

# ACTIVE TRANSPORTATION AND CONGESTION

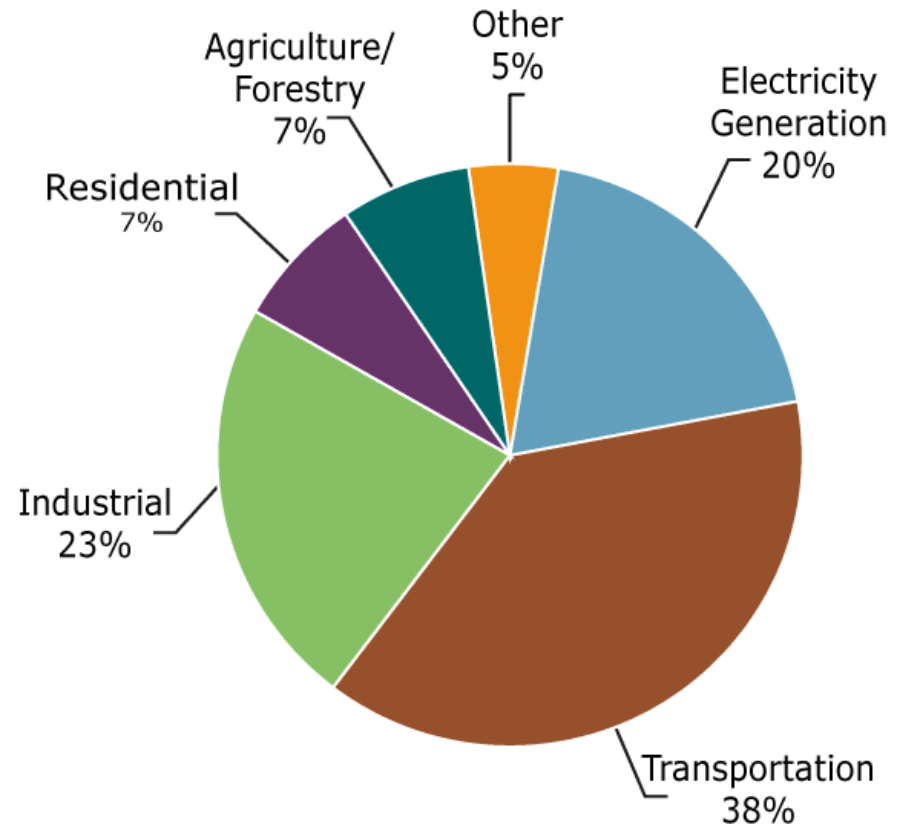
ACTIVE TRANSPORTATION OPPORTUNITIES

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# TRANSPORTATION CONTEXT

- Driving is a larger emitter than Residential, Industrial, and Agriculture combined.
- 90% of transportation emissions are from on-road; 75% of that is from private vehicles.

**California Greenhouse Gas Emissions  
by Sector, 2011**



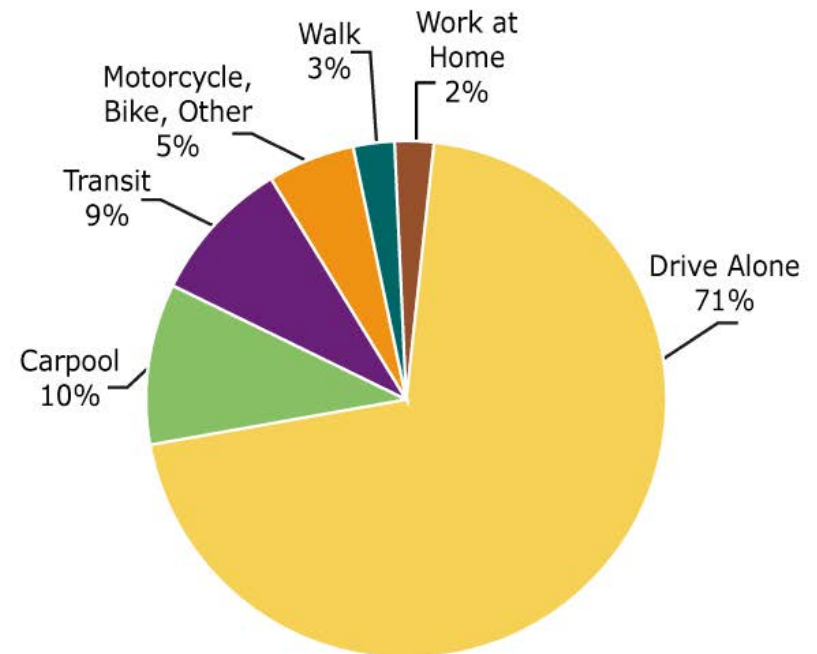
*Data Source: California Environmental Protection Agency,  
Air Resources Board*

# COMMUTING vs. TRANSPORTATION

## Measuring Commuting:

- Planning and engineering practices have focused on commuting issues

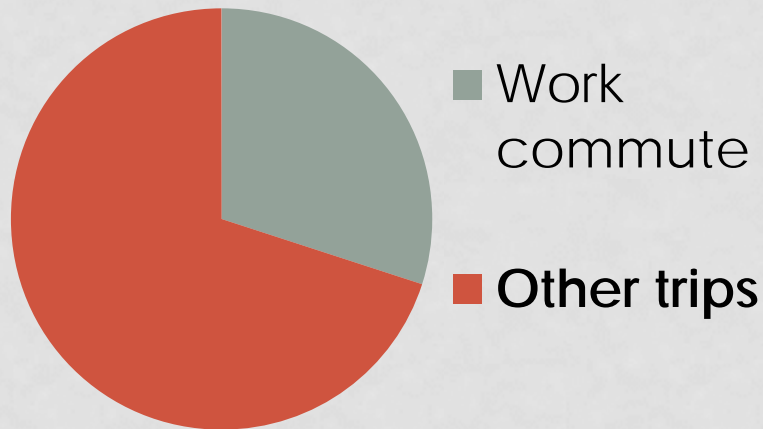
**Travel Modes to Work for San Mateo County Residents, 2012**



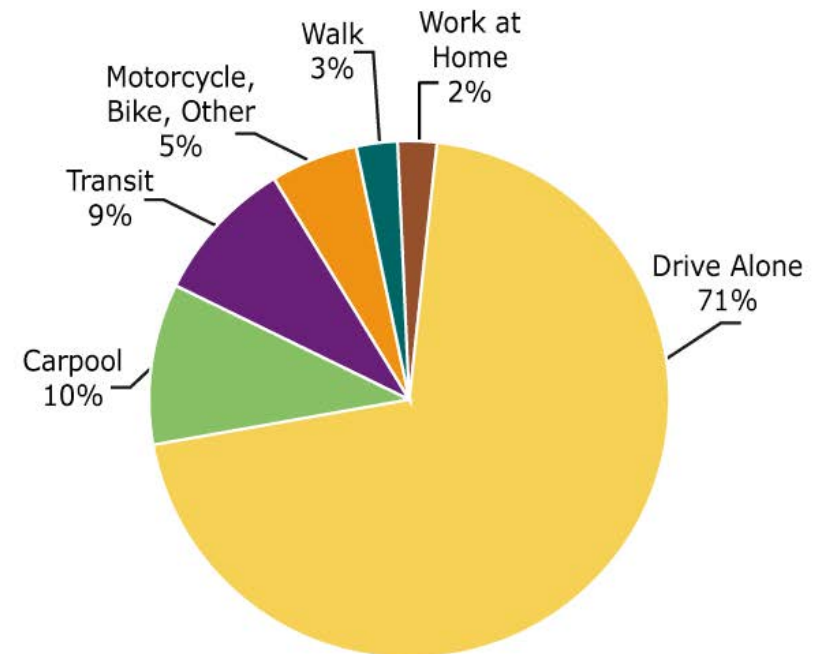
Data Source: U.S. Census Bureau, American Community Survey

# COMMUTING vs. TRANSPORTATION

Measuring other trips:



**Travel Modes to Work for San Mateo County Residents, 2012**



Data Source: U.S. Census Bureau, American Community Survey

# COMMUTING AND CONGESTION

## Measuring Congestion:

- Commute roadway traffic corresponds to “Peak Hour”

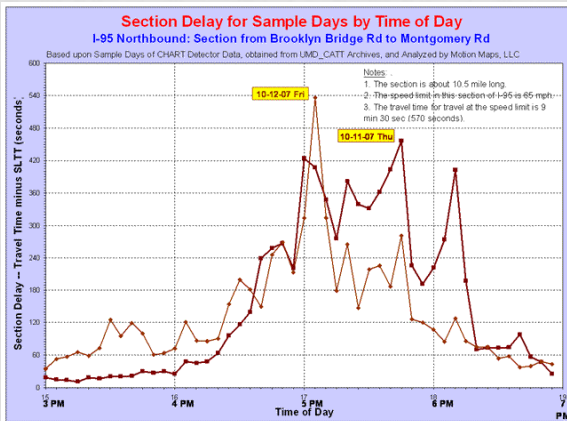
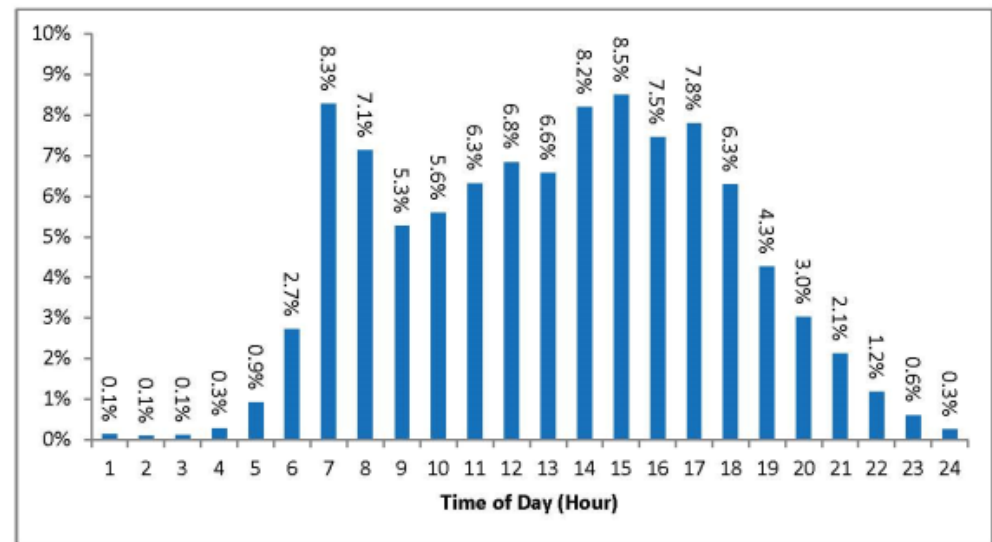


Figure 8.3.2.2: Hourly Trip Distribution by Departure Hours

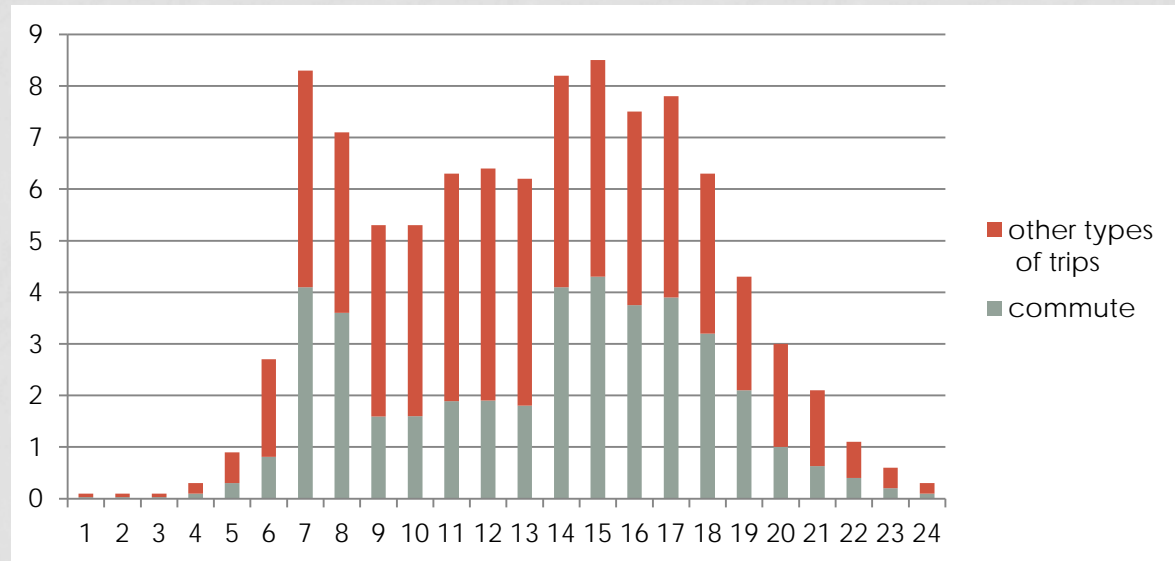


California Household Travel Survey Data, 2010

# COMMUTING AND OTHER TRIPS

## Measuring Congestion:

- What percentage of trips at peak hour are commutes?
- What percent are other trip purposes?



*Approximation of peak and non-peak trips by trip purpose*

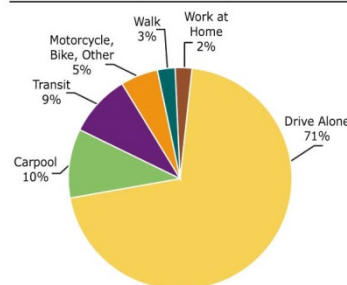


# COMMUTING MODE SHIFT 1990-2010

## Commute mode shift over time:

- Drive-alone commutes in 1990, 2000 were 72%
- In 2012, Drive-alone commutes decreased to 71%

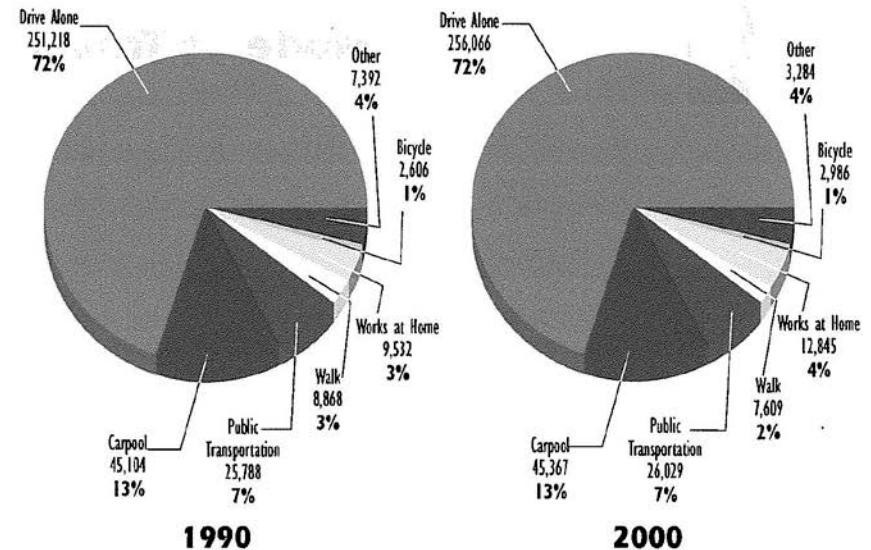
Travel Modes to Work for San Mateo County Residents, 2012



Data Source: U.S. Census Bureau, American Community Survey

Countywide Transportation Plan - San Mateo County - Census 2000

## Mode of Travel San Mateo County Residents Work Trips



## Mode of Travel

- 85% of San Mateo County residents travel to work by automobile.
- Only 7% of San Mateo County residents travel to work by transit.
- Between 1990 and 2000 these percentages did not change.

# MEASURING OTHER TRIPS

Examples of other types of trips:

- Errands
- School
- Shopping
- Entertainment

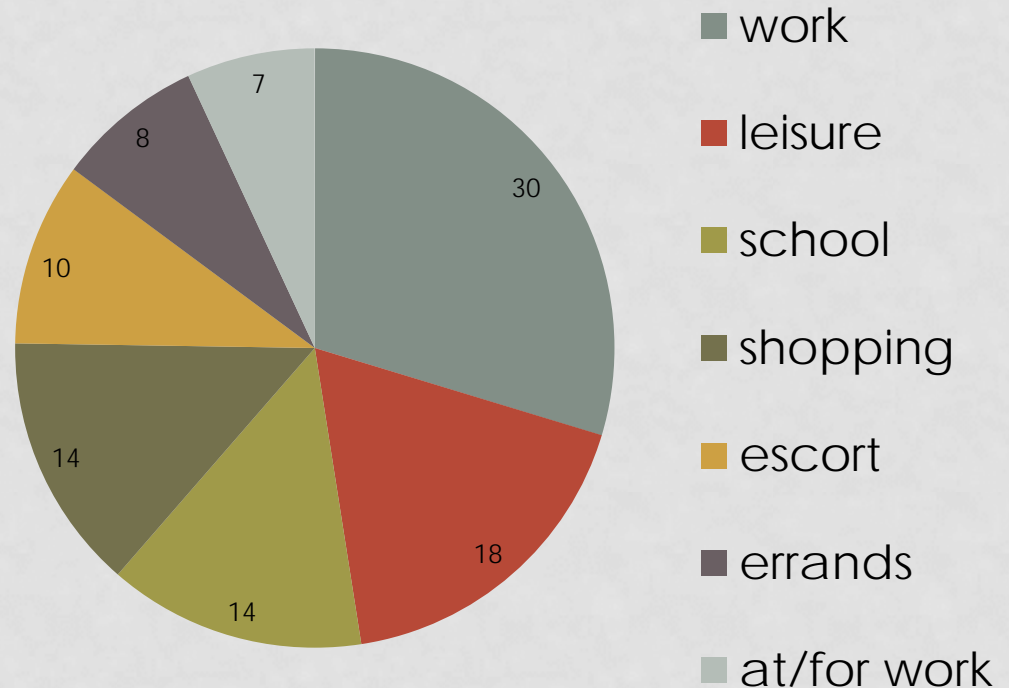




# MEASURING OTHER TRIPS

## Commute trips vs. other types of trips

- Errands 8%
- School 14%
- Shopping 14%
- Leisure 18%
- Giving a ride to a senior or child 10%
- Commute 30%



# MEASURING OTHER TRIPS

- **Commute trips vs. other types of trips**
  - Errands 7%
  - School 9%
  - Shopping 20%
  - Entertainment 35%
  - Giving a ride to a senior or child 7%
  - Commute 19%

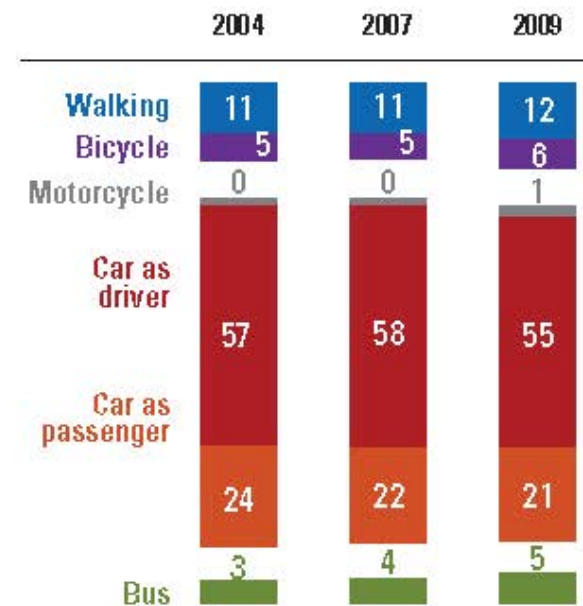


# MEASURING EFFECTIVENESS

## Measuring Effects of Community-wide Program:

- Walking increased to 12% of all trips
- Bicycling increased to 6%\*
- Drive-alone decreased 8%
- Transit use almost doubled to 5%

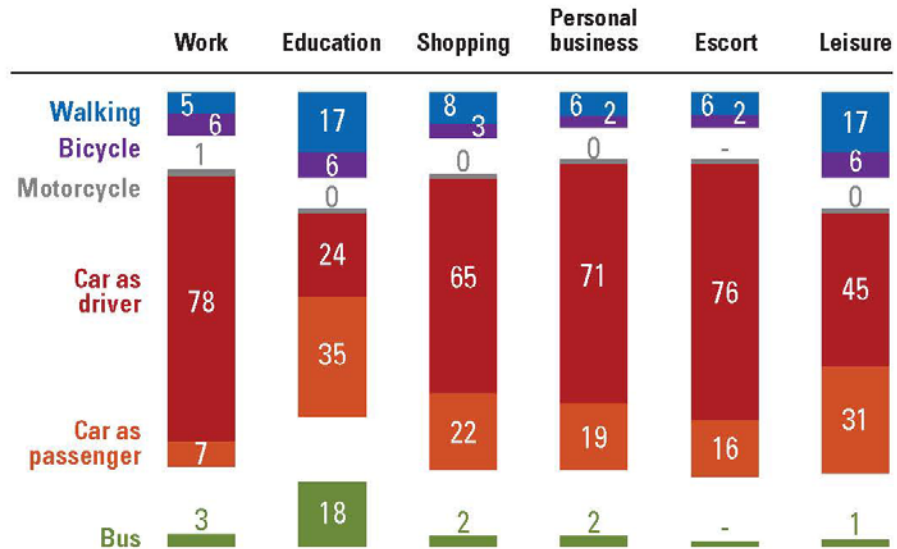
\*Portland bike mode share is 7%



# MEASURING TRIP PURPOSE

Mode Share varies by:

- Trip purpose
- Demographic
- Distance
- Trails/Services
- Marketing



Data from 2007

# RESEARCH HIGHLIGHTS

Characteristics of trips most likely to shift from car to Environmentally Friendly Modes (EFM):

- Female, age 35 to 50
- Small shopping trip
- Short distance (2 miles or less)

Least likely trip to shift:

- Commute



# WHAT IS ACTIVE TRANSPORTATION?

- Active Transportation means walking or bicycling for daily errands and short trips
- Some examples:
  - Walking to the corner store for a jar of mayonnaise
  - Bicycling to the library with the kids
  - Walking from the bus stop to the park-and-ride





# ACTIVE TRANSPORTATION IS SHORT TRIPS

Active Transportation is not about speed or endurance/distance

Sample Active Transportation distances:

- Walking  $\frac{1}{2}$  mile takes 10 minutes
- Bicycling 1 mile (level) takes 10 minutes
- 20% of all trips are less than 1 mile
- 50% of all trips are less than 3 miles



*Active, but not really Transportation*

# TRANSPORTATION BEHAVIOR CHANGE

- Changing Modes starts with changing Attitudes



# TRANSPORTATION BEHAVIOR CHANGE

Behavior change is about Marketing:  
Messages that evoke feelings are more likely  
to affect behavior.



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the environment.

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# COMMUNITY-WIDE TRANSPORTATION DEMAND MANAGEMENT

- **San Mateo County already has some elements:**
  - Building Complete Streets (sidewalks, trails, bicycle routes)
  - Teaching Bicycling Skills
  - Reaching Employers with Vanpools, Shuttles, Transit
  - Better enforcement for crosswalks, stop signs

## **Methods to consider adding community-wide:**

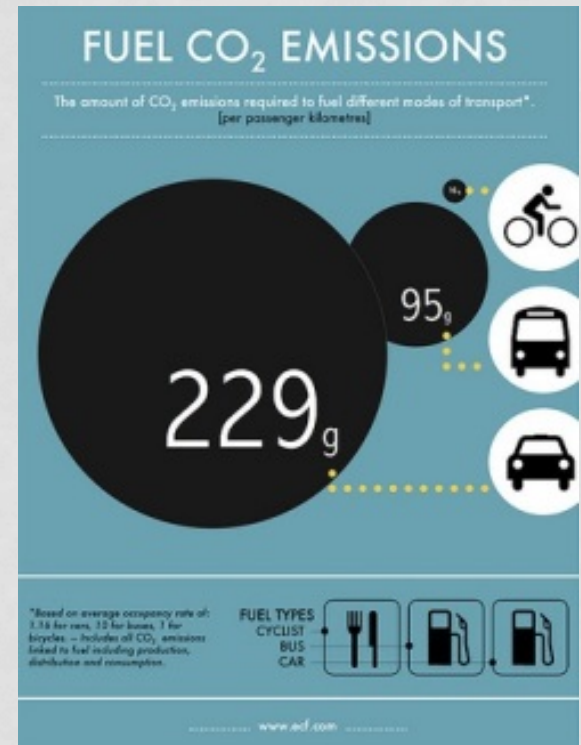
- Market research and improved data collection
- Improved marketing and motivational outreach
- Woman-focused bicycle encouragement
- Rewards and events
- Emergency Ride Home

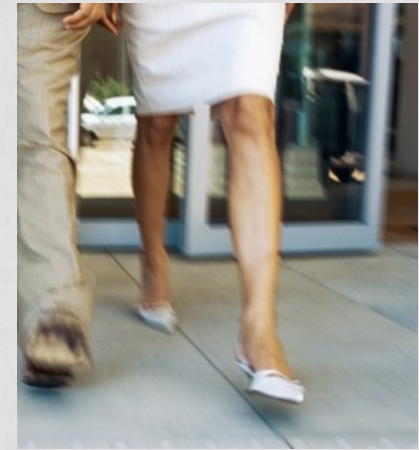


# COMMUNITY-WIDE TRANSPORTATION DEMAND MANAGEMENT

## Sample Results:

- In Eugene, Oregon, about 50,000 households were contacted, and 10% of these households participated. They reduced drive alone trips by 7% resulting in a total reduction of about **716,000 lbs.** of CO<sub>2</sub> not emitted.
- Estimated CO<sub>2</sub> reduction for a 7% drive-alone trip reduction over the course of 1 year in Redwood City (if about 15% participate): **1 million lbs.**





# ACTIVE TRANSPORTATION AND TRAFFIC CONGESTION

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