

HOT Lanes

SR 167 Pilot and I-405 Express Toll Lanes

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**“Reducing Traffic Congestion-Real Opportunities From
Europe and the U.S.”**

June 21, 2007



**Washington State
Department of Transportation**

What are managed lanes?

- Managed lanes are a tool to maximize the productivity of a roadway
- Various managed lane options, some already implemented in Puget Sound region:
 - I-5 / I-90 Express Lanes, Seattle
 - HOV Systems
 - I-5/I-90/I-405/SR 520/SR 509/SR 99/SR 167
 - Transit Lanes
 - SR 522
 - Ramp Meters
 - Where aren't they?
 - Ferry System
 - Dedicated Ramps



Why do we need HOT Lanes/Express Toll Lanes?

- Need another approach to maximize the productivity of transportation investments
 - HOV Lanes have been too successful or not enough?



PM Peak Period

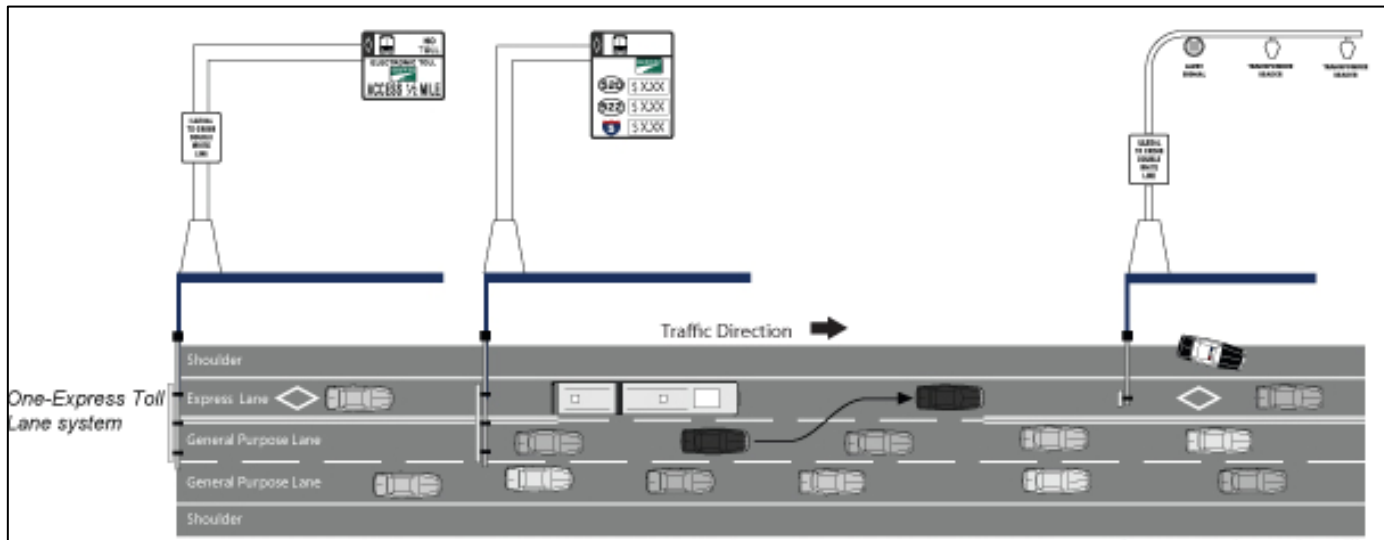
Where else in the U.S. are HOT/Express Toll Lanes?



May 2007

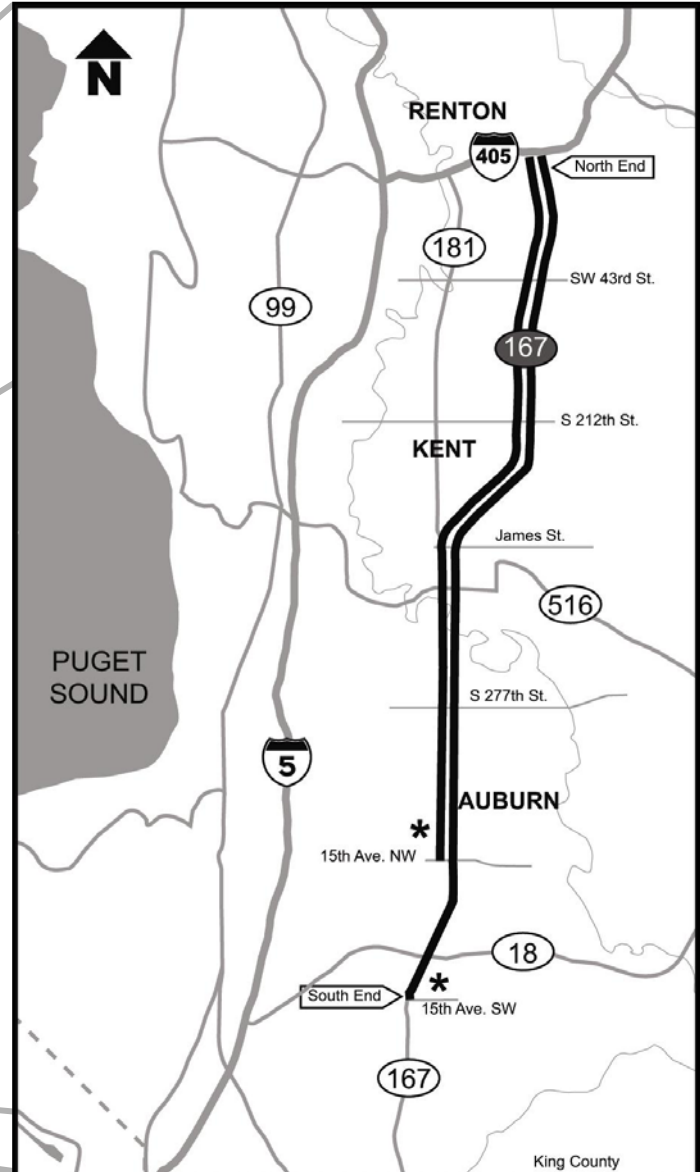
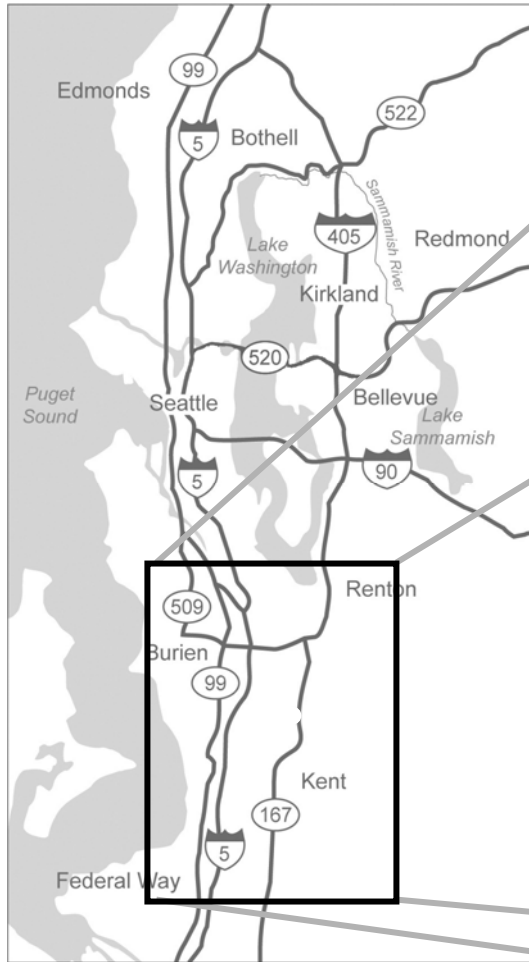
HOT Lanes/Express Toll Lanes

- HOT lanes are HOV lanes that are also open to other drivers who pay a toll
- Tolls adjust automatically according to traffic volumes to keep traffic flowing at 45 mph or faster even when regular lanes may be congested
- On larger facilities we've also been analyzing two-lane express toll lane configurations



SR 167 HOT Lanes Pilot Project

Project Area

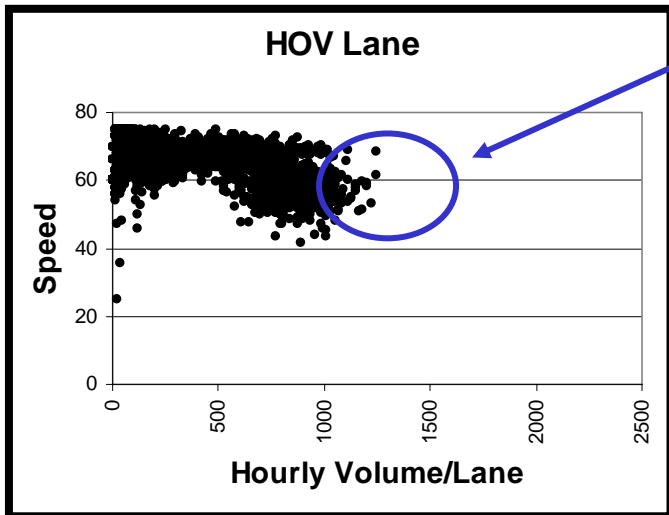


Testing HOT lanes on SR 167

- Peak hour congestion in regular lanes
- Available capacity in existing HOV lane
- Existing roadway could accommodate modifications
- Modeling showed HOT lanes would move more vehicles and improve speeds in the corridor

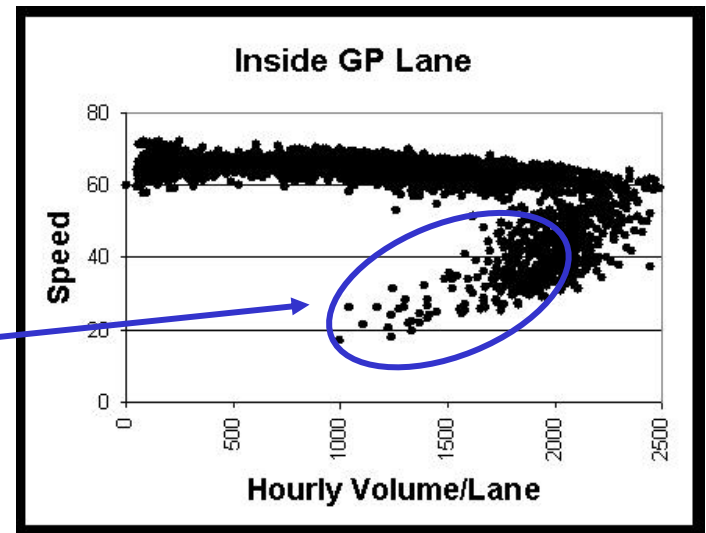


Available HOV lane capacity along SR 167



Available capacity for toll paying HOT lane users

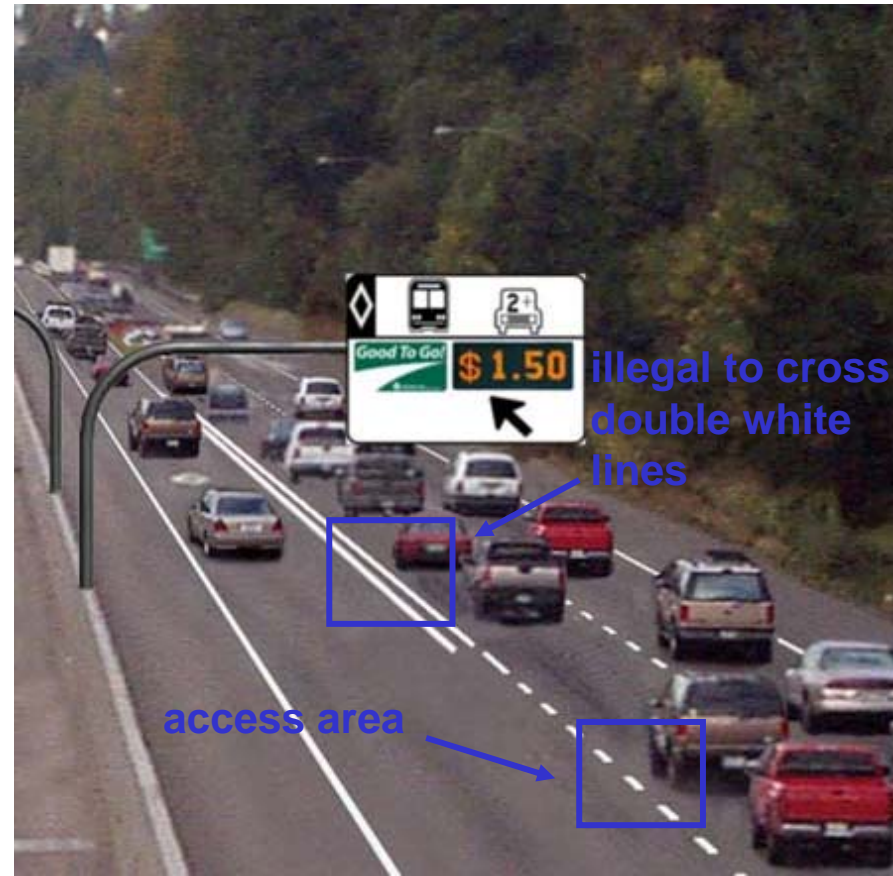
Opportunity to move vehicles from the congested GP lanes



SR 167 – existing and proposed



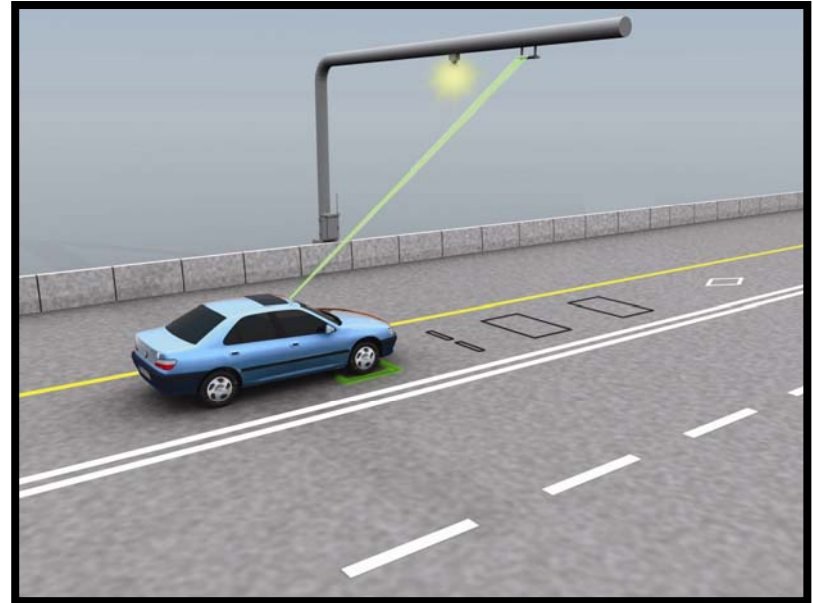
Today



Proposed HOT lanes

Key features – the drive & technology

- Electronic Toll Collection
 - No toll booths
 - Electronic transponders in cars
 - Electronic readers above the HOT lane read transponders
 - Compatible with the Tacoma Narrows Bridge tolling system
- Buffer between HOT lane and GP lanes
 - Transit and HOV vehicles continue to use the HOT lane for free, but have to abide by “double-white line” rule
- Flexible Pricing
 - Electronic signs display toll rate
 - Toll based on level of congestion and space available in HOT lane
 - Toll charged only once upon entry



Electronic readers and transponders mean no toll booths.

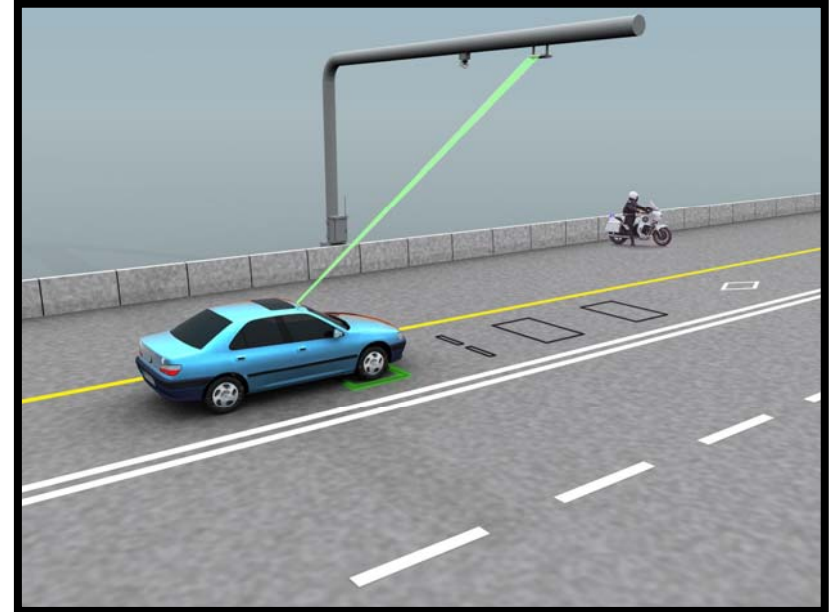


Your Good To Go! Transponder

When the 167 lanes open in 2008, the average price may be between \$1.50 and \$2.00 per trip during peak hours or higher during times of heavy congestion

HOT lane enforcement

- Consistent enforcement is important for building public trust in the fairness of the HOT lanes
- WSDOT is funding the Washington State Patrol to provide additional troopers for the project
- Traffic citations can be issued for the following violations:
 - Illegal use of HOV lane by single-occupancy vehicle
 - Attempt to avoid paying required toll
 - Crossing double white lines
- Drivers will be encouraged to use the HERO system to report violators



Simulation of State Patrol officer monitoring HOT lane



Handheld Enforcement Reader

Tolling and equity: Other projects around the U.S.

- San Diego:
 - Studies indicate support for HOT lanes from users from all income levels.
 - Studies also show that very few people use HOT lanes every day – drivers reserve HOT lane use for when they need a more reliable trip.
 - San Diego's I-15 HOT lanes had 77% approval ratings after the project opening, with nominal differences in support between low- and high-income users.
- Minneapolis
 - Studies show that high income respondents perceive greater equity concerns than low income respondents

Tolling and equity: SR 167 HOT lanes

Early 2006 - conducted 6 focus groups (84 participants)

- 3 low income specific focus groups
- 2 typical commuter focus groups
- 1 small/service businesses focus group

Findings:

- Low-income drivers generally as supportive, if not more supportive, of the HOT lane concept than typical drivers
- Business and service business see and value the benefit of trip reliability
- Trip reliability and time savings are important

“I will use the HOT lanes if I am running late; getting to a job site is worth more than the cost of the toll.” – SR 167 Commuter

I-405 Express Toll Lanes Project

I-405 Master Plan

Regional Consensus

- EIS and Record of Decision, 2002

Roadways

- 2 new lanes in each direction
- Local arterial improvements
- Provide for a four-foot buffer between managed lanes and GP lanes
- Recommend further study of managed lanes

Transit

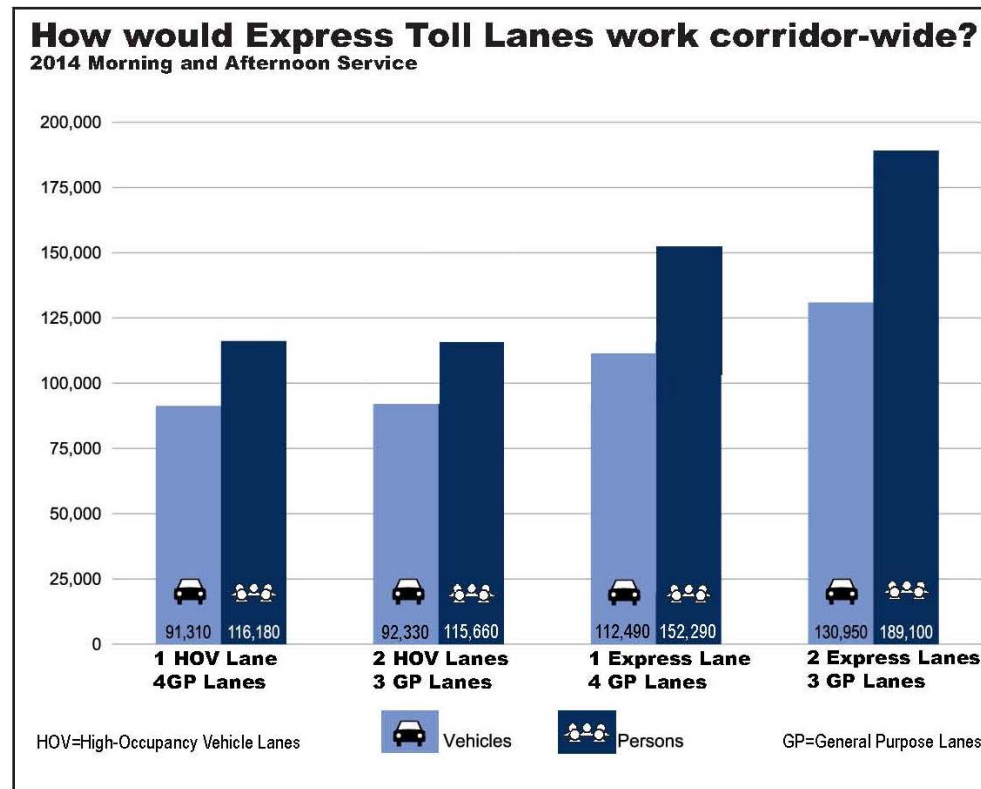
- BRT system

Environmental Enhancements



I-405 Managed Lanes Report

- Analyzed traffic operations of managed lanes options and configurations
- Findings indicate that operating 2 priced managed lanes with 3 general purpose lanes would maximize corridor productivity



History of managed lanes on I-405

Corridor EIS, completed in 2002:

- Program committees recommended further consideration of managed lanes after more detailed study and policy considerations. They considered pricing a regional issue
- Include a 4-foot buffer to separate the managed lanes

Managed Lane Technical Analysis, 2003:

- Based on \$4.8B Implementation Plan
- Showed performance benefit to merit future consideration
- Briefings provided to I-405 Executive Committee

Senate Bill 6091, passed in 2005:

Section 606. The legislature intends that tolls be charged to offset or partially offset the costs for the Alaskan Way Viaduct, State Route 520 Bridge replacement and **widening of Interstate 405 including a managed lanes concept.**

HOT Lane Investment Analysis, 2006:

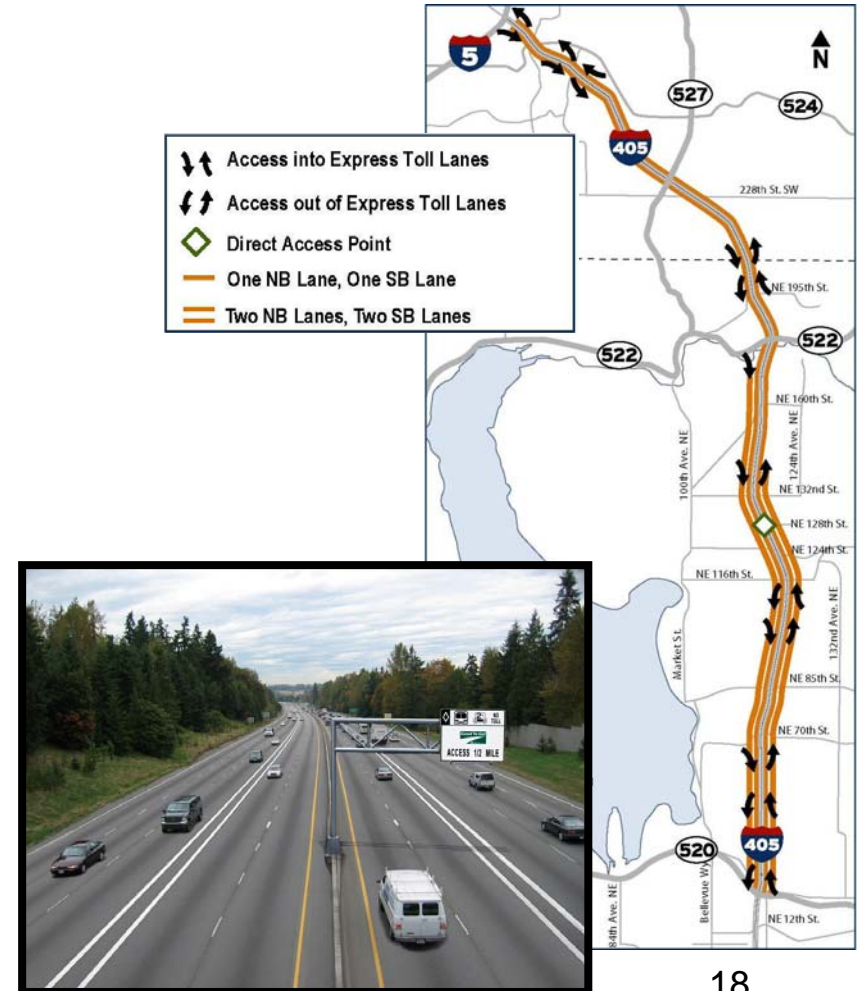
- Evaluated HOT Lanes application between SR 520 and I-5
- Study results showed merit
- Environmental review began in 2006, including the analysis of a HOT Lanes option

Senate Bill 1094, passed in 2007:

Section 605. The legislature intends that tolls be charged to offset or partially offset the costs for the following projects, and that **a managed lane concept be applied in their design and implementation:** State Route 520 Bridge replacement and HOV project, and widening of Interstate 405.

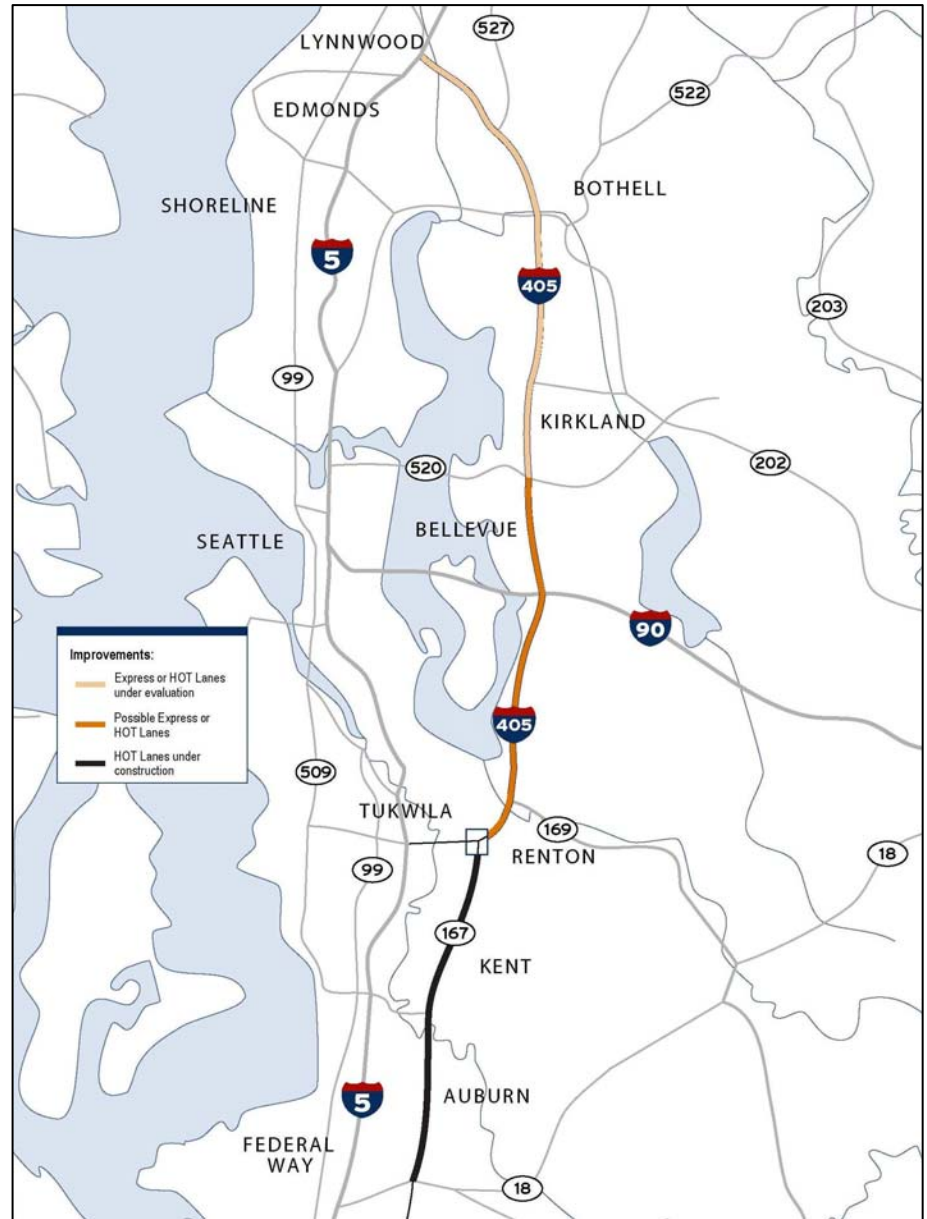
Two options being evaluated for northern half of corridor

- Funds available to add capacity on I-405 between SR 520 to I-5.
- Two options to operate new capacity:
 - Add general purpose capacity and operate existing HOV lane with a 3+ occupancy requirement
 - Add new capacity in combination with converting HOV lane to operate express toll lanes system
- Project scheduled to start construction in 2009
- Preliminary net revenue estimate for 20 years of operations: \$120M-\$140M



Future Opportunities

- Opportunity to match currently funded projects with other planning efforts



For more information and updates

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www.wsdot.wa.gov/projects/SR167/HOTLanes

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MAKING EVERY DOLLAR COUNT.

SR 167 - HOT Lanes Pilot Project

Project Status
April 2006

- Did you miss our last community meetings? Check out our [February Open House materials](#)
- [Send us your comments!](#)
- Want to learn about other projects on SR 167?**
[Read our new 1-paper](#) (pdf 516 kb) describing the projects and answering frequently asked questions.

PROJECT INFO

- [Project Home](#)
- [Analysis Summary](#)
- [Design & Operations](#)
- [Preliminary Design](#)
- [Project Map](#)
- [FAQs](#)
- [Publications](#)
- [Outreach Events](#)
- [Related Studies](#)
- [Corridor Working Group](#)
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Overview
State Route 167, located in King and Pierce Counties, connects communities between Renton and Auburn and provides the region with a vital alternate corridor to I-5. The State Route 167 high occupancy toll (HOT) lanes project is a four-year pilot project and will convert nine miles of existing carpool lanes along SR 167 into HOT lanes.

WSDOT is using the pilot project to assess whether or not HOT lanes are a viable solution to relieve congestion, and could be implemented on other highways in the Puget Sound region. HOT lanes maintain free, priority status to transit and carpools, but also allow solo-drivers that pay a

PLANNING DESIGN CONSTRUCTION COMPLETE

15th Ave NW
Aub
15th Ave SW

[View enlarged HOT Lanes Map](#)

A simulation of the SR 167 HOV lanes converted to HOT lanes.

<http://www.wsdot.wa.gov/Projects/i405/SR520toI5/expressstollanes.htm>

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Search **I-405 - SR 520 to I-5 Widening** text size: T T T

Project Information

I-405 Express Toll Lanes

Overview
WSDOT is evaluating two options to manage capacity on I-405 north of SR 520. One option would maintain the current High-Occupancy Vehicle (HOV) lanes and add new general purpose capacity. A second option would implement an Express Toll Lane system. WSDOT is completing an Environmental Assessment (EA) to analyze these improvement options between SR 520 in Bellevue and I-5 in Lynnwood.

What are Express Toll Lanes?
Express toll lanes preserve trip reliability for transit users, while providing a new option to other motorists who choose to pay a toll when lane capacity is available. The option being studied for I-405 is to operate two express toll lanes in each direction between SR 520 in Bellevue and SR 522 in Bothell, and one express toll lane in each direction between SR 522 and I-5 in Lynnwood. Express toll lanes on I-405 would be similar to High-Occupancy Toll (HOT) lanes on SR 167 as part of the [SR 167 HOT Lanes Pilot Project](#).

Why are Express Toll Lanes being considered on I-405?
HOV lanes lose their efficiency if they are too congested. Likewise, HOV lanes with low volumes are not being used as efficiently as possible. To ensure optimum performance, WSDOT is considering an option to implement express toll lanes on I-405.

PLANNING DESIGN CONSTRUCTION COMPLETE

Bothell
Kirkland
Lake Washington