



Next Generation Managed Lanes

**California State Legislature
Transportation and Housing Committee
May 5, 2009**





Overview

- History of I-15 Express Lanes
- Public Support for Managed Lanes and Pricing
- I-15 Managed Lanes Expansion
- Facility Performance
- Lessons Learned
- 2030 Managed Lanes Network
- Long Term Vision

I-15 Corridor

Escondido to Downtown San Diego

- **Existing reversible lanes**
8 miles of managed lanes between SR 56 & SR 163
- **Expanded managed lanes**
12 additional miles of MLs between SR 78 & SR 56
- **High-speed BRT service**
will connect I-15 corridor communities with Centre City and Sorrento Mesa employment areas



Original Express Lanes

- Constructed in 1988
- S&H §149.1 – Allows SANDAG to operate a pricing program
- Per-trip pricing uses FasTrak® electronic toll collection
- Interoperable in California (Title 21)
- First project to employ dynamic pricing
- Fees set to keep traffic free flowing



Why Pricing?



- Expanded travel options
- Increased use of Express Lanes
- Surplus revenue offsets the cost of transit operations



I-15 HOV lanes usage doubled following introduction of FasTrak



Nearly \$8 million in transit subsidies to date

Advantages of Express Lanes:

- Flexible
 - Variable number of lanes (1, 2 or 3)
 - Reversible direction
- Multi-Purpose
 - AM & PM commute peaks
 - Incident management
 - Special events
 - Bus Rapid Transit System/Value Pricing
 - Truck Only Lanes (during off-peak)
- Cost Effective
 - Minimum additional right of way needed
 - Less environmental impacts

Public Involvement Process

Focus Groups

- HOV lane users
- FasTrak customers
- I-15 GP lane users



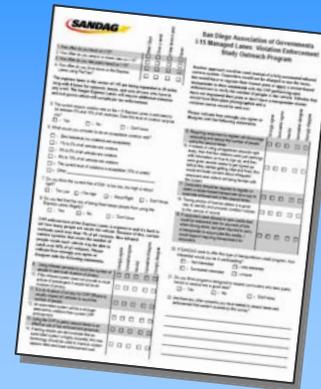
Telephone Surveys (600 Sample Size)



Stakeholder Interviews (Stakeholder List Attached)



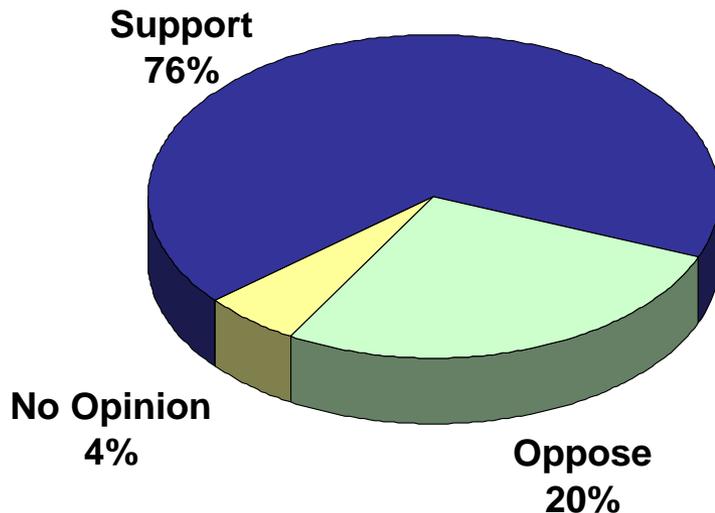
Intercept Surveys



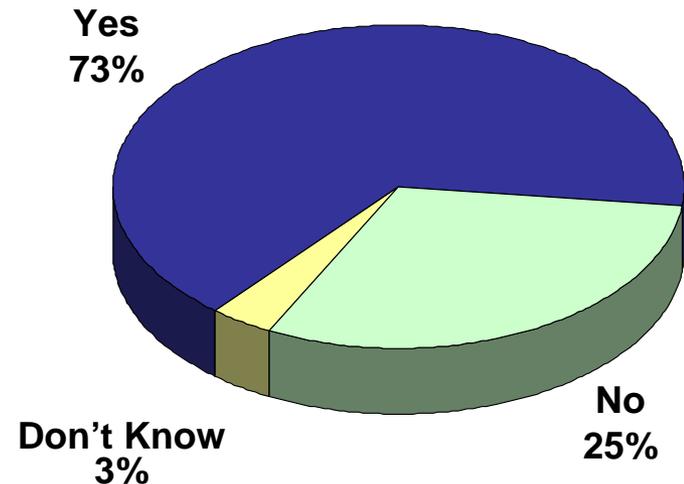
Public Support for Managed Lanes

TransNet Public Opinion Survey, 2004

Would you support or oppose construction of similar “managed lane” facilities in freeway corridors throughout San Diego County?

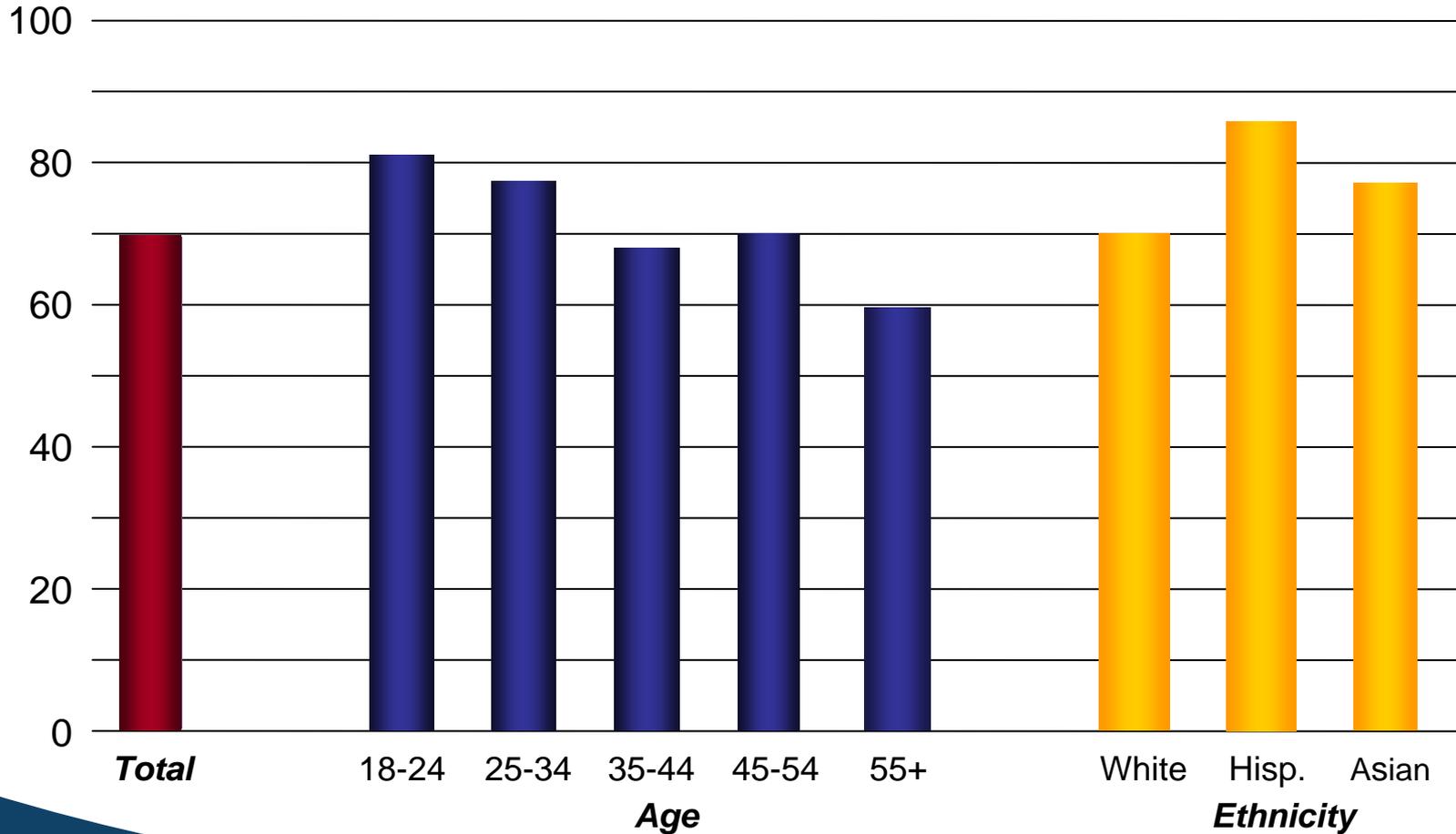


Do you believe a new system of BRT and carpools on “managed lanes” ... would reduce traffic congestion in the region?



Likelihood to use Managed Lanes

*How likely are you to use the planned I-15 Managed Lanes?
(as FasTrak or carpool)*

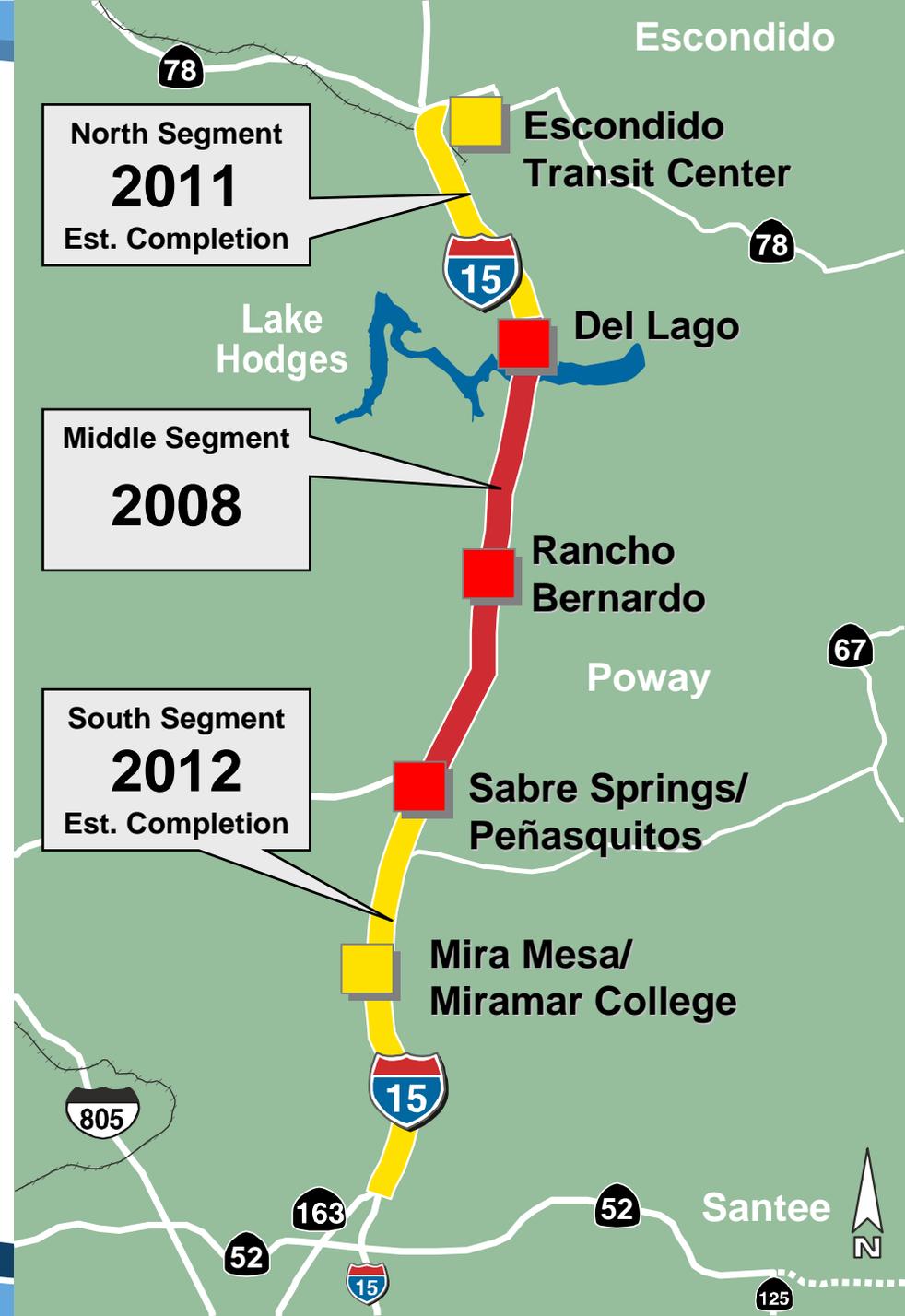


I-15 Corridor

Managed Lanes/ BRT Project

 **Middle Segment:**
Stations/Direct
Access Ramps

 **North and
South Segments:**
Stations/Direct
Access Ramps





Dynamic Roadway Expansion



Barrier Transfer Machine



Moveable Barrier



Pop-Ups



In-Pavement Lights



Law Enforcement and TMC Coordination



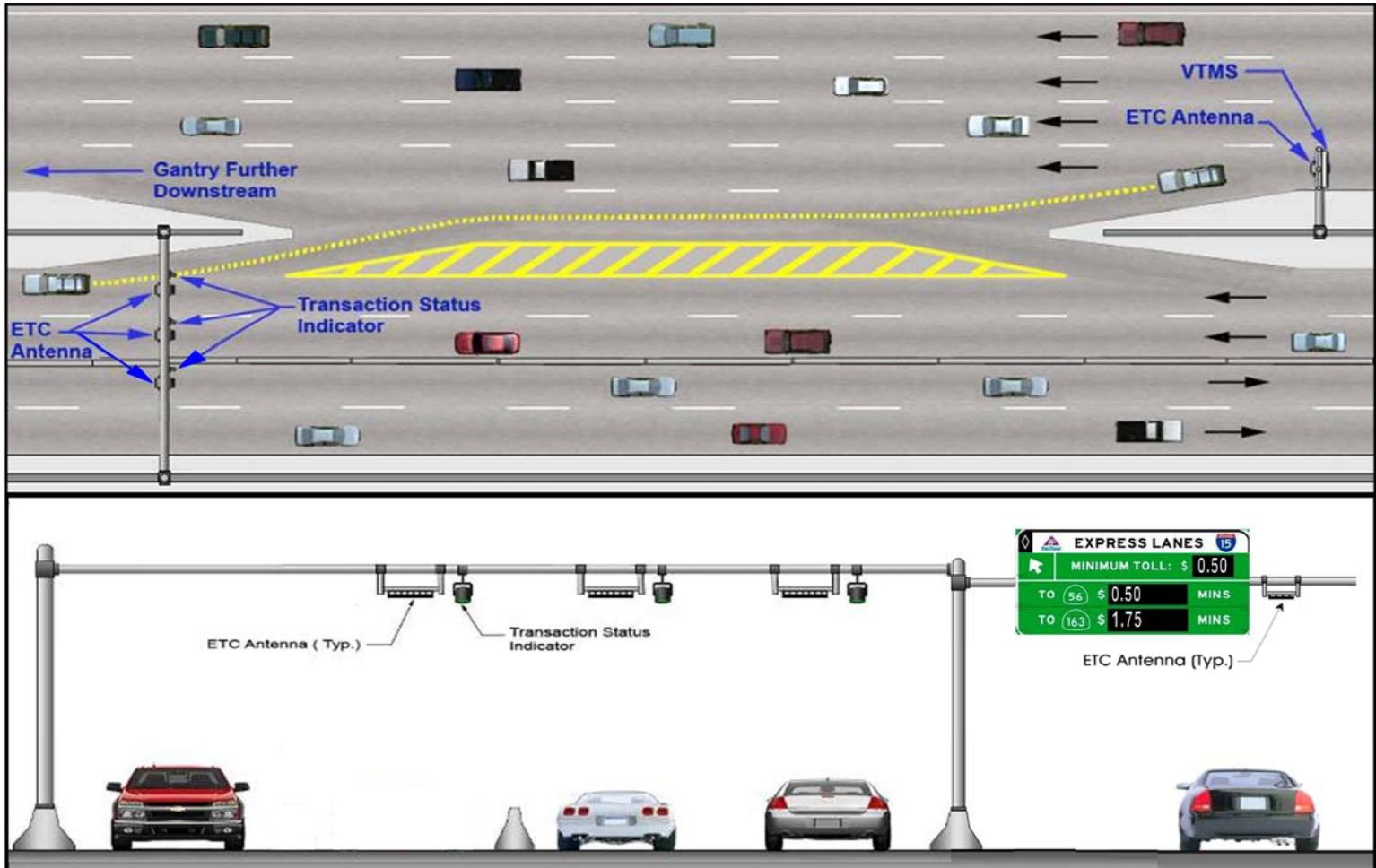
World's Most Advanced Toll Signage

- **Variable Toll Message Signs** are installed prior to all Express Lanes entrances
- **Static portions of the sign** *guide* users to Managed Lanes entry and exit locations and provide other *regulatory* information such as the “HOV” diamond logo
- **Inlaid dynamic message boards** broadcast *toll rates* and *travel times* to up to two downstream interchanges



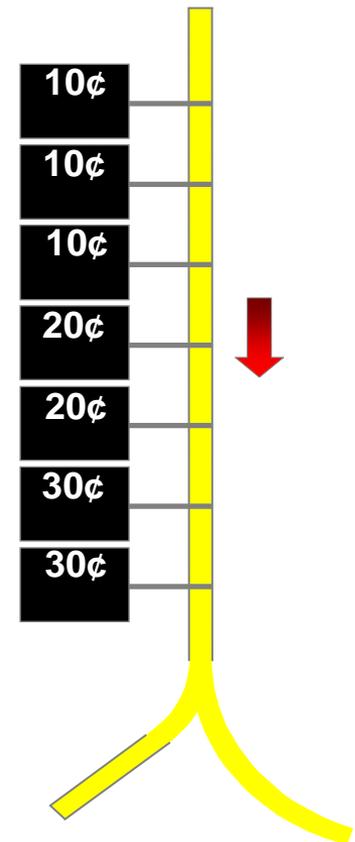
(Photo Taken 8/11/08)

State-of-the-Art Toll Collection



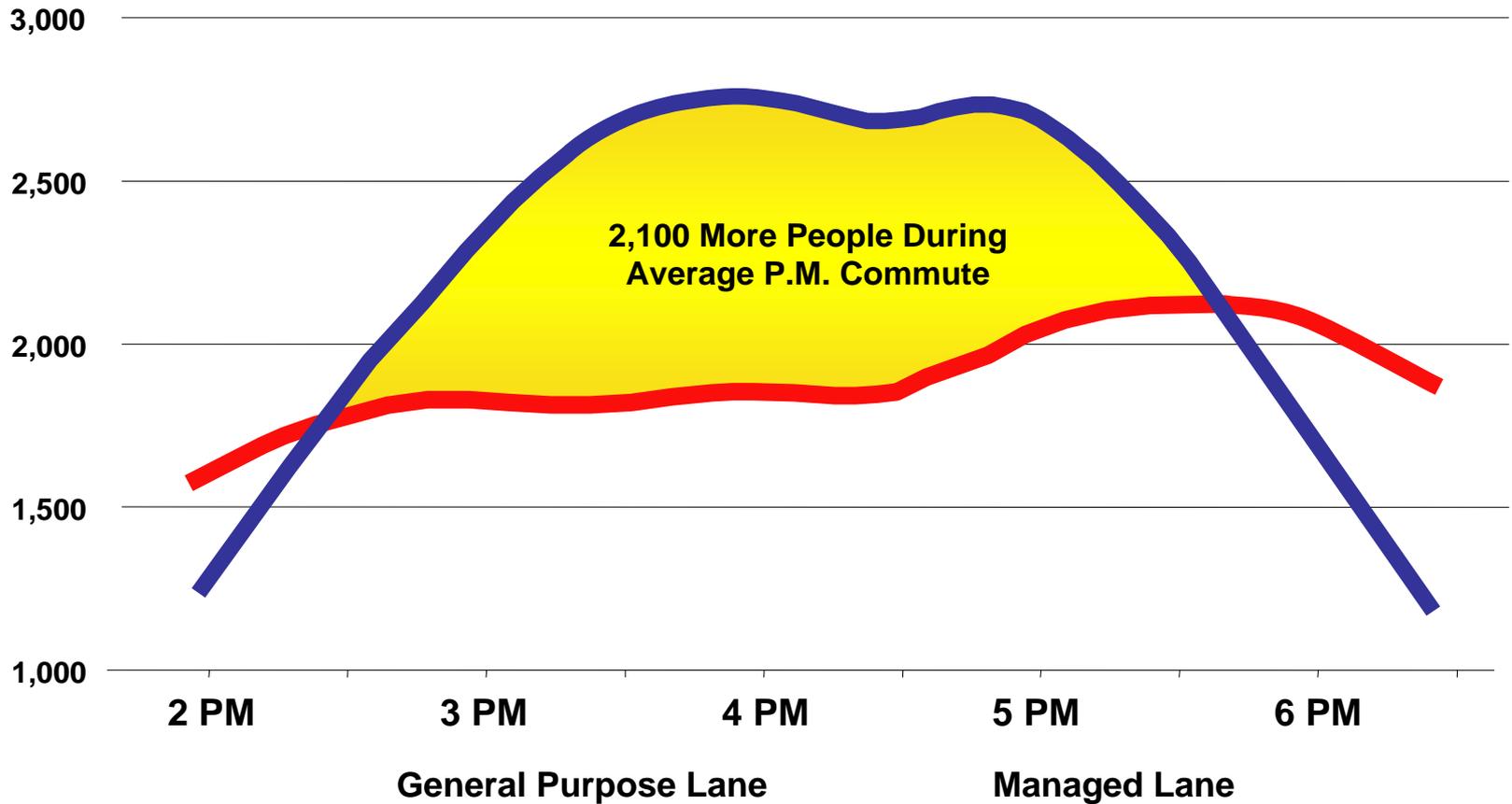
Dynamic Value-Based Pricing

- Distance-Based Fare
 - Patrons charged on a per-mile basis
 - Fare = per-mile rate * distance traveled in Managed Lanes
- Dynamic Pricing
 - Per-mile rate will vary by Level of Service (LOS) on the ML and Travel Time Saving
 - Goal: Maintain “free flow” on ML at all times
- Vary Price by Location
 - Per-mile rate will vary by location
 - The closer the entry point lies to areas of congestion, the higher the per-mile rate
- Value of Time Saved = “Premium Trip”
 - The greater the value of time savings offered by the Managed Lanes, the greater the fare



Peak Hour Throughput

Number of People per Hour Per Lane on I-15



Traffic Information for I-15 Express Lanes

- South of SR-56 (October-January):
 - Usage of the reversible lanes increased by 6% after last September's opening of new express lanes
 - HOV traffic increased by 12%
 - SOV traffic decreased by 8%
- North of SR-56 (October- January):
 - 9,268 High Occupancy Vehicles per day
 - 2,459 Single Occupancy Vehicles per day
 - Total of 11,742 vehicles per day (weekday daily average)

Next Generation Vehicle Enforcement

- Rely on CHP for deterrence & pursuit of repeat violators
- Potential use of automated enforcement cameras
 - HOV transponder requirement or license plate registration ?
- Other potential technologies to aid CHP in enforcement:
 - Mobile enforcement transponder readers
 - Mobile data terminals with central computer lookup
 - Transaction status lights



Integrated Bus Rapid Transit

Today's Express Bus:

- Commuter express services connecting to Downtown
- Transit vehicles use HOV lanes to bypass freeway congestion
- 80% of riders have a car but chose transit instead



Next Generation BRT (2012):

- Fast, convenient BRT connections to other areas of the region
- Extension of existing HOV lanes to 20-mile managed lanes facility
- BRT stations as focal points for access to the transit



Lessons Learned

- Need strong political leadership
- Public support (or lack of) can make or break a project
- Measure performance and adopt continuous improvement process
- Multi modal approach (e.g., BRT, rideshare and pricing) is cornerstone of building successful managed lanes
- Self-help funding (e.g., local sales tax) can accelerate vital transportation projects

What's Next?

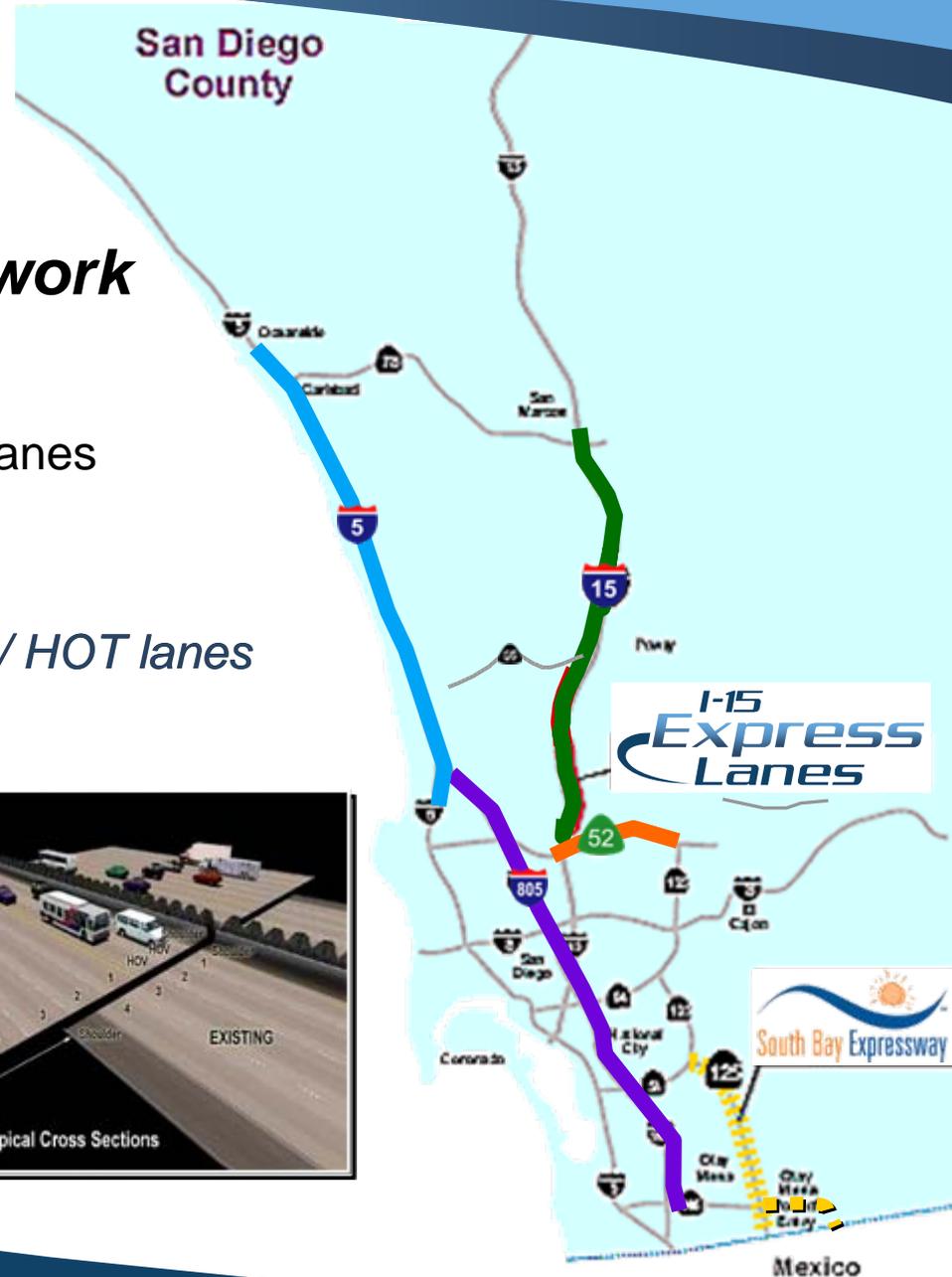
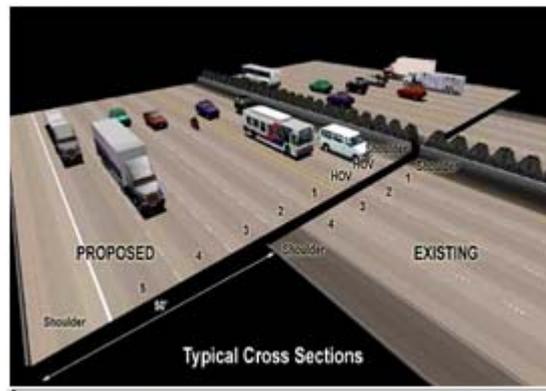
Complete the 2030 San Diego Regional Managed Lanes Network

Toll & HOT Lanes Today: 18 miles

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

2030 Regional Plan: over 95 miles of Toll / HOT lanes

- Complete I-15 Managed Lanes
- SR 52 Managed Lanes
- I-5 Managed Lanes
- I-805 Managed Lanes
- SR 11 Toll Road



Long Term Vision Automated Highways . . .



Tripling the capacity of our Highways.

Next Generation Managed Lanes

Questions ?

