Managed Lanes 101

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Managed Lanes Defined

- Lanes that are proactively managed in response to changing operating conditions in order to achieve improved efficiency and performance.
- Management techniques:
  - Eligibility
  - Access
  - Pricing
- Includes:
  - High-occupancy vehicle (HOV) lanes (carpool lanes)
  - High-occupancy/toll (HOT) lanes
  - Express Toll Lanes
  - Express Lanes
Why Have Managed Lanes?

- Manage demand for limited roadway capacity
- Provide reliable travel times
- Encourage transit and carpool usage
  - Air quality management tool
- Benefit existing mixed flow lanes
  - Not a “take-a-lane”
  - Shifting traffic frees up capacity in MFLs
California - A History of Firsts

- One of the first states to test and adopt managed lanes
- First state to develop design and operational guidelines
- First state to embrace a system of managed lanes
- Strong legacy of performance monitoring
- First demonstration of pricing
Managed Lanes Today

- Operating
  - 1483 lane-miles HOV
  - 221 lane-miles HOT

- In Development
  - 817 lane-miles HOV
  - 1330 lane-miles HOT
Managed Lanes Today (Cont’d)

- Predominantly HOV-2 requirements
- Single occupant plug-in hybrids & clean-air vehicles allowed
- Tolled vehicles allowed on 7 facilities
- Full time, limited access in southern California
- Part-time, continuous access in northern California
Barrier Separation

Buffer Separation

At-Grade Access
Direct Access (Drop) Ramps

Direct Connectors
Why Use Tolling?

• Pay for costs of developing and operating projects
  – Traditional use for tolling

• Optimize facility performance
  – Pricing manages the demand on a toll facility
  – Pricing encourages modal or travel time shift
  – Paying users reduce congestion in mixed flow lanes as they shift over to toll lanes
  – Raising occupancy on HOV lanes improves performance but could result in underutilization and add to congestion in other lanes
Toll Rate Signs

Access Signs

Tag Reader & Enforcement System
Planning for the Future

• Protect the investment made in the system
• Get the most productivity out of the system
• Prepare for growth

• Addressing Performance Issues
• Statewide Policy on Managed Lanes
• New Managed Lane Guidelines
Addressing Performance Issues

• Federal performance standard for HOV lanes used by low-emission, zero-emission or tolled vehicles
  – Nearly 60 percent of system is failing
  – Increased growth in LEVs and ZEVs
  – Need to find a solution that allows LEVs and ZEVs to continue to have access

• High violation rates
  – Enforcement by CHP is difficult and not a high priority
  – Automated enforcement tools show some promise

• Access control preferences
  – Operational and safety challenges
Statewide Managed Lanes Policy

- DD43-R1
  - Completed May 2015
  - 2-1/2 years to develop
- Lays out expectations for Caltrans and regional partners on the development and operation of managed lanes
  - Design
  - Setting and Changing Operational Policies
  - Use of toll revenues
  - Cooperative Agreements
Managed Lane Guidelines

- Update to 2003 HOV Guidelines
- Convert out of metric
- Address the use of pricing
- Update design guidance
- Updated traffic control device guidance
- Enforcement strategies
Managed Lanes 101

Questions or Comments?

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