

Managed Lane Concept

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What are Managed Lanes?

- A lane or group of lanes where a combination of operating and design strategies are used to
 - maximize capacity
 - maintain free flow conditions
 - achieve corridor and community goals
- Designed for flexibility so that operations can be modified over time as conditions change



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Examples of Operational and Design Strategies

- Variations in vehicle group eligibility (e.g., HOV, SOV, Truck, ILEV)
- Period-based eligibility (e.g., time-of-day, day-of-week)
- Pricing (ETC)
- Physical control (e.g., continuous barriers to limit direct access, gates)
- Operational control (e.g., lane assignment, reversible lanes, driver information)



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Types of Managed Lanes

- HOV lanes
- HOT lanes
- Value priced lanes
- Express lanes
- Separation and bypass lanes
- Dual facilities
- Lane restrictions



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I-15 FasTrak San Diego



Operational and Design Actions:

- **Vehicle eligibility**
 - HOV 2+ preference
- **Dynamic pricing**
- **Access control**

Expansion

- 4 managed lanes with interior moveable barrier
- BRT with direct access ramps
- Tolloed SOV



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I-10 Katy HOT Lane Houston



Operational and Design Actions:

- **Vehicle eligibility**
 - HOV 3+ preference
- **Fixed pricing**
 - HOV2 priced

Expansion

- 4 managed lanes
- Tolloed with HOV preference
- Separated from general purpose lanes by plastic pylons



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SR-91 Express Lanes Orange County, CA



- Operational and Design Actions:**
- Differential pricing
 - Vehicle eligibility
 - HOV3+ preference
 - Access



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I-5 and I-90 Express Lanes Seattle



- Operational and Design Actions:**
- Access
 - Vehicle Eligibility
 - HOV access



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NJ Turnpike Dual-Dual Roadway



- Operational and Design Actions:**
- Vehicle Eligibility
 - HOV3+ preference
 - Trucks separated
 - Differential pricing
 - Access control



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Planning Issues

- Allowable vehicle user groups
 - SOV
 - HOV
 - Bus/BRT
 - Truck
 - ILEV
 - Taxi, shuttle
 - Emergency vehicles
 - Motorcycles
 - Future rail

Selection of user groups will depend upon the characteristics of the corridor and project/community goals



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Trucks

- No HOVL in operation where large trucks are allowed
- Design and operating considerations
- Separation through lane restrictions

Inherently Low-Emitting Vehicles (ILEV)

- Single fuel with no vapor emissions
- Exempt from meeting normal HOVL occupancy requirements per federal regulations
- California ILEVs in HOV lanes



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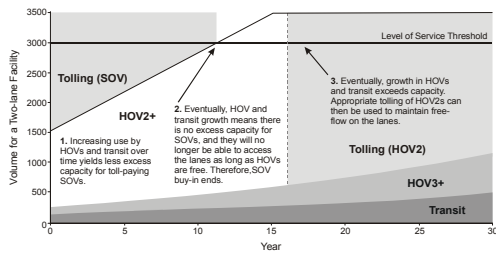
Hierarchy of Vehicle User Groups Colorado Value Express Lanes

- Highest: Buses and other transit operations
- Second: Vanpools and 3+ carpools
- Third: 2+ carpools
- Fourth: ILEV
- Lowest: SOV (toll-payers)



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Colorado Model for ML Lifespan



Courtesy of: Colorado DOT and UrbanTrans Consultants, Inc.



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Planning Issues

- Allowable vehicle user groups
- Pricing or no pricing
- Demand estimation
- Public education and outreach
- Financing
- Legislative



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Operating Issues

- Design
- Technology and interoperability
- Signing and traveler information
- Enforcement
- Incident management
- Evaluation and monitoring



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TxDOT Managed Lanes Research

<http://managed-lanes.tamu.edu>

- Research reports
- Links to managed lane projects and resources
- Quarterly newsletter and e-mail list



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