

# Complete Streets for Downtown Hayward

Hayward Downtown Specific Plan



Patrick Siegman  
March 2017



# What are streets for?

- Streets are public spaces of limited width
  1. What is the purpose of each street, and how does it fit into your overall network?
  2. Trade-offs are inevitable
  3. Set priorities based on a clear vision





# Measuring Success:

What gets measured gets done



Patrick Siegman



# How do we use Performance Measures?

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- Judging success or failure
- Reporting on achievement of **goals**
- Improving efficiency of system operations
- Managing a given road or corridor
- Prioritizing funding
- Measuring impact of new development
- Imposing development fees
- Reporting to Congestion Management Agency

# Old Speed Paradigm -> Automobile LOS

Arterial Class	I	II	III
Level of service	Average Travel Speed (MPH)		
A	$\geq 35$	$\geq 30$	$\geq 25$
B	$\geq 28$	$\geq 24$	$\geq 19$
C	$\geq 22$	$\geq 18$	$\geq 13$
D	$\geq 17$	$\geq 14$	$\geq 9$
E	$\geq 13$	$\geq 10$	$\geq 7$
F	$< 13$	$< 10$	$< 7$



Level of Service A



# Level of Service F



# Level of Service F

# What's important depends upon perspective

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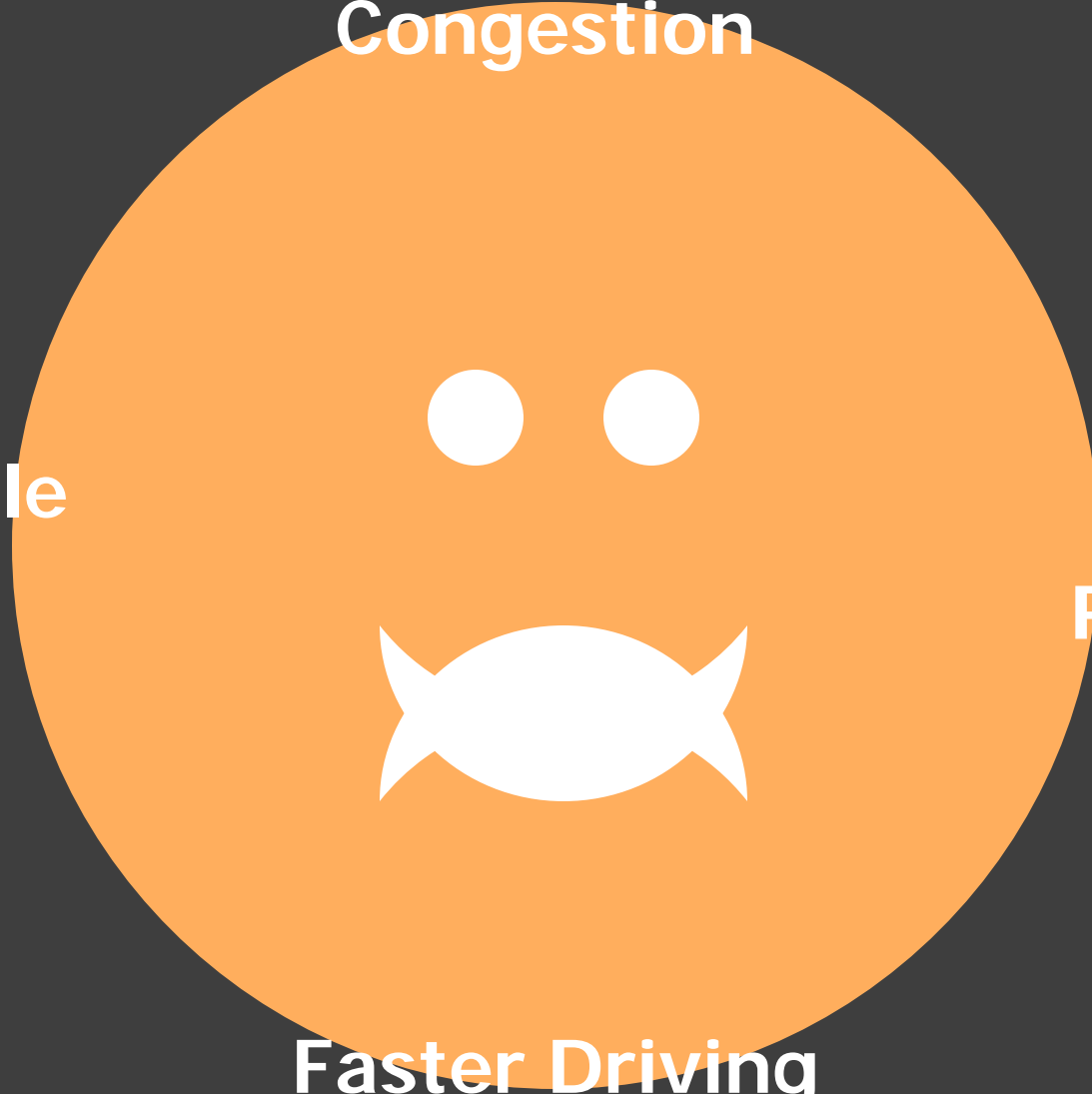
1960s Traffic engineer: **F** **A**

Economist: **A** **F**

# Induced and Latent Demand

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**Congestion**



**More People  
Drive**

**Widen  
Roadway**

**Faster Driving**

# Measure what matters

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## Why not Consider...

- Economic Development
  - Job creation
  - Real estate value increase
  - Retail sales
- Quality of Life
  - Access to jobs
  - Access to shopping
  - Residential property value impact
- Social Justice
  - Do benefits accrue equitably?
  - Are investments spread equitably?
- Ecological Sustainability
  - VMT per capita (=CO<sub>2</sub>, NO<sub>x</sub>, runoff, etc.)
  - Land use/transportation connection

# Step 1: Set Goals

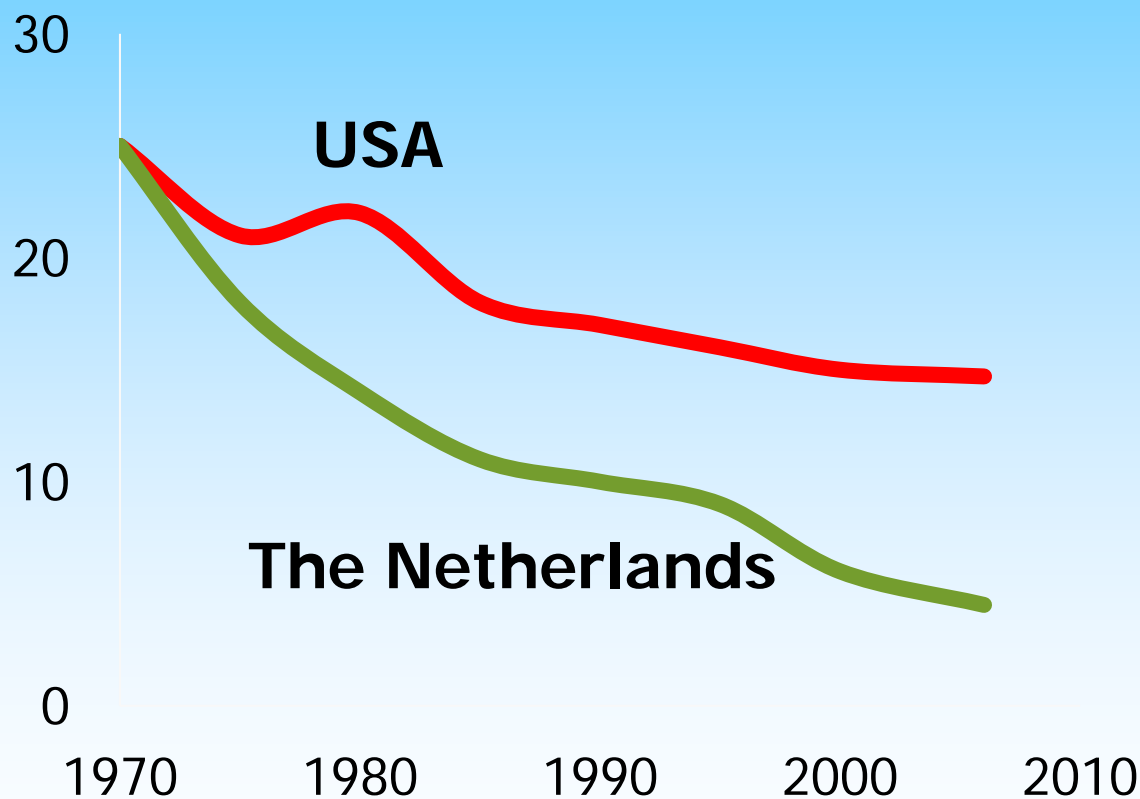
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- Transportation is a means for achieving larger community goals, not an end in itself
- Hayward's 2040 General Plan sets goals
- Hayward needs to adopt performance metrics that align with its key goals



# A Performance Metric for *Safety*: Traffic Fatality Rate

*(per 100,000 population)*





SPEED  
LIMIT  
45

KEMPTON  
AUTO SALES  
963-7278

4523  
→



# Performance measures for Economics: retail sales, vacancy rates, property values

**35% decrease in injuries to all street users** (8th Ave)

**58% decrease in injuries to all street users** (9th Ave)

**Up to 49% increase in retail sales** (Locally-based businesses on 9th Ave from 23rd to 31st Sts., compared to 3% borough-wide)



# Transit Performance Metric: Transit Quality of Service (measures speed, frequency & reliability)

- **Frequent:** every 3-10 minutes during peak hours
- **Fewer stops:** stops spaced about a  $\frac{3}{4}$  mile apart, like rail lines
- **Level boarding:** low-floor buses reduce dwell times
- **Bus priority** at traffic signals
- **Enhanced stations:** lighting, canopies and real-time arrival displays



# Transit Priority

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## Bus Rapid Transit



- **Frequent: every 3-10 minutes during peak hours**
- **Fewer stops: stops about  $\frac{3}{4}$  mile apart, like rail lines**
- **Level boarding: low-floor buses reduce dwell times**
- **Bus priority at traffic signals**

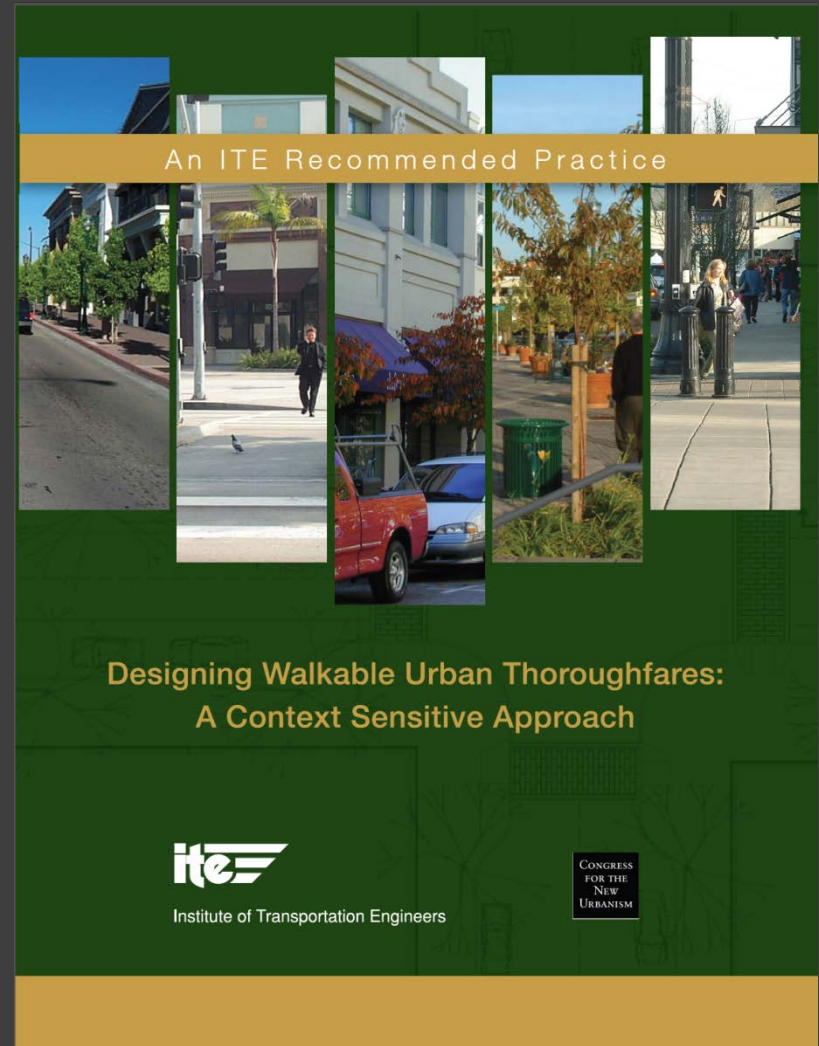
# Adopt a performance metric for each key goal

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- Cities need to establish **performance metrics** that align with their **goals**.
- **Sample performance metrics**
- **Safety:** # of fatalities & injuries
- **Economics:** retail sales, vacancy rates, property values
- **Transit:** transit speed, frequency & reliability
- **Traffic & Pollution:** vehicle miles traveled per capita (VMT/capita)
- **Automobile speed:** Auto Level of Service (LOS)

# INCORPORATE RECENT ADVANCES IN STREET DESIGN

# New manuals adopted by FHWA & Caltrans



# DO PILOT PROJECTS

# Do one-year pilot programs

## Test new designs

- Paint & soft-hit posts are cheap
- Let citizens see & try real designs
- Make adjustments quickly
- Gather real-world data and informed feedback





# SAFETY IN NUMBERS

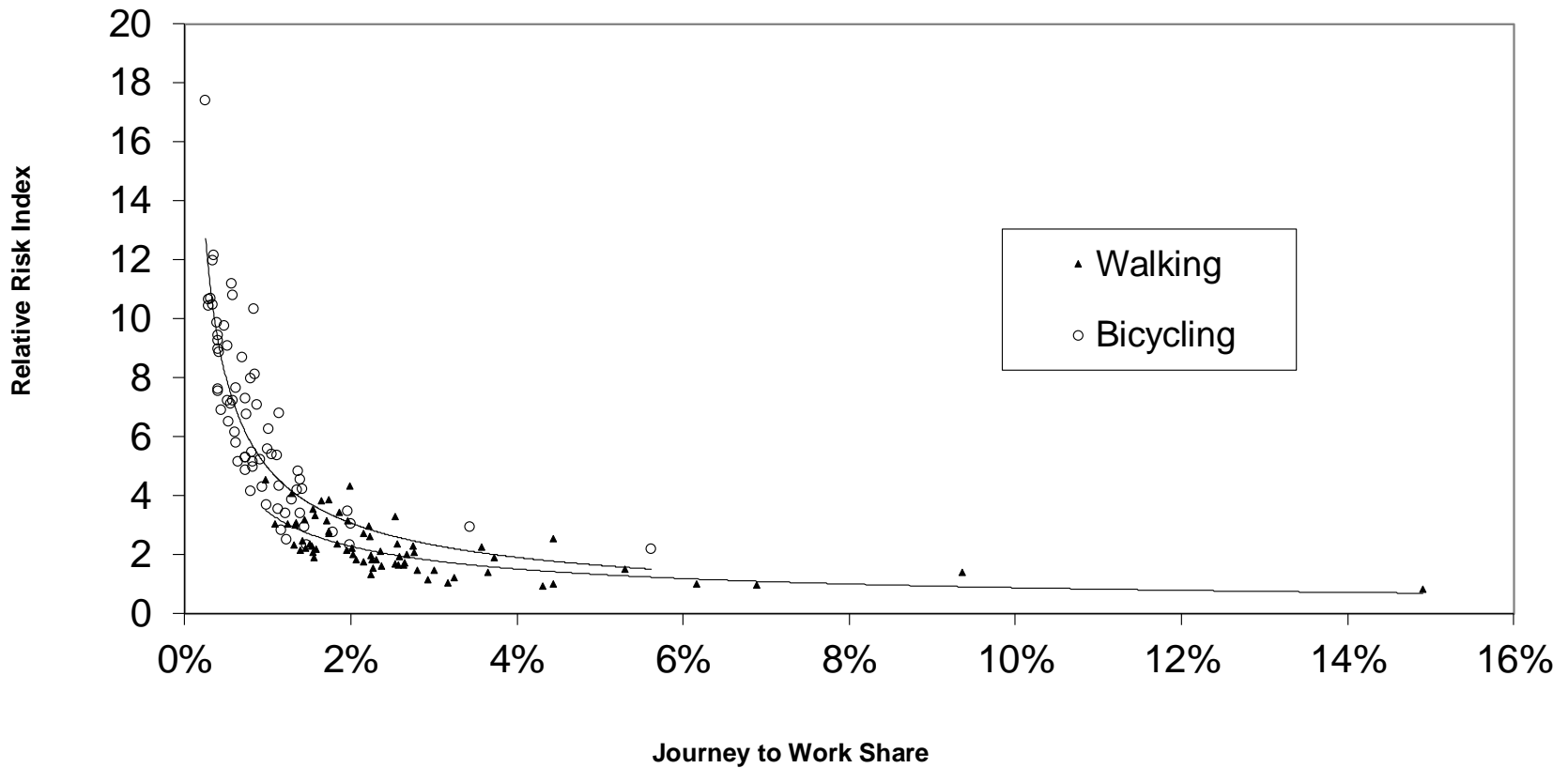


## Valencia St. Road Diet: Findings of the first-year evaluation report

- **“Bicycle usage on Valencia Street increased 144 percent during the PM peak hour.”**
- **“No statistically significant change in the number of collisions on Valencia Street or the four parallel arterials in the period before and after the bicycle lanes.”**

# Safety in Numbers

## Walking and Bicycling in 68 California Cities



# TRAFFIC CALMING

## FATALITIES BY SPEED

Percent fatal to Pedestrians



There is compelling evidence that speeds inside should not exceed 30 KPH (20 mph)

# ROUNDTABOUTS

# Example: Stanford's Campus Drive Road Diet

31

- 4 lanes to 2 lanes
- Modern roundabouts add capacity at intersections
- 4 roundabouts built so far

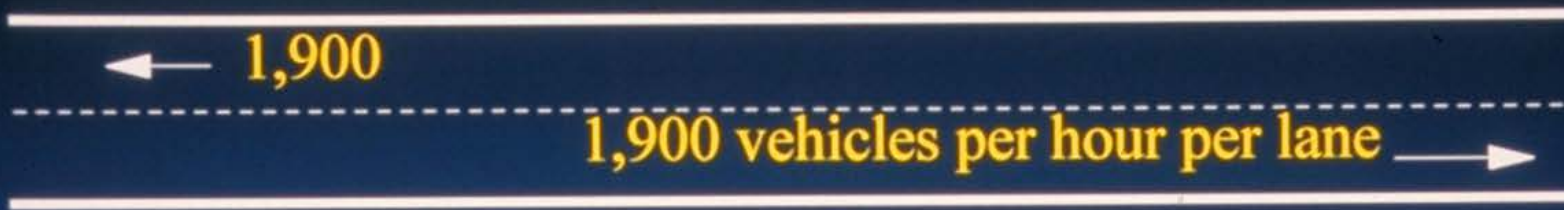


For more information:

<http://transportation.stanford.edu/roundabout/stanford.php>

# ROAD CAPACITY (VPH)

## Free unobstructed traffic flow

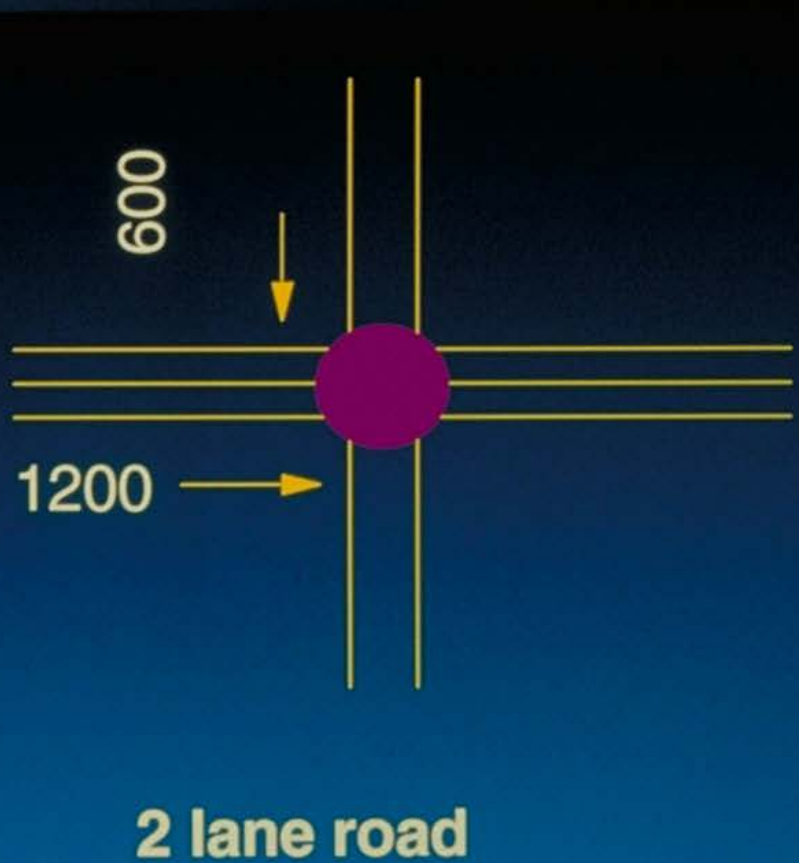
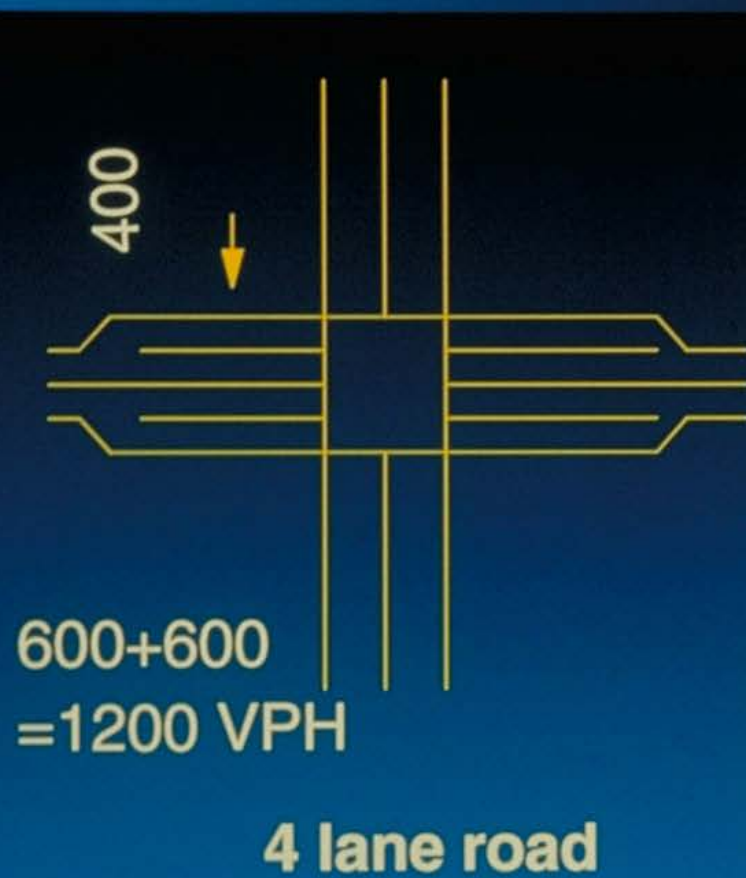


## With traffic signal controlled intersections



Traffic flow depends upon available green time, and be as low as 550 vphpl.

# Narrow Streets / Wide Nodes



# Fewer Lanes Needed

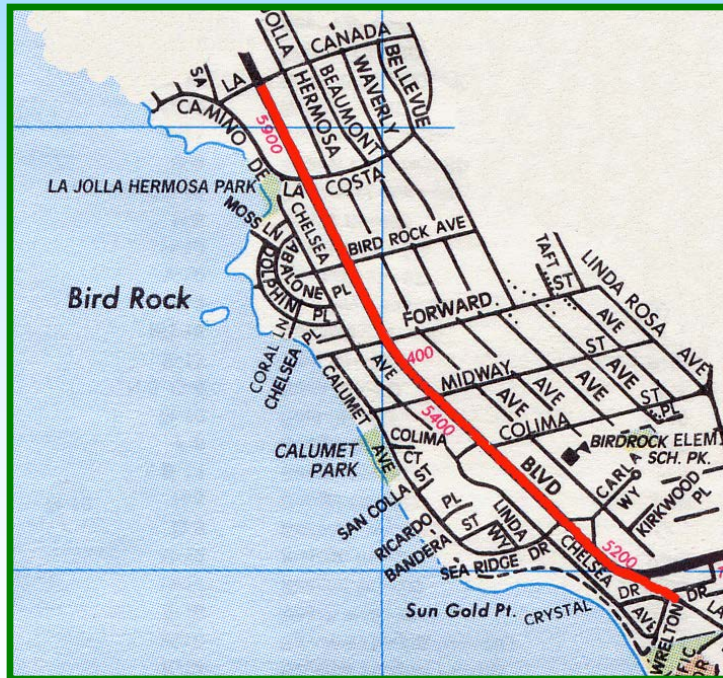
"Roads are often widened to create storage for vehicles waiting at red lights, but the reduced delays and continuous flows at roundabouts allow the use of fewer lanes between intersections."

- **California Department of Transportation  
Design Information Bulletin #80:  
Roundabouts  
September 8, 1998**



# Where is Bird Rock / La Jolla Blvd ?

- La Jolla – PB route
- Bisepts Community
- 22,000 ADT



# Good fire response, terrible traffic safety



La Jolla Blvd looking North

Image courtesy of Nicholas Abboud & Siavash Pazargadi, City of San Diego

# Traffic safety problems



- Speeding
- Pedestrian safety
- Cut-through traffic

# Roundabout Safety – United States

## Decrease in Crashes:

- Overall: 39%
- Injury-producing: 76%
- Fatal or incapacitating: 90%

- "Crash Reductions Following Installation of Roundabouts in the United States"  
B. Persaud et al., Insurance Institute for Highway Safety, March 2000



Slide courtesy of Nicholas Abboud & Siavash Pazargadi, City of San Diego



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