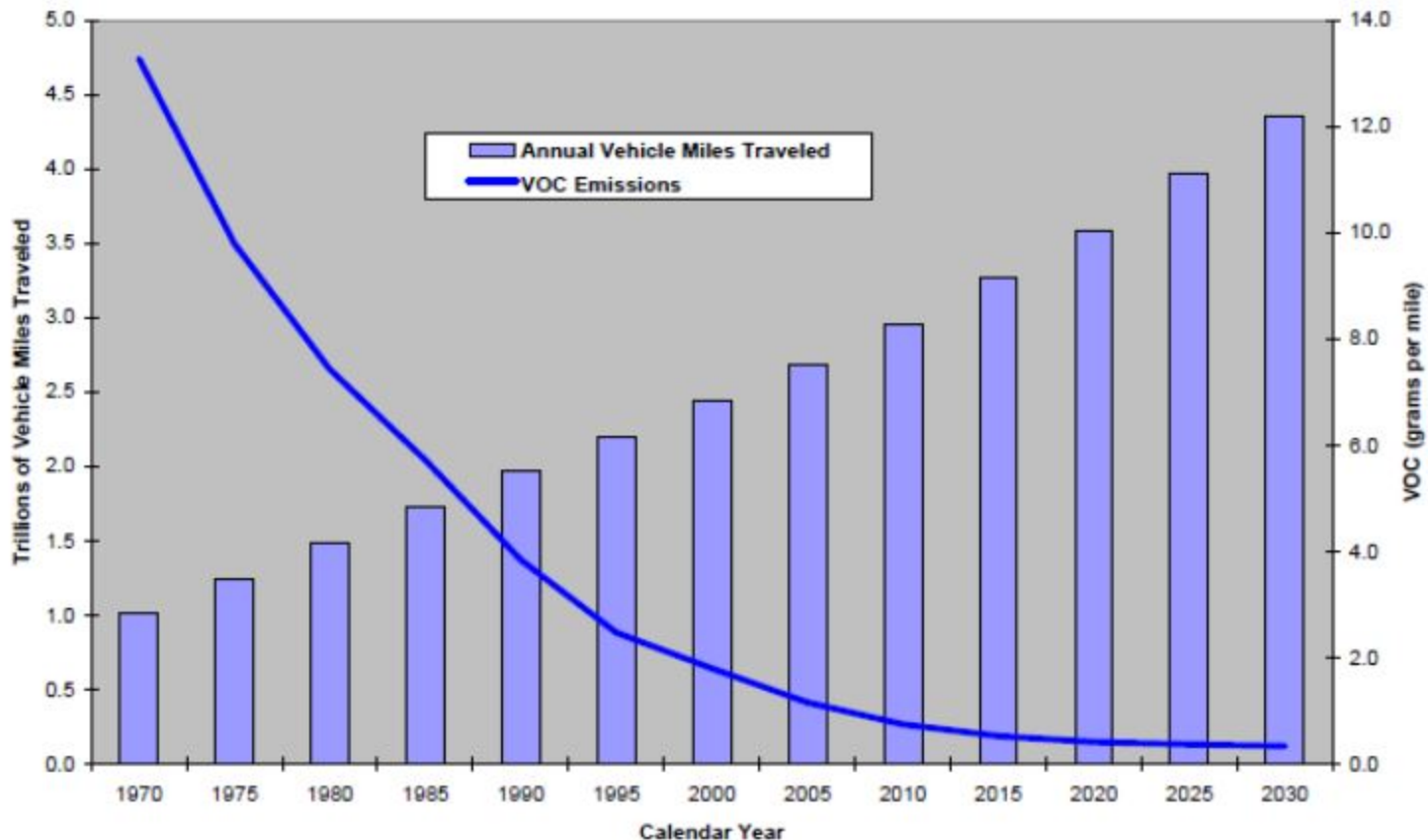
03:18:18 **Greg Laudeman:** One outcome we should consider is the data we're discussing being fed into next-generation mobility solutions. This could not only transform mobility but may be necessary for really impacting environmental factors.

03:22:27 **Tom Mullen:** Looking at the approach slide by DKS, Is it the intent of the study to define HH broadband adoption = x reduction in VMT and x reduction in GHG? Or said another way, each household broadband connection equals x reduction of VMT and GHG?

03:33:27 **Lane Garcia:** Thank you



## Vehicle Emissions vs. Miles Traveled





County of San Diego

# Update on Implementing Vehicle Miles Traveled Analysis in the Unincorporated Region

Board of Supervisors

May 19, 2021

Item #1

# Background - Senate Bill 743



Senate Bill 743 (SB 743) was signed into law in 2013

# Background - Senate Bill 743

Senate Bill 743 (SB 743) aimed to:



Reduce greenhouse  
gas emissions

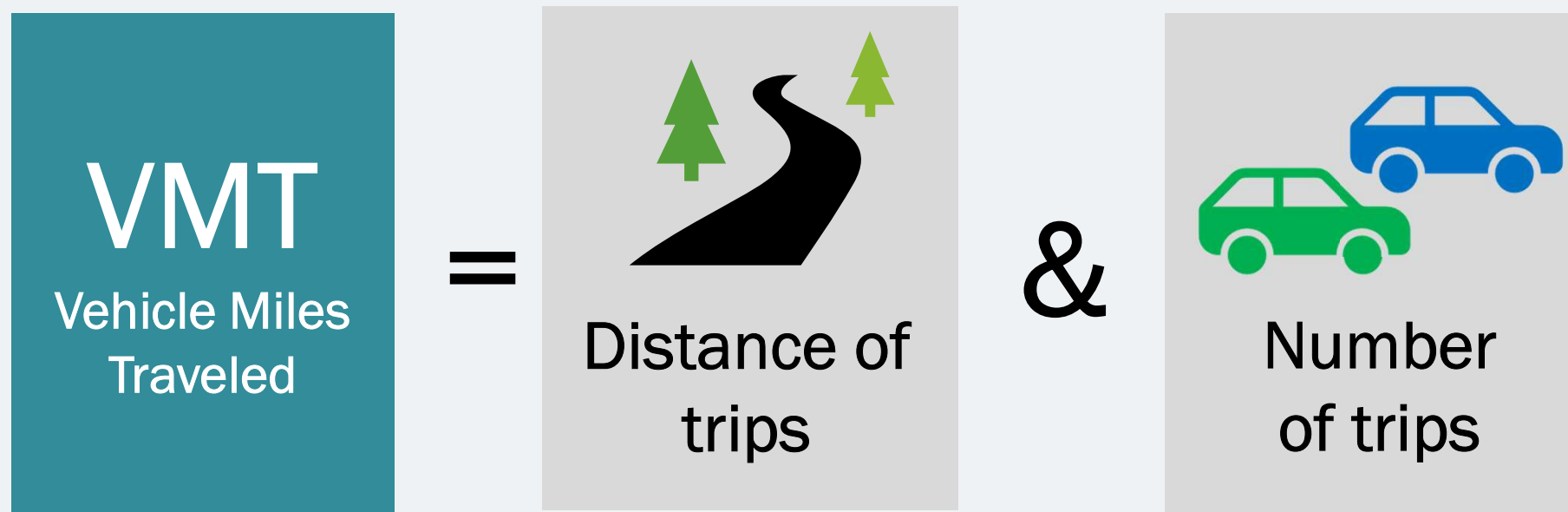


Encourage infill  
development



Improve public  
health through  
active transportation

# Overview of Vehicle Miles Traveled



# Overview of Vehicle Miles Traveled



The Governor's Office of Planning and Research provided the State's technical guidance for adopting SB 743.



# Overview of Vehicle Miles Traveled

A project has a **less than significant impact on transportation** if it meets any of the following criteria:



The VMT generated by a project is below the existing average of a defined area

OPR recommended a 15% reduction below the average



Projects generate a less than significant number of average daily trips

OPR recommended that projects with less than 110 ADT have a less than significant impact on VMT



The project meets another screening criteria defined by OPR, such as being near transit

# Overview of Previous Options for SB 743

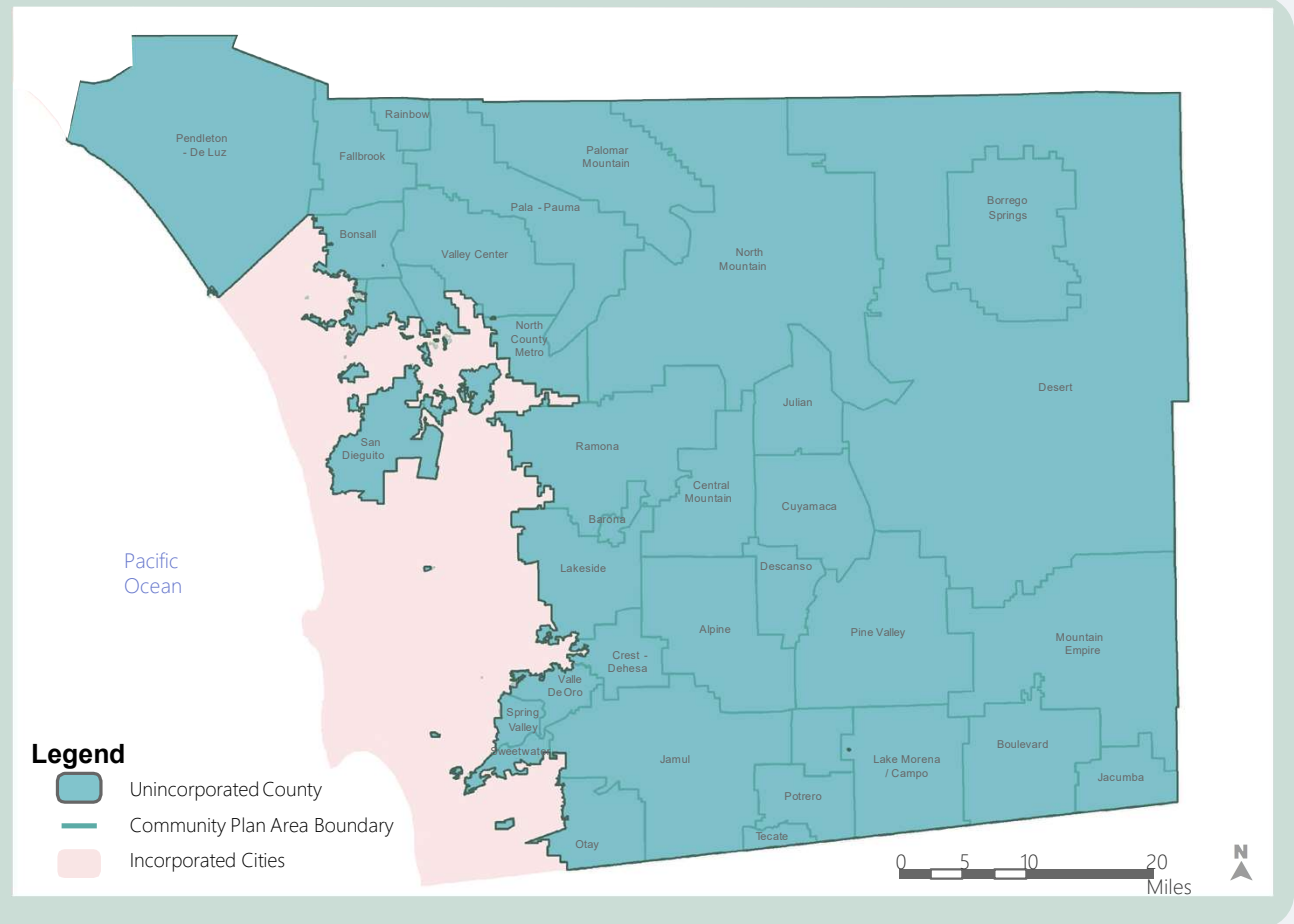
## Board Adopted June 24, 2020

Geographic Area  
(Average VMT)

Unincorporated County only

San Diego  
(SANDAG) region

Five sub-regions  
within the  
Unincorporated County



# Overview of Previous Options for SB 743

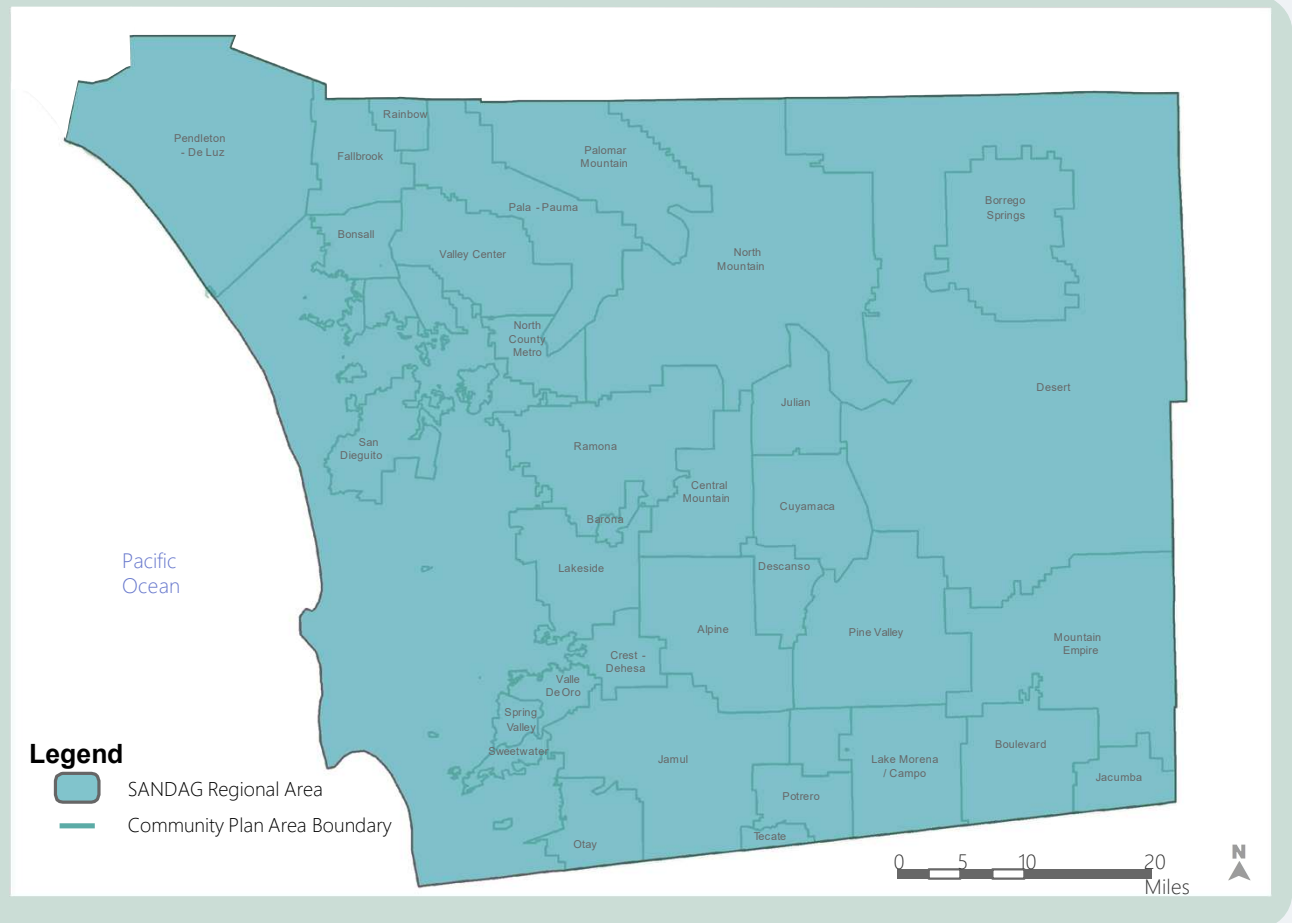
## Board Adopted June 24, 2020

Geographic Area  
(Average VMT)

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San Diego  
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Five sub-regions within the Unincorporated County



# Overview of Previous Options for SB 743

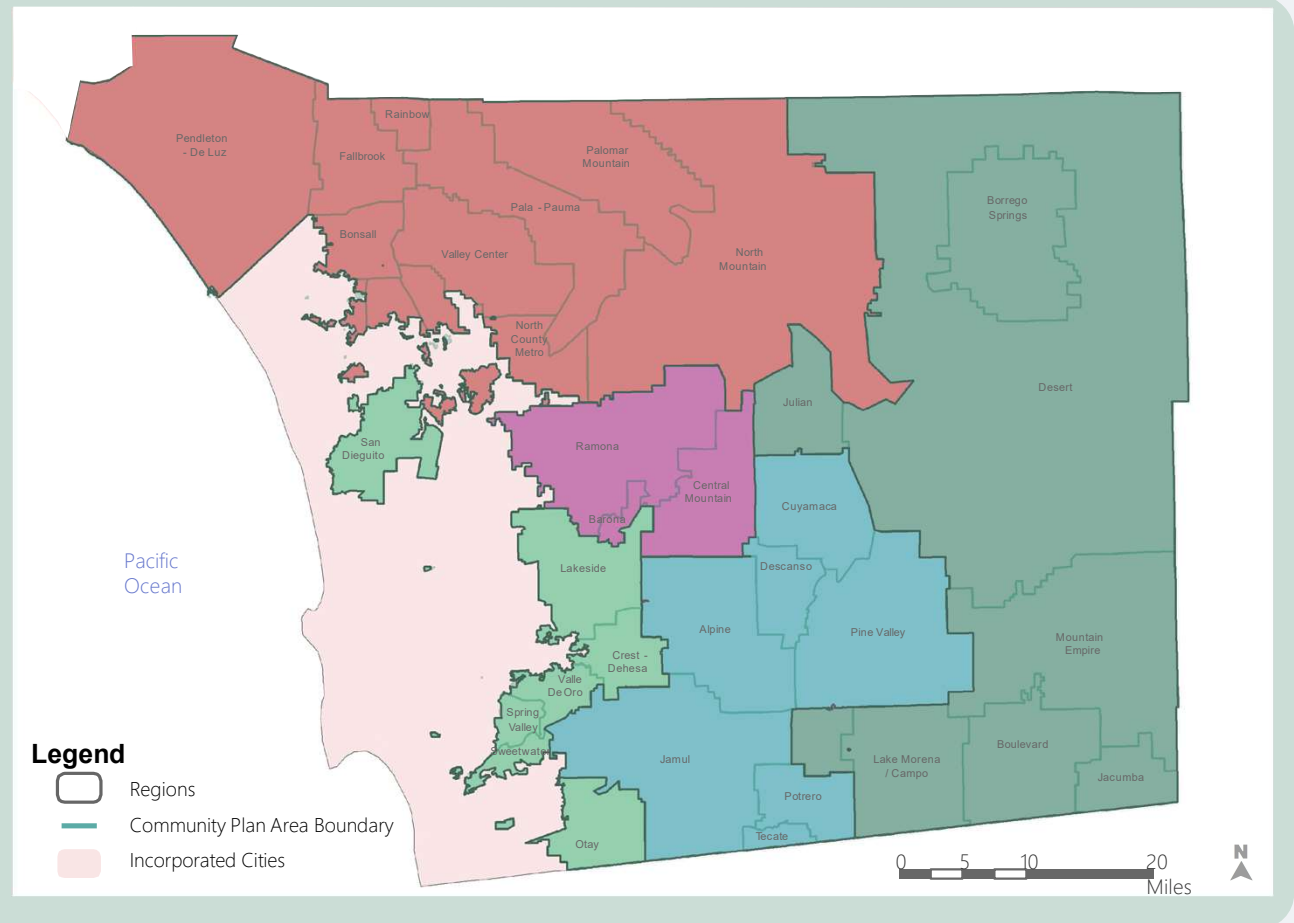
## Board Adopted June 24, 2020

Geographic Area  
(Average VMT)

Unincorporated County only

San Diego  
(SANDAG) region

Five sub-regions within the Unincorporated County



# Overview of Previous Options for SB 743

## Board Adopted June 24, 2020

### Geographic Area (Average VMT)

Unincorporated  
County only  
*(Board Adopted)*

San Diego  
(SANDAG) region

Five sub-regions  
within the  
Unincorporated  
County

### Significance Threshold

OPR Recommended:  
15% below the  
adopted geographic  
boundary average  
*(Board Adopted)*

5% or 10% below  
the geographic  
boundary average

### Small-Project Screening Criteria

OPR Recommended:  
Projects with less  
than 110 ADT  
*(Board Adopted)*

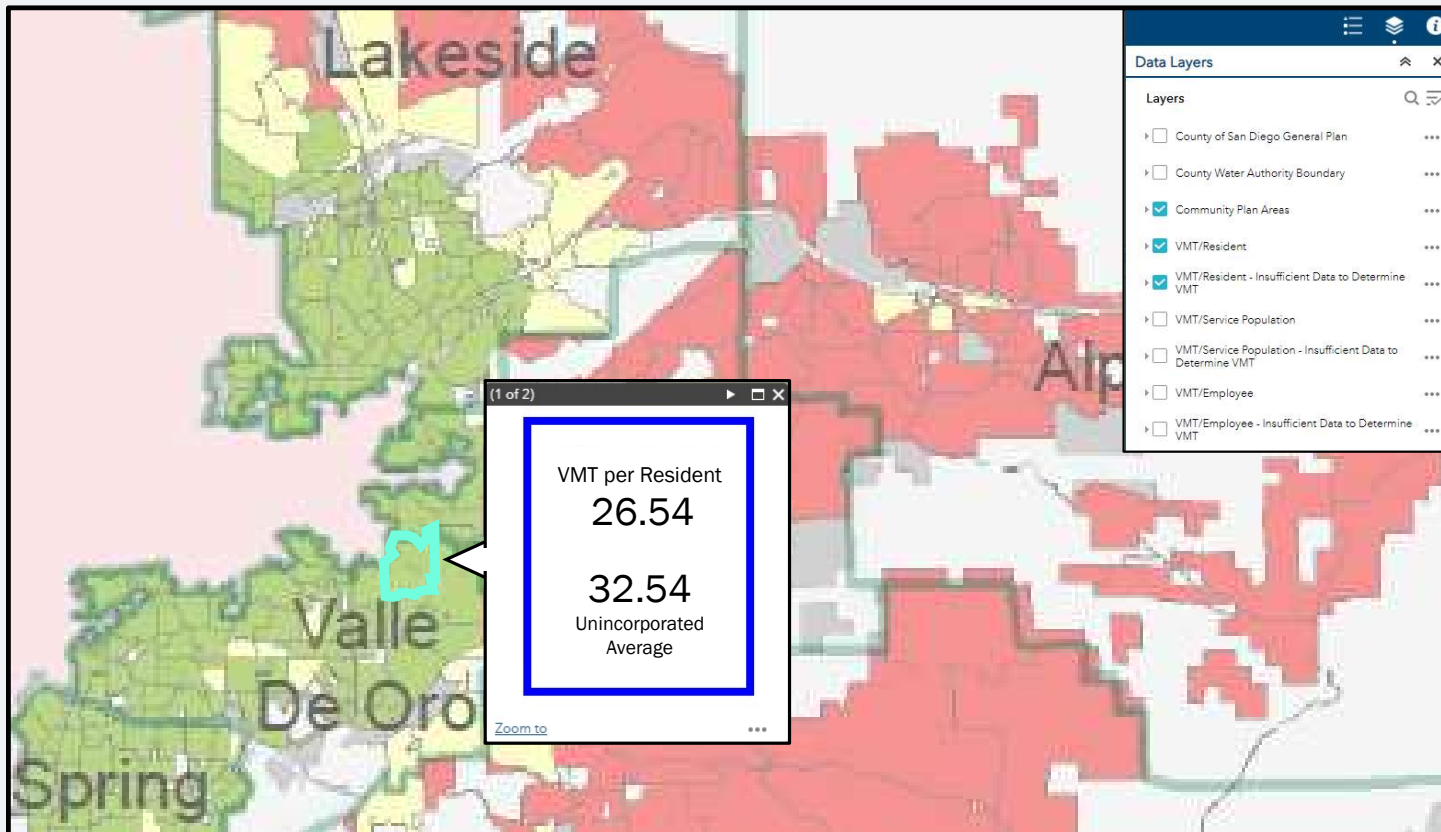
Projects with less  
than 200 ADT

### Local Mobility Analysis

Requirement for  
Local Mobility  
Analysis (LMA)  
outside of CEQA  
*(Board Adopted)*

No road operations  
analysis required

# County SB 743 Interactive Map



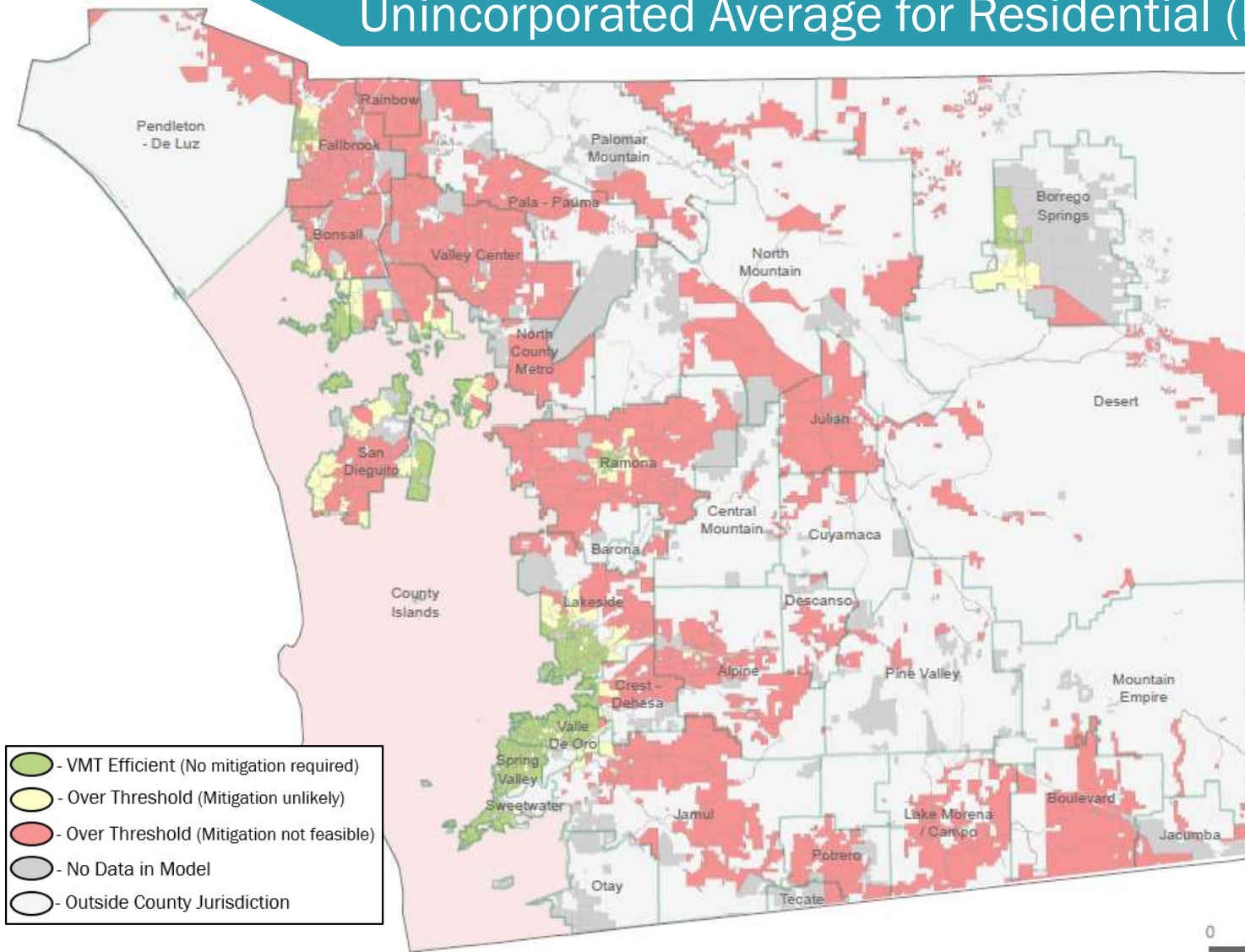
## Online Tool Available to the Public

- Determine a project's VMT
- Verify VMT Efficient Locations
- Screening Analysis

SB 743 Interactive Mapping Tool - <https://www.sandiegocounty.gov/content/sdc/pds/SB743.html>



## Unincorporated Average for Residential (Board Adopted)



### Vehicle Miles Traveled:

Average - 32.54 miles

Threshold - 27.66 miles (15% below Average)

### Efficient Area:

45,444 Acres

6.2% of Unincorporated County

### GP Dwelling Unit Capacity:

14,741 Units in Efficient Areas

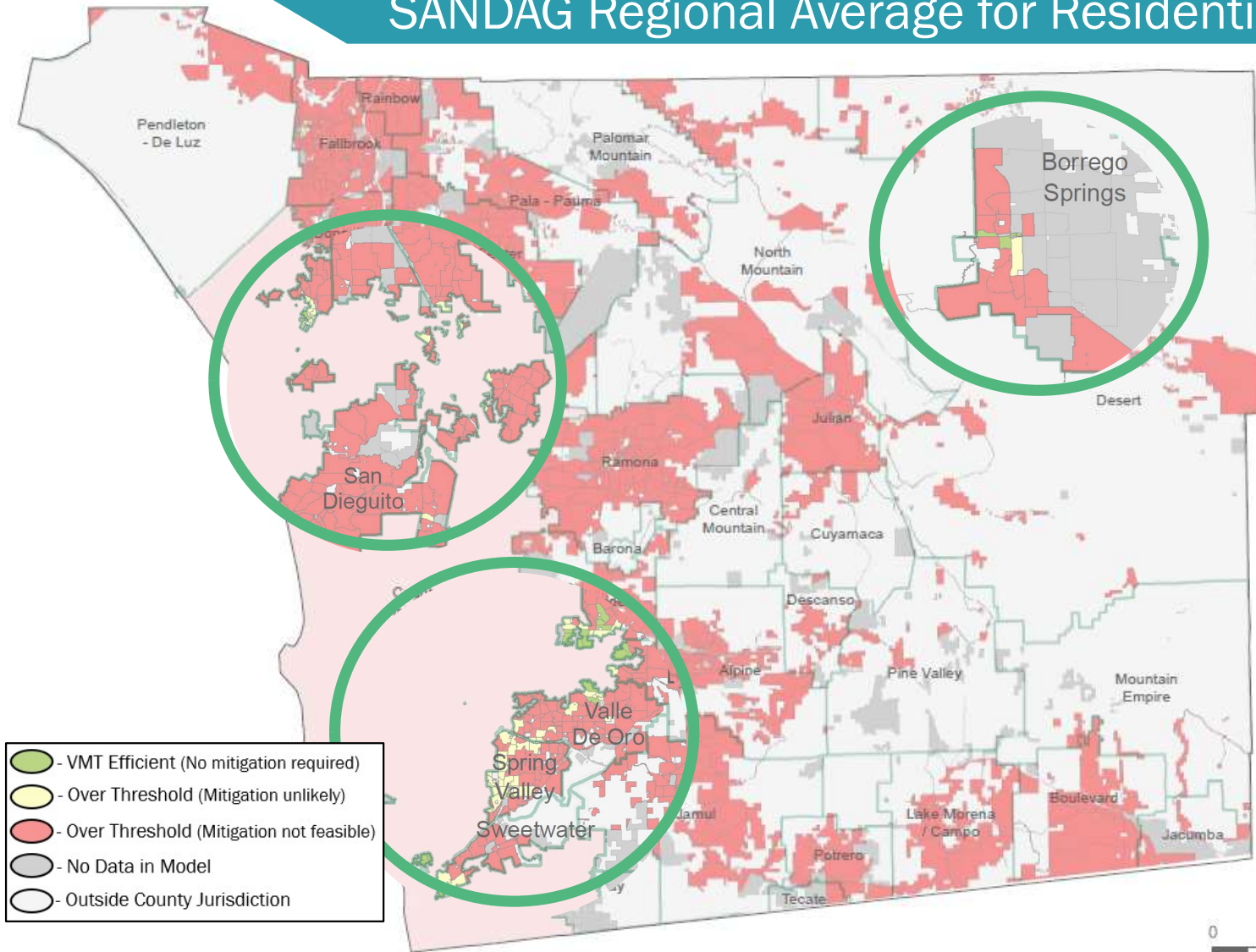
25.4% of Dwelling Unit Capacity

### RHNA Cycle 6 Allocation:

6,700 Total Dwelling Units

3,233 in Efficient Locations

## SANDAG Regional Average for Residential



### Vehicle Miles Traveled:

Average – 21.85 miles

Threshold – 18.57 miles (15% below Average)

### Efficient Area:

2,467 Acres

0.34% of Unincorporated County

### GP Dwelling Unit Capacity:

1,751 Units in Efficient Areas

3.0% of Dwelling Unit Capacity

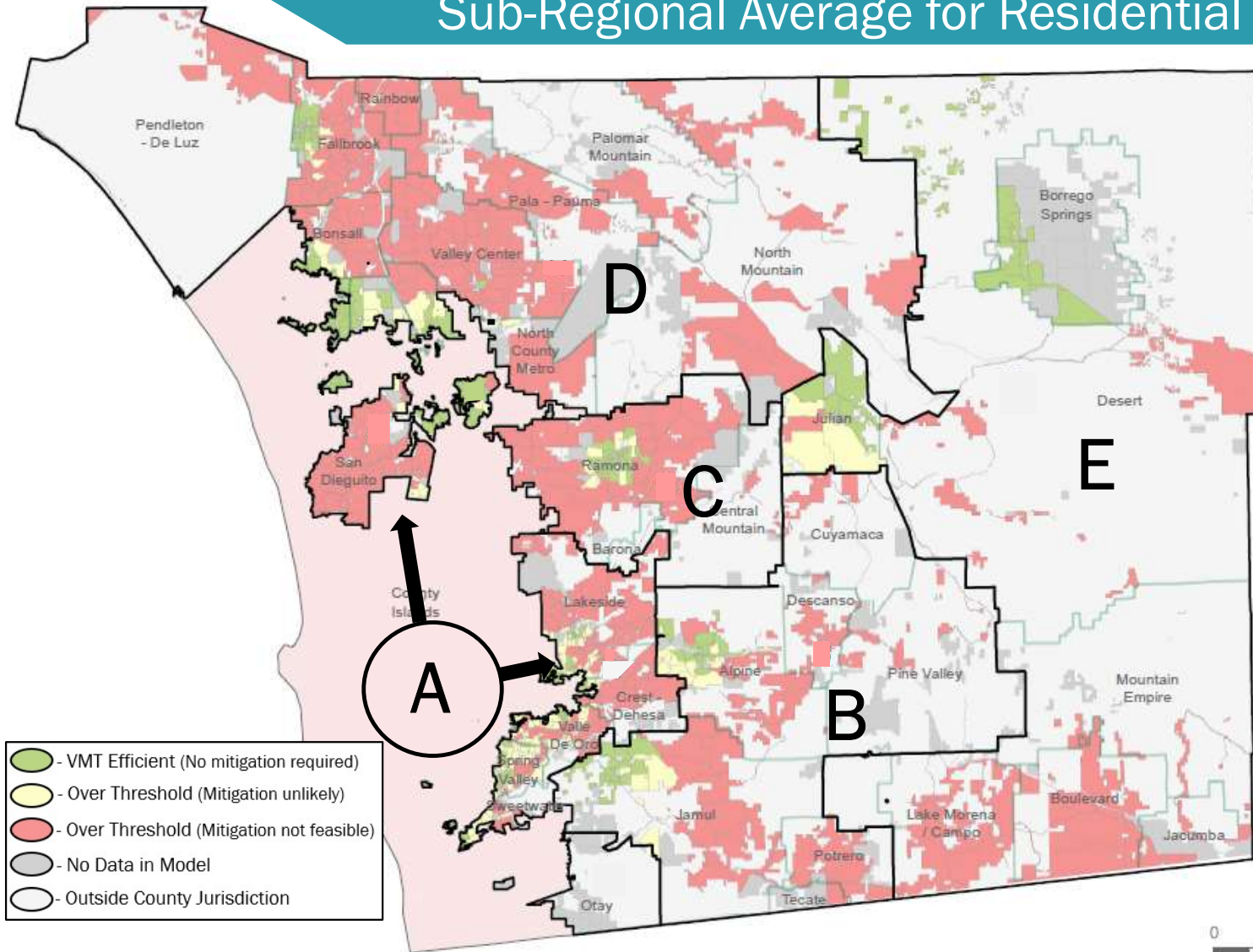
### RHNA Cycle 6 Allocation:

6,700 Total Dwelling Units

507 RHNA Units in Efficient Areas.



## Sub-Regional Average for Residential



### Average VMT:

- A) 24.52 Miles per Resident
- B) 46.91 Miles per Resident
- C) 38.35 Miles per Resident
- D) 37.57 Miles per Resident
- E) 58.04 Miles per Resident

Threshold = 15% below Average

### Efficient Area:

74,049 Acres

10.1% of Unincorporated County

### GP Dwelling Unit Capacity:

21,600 Units

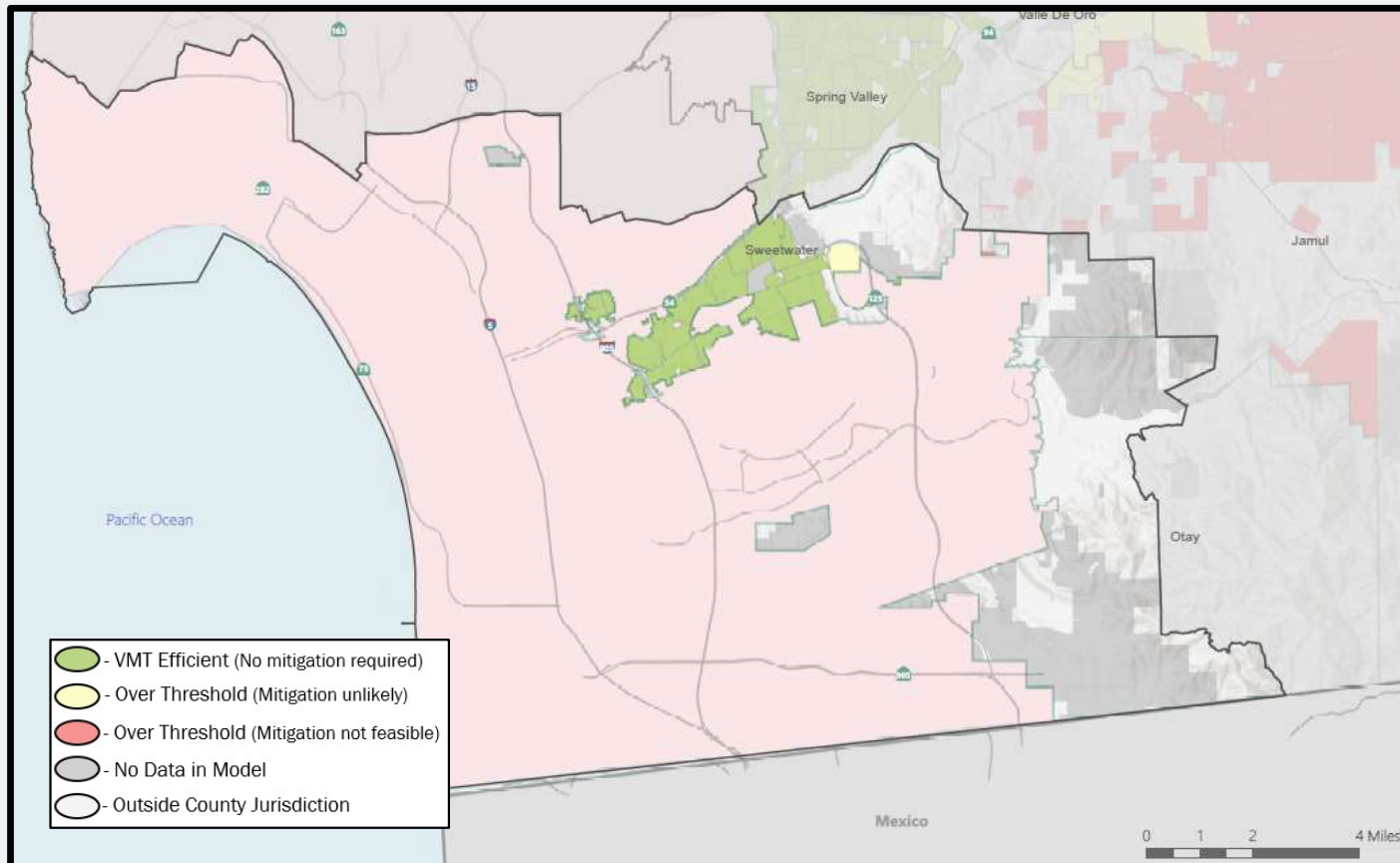
37.2% of Dwelling Unit Capacity

### RHNA Cycle 6 Allocation:

6,700 Units

3,089 in Efficient Areas

# District 1 – Unincorporated Average per Resident (Board Adopted)



## Vehicle Miles Traveled:

Average - 32.54 miles

Threshold – 27.66 miles

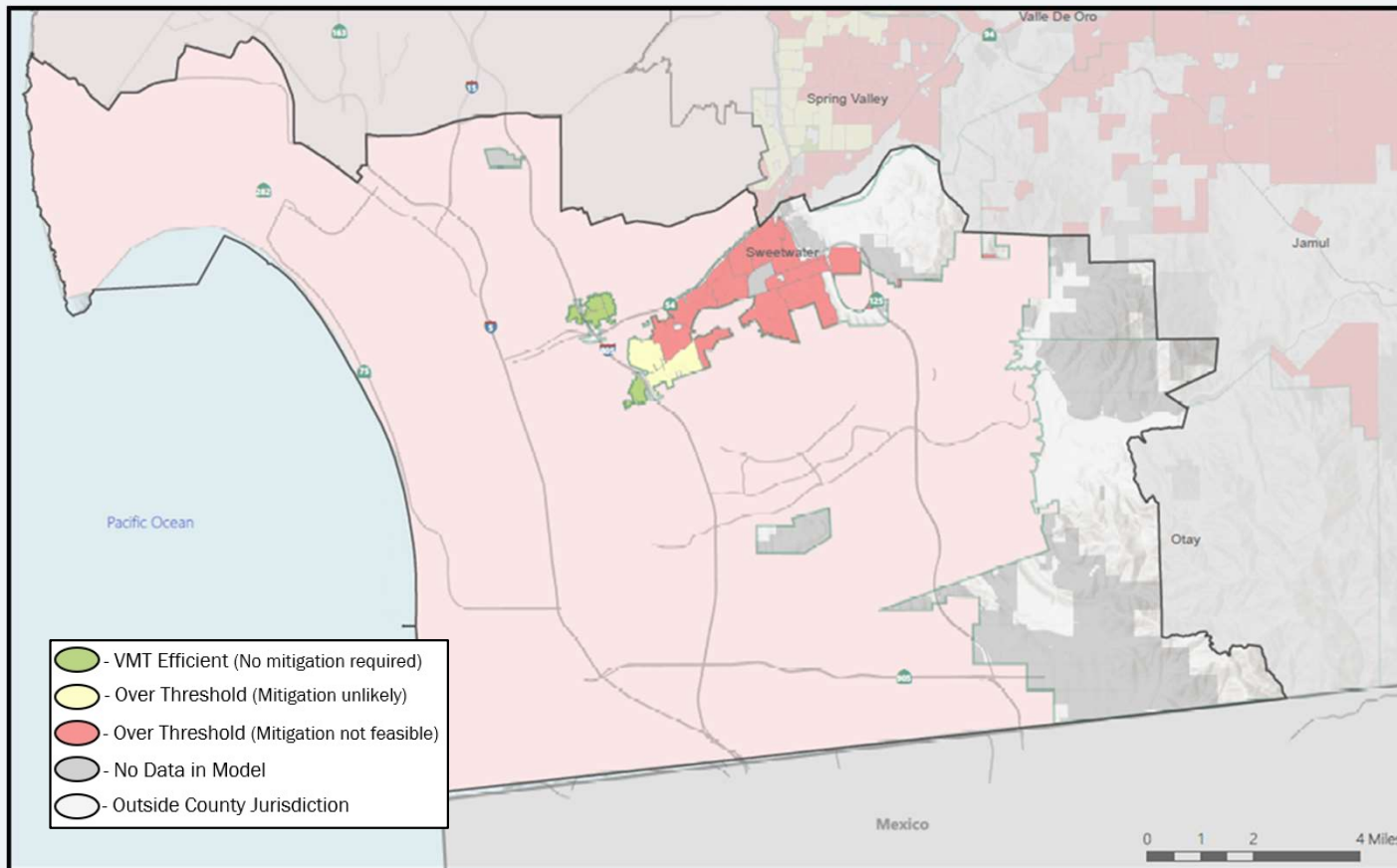
## Dwelling Unit Capacity:

755 Units in Efficient Areas

## RHNA Cycle 6:

180 in Efficient Areas

# District 1 – SANDAG Regional Average per Resident



## Vehicle Miles Traveled:

Average – 21.85 miles

Threshold – 18.57 miles

## Regional Average Dwelling Unit Capacity:

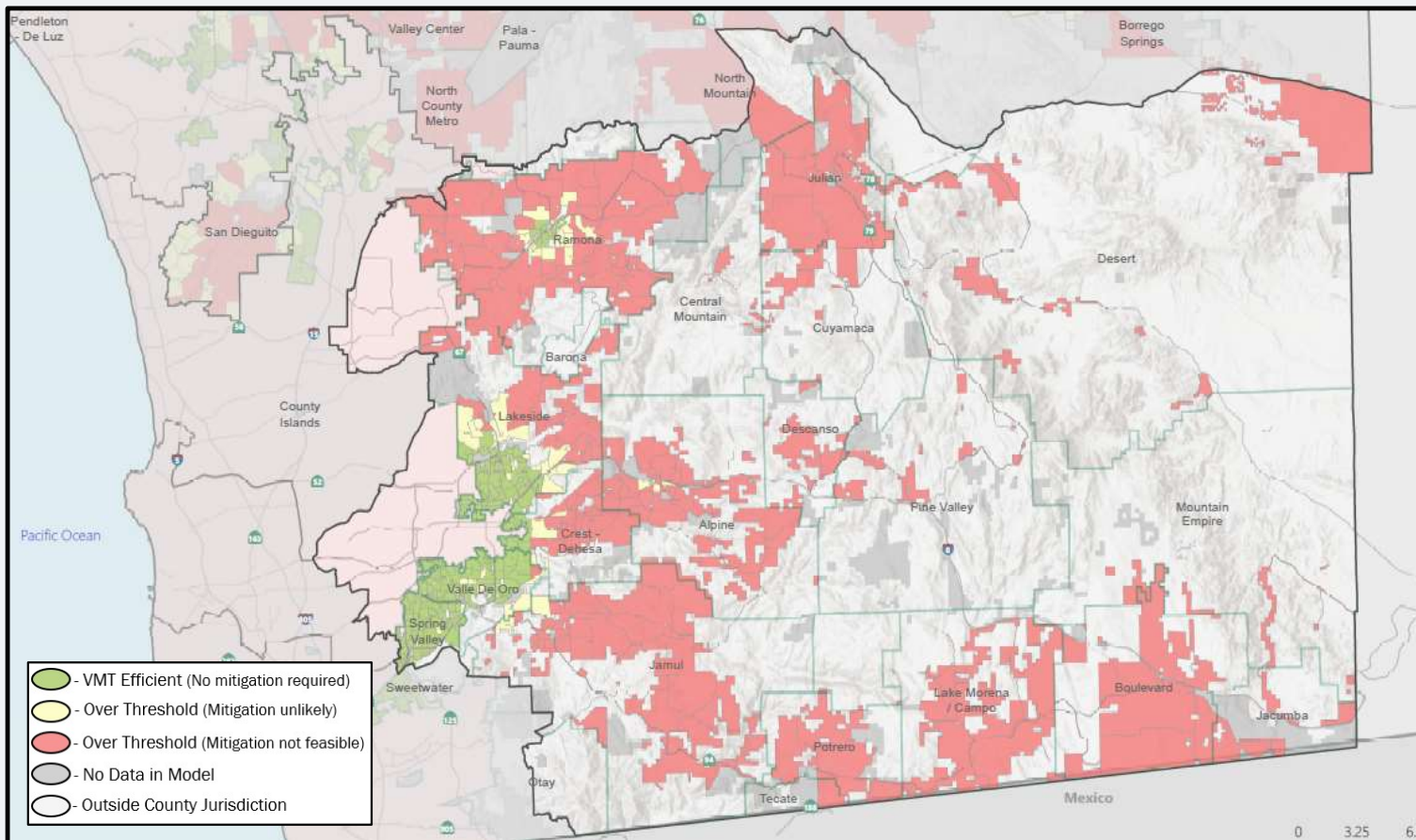
207 Units in Efficient Areas

## RHNA Cycle 6:

168 in Efficient Areas



# District 2 – Unincorporated Average per Resident (Board Adopted)



## Vehicle Miles Traveled:

Average - 32.54 miles

Threshold - 27.66

## Dwelling Unit Capacity:

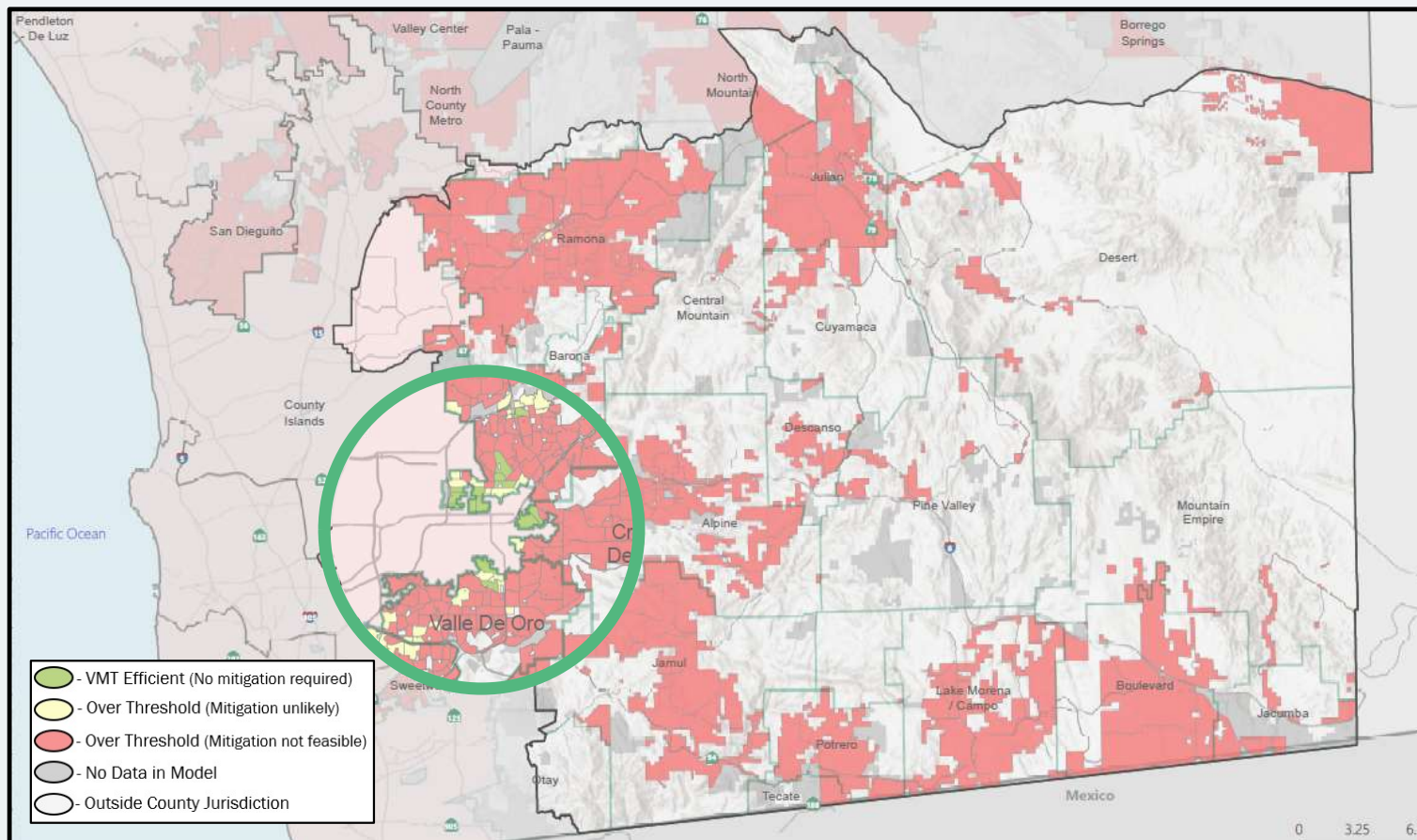
3,630 Units in Efficient Areas

## RHNA Cycle 6:

1,094 in Efficient Areas



# District 2 – SANDAG Regional Average per Resident



## Vehicle Miles Traveled:

Average – 21.85 miles

Threshold – 18.57 miles

## Regional Average

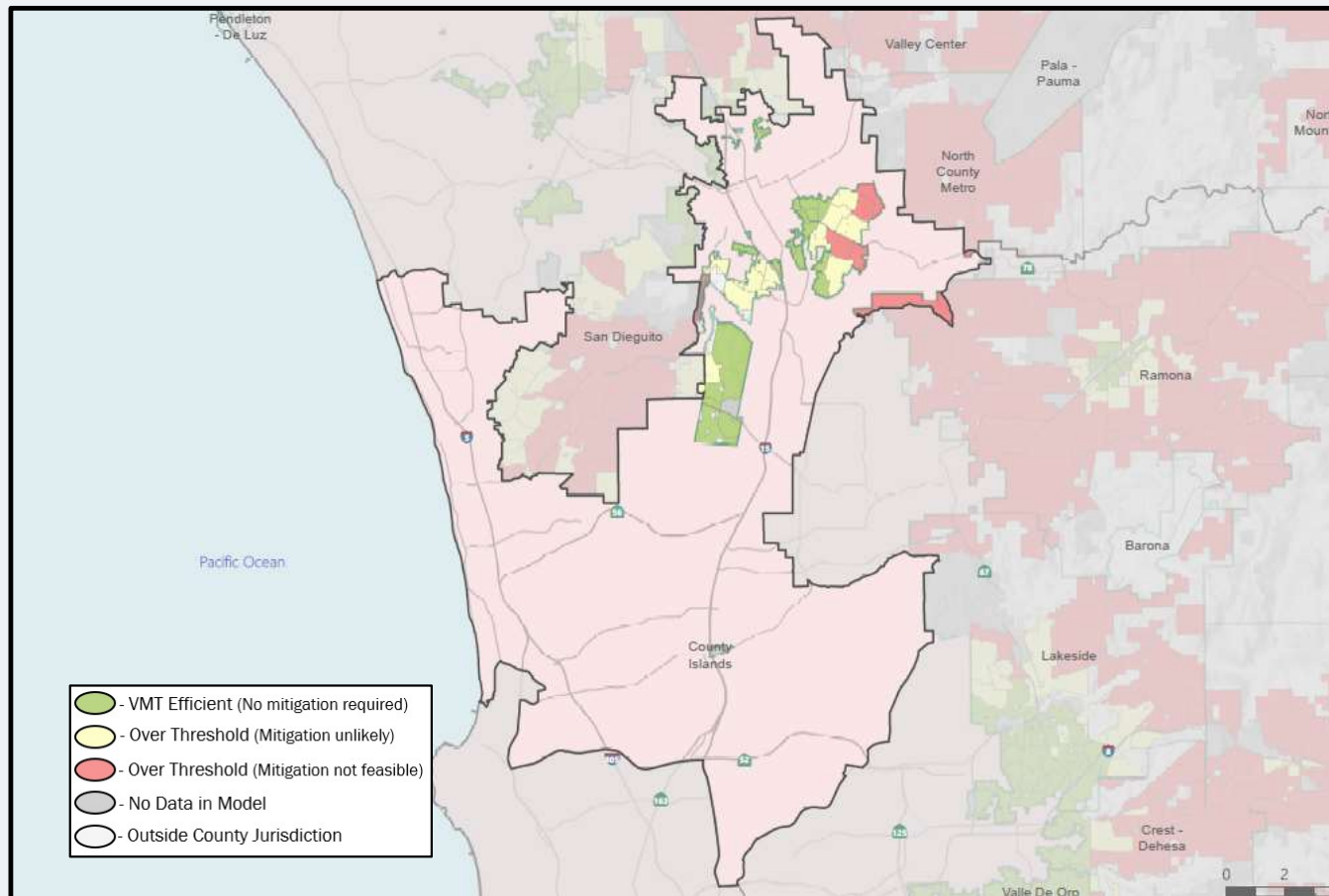
## Dwelling Unit Capacity:

325 Units in Efficient Areas

## RHNA Cycle 6:

170 in Efficient Areas

# District 3 – Unincorporated Average per Resident (Board Adopted)



## Vehicle Miles Traveled:

Average - 32.54 miles

Threshold - 27.66 miles

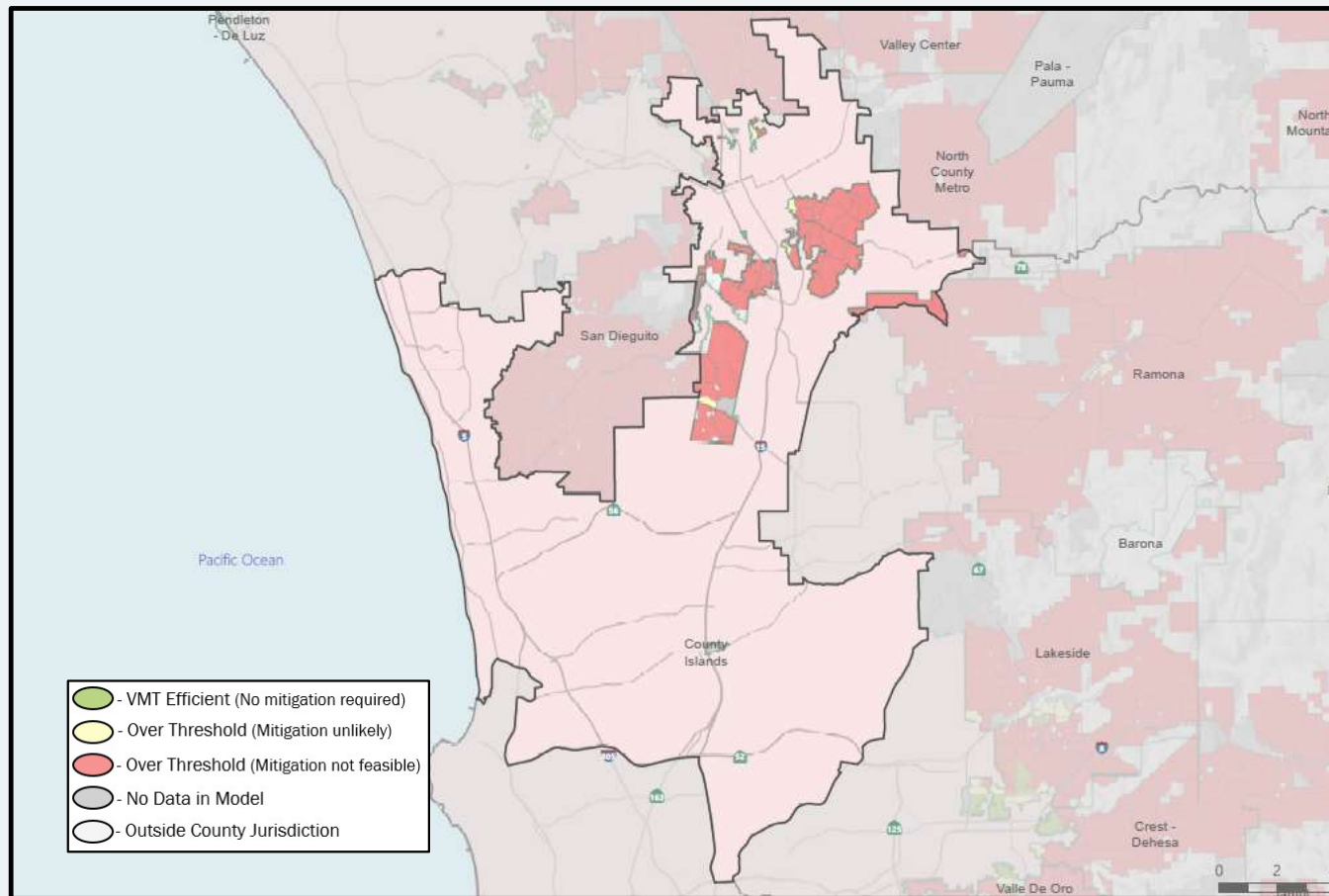
## Dwelling Unit Capacity:

1,354 Units in Efficient Areas

## RHNA Cycle 6:

163 in Efficient Areas

# District 3 – SANDAG Regional Average per Resident



## Vehicle Miles Traveled:

Average – 21.85 miles

Threshold – 18.57 miles

## GP Dwelling Unit Capacity:

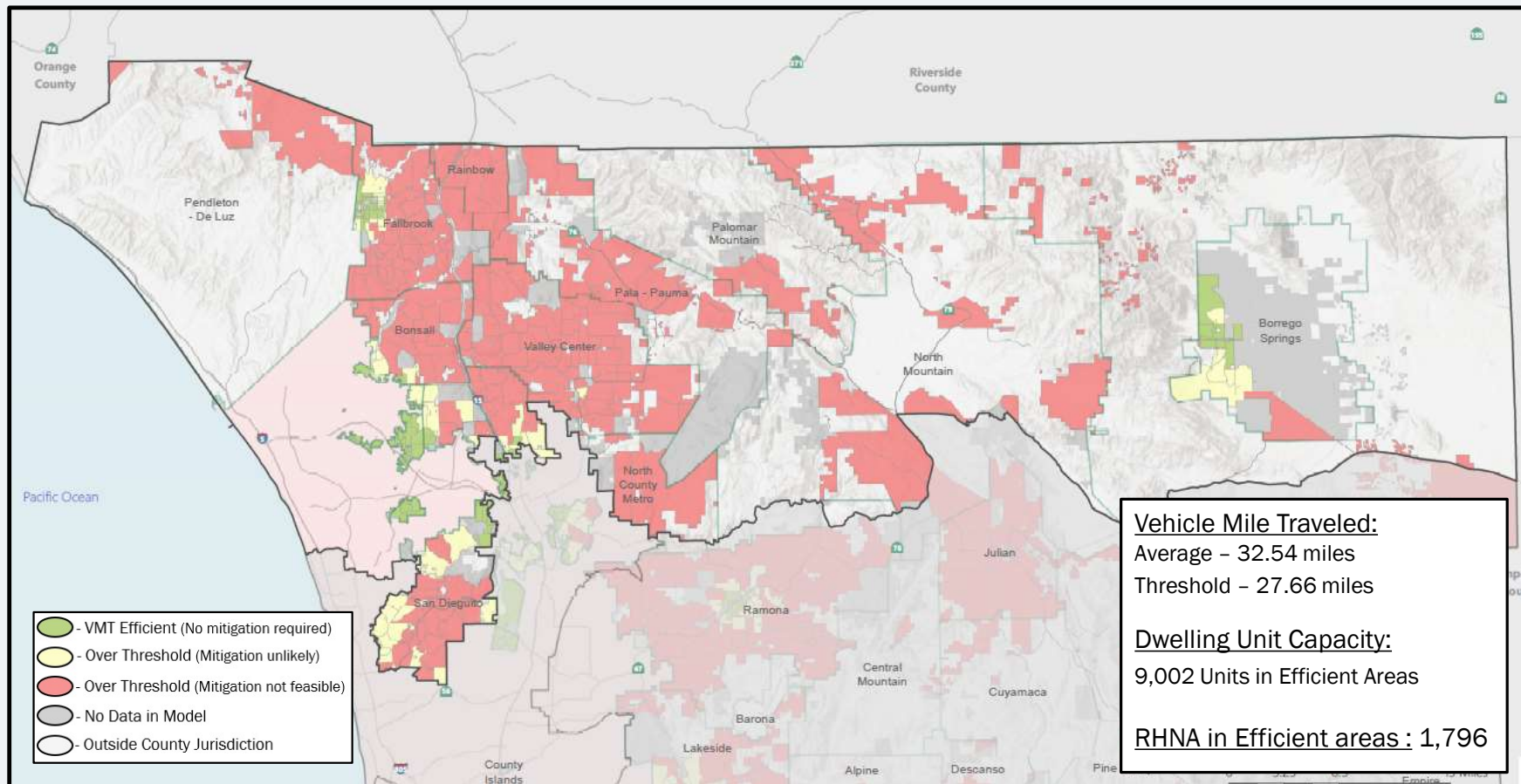
0 Units

## RHNA Cycle 6:

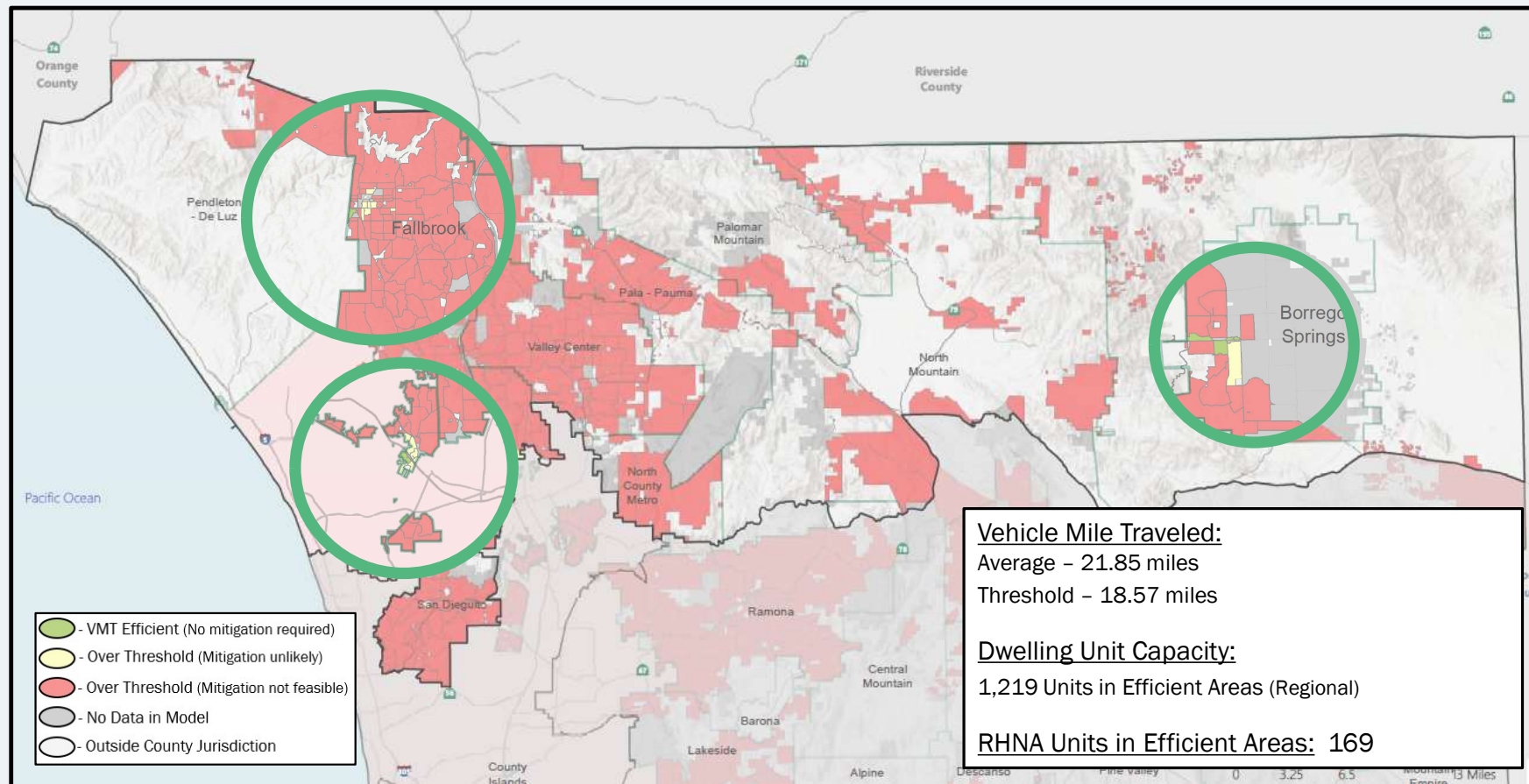
0 in Efficient Areas



# District 5 – Unincorporated Average per Resident (Board Adopted)



# District 5 – SANDAG Regional Average per Resident



## Summary Housing within VMT Efficient areas by Supervisorial District

District	1	2	3	4	5	Total
SANDAG Regional Average	207	325	0	0	1,219	1,751
Unincorporated Average	755	3,630	1,354	0	9,002	14,741
Sub-Regional Average	260	5,559	2,017	0	13,764	21,600

# Small Project Screening Options

## (Board adopted 110 ADT-OPR Recommended)

110 Daily Trips\*

- State OPR recommendation

200 Daily Trips

- Based on SANDAG trip rates

76 Daily Trips

- Urban trip length conversion using California Household Survey data

38 Daily Trips

- Minor subdivision

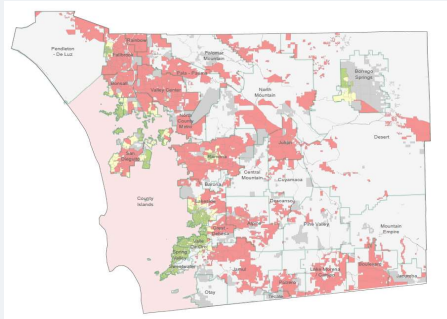
0 Daily Trips

- Remove small project screening

\* 1 Single Family Residence = 9.44 Average Daily Trips  
1 Multi-Family Residence = 7.32 Average Daily Trips



# VMT Project Screening Summary – No Further Analysis



Located in a VMT Efficient Area



Small Project (<110 ADT)



Locally Serving  
(retail, service, public facility)



Redevelopment With Greater  
VMT Efficiency



100% Affordable  
Housing Project



Location in a  
Transit Accessible Area

# “Other” Projects Subject to VMT



- Farms
- Ag Tourism Projects
- Renewable Energy Projects
- Wineries
- Regional Parks
- Campgrounds
- Mining Operations
- Special Event Facilities
- Cemeteries



# VMT Mitigation

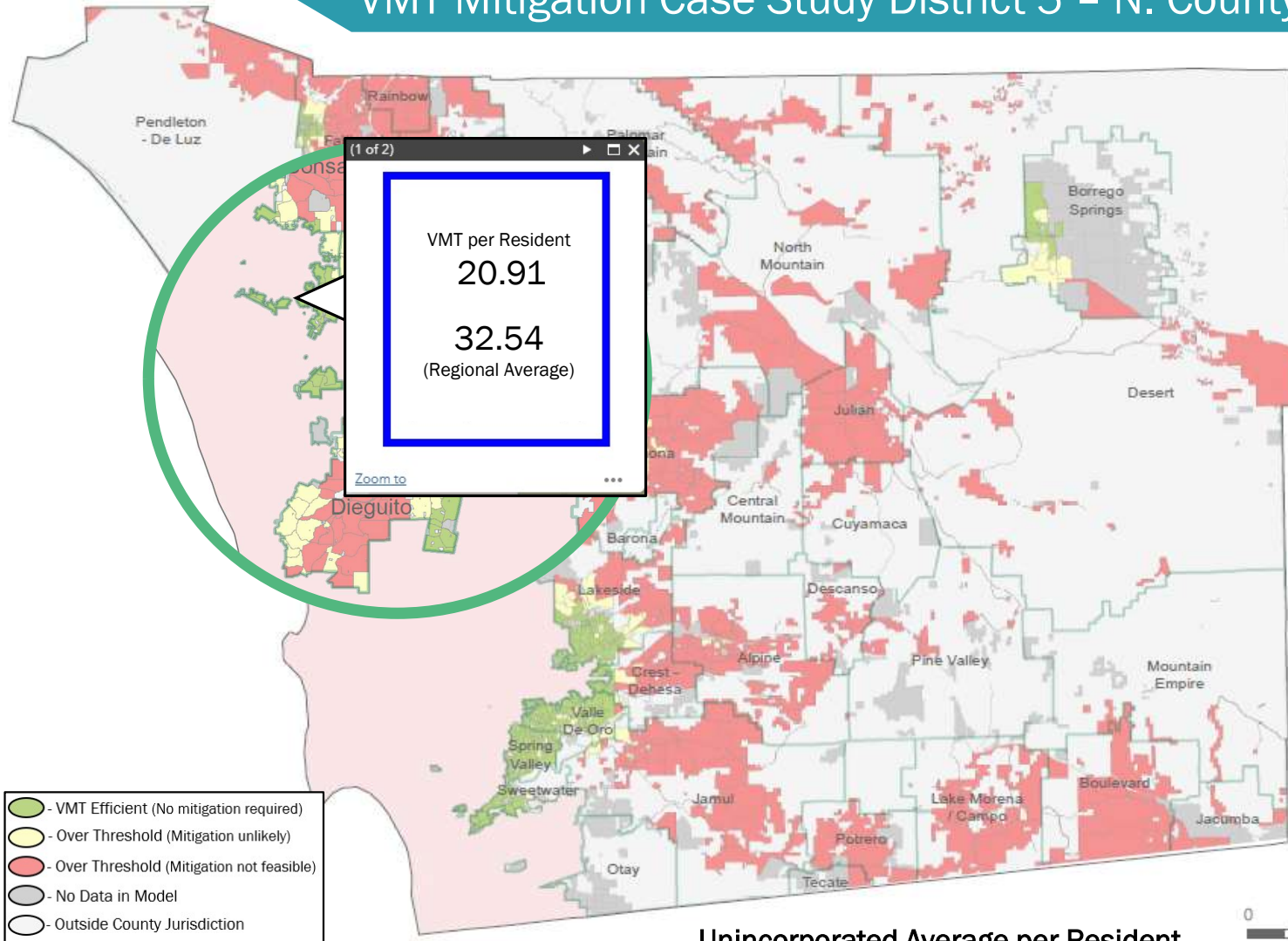
What VMT Mitigation IS.....



What VMT Mitigation is NOT.....



## VMT Mitigation Case Study District 5 – N. County Metro



Programmatic Mitigation Cost:  
\$10,000-\$22,000 per VMT

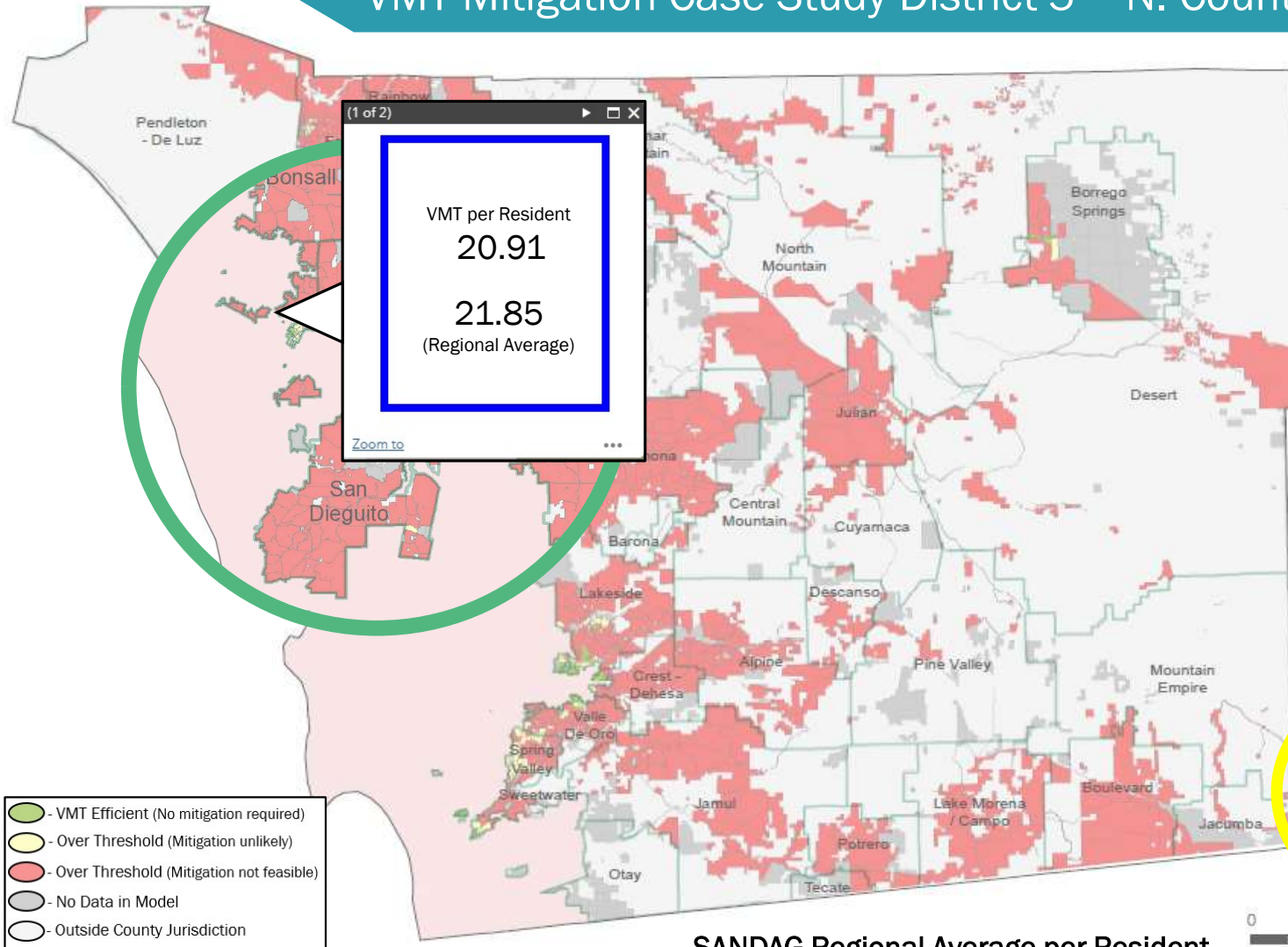
Project Description:  
62 Single Family Units  
CPA - North County Metro  
Village Designation

VMT Analysis:  
Threshold = 27.66 miles  
Project VMT = 20.91 miles  
Miles to Mitigate = 0.0

Mitigation Cost for  
Transportation Impacts:  
\$0.00 - Screened



## VMT Mitigation Case Study District 5 – N. County Metro



SANDAG Regional Average per Resident

Programmatic Mitigation Cost:  
\$10,000-\$22,000 per VMT

Project Description:  
62 Single Family Units  
CPA - North County Metro  
Village Designation

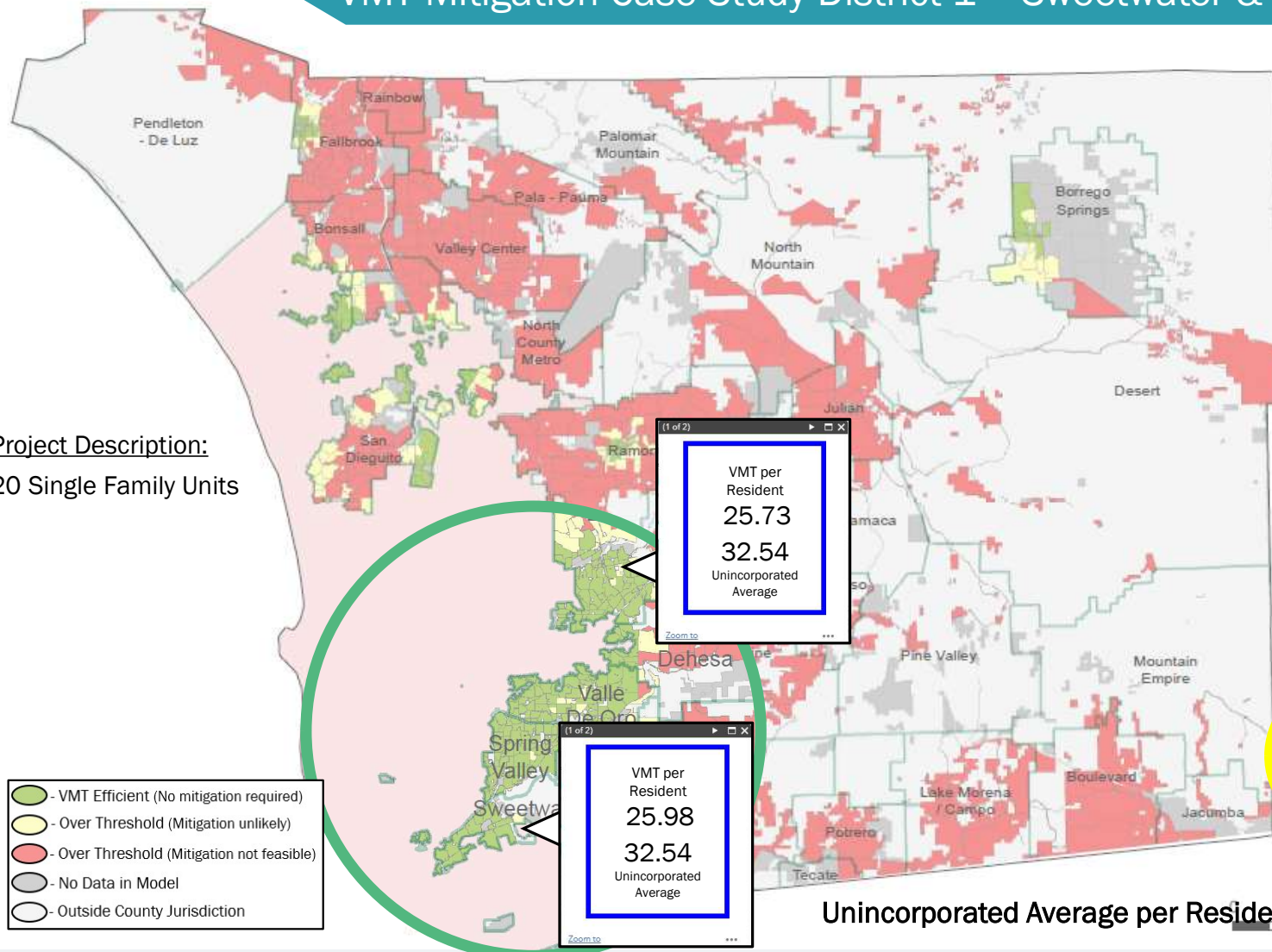
VMT Analysis:  
Threshold = 18.57 miles  
Project VMT = 20.91 miles  
Miles to Mitigate = 377.2

Mitigation Cost for  
Transportation Impacts:  
\$3,700,000 - \$8,300,000

Mitigation Cost per Home  
\$60,000 - \$130,000

## VMT Mitigation Case Study District 1 – Sweetwater & Lakeside

Project Description:  
20 Single Family Units

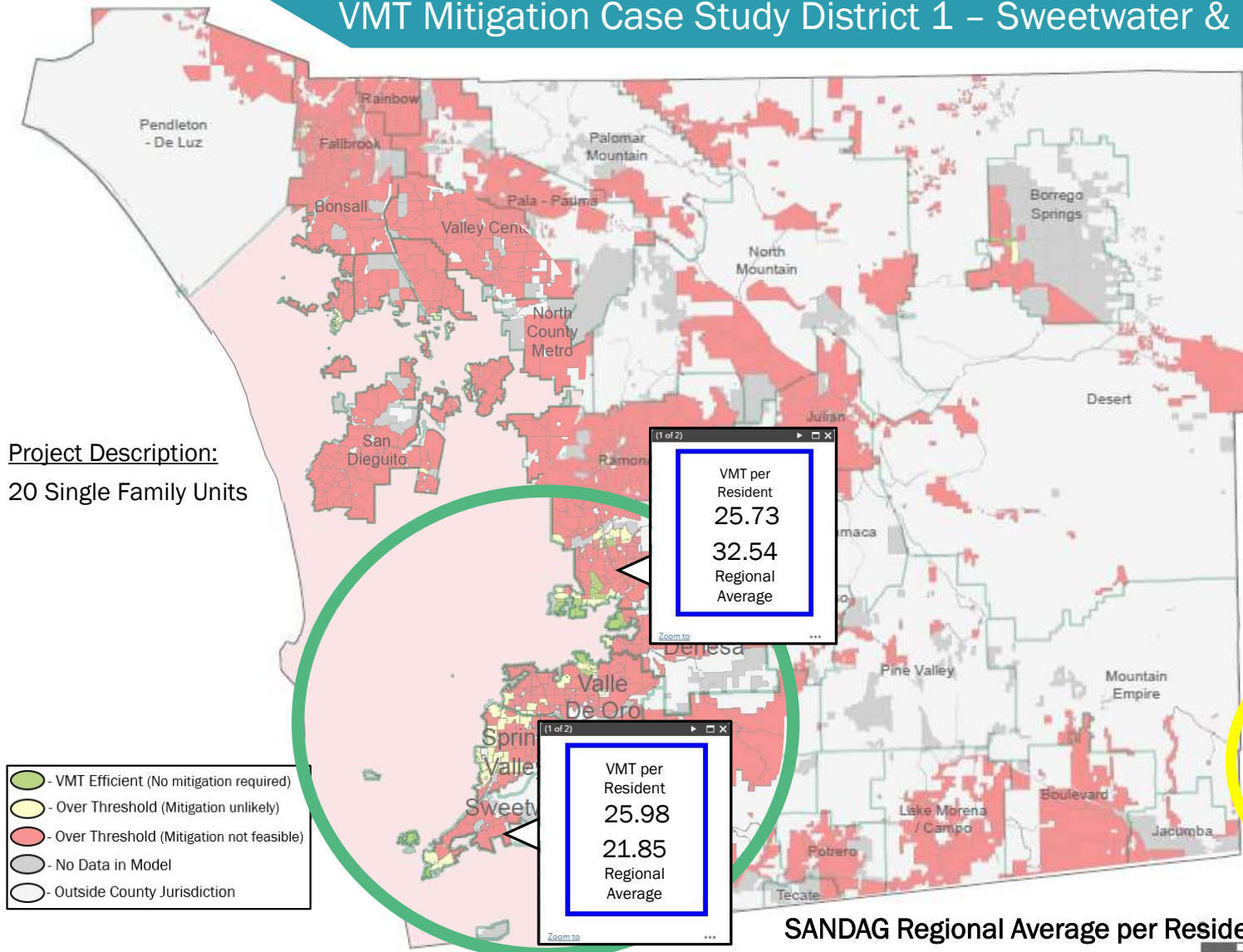


Programmatic Mitigation Cost:  
\$10,000-\$22,000 per VMT

VMT Analysis:  
Threshold = 27.66 miles  
Sweetwater Project VMT = 25.98 miles  
Lakeside Project VMT = 25.73 miles

Mitigation Cost for Transportation Impacts:  
\$0.00 Screened

## VMT Mitigation Case Study District 1 – Sweetwater & Lakeside



**Programmatic Mitigation Cost:**  
\$10,000-\$22,000 per VMT

**VMT Analysis:**  
Threshold = 18.57 miles  
Sweetwater Project VMT = 25.98 miles  
Lakeside Project VMT = 25.73 miles  
Miles to Mitigate = 372 to 385

**Project Mitigation Cost for Transportation Impacts:**  
\$3,700,000 – \$8,500,000  
**Mitigation Cost per Home**  
\$190,000 – \$425,000

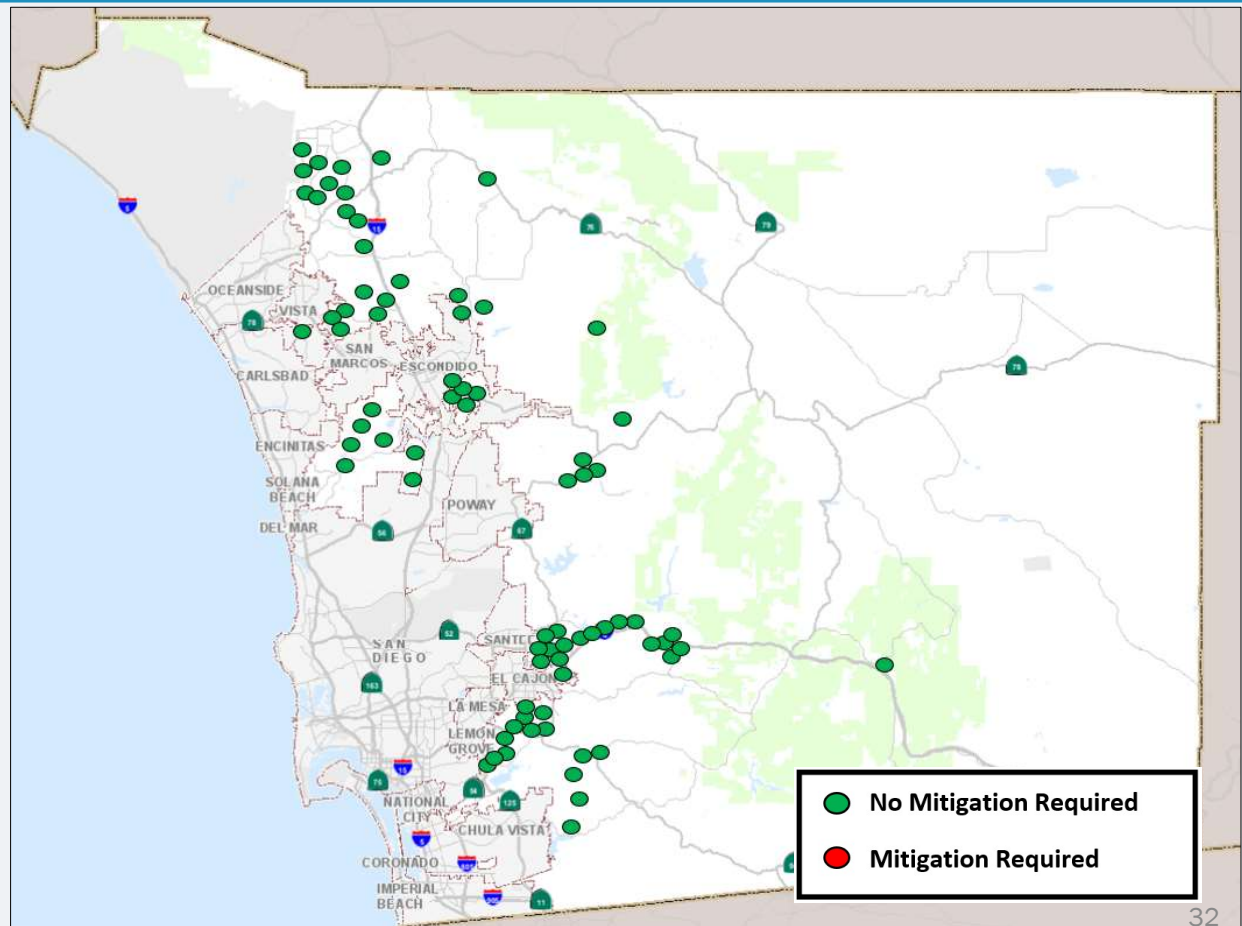


# Approved Residential Projects 2013-2020 Comparative Analysis

2013-2020

76 Approved Projects

6,803 units



# Approved Residential Projects 2013-2020 Comparative Analysis

# 2013-2020

## 76 Approved Projects

6,803 units

## Adopted VMT Guidelines

### Less than Significant Impacts

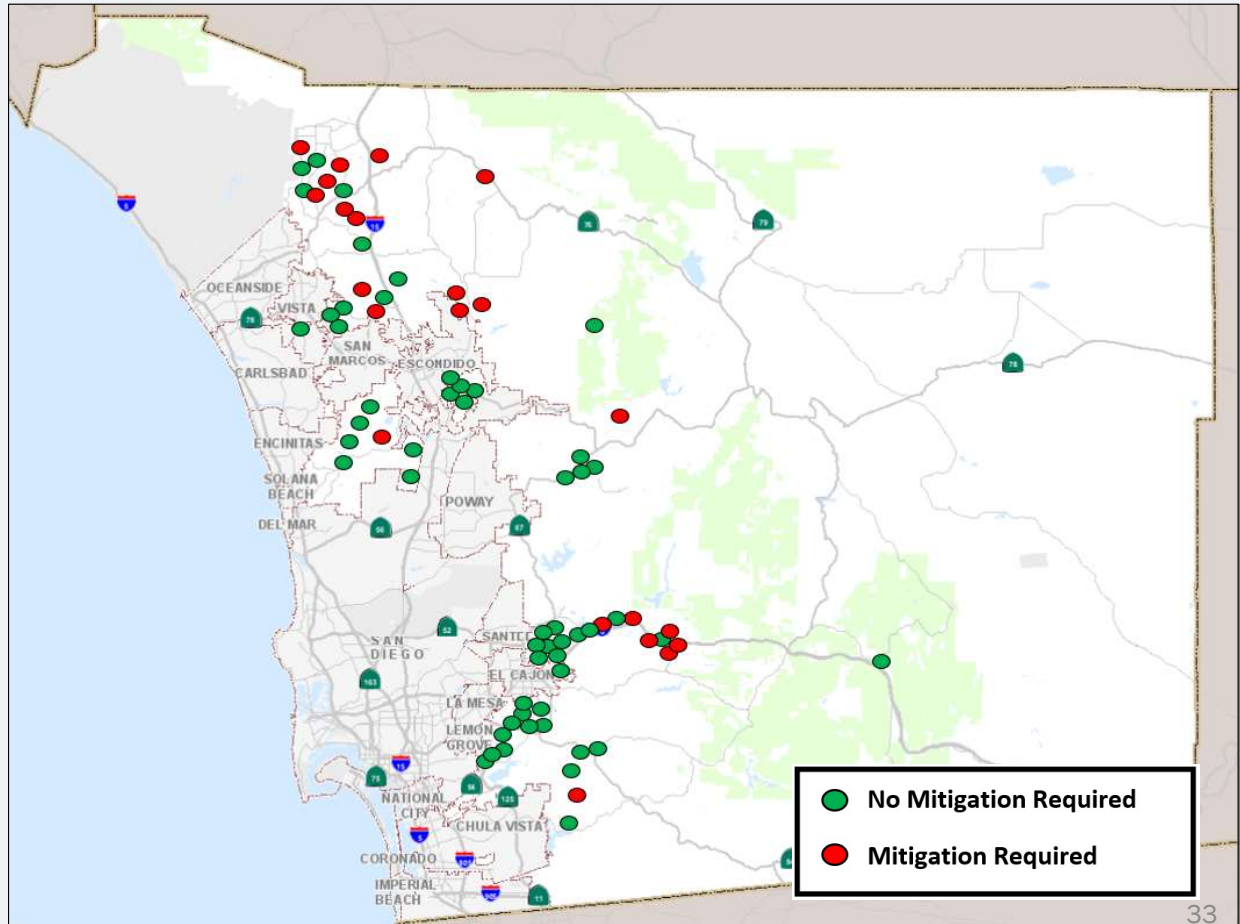
54 projects

3,883 units

### Likely Significant and Unmitigable Impacts

22 projects

2,920 units



# Approved Residential Projects 2013-2020 Comparative Analysis

2013-2020

76 Approved Projects

6,803 units

Regional Average  
w/Small Project Screening

Less than Significant Impacts

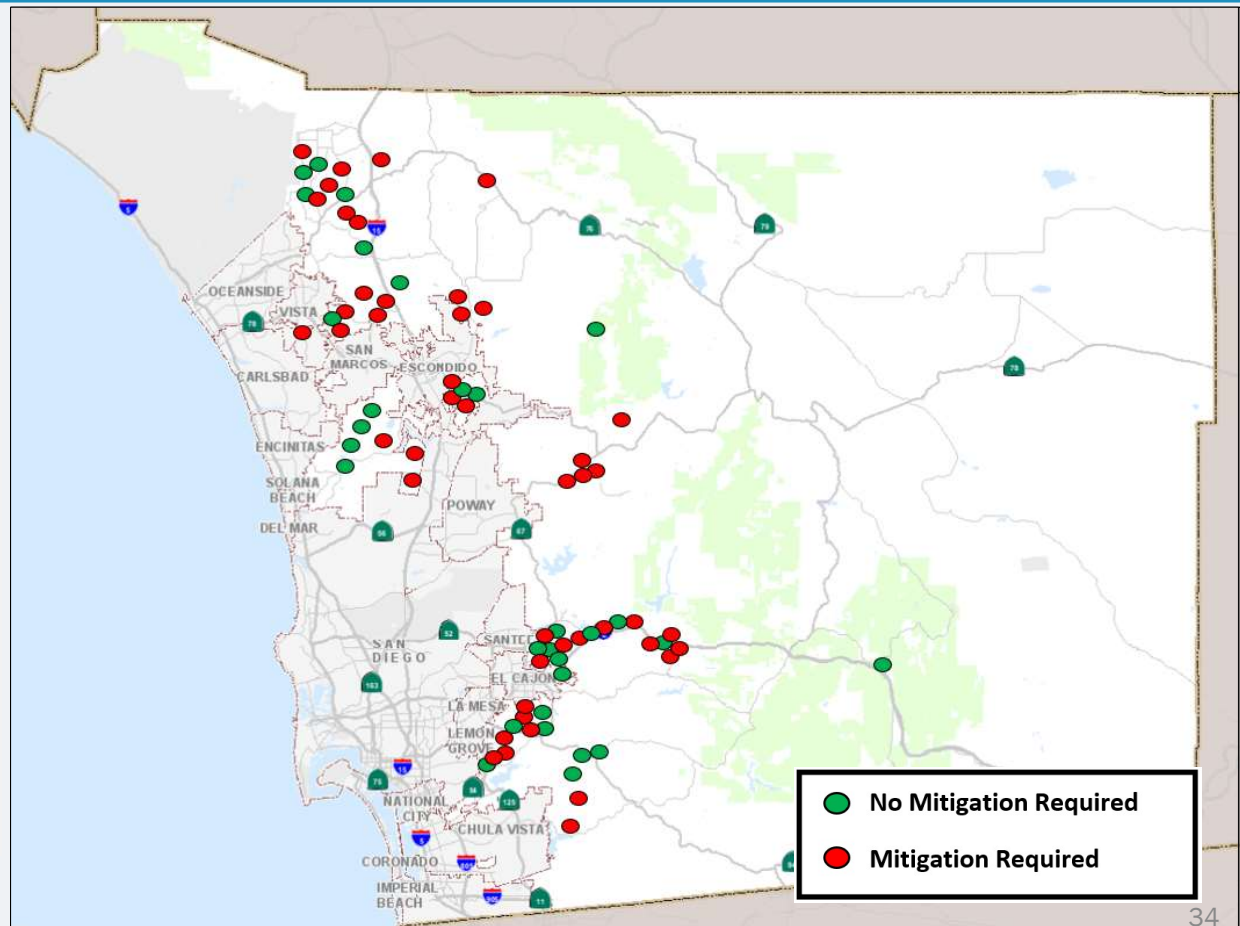
29 projects

97 units

Likely Significant and Unmitigable  
Impacts

47 projects

6,706 units



# Approved Residential Projects 2013-2020 Comparative Analysis

2013-2020

76 Approved Projects

6,803 units

**Regional Average  
Without Small Project Screening**

Less than Significant Impacts

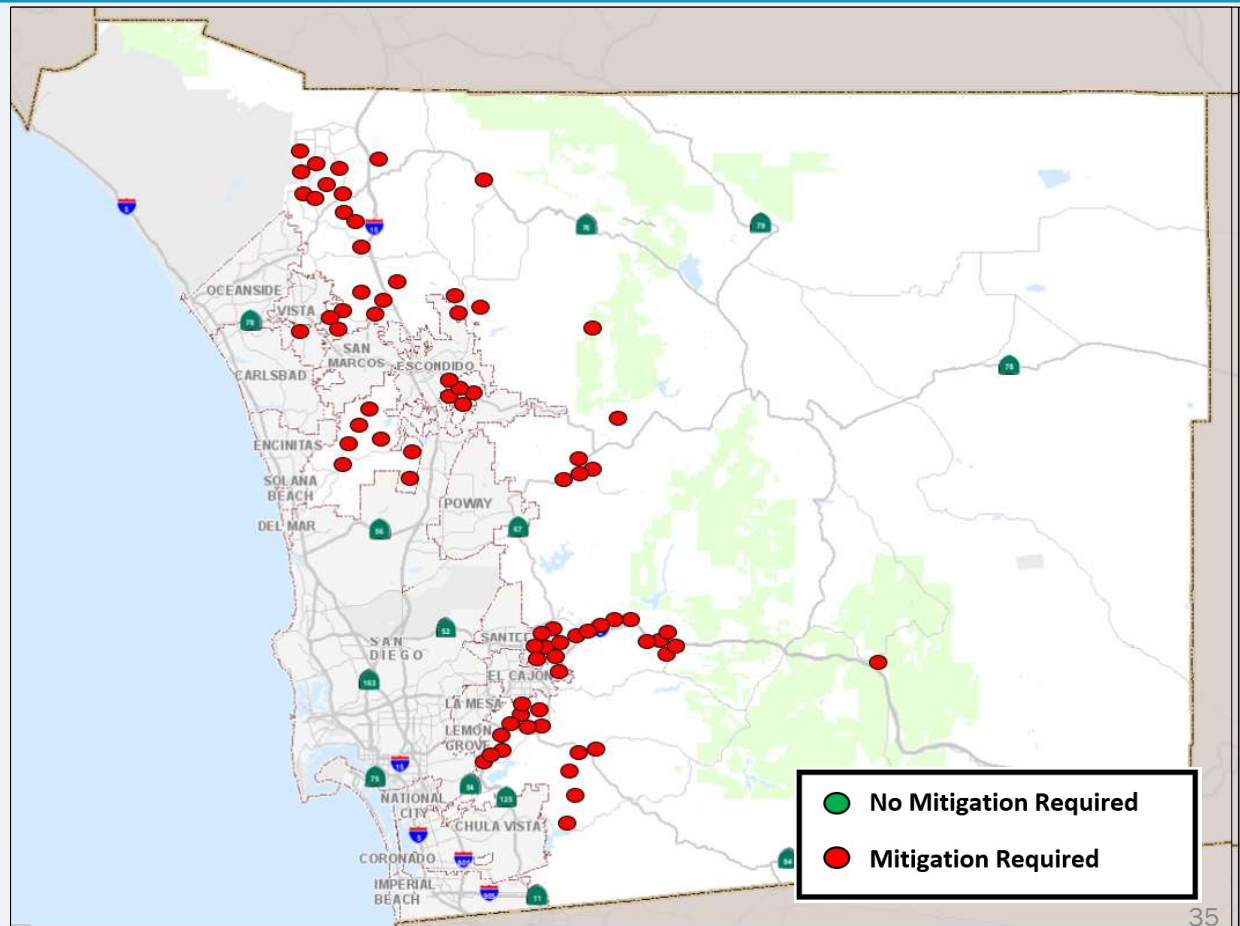
0 projects

0 units

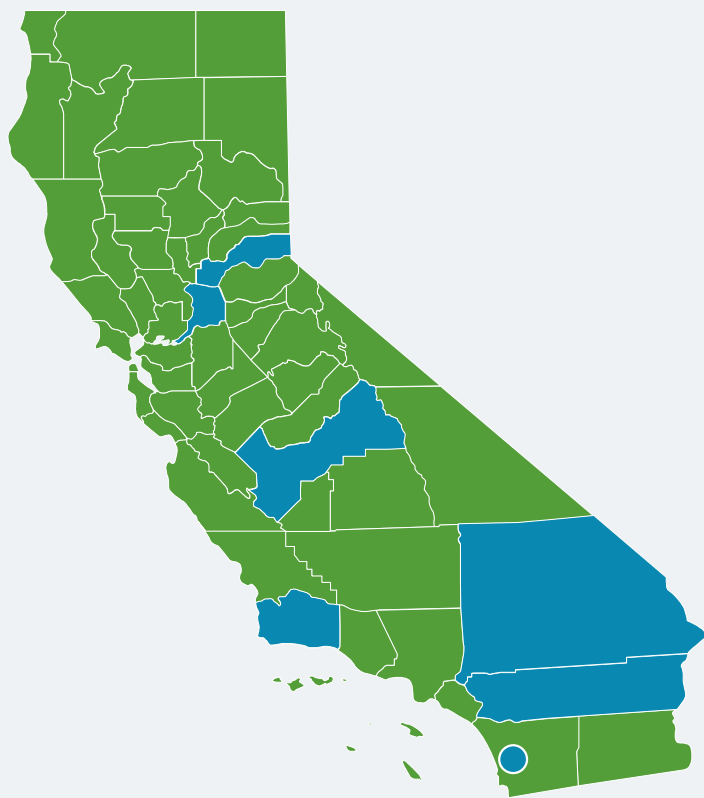
Likely Significant and Unmitigable  
Impacts

76 projects

6,803 units



# What did other jurisdictions do?



Jurisdiction	Threshold Geography	Threshold for VMT Generated	Small Project Screening
City of San Diego	Regional Average	15% below existing average	300 trips/day
Riverside County	Countywide	Existing average by land use type	3000 MTCO <sup>2</sup> e per year or 110 trips/day
Santa Barbara County	Unincorporated County	15% below existing average	110 trips/ day
Placer County	Unincorporated County	15% below existing average	880 VMT / day
Sacramento County	Regional Average	15% below existing average	237 trips / day
San Bernardino County	Unincorporated County	4% below existing average	110 trips /day
Fresno County	Unincorporated (Residential) County (Commercial)	15% below existing average	500 trips / day

# Public Outreach

*Prior to July 1, 2020 Implementation of SB 743*



## Planning Commission

April 3, 2020  
*Introductory Presentation*

May 15, 2020  
*Implementation Options*



## Community Planning and Sponsor Groups



## Land Development Industry Groups



## Environmental Groups



## Public Webinars

May 6, 2020  
May 20, 2020



# Public Outreach

*Prior to 2021 Update to the Board*

## Outreach Effort



Stakeholder  
Discussions  
April/May 2021



Public Meeting  
April 22, 2021

## Public Comments



Implications and costs for  
development and housing



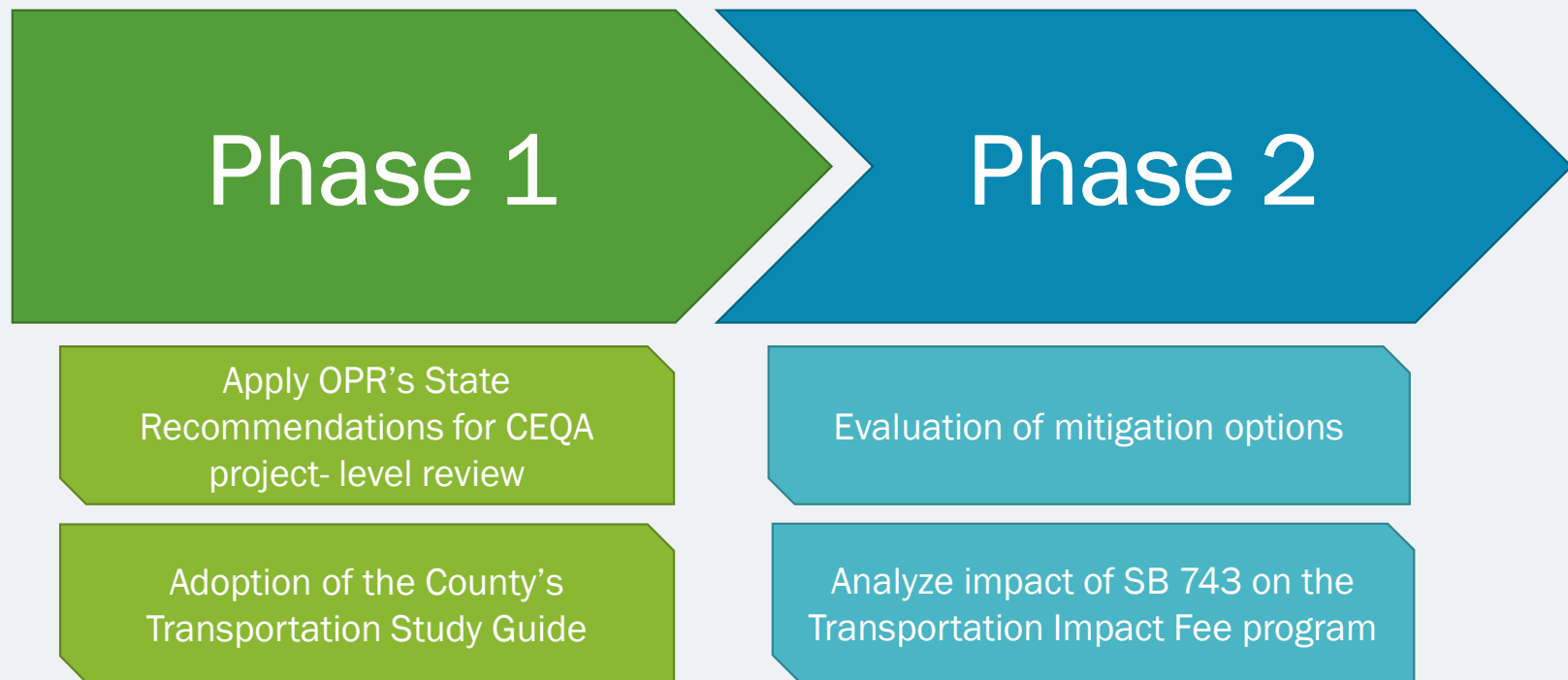
Relationship of VMT to GHG  
Reductions and meeting  
climate action goals



Impacts to specific  
industries



# SB 743 Implementation & “Phase 2”



# Board Options

## Geographic Area (Average VMT)

Unincorporated  
County only

San Diego (SANDAG)  
region

Five sub-regions  
within the  
Unincorporated  
County

## Significance Threshold

15% below the  
adopted geographic  
boundary average

5% or 10% below the  
geographic boundary  
average

## Small-Project Screening Criteria

Projects with less  
than 110 ADT

Projects with less  
than 200 ADT

Projects with another  
ADT

## Local Mobility Analysis

Requirement for  
Local Mobility  
Analysis (LMA)  
outside of CEQA

No road operations  
analysis required

# Staff Recommendations

**Find that  
today's actions  
are exempt  
from CEQA**

*Pursuant to section  
15061(b)(3) and  
15378(b)(5)*

## Provide direction to staff

on options to implement analysis of transportation impacts using VMT:

### Geographic Area (Average VMT)

Unincorporated  
County only

San Diego  
(SANDAG) region

Five sub-regions  
within the  
Unincorporated  
County

### Significance Threshold

15% below the  
adopted  
geographic  
boundary average

Less than 5% and  
10% below the  
geographic  
boundary average

### Small-Project Screening Criteria

Projects with less  
than 110 ADT

Projects with less  
than 200 ADT

Projects with  
another ADT

### Local Mobility Analysis

Requirement for  
Local Mobility  
Analysis (LMA)  
outside of CEQA

No road  
operations  
analysis required



County of San Diego

# Update on Implementing Vehicle Miles Traveled Analysis in the Unincorporated Region

Board of Supervisors

May 19, 2021

Item #1