

# Managing for Mobility

SHOPP Conference

August 28, 2002

# Mobility Element

- **Operational Improvements**
- **Transportation Management Systems**
- **Weigh Stations**
- **Bridge Clearance**

# Historical Perspective

- In 1938 the Traffic Department was created and assigned to coordinate and direct the many and varied efforts looking toward the one final goal of all highway endeavor: The safe and orderly movement of traffic.

# CALTRANS

## Mission

Caltrans improves mobility across California.

## Vision

California will have the best **managed** transportation system in the world.



# Performance Outcomes

- **Mobility/Accessibility**
- **Reliability**
- **Cost Effectiveness**
- **System Preservation**
- **Environmental Quality**
- **Safety and Security**
- **Equity**
- **Customer Satisfaction**
- **Economic Well-Being**

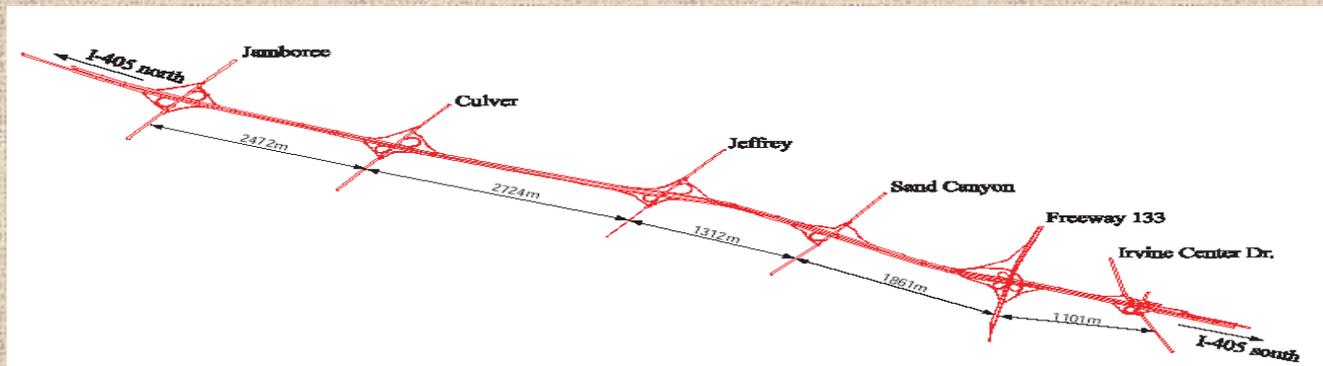
# System Performance

- PeMS
- Congestion Monitoring
- Special Investigations



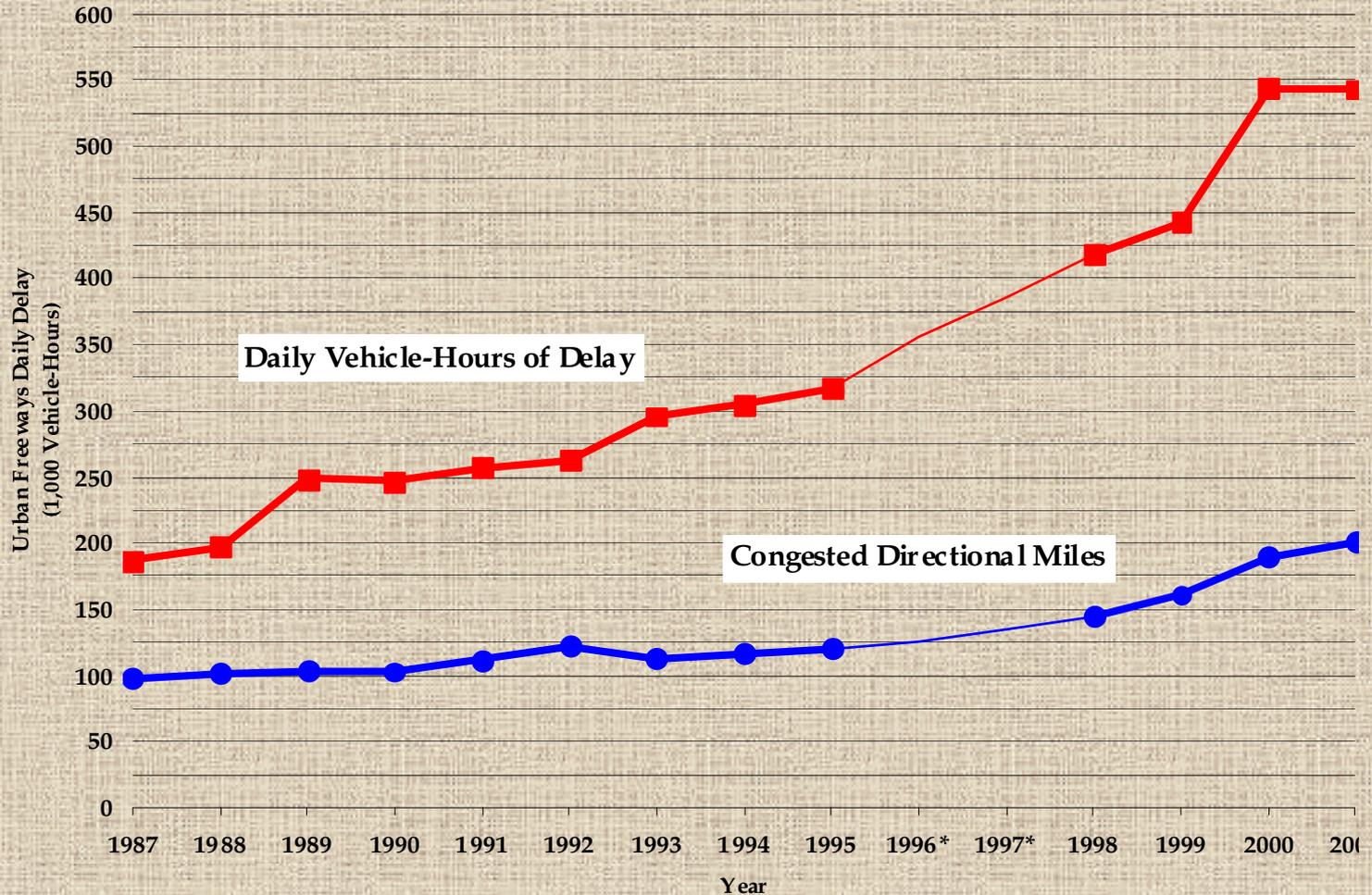
# Operational Analysis

- PeMS/Simulation Modeling



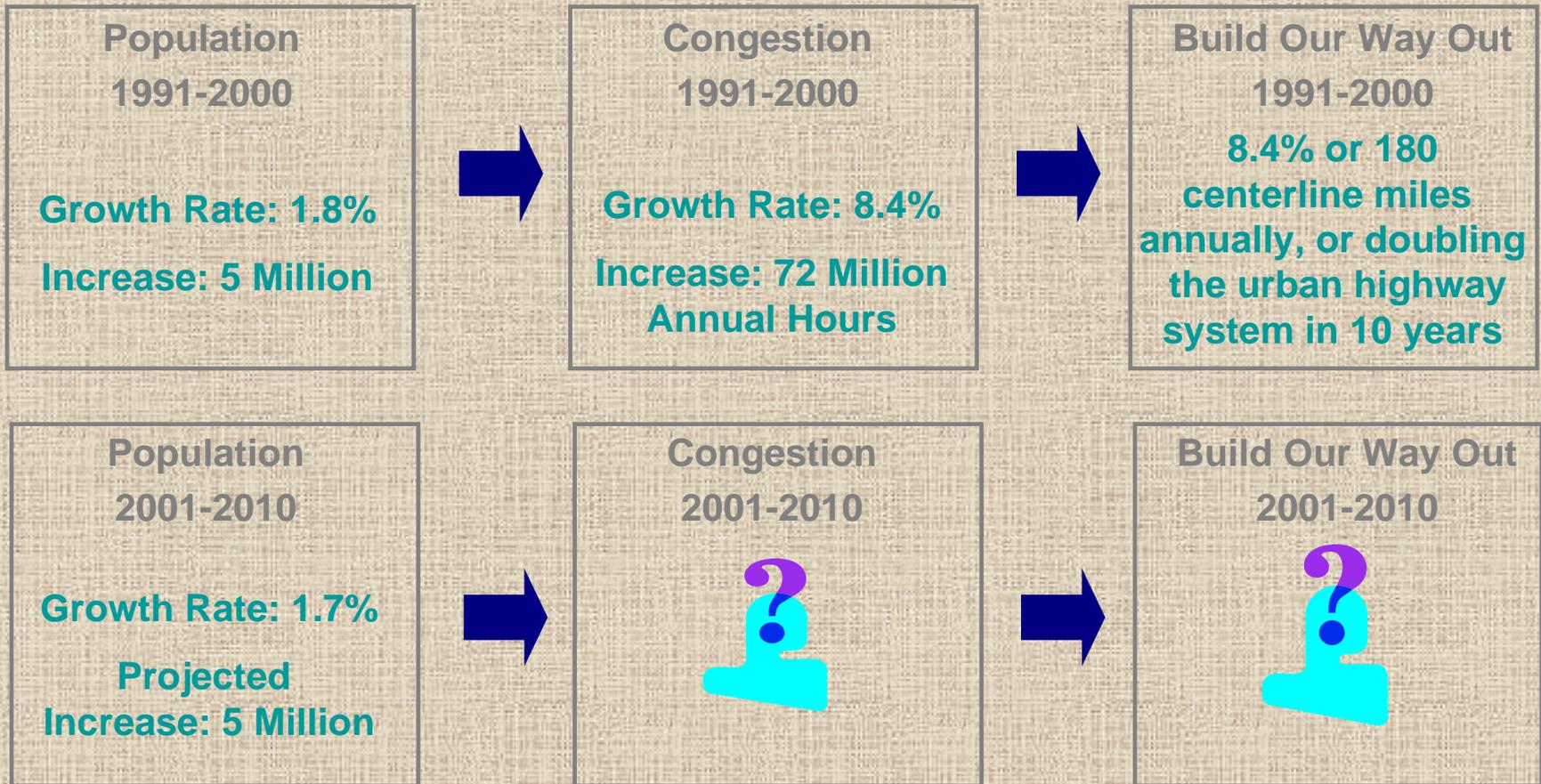
Sources: Fred Hall, McMaster University; AAA. Graphic by Ron Coddington, Quin Tian and April L. Urminger, USA TODAY.

# Congestion - A Mobility Threat



Source: Caltrans, Division of Traffic Operations, 2001 Highway Congestion Monitoring Program Annual Report

# A Growing Threat!

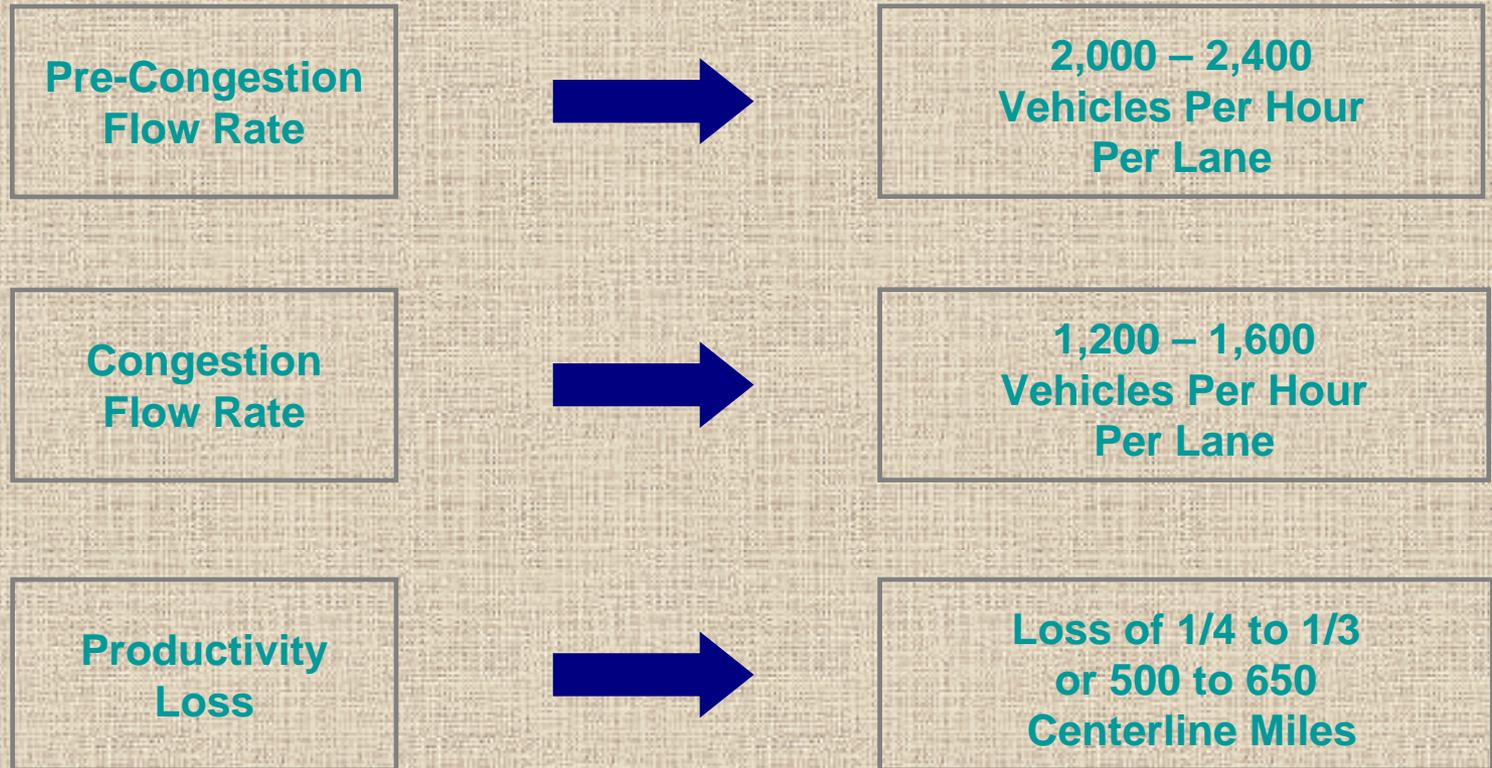


Sources:

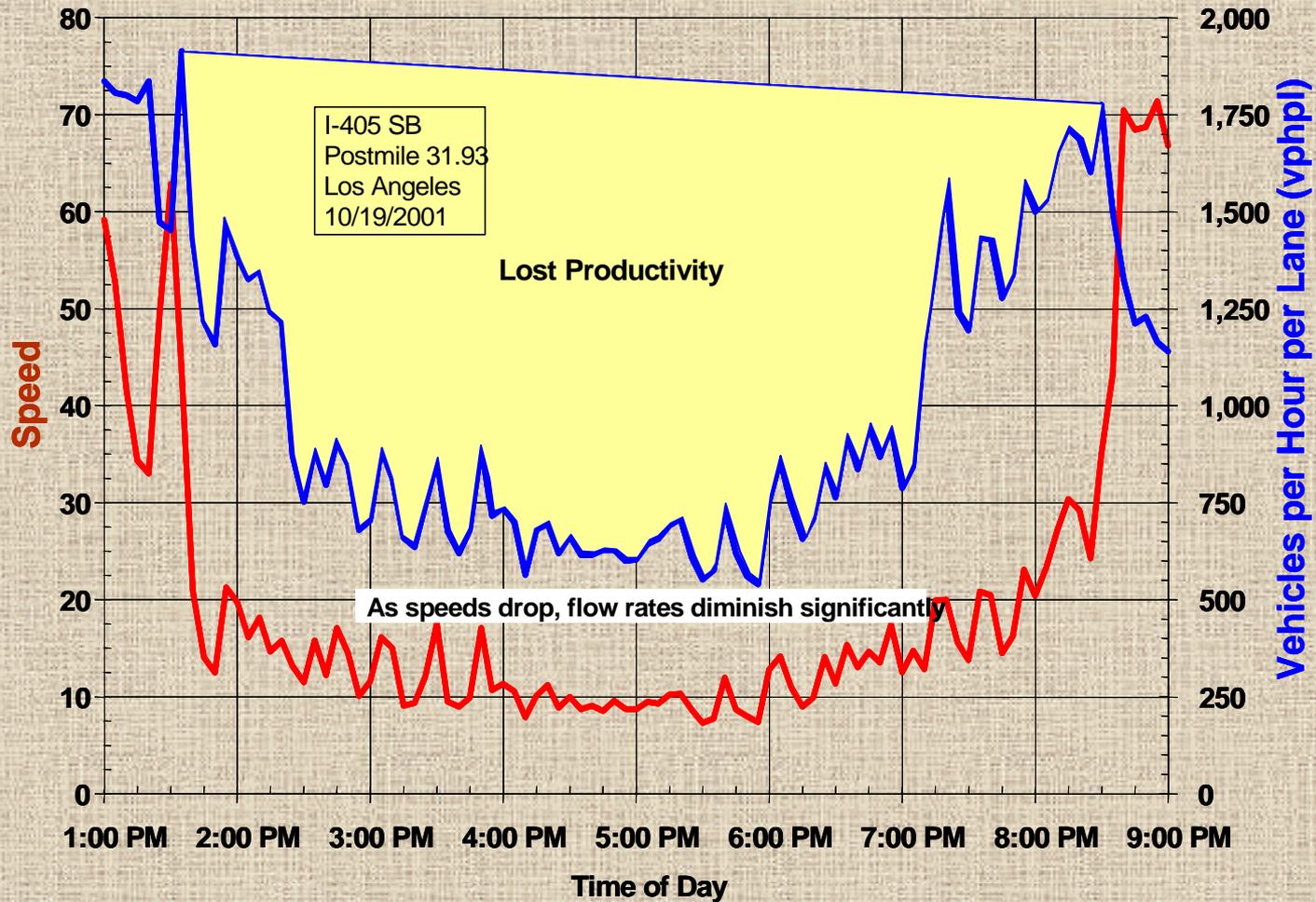
Department of Finance and Caltrans

Highway Congestion Monitoring Program Report – Recurrent Weekday Commute Delay Only

# Productivity



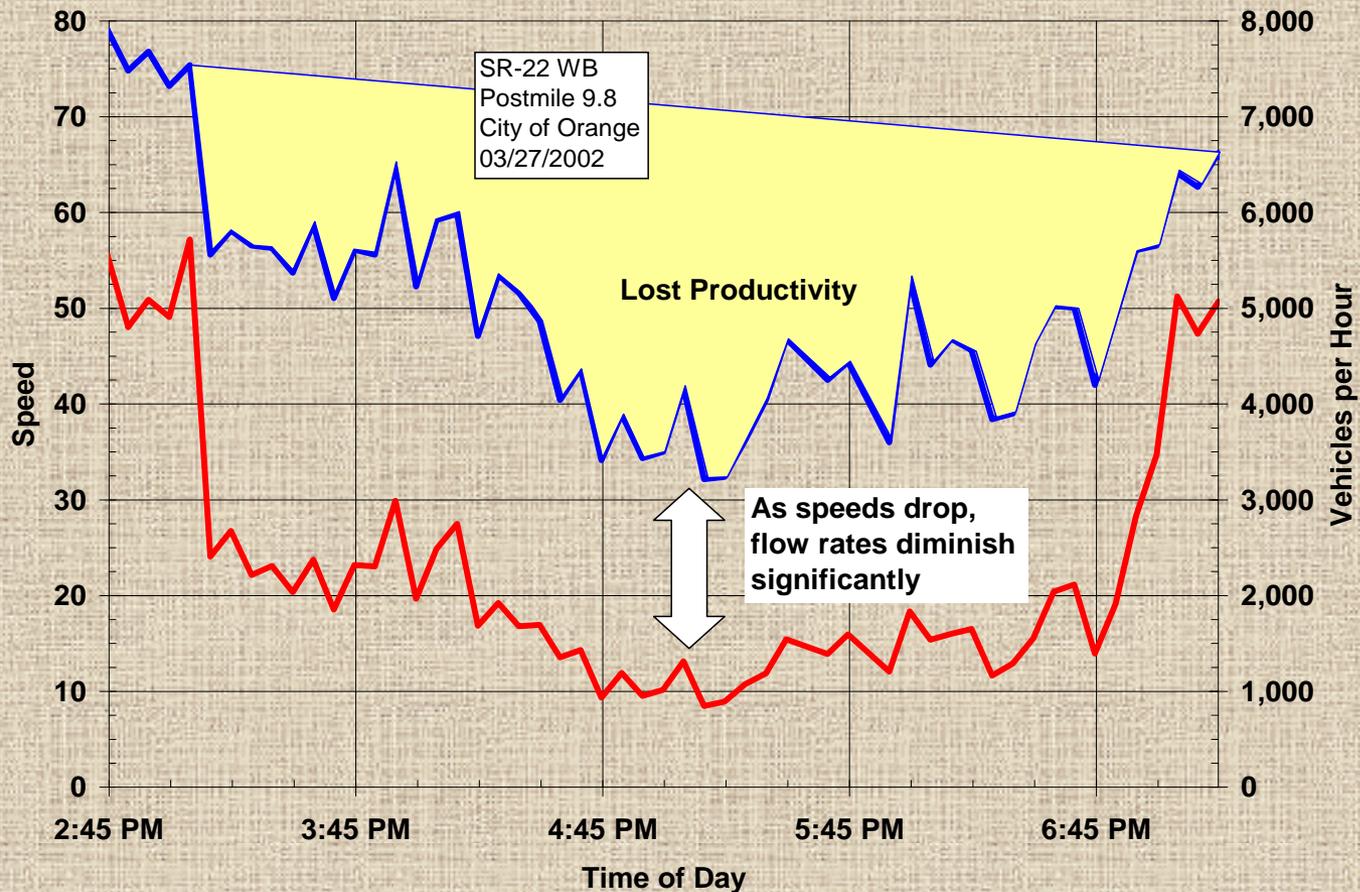
# I-405 SB in L. A.



Source: Performance Measurement System (PeMS) – October 2001

Vphpl: volume per lane per hour

# SR-22 in Orange



An aerial photograph of a multi-lane highway during the "blue hour" of dusk. The road is filled with cars, their headlights and taillights glowing, creating a dense stream of light. An overpass is visible in the upper portion of the frame. The overall scene conveys a sense of significant traffic congestion.

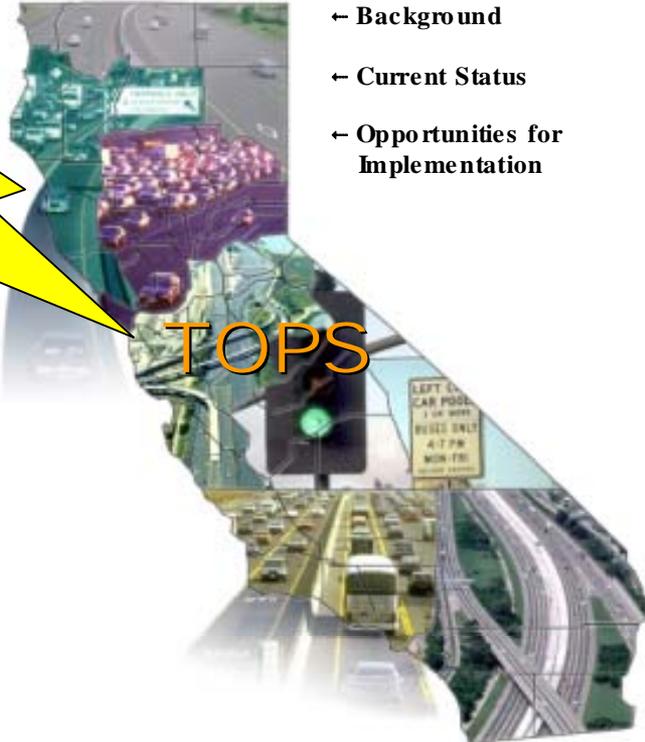
# Getting at Congestion

*Taking Control by Actively  
Managing and Operating the  
Transportation System*

# "TOPS"



## TRAFFIC OPERATIONS STRATEGIES



← Background

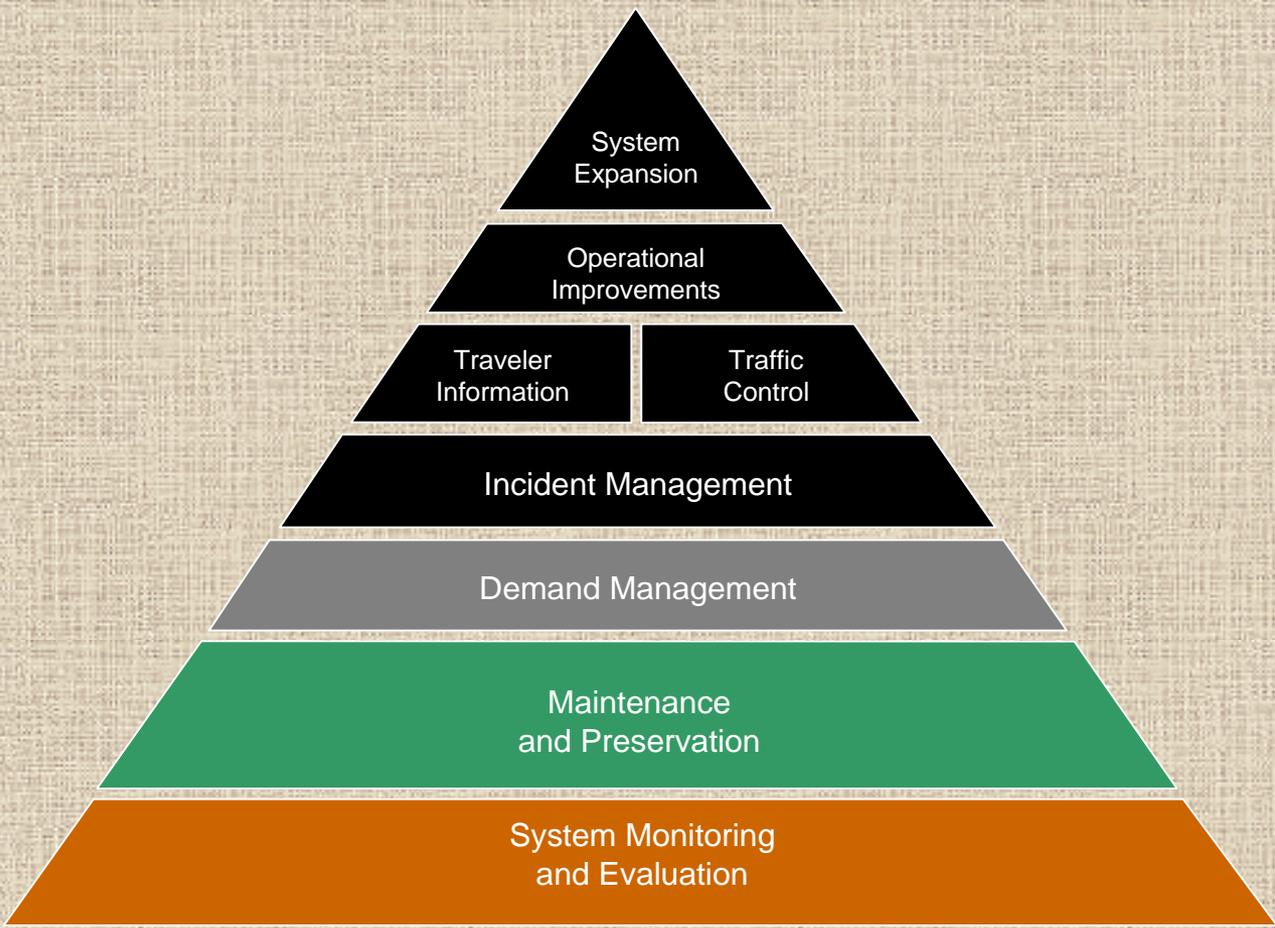
← Current Status

← Opportunities for  
Implementation

TOPS

April 2000

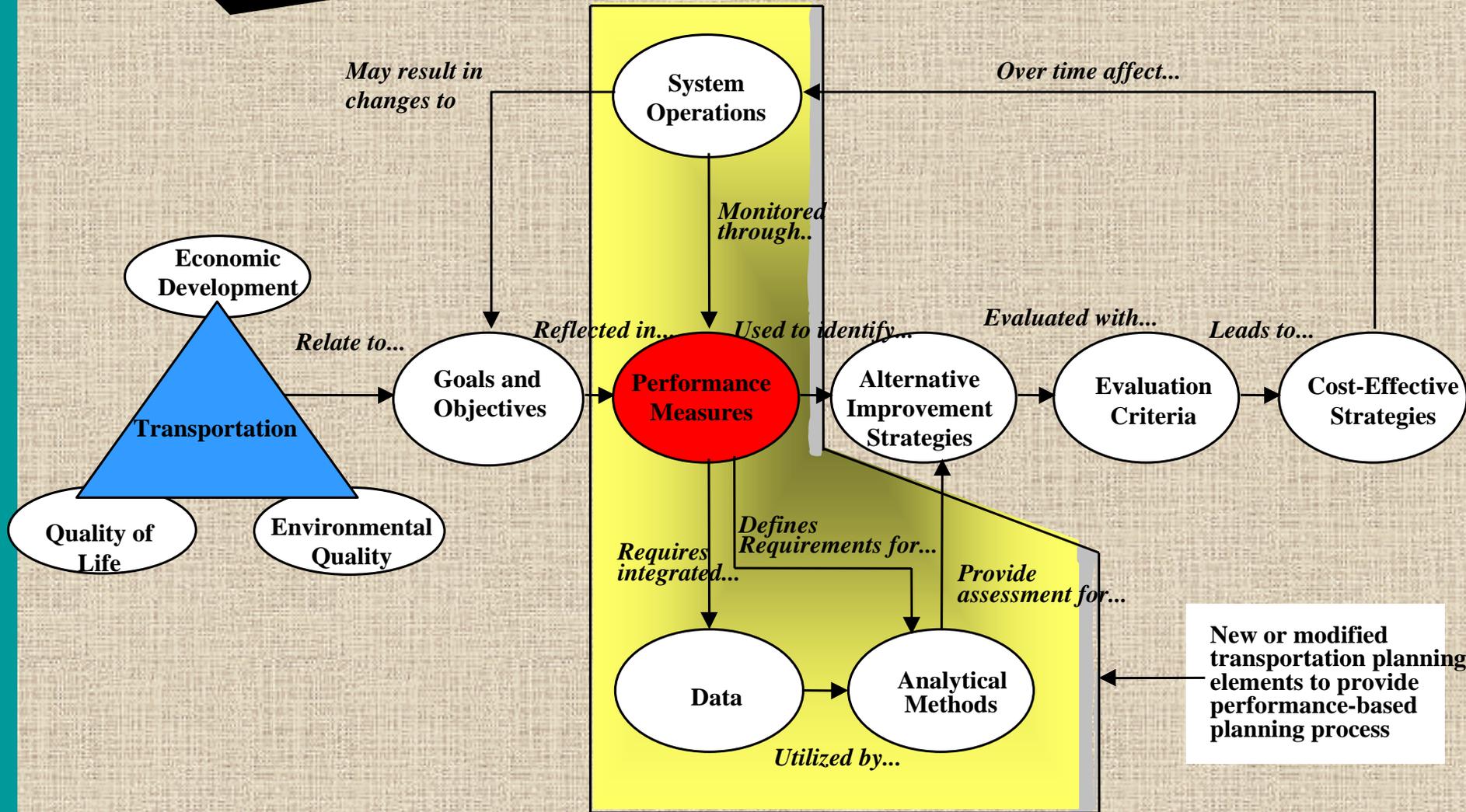
# System Management-TOPs



# Ramp Metering - Davis 1971



# PBP



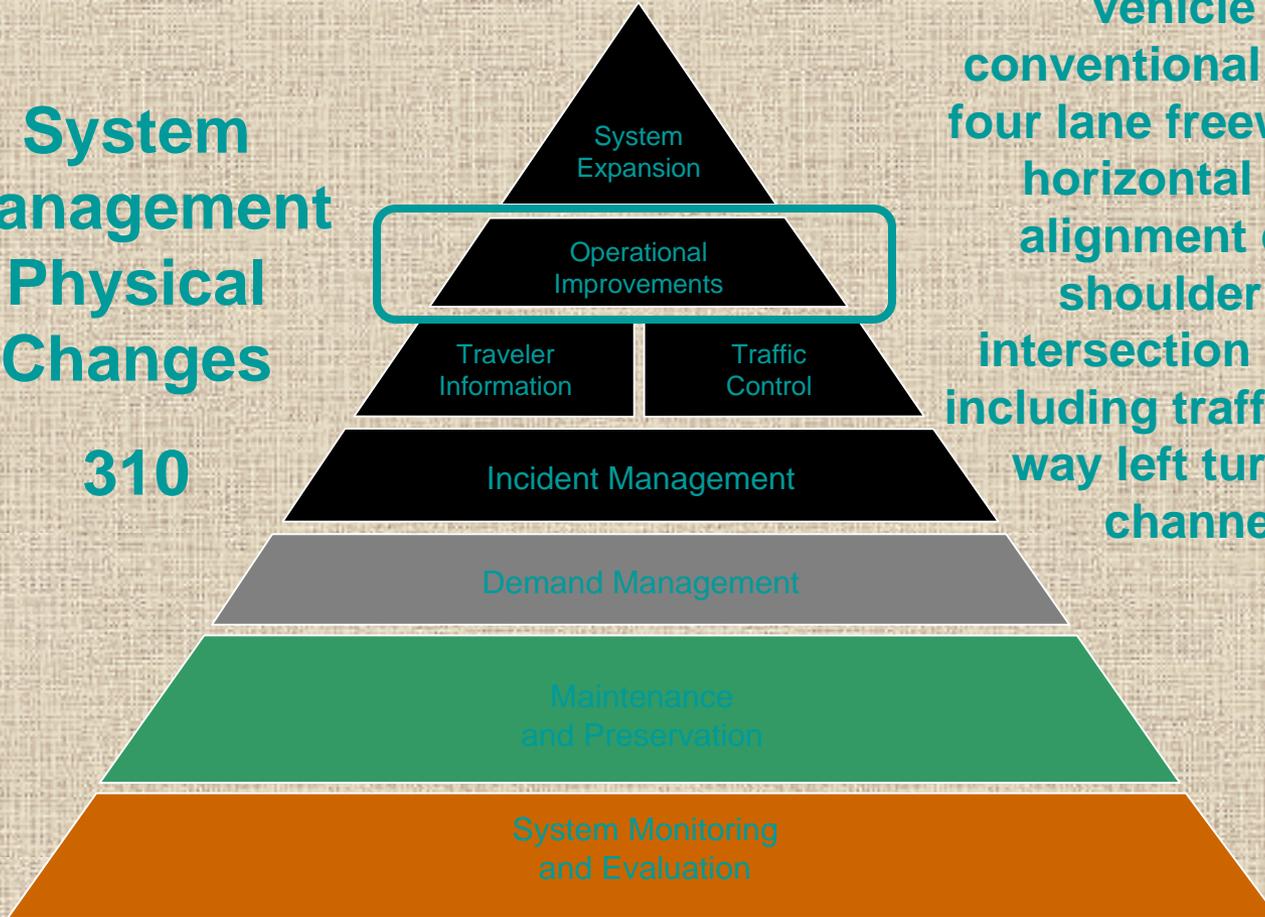
# System Management!!

**\$3.1 Billion**

**10 Yr. Need**

**System  
Management  
Physical  
Changes**

**310**



*Operational Improvements* include auxiliary lanes for merging or weaving between adjacent interchanges, slow vehicle lanes on conventional highways and four lane freeways, turnouts, horizontal and vertical alignment corrections, shoulder widening, intersection modifications including traffic signals, two-way left turn lanes, and channelization.

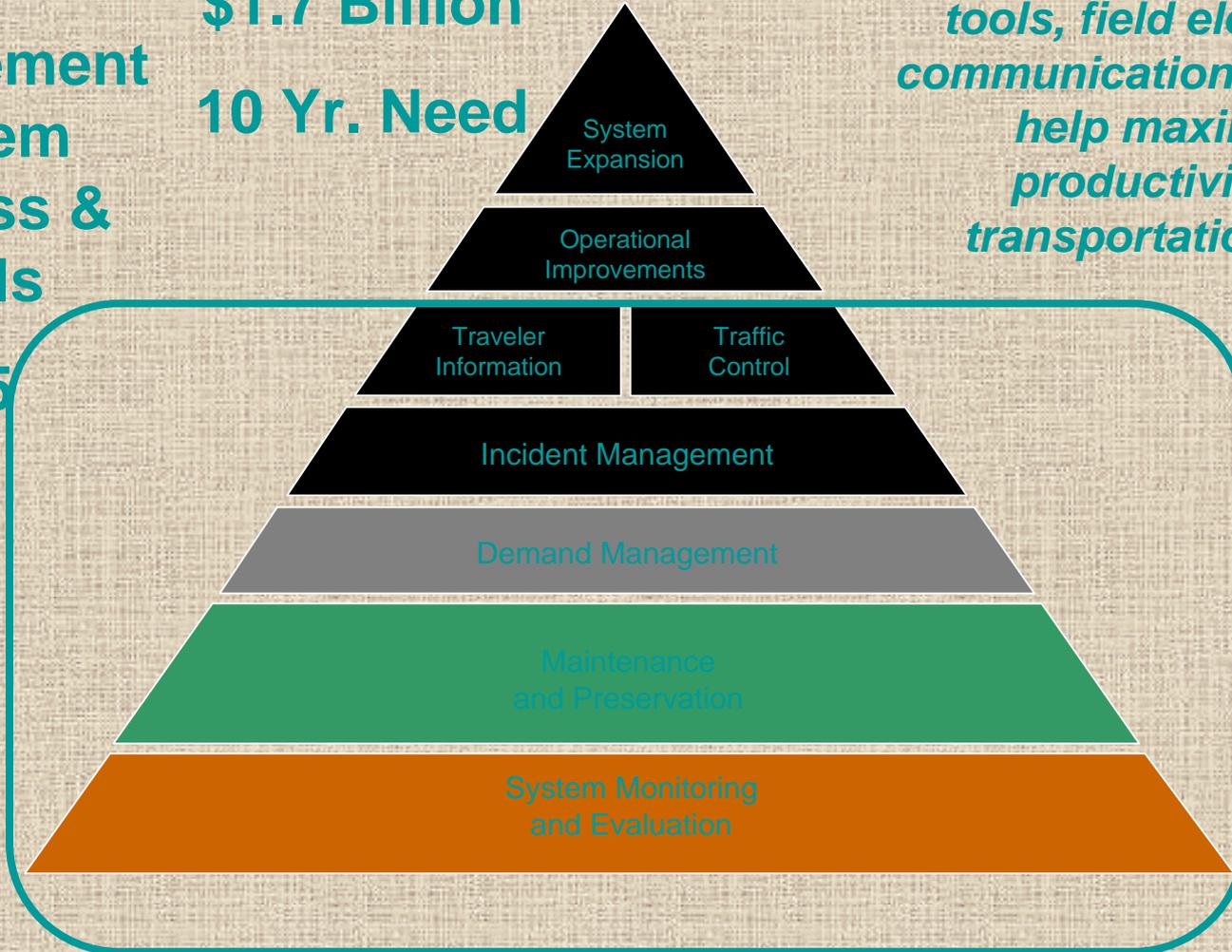
# System Management!!

Management  
System  
Process &  
Tools

315

\$1.7 Billion

10 Yr. Need



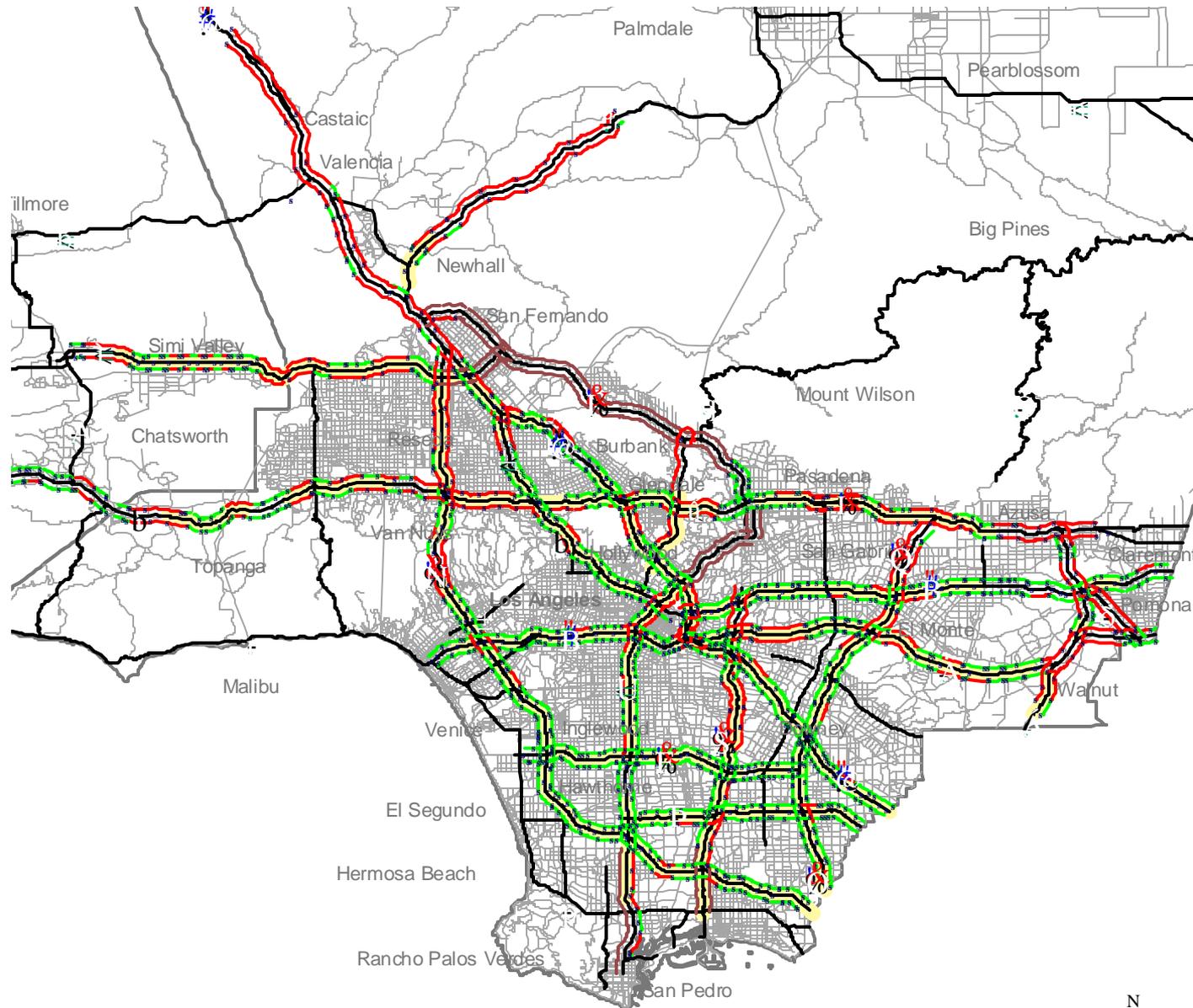
➤ *TMS are the business processes and associated tools, field elements and communication systems that help maximize the productivity of the transportation system.*



# District 7 Detection Need

## Existing Detection Spacing

-  1 mile or less
-  Greater than 1 mile
-  No Detection
-  Congested Routes



0 2 4 6 Miles



Produced by  
Division of Traffic Operations  
August 2001



# TMS Benefits

- **20% Statewide Congestion Reduction**
- **20% Statewide Reliability Improvement**
- **20% Productivity Improvement**

# System Management!!

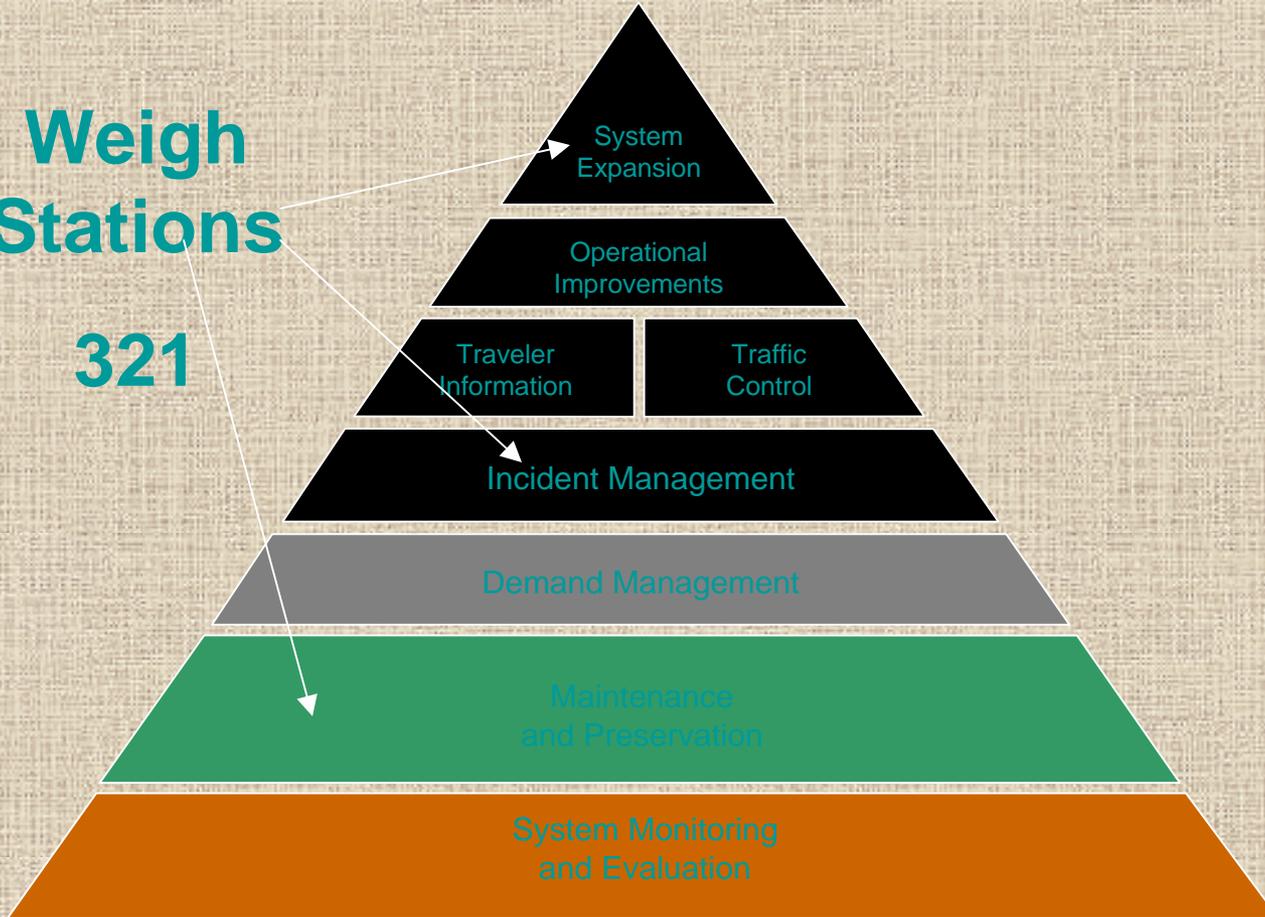
Weigh Stations

\$179 Million

10 Yr. Need

Weigh Stations

321



# Weigh Stations

- 53 facilities statewide
- 7 Planned



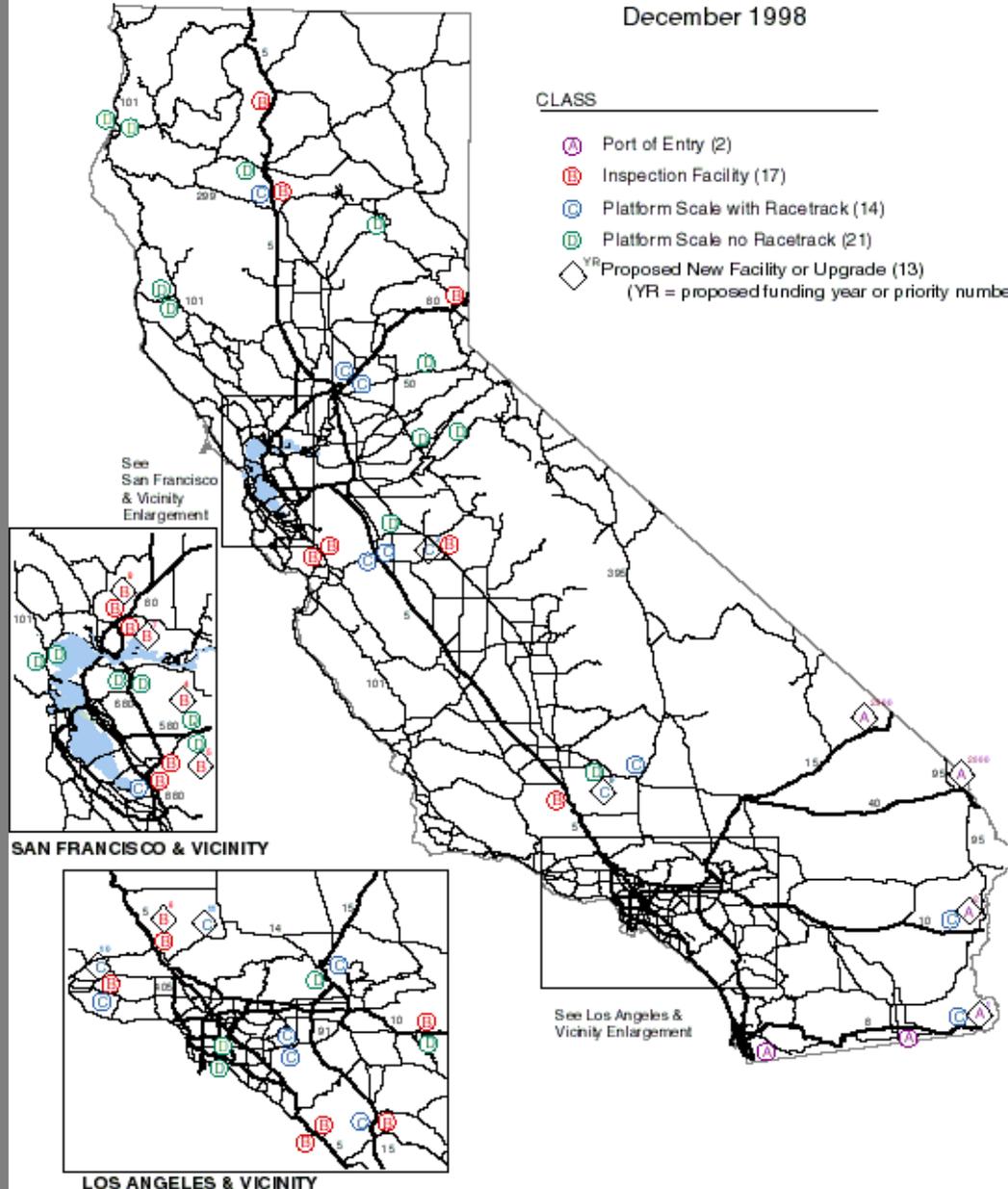
# EXISTING COMMERCIAL VEHICLE ENFORCEMENT FACILITIES

(INSPECTION FACILITIES AND PLATFORM SCALES)

December 1998

## CLASS

- Ⓐ Port of Entry (2)
- Ⓑ Inspection Facility (17)
- Ⓒ Platform Scale with Racetrack (14)
- Ⓓ Platform Scale no Racetrack (21)
- ◇<sup>YR</sup> Proposed New Facility or Upgrade (13)  
(YR = proposed funding year or priority number)



# Weigh Stations

- Caltrans/CHP cooperative effort
- Enforce truck weight and safety regulations
- Caltrans funds, designs, constructs and maintains
- CHP staffs and operates



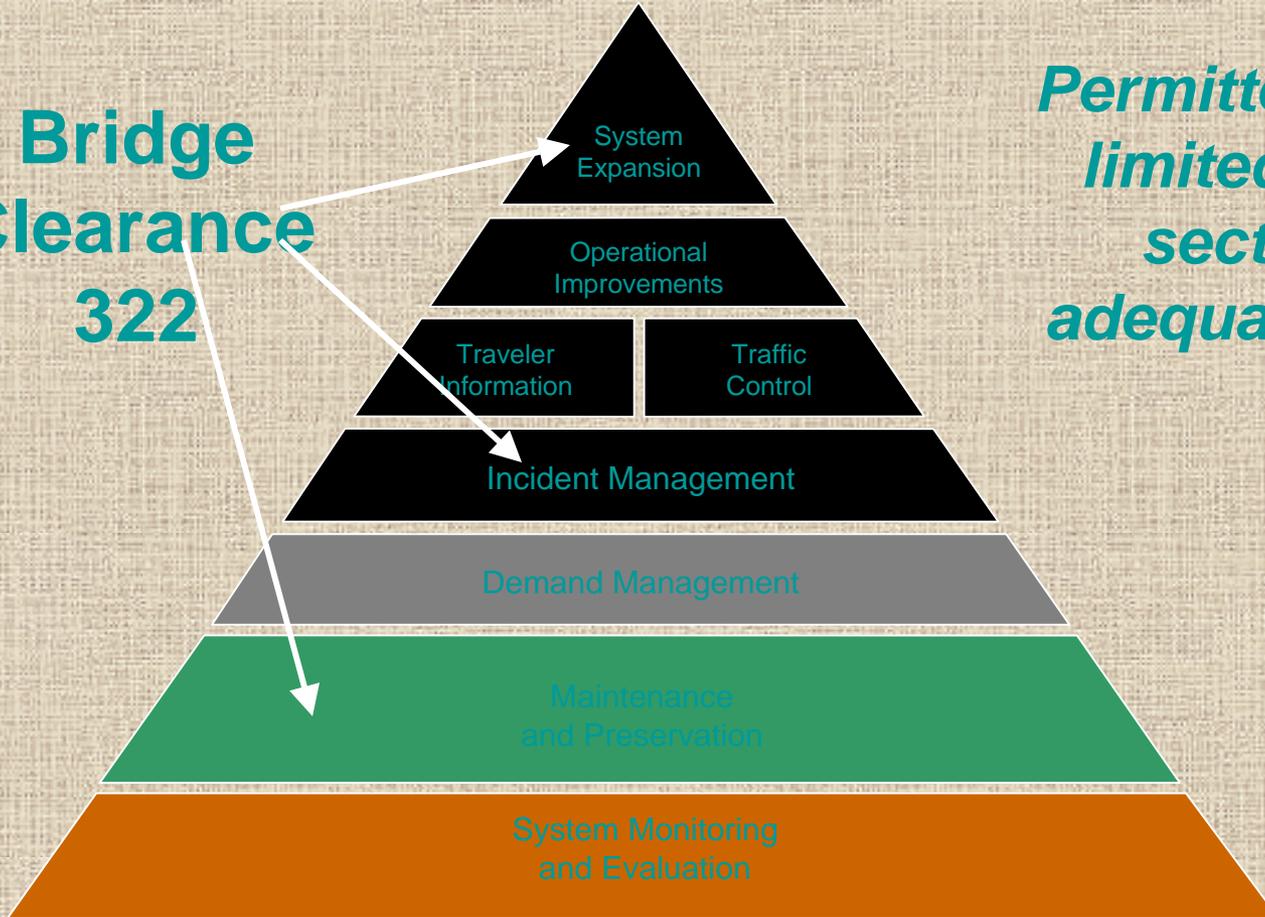
CHOWCHILLA RIVER INSPECTION FACILITY

# System Management!!

\$39 Million

10 Yr. Need

Bridge  
Clearance  
322



*Permitted Loads are limited to system sections with adequate clearance*

# Mobility Summary

## 10 Year Needs

(\$Billions)

<b>Operational Improvements</b>	<b>\$3.1</b>
<b>Transportation Management Sys.</b>	<b>\$1.0</b>
<b>Weigh Stations</b>	<b>\$0.179</b>
<b>Bridge Clearance</b>	<b>\$0.039</b>
<b>TOTAL</b>	<b>\$5.5</b>