

From Managed Lanes to Managed Lanes Network



Managed Lanes Workshop | February 10, 2011



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1980s

- Conducted planning, environmental documentation, and construction for I-15
- Opened first HOV-only facility in 1988
- Reversible 8-mile, 2-lane barrier-separated facility



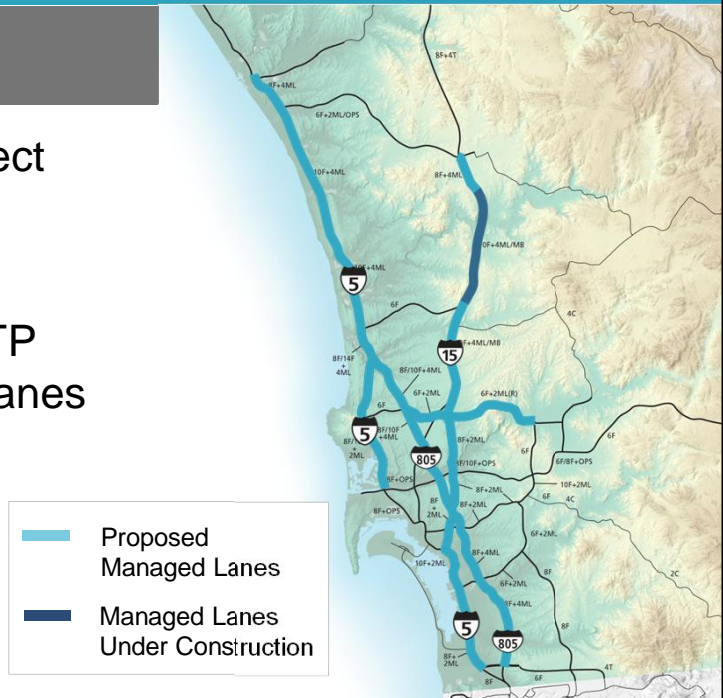
1990s

- In the early 1990s, identified HOV facility underutilized by traveling public
- Value Pricing demonstration began in 1996



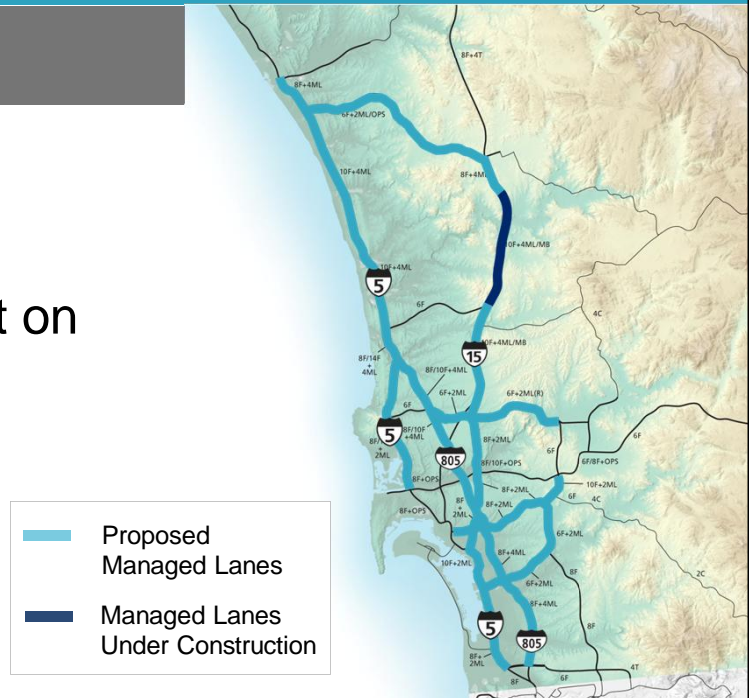
2000s

- In 2001, demonstration project became permanent
- Due to the success of I-15 Express Lanes, the 2003 RTP update includes Managed Lanes concept on 4 facilities
- Construction begins on I-15 Managed Lanes expansion



2010s

- In 2010, draft RTP proposes to expand managed lane concept on 7 facilities



Seattle's Experience and Plans For Managed Lanes

Craig J. Stone
 Director
 Washington State Toll Division



FHWA Managed Lanes Peer-To-Peer Exchange
 Fort Lauderdale, FL
 February 10, 2011

Tolling in Washington State today

Tolling is a key part of state's congestion management and revenue funding plan

Electronic tolling underway:

- Tacoma Narrows Bridge – ETC lanes, as well as cash toll booths, opened 2007
- SR 167 HOT Lanes pilot project – converted existing HOV Lanes to HOT Lanes in a 10-mile corridor in 2008
- SR 520 Bridge – Set to open Spring 2011 with all-electronic tolling and variable toll rates

Studying additional corridors for managed lanes

- 40-mile corridor of express toll lanes that would link the existing SR 167 HOT lanes with a two-lane Express Toll Lane system on I-405
- Converting existing reversible express lanes on I-5 through Seattle to Express Toll Lanes



Tacoma Narrows Bridge

- Tolling began in 2007
- Approximately 40,000 trips/day
- Toll booths and electronic toll collection
- Toll rates:
 - *Good To Go!*: \$2.75
 - Cash: \$4.00
- FY 2010 Reported Revenue:
 - \$ 46 million
- All revenue used for repaying construction debt, bridge operations and maintenance
- 75% of traffic using electronic toll collection



Since activating HOT lanes in 2008:

General Purpose drivers save time:

- GP lane speeds increased by 11 percent
- Volume increased two to three percent

HOT lane drivers save time:

- HOT lane drivers save up to eight minutes during rush hour
- Volumes increased 12 percent

Usage and Revenue is growing:

- HOT lane usage doubled during the second year of the pilot
- HOT lanes are average \$50,000 per month in revenue
- WSDOT expects SR 167 HOT lanes revenue to cover operating costs in 2011



Lake Washington Urban Partnership Agreement



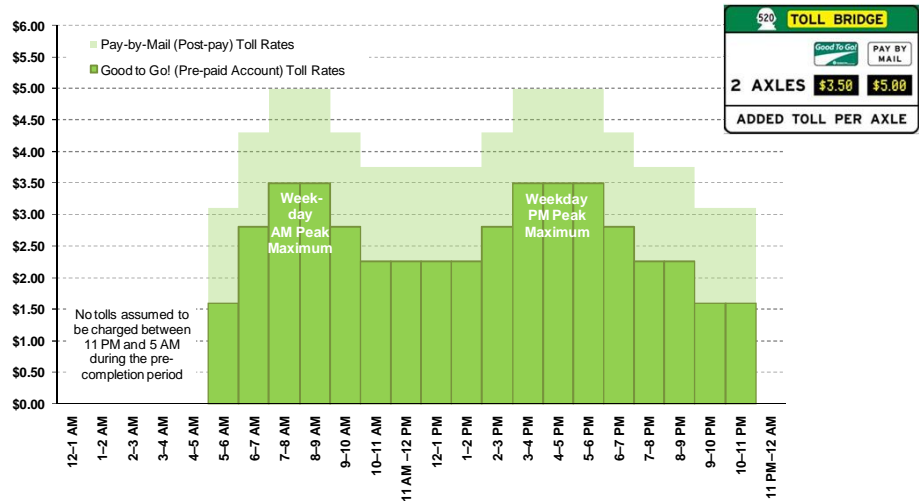
Funded by:



U. S. Department of Transportation
Federal Highway Administration

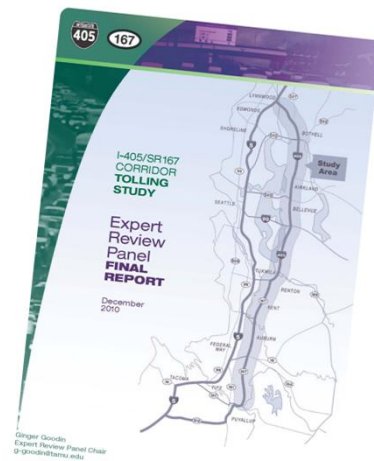
- \$154.5 million federal grant to apply these innovative approaches to reduce congestion in the 520 corridor
 - **Tolling** – encourages travel at off-peak hours and reduces trips
 - **Technology** – variable speed limits and real time driver info
 - **Transit** – adding over 130 new bus trips
 - **Telecommuting** – educational efforts with employers, van/carpools
- Partners: USDOT, WSDOT, King County, Puget Sound Regional Council

Example of Proposed Variable Toll Rate Schedule



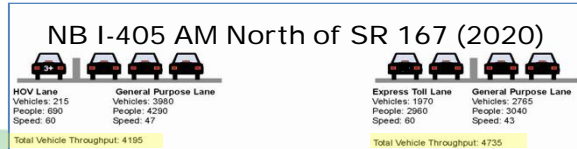
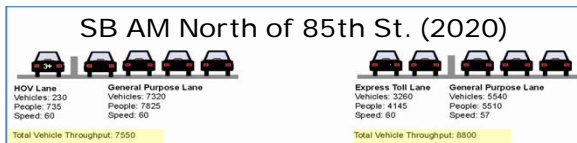
Creating a 40-mile HOT Lane System

- 10 Year implementation strategy
- Phased approach
- Ultimately connects I-405 and SR 167
- Convened Expert Review Panel in 2010
- Seeking legislative approval in 2011



Evaluating a 40-mile system

	2020 Opt. 4 Non-Tolled AM	2020 Opt. 4 Tolled AM	% change
Avg. speed (MPH), All Vehicle Types	35.7	42.4	19% better
Total travel time (hrs), All Vehicle Types	42,861	38,723	11% better



Regional MPO Adopted “Transportation 2040” Plan

- Action plan for transportation in the central Puget Sound region for the next 30 years
- Region is expected to grow by roughly 1.5 million people and support more than 1.2 million new jobs
- Outlines a long-term template for how the region should invest in transportation
- Adopted by the Puget Sound Regional Council’s General Assembly in 2010 with a vote of 98% in favor
- Three key strategies:
 - address congestion and mobility
 - protect and improve the environment
 - plan for funding needs



Highlights of “Transportation 2040” Plan

Promote new funding structure based on user fees, which could include:

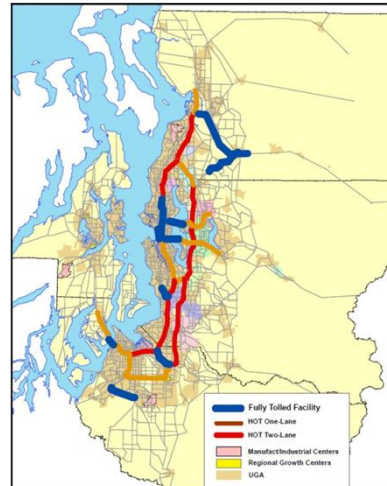
- HOT lanes
- facility and bridge tolls
- highway system tolls,
- vehicle miles traveled (VMT) charges,
- other pricing approaches that replace the gas tax

Improve mobility through:

- effective land use planning
- demand management
- efficiency enhancements
- strategic capacity investments

Improve system efficiency with:

- “smart corridors” with advanced technology
- better information for travelers
- advanced tolling approaches which adjust for actual traffic conditions.



Vision for 2030



Highlights of “Transportation 2040” Plan

Increase reliance on tolls – phased in over time

- Substitute for additional fuel taxes -- such as Vehicle Mile Travel (VMT) charge of 1 cent/mi in 2020; 2 cents/mi in 2030
- Tolls, parking charges and fares to fund programs and projects

Use of toll revenues

- HOT lane revenues support the HOT system
- Facility tolls help finance toll projects
- Highway system toll revenues used for various purposes:
 - Highway system projects – primary use
 - Other supporting program (transit, local projects, etc.)
 - Used to reduce/offset other transportation taxes and fees (by 2030 dedicating 25% of highway tolls to a tax offset could eliminate all state fuel taxes)



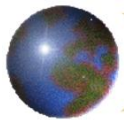
Vision for 2040



Washington Transportation Plan (WTP) 2030



- Washington Transportation Commission adopted a 20-year vision for the development of the statewide transportation system
- Focuses on: Economic Vitality, Preservation, Safety, Mobility, Environment, Stewardship
- Recommends investing in and maximize the use and effectiveness of HOV lanes, HOT lanes, and transit lanes
- Recommends maintaining tolling on roadways and bridges after project completion to fund preservation, maintenance and traffic management

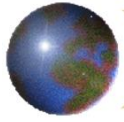


Increasing Mobility in Southeast Florida

by
Robert W. Poole, Jr.
Director of Transportation Policy,
Reason Foundation

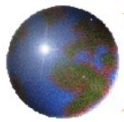
www.reason.org/transportation

bobp@reason.org



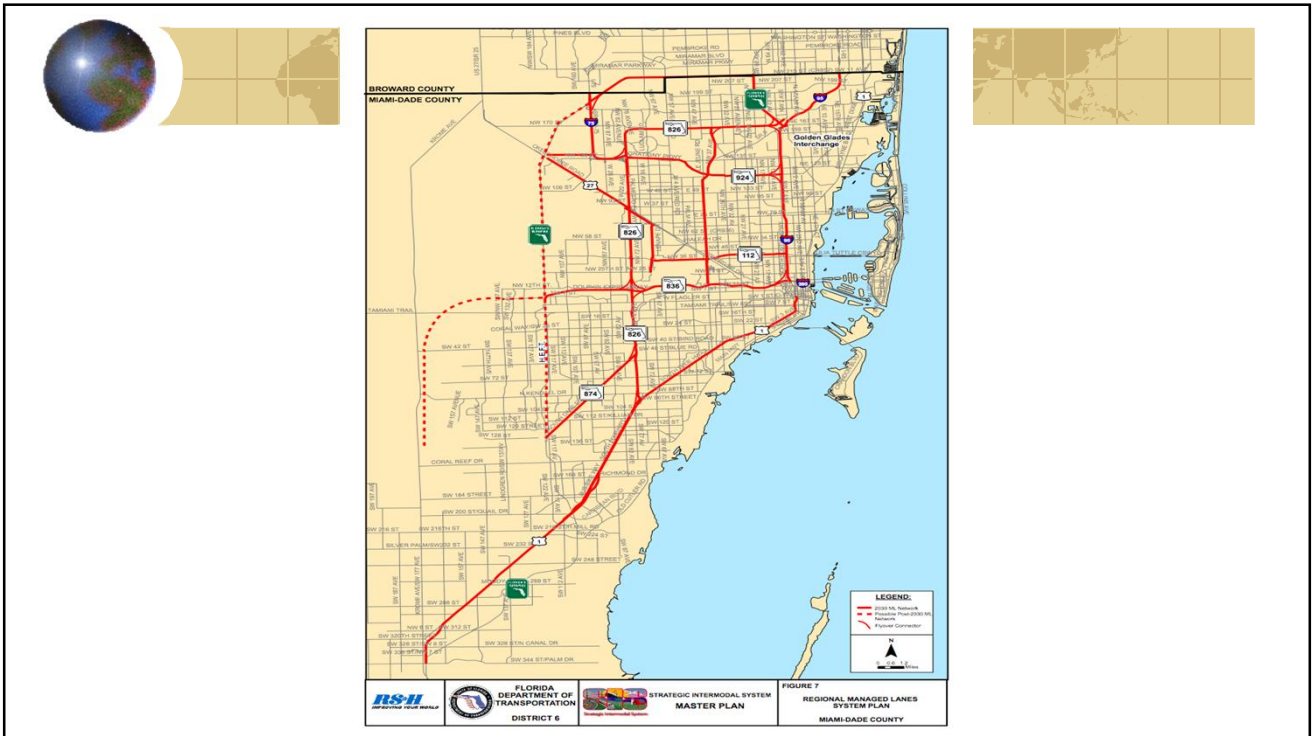
Managed Lanes Vision study, Poole for FDOT, 2008

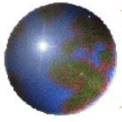
- ✦ Origin: proposal for I-95 Express Lanes Urban Partnership Agreement.
- ✦ Poole contract with District 6 to produce a first-draft ML vision, as mentioned in UPA proposal.
- ✦ Covered Miami-Dade and Broward only, 2030 planning horizon.



Three proposed ML subsets:

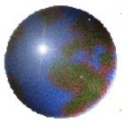
- ✦ Expressway ML network, 597 In.-mi.
 - ▣ Freeways, tollways, missing links
- ✦ Arterial MLs, 202 In.-mi.
 - ▣ Tolled grade separations on major arterials
 - ▣ Includes conversion of S. Dade busway
- ✦ Truckways, 50 In.-mi.
 - ▣ Grade-separated, Miami-Dade only





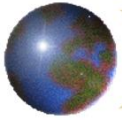
Cost Estimate

- ✦ 2008 unit costs for 11 categories:
 - ✦ New surface lane
 - ✦ New expressway lane
 - ✦ New elevated lane
 - ✦ Etc.
- ✦ Lane-miles of each type
- ✦ Expressway Network = \$7.2B
- ✦ Arterial MLs = \$2.1B
- ✦ Truckway = \$1.4B



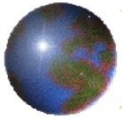
Current Reason SE Florida Mobility Study

- ✦ Build on ML Vision Study.
- ✦ Expand to include Palm Beach County.
- ✦ Revisit and refine Broward & Miami-Dade corridors.
- ✦ Model 3-county network traffic and revenue (SERPM 6.5).
- ✦ Use 2035 rather than 2030.
- ✦ Develop BRT/Managed Arterials concept.



Status Report, January 2011

- ✦ Began late fall 2009
- ✦ Agency visits, Feb. 2010
- ✦ Corridors definition, spring 2010
- ✦ BRT guideway alternatives, spring 2010
- ✦ SERPM modeling, summer/fall 2010
- ✦ Underpass details, fall/winter 2010
- ✦ BRT ridership estimation, January 2011



Remaining Tasks

- ✦ Review BRT concept with transit agencies
- ✦ Estimate ML and MA costs
- ✦ Estimate 2035 toll revenue
- ✦ Quantify benefits
- ✦ Draft report, for peer review