

Green California Summit & Exposition 2009

Transportation & Land Use Caltrans Smart Mobility Framework

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Smart Mobility Framework

Session Overview

- ▶ Why Caltrans started Smart Mobility Project
- ▶ What's happened to date
- ▶ Work in progress
- ▶ What's next

Why Smart Mobility?

Forces of Change
Policy Context

Forces of Change

- ▶ Congestion Crunch
- ▶ Skyrocketing construction costs
- ▶ Impacts of energy prices and threats to energy security
- ▶ Growing population and travel demand
- ▶ Climate Change

Policy Context

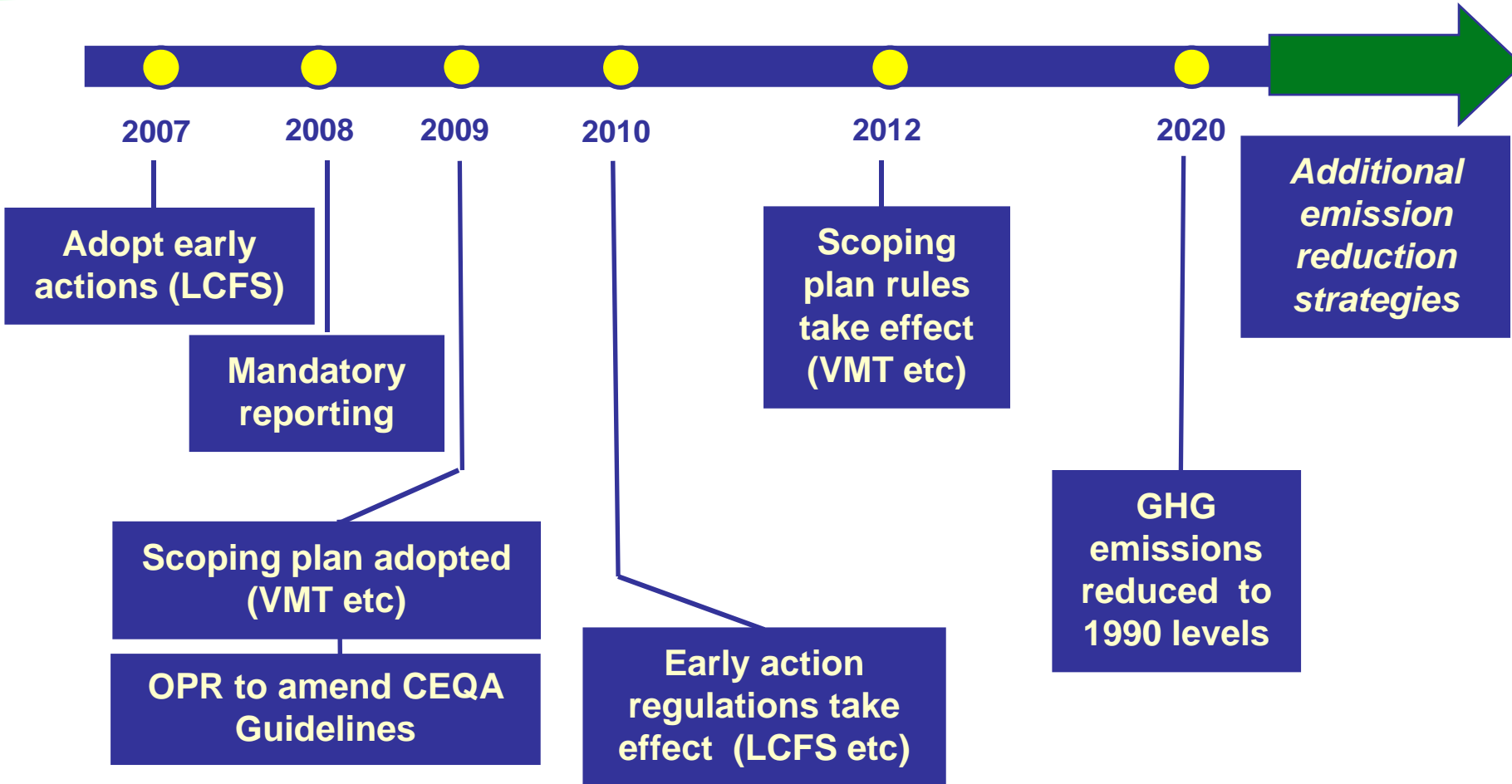
▶ California

- Executive Orders
- Statute and pending legislation
- Departmental Plans, Policies and Directives
- Partner Agencies' Plans and Policies

▶ Federal Legislation, Policies, Directives

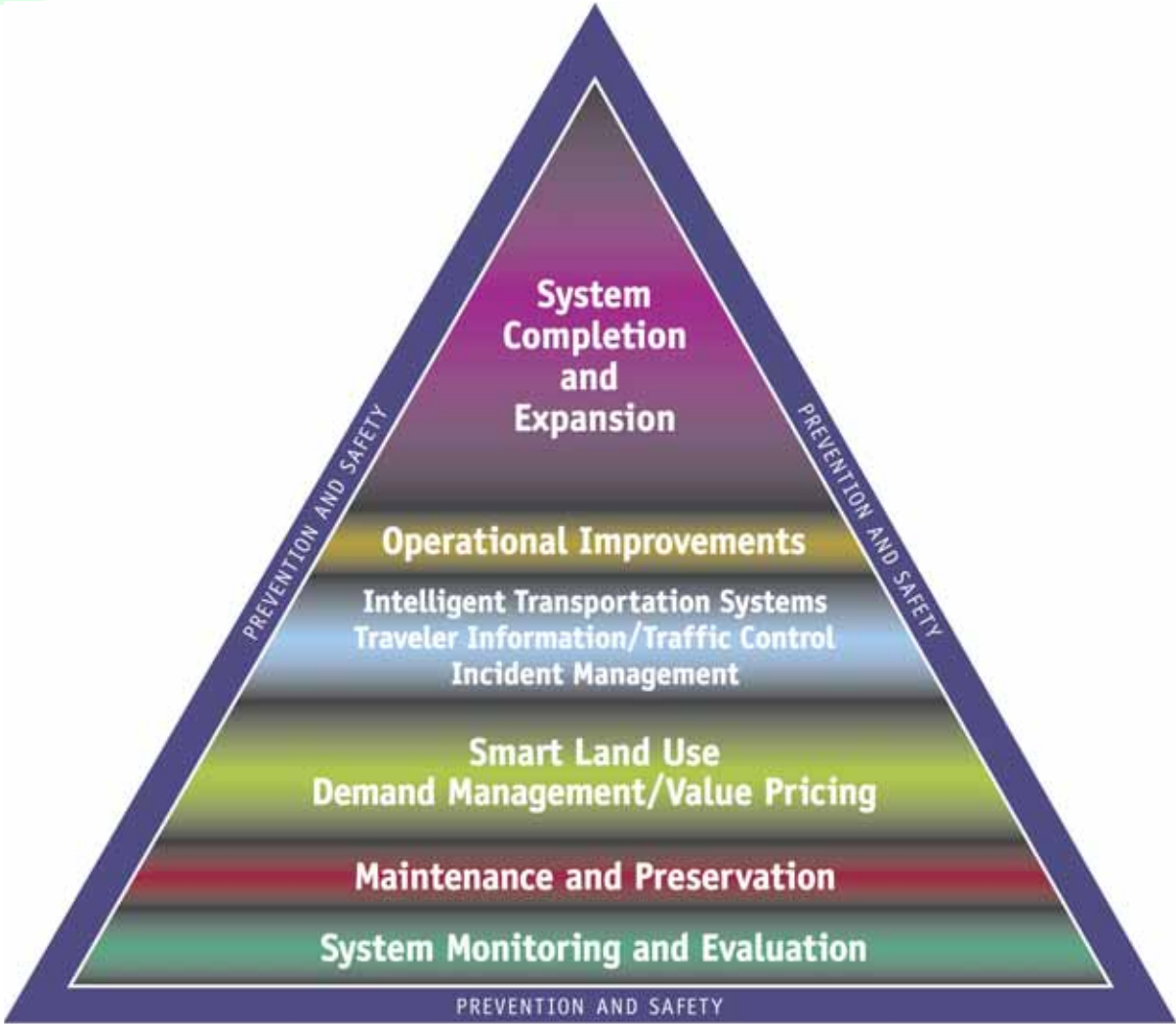
- SAFETEA-LU
- Transportation Bill Reauthorization
- New emphasis: green jobs, livable communities, transparent government

California Global Warming Solutions Act Timeline (AB 32)



Source: ARB 2007

Current Caltrans Framework



Project to Date

Application & Award
Preliminary Investigation
Definitions and Principles

Starting Points

Objectives for the Smart Mobility Framework:

- ▶ Increase Transportation Choice
- ▶ Enhance Community Quality
- ▶ Reduce Environmental Impacts
- ▶ Support System Preservation
- ▶ Increase System Efficiency

EPA Team Perspectives: Hurdles

- ▶ De-centralized authority, especially for programming decisions
- ▶ Department in transition from “conventional” DOT approaches to Smart Mobility approach
- ▶ Craft a Smart Mobility framework for all of California

EPA Team Perspectives: Opportunities

- Respond to the forces of change...
- ▶ Capitalize on innovation already underway
 - ▶ Broaden support for future investments
 - ▶ Respond to the evolving needs of the State's residents and businesses

Definition and Principles

'Smart Mobility' and—

- ▶ Location Efficiency
- ▶ Reliability
- ▶ Health & Safety
- ▶ Stewardship

Definition: 'Smart Mobility'

'Smart Mobility' is meeting the transportation needs of people and freight, while enhancing California's economic, environmental, and human resources

Smart Mobility Principles

Location
Efficiency

Reliability

Health and
Safety

Stewardship

What Smart Mobility Principles should do for Caltrans

Principles:

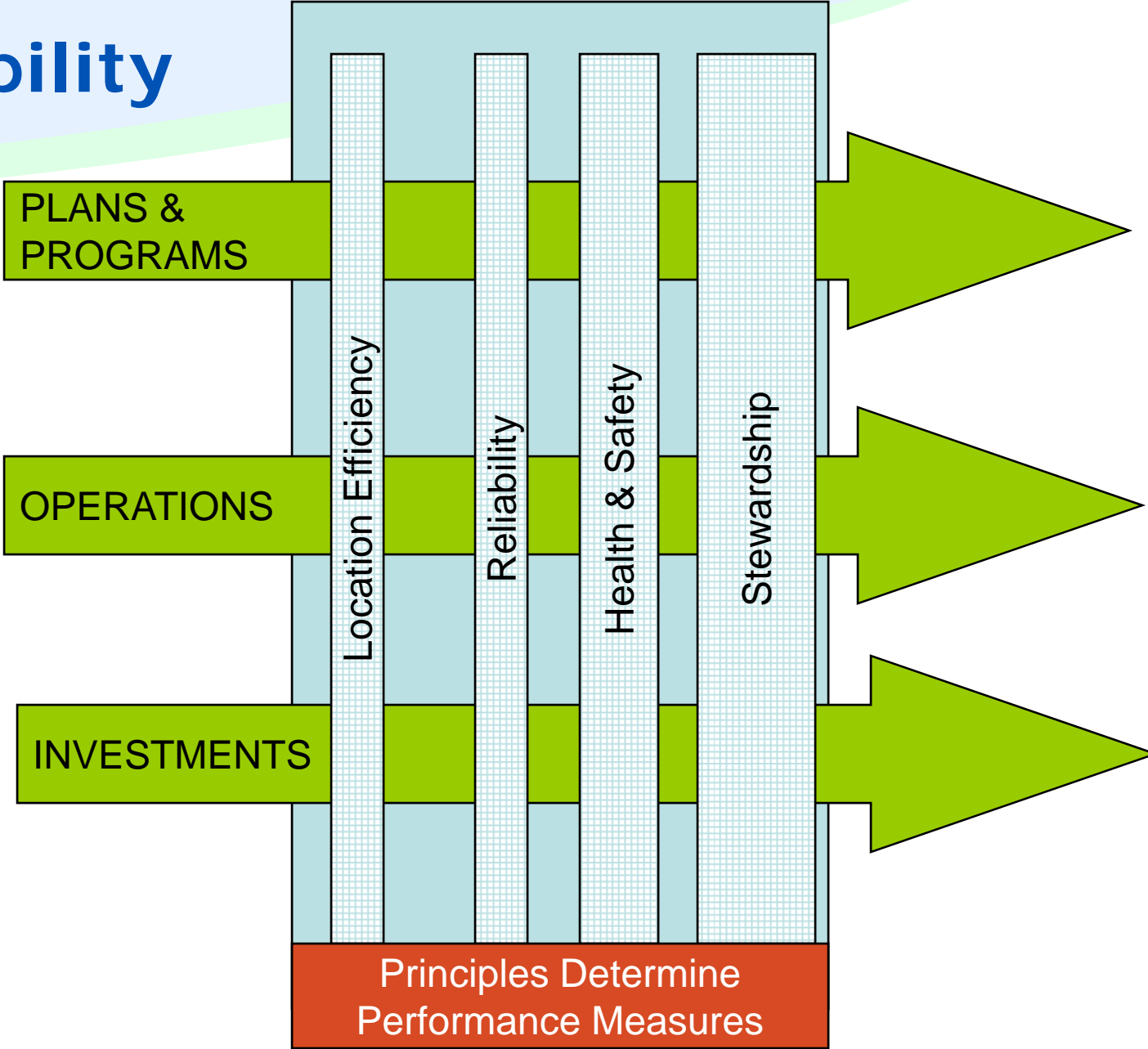
- ▶ Support the goals expressed in the definition
- ▶ Direct the selection and application of performance measures for a Smart Mobility Screening Tool
- ▶ Can eventually be used more widely in Department decisions

To be successful...

Principles must be applied to:

- ▶ Planning
- ▶ Programming
- ▶ Evaluation and Screening
- ▶ Local Development Review
- ▶ Public Private Partnerships
- ▶ Community Engagement

Smart Mobility Principles



Principle Definitions

Location
Efficiency

Reliability

Health and
Safety

Stewardship

def.

Location Efficiency

- ▶ Transportation investments and services operating in concert with supportive land use patterns to improve overall accessibility that results in:
 - Shorter car trips
 - Fewer car trips and
 - More walking, biking and transit use

Location Efficiency

Supportive Land Use Patterns have the 4D's:



- ▶ **Density:** Dwellings and jobs per acre
- ▶ **Diversity:** mix of housing, jobs and retail
- ▶ **Design:** street network connectivity and walkability
- ▶ **Destinations:** closeness and connectedness to other places in their region

Principle Definitions

Location
Efficiency

Reliability

Health and
Safety

Stewardship

def.

Reliability

Emphasize reliability for all modes through a strategic approach to congestion:

- ▶ Reduce impacts of episodic congestion
- ▶ Improve transit reliability
- ▶ Increasing meaningful choices for opting out of congestion
- ▶ Increase street connectivity to provide flexibility in route choices

Principle Definitions

Location
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Reliability

Health and
Safety

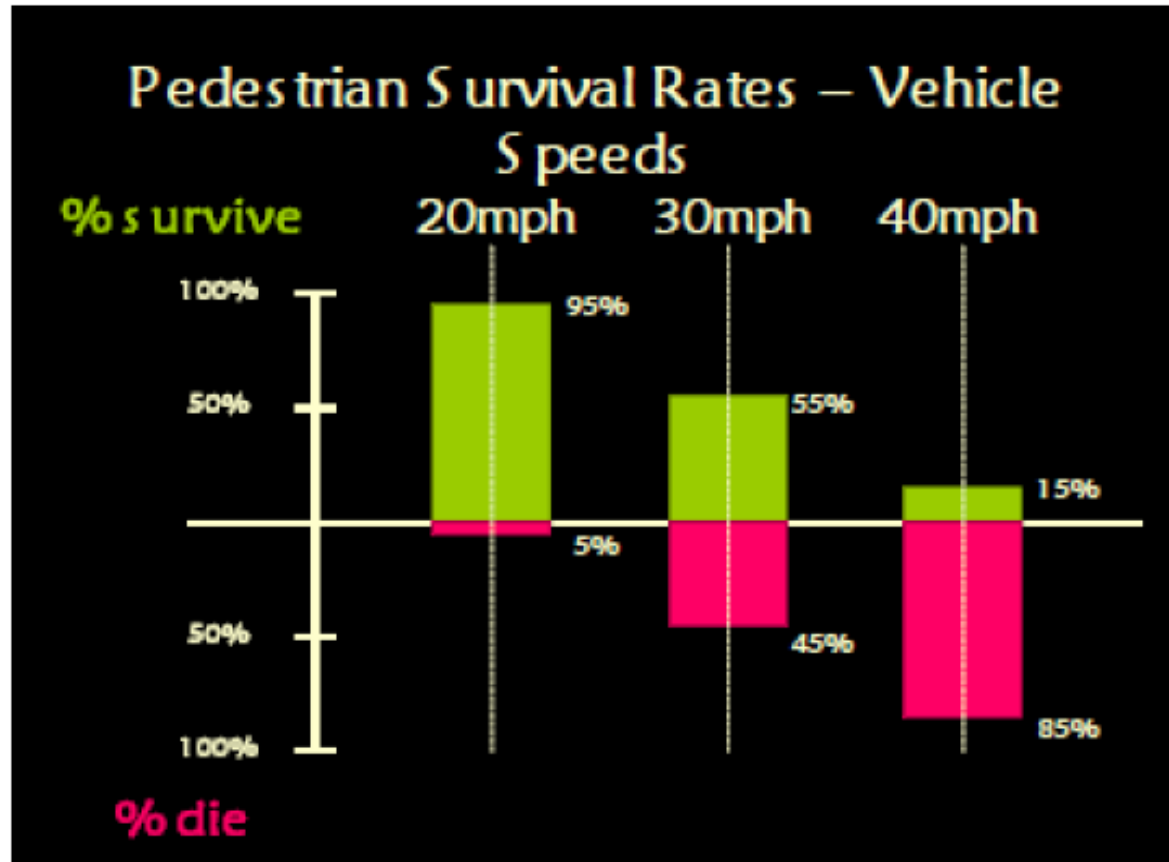
Stewardship

def.

Health and Safety

- ▶ Promote active travel by walk, bike and transit
- ▶ Reduce accident frequency & severity
- ▶ Reduce public exposure to pollutants
- ▶ Serve the public during extreme weather and other emergencies

Improving Pedestrian Safety



Anderson et al (1997) Vehicle travel speeds and the incidence of fatal pedestrian crashes. Accident Analysis and Prevention

Principle Definitions

Location
Efficiency

Reliability

Health and
Safety

Stewardship

def.

Stewardship

Protecting and enhancing

- ▶ The State's transportation system
- ▶ The built environment
- ▶ The natural environment
- ▶ The economic environment

Stewardship

- ▶ Asset Management
- ▶ Natural Environment



Stewardship

Main Streets:

Flexibility in
Design and
Operations



January 2005

- ▶ Built Environment
- ▶ Economic Environment

Next Steps



Desired Outcomes



▶ Improved:

- accessibility
- public health
- system efficiency



▶ Greener mobility, facilities and operations



▶ Reduced

- average trip length
- vehicle trips

Smart Mobility Handbook

- ▶ Understanding Smart Mobility
- ▶ Measuring Smart Mobility
- ▶ Evaluation Examples
- ▶ Checklists for:
 - Caltrans
 - Regional Agencies
 - Local Governments

Caltrans Smart Mobility Framework

<http://www.dot.ca.gov/hq/tpp/>

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