



MEMORANDUM

August 28, 2017

To: Members of the Board of Directors
From: Darrell Johnson, Chief Executive Officer
Subject: Managed Lanes Workshop

A handwritten signature in blue ink, appearing to read "Darrell Johnson", is written over a light blue circular stamp or watermark.

A workshop to discuss managed lanes is planned for the August 28, 2017 Board of Directors (Board) meeting. The workshop was requested by the Board and is intended to provide perspectives on related statewide and regional planning and implementation efforts, as well as elicit Board input for the upcoming 2018 Long-Range Transportation Plan.

The attached resource book has been prepared for Board information and includes the opening Orange County Transportation Authority (OCTA) presentation and the panelists' presentations. In addition, the resource book includes important reference material such as a listing of managed lanes across the United States, the most recent State of California planning policy document, and relevant regional/local managed plans. Lastly, the latest Board-adopted OCTA guiding principles on this topic dated December 12, 2011 are included.

DJ: km
Attachments

c: Executive Staff



Orange County Transportation Authority
Managed Lanes Resource Book

August 28, 2017

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KOME AJISE - CALTRANS

STEPHEN FINNEGAN – SOUTHERN CALIFORNIA AUTOMOBILE CLUB

PATRICK JONES – INTERNATIONAL BRIDGE, TUNNEL, AND TURNPIKE ASSOCIATION

NATIONAL

PRICED MANAGED LANES OPERATING OR IN CONSTRUCTION, FEBRUARY 2017

TRB NATIONAL EXPRESS LANES DATABASE

PRICED MANAGED LANE GUIDE: PRICED MANAGED LANES REQUISITES (EXCERPT)

STATE

CALIFORNIA TRANSPORTATION PLAN 2040: IMPLEMENTATION HIGHLIGHTS

DEPUTY DIRECTIVE 43-R1: MANAGED LANE FACILITIES

REGIONAL

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG)

2016 RTP/SCS APPENDIX: HIGHWAYS & ARTERIALS APPENDIX

EXHIBIT 8 – REGIONAL EXPRESS LANE NETWORK

TABLE 2 – REGIONAL EXPRESS LANE NETWORK

LOS ANGELES METROPOLITAN TRANSPORTATION AUTHORITY (METRO)

COUNTYWIDE EXPRESSLANES STRATEGIC PLAN

EXECUTIVE SUMMARY

ATTACHMENT B

PRESENTATION

RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)

SR-91 EXPRESS LANE PROJECT FACTSHEET

I-15 EXPRESS LANE PROJECT FACTSHEET

SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)

I-15 EXPRESS LANE PROJECT FACTSHEET

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EXPRESS LANES TOLLING POLICY AND TOLL REVENUE POLICY

CALTRANS DISTRICT 12

2015 CALIFORNIA HOV LANE DEGRADATION DETERMINATION REPORT (D12 EXCERPT)
SYSTEM PLAN FOR MANAGED LANES ON CALIFORNIA STATE HIGHWAYS
EXHIBIT 56 – DISTRICT 12 FUTURE MANAGED LANES SYSTEM
DRAFT MANAGED LANES NETWORK STUDY – OCTA BOARD PRESENTATION (DEC 2016)
ORANGE COUNTY MANAGED LANES NETWORK STUDY

ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)

EXPRESS LANE PLANNING AND IMPLEMENTATION PRINCIPLES
STAFF REPORT (DEC 2011)
SR-91 EXPRESS LANES FACTSHEET
I-405 IMPROVEMENT PROJECT FACTSHEET

REFERENCE ARTICLES

AS INLAND TOLL LANES BOOM, WHY ARE NEW FREEWAY LANES RARELY FREE?

**THERE'S ONLY ONE WAY TO FIX L.A.'S TRAFFIC, AND IT ISN'T ELON MUSK'S
TUNNELS. WE NEED TOLLS – LOTS OF THEM**



Managed Lanes Workshop

Orange County Transportation Authority
Board of Directors
August 28, 2017



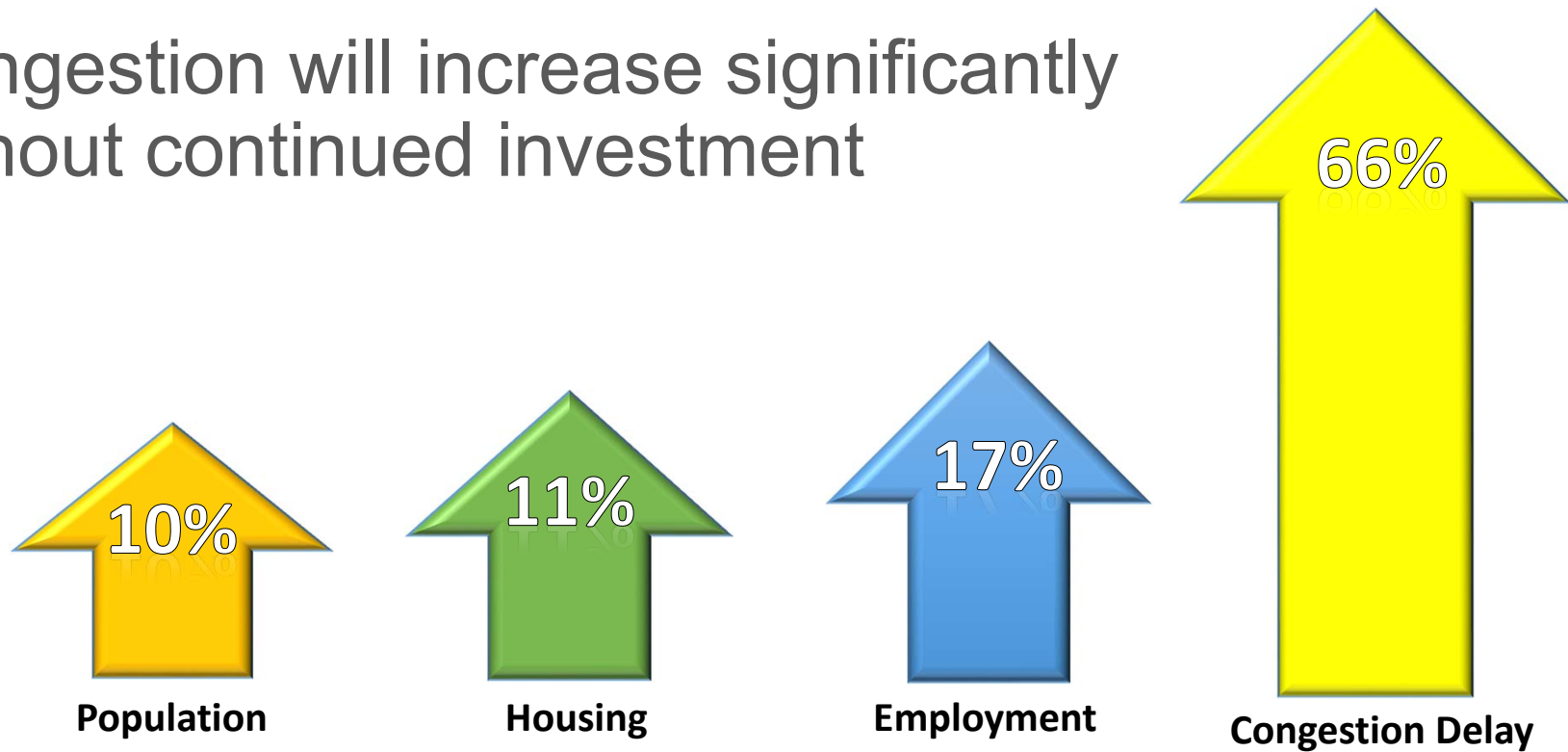
Context



Now is the time to develop a freeway strategy beyond Measure M2

Orange County Growth (2015-2040)

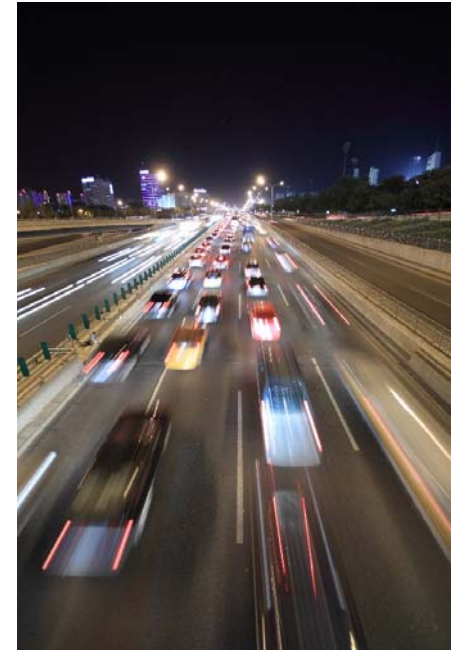
- Congestion will increase significantly without continued investment



Intercounty Travel Demand

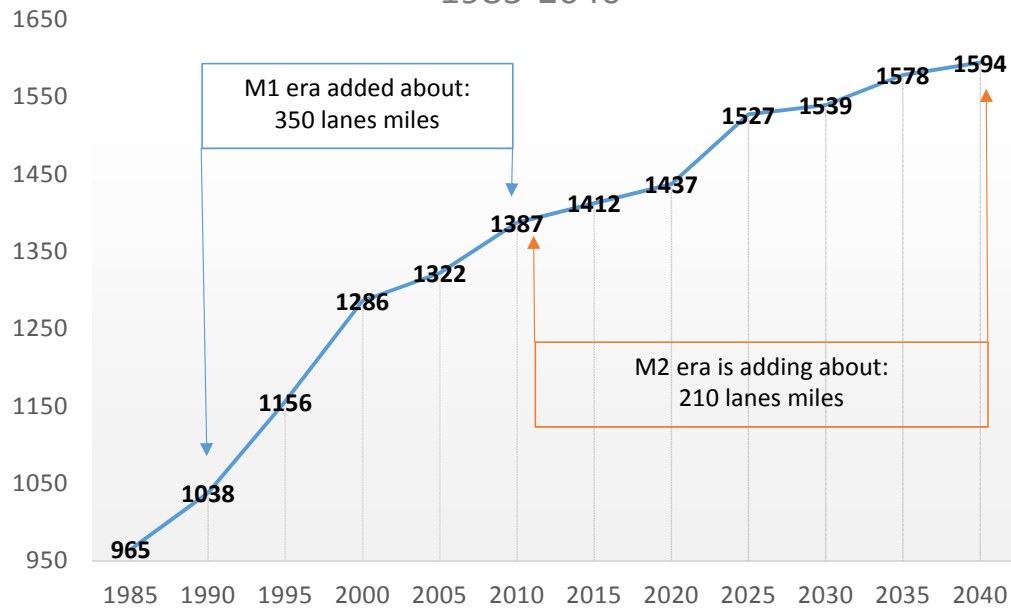
- In-bound workers
 - About 650,000 workers commute to OC
- Out-bound residents
 - Over 490,000 OC residents commute to jobs in other counties
- By 2040, in-bound commuters will increase by 25 percent
- Intercounty accessibility to jobs is critical to Orange County's economy and quality of life

Source: U.S. Census Bureau, Center for Economic Studies and Center for Demographic Research, Cal State University Fullerton



Freeway Development

OC Freeway Lane Miles
1985-2040



Note: Does not include Toll Roads network

Managed Lanes History

1980s – First carpool lanes open



1990s – Implement buffered carpool lanes and 91 Express Lanes open



2000s – Added direct connectors



2010s – Dual HOV/priced managed lanes

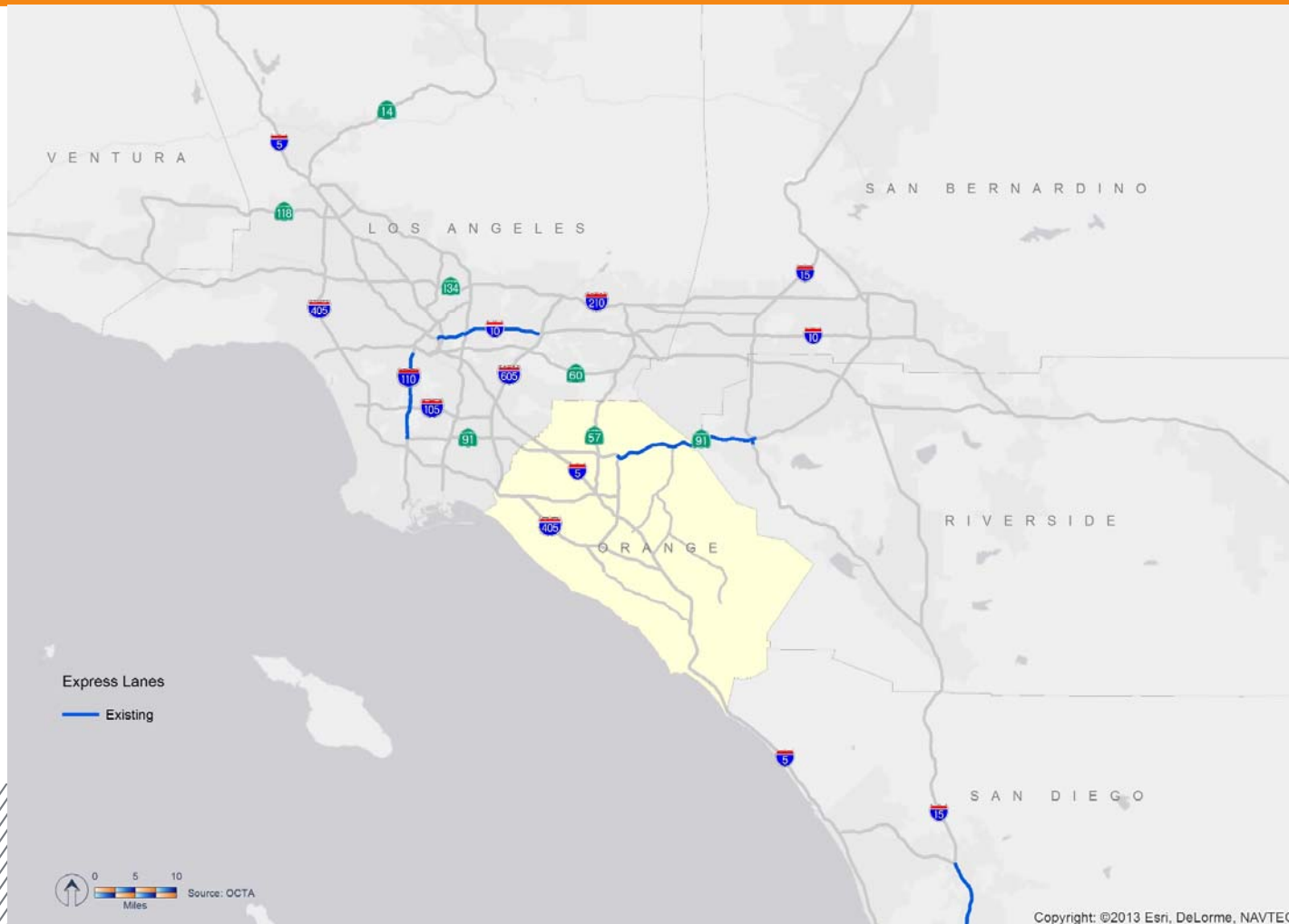


Federal Performance Standards

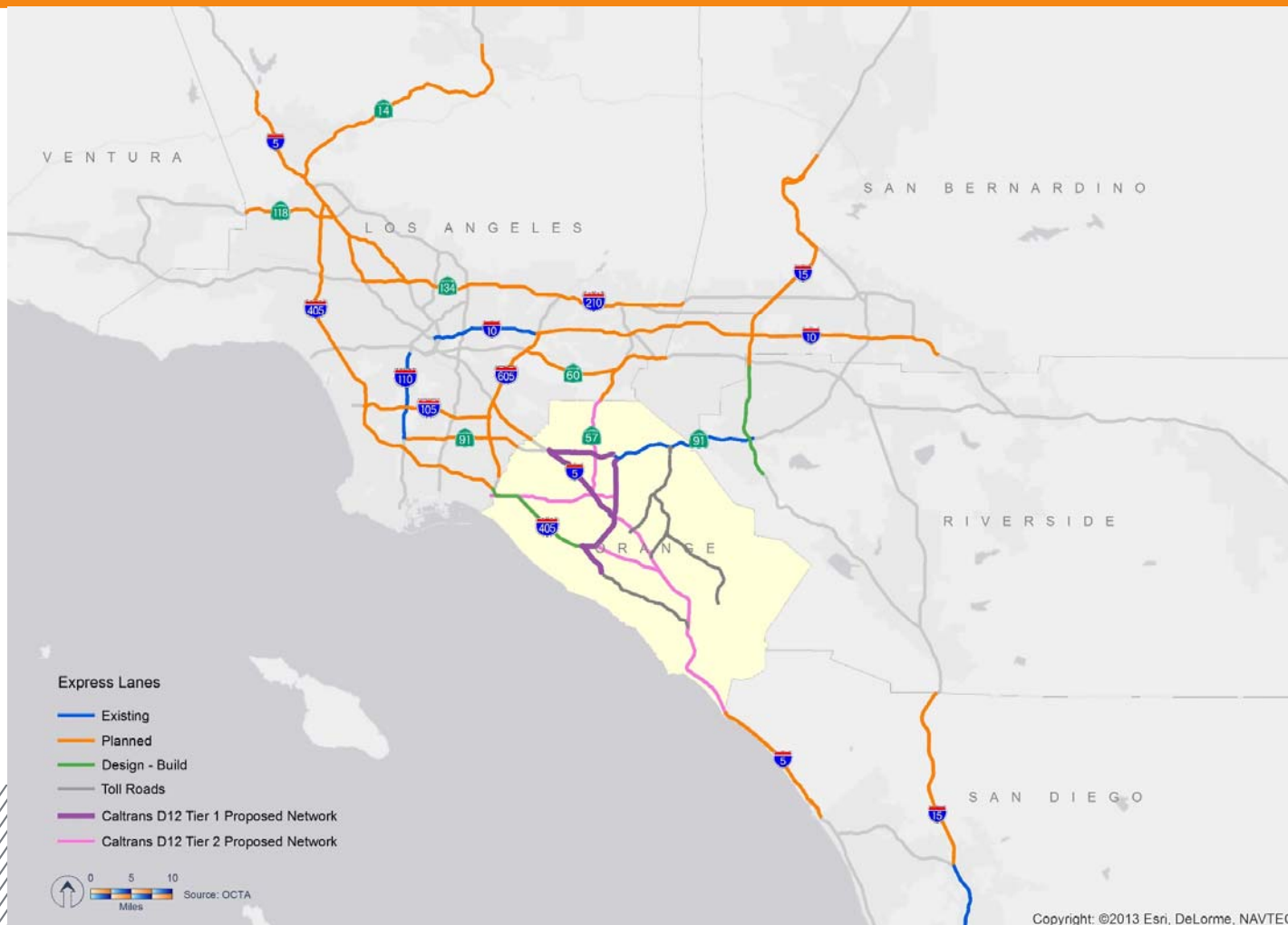
- Federal regulations require HOV lanes to operate at 45+mph during peak periods
- Today, most of Orange County's HOV lanes do not meet this standard



Southern California Existing Express Lanes



Planned Caltrans Express Lanes



Planned Express Lanes – OC Focus



Panel Introductions



Robert Poole

Director of Transportation Policy and Searle Freedom Trust Transportation Fellow at Reason Foundation



Kome Ajise

Chief Deputy Director, California Department of Transportation



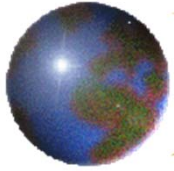
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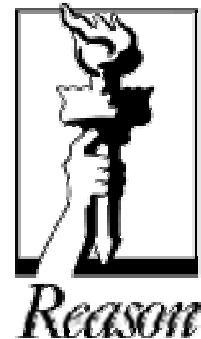
Managed Lanes 2017: What They Are and How They Work

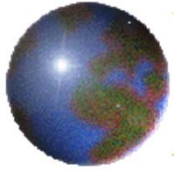
Robert W. Poole, Jr.

Director of Transportation Policy

Reason Foundation

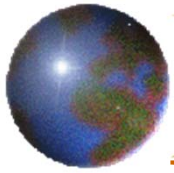
<http://reason.org>





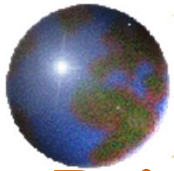
What are Managed Lanes?

- ❖ Lanes restricted by price or vehicle type.
 - ❖ HOT lane: HOVs and paying vehicles
 - ❖ Express Toll Lane: all (or nearly all) pay
- ❖ Today, over 1,500 lane-miles in operation.
- ❖ In use or planned in 17 metro areas.

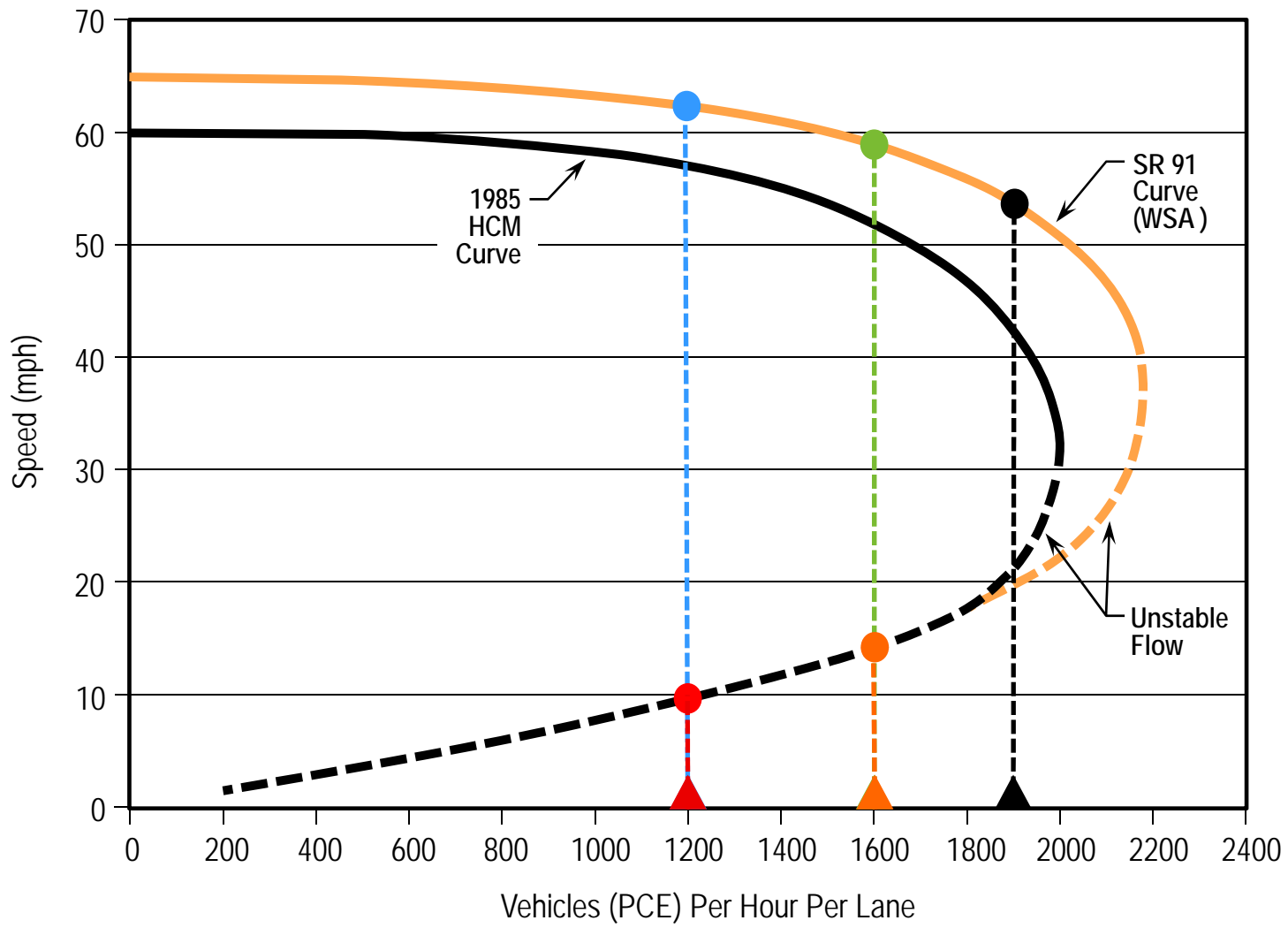


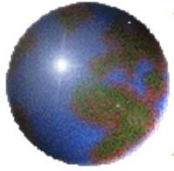
Managed Lanes Projects, 2017





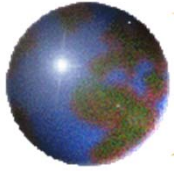
Pricing enables uncongested traffic flow.





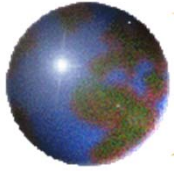
Problems with non-paying vehicles

- ✦ Maintaining uncongested flow depends on effective pricing.
- ✦ Large majority *must* be priced.
- ✦ Still no proven way to enforce HOV occupancy.
- ✦ High person throughput via vanpools, buses as *alternative* to HOVs going free.
- ✦ Recent trend of no HOVs free: MoPac, I-595, I-95 MD, I-4 Orlando



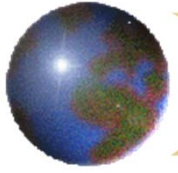
National trend is ML networks

| <u>Metro Area</u> | <u>Under Way</u> | <u>Planned</u> |
|----------------------|------------------|----------------|
| Atlanta | X | |
| Dallas/Ft. Worth | X | |
| Denver | X | |
| Houston | X | |
| Jacksonville | X | |
| Los Angeles | X | |
| Miami | X | |
| Minneapolis/St. Paul | X | |
| Orlando | | X |
| San Diego | | X |
| San Francisco | X | |
| Seattle | X | |
| Tampa | | X |
| Washington, DC | X | |



What do ML networks need?

- ✦ Consistent user experience (access, occupancy, pricing, signage)
- ✦ Seamless connectors
- ✦ Revenue maximization (to build out the network, including connectors)
- ✦ MLs also on toll roads, if congested



Synergy of Managed Lanes and express bus service

- ❖ Market-priced lane is *virtual equivalent* of an exclusive fixed guideway.
- ❖ Pricing limits vehicle flow to what's compatible with LOS C conditions.
- ❖ Reliable high speed is sustainable long-term, thanks to pricing.
- ❖ Lanes should include bus-friendly features.



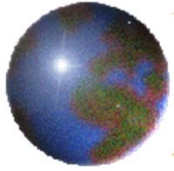
Main Lanes

Managed Lanes

Direct Access Road to Arterial

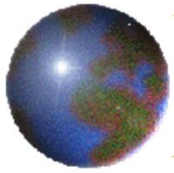
Direct Transit Access Ramps

BRT Station

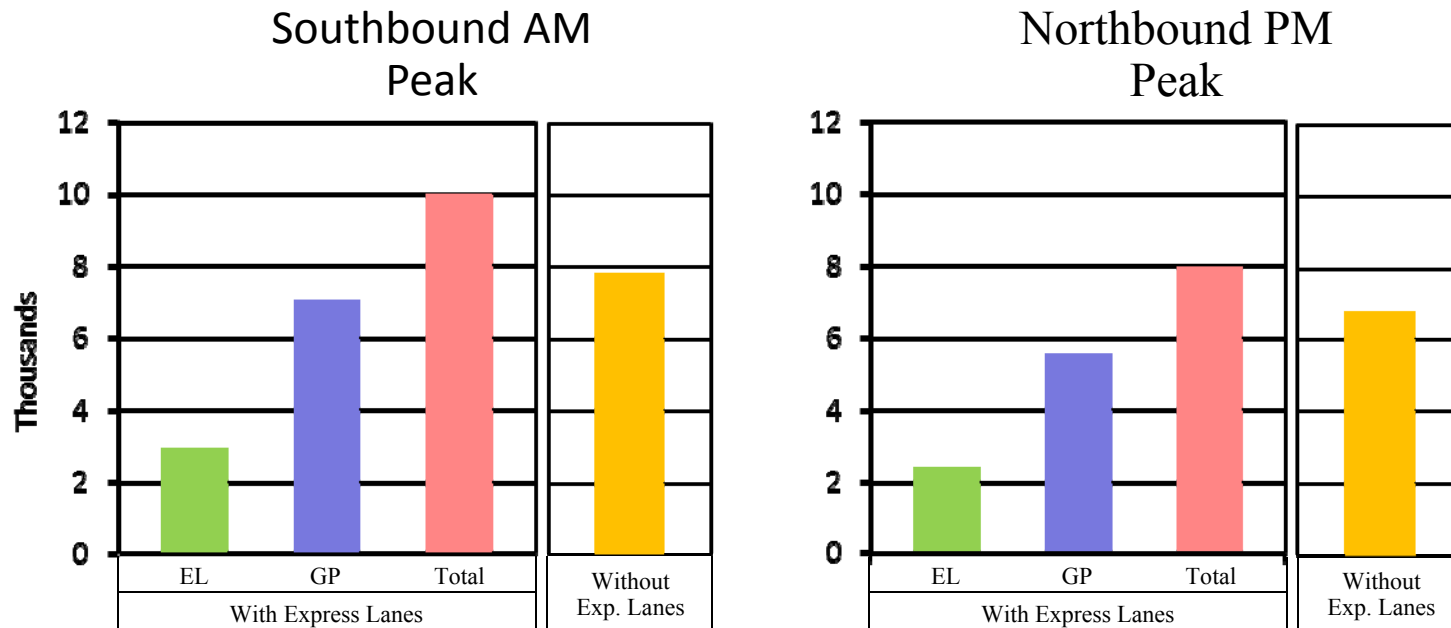


Typical ML concerns

- ⊕ Less throughput than general lanes
- ⊕ "Lexus Lanes"
- ⊕ Unaffordable tolls
- ⊕ No room to add lanes



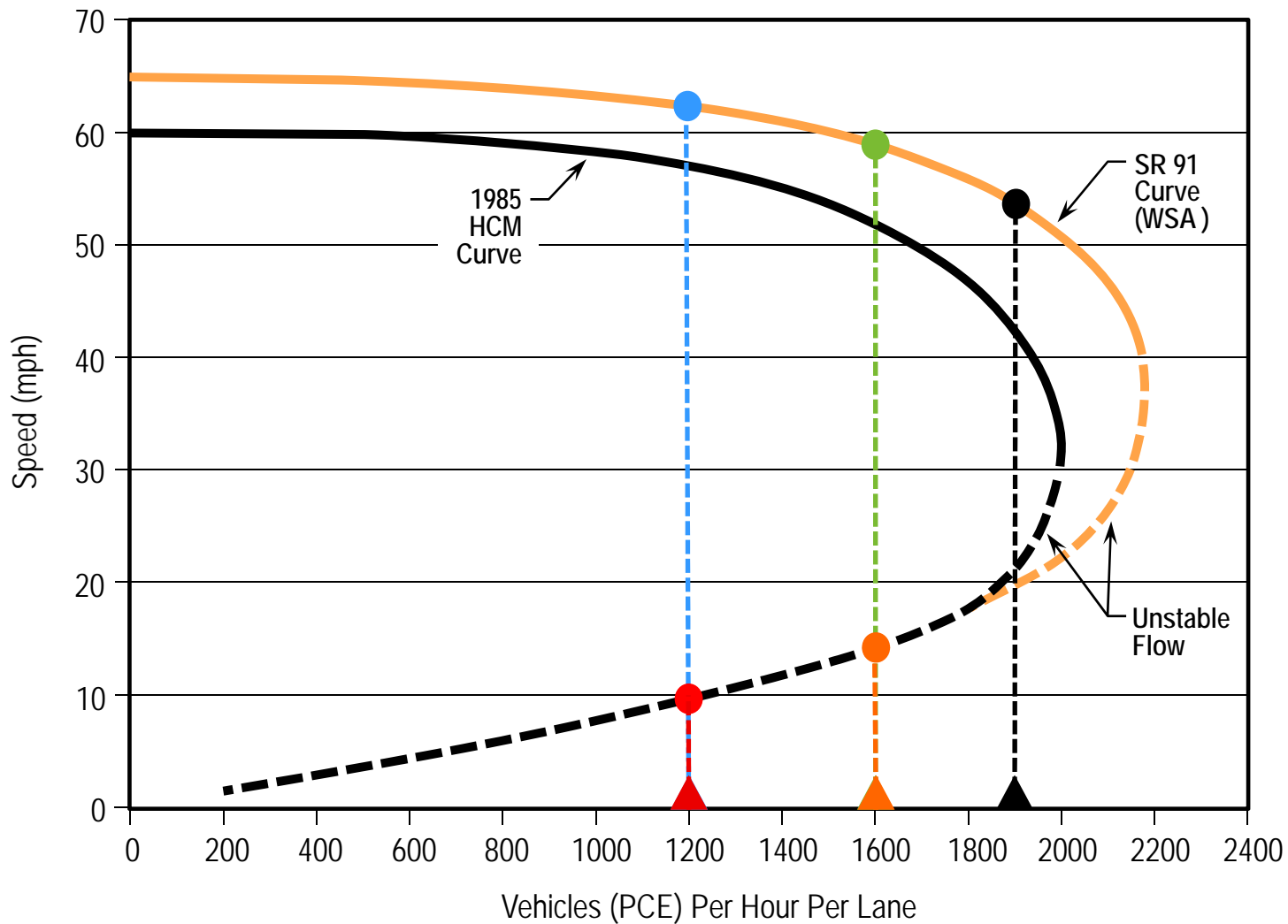
I-95 Miami throughput comparison

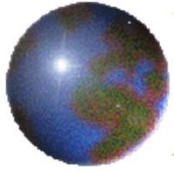


Source: FDOT / Kimley-Horn; Cambridge Systematics



Pricing enables uncongested traffic flow.



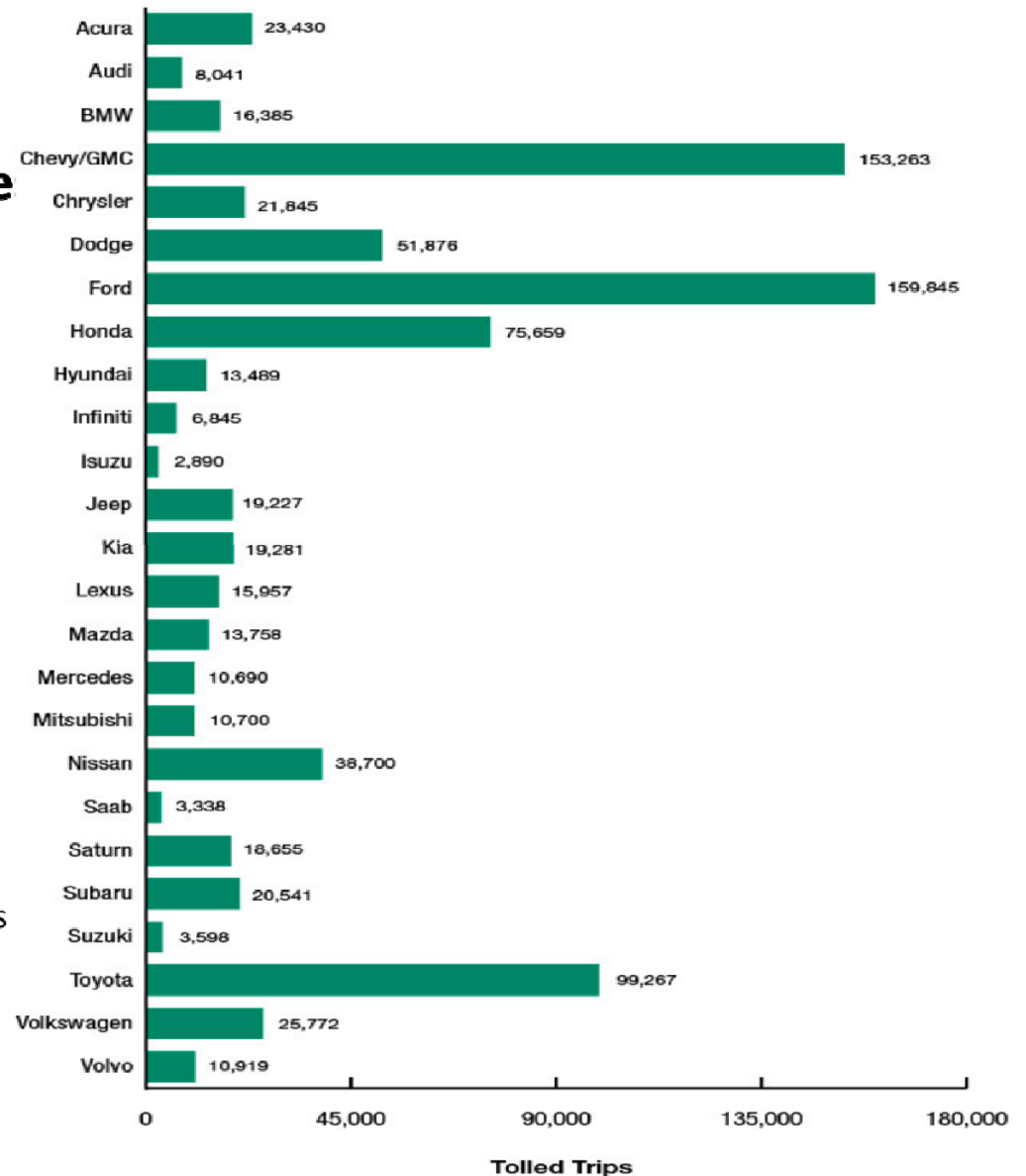


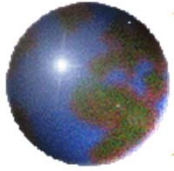
These are not “Lexus Lanes”

Five most frequently tolled vehicle in SR 167 HOT lanes:

1. Ford
2. Chevrolet/GMC
3. Toyota
4. Honda
5. Dodge

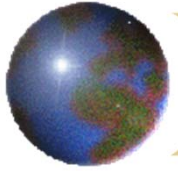
Based on *Good To Go!* account data for HOT Lanes users who paid a toll





“Unaffordable” tolls

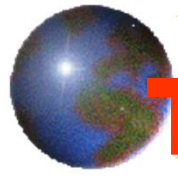
- ❖ Opponents use highest peak toll, full length of facility, twice a day, 5 days a week.
- ❖ The 90/10 rule: 90% of ML customers use it about 10% of the time.
- ❖ Better measure is average toll for all customers (SR 91 2014, \$2.93)
- ❖ Better to have a fast, reliable alternative to congestion than NO alternative.
- ❖ Express bus on MLs is a new alternative.



What if there is little or no room to widen the corridor?

Innovations in use today:

- ✦ Elevated express toll lanes--Tampa
- ✦ Depressed express toll lanes--
Dallas

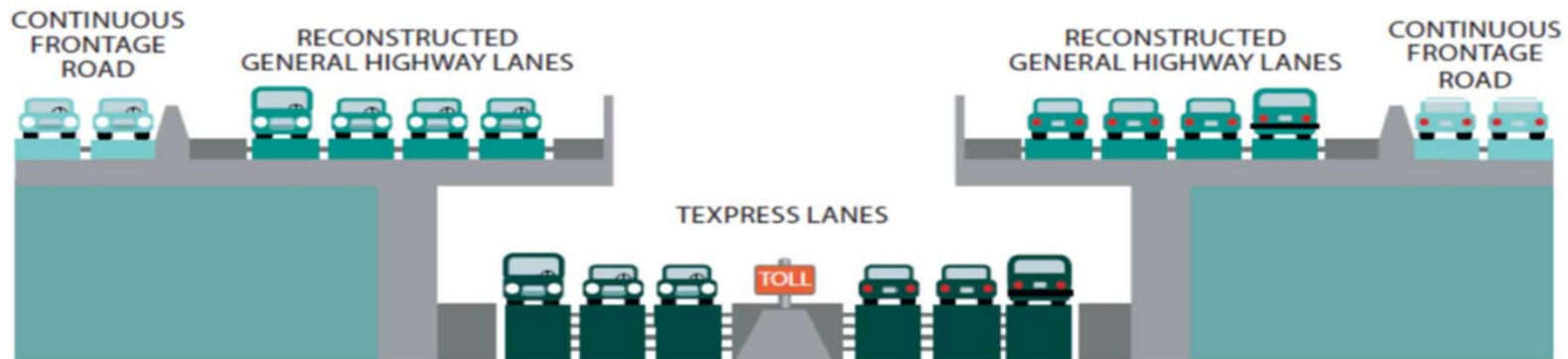


Tampa Express Toll Lanes

- ❑ Reversible, cashless toll lanes
- ❑ Elevated: “6 lanes on 6 feet”
- ❑ Uncongested guideway for express bus service, also



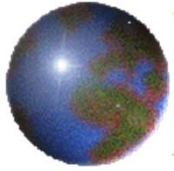
Completed ahead of time and on budget



- **LBJ:** 3 additional managed lanes per direction completed Oct 2015, **3 months ahead of schedule, on budget**
- **NTE:** 2 additional managed lanes per direction completed Sept 2014, **9 months ahead of schedule, on budget**

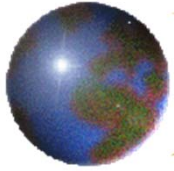
Financial Highlights:

- **\$5.34bn** initial investment, **27% savings** due to delivery efficiencies
- **\$1.16bn** NPV of Future Investment and Maintenance
- **\$1.12bn** Public Contribution



Conclusions

- ⊕ Managed Lanes are a national trend.
- ⊕ Pricing works well, if nearly all vehicles are priced.
- ⊕ Networks offer benefits, but need consistent policies.
- ⊕ ML network offers free guideway for region-wide express bus service.



Questions?

Contact information:

bobp@reason.org

954-587-9426

An aerial photograph of a multi-lane highway with a blue tint. A large, semi-transparent blue arrow points from the left edge of the slide towards the right, overlapping the highway image. The highway lanes are clearly visible, and the overall scene is viewed from an elevated perspective.

Statewide Managed Lanes Planning

Kome Ajise

Chief Deputy Director

California Department of Transportation

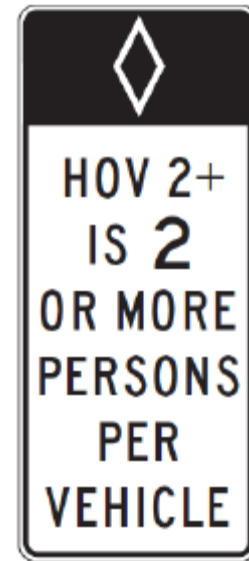
Managed Lanes Today



- 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

Managed Lanes Today

- Predominantly HOV-2
- Single occupant plug-in hybrids & clean-air vehicles allowed
- Key component to achieving AB 32 air quality goals
- System does not always meet performance objectives
 - Half of system is degraded according to federal standards



Planning for the Future

- CTP 2040 Policies
 - Manage and Operate an Efficient System
 - Improve management of the SHS using tools such as managed lanes
 - Invest Strategically to Optimize Performance
 - Use a broad range of strategies – such as managed lanes – on the most congested corridors
 - GHG Reduction Objective
 - Coordinated pricing could be effective in reducing GHG per capita

Statewide Managed Lane Policy

- Supports the use of managed lanes on State highways
- Supports local and State cooperation and partnerships
- Outlines roles and responsibilities for developing and operating managed lanes
- Promote basic Statewide Consistency with built in flexibility

California Department of Transportation

Serious drought.
Help save water!

Deputy Directive

| | |
|-----------------------------|--|
| Number: | DD-43-R1 |
| Refer to Director's Policy: | DP-08, Freeway System Management; DP-23-R1, Energy Efficiency, Conservation, and Climate Change; DP-26, Intelligent Transportation Systems; DP-27-R1, Bus Rapid Transit Implementation Support |
| Effective Date: | 05/29/2015 |
| Supersedes: | DD-43 (07/01/1995) |
| 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 strategy. Managed lanes are used to promote carpooling and transit usage, improve travel-time reliability, reduce greenhouse gas emissions, and maximize the efficiency of a freeway by increasing person and vehicle throughput while reducing congestion and delay.

Each district that currently operates, or expects to operate, managed lanes within the next twenty years shall prepare, in cooperation with regional transportation agencies and other stakeholders, a Managed Lanes System Plan (MLSP). The MLSP shall contain a list of each managed lane facility that is currently in operation or planned for operation within the next twenty years. Each district shall review and update its MLSP biennially and ensure that future managed lanes are included in regional transportation plans and other system planning documents.

Managed lanes are designed and operated in a manner that will not degrade the overall mobility and safety performance of the freeway. All appropriate guidelines, policies, procedures, and standards, including Caltrans' *Highway Design Manual* design criteria, shall be applied when planning, designing, and operating managed lanes. Design features and operational strategies for managed lanes, and any changes to those features or strategies, shall be

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Managed Lane System Planning

- Blueprint for managed lanes on the State Highway System
 - Conversion to HOT lanes
 - Added capacity to existing managed lanes
- Utilize work already done at the regional level
 - Some districts are doing more detailed plans
- Element of Caltrans Strategic Management Plan

Caltrans' Perspective on Managed Lanes

- Managed lanes are a mobility tool first; revenue generation is secondary
 - Objective is to increase throughput on the corridor
- Caltrans may operate express lanes
 - Will be done in partnership with local agencies
 - Revenues will stay in the corridor
 - Lifecycle Considerations are important

Caltrans' Perspective on Managed Lanes



- Consider pricing when raising occupancy on existing HOV lanes (HOV-2 to HOT-3)
 - Minimizes underutilization of the lane due to low HOV-3 volumes
 - Allows HOV-2 to buy back in, preferably at discounted rate



- Decisions on managed lanes must balance local versus regional needs

Managed Lane Project Development



- SB 1 Provides Several Funding Opportunities for Managed Lane Projects
 - STIP
 - Congested Corridor Program
 - Local Partnership Program
- Local support and partnership is key to success



Thank You

Orange County Transportation Authority Managed Lane Workshop

August 28, 2017



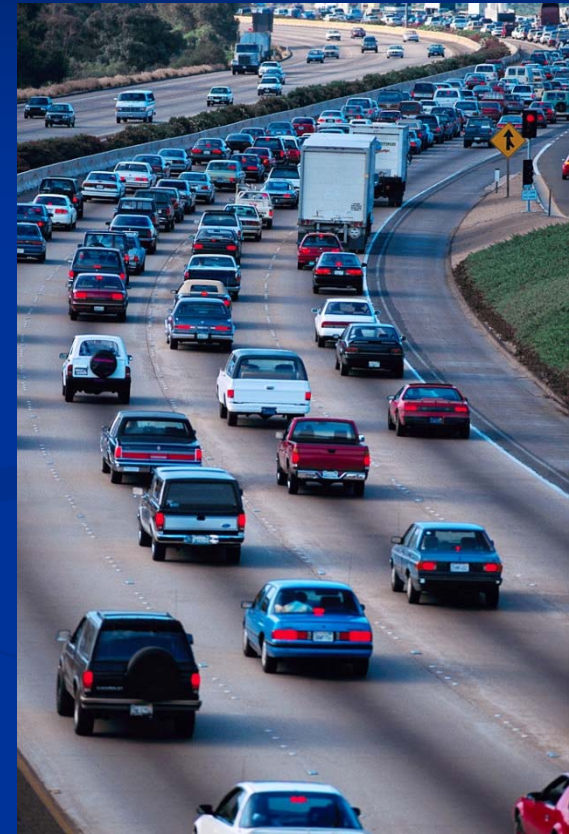
Stephen Finnegan

Public and
Government Affairs

Automobile Club of
Southern California

“Managed” Lanes and Road Pricing

- Varying views:
 - Raise money
 - Market forces
 - Charge more
 - Unfair
 - Double taxation
 - Privacy
- Needs to be understood and supported by the public



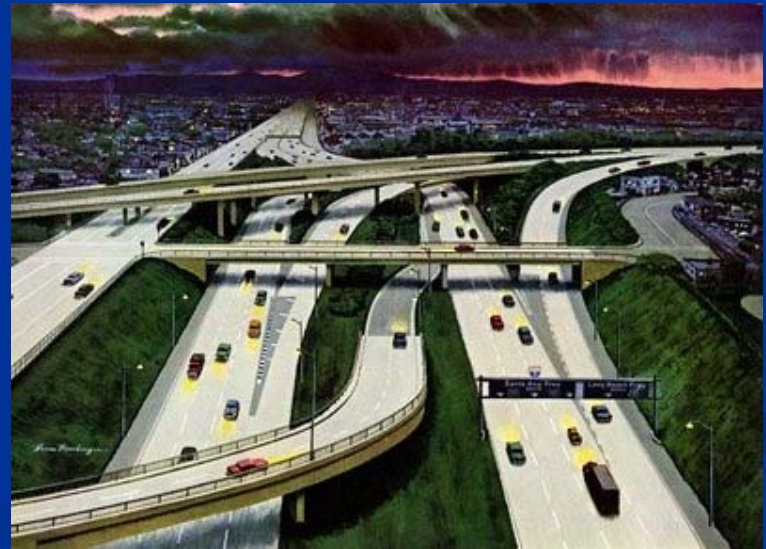
Value

- Essential, bottom-line issue
 - New lanes / roads
 - HOV to HOT
 - General purpose lanes



Objectives and Results

- Improve mobility
 - Direct, recognizable benefits for motorists paying the charge
- Do no harm to:
 - Non-priced lanes
 - Surface streets and parallel routes



Equity Impacts

- Need to be addressed
- Standard assurances:
 - Low income people will pay
 - Revenue goes to transit
 - No worse than now
- Two-tiered system should not become three-tiered



Revenue

- It's always about the money.
- Revenues should improve mobility and benefit users.
 - Capital cost of new facilities
 - Operations and maintenance
 - Improving and expanding priced and parallel lanes and routes
 - Effective transit services



Carpool Lanes

- Purpose:
 - Provide incentive to carpool or take transit
 - Way to build new lanes
- Incentive disappears when lanes become congested
- Options:
 - Convert to regular lanes
 - Increase occupancy requirement
 - Allow priced use in addition to carpools



Path Forward

- Communication
 - Honest and understandable
 - Clear and realistic objectives
- Projects and policies
 - Meet travel needs
 - Improve mobility
- Operations and rules
 - Regional/statewide uniformity
 - User friendly/understandable
- Broader state and federal reforms are still needed



Next Steps

2018 Long-Range Transportation Plan

| Activity | Schedule |
|-----------------------------------|------------------|
| Outreach | Ongoing |
| Scenario Development and Analysis | Summer/Fall 2017 |
| Draft 2018 LRTP Public Review | Spring 2018 |
| Final 2018 LRTP | Summer/Fall 2018 |



Robert Poole
Director of Transportation Policy and
Searle Freedom Trust Transportation
Fellow at Reason Foundation

General Background

Robert Poole is Director of Transportation Policy and the Searle Freedom Trust Transportation Fellow at the Reason Foundation. He received his B.S. and M.S. in mechanical engineering at MIT and did graduate work in operations research at NYU.

His 1988 policy paper proposing privately financed, congestion-relief toll lanes inspired California's landmark public-private partnership pilot projects law (AB 680), which has served as the prototype for more than 20 similar laws in other states. In 1993 he directed a study that introduced the term HOT Lanes.

Poole has been an advisor to the Federal Highway Administration, the Federal Transit Administration, the White House Office of Policy Development, and the DOTs of California, Florida, Georgia, Indiana, Utah, Virginia, Texas, and Washington State. He served on the Caltrans Privatization Advisory Steering Committee, in 1989-90, and was a member of California's Commission on Transportation Investment in 1995-96.

He is a member of the board of the Public-Private Partnerships division of ARTBA and a member of the Transportation Research Board's Managed Lanes Committee. In 2003-05 he was a member of the TRB's special committee on the long-term viability of fuel taxes for transportation funding. In 2008 he served as a member of the Texas Study Committee on Private Participation in Toll Roads. In 2010 he served as a member of the Expert Review Panel on Managed Lanes, for the Washington State DOT. He also served on the transition team for Florida's Gov.-Elect Rick Scott. He writes a monthly column on transportation policy issues for *Public Works Financing*, and publishes the monthly e-newsletter, *Surface Transportation Innovations*.



Kome Ajise
Chief Deputy Director
California Department of Transportation

Kome Ajise Chief Deputy Director at the California Department of Transportation (Caltrans), responsible for overseeing the internal operations for approximately 19,000 employees and an annual budget that exceeds \$11 billion.

Kome began his career in 1987 in District 6 (Fresno) and has served in various assignments at both the district and Headquarters offices. From February 2001, he served as the North Region Environmental Division Chief until April 2004 when he was appointed as the District 10 Director in Stockton. The eight counties District 10 covers include the central Sierras, consisting of four trans-sierra mountain passes. The northern San Joaquin Valley is a goods movement gateway from the valley into the Bay Area. Between the years 2009–2012, he served as Program Manager, Public–Private Partnerships before being appointed Deputy Director, Planning and Modal Programs in 2012.

Kome has a Bachelor of Science degree in Geography and Regional Planning from the University of Benin, Nigeria and a master of City and Regional Planning degree from California State University, Fresno.



Stephen Finnegan
Manager of Government & Community Affairs,
Automobile Club of Southern California

Stephen Finnegan leads public and government affairs, media and community relations, and traffic safety programs for the Automobile Club of Southern California (AAA). He advocates for motorist and business issues, including improved traffic safety and mobility, effective and efficient use of transportation resources, adequate infrastructure for economic growth, and a healthy business environment.

Mr. Finnegan has over 25 years of experience in transportation, finance, business, and advocacy. His career includes work as a financial analyst with Bank of America, leadership positions in planning and operations with the Los Angeles Metropolitan Transportation Authority (Metro), and serving as a management consultant to public agencies and non-profit organizations.

Mr. Finnegan received a Master of Arts degree in urban planning from the University of California at Los Angeles and a Bachelor of Arts from Claremont McKenna College.



Patrick Jones
Executive Director/Chief Executive Officer
International Bridge, Tunnel and Turnpike Association

Patrick Jones is Executive Director and Chief Executive Officer of the International Bridge, Tunnel and Turnpike Association. Since assuming this position in 2002, Pat has built IBTTA into the principal advocate for toll-financed transportation and the leader in producing high quality educational experiences for toll industry professionals. Under his leadership, IBTTA launched the IBTTA Leadership Academy and introduced many new programs including global tolling summits in Europe, South America, Australia, South Africa and Mexico. IBTTA has also developed a highly successful industry public awareness campaign. Before joining IBTTA, Pat held senior positions at the American Trucking Associations, the American Public Transportation Association, and the Health Insurance Association of America. Pat holds a BA in political science from The George Washington University in Washington, D.C. and an MBA from Marymount University in Arlington, Virginia.