



# New Directions in General Plans

*Healthy Transportation Policy in a Changing Environment*

*CCLHO Semi-Annual Meeting*

May 13, 2010

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# Presentation Overview

- Why does active transportation matter?
- What are the barriers to active transportation in your community?
- How can your community craft policies that support active transportation?
- Case study



*Image source: Jan Gehl*



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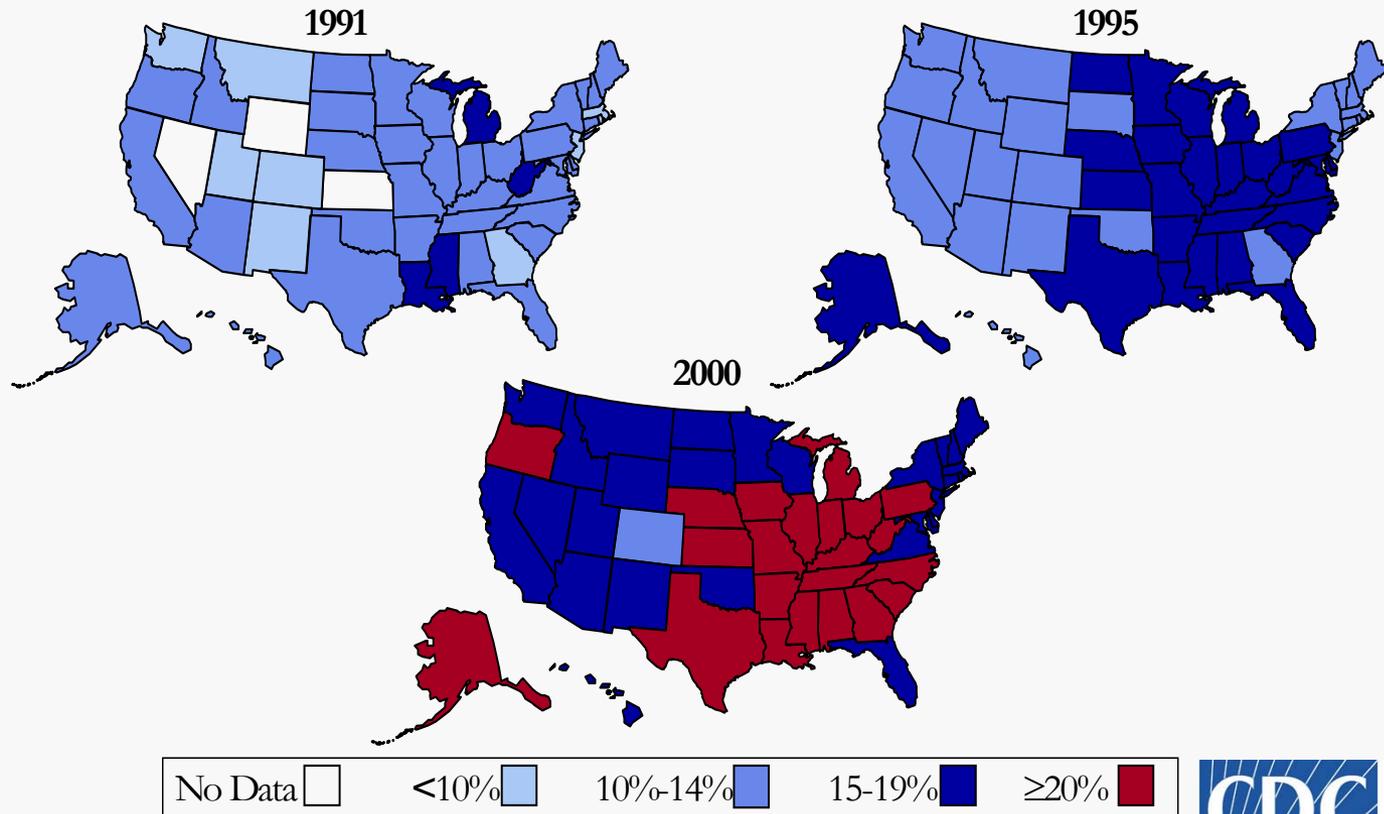
Why does active transportation matter?

# Physical health

## Obesity Trends\* Among U.S. Adults

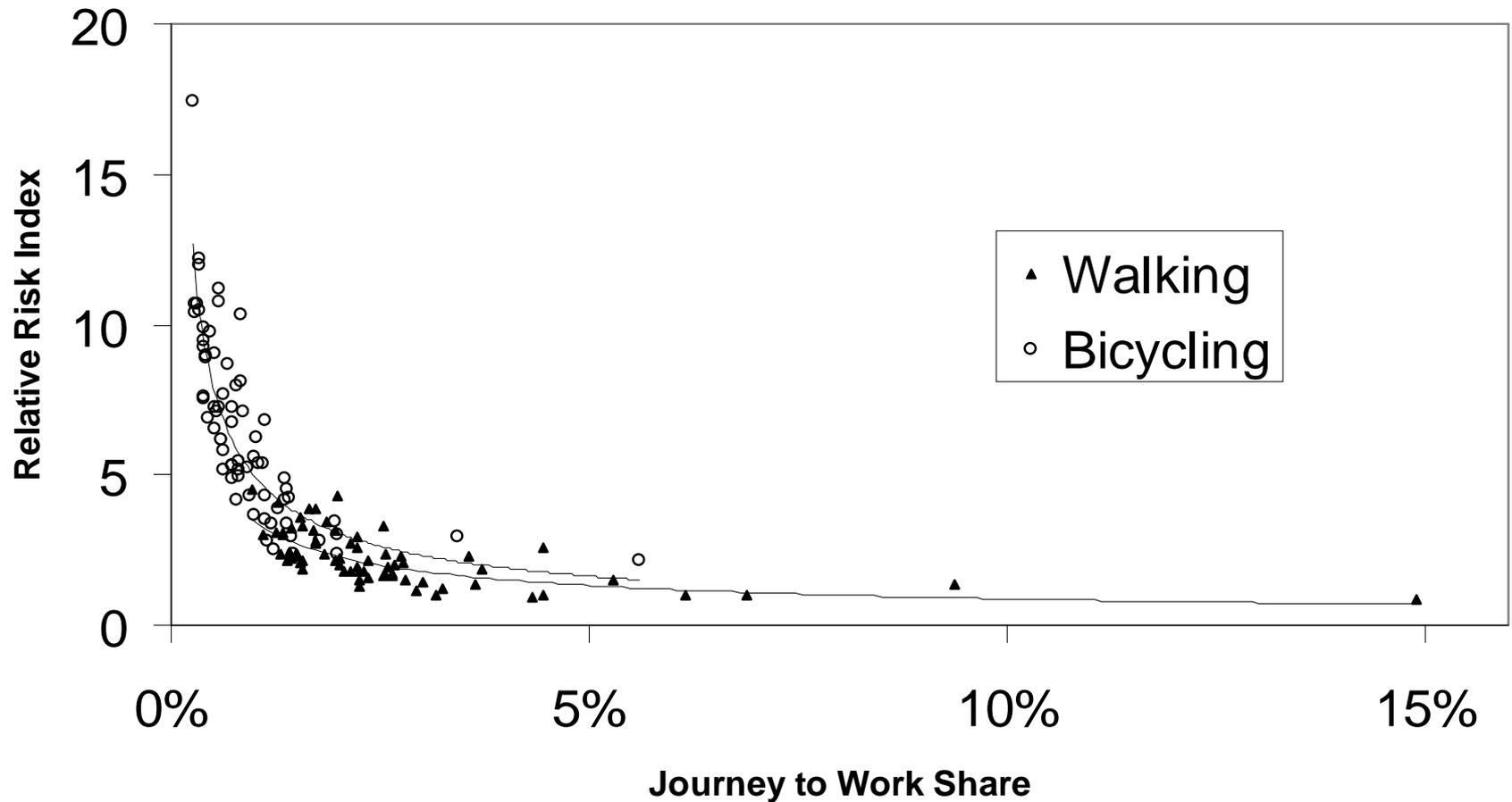
**BRFSS, 1991, 1995 and 2000**

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5'4" woman)



Source: Mokdad A H, et al. *J Am Med Assoc* 1999;282:16, 2001;286:10.

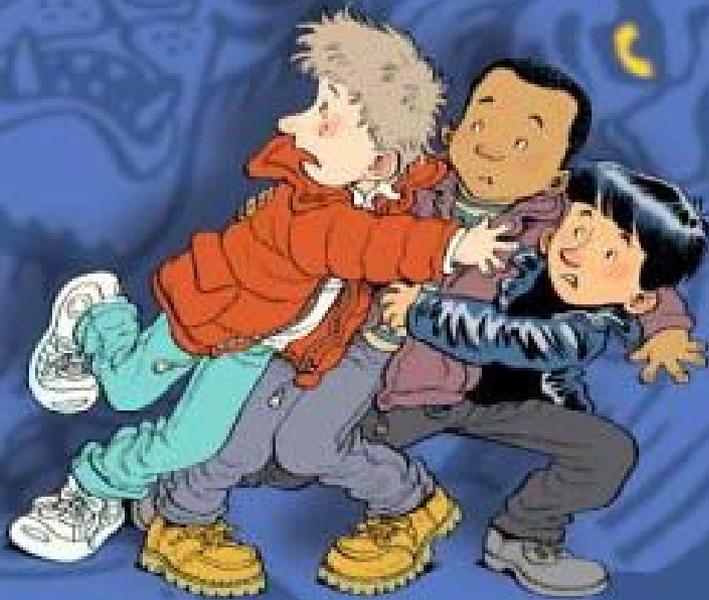
# Personal safety



# DON'T



# WALK ALONE AT NIGHT!



VERONIKA MARTENOVA (CHARLES)

Illustrated by David Parkins

Personal  
safety (real  
and perceived)

Image source: Random House

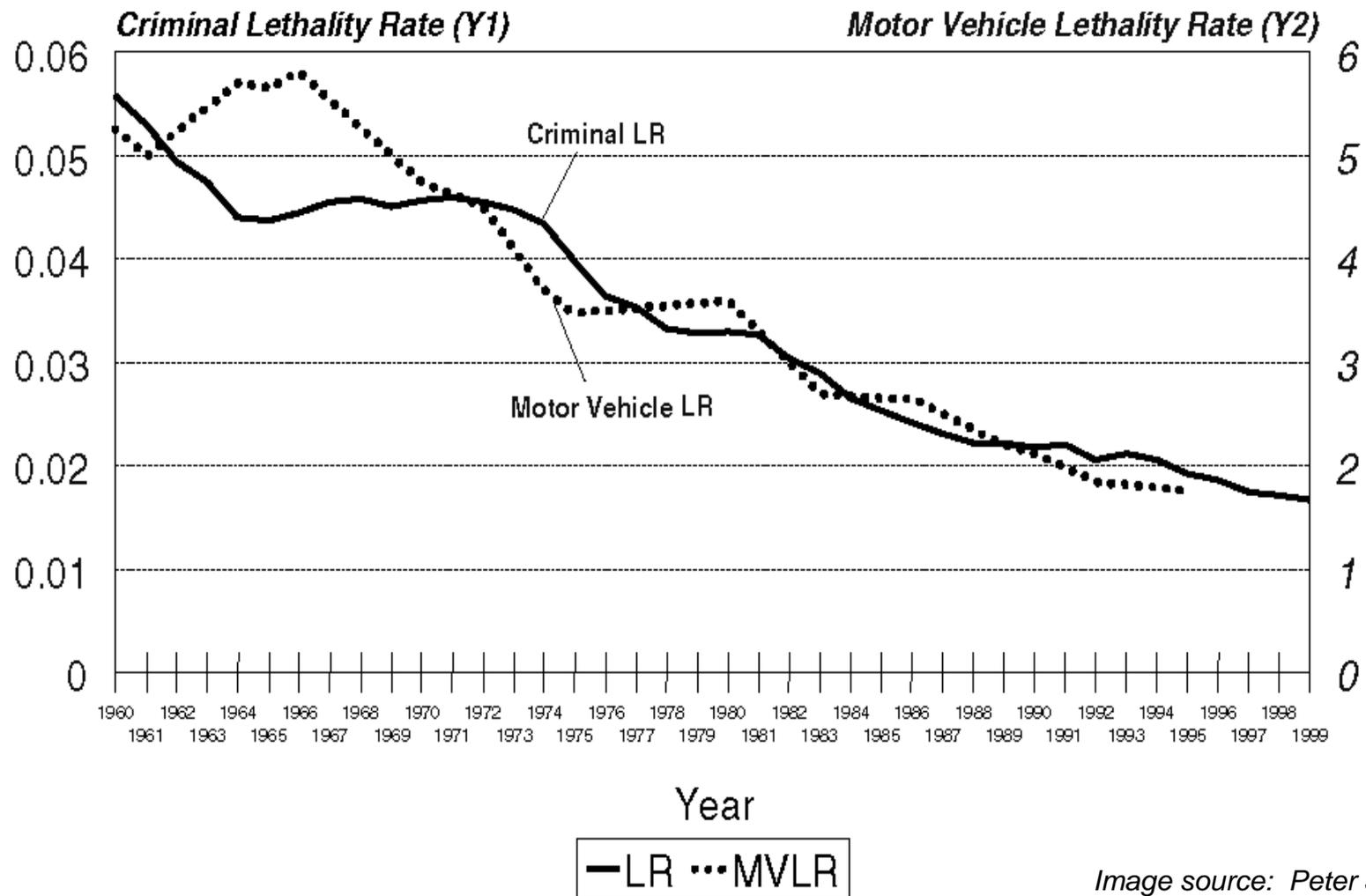
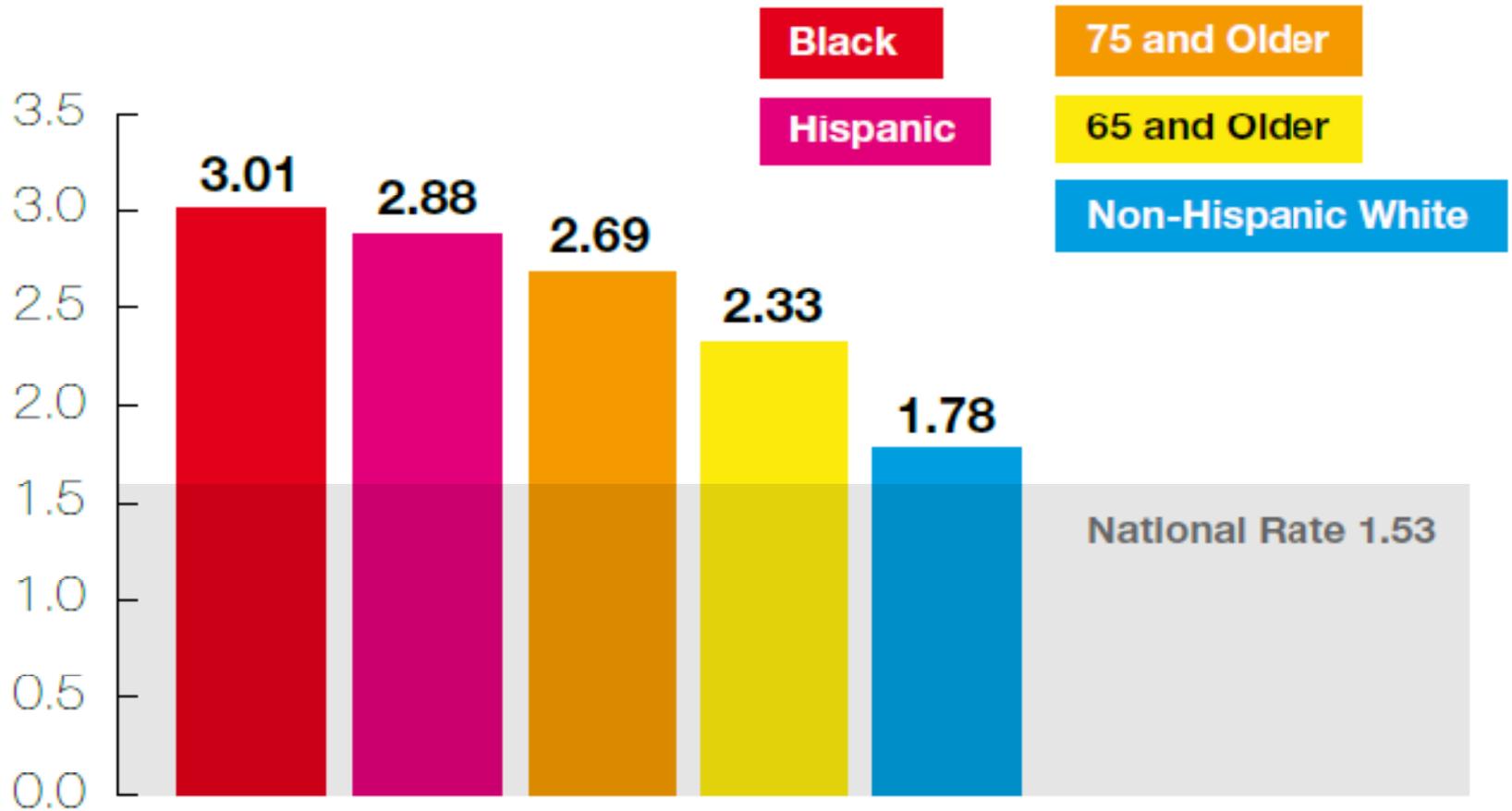


Figure 2: Criminal Lethality Rate (LR) and MV Lethality Rate (MVLr): Uniform Crime Report Data 1960-1999 and National Safety Council Data 1960-1995

NOTE: LR = homicides/(aggravated assault + homicides); MVLr = MV traffic injury deaths per 100,000 vehicle miles.

# Equity

## Pedestrian Fatality Rate per 100,000 Persons



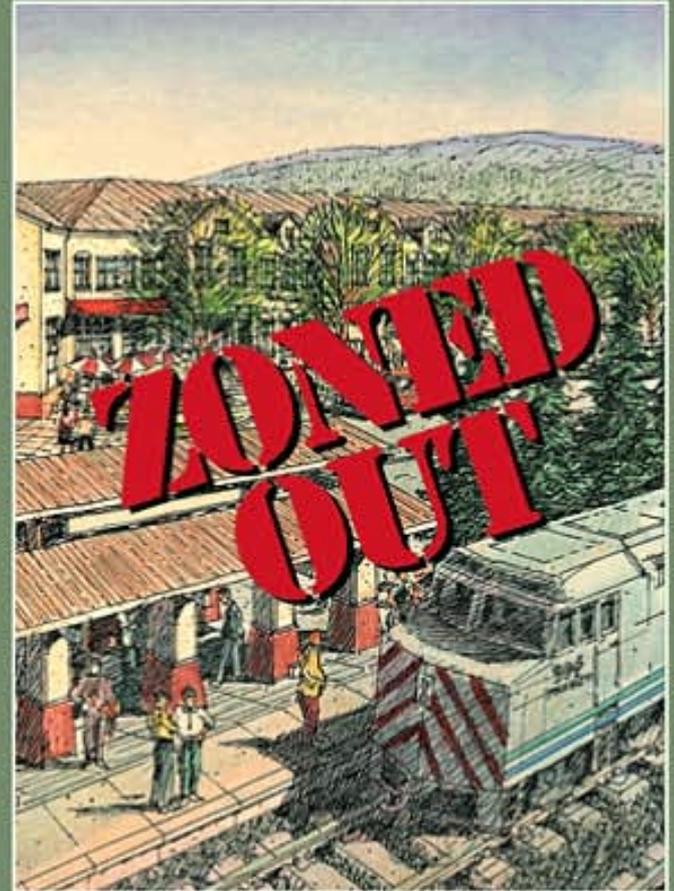
# Social costs

## Cost of Auto-versus-Pedestrian Injuries San Francisco, 2004 - 2008

Collision Year	Total Cost ( 2008 Dollars )	2008 Pop	Cost Per Capita
2004	\$11,257,143.03	840,462	\$13.39
2005	\$13,480,653.08	840,462	\$16.04
2006	\$16,574,112.85	840,462	\$19.72
2007	\$17,673,296.91	840,462	\$21.03
2008	\$15,358,023.35	840,462	\$18.27
All Years	\$74,343,229.22	840,462	\$88.46

# Consumer choice

- Most communities' zoning and street design codes make it illegal to create walkable neighborhoods
- Walkable neighborhoods are undersupplied
- Housing consumers will pay a premium for walkable neighborhoods



Regulation, Markets, and Choices in  
Transportation and Metropolitan Land-Use  
JONATHAN LEVINE

# Access to public open space



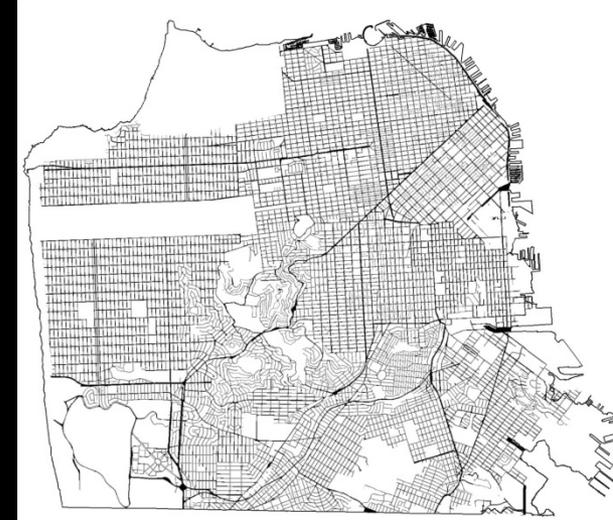
## Private parcels:

- 57% of city land



## Parks:

- 18% of city land  
- 42% of **public** land

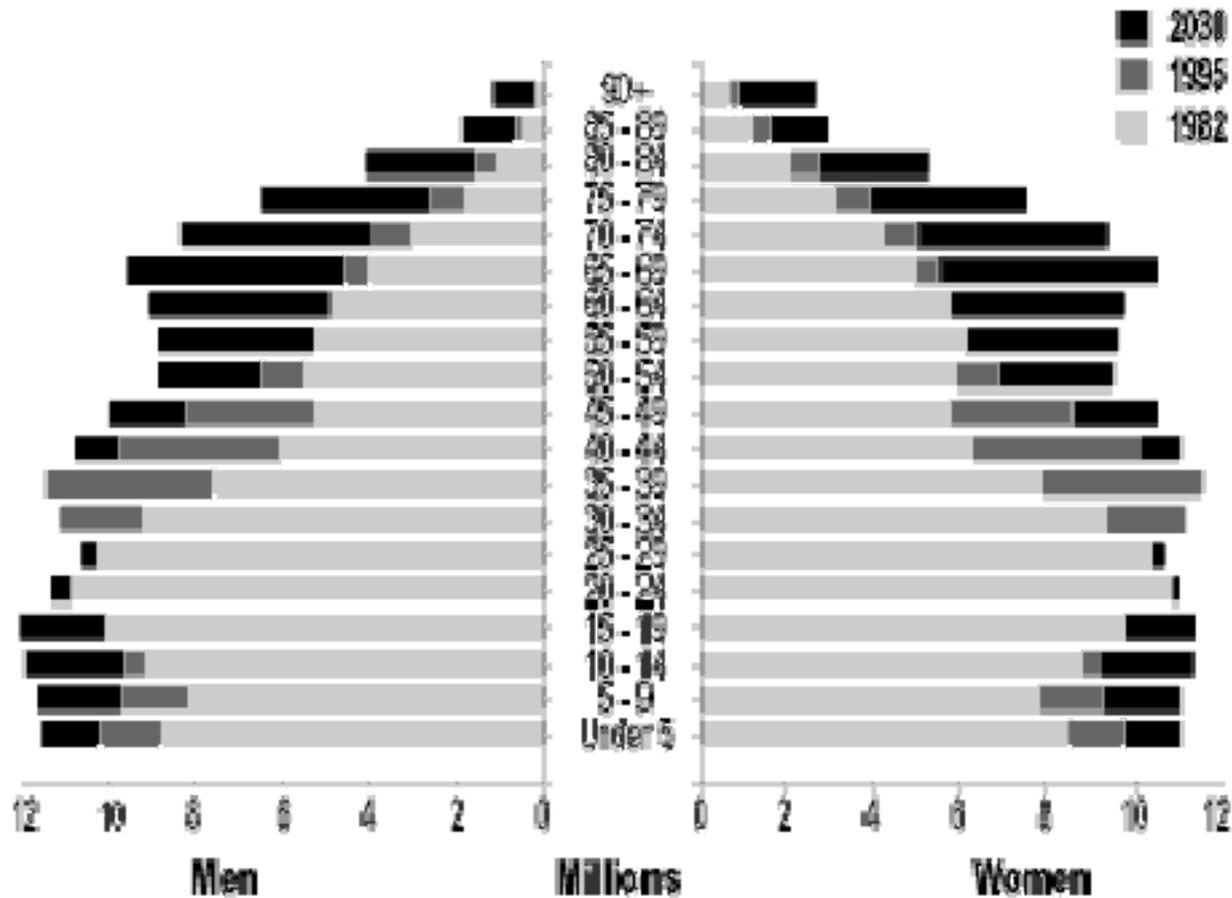


## Streets:

- 25% of city land  
- 58% of **public** land

# The “Silver Tsunami”

Figure 3. Expanding Aging U.S. Population



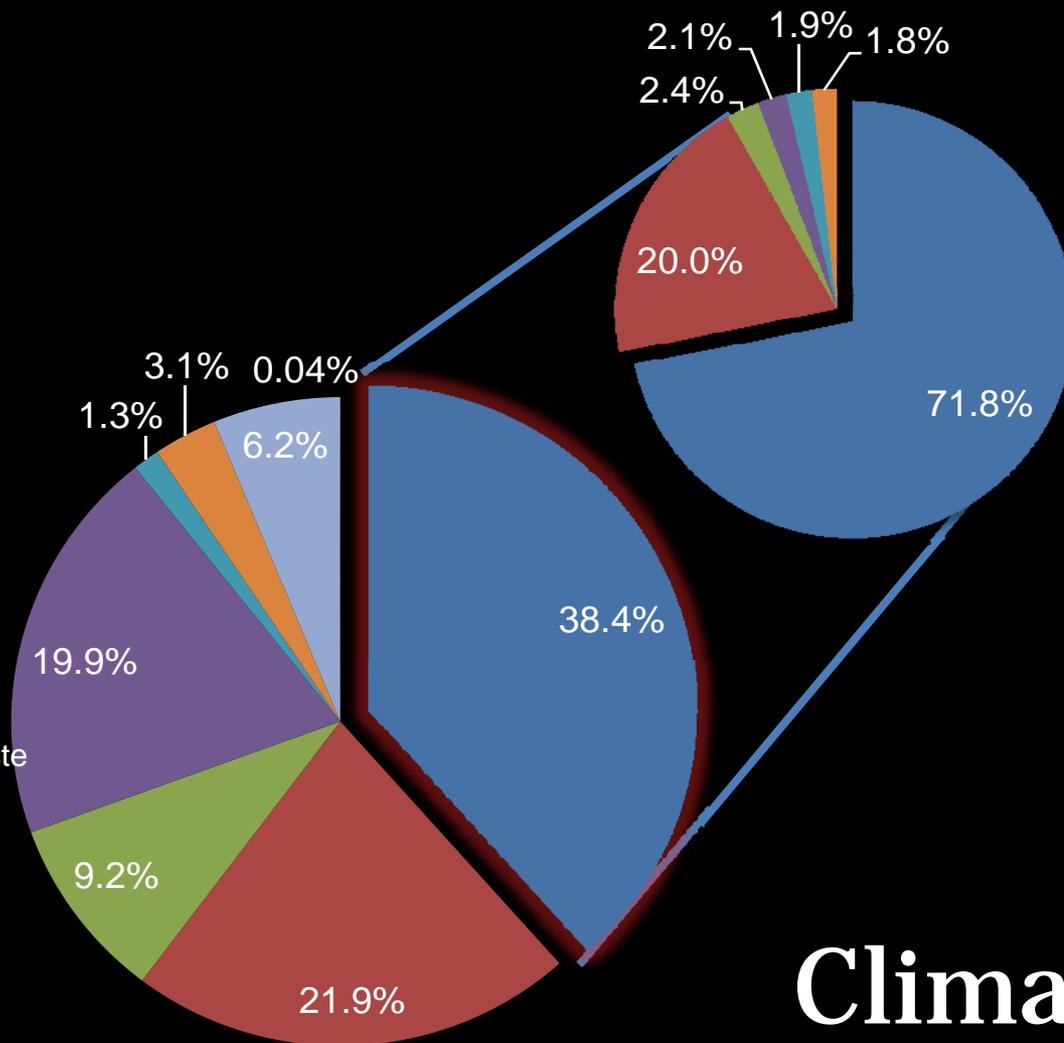
Source: U.S. Census Bureau, Population Projections of the United States by Age, Race, and Hispanic Origin: 1993-2030, P25-1104, 1993

# California Total CO<sub>2</sub> Emissions

# California Transportation Emissions

- Transportation
- Electric Power
- Commercial and Residential
- Industrial
- Recycling and Waste
- High GWP
- Agriculture
- Forestry

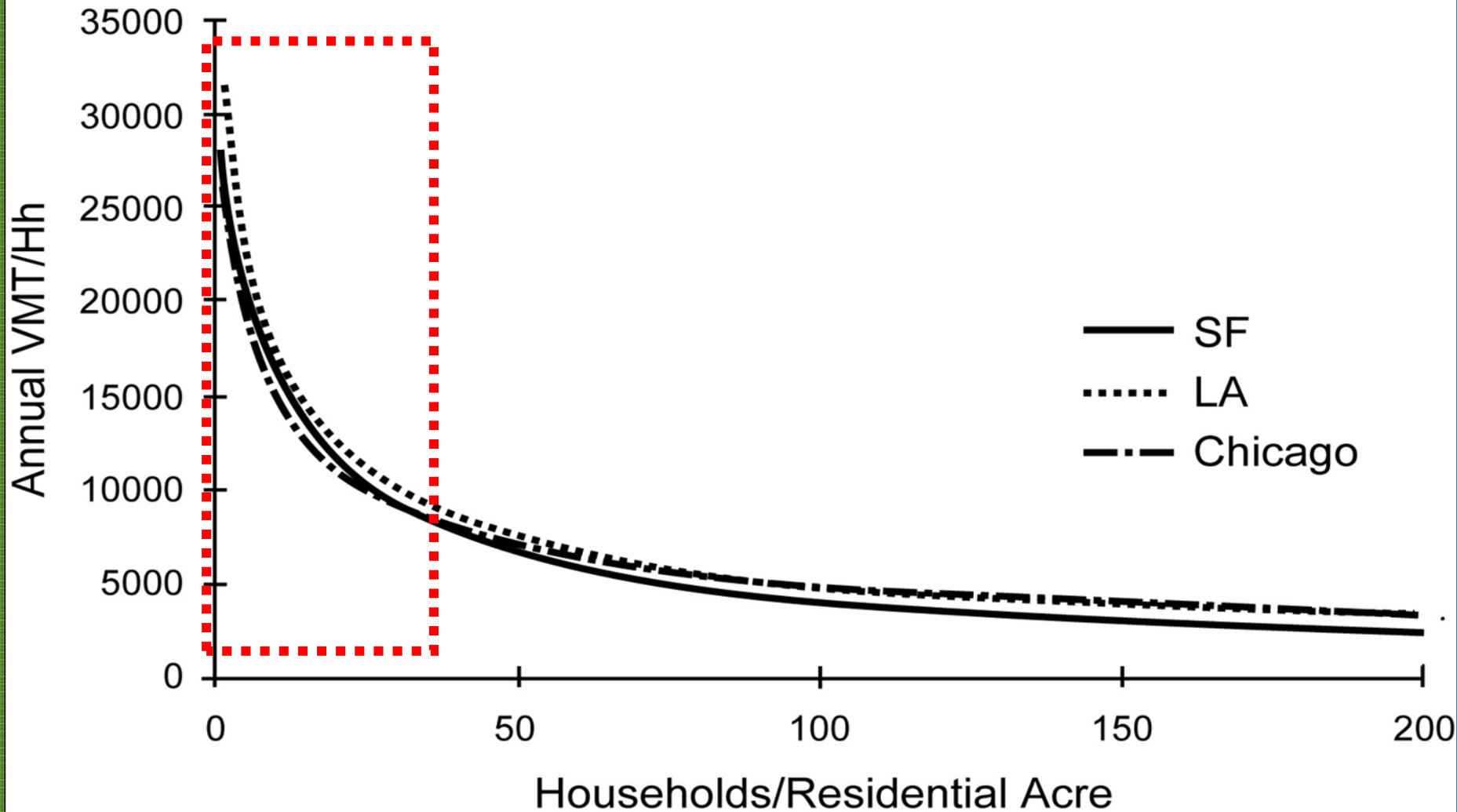
- Passenger Vehicles
- Heavy Duty Trucks
- Ships & Commercial Boats
- Aviation (Intrastate)
- Rail
- Unspecified



# Climate change

Source: 2006 California Air Resources Board Greenhouse Gas Inventory

# Driving vs Residential Density



# Leveraging transit \$

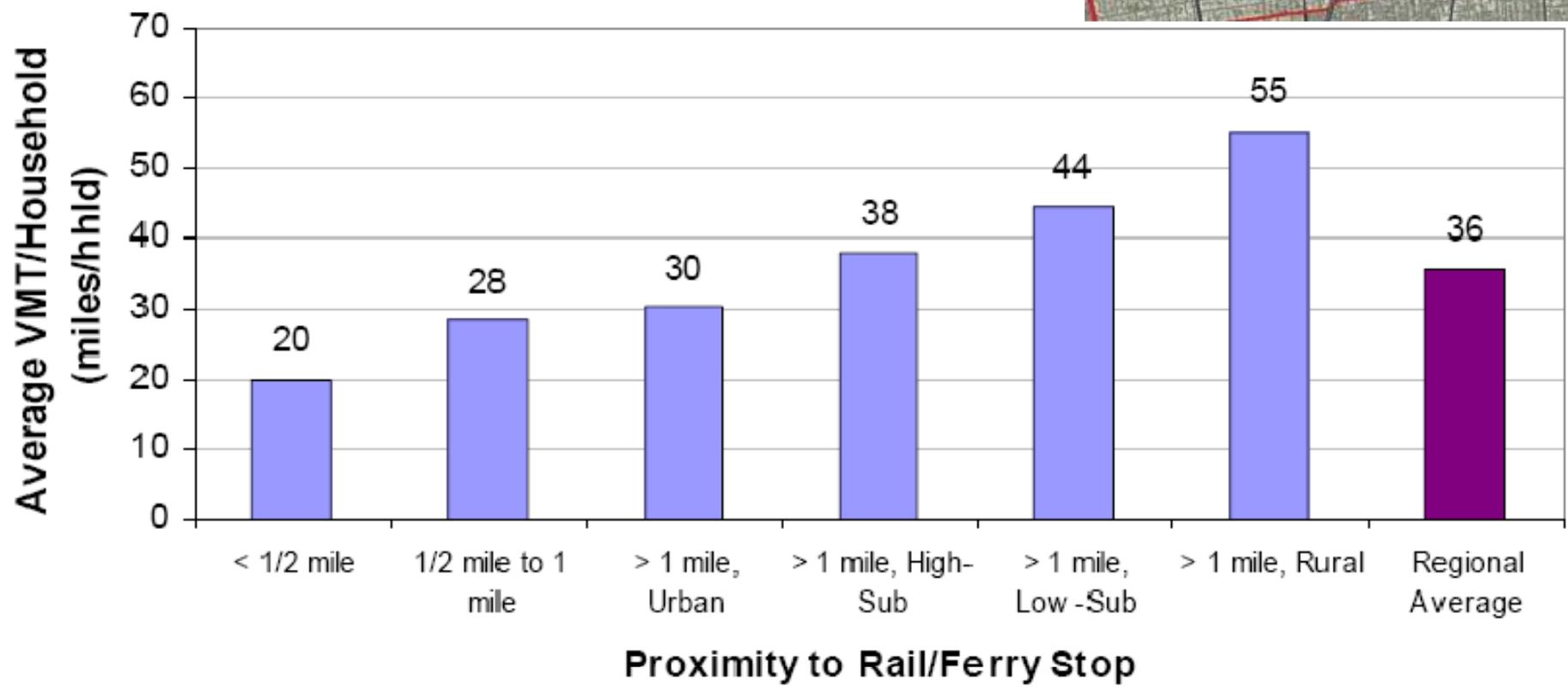


Image source: San Francisco Bay Area MTC

# Community health

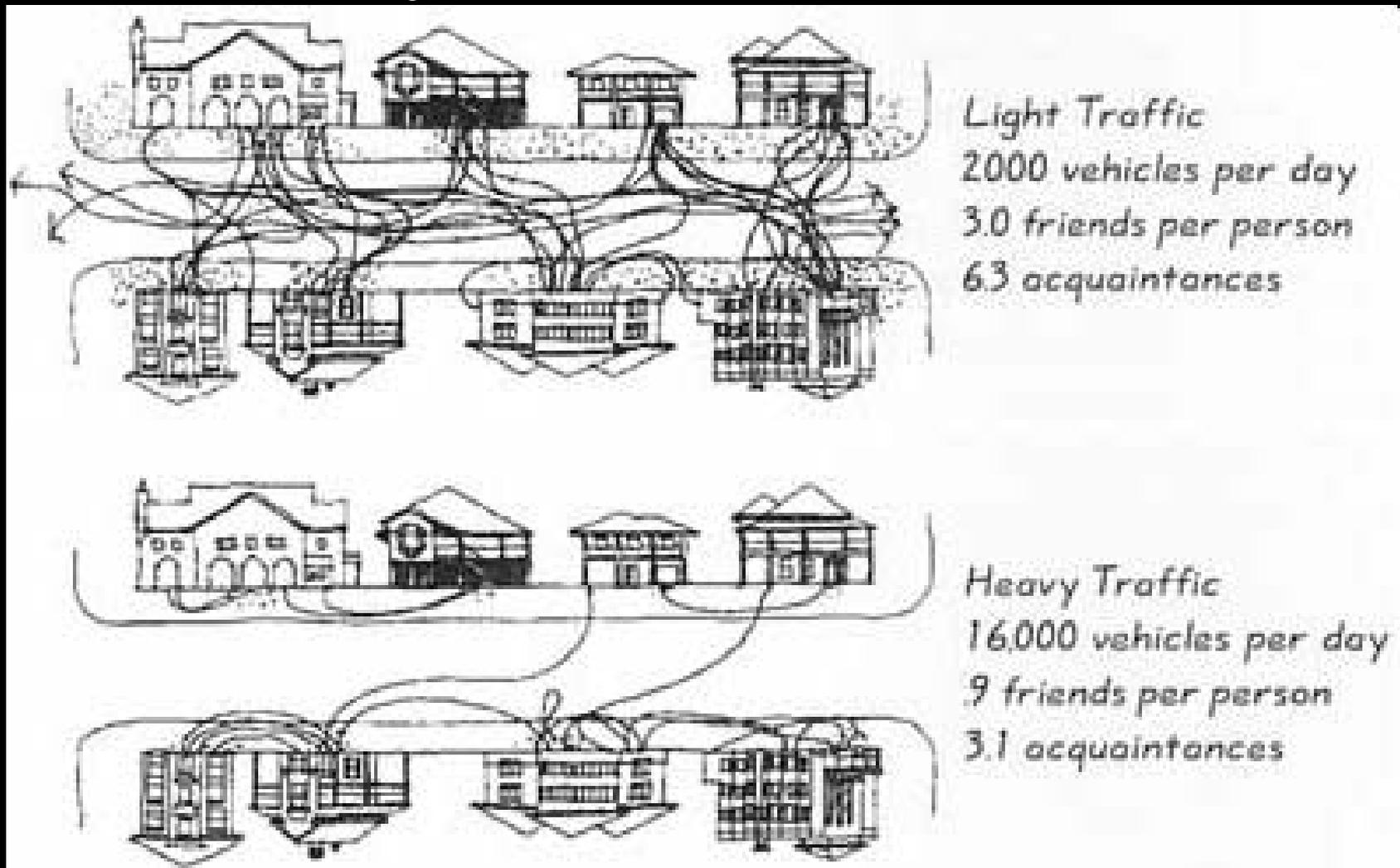


Fig. 1.1. Lines show where people said they had friends or acquaintances.  
(Adapted from D. Appleyard, *Livable Streets*.)

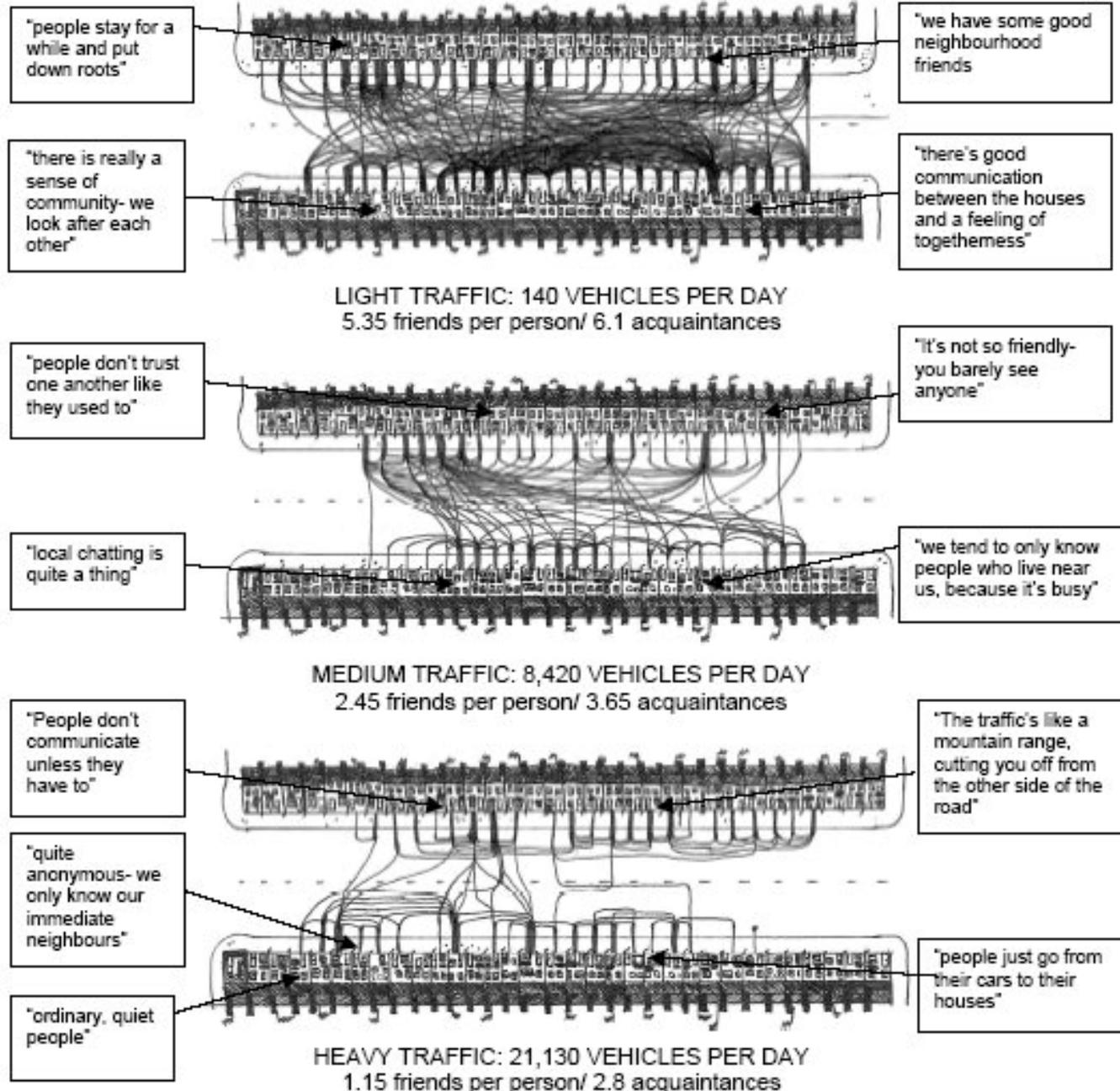


Figure 4.6 Community interaction on three Bristol streets: lines represent friendships or acquaintances, dots represent where people are said to gather and chat.

# My reasons for caring...



What are your reasons?





What are the barriers to active transportation in your community?

# Typical General Plan polices....

- Create mixed-used neighborhoods
- Add appropriate density near transit
- Encourage alternative modes
- Reduce vehicle travel
- Promote bicycling and walking
- Build complete streets
- Honor motherhood
- Enjoy apple pie





Image source: Dan Burden



# Mixed message?



*Image source: Diabetes Daily*



*Image source: Carbolc Smokeball*



How can your community craft policies that support active transportation?



# Step 1: Establish Multimodal Street Types



## Step 2: Establish Multimodal Performance Goals



# Step 3: Measure Impacts on All Modes



## Step 4: Mitigate Impacts to Sustainable, Efficient Modes



# Step 5: Develop Multimodal Streetscape Design Standards

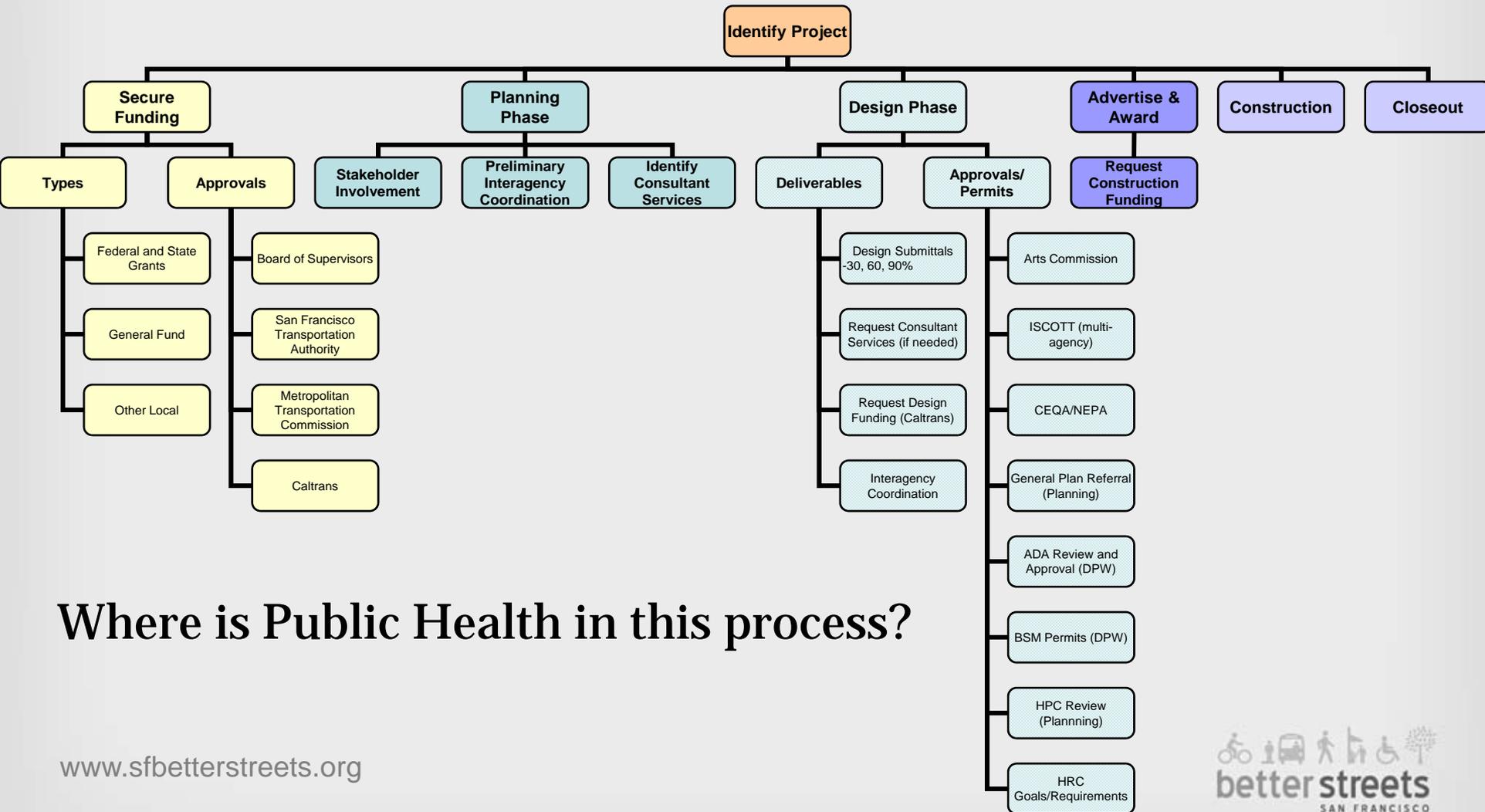


# Step 6: Reform Zoning Code

A solid green vertical bar is positioned on the left side of the slide, extending from the top to the bottom.

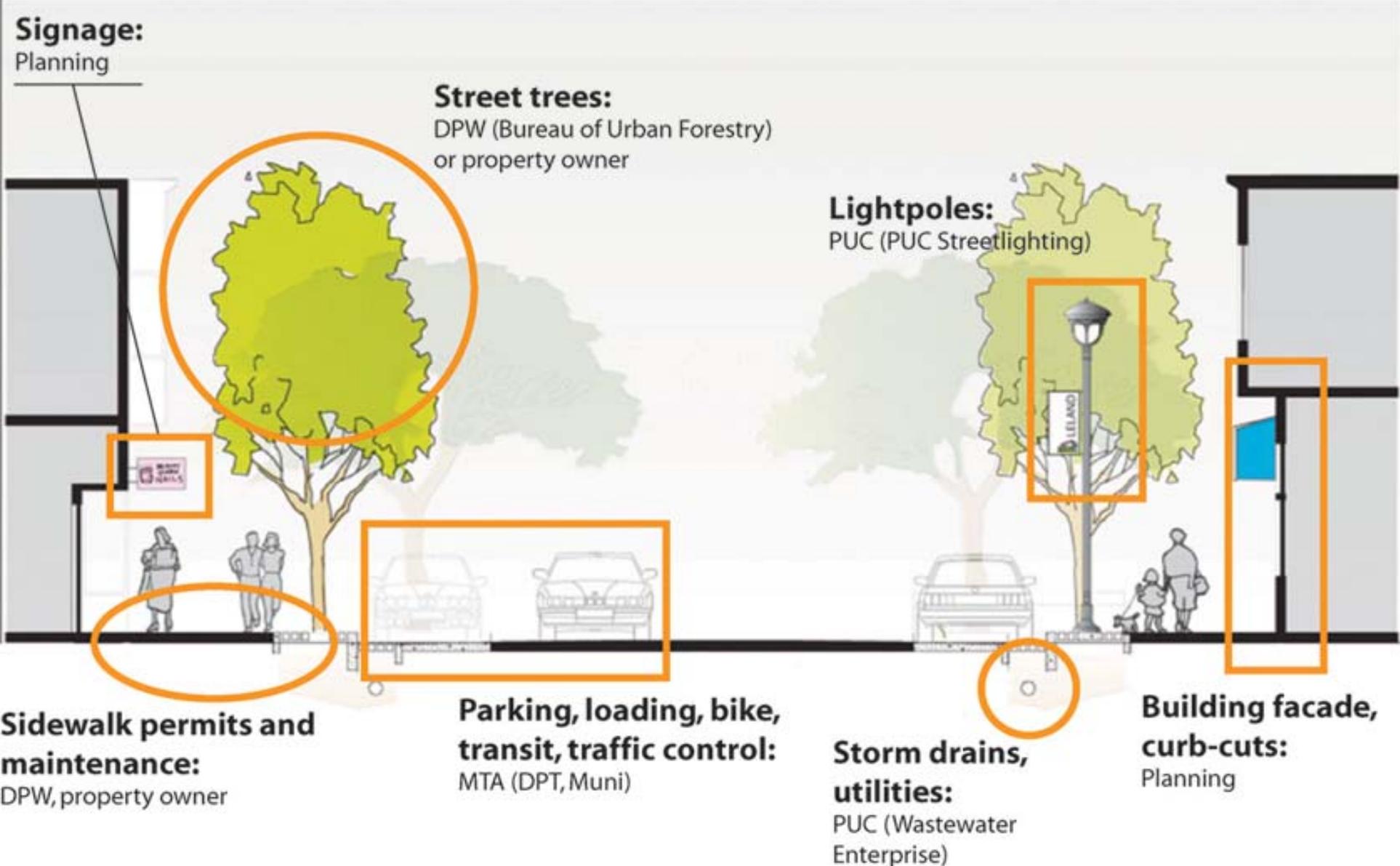
*Be at the table when decisions  
are made about the built  
environment.*

# Typical Street Design Process



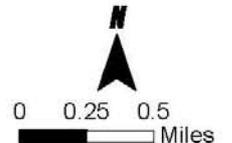
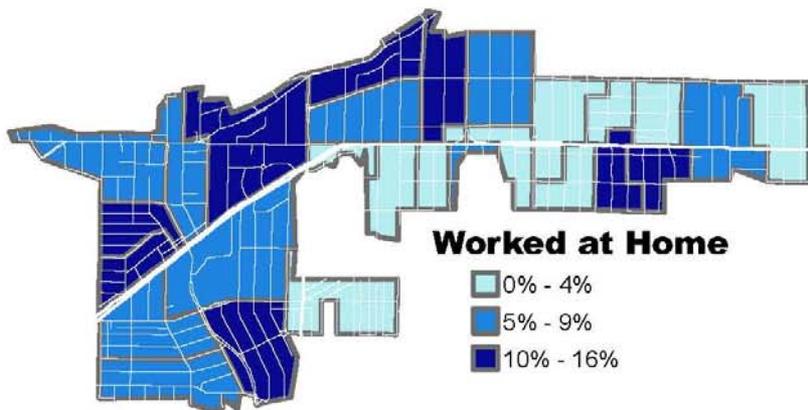
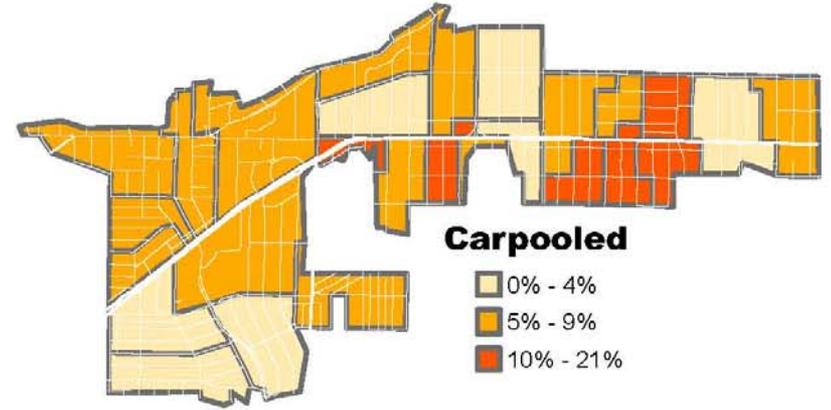
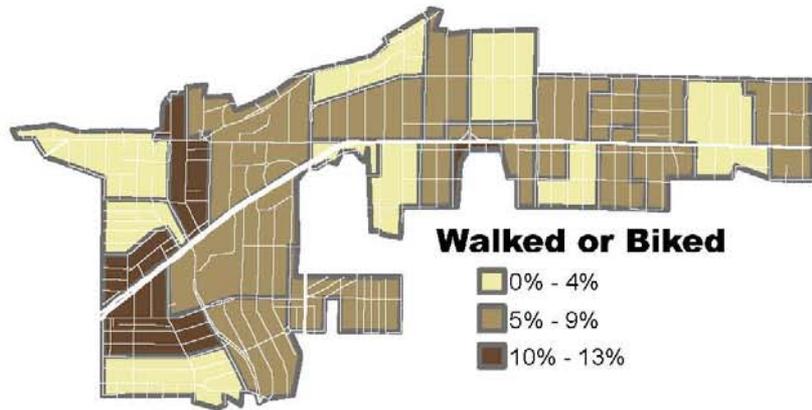
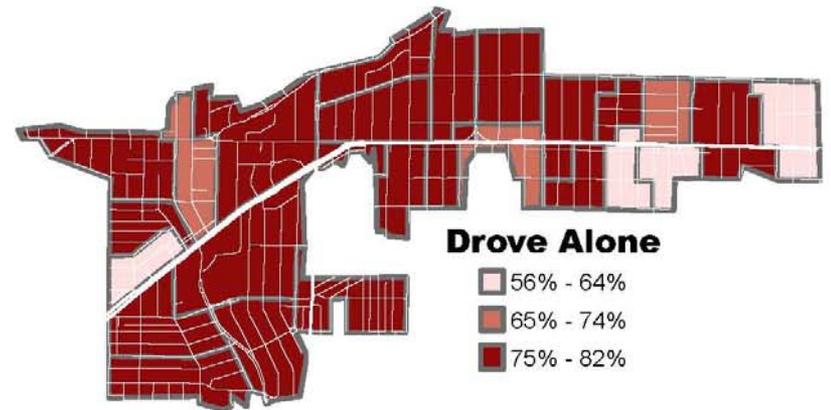
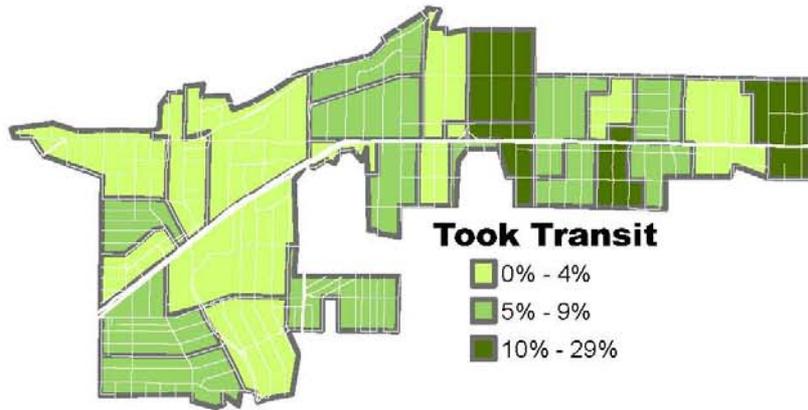
Where is Public Health in this process?

# Public Health as Catalyst/Coordinator?



A vertical bar on the left side of the slide with a green, grid-like texture.

# Case study



**JOURNEY TO WORK MODE SPLIT**

**Nelson Nygaard**  
consulting associates

Percentage of total trips per block group, by mode  
(2000 data from the Census Transportation Planning Package)

GIS Data Source: LA County, SCAG, ESRI



San Dimas

15,810 miles per person

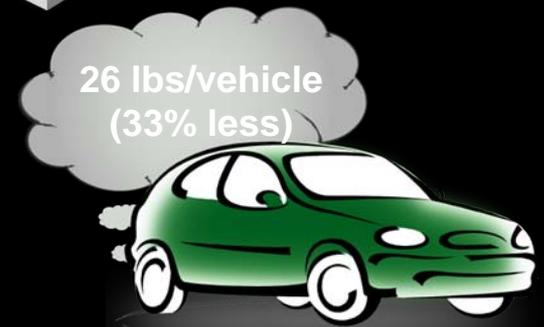


West Hollywood

8,948 miles per person  
(40% less)

**Annual VMT per Person**

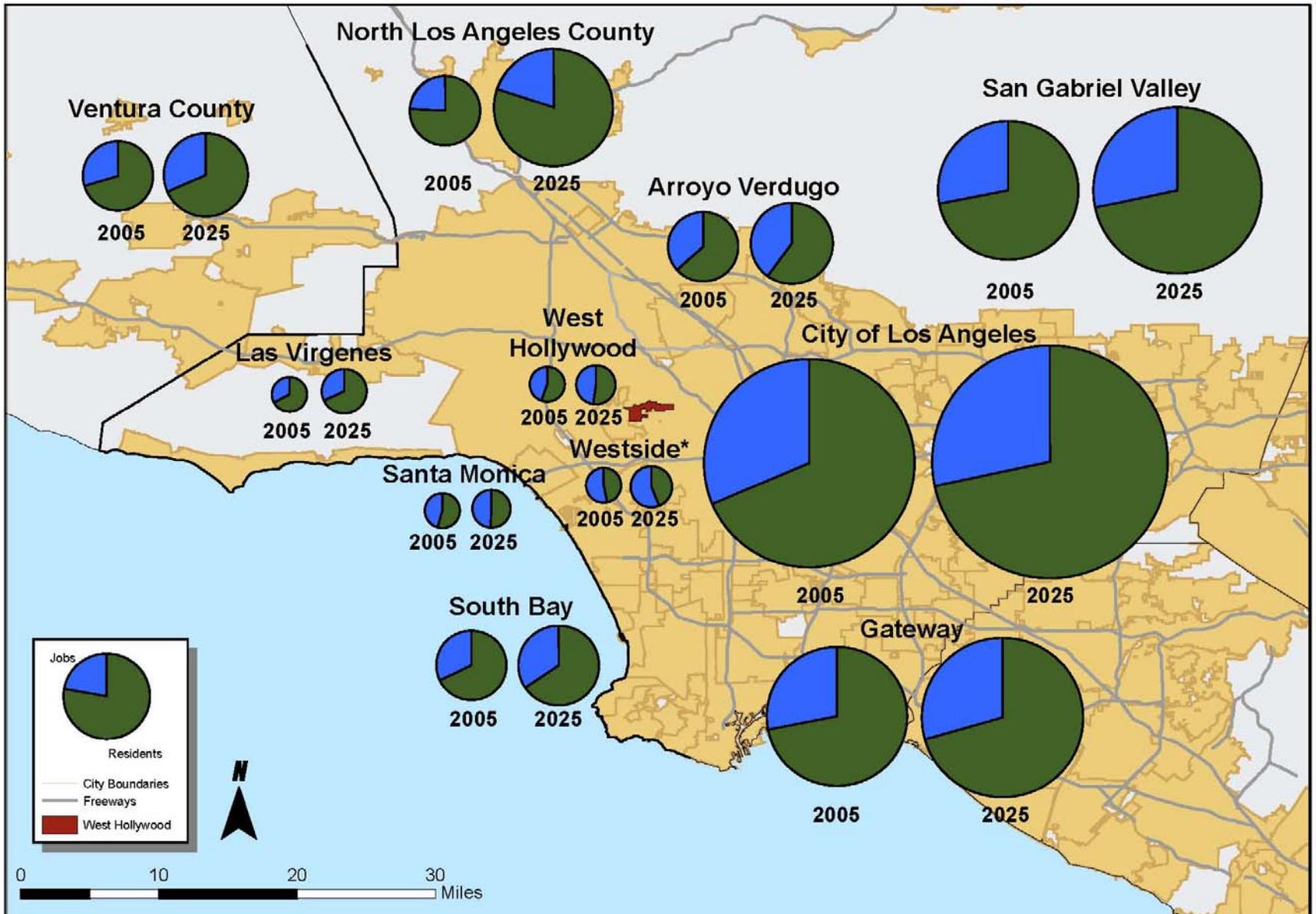
# Annual CO2 Emissions per Household and Vehicle



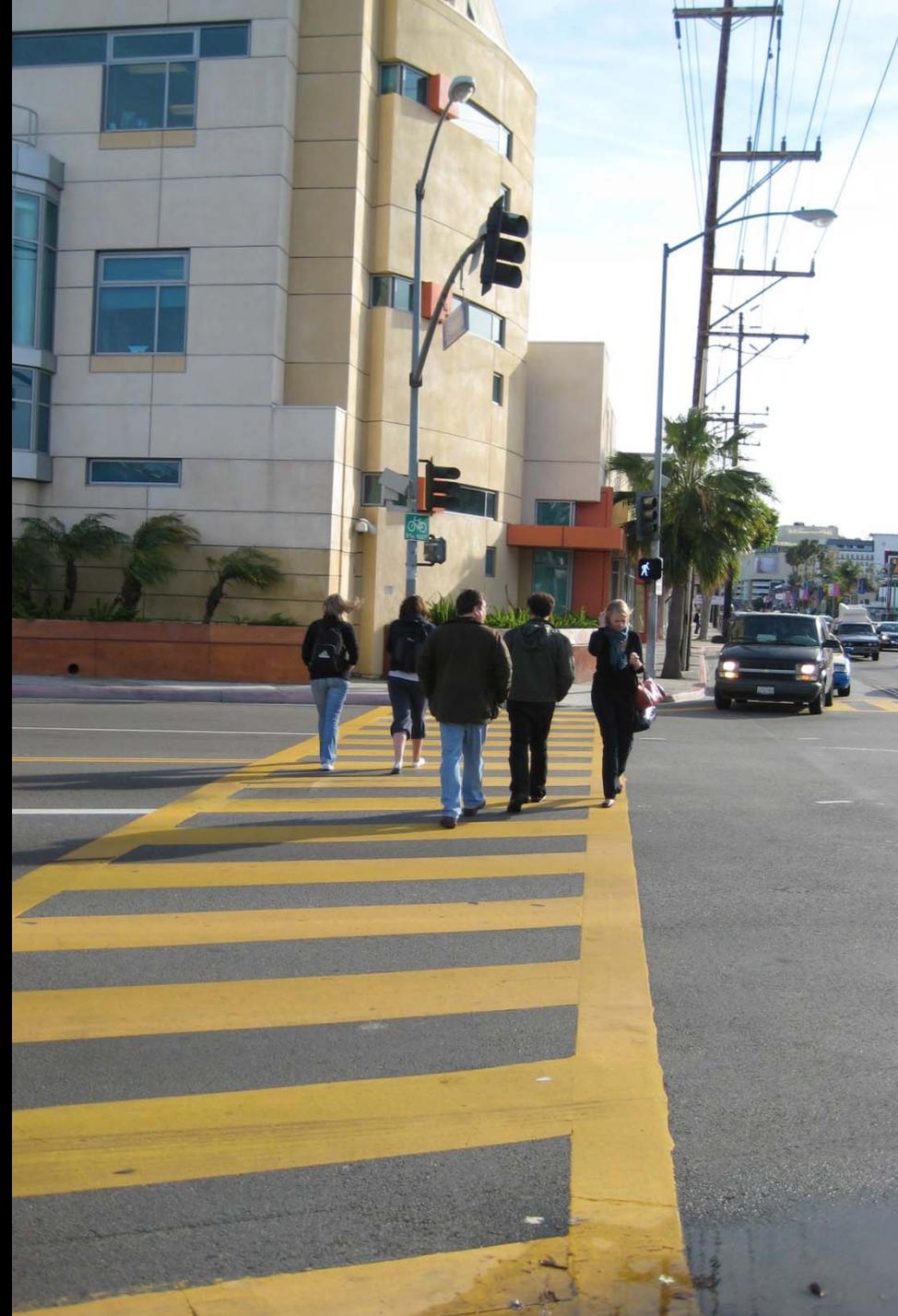
San Dimas

West Hollywood

# Current and Projected Southern California Jobs and Population



# Pedestrian System Improvements





# Bike System Improvements



# Transit System Improvements



# Bike Sharing



Flickr user Fred Camino

# Subsidized Transit

# Car Sharing





# Reform Auto Parking Requirements for Development



# Unbundled Auto Parking

# Pricing of Public Auto Parking



A photograph of a multi-story, modern medical building with a light-colored, grid-like facade. The building has many windows, some of which are dark, suggesting they are closed. The top of the building features the Cedars-Sinai Medical Center logo and name. The bottom part of the building is a lower, more solid structure with a sign that reads "DAVID L. SAPERSTEIN CRITICAL CARE TOWER" and "Women's Guild Pulmonary Disease Institute". A street with a few cars and a person is visible in the foreground.

CEDARS-SINAI MEDICAL CENTER



# Auto Parking Cash Out

# Methodology to be used

- Define the suite of policies/programs
- Tailor policies/programs to each General Plan alternative
- Review available literature and studies
- Estimate trip reduction impacts
  - Based on empirical studies and professional judgment
  - Planning-level, order of magnitude
  - Conservative in all assumptions
- Integrate estimates with traffic model

# Sample Model Output

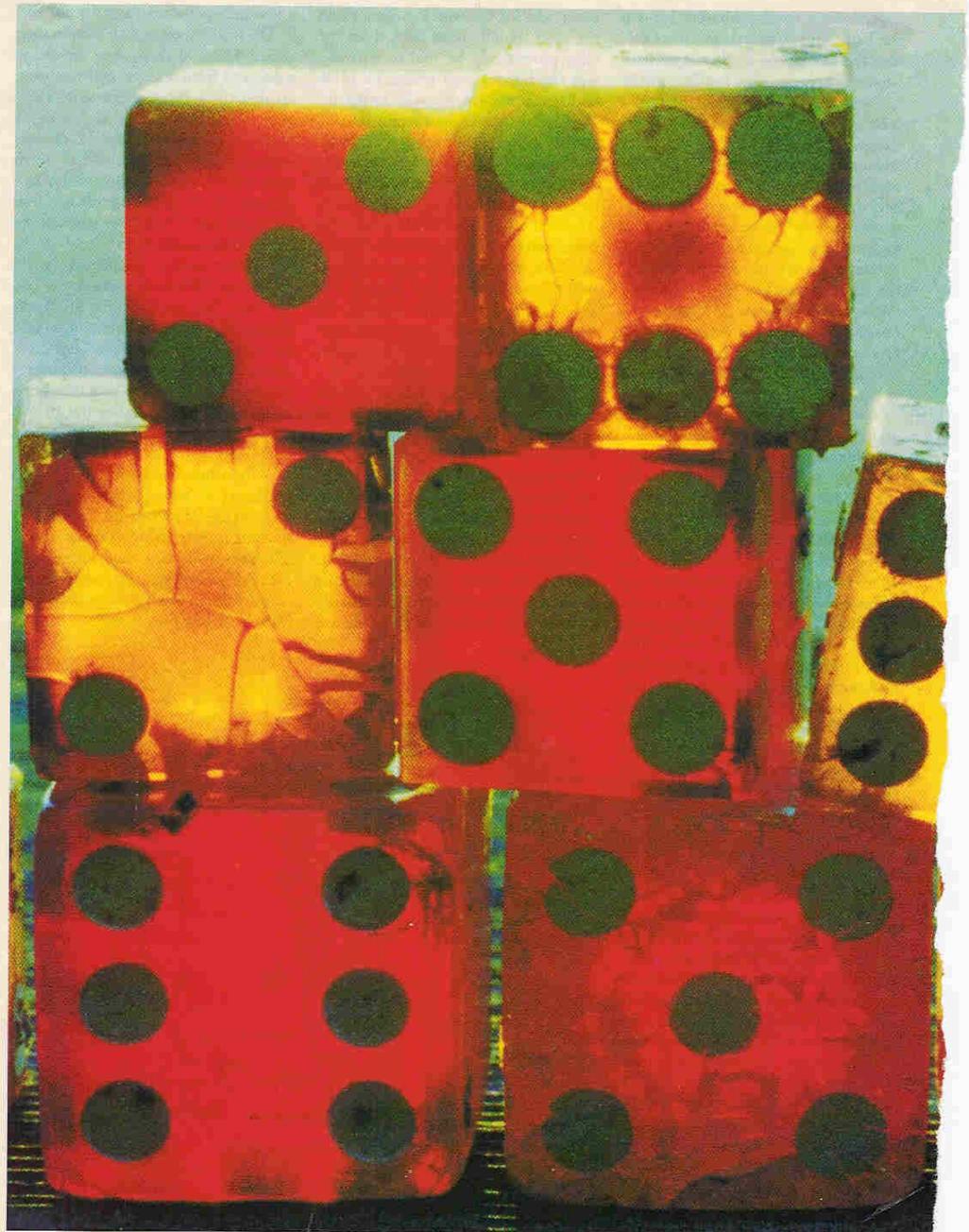
Strategy	Trip Type Affected <sup>1</sup>	Reduction in Peak Hour Vehicle Trips <sup>3</sup>				Impact on Household Auto Ownership			
		Plan SB	No Project	Alternative 1	Alternative 2	Plan SB	No Project	Alternative 1	Alternative 2
Reduced or Eliminated Minimum Parking Requirements	Commuter	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Unbundled Parking	Commuter, Non-Commuter	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: 15%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 15%
		Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 0%
Public Parking Pricing	Commuter	Area 1/2: 25.1%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 44.2%	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>
		Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>
Bike System Improvements <sup>4</sup>	Commuter	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Pedestrian System Improvements	Commuter, Non-Commuter	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Transit System Improvements	Commuter, Non-Commuter	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Subsidized Transit Passes	Commuter	Area 1/2: 5.5%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 12%	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>
		Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>
Parking Cash-Out	Commuter	Area 1/2: 3%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 12%	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>
		Area 3/4: 1%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 8%	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>
Car Sharing	Non-Commuter	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>1</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: 12.5%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 12.5%
		Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>1</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 5%
Bike Sharing <sup>5</sup>	Commuter, Non-Commuter	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Safe Routes to School <sup>6</sup>	Non-Commuter	Area 1/2: 9%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 12%	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>1</sup>
		Area 3/4: 3%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 8%	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>
Carpooling <sup>7</sup>	Commuter	Area 1/2: 5%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 10%	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>
		Area 3/4: 5%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 10%	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>
Telecommuting/Alternative Work Schedules <sup>8</sup>	Commuter	Area 1/2: 10%	Area 1/2: 0%	Area 1/2: 0%	Area 1/2: 25%	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>	Area 1/2: N/A <sup>2</sup>
		Area 3/4: 5%	Area 3/4: 0%	Area 3/4: 0%	Area 3/4: 15%	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>	Area 3/4: N/A <sup>2</sup>
Commuter Trip Impact (Areas 1 & 2) <sup>9</sup>	Commuter	25.4%	0%	0%	45.3%	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Commuter Trip Impact (Areas 3 & 4) <sup>10</sup>	Commuter	5%	0%	0%	15%	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Non-Commuter Trip Impact (Areas 1 & 2) <sup>11</sup>	Non-Commuter	5%	0%	0%	6%	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Non-Commuter Trip Impact (Areas 3 & 4) <sup>11</sup>	Non-Commuter	2%	0%	0%	3%	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>

# Why do this analysis?

- Improve on conventional traffic models
- Inform policy decisions on General Plan Update
- Allow comparisons between the likely results of different future scenarios
- Get multimodal policies and programs included in the CEQA document as required mitigations for growth impacts

We can do  
nothing and  
just take our  
chances...

...or we can  
choose now to  
plan for change.



*Image source: The New Yorker*

# Why are we fiddling around?



*Image source Dzobel Blog*



*For more information...*

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