

Managed Lanes in California: Where We've Been Where We're Going

Joe Rouse

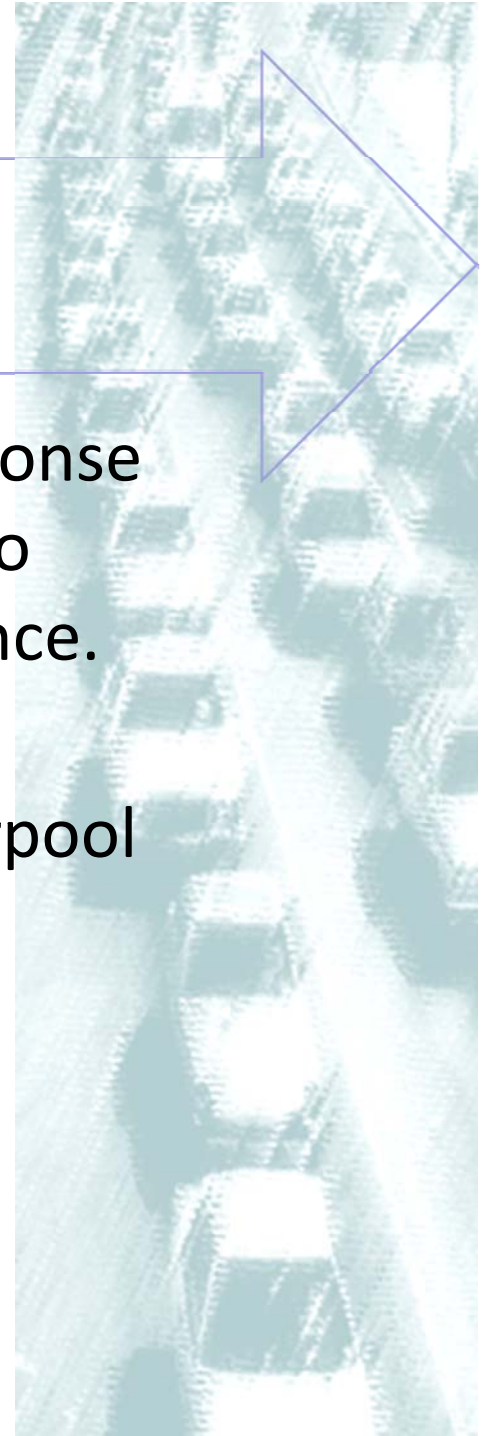
Managed Lanes Manager

California Department of Transportation



Managed Lanes Defined

- Lanes that are proactively managed in response to changing operating conditions in order to achieve improved efficiency and performance.
- Includes:
 - High-occupancy vehicle (HOV) lanes (carpool lanes)
 - High-occupancy/ toll (HOT) lanes
 - Express toll lanes



Value of Managed Lanes

- Support modal shift
- Reliability
- Improved air quality
- Greater throughput
- Sustainability
- Revenue generation



Looking Back

- California was one of the first states to test and adopt managed lanes
 - Assessment of different operational and design approaches
- First state to develop design and operational guidelines
 - Have influenced standards of practice nationally



Looking Back



- First state to embrace a system of managed lanes
 - Regional HOV network plans developed in each major urban area
- Strong legacy of performance monitoring
- First demonstration of pricing
 - SR-91 P3 project and I-15 demonstration
 - Extensive research in facility usage and impacts on freeway performance

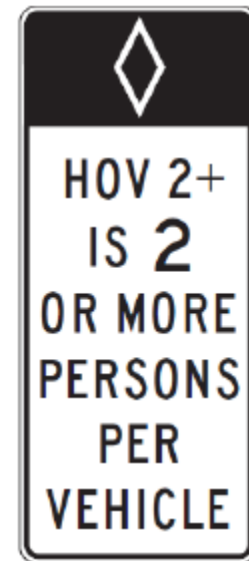
Today



- Operating
 - Nearly 1400 lane-miles HOV
 - Over 200 lane-miles HOT
- In Development
 - Just over 700 lane-miles HOV
 - Over 1700 lane-miles HOT
- Extensive regional partnerships in system development and operation

Today

- Predominantly HOV-2
- Single occupant plug-in hybrids & clean-air vehicles allowed
- Limited access, full time in south, continuous access, part time in north
- Key component to achieving AB 32 air quality goals



San Francisco Bay Area

- Golden Gate Bridge
- I-680 Express Lanes
- Antioch Bridge
- Benicia-Martinez Bridge
- Carquinez Bridge
- Dumbarton Bridge
- Richmond-San Rafael Bridge
- San Francisco-Oakland Bay Bridge
- San Mateo-Hayward Bridge
- I-880 Express Lanes
- SR 237 Express Lanes

San Francisco Bay Area

- I-580 Express Lanes
- SR 237 Extension
- I-680 Southern Segment, Sunol Northbound, Contra Costa County Northern Segment
- I-880 Express Lanes
- SR 85 Express Lanes
- U.S. 101
- I-80 Express Lanes

Monterey County

- SR 156 Toll road

Inland Empire

- I-10 Express Lanes
- SANBAG I-15 Express Lanes
- 91 Express Lanes Extension
- RCTC I-15 Express Lanes
- High Desert Corridor

Los Angeles County

- I-10 Express Lanes
- I-110 Express Lanes

Los Angeles County

- I-5 Express Lanes
- I-405 Express Lanes
- SR 710 Bypass
- High Desert Corridor

Orange County

- SR 241/91 Express Lanes Connector
- SR 241 Toll Road Extension
- I-405 Express Lanes

San Diego County

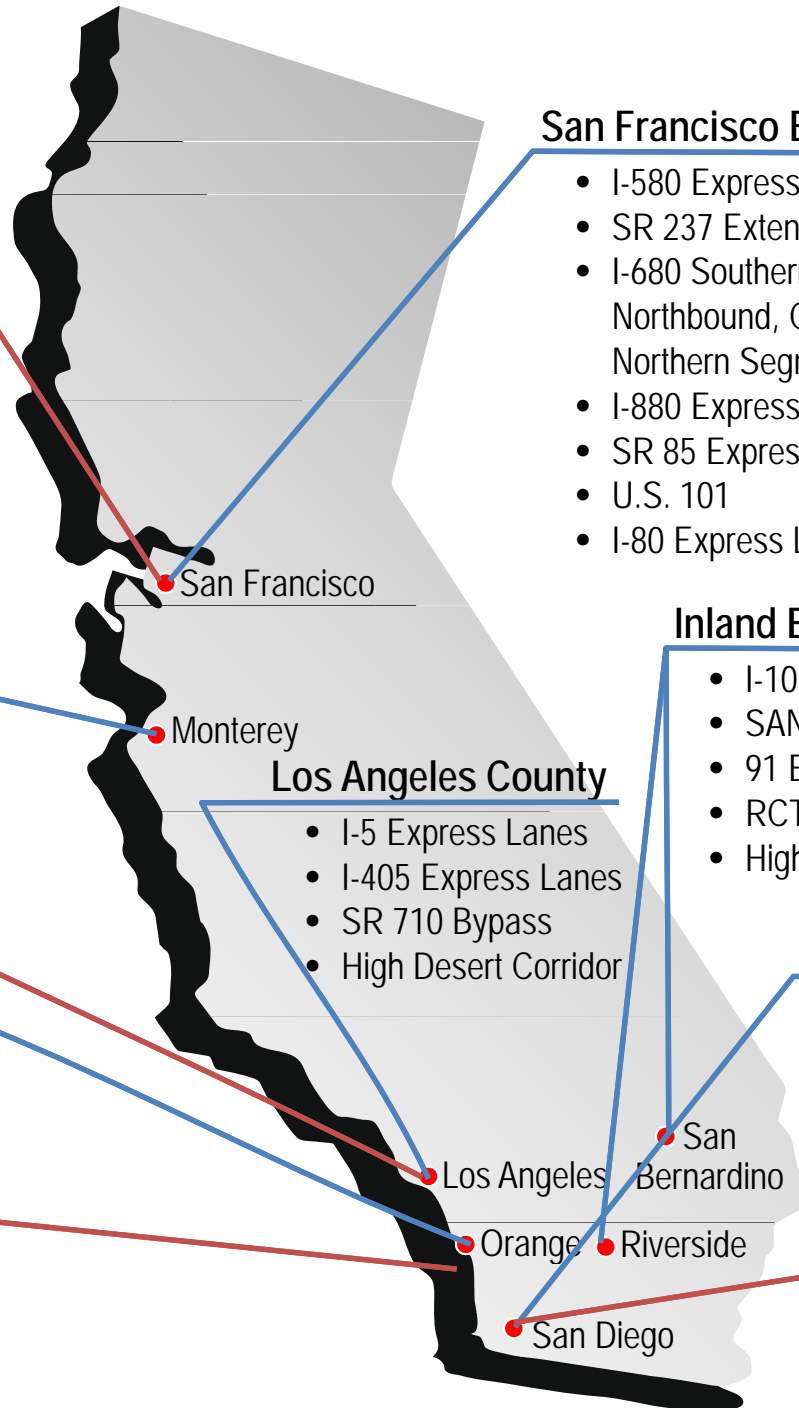
- SR 11/Otay East Border Crossing
- I-805 Managed Lanes
- I-5 Managed Lanes
- SR 78 Managed Lanes

Orange County

- SR 73 Toll Road
- SR 133 Toll Road
- SR 241 Toll Road
- SR 261 Toll Road
- SR 91 Express Lanes

San Diego County

- I-15 Express Lanes
- SR 125 South Bay Expressway



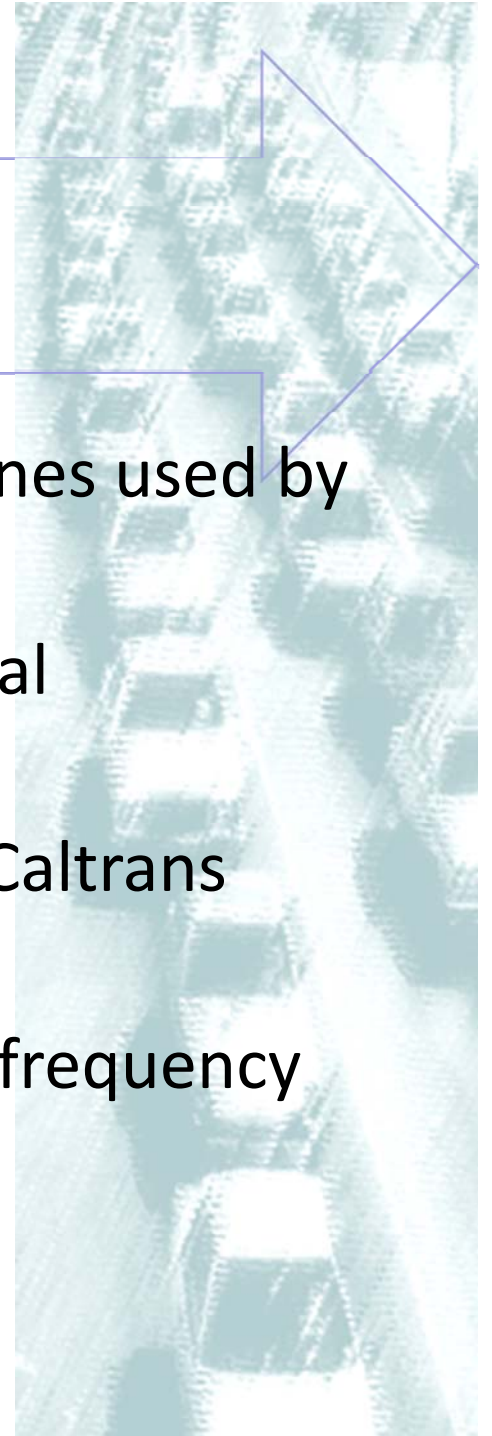
Planning for the Future

- Protect the investment made in the system
- Get the most productivity out of the system
- Prepare for growth
- Addressing Degradation
- Statewide Policy on Managed Lanes
- Statewide Tolling Policy
- Managed Lanes System Plan
- New Managed Lane Guidelines



Addressing Degradation

- Federal performance standard for HOV lanes used by hybrid vehicles and HOT lanes
- 59 percent of system failed to meet federal performance standard
- 48 percent of degraded facilities were in Caltrans Districts 7 and 8
- 51 percent of degraded facilities had low frequency of degradation



Addressing Degradation



- Districts develop Action Plan
- Short term actions
 - Stepped up enforcement
 - More frequent freeway service patrols
 - Fixing detection systems
- Long term actions
 - Infrastructure improvements
 - HOT lane conversions
 - Active traffic management strategies

Addressing Degradation

- Removing exempt vehicles not an option
 - Not a contributor to degradation
 - Runs counter to governor's policies
- Occupancy changes may be considered
 - Must address negative impacts



Statewide Managed Lane Policy

- Defines the purpose of managed lanes
- Identifies a process for managed lanes system planning
 - Regional plans developed for each urban area
 - Updated at each RTP cycle, as needed

California Department of Transportation Serious drought.
Help save water!

Deputy Directive Number: DD-43-R1

Refer to Director's Policy: DD-03-R1, Transportation System Management
DD-02, Congest Sensitive Solutions
DD-13-R1, Energy Efficiency, Conservation and Climate Change
DD-10X, Tolling on the State Highway System

Effective Date: TBD

Supersedes: DD-43 (7-1-1993)

Responsible Program: Traffic Operations

TITLE Managed Lane Facilities.

POLICY

The California Department of Transportation (Caltrans) uses managed lanes on the State Highway System (SHS) as a sustainable transportation system management solution. Managed lanes will be used to promote carpooling and bus patronage, improve travel time reliability, reduce greenhouse gas emissions, and maximize the efficiency of the freeway system by increasing person and vehicle throughput while reducing congestion and delay. Managed lanes will be designed and operated in a manner that does not degrade the mobility and safety performance of the freeway.

Caltrans and regional transportation agencies (such as a regional transportation planning agency, council of government, county transportation commission, congestion management agency, or joint powers authority) will develop managed lane system plans for the urban regions of the State for inclusion into the regional transportation plans. The managed lane system plans will be reviewed and updated, as necessary, as part of regional transportation plan updates.

Operational strategies for managed lanes, such as access control, hours of operation, occupancy requirements, and the use of tolls will be determined based on factors such as safety, regional consistency, traffic forecasts, revenue forecasts (when using tolls), life cycle costs, enforcement needs, environmental considerations, and community support. Changes in operational strategies may be needed after a managed lane is in operation in order to meet State and Federal performance standards, preserve service levels, or address other freeway performance issues. Operational strategies

*Please refer to the original and final versions of this document for the most current information.
DDMT August 22, 2014

Statewide Managed Lane Policy

- Operational changes will be made by Caltrans in consultation with regional agencies and CHP
 - Changing occupancy requirements
 - Changing access control
 - Implementing pricing
- Defines when changes in operational strategies may be needed
 - Meet State and Federal performance standards
 - Preserve service levels
 - Address other freeway performance issues



Statewide Managed Lane Policy

- Identifies factors to consider when selecting or changing managed lane operational strategies
 - Safety and mobility considerations
 - Regional consistency
- Concept of operations required when implementing pricing
 - FHWA California Division requirement



Statewide Tolling Policy



- Optimize system performance
- Provide an alternative source of funding for transportation projects, improvements, and services
- Considered for all new capacity or expansions to existing facilities
- No existing non-toll lanes will be converted to toll, except for existing HOV lanes to HOT lanes
- Tolls may be collected by Caltrans or by a regional transportation agency

Statewide Tolling Policy

- Toll revenues cover indebtedness, operations, and maintenance
- Remaining revenues will be reinvested in the corridor for projects that improve travel reliability, provide travel options, or improve safety and operations
 - Excess revenue may not always be available



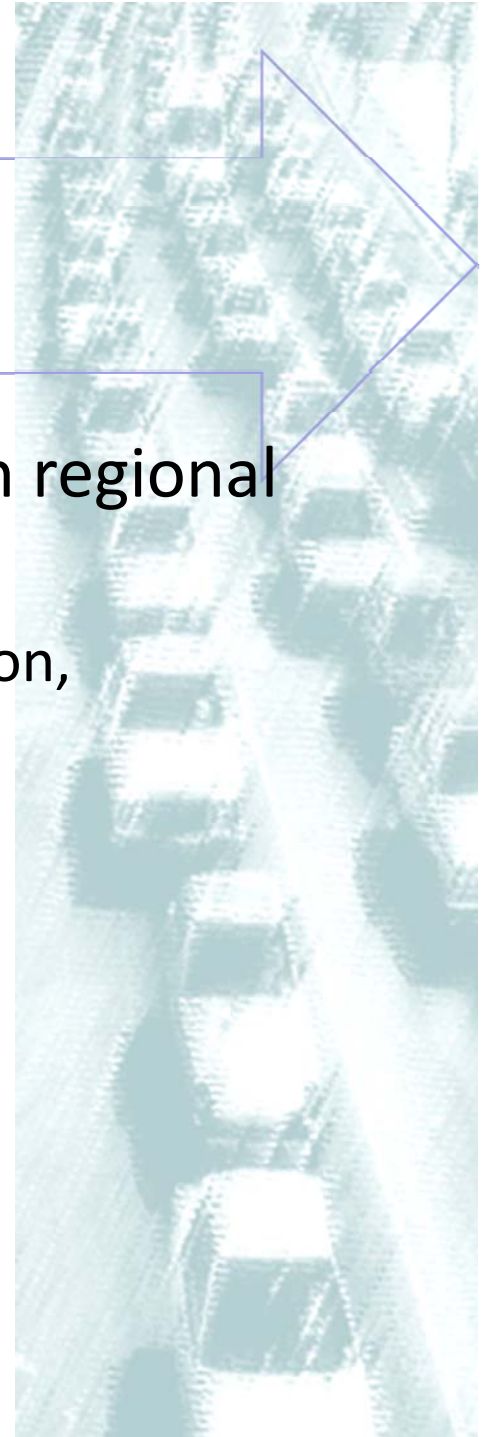
Managed Lane System Plan

- Blueprint for managed lanes on the State Highway System
- Utilize work already done at the regional level
- Coordinate with ongoing work at the regional level



Managed Lane System Plan

- Prioritize identified improvements in each regional plan
 - Develop screening criteria, such as degradation, constructability
 - Rank projects based on screening criteria
- Develop master plan of projects based on prioritization



Managed Lane Guidelines

- Update to 2003 HOV Guidelines
- System planning
- Use of pricing
- Managed lane facility design
- Traffic control devices for managed lanes
- Enforcement strategies



Considerations for the Future

- Modifying occupancy requirements
- Carpool registration requirements
- Changes in tolling technology
- Occupancy verification technology
- Impacts of connected and driverless vehicles
- Expect the State to be a more involved partner
- Decisions on managed lanes must balance local versus regional needs





Thank You

Joe Rouse

California Department of Transportation

(916) 654-6448

jrouse@dot.ca.gov