Washington State Transportation Overview

Presented to:
California Transportation Commission
July 23, 2008

Presented by:
Reema Griffith
Executive Director

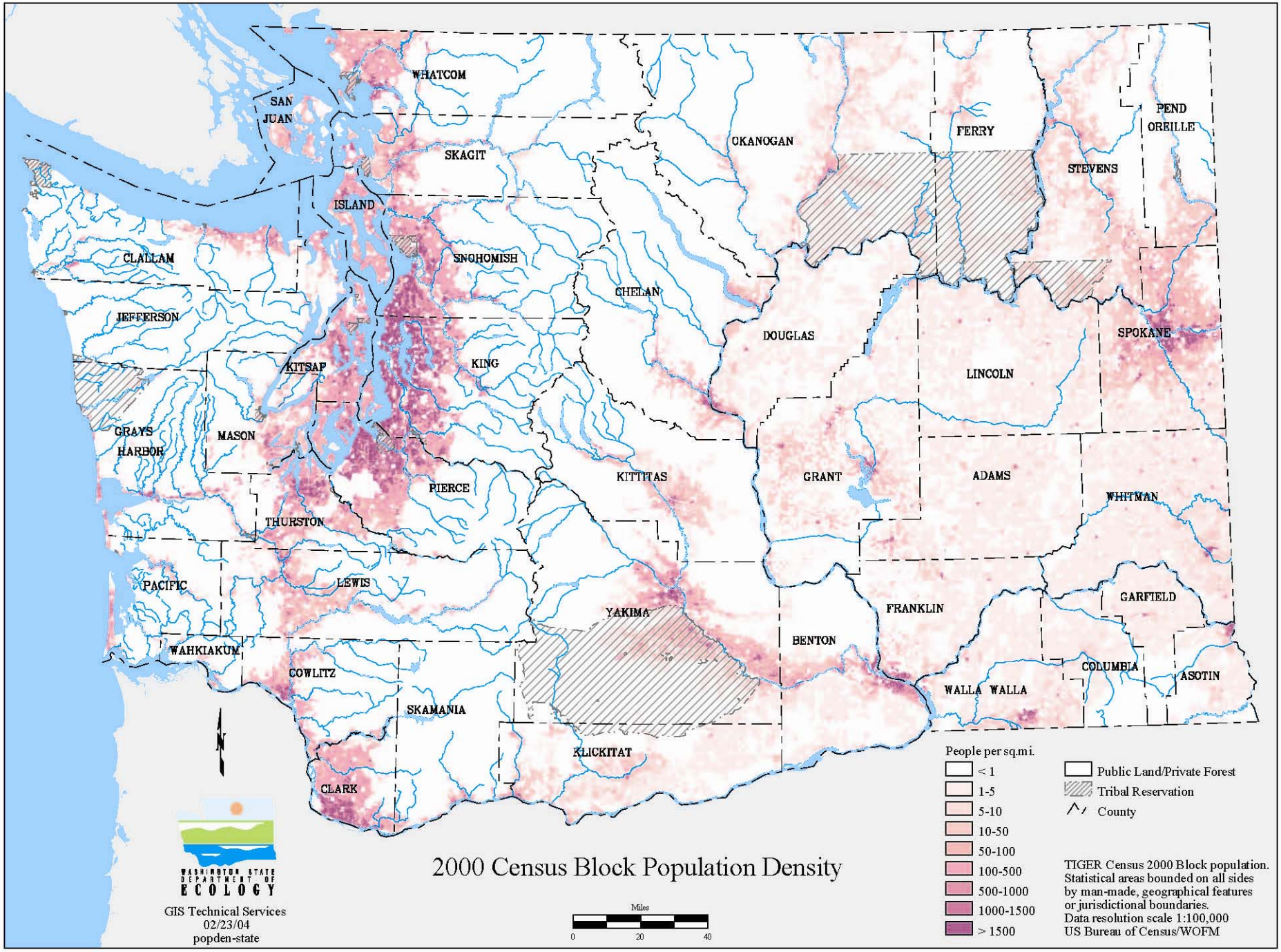
Washington State Transportation Commission

Washington State Transportation Commission

- Seven members from around the state, appointed by the Governor for six year terms – Secretary of Transportation and Governor's designee serve as non-voting members.
- Role change was made in 2005 – no longer the "board of directors" for the Washington State Department of Transportation.
- Key Responsibilities under new role:
  - Develop and issue the 20 year Washington Transportation Plan
  - Statewide outreach to regional and local jurisdictions on transportation policy and funding
  - State tolling authority setting highway tolls and ferry fares
  - Transportation Policy advisor to Governor and State Legislature
  - Oversight of the Transportation Innovative Partnership Program
  - Conducting a ferry user market survey every two years
  - Reviewing the long-range ferry system capital plan and operating strategies, and adopting ferry system pricing policies.
  - Naming state transportation facilities

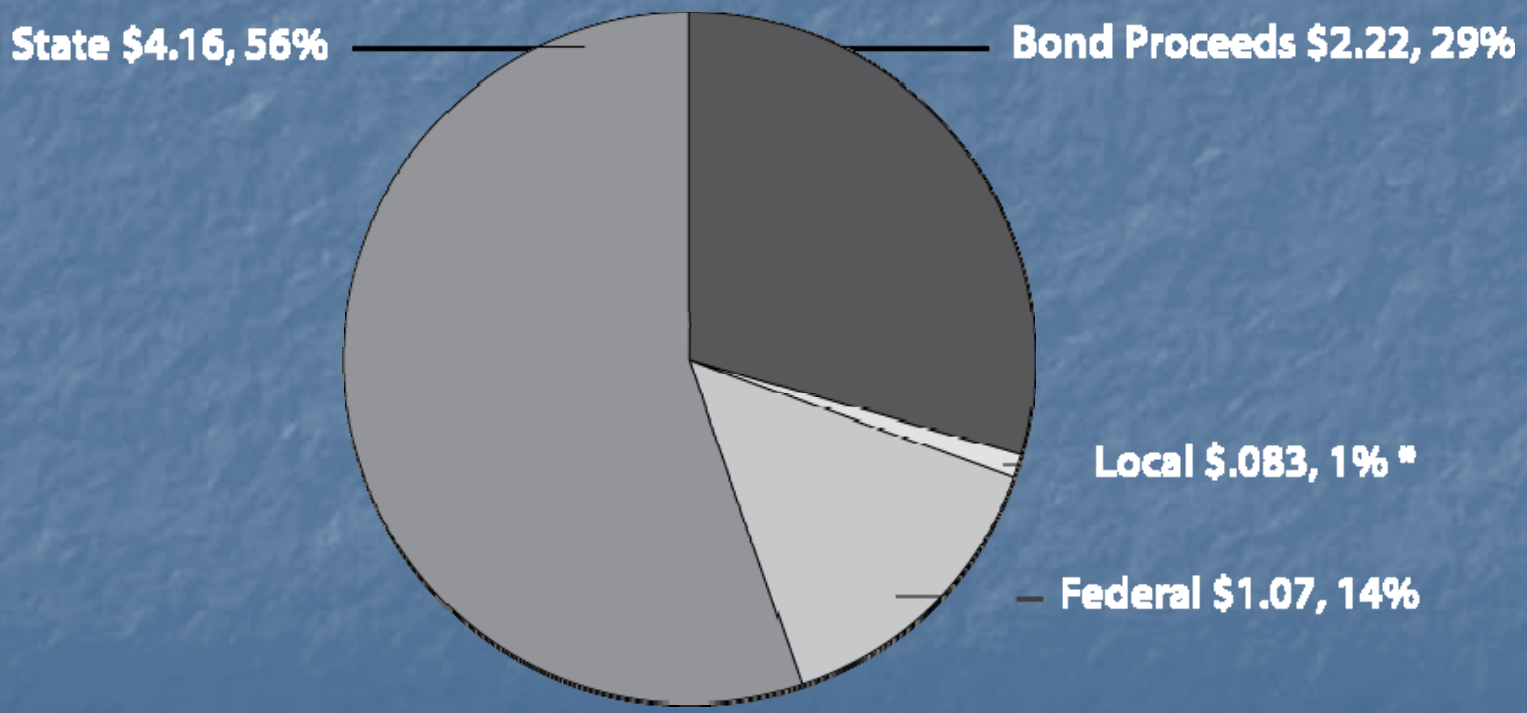
Quick Facts About Washington

- 6.4 million statewide population - *about 4 million less than LA County*
- 6.5 million registered vehicles
- Total Transportation Budget (07/09 Biennium) - $7.53 Billion
- Major sources of transportation revenue:
  - Gas Tax – 37.5 ¢ per gallon (effective 7/08)
  - Licenses, permits and fees - primary source – annual vehicle registration fees ($30 - $79) and truck license fees ($40 – $3,402)
- Largest ferry system in the United States:
  - 28 ferries
  - 10 routes
  - Carried 11 million vehicles and 24 million passengers in 2006
  - Combined 07/09 operating and capital budget: $700 million
  - Fare box revenues cover approximately 70% of operations
- Two toll facilities in the state – Tacoma Narrows Bridge (2007) and SR 167 HOT Lanes (2008)
- Freight dependent state *(2005 values)*:
  - Made in Washington Products: $155 Billion
  - International and national trade flowing through Washington: $80 Billion
  - Retail and wholesale distribution: $190 Billion


WHATCOM
SAN JUAN
SKAGIT
ISLAND
SNOHOMISH
CLALLAM
JEFFERSON
KITSAP
KING
GRAYS HARBOR
MASON
PIERCE
THURSTON
PACIFIC
LEWIS
WAHKIAKUM
COWLITZ
SKAMANIA
CLARK
KLICKITAT
YAKIMA
KITTITAS
CHELAN
OKANOGAN
DOUGLAS
GRANT
BENTON
FRANKLIN
FERRY
STEVENS
PEND OREILLE
SPOKANE
LINCOLN
ADAMS
WHITMAN
GARFIELD
COLUMBIA
WALLA WALLA
ASOTIN
N
WASHINGTON STATE DEPARTMENT OF ECOLOGY
GIS Technical Services
02/23/04
popden-state
2000 Census Block Population Density
Miles
0
20
40
People per sq.mi.
< 1
1-5
5-10
10-50
50-100
100-500
500-1000
1000-1500
> 1500
Public Land/Private Forest
Tribal Reservation
County
TIGER Census 2000 Block population.
Statistical areas bounded on all sides
by man-made, geographical features
or jurisdictional boundaries.
Data resolution scale 1:100,000
US Bureau of Census/WOFM

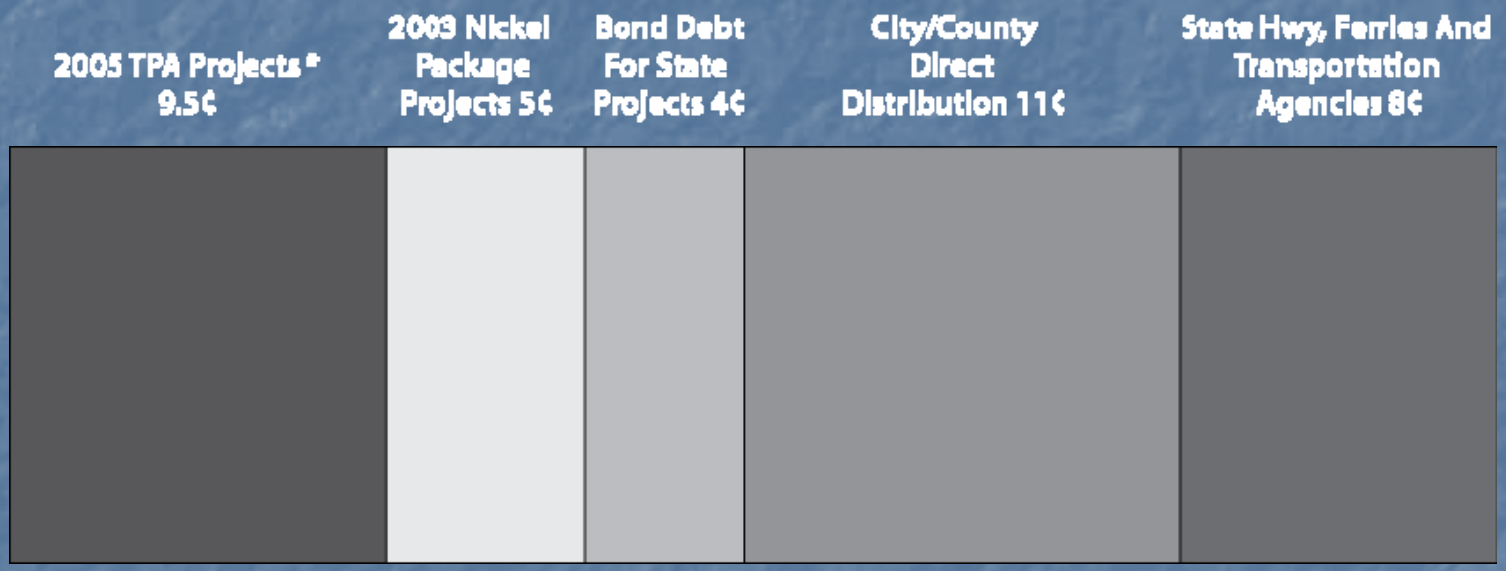
Where Does Washington's Transportation Funding Come From?

2007-09 Transportation Budget - $7.53 Billion



** payments for contracted work*

Where Does Washington's State Gas Tax Revenue Go?



37.5¢ Washington State gas tax (July 1, 2008)

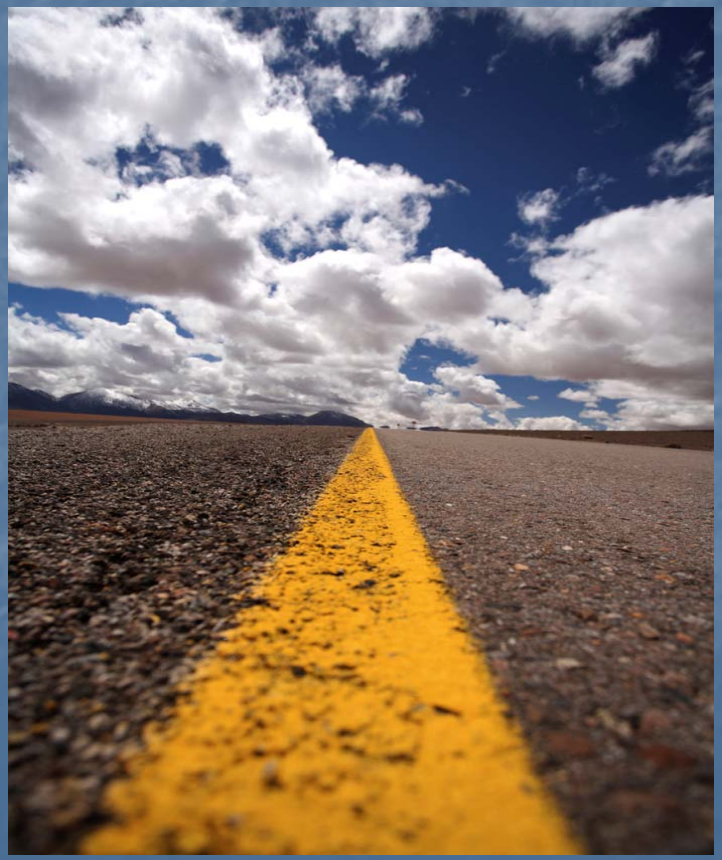
** 8.5¢ of TPA revenue funds state highway projects; 1¢ goes to counties and cities for road and street improvements*

Long-Term Funding Dilemma

- Even with the recent enactment of funding packages, revenues are still coming up short
  - Rising material and fuel costs coupled with reduced fuel consumption
  - June 08 state revenue forecast: $55 million decrease (2.1%) in current budget period for gas tax revenue
  - State forecasts for gas tax revenues expect decreases of $95 million (3.4%) in 09/11 biennium and $503 million over the next 16 years
  - 2007 WA. Transportation Plan identifies a need to invest over $67 Billion in the statewide transportation system over the next 20 years - $38+ Billion of which is currently unfunded *[2005 dollars]*

2007 WTP Investment Priorities

- The Transportation Commission adopted the following priorities to guide future investment:
  - Preservation
  - Safety
  - Economic Vitality
  - Mobility
  - Environmental Quality and Health



Building More Roads Is Not A Long-Term Solution

so what are we doing about it?

- New highways and lanes limited by cost and space – tolling/ user fees required to maximize use of current capacity
- Alternatives to roads a must for long-term congestion relief and environmental sustainability:
  - Increased transit service and options:
    - bus rapid transit uses existing infrastructure
    - light rail and commuter rail use dedicated right-of-way
  - Demand management tools – congestion pricing, commute trip reduction, vanpools, etc.
  - System management – signalization, ramp metering, HOV lanes, , incident response, communications/reliable real-time travel times, Park and Ride lots, right turn lane striping, Bike Trails etc.

Tolling Policy Studies Pave The Way To Progress In Washington

The Commission was directed by the State Legislature to conduct two tolling studies in 2006 and 2007:

The Washington State Comprehensive Tolling Study, Parts 1 & 2

- *<u>Part 1:</u> Provides a recommended framework for a statewide tolling policy*
- *<u>Part 2:</u> Applied Part 1 policies in developing a 20+ year statewide toll project list*

Comprehensive Tolling Study - Part 1

Eight Tolling Policy Recommendations Were Made to the Governor & State Legislature:

1. **Overall direction**: Washington should use tolling to encourage effective use of the transportation system and provide a supplementary source of funding.
2. **When to use tolling**: Tolling should be used when it can be demonstrated to contribute to a significant portion of the cost of a project; optimizes system performance; be fairly and equitably applied in the context of the statewide system; and not have a significant adverse impact through diversion of traffic.
3. **Use of Tolling Revenue**: Toll revenue should be used only to improve, preserve, or operate the transportation system.

Tolling Policy Recommendations Continued...

4. Setting Toll rates: Toll rates should be set to optimize system performance, recognizing necessary tradeoffs to generate revenue.

5. Duration of Tolls: Tolls should not be taken off a facility once the debt is paid off, as has been the historic practice to date.

6. **State Toll Authority To Set Toll Policy:** The State Transportation Commission should develop policies and criteria for selecting which facilities should be tolled and make recommendations to the Governor and Legislature.

7. WSDOT to Implement Policies: The WSDOT should be responsible for planning, development, operations, and administration of toll facilities in Washington State.

8. Toll Collection System: The toll collection system used should be simple, unified, and interoperable. Attended toll booths should be avoided wherever possible – preferring the use of electronic toll collection systems.

Comprehensive Tolling Study - Part 2

Using the policies recommended in Part 1 as a Guide - a list of possible tolling projects were identified based upon the following process:

The first step – determine project selection criteria: of the eight policies recommended in Part 1, the first two policies were applied for purposes of project selection.

- Using the policy criteria, 28 potential projects were identified statewide.

The second step – consider how "ready" the projects were in the development process.

- 12 of the 28 projects were identified as viable within the next 20 years.
- Viable projects in the short-term (within 10 years) included:
  - SR 520 Bridge Replacement Project – Seattle
  - Corridor improvement on I-5 in Lewis County – Centralia/Chehalis area
  - Columbia River Crossing Project – Vancouver
  - I-90 Snoqualmie Pass

2008 Tolling Policy Legislation

The 2008 Legislature enacted tolling policy legislation that was based upon the Commission's tolling studies.

Key provisions of the legislation:

- Washington State Transportation Commission established as the tolling authority.
- Legislature picks and defines the projects – Commission sets the toll rates – WSDOT implements and operates.
- Toll revenue can be used only for debt re-payment and to construct, improve, preserve, maintain, manage, or operate the toll facility from which the revenue was collected.
  - "Operation" costs include administration & toll enforcement.

Key provisions of tolling legislation continued…

- **Policy guidelines – Tolls should:**
  - Encourage the effective use of and optimize the performance of the transportation system.
  - Provide a significant portion of funding.
  - Be fairly and equitably applied in the context of the statewide transportation system.
  - Not have significant adverse impacts through the diversion of traffic to other routes that cannot otherwise be reasonably mitigated.
  - Consider relevant social equity, environmental, and economic issues, and should make progress towards the state's greenhouse gas reduction goals.
- **Duration of tolls:**
  - Tolls may remain in place after the debt is paid off, to fund long-term costs such as maintenance, preservation, operations, and to optimize performance of the system.

Key provisions of tolling legislation continued…

- **Tolling Advisory Committees:**
  - The Commission may appoint them to advise on all matters related to the imposition of tolls.
- **Toll Considerations:**
  - The Commission must consider variable pricing to optimize performance, recognizing necessary trade-offs to generate revenue.
  - Tolls may vary for type of vehicle, time of day, traffic conditions, etc.
- **Tolling Approval:**
  - Regional, county, district, and city tolling projects must be reviewed and approved by the Commission if the tolls have a significant impact on the operation of any state facility.
- **Centralized Toll Revenue Account:**
  - A central toll collection account is created where all toll facility revenue will be deposited and then distributed to the individual toll facilities based on the charges incurred by each facility.

Tolling In Washington

- Second span of Tacoma Narrows Bridge opened in July 2007.
- Conversion of SR 167 HOV Lanes to HOT Lanes - opened May 28, 2008.
- Tolling to generate about ½ the needed funding for a replacement SR 520 floating bridge across Lake Washington in Seattle.

Tacoma Narrows Bridge

- Current toll rates: $4 cash; $2.75 transponders
- Tolls to go up annually to track with debt payment schedule
- Currently no congestion on bridge or its approaches
- 70% of toll payers using electronic transponders
- Toll violation rate only 2-3%

SR 167 HOT Lanes Pilot Project

- More than nine miles long – HOV Lane conversion
- 10 access points
- Typically tolled between 5 am and 7 pm
- Uses same transponder technology in use on the Tacoma Narrows Bridge
- Minimum toll: 50¢; Maximum toll: $9.00 – varies to ensure speeds do not go below 45 MPH
- Revenue to pay for operations, maintenance, added enforcement, and added incident response
- Pilot ends in 2012

SR 520 Bridge Replacement

- Finance plan must realize $1.5 to $2 billion in tolling revenue to fill funding gap – *total project cost not to exceed 3.9 Billion.*
- Federal urban partnership grant funds awarded *($135 Million)*, but contingent on legislative direction to toll beginning by fall 2009.
- Serious consideration is being given to "early tolling" – put tolls on existing bridge in advance of project completion.

SR 520 Tolling Implementation Committee

Public Outreach & Education Effort Critical

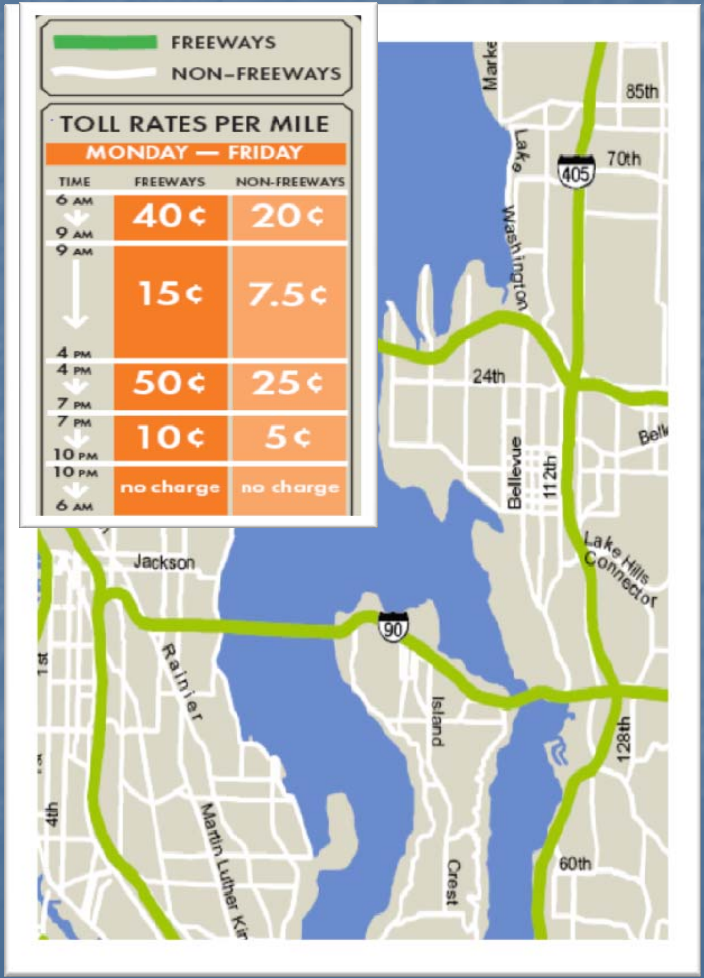
- Established by Legislature to evaluate diversion, tolling technology
- Public work sessions and open houses over several months

- Toll existing bridge?
- Toll both cross-lake bridges (SR 520 & I-90)?
- Transit and carpool incentives?
- Variable tolling to reduce congestion?
- Report to Governor and Legislature in December 2008

STUDY 1: Puget Sound Regional Council

Vehicle Miles Traveled (VMT) Fee – A road pricing experiment in Seattle

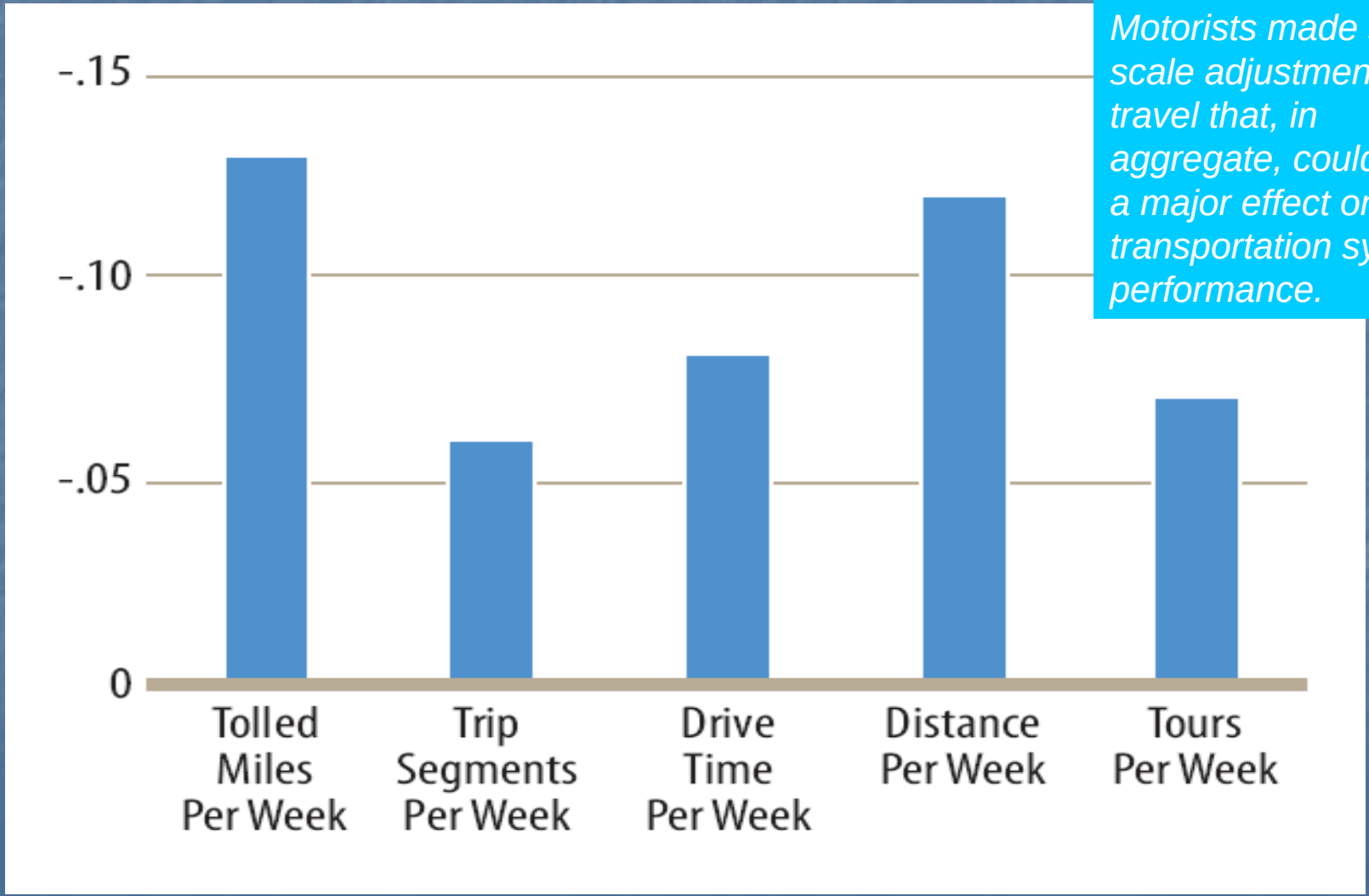
- **Detailed analysis of road user choice and behavior under a broad and sustained tolling experiment**
  - Tolling on all major roads
  - 18 months of data collection
  - Tolls based on time of day and type of road
  - True price incentive with hold harmless design
- **Development and proofing of tolling technical applications and systems design**
  - In-vehicle GPS-based tolling
  - Cellular communicating to central system
  - Large-scale operational test showing the feasibility of network-wide tolling



Participant-Centered Project

- **275+ households; 400+ vehicles**
- **Randomly selected from an enriched pool of potential participant households**
- **Each household was provided a unique travel endowment account, based on their baseline travel behavior**
- **Tolls were levied against this endowment account**
- **At the end of the tolling period participants were given any remaining account balance**

Drivers Responded to Tolling by Altering Their Driving Behavior



Motorists made small-scale adjustments in travel that, in aggregate, could have a major effect on transportation system performance.

Baseline and Tolling Model Results

- Total VMT down 7%
- Total VHT down 5%

Baseline and Toll Scenario Travel Mode

Home Based Work	Base	Toll
SOV	79.3%	78.1%
Carpool	7.2%	7.9%
Transit	9.2%	9.5%
Transit–walk	7.2%	7.9%
Transit–auto	2.0%	1.6%
Bike	1.4%	1.7%
Walk	2.8%	2.9%
Non Work Trips	**Base**	**Toll**
SOV	46.0%	45.0%
Carpool	45.5%	46.4%
Transit	2.2%	2.3%
Bike	0.9%	0.9%
Walk	5.5%	5.5%

Baseline and Toll Scenario Travel Time of Day

Percent of Person Trips	Base	Toll
AM	15.7%	13.3%
Midday	37.8%	36.3%
PM	21.1%	18.4%
Evening	17.4%	18.5%
Night	8.0%	13.5%
Total	100.0%	100.0%
Percent of Vehicle Trips	**Base**	**Toll**
AM	13.1%	12.1%
Midday	42.1%	40.5%
PM	20.6%	18.9%
Evening	18.5%	19.0%
Night	5.7%	9.6%
Total	100.0%	100.0%

Estimated Revenue Potential*

Gross proceeds from variable network tolls (not necessarily optimal toll rates):

$2.8 - $3.2 billion per year

Region's share of State fuel tax proceeds:

$500 million per year

Costs for a fuel tax collection system

- Initialization Costs = NA
- Operations = 1% of proceeds

Costs for a network tolling system, **(based on cost model)**

- Initialization Costs = $750 million
- Operations = 5-8% of proceeds

***Based on four counties in central Puget Sound: King, Pierce, Snohomish, and Kitsap**

Study Conclusions

- Observed response of drivers to tolls suggests there is a dramatic opportunity to significantly reduce traffic congestion and raise revenue for investment.
- Not all aspects of road network tolling systems have been fully demonstrated yet – but the core technology for satellite-based toll system are mature and reliable.
- A large-scale US deployment of a GPS-based road tolling program will depend on proven systems, a viable business model, and public acceptance of underlying concepts.

For more information on this study, go to: http://www.psrc.org/projects/trafficchoices/index.htm

STUDY 2: Oregon Mileage Fee Concept and Road User Fee Pilot Program

- 2001 Oregon Legislature established a task "to develop a design for revenue collection for Oregon's roads and highways that could replace the current system for revenue collection."

- The task force recommended ODOT conduct a pilot program to study two strategies:
  - Feasibility of replacing the gas tax with a mileage-based fee, collected at fueling stations; and
  - Feasibility of using this system to collect congestion charges.

Key Aspects of Study

- ODOT launched a 12 month pilot program in 2006.
  - 285 volunteer vehicles and 299 motorists participated
  - 2 service stations in Portland, Oregon
- Established 4 “zones” and charged for miles driven within those zones according to location, day of week, and time of day.
- Collected vehicle travel data and charged accordingly at the gas pump – data transmitted from car to pump via short-range wireless technology.
  - This allowed one pump to collect both the VMT fee or gas taxes - receipts identified the VMT charge and the associated gas tax deduction.
- Fuel tax collections retained to guard against system failure and tampering.

Key Findings of Oregon Study

- The concept is viable – a mileage fee could be implemented to replace the gas tax as the principal revenue source for road funding.
  - 91% of participants said they would agree to continue paying the mileage fee in lieu of the gas tax if it was offered.
- Paying at the pump works – the mileage fee could be paid at the pump with minimal difference in process or administration for motorists, compared to how they pay the gas tax.
- The mileage fee can be phased in – phasing in could be done to allow for non-equipped vehicle to continue paying the gas tax, noting that retrofitting vehicle with the necessary equipment appears to be expensive and difficult.
- Integration with current systems can be achieved – integrating the service station point-of-sale system and the current gas tax.
- Congestion and other pricing options are viable – different pricing zones could be established electronically and assigned fees could be charged for accordingly, even by time of day.

Findings continued...

- Privacy is protected – no specific vehicle point location or trip data stored or transmitted; all on-vehicle device communication must be short range; the only centrally-stored data needed was vehicle ID, zone mileage totals, and amount of fuel purchased.
- The system places minimal burden on business – administration is essentially automated and easily integrated into existing transaction processes.
- Potential for evasion is minimal – Tampering with the on-vehicle device would result in default payment of the gas tax at the pump.
- Cost of implementation and administration low - Three areas of costs: service station capital and operating costs; On-vehicle costs will be determined by car manufacturers and included in price of new car; ODOT has operating costs for auditing and technical assistance – estimated at $1 million/ year.

For more information on this study, go to: www.oregon.gov/ODOT/HWY/RUFPP/docs/RUFPP_finalreport.pdf

How do we move forward?

- Given the slow & ongoing reduction in gas tax revenues, the limitations of tolling for statewide revenue generation, and the findings of the two studies discussed, a significant step must be taken to transition from the old regime.
- The WA. State Transportation Commission thinks a VMT based system will serve this interim role well noting that it is not everlasting:
  - As states strive to address climate change issues, the push to reduce reliance on fossil fuels, develop new forms of fuel/ energy, and simply drive less will prevail leaving traditional approaches (including VMT) insufficient at providing critical transportation revenue.

- The VMT system will serve as the critical next step in this transition but it must occur on at least a multi-state level but preferably on a national level.
- While the Federal Government is slowly moving in this direction, we feel the time has come to stop talking and start acting.
- Unified states are key to progress and our Commissions can serve well in representing a West Coast viewpoint on moving into the next phase of a national transition.
  - Perhaps the West Coast can become the “testing grounds” for a national/ multi-state VMT application.
  - I-5 corridor of the future designation a prime candidate to receive funding.
  - National leadership is needed to help establish consistent standards and policy for states to follow.

Thank you!

For more information, please contact the Washington State Transportation Commission Office at 360.705.7070

or email us at:
transc@wsdot.wa.gov