

# **SR 167 HOT Lanes Pilot Project The First Year**

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**Talking Operations Webinar  
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**Washington State  
Department of Transportation**

# Context for tolling – Moving Washington



**Adding Capacity Strategically**

Adding new capacity to our currently over-stressed transportation system.



**Operating Roadways Efficiently**

Improve the performance of the system to maximize existing investments and system capacity using traffic management tools.



**Managing Demand**

Providing more travel choices and options for people and freight to improve system efficiencies.

# History of tolling in Washington

- Revenue generation (1940s – 1970s)
  - Construction of new facilities
    - Tacoma Narrows Bridge, I-90, Hood Canal
- Dual purposes (2007 – present)
  - Congestion mitigation and construction
    - SR 167 HOT lanes, New Tacoma Narrows Bridge



# SR 167 HOT lanes

## Why HOT lanes on SR 167?

- Highly congested route
- HOV lanes underutilized
- Ability to provide drivers a new choice
- Test new technology



Opening day:  
May 3, 2008



# New configuration

## Single HOT lane in each direction

- HOT lane separated by double-white lines
- Variable message signs indicate toll rate at each entry point
- Pay a single toll to travel any distance on 10-mile route
- Free to buses and HOV 2+



### **Pre-HOT lanes:**

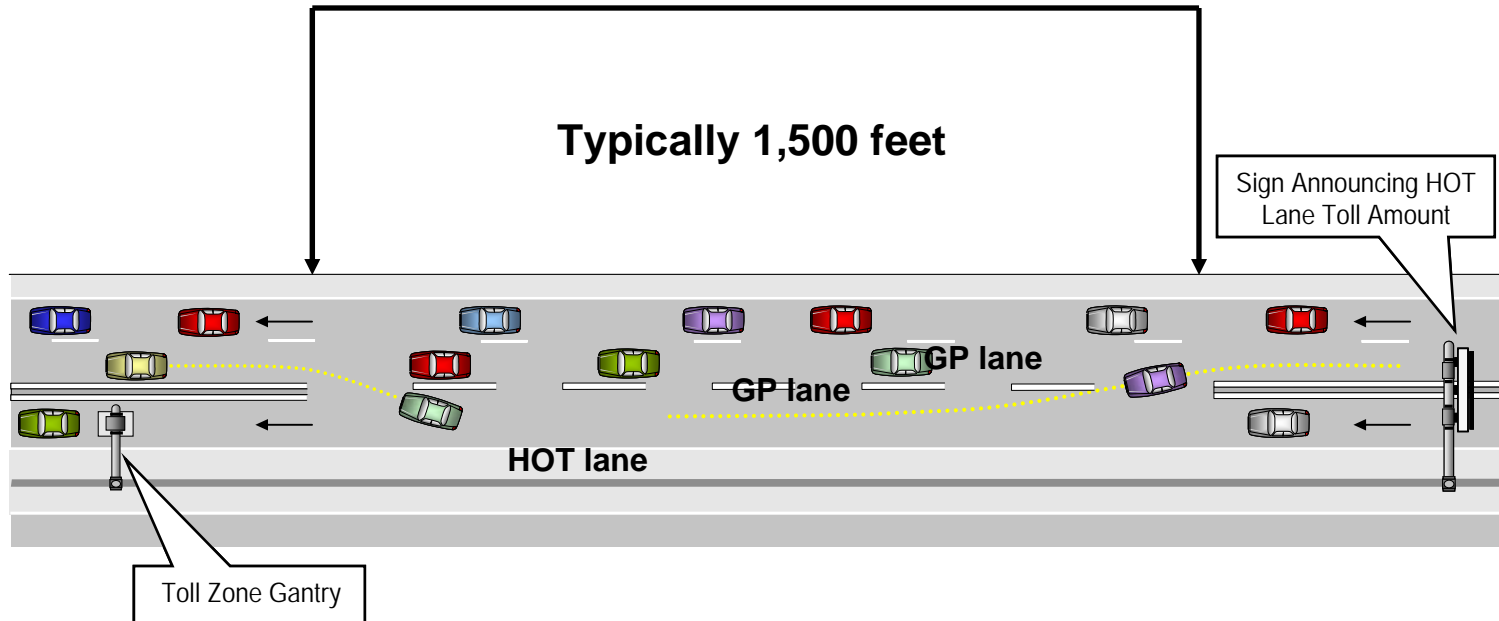
*SR 167 had two general purpose lanes and one HOV lane.*



**Post HOT lanes :** *HOV lanes were converted to a single HOT lane in each direction.*

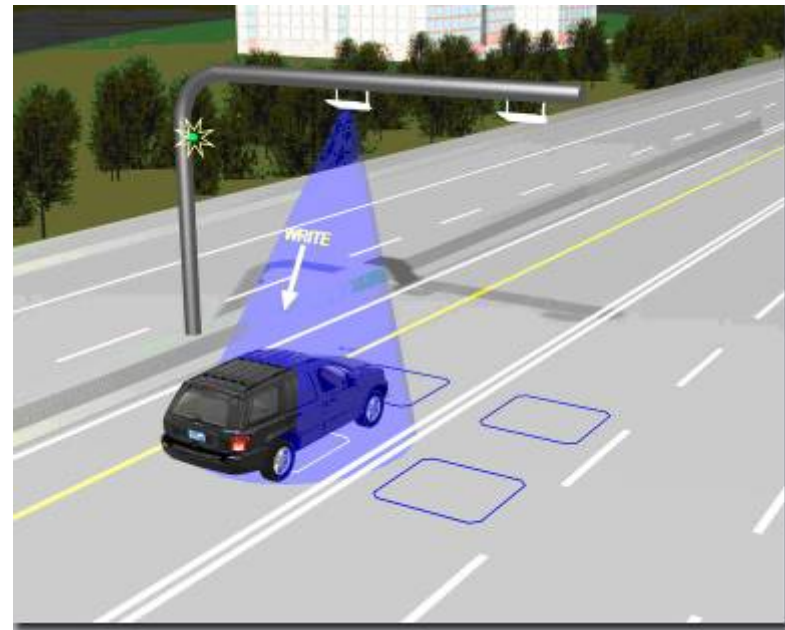
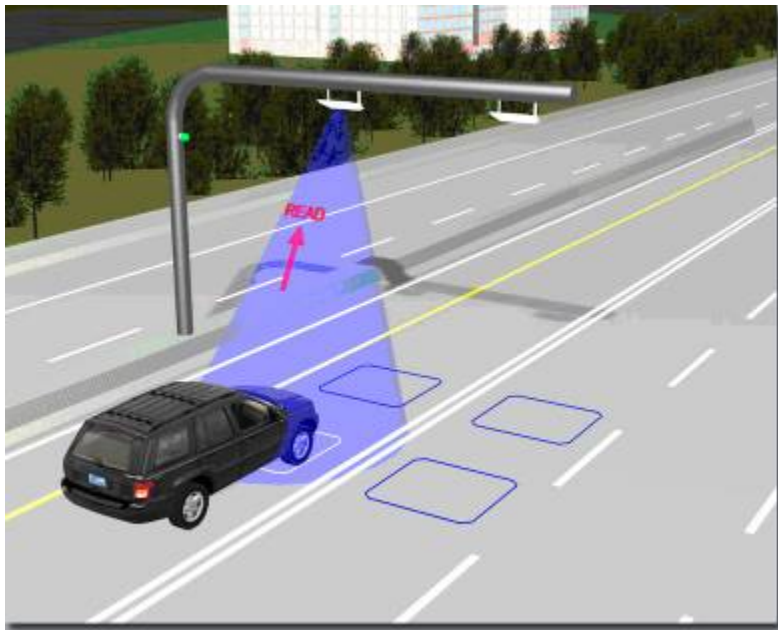
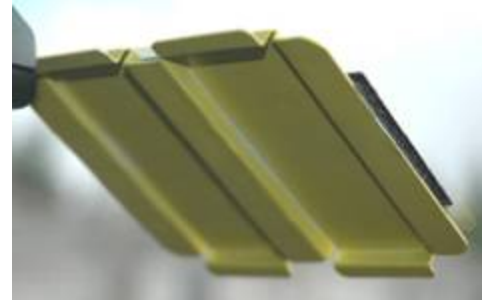
# Access points

- Access points - defined locations for entering and exiting the HOT Lane.

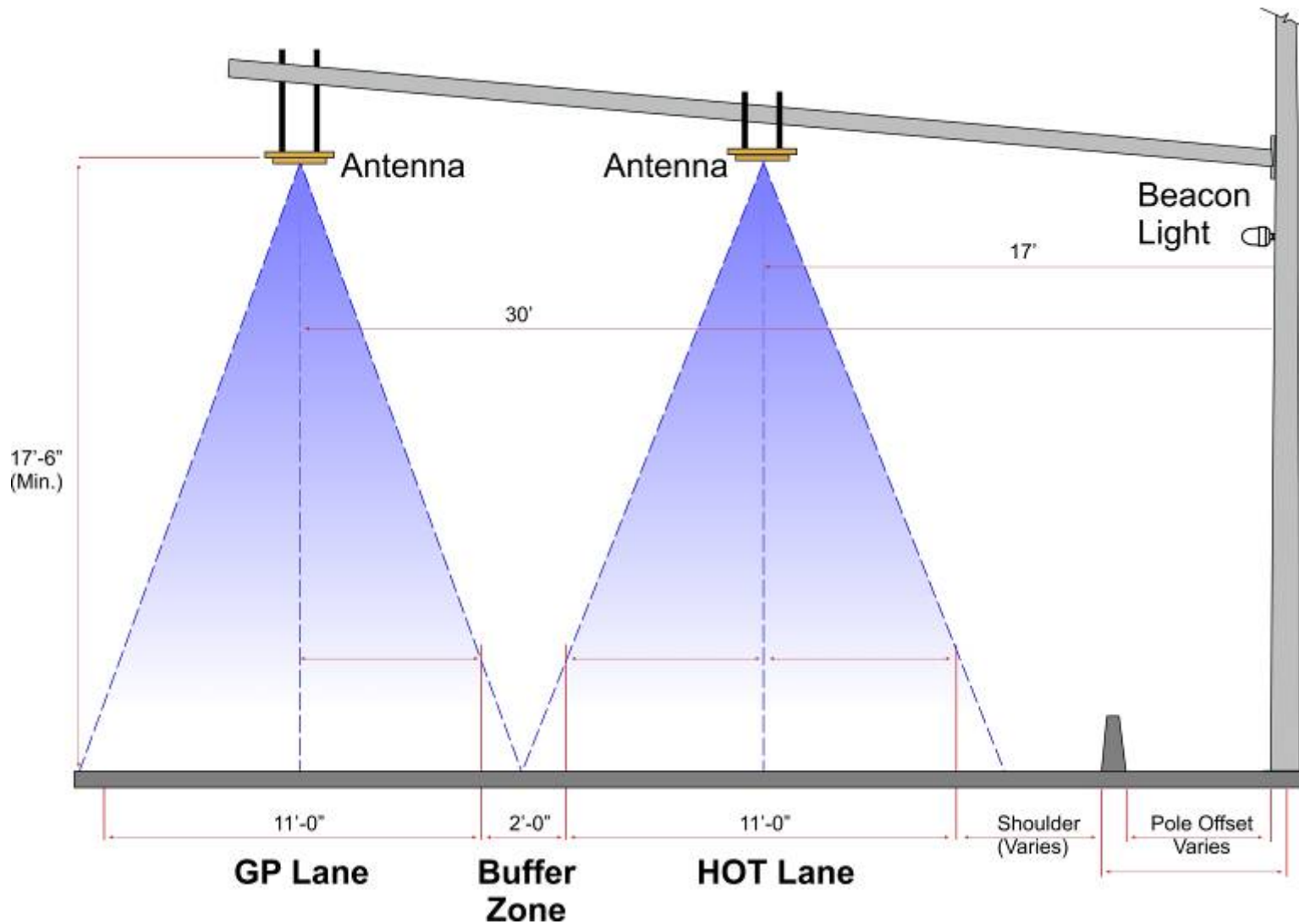


- Tolls collected by electronic system
  - No toll booths
  - Same tolling transponder and customer service center as the Tacoma Narrows Bridge.

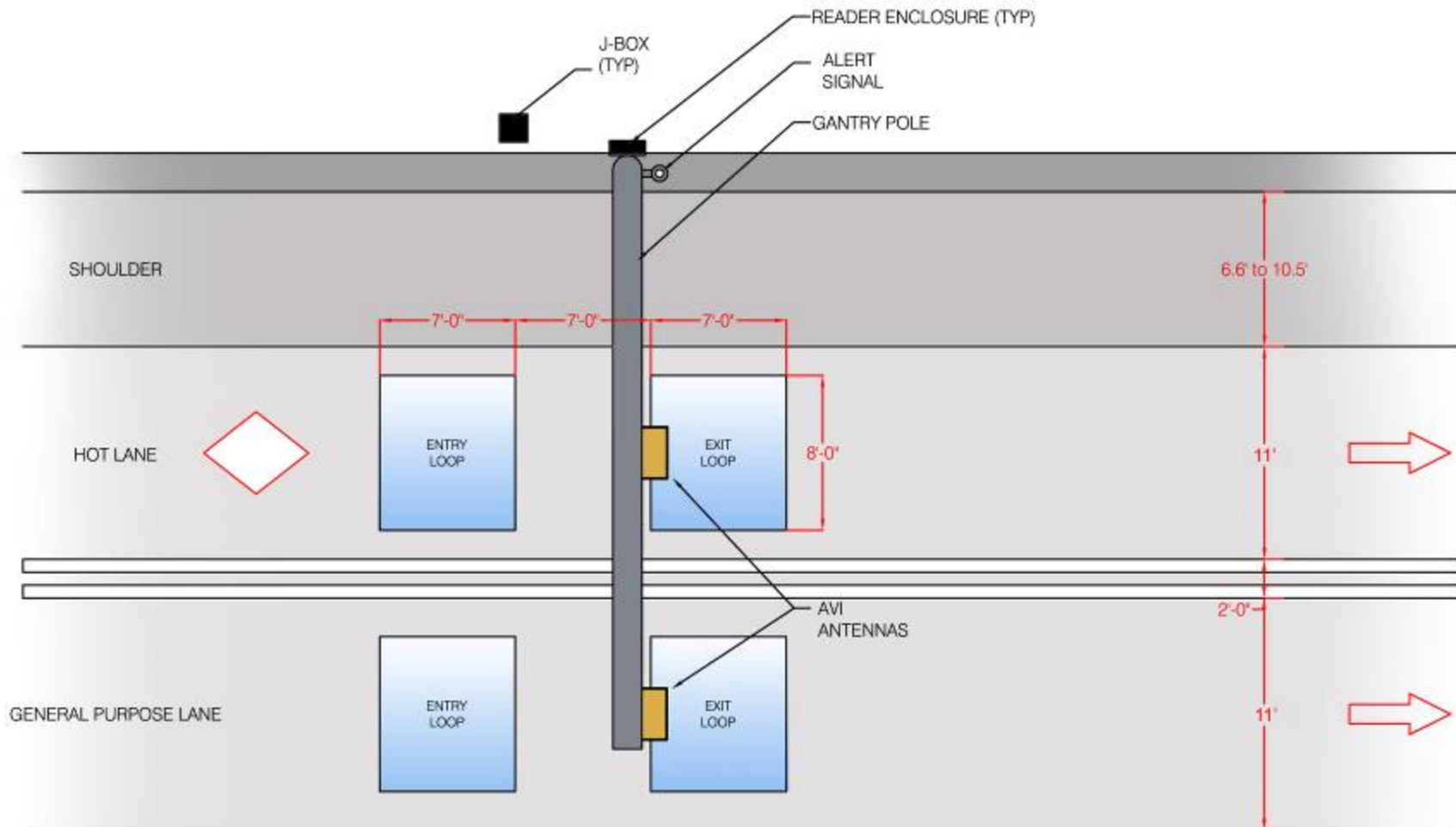
# How it works: Tags and readers



# How it works: Lane discrimination



# How it works: System design



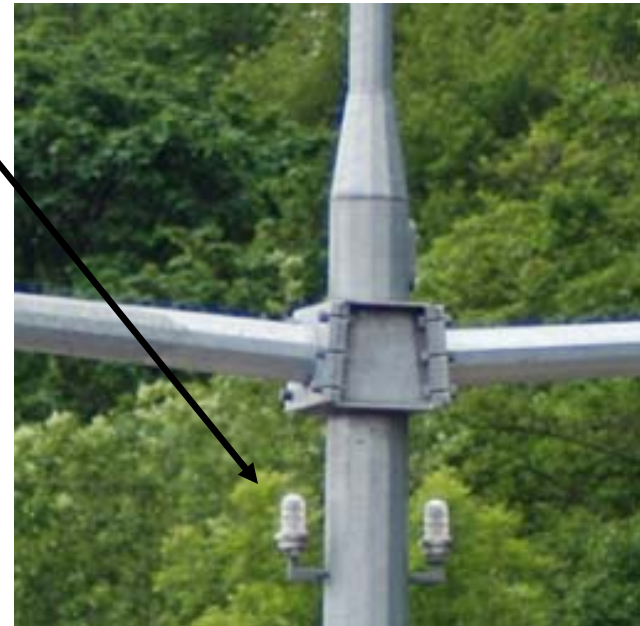
# How it works: Roadside Equipment



Antenna



Enforcement  
beacons



# How it works: roadside cabinet

Readers



Lane controllers

UPS



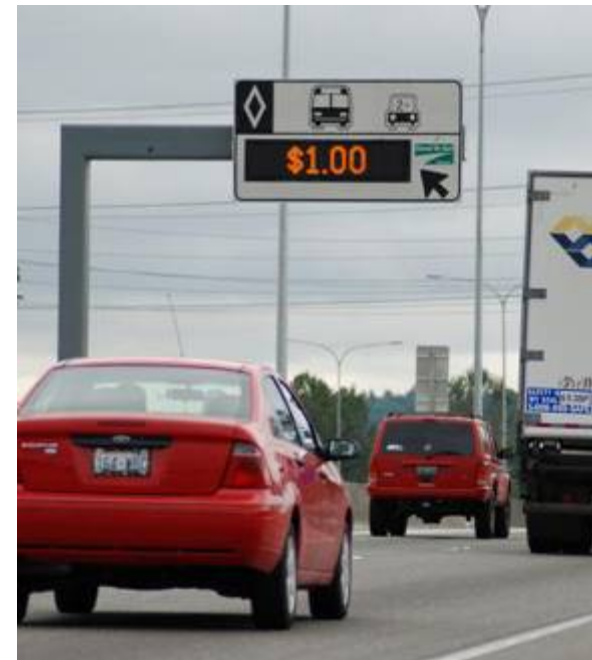
# Performance Measures

- Required by legislature (RCW 47.56.403)
  - Freeway efficiency and safety
  - Effectiveness for transit
  - Person and vehicle movements by mode
  - Ability to finance improvements and transportation services through tolls
  - Impacts on highway users

# Highlights: year one

May 2008 – April 2009

- General purpose lanes
  - speeds increased 10%;
  - volumes increased 3% – 4%
- HOT lanes
  - speeds increased 7% – 8%;
  - volumes increased 1% – 3%
- HOT lane operates at or above 45 mph 99.2% of the time during peak hours
- More than 30,000 *Good To Go!* vehicles
- No apparent safety impacts
- Available capacity remaining



# Travel times

## GP and HOT peak-hour travel times

### HOT lane travel times

- NB Avg = 11 minutes
- NB 95<sup>th</sup> = 11 minutes
  
- SB Avg = 8 minutes
- SB 95<sup>th</sup> = 8 minutes

### GP lane travel times

- NB Avg = 19 minutes
- NB 95<sup>th</sup> = 26 minutes
  
- SB Avg = 12 minutes
- SB 95<sup>th</sup> = 19 minutes



### HOT lane savings

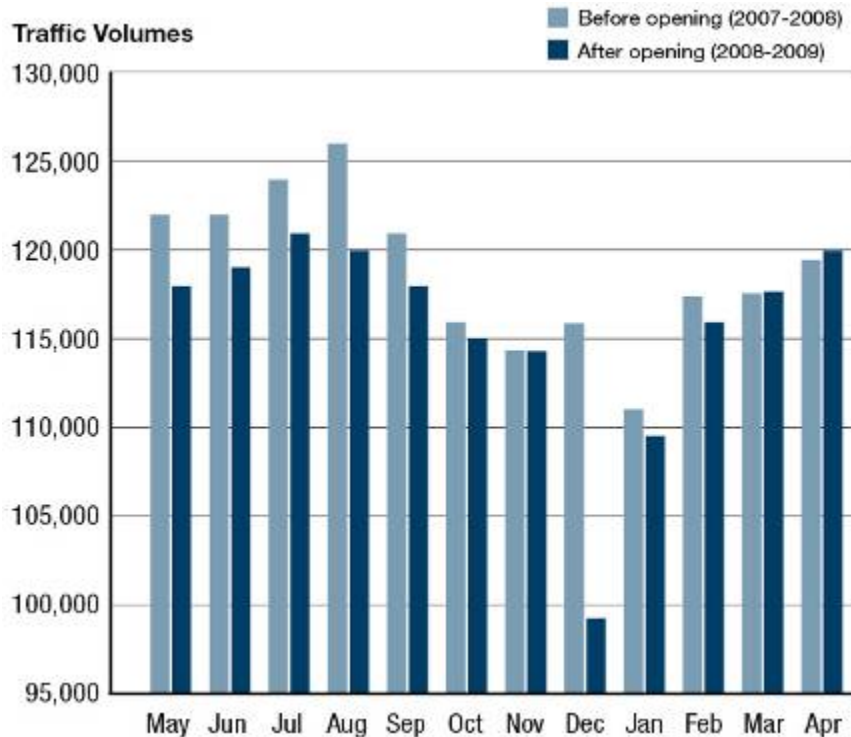
Users paid an average of \$1 to save 8 minutes in the NB HOT lane during the peak-hour.

Users paid an average of \$1 to save 4 minutes in the SB HOT lane during the peak-hour.

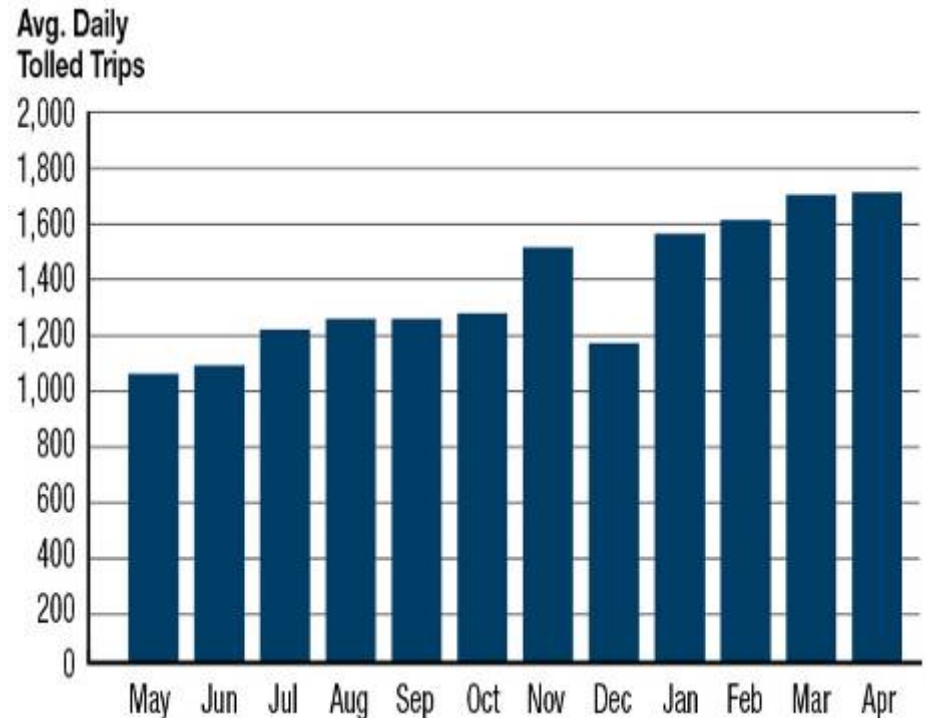
# Traffic volumes

- Fluctuations in corridor ADT
- Daily tolled trips – increasing
- Daily peak-hour tolled trips - increasing

## Average Daily Traffic on 167 Corridor

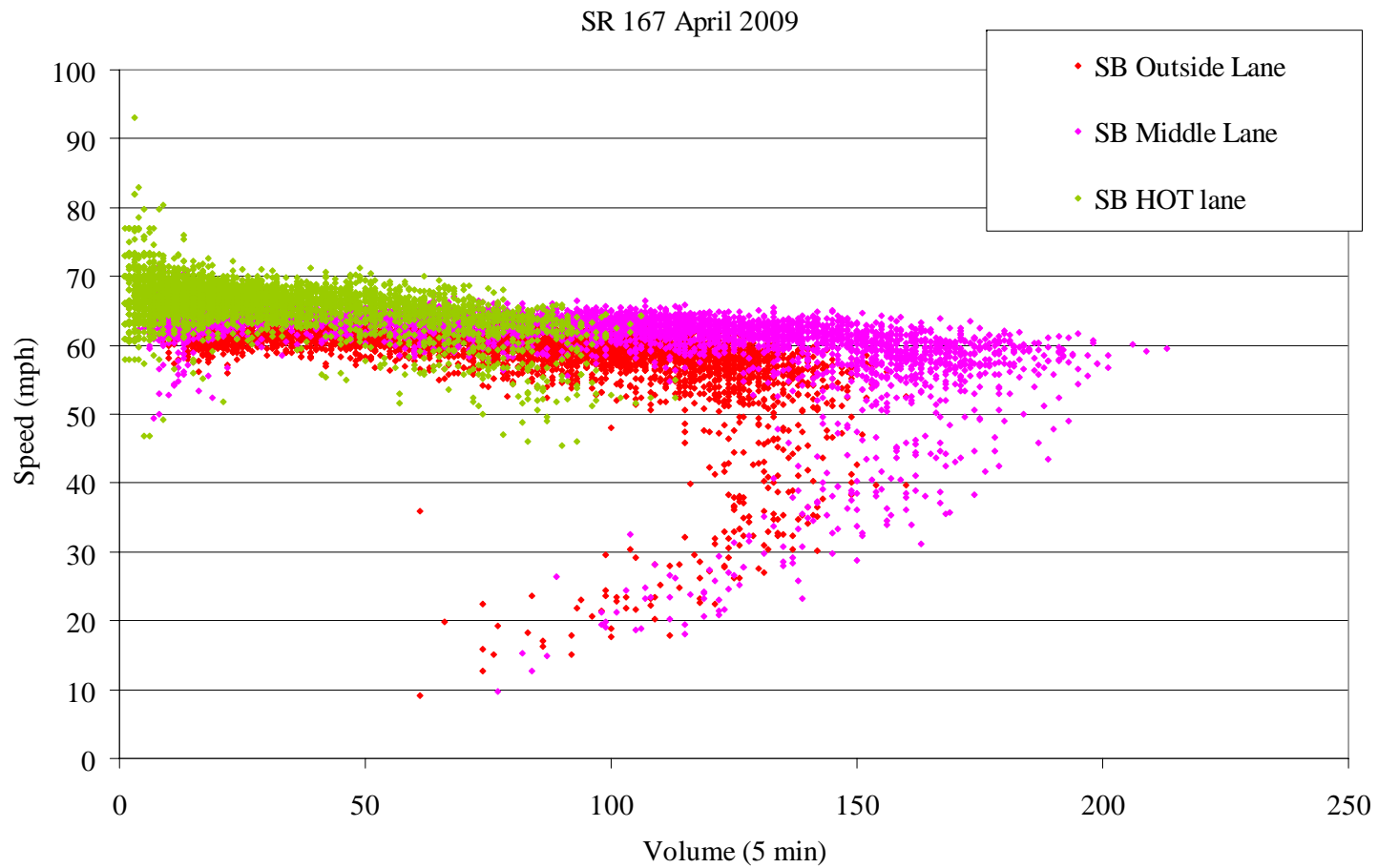


## Average Daily Tolled Trips



# Speed and volume

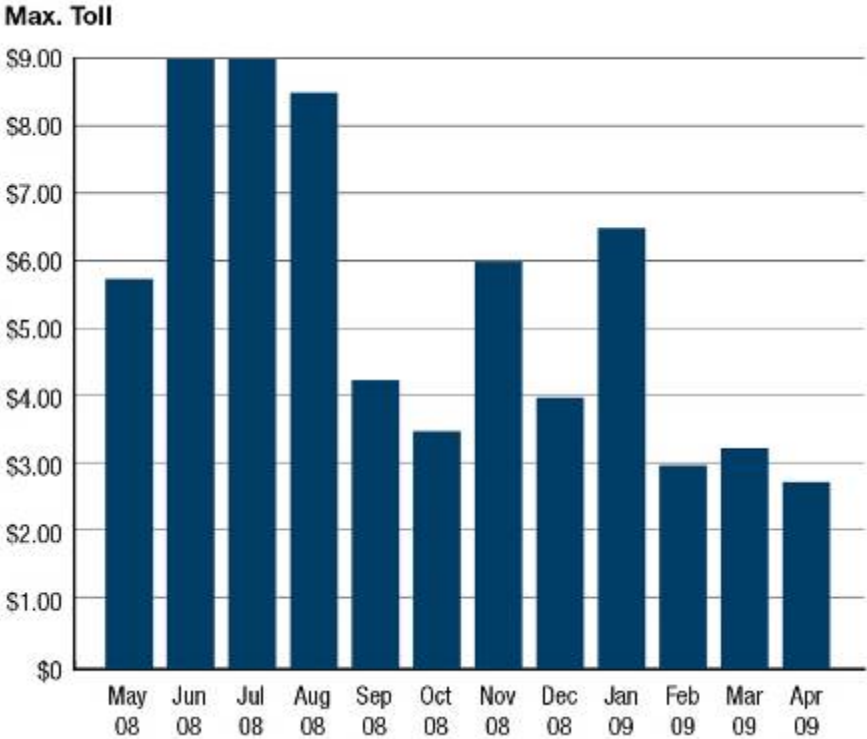
## Southbound SR 167 - April 2009



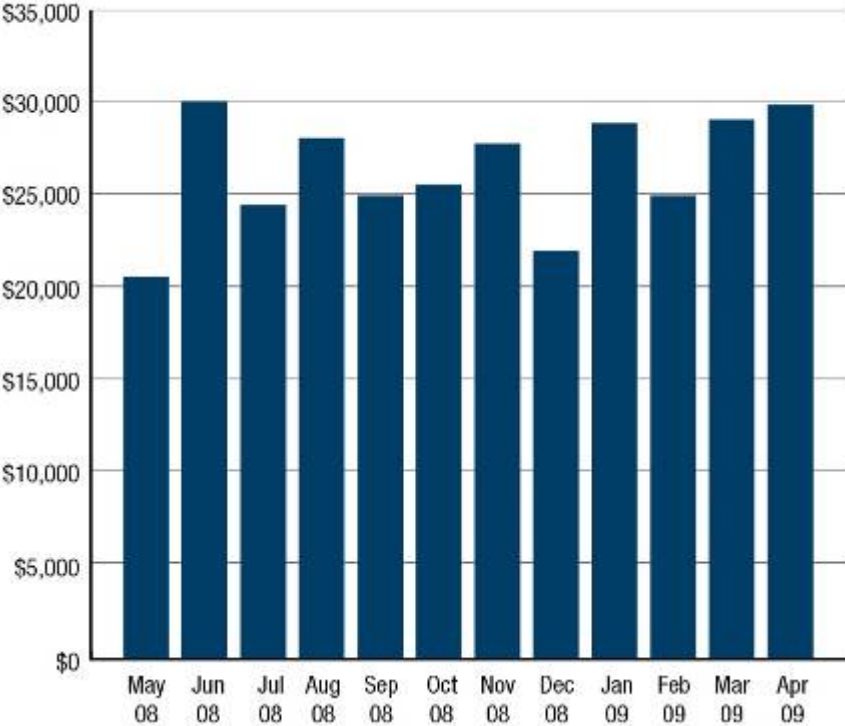
# Maximum toll and monthly revenue

- Maximum toll – lowered and stabilizing
- Generated revenue – gradually increasing

### Maximum Toll



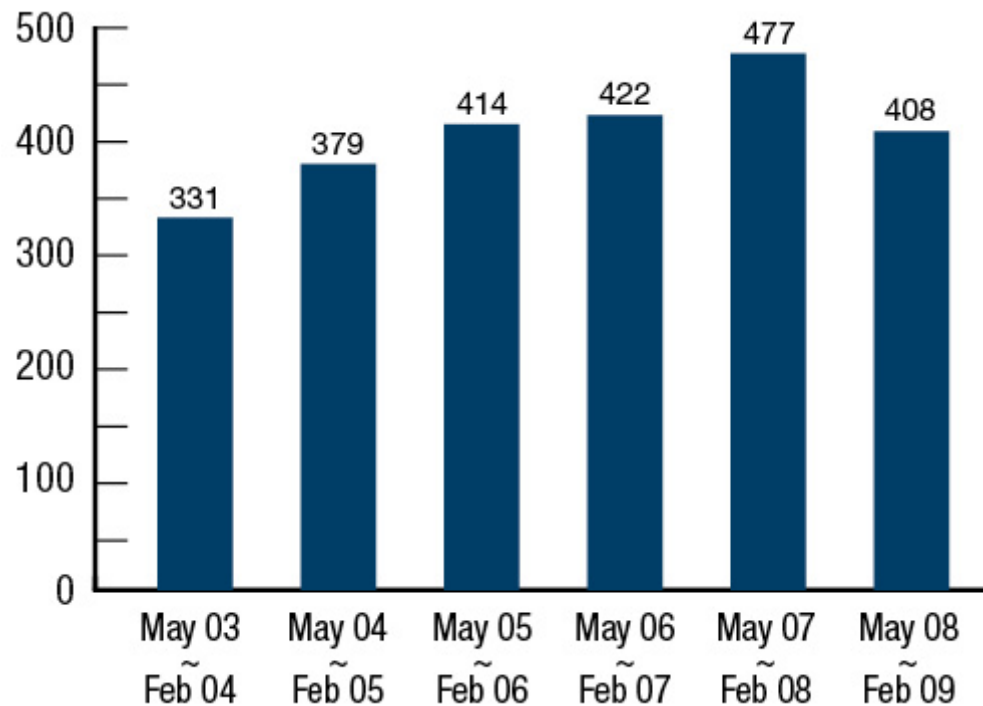
### Monthly Revenue



# Safety

- Preliminary data – positive
- Need 3 years of data

**Collisions on SR 167**



# HOT lane enforcement

## Washington State Patrol

- Detection light effective
- 4,317 traffic stops
- 2,054 citations for HOV violations
- 328 crossing the double-white lines
- Compliance rate is estimated at 95 to 97 percent



## HERO program

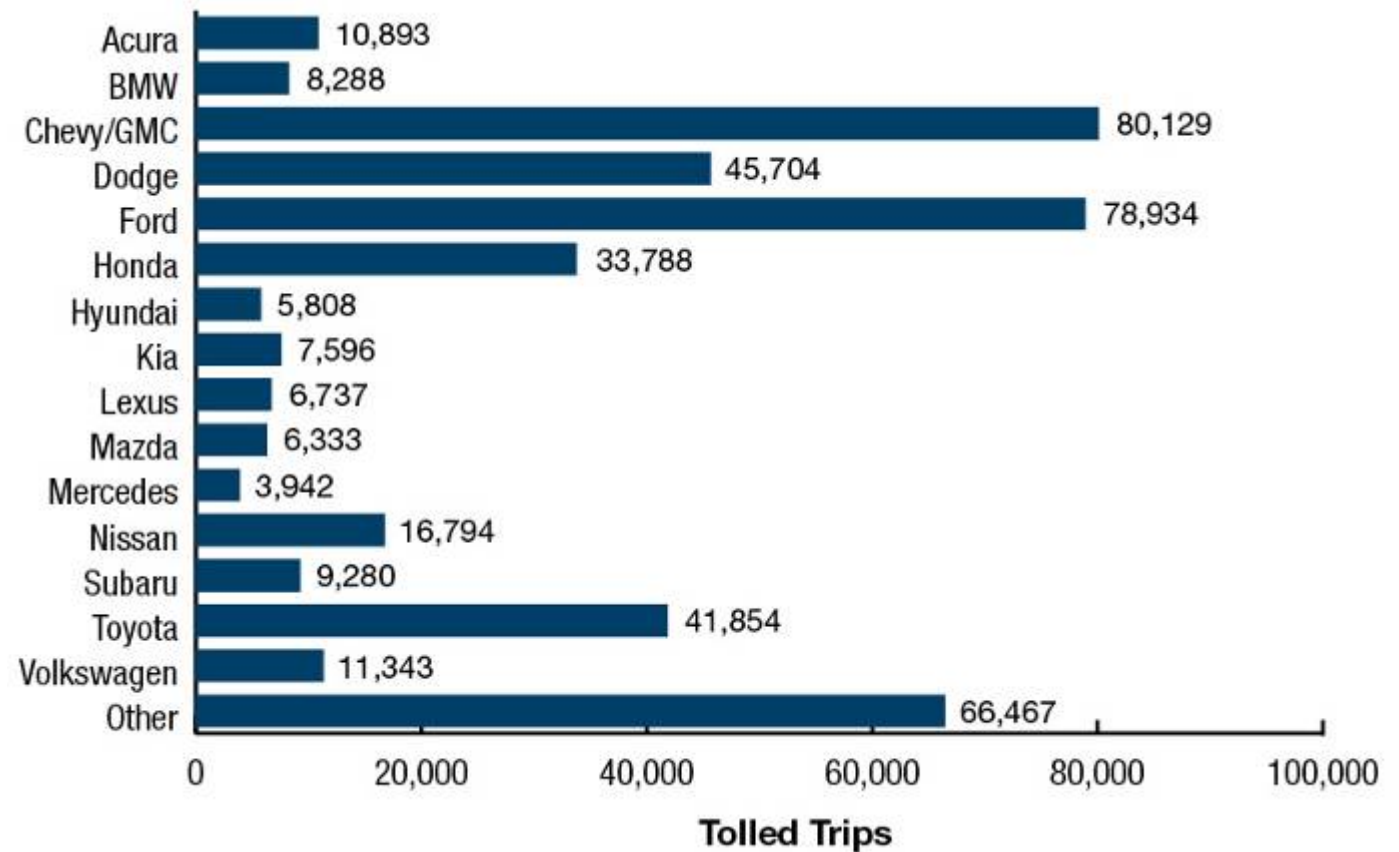
- HERO reports involving SR 167 averaged:
  - 321 calls per month in 2007
  - 58 calls per month in 2008



# Type of vehicles using the lanes

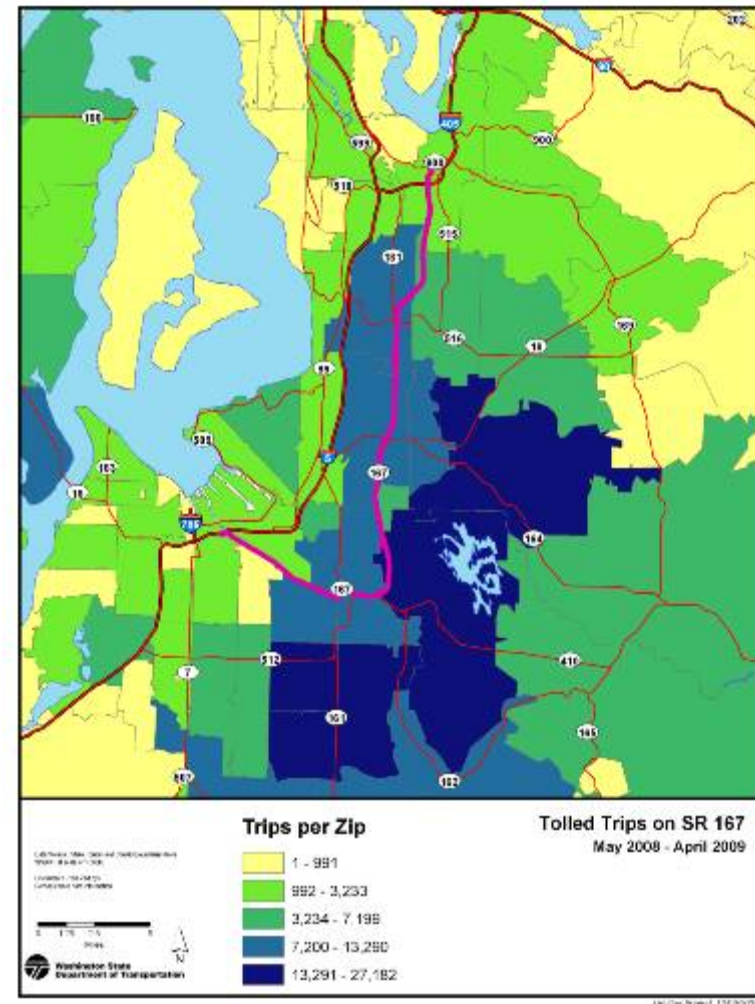
## Five most frequently tolled vehicles in HOT lanes:

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



# Geographic pattern

- Trips per zip code correlated with
  - Customer satisfaction
  - Trip length
    - Access
    - Pricing algorithm



# Issue resolution

## Issue

1. Access locations

## Resolution

Increased length of access  
Added informational signing

2. Double white line

WSP education effort  
Additional signing added  
Emphasis patrol

3. Carpool shields

Evaluating new technology

4. Education & Outreach

Informational campaign  
Additional signing  
Research – focus groups  
Gas pump toppers

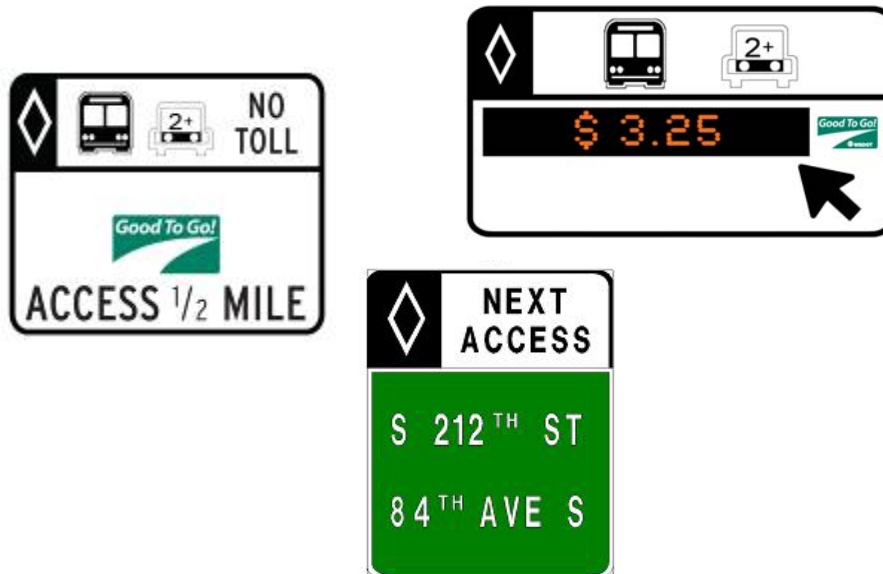
5. Transit service

Modified bus routes  
South Sounder



# Next steps

- Continued monitoring and outreach
  - Comprehensive reports every 6 months
- Extension of SB SR 167 HOT Lane
  - Construction to begin in Spring 2013
  - Construction complete – December 2014



# For more information on HOT lanes please contact

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*Good To Go!*  
[wsdot.wa.gov/goodtogo](http://wsdot.wa.gov/goodtogo)

Pilot project Web page:  
[wsdot.wa.gov/Projects/SR167/HOTLanes](http://wsdot.wa.gov/Projects/SR167/HOTLanes)



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