

# GHG, VMT, and New Thinking in the Time of Climate Change

Rod Brown, AICP, PTP  
October 17, 2019

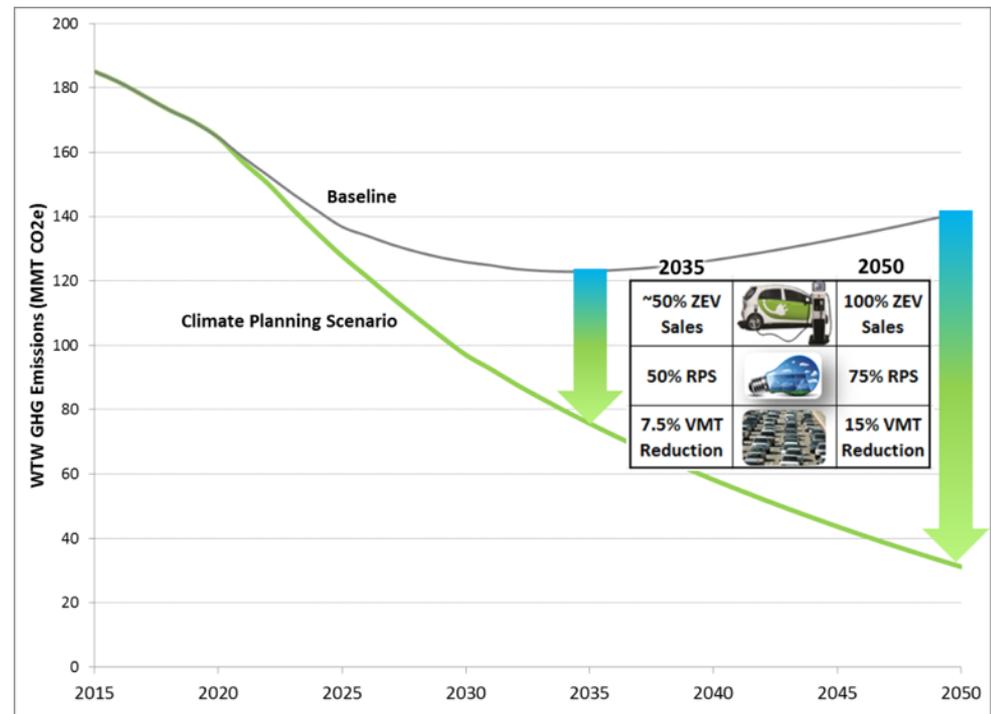


# Agenda

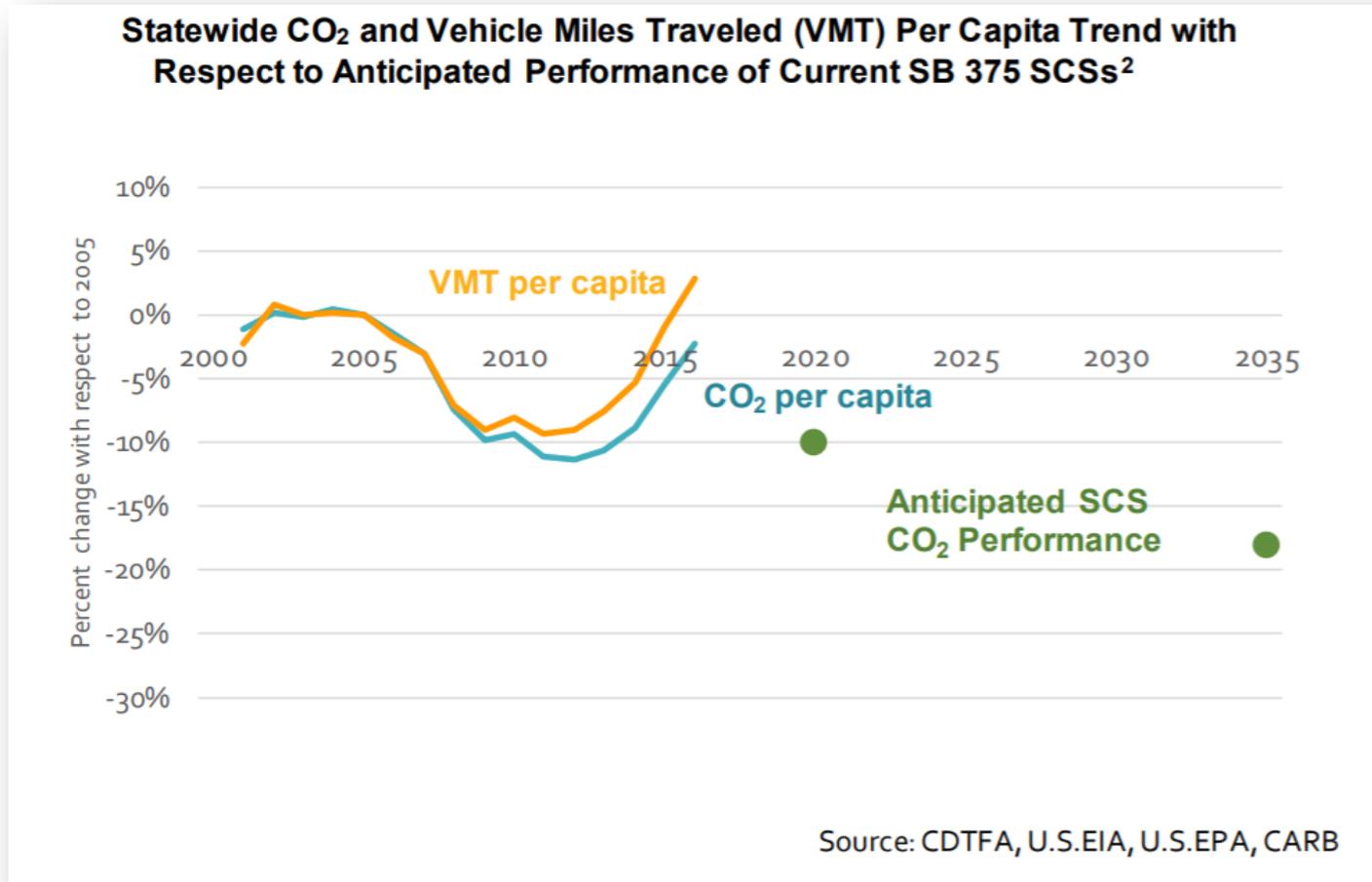
- How California regulation is addressing climate change
- What is SB 743?
- What communities need to do to implement SB 743
- Related challenges affecting mountain and resort towns
- Group discussion

# California Greenhouse Gas Emissions Goals

- **2006: AB 32:** Below 1990 levels by 2020
- **2008: SB 375** instructed California Air Resources Board to set emissions reduction targets for each region and MPOs to create Sustainable Communities Strategies
- **2012: Exec. Order B-16-12:** 80% below 1990 levels by 2050
- **2016: SB 32:** 40% below 1990 levels by 2030



# How are we doing?



# What is needed?

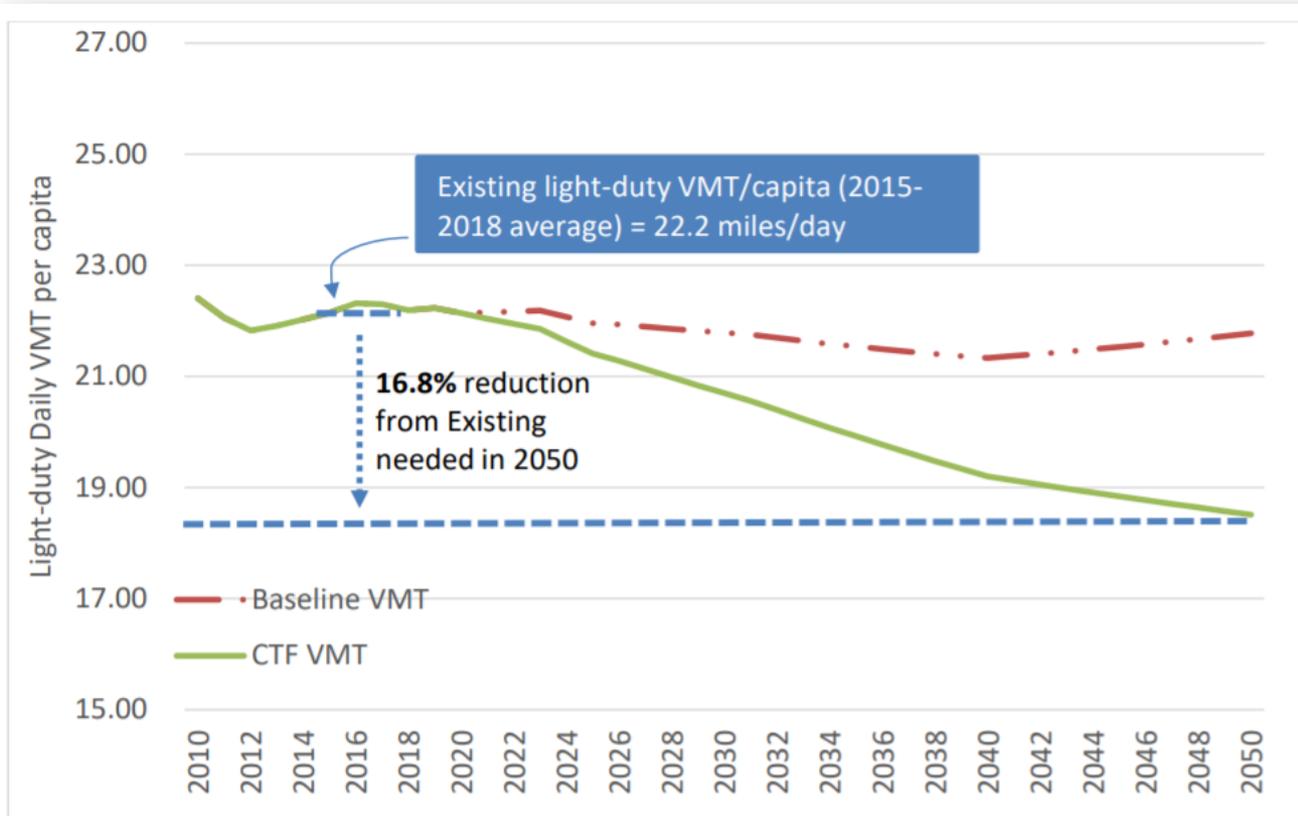


Figure 3: California Light-Duty VMT Per Capita

# California Senate Bill 743

- Legislative intent
  - Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns, continue to be properly addressed and mitigated through the California Environmental Quality Act.
  - More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

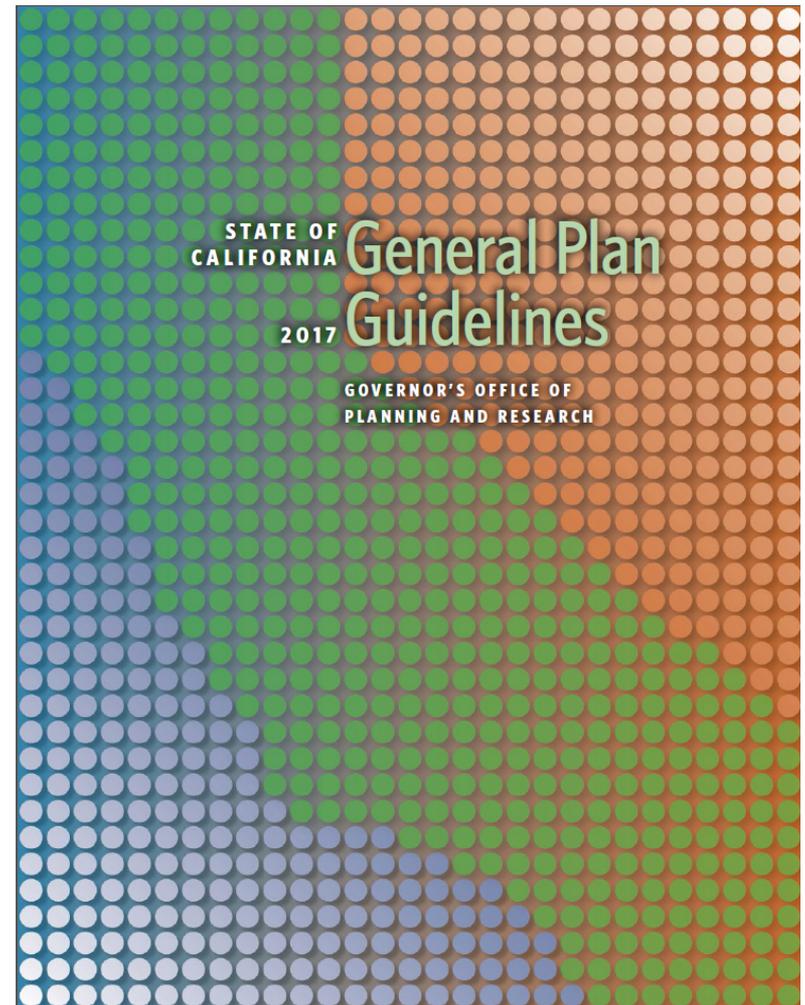
# What is CEQA?

- California Environmental Quality Act
- Requires state and local agencies
  - to identify the significant environmental impacts of their actions and
  - to avoid or mitigate those impacts, if feasible
- Signed by Governor Reagan in 1970
- CEQA Guidelines are administrative regulations interpreting the statute, having the weight of law



# What SB 743 Does Not Do

- No change to general plans, traffic impact fee programs, State Constitution, subdivision map act, etc.
- LOS can continue to be used, but not for CEQA





# Vehicle Miles Traveled

## Data

- VMT is not directly measured or observed
- VMT is estimated from traffic counts or traffic volume forecasts
- Highway Performance Monitoring System (HPMS)
- Big Data - StreetLight

## Tools and Models

- Travel Forecasting Models
  - MPOs
  - RTPA
  - Cities/Counties
- Sketch/Spreadsheet Tools
  - CalEEMod
  - MXD+
  - UrbanFootprint

# Changing measurements



LOS A



LOS F

# Decisions

- Methodology
- Thresholds
- Feasible mitigation

“In rural areas... **fewer options** may be available for reducing VMT”

“[H]owever,... clustered small towns and small town main streets **may have substantial VMT benefits** compared to isolated rural development”

## TECHNICAL ADVISORY

ON EVALUATING TRANSPORTATION  
IMPACTS IN CEQA

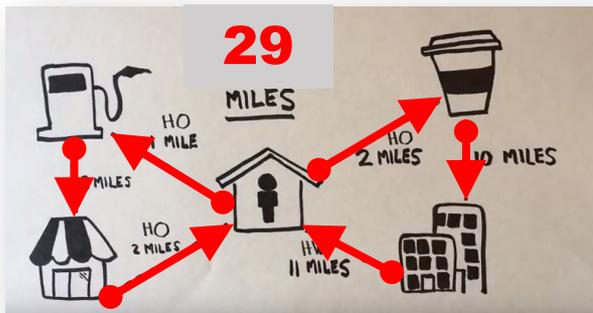


December 2018

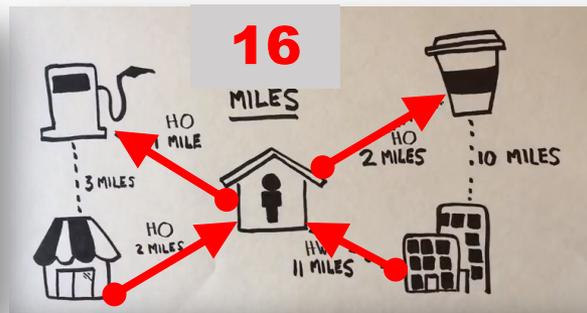
# Methods

## VMT Metric – Total or Partial?

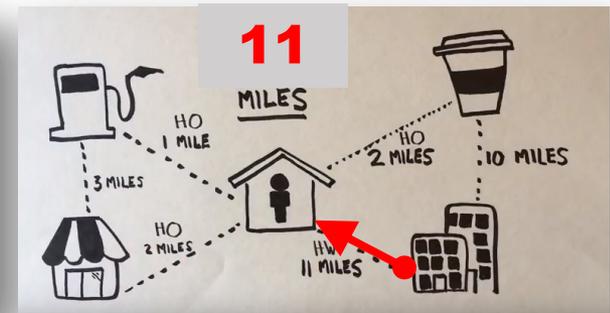
Household Generated VMT



Home-Based Generated VMT



Home-Based Work Generated VMT

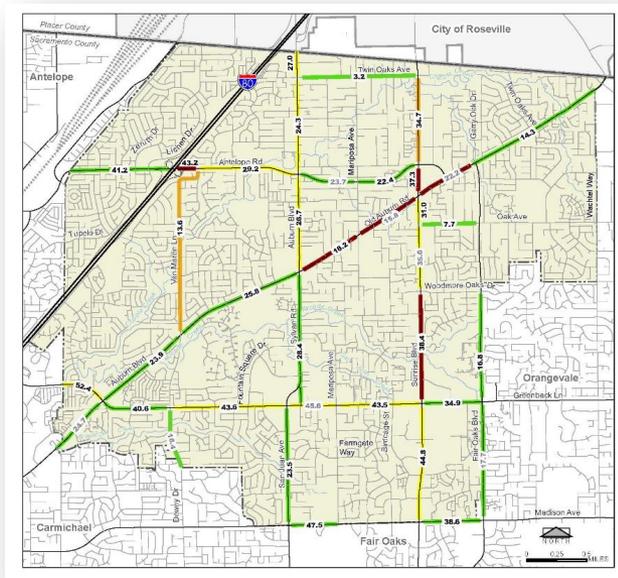


# Methods

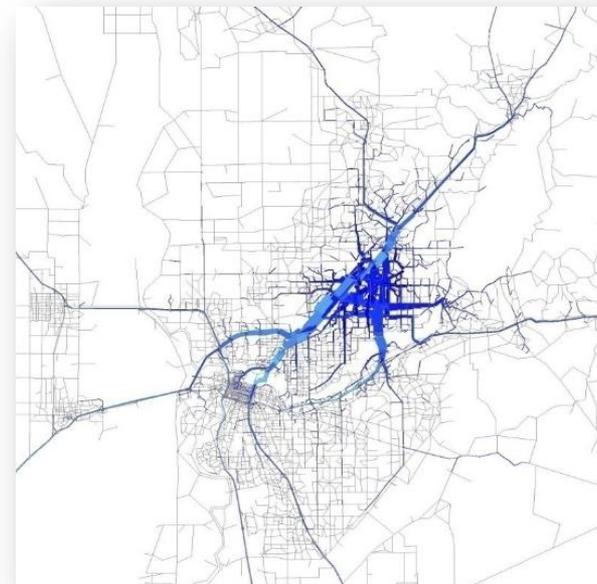
Vehicle Trip Type	VMT Required in Analysis			
	AQ	GHG	Energy	SB 743 Transportation
<b><i>Residential Project</i></b>				
Home-based work	✓	✓	✓	✓
Home-based other	✓	✓	✓	✓
Non-home-based	✓	✓	✓	
<b><i>Office Project</i></b>				
Home-based work	✓	✓	✓	✓
Visitor	✓	✓	✓	
Delivery	✓	✓	✓	
Maintenance/Security	✓	✓	✓	

# Methods

## VMT Metric – Network vs. OD



Network VMT

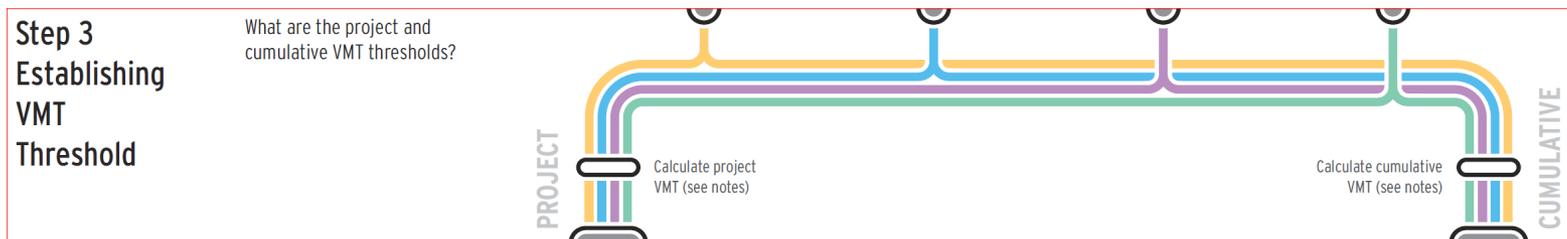


Origin-Destination (OD) VMT

# Thresholds

## Establishing VMT Threshold(s)

- Lead agency discretion
- What is acceptable vs. unacceptable VMT when viewed solely through a transportation lens?
- Multiple options depending on...
  - how VMT reduction is valued by lead agency
  - how VMT reduction is addressed in air quality, energy, and GHG impact analysis
  - courts



# Thresholds

How much discretion does a lead agency have to set their own VMT thresholds?

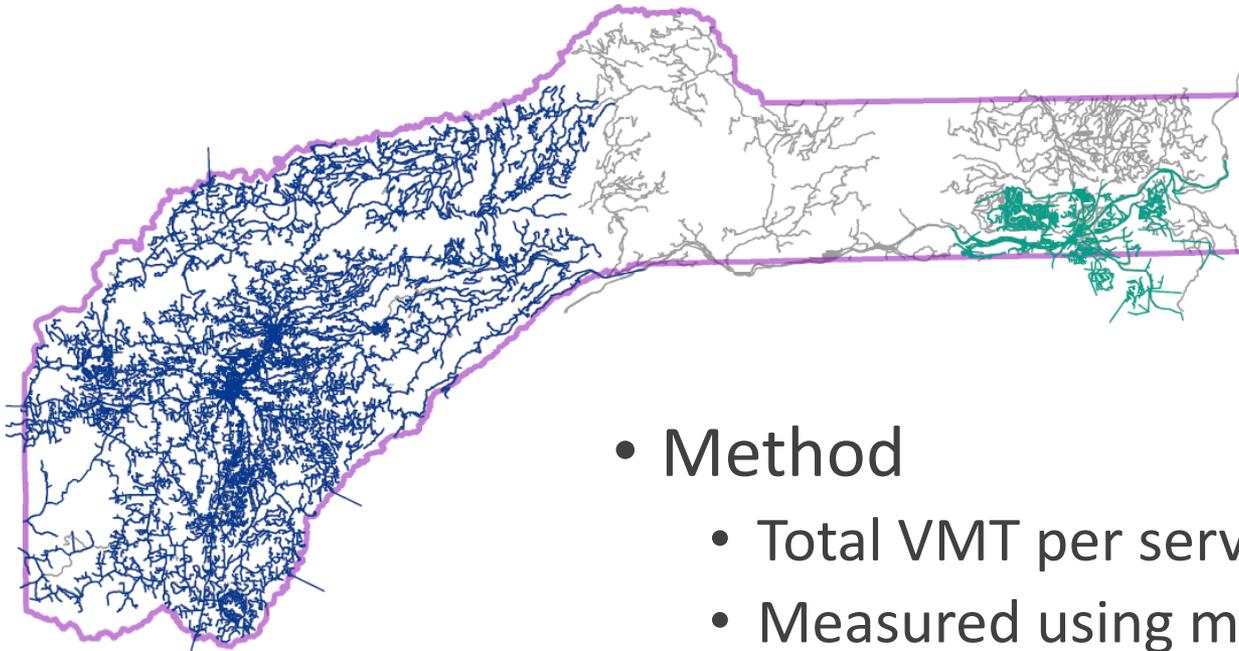
- CEQA Guidelines §15064.7(c)

*(c) When adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by **substantial evidence**.*

- CEQA Statute (SB 743) §21099(e)

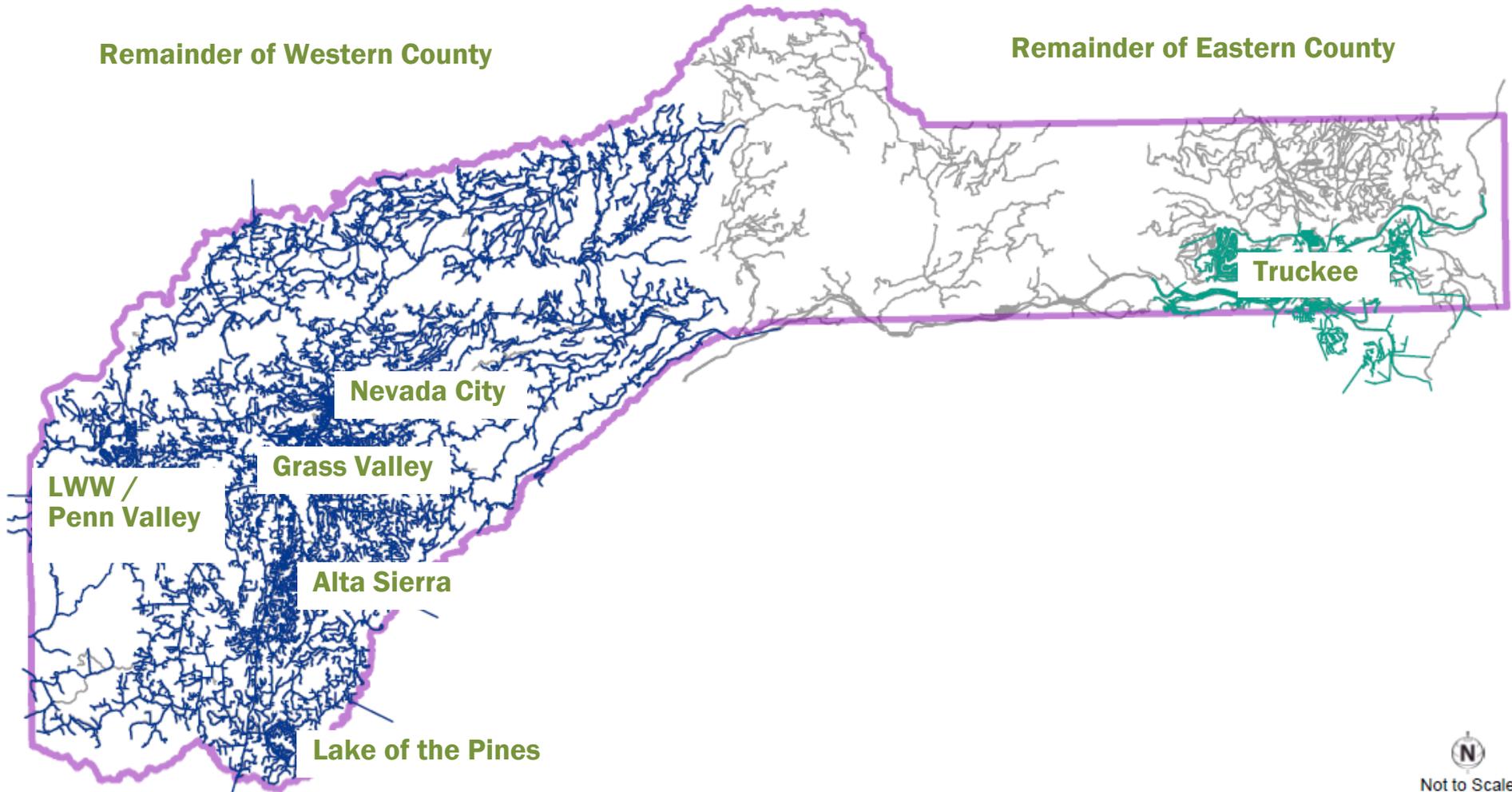
*(e) This section does not affect the authority of a public agency to establish or adopt thresholds of significance that are **more protective** of the environment.*

# Implementation: An Example



- Method
  - Total VMT per service population
  - Measured using model
- Threshold
  - No increase from baseline
- Consistency important

# Consider by Subarea



Remainder of Western County

Remainder of Eastern County

Truckee

Nevada City

Grass Valley

LWW /  
Penn Valley

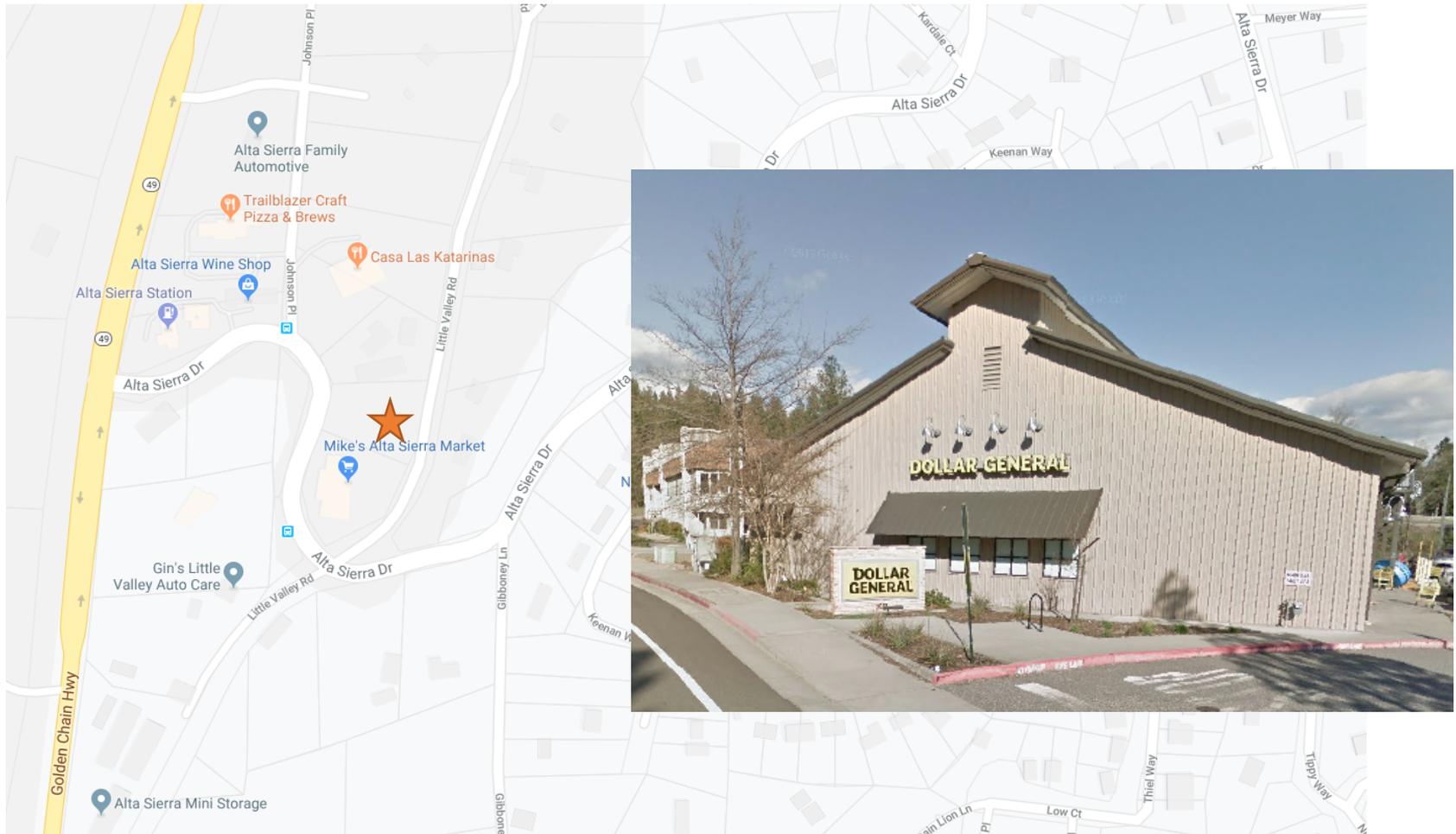
Alta Sierra

Lake of the Pines



Not to Scale

# Case Study: New Retail Store



# Why does this store reduce VMT?

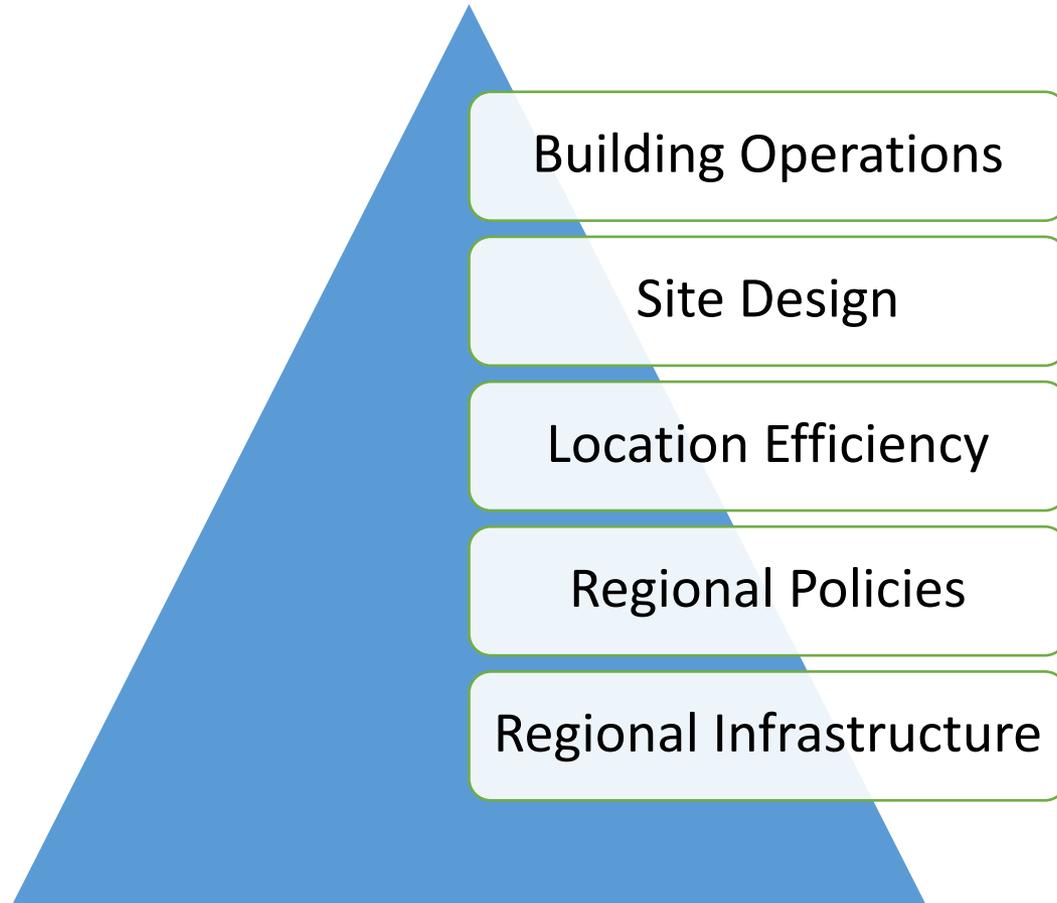
Project Generated VMT vs. Project Effect on VMT



# Case Study: New Housing



# VMT Mitigation Effects



# Questions?

# Challenges for Mountain Towns

- Congestion vs. VMT
- Legislation and tools often developed for urban areas, fewer options in rural areas
- Aging infrastructure, often not multimodal
- Declining transit ridership, limited networks
- Increased modeling complexity



## FutureStructure

### TRANSPORTATION

#### 2018 Was the Year of the Car, and Transit Ridership Felt It

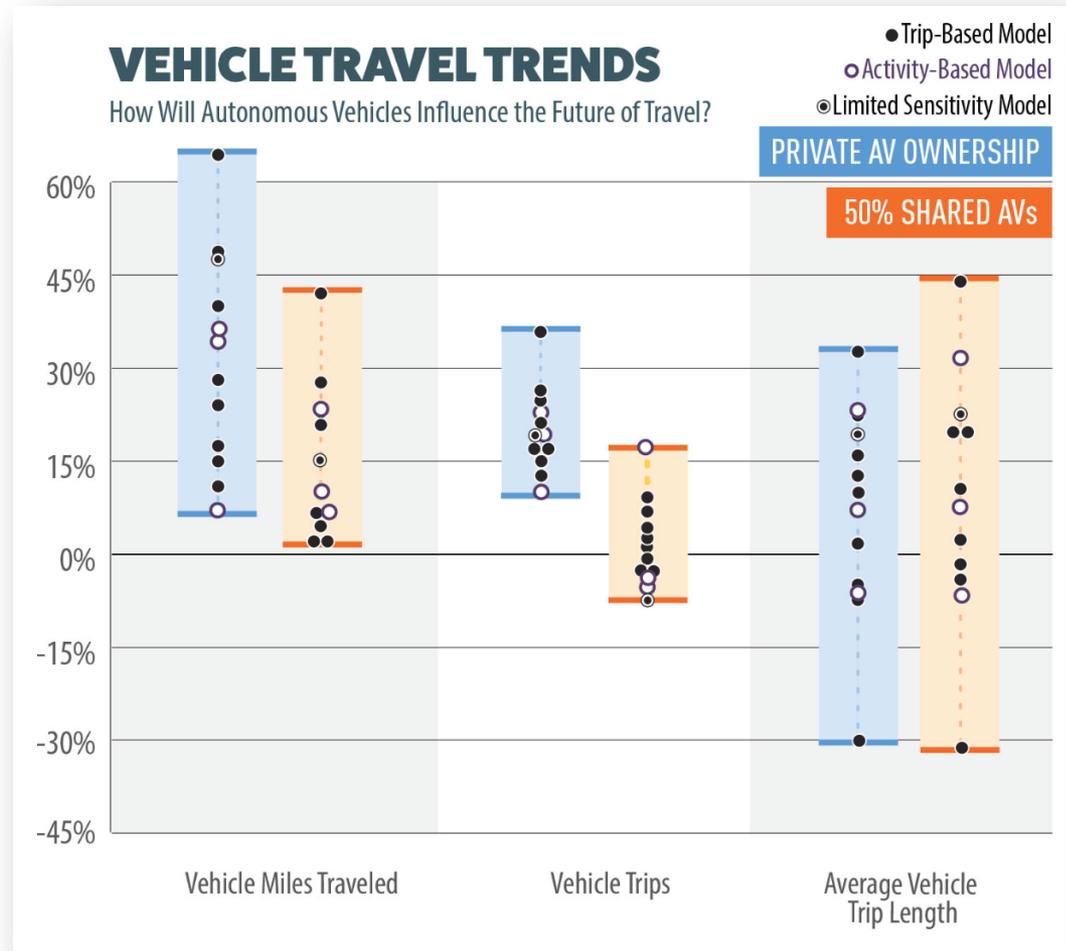
*Public transit ridership in 2018 was down 2 percent from the year before, continuing a trend of declining transit use across the country. While there are a number of factors at play, privately owned cars seem to be a driving force.*

BY SKIP DESCANT / APRIL 30, 2019



# New travel modes

- Scooters and e-bikes
- Transportation networking companies
- Automated vehicles



# Climate change impacts

- Evacuation routes
- Infrastructure resilience

**NEWS** POLITICS U.S. NEWS BUSINESS WORLD TECH & MEDIA OPINION HEALTH

U.S. NEWS

**Death toll rises to 56 in Northern California's Camp Fire; missing climb to 297**

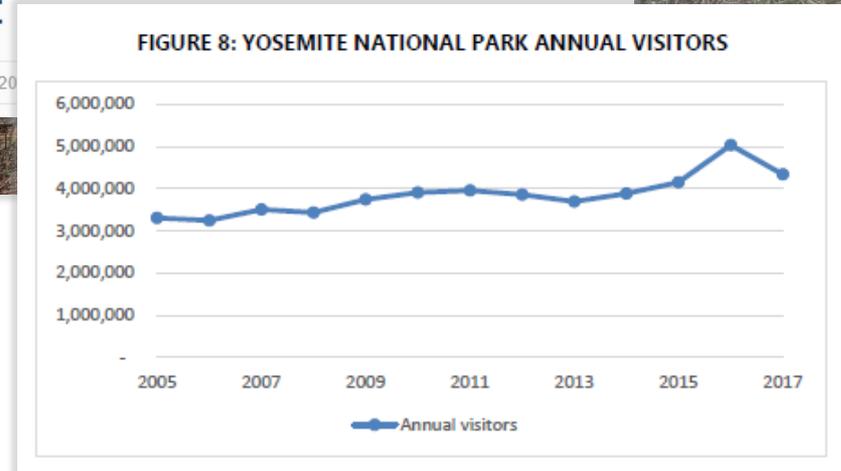
Authorities released a list of 297 people still unaccounted for. "We'll be here for several years working this disaster," said the administrator of FEMA.



**Fig. 2** Oblique aerial photograph of Ferguson Rock Slide. *Dashed yellow lines*

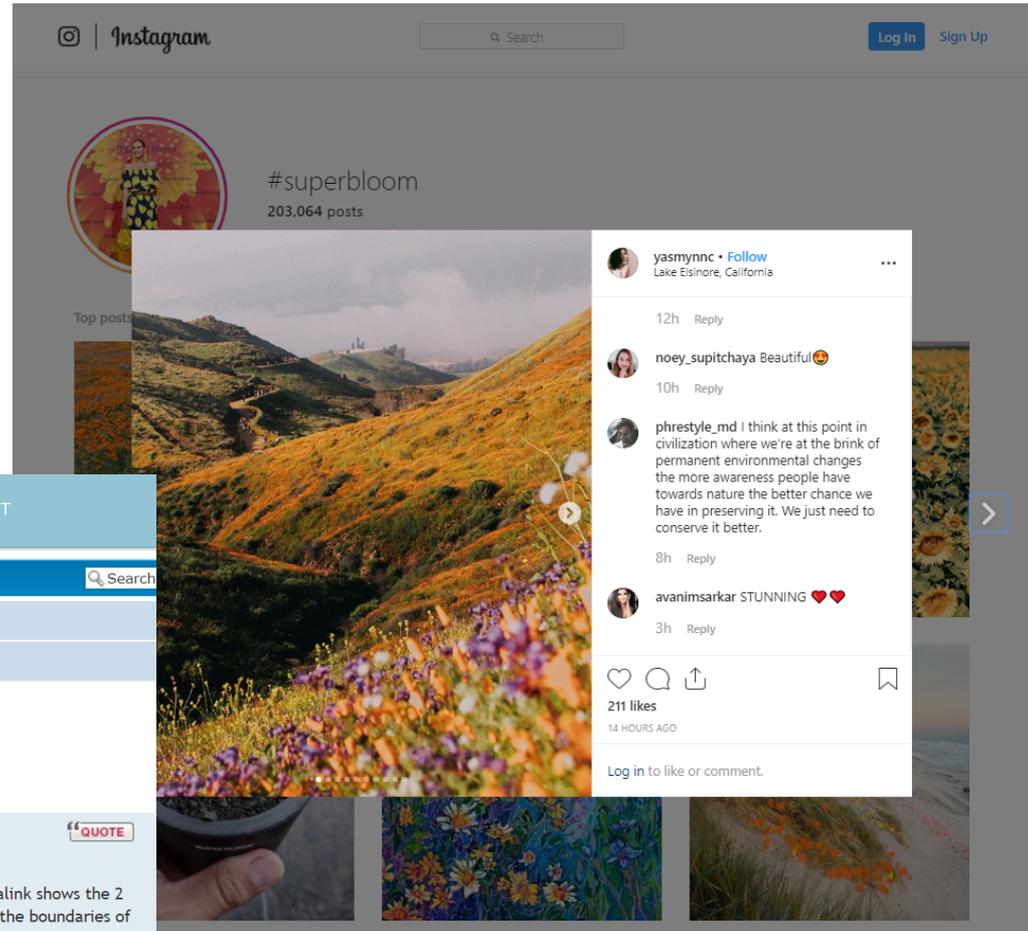
# New challenges

- Short-term rentals
- Increased visitors



# Sudden changes in demand

- Social media
- Wayfinding apps



**waze** LIVE MAP MAJOR EVENTS SUPPORT BLOG ABOUT

Board index < Waze Products < Waze App < Navigation & Routing

Thanks Toplist

## Stop routing cut through via neighborhood

Moderators: **Unholy**, bextein

POSTREPLY Search this topic... Search

**Stop routing cut through via neighborhood** QUOTE

by **mwolfe\_ga** » Sun Mar 24, 2019 4:08 pm

Please do not route drives through neighborhood as a bypass from light at the corner. The below permalink shows the 2 entrances (belles lane and hillview lane) to the neighborhood. I've included an attachment that shows the boundaries of the neighborhood.  
<https://www.waze.com/livemap#?ll=34.075...362&at=now>  
 People should only be routed into this neighborhood only if their destination ends / starts within its borders.  
 I'm submitting this as we have a lot of people passing through and significantly speeding, with many children at play and people walking their dogs.

# Social and Political challenges

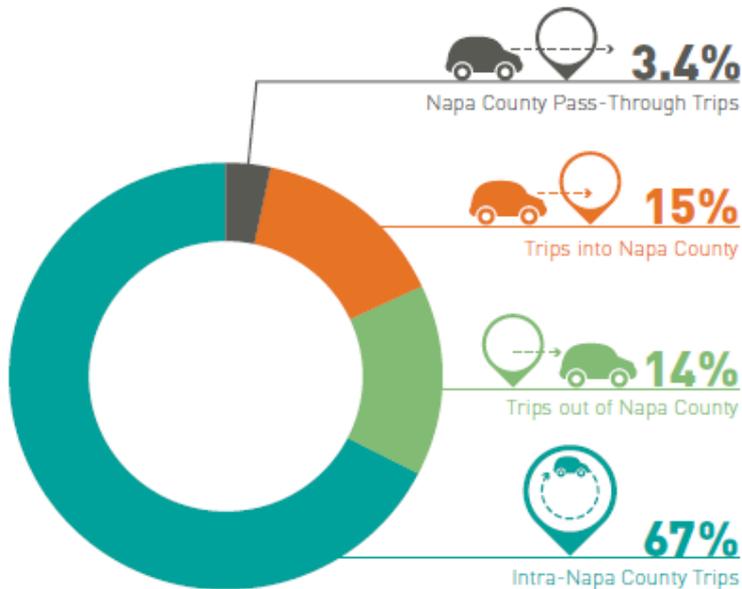
- Willingness to change
- Community values
- Funding



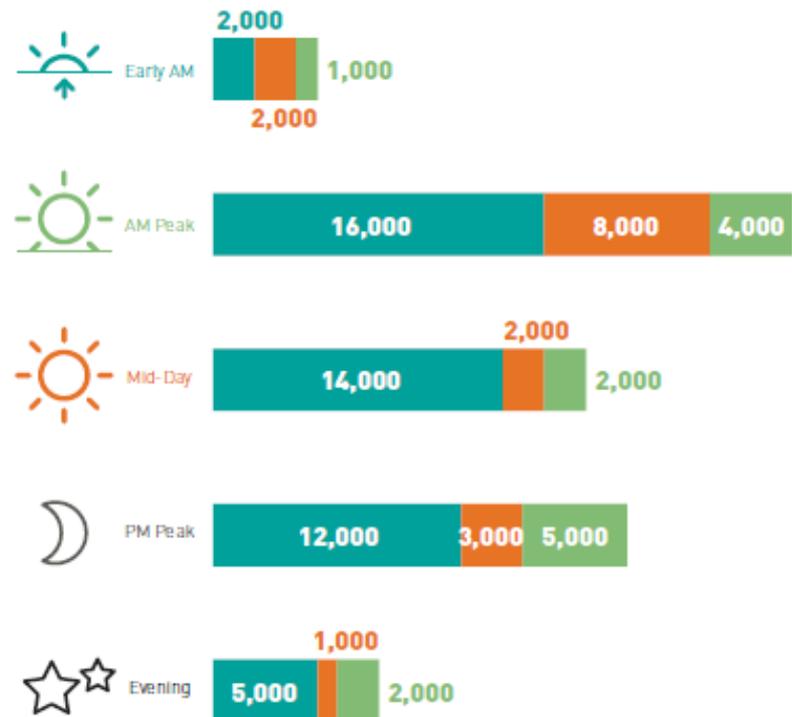
# Solutions

- Big data for better understanding

## What Types of Trips are Occuring within Napa County on a Weekday?

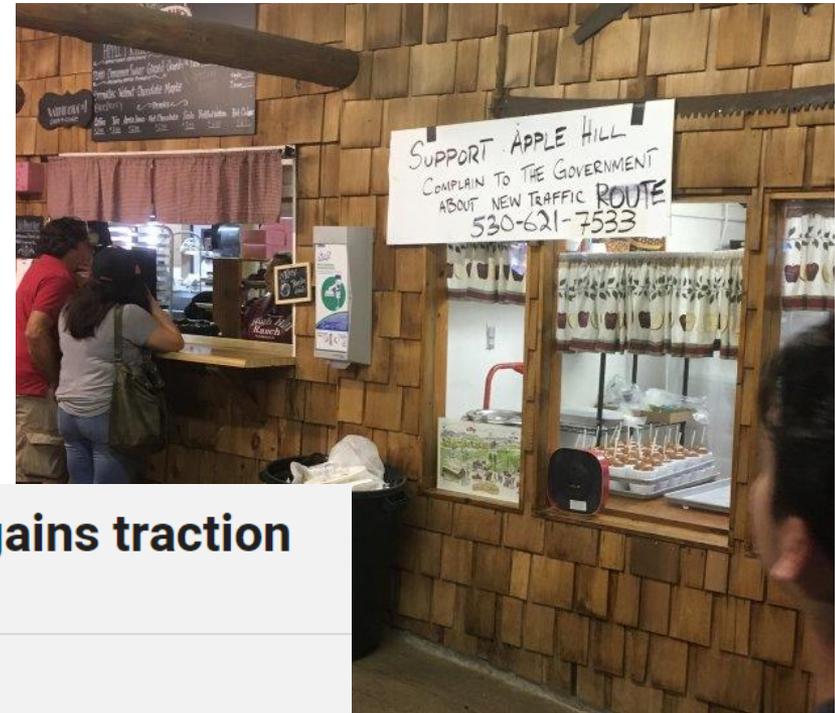


## Weekday Work Trip Types



# Addressing root causes

- Workforce housing
- Spreading demand
- Thinking beyond the jurisdiction limit



## Housing project in downtown Truckee gains traction

News | July 11, 2019

Hannah Jones  
hjones@sierrasun.com



# Harnessing trends

- Use market forces
- Jump on win-wins
  - Active transportation supports tourism
  - Pricing provides funding
- Tie asks to results

## Nevada City parking meter rate increase tabled

News | July 24, 2019



Liz Kellar  
LKellar@theunion.com



Downtown Nevada City business owner Lisa Rodriguez places a pair of quarters into the parking meter in front of her store Buho where she parked Wednesday morning. Rodriguez is concerned about the impacts to business owners and employees if the proposed parking rate increase is adopted.

Elias Funez/efunez@theunion.com

# Discussion

- How is your community responding to these challenges?
- How is your locality different from California in its approach?
- How are you working with the public and elected officials?
- What would help you?

# Sharing experiences

- Learn from each other today
- Introductions
  - Your name
  - Where you live
  - Your professional role

