



# **520 Tolling Implementation Committee Initial Scenario Evaluation**

**July and August 2008 Open Houses**

**Bothell**

**Renton**

**Seattle**

**Bellevue**

**Kirkland**

**Mercer Island**

## Committee members



**Bob Drewel, Chair**

Puget Sound  
Regional Council



**Paula Hammond**

Washington State  
Department of  
Transportation  
Secretary



**Dick Ford**

Washington State  
Transportation  
Commission

## Committee charge

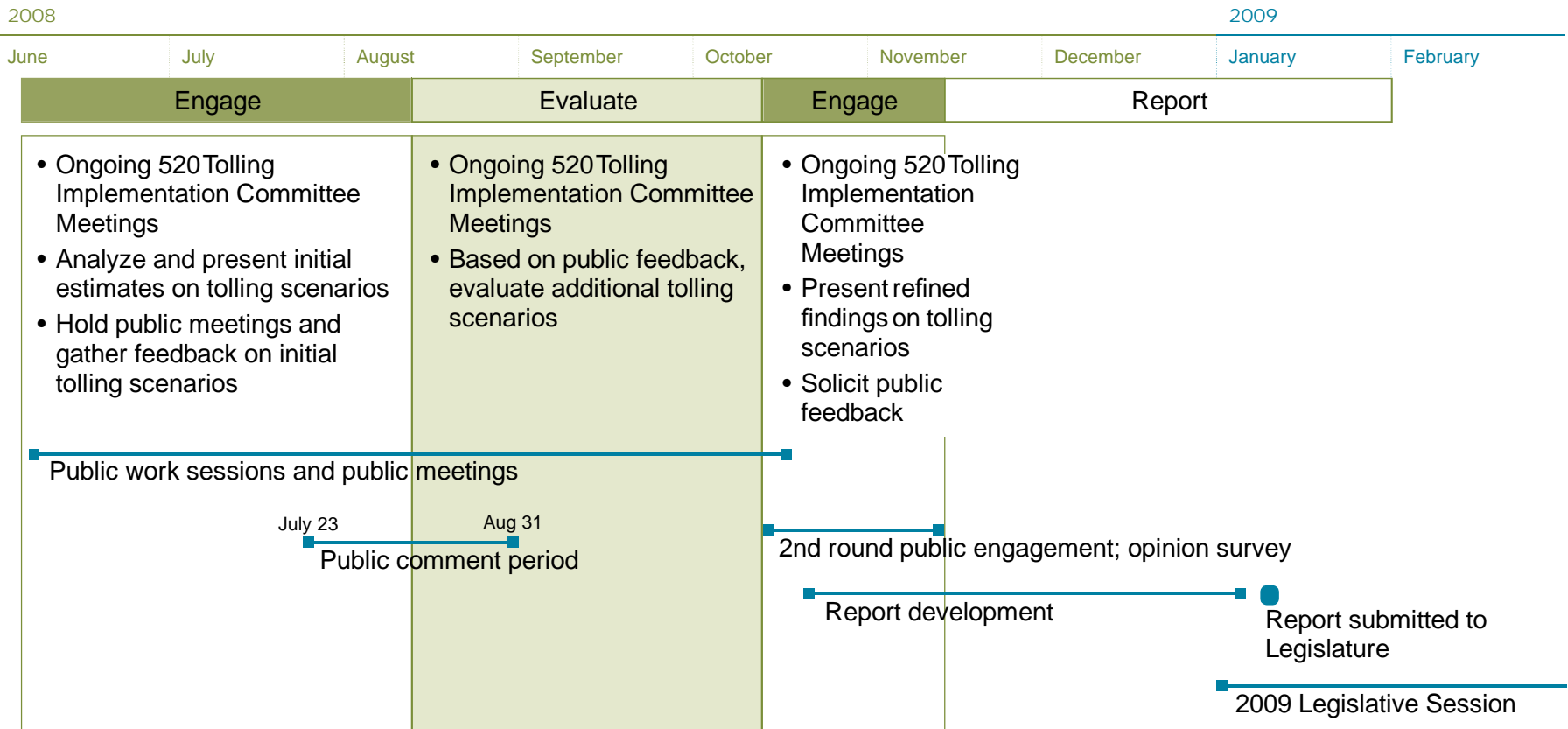
- Evaluate
  - Traffic diversion from 520 to other routes, including 522, and recommend mitigation
  - Advanced tolling technology
  - New applications of emerging technology to better manage traffic
- Explore opportunities to partner with the business community to reduce congestion and contribute financially
- Confer with mayors and city councils
- Conduct public work sessions and open houses to solicit citizen views on tolling the existing 520 bridge, tolling both 90 and 520, providing incentives for transit and carpooling, implementing variable tolling
- Provide a report to the governor and legislature in January 2009

## Committee charge - engagement

Engage citizens on the following topics:

- Funding a portion of the 520 replacement project with tolls on the existing bridge
- Funding the 520 replacement project and improvements on the 90 Bridge with a toll paid by drivers on both bridges
- Providing incentives and choices for transit and carpooling
- Implementing variable tolling as a way to reduce congestion

# Work plan of committee



## This is the committee's first step to gather public input on toll scenarios

- These are initial results from travel and financial models
- Results are based on assumptions:
  - cash flow need for the project
  - interest rates
  - when tolling begins

Changes to these assumptions will affect the results

- Toll rates are for planning and comparison purposes only
- Toll rates and traffic information are useful for comparison purposes
- Public input will help identify next steps for the committee, including other toll scenarios, and inform development of a financial plan for the project

# We need to build a new 520



# Construction on a new 520 begins in 2009

## New Bridge Open to Drivers in 2014

	<ul style="list-style-type: none"> <li>Begin pontoon construction at existing site.</li> <li>Purchase 45 new buses for corridor.</li> </ul>		<ul style="list-style-type: none"> <li>Begin early Eastside improvements. <b>A</b></li> <li>Begin pontoon construction at new site.</li> </ul>		<ul style="list-style-type: none"> <li>Begin floating bridge construction. <b>C</b></li> </ul>		<ul style="list-style-type: none"> <li><b>Open six-lane corridor to drivers.</b></li> </ul>			
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
		<ul style="list-style-type: none"> <li>Begin construction of new pontoon construction site.</li> <li>Complete corridor environmental process.</li> </ul>		<ul style="list-style-type: none"> <li>Begin corridor construction. <b>B</b></li> </ul>		<ul style="list-style-type: none"> <li><b>Open new bridge to drivers.</b></li> </ul>				<ul style="list-style-type: none"> <li>Project complete.</li> </ul>



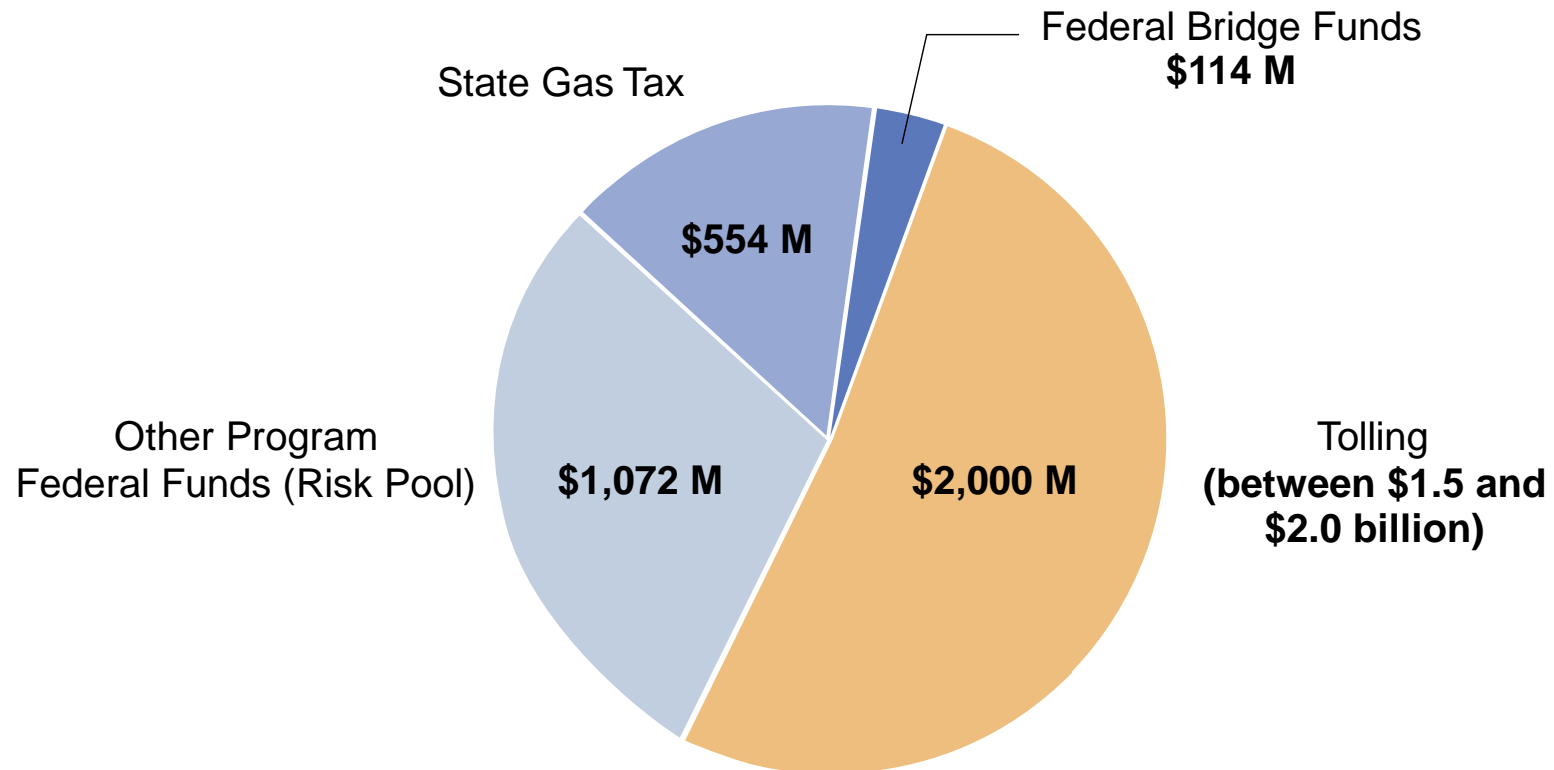
Project Cost Information	
2006 cost estimate:	\$4.38 billion
Estimated savings:	\$500 - \$700 million*
New projected cost:	\$3.7 - \$3.9 billion

\*Savings are due to accelerating project schedule and reducing the number of pontoons

# How will we pay for a new bridge?

## Funding sources identified by legislature in ESHB 3096

Project estimate: \$3.7 - 3.9 billion\*



\* Low end of range reflects \$180 million in sales tax deferral

# Congestion benefits of electronic tolls that vary by time of day



- **Electronic tolling** eliminates:
  - congestion caused by toll booths;
  - toll booth related accidents;
  - need for additional costly right of way in this congested corridor; and
  - costly cash collection.
- **Variable tolling** reduces congestion by:
  - encouraging people who can to switch to off-peak times; and
  - encouraging as many people as possible to remain on the bridge during the off peak to minimize diversion to other routes
- **Paying Tolls:**
  - Majority of transactions will be *Good To Go!* account holders using transponders.
  - Vehicles without transponders have license plates photographed and can prepay or be invoiced for the toll, which will include an additional surcharge.

## What evaluation criteria are being considered?

- The “reasonableness” of the tolls
- How much bridge funding is generated
- The diversion effects of tolls – people can choose to:
  - Stay on 520 but switch to carpool or transit
  - Stay on 520 but switch to different times
  - Travel on different routes
  - Choose a different destination – don’t have to cross the lake
- The performance of the bridge (potential congestion relief)
- The impacts tolls may have on low income bridge users

## Which initial scenarios were examined?

- 1 Start tolling the new 520 bridge in 2016**

Only 520 is tolled • Tolling begins in 2016 when the 520 corridor is complete • Includes bridge and segment tolls • Highest toll rate for analysis purposes
- 2 Start tolling the 520 bridge in 2010**

Only 520 is tolled • Tolling the existing bridge begins in 2010 • No segment tolls • Lowest toll rate for analysis purposes
- 3 Start tolling the new 520 bridge and 90 bridge in 2016**

520 and I-90 are tolled • Tolling begins in 2016 when the 520 corridor is complete • Includes segment tolls beginning in 2016 on 520 and 90 • Moderate toll rate for analysis purposes
- 4 Start tolling the 520 bridge in 2010, and 90 bridge in 2016**

SR 520 and I-90 are tolled • Tolling the existing SR 520 bridge begins in 2010 • Includes segment tolls beginning in 2016 on 520 (when the corridor is complete) and 90 • Moderate toll rate for analysis purposes

# Tolling Segments Under Consideration

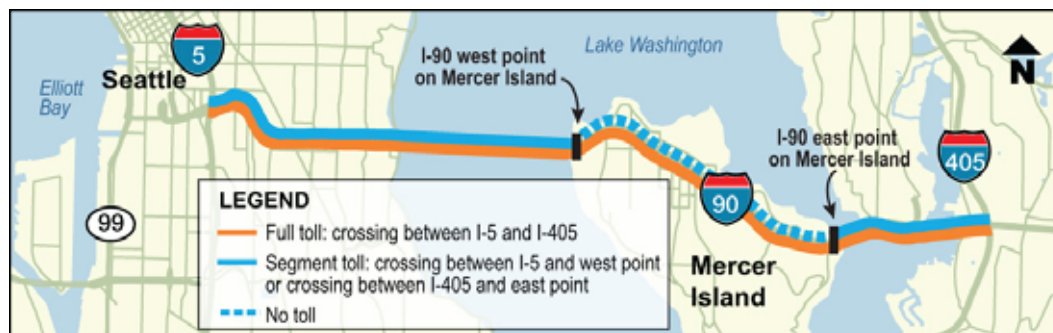
2010 Tolling on Existing 520 Bridge



2016 Tolling on New 520 Bridge



2016 Tolling on I-90



## How were the preliminary estimates developed?

### Traffic

- The PSRC travel model estimates how traffic changes when tolls are in place. Fundamental assumptions used in the model include:
  - Population and employment
  - Travel costs (auto operating costs, parking costs, transit fares, etc.)
  - Land use
  - Travel behavior (public surveys, validated by observed travel data)
  - Characteristics of the transportation system (current and future road and transit services)

### Revenue

- Sample toll rates + Projected travel used to estimate revenue

### Financing/Funding

- Tolls revenues + Bonding assumptions + Cash flow needs + Sound financial practices = Financing estimates (supported by analysis from the Office of State Treasurer)

## How should model results be interpreted?

- Models use assumptions regarding how people will respond to tolls.
- We have limited real world experience in this region on how people will respond if there are tolls on 520 or 90.
- Models are useful for comparing alternatives as opposed to precisely estimating behavior.
- Additional work will be needed before tolls are authorized and bonds are sold based on toll revenue projections.

## The big picture – what did we learn?

- Tolling 520 leads to changes in how people travel. The higher the toll rate, the more people change how they travel.
  - Some people change to carpools and transit
  - Traffic on alternate routes increases
  - Largest change is seen in people choosing not to cross the lake
- When 520 is tolled and more transit service is added, travel speeds on 520 increase, but there is little or no change on alternate routes.
- If 90 is also tolled, more drivers choose to stay on 520, but more traffic is seen on alternate routes.
- Of the four initial scenarios, none produce funding from tolls within the legislature's target of \$1.5 to \$2.0 billion. Two raise less and two raise more.
- Public input will be necessary to identify next steps.

# Scenario 1. Start tolls on new 520 in 2016



Time of day	Toll you'd pay (each direction) 2007\$*
Morning (5–9 AM)	\$3.05
Mid-day (9 AM–3 PM)	\$2.10
Afternoon (3–7 PM)	\$3.80
Evenings (7–10 PM)	\$1.95
Nights (10 PM–5 AM)	\$0.90
Weekends	Varies from \$.75 to \$1.50
Segment	Varies from \$0.40 to \$0.80
<b>Estimated funding</b>	<b>~\$835 million</b>

## Scenario 1. Start tolls on new 520 in 2016

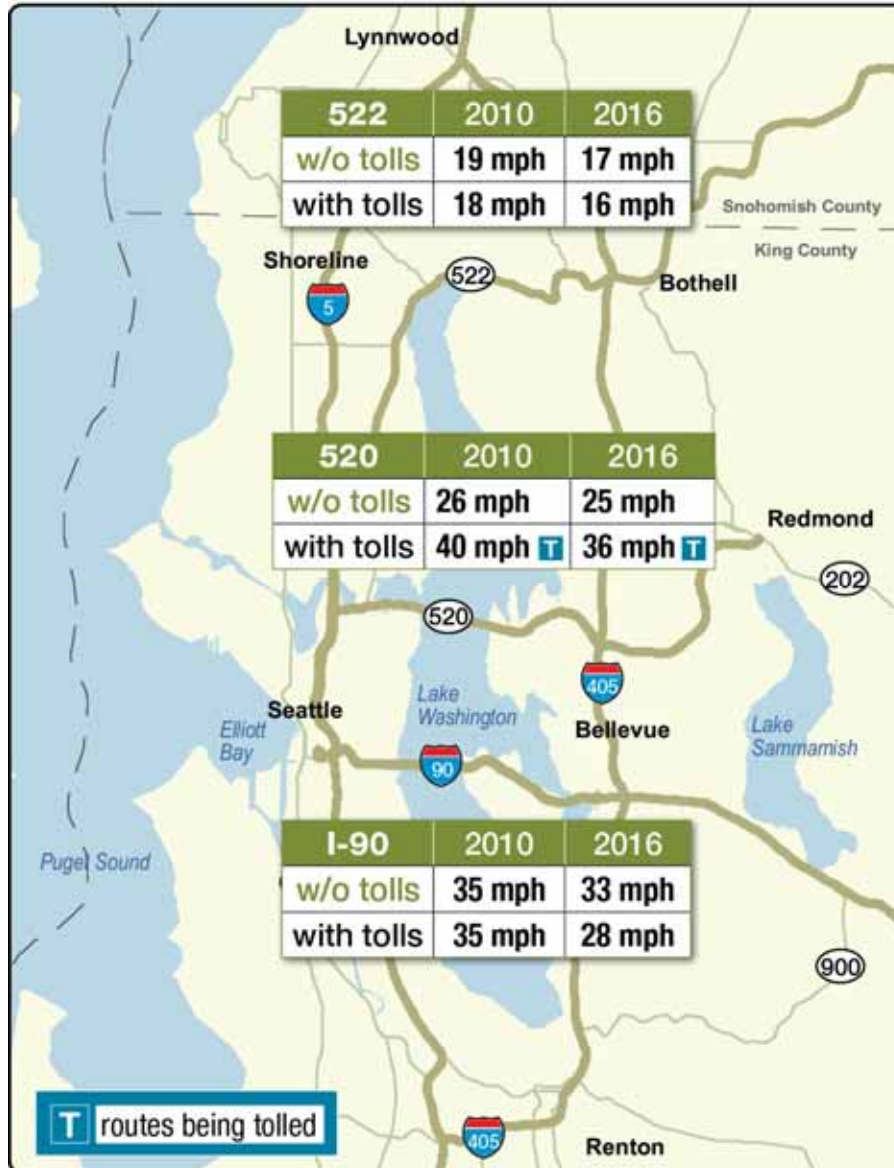
### Estimated change in weekday 520 travel

Daily percent change from predicted vehicle volumes with no tolls	
Choose carpool and transit on 520	2.7%
Choose a different time on 520	1.1%
Choose a different route	5.8%
Choose a different destination (no lake crossing)	15.5%

### Estimated change in weekday vehicle traffic on 90, 522, 5 and 405

	2016 without toll	2016 with toll
90 (Mid-span)	155,200	162,100
522 (Kenmore at NE 61 <sup>st</sup> )	52,000	52,800
I-5 (Downtown Seattle)	316,500	318,300
405 (Downtown Bellevue)	261,100	261,200

## Scenario 2. Start tolling 520 bridge in 2010



Time of day	Toll you'd pay (each direction) 2007\$*
Morning (5–9 AM)	\$2.15
Mid-day (9 AM–3 PM)	\$1.05
Afternoon (3–7 PM)	\$2.95
Evenings (7–10 PM)	\$1.30
Nights (10 PM–5 AM)	\$0.75 (no charge until 2016)
Weekends	Varies from \$0.75 to \$1.50
Segment	No charge
<i>Estimated funding</i>	<i>~\$900 Million</i>

## Scenario 2. Start tolling 520 bridge in 2010

### Estimated change in weekday 520 travel

Daily percent change from predicted vehicle volumes with no tolls	2010	2016
Choose carpool and transit on 520	3.2%	1.8%
Choose a different time on 520	2.0%	1.7%
Choose different route	7.2%	6.1%
Choose a different destination (no lake crossing)	1.7%	8.3%

### Estimated change in weekday vehicle traffic on 90, 522, 5 and 405

	2010 with no tolls	2010 with tolls	2016 with no tolls	2016 with tolls
90 (Mid-span)	168,700	175,300	155,200	162,200
522 (Kenmore at NE 61 <sup>st</sup> )	50,000	51,400	52,000	52,900
I-5 (Downtown Seattle)	313,800	318,100	316,500	317,700
405 (Downtown Bellevue)	247,600	249,900	261,100	261,500

# Scenario 3. Start tolling the new 520 bridge and 90 bridge in 2016



Time of day	Toll you'd pay (each direction) 2007\$*
Morning (5–9 AM)	\$2.60
Mid-day (9 AM–3 PM)	\$2.10
Afternoon (3–7 PM)	\$3.25
Evenings (7–10 PM)	\$1.95
Nights (10 PM–5 AM)	\$0.90
Weekends	Varies from \$0.75 to \$1.50
Segment	Varies from \$0.40 to \$0.75
<b>Estimated funding</b>	<b>~\$2.3 Billion</b>

## Scenario 3. Start tolling the new 520 bridge and 90 bridge in 2016

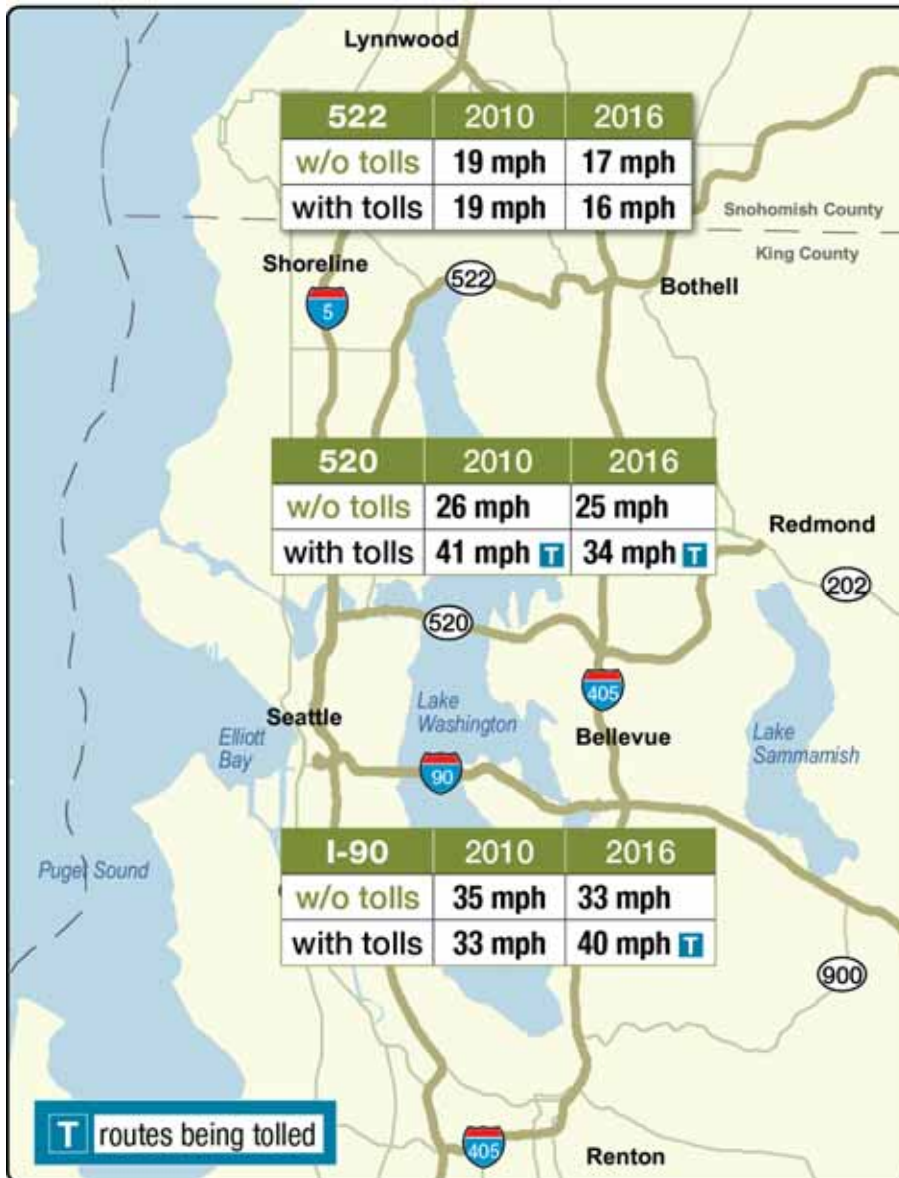
### Estimated change in weekday 520 travel

Daily percent change from predicted vehicle volumes with no tolls	2016 on 520	2016 on 90
Choose carpool and transit on 520	2.6%	2.0%
Choose a different time on 520	0.5%	1.1%
Choose different route from 520 and 90	4.6%	
Choose a different destination (no lake crossing)	22.3%	

### Estimated change in weekday vehicle traffic on 90, 522, 5 and 405

	2016 with no tolls	2016 with tolls
90 (Mid-span)	155,200	136,200
522 (Kenmore at NE 61 <sup>st</sup> )	52,000	54,700
I-5 (Downtown Seattle)	316,500	316,400
405 (Downtown Bellevue)	261,100	259,400

# Scenario 4. Start tolling the 520 bridge in 2010, and 90 bridge in 2016



Time of day	Toll you'd pay in 2010 on 520 (one-way) 2007\$*	Toll you'd pay in 2016 on 520 and 90 (each direction) 2007\$*
Morning (5–9 AM)	\$2.60	\$2.60
Mid-day (9 AM–3 PM)	\$2.10	\$2.10
Afternoon (3–7 PM)	\$3.25	\$3.25
Evenings (7–10 PM)	\$1.95	\$1.95
Nights (10 PM–5 AM)	No charge	\$0.90
Weekends	\$0.75 - \$1.50	\$0.75 - \$1.50
Segment	No charge	\$0.40 - \$0.75
<b>Estimated funding</b>	<b>~\$2.5 Billion</b>	

## Scenario 4. Start tolling the 520 bridge in 2010, and 90 bridge in 2016

### Estimated change in weekday 520 and 90 travel

Daily percent change from predicted vehicle volumes with no tolls	2010 on 520	2016 on 520	2016 on 90
Choose carpool and transit	3.6%	2.6%	2.0%
Choose a different time	1.6%	0.5%	1.1%
Choose different route	7.5%	3.9%	
Choose a different destination (no lake crossing)	19.6%	22.3%	

### Estimated change in weekday vehicle traffic on 90, 522, 5 and 405

	2010 with no tolls	2010 with tolls	2016 with no tolls	2016 with tolls
90 (Mid-span)	168,700	174,000	155,200	136,200
522 (Kenmore at NE 61 <sup>st</sup> )	50,000	51,600	52,000	54,700
I-5 (Downtown Seattle)	313,800	319,300	316,500	316,400
405 (Downtown Bellevue)	247,600	249,400	261,100	259,400

## How much funding for a new 520 might come from tolls?

### Preliminary results – more work needed

	Total Contribution from Tolls
Scenario 1. Start tolling 520 in 2016	~\$835 million
Scenario 2. Start tolling 520 in 2010	~\$900 million
Scenario 3. Start tolling the new 520 and 90 in 2016	~\$2,300 million
Scenario 4. Start tolling 520 in 2010, and 90 in 2016	~\$2,500 million

#### Financing assumptions:

Term: 30-year, general obligation/motor vehicle fuel tax bonds

Minimum Debt Service: Annual revenue 1.25 times debt service

Interest Rate: 5.9% for current interest bonds, 6.4% for capital appreciation bonds

## The big picture – what did we learn?

- Tolling 520 leads to changes in how people travel. The higher the toll rate, the more people change how they travel.
  - Some people change to carpools and transit
  - Traffic on alternate routes increases
  - Largest change is seen in people choosing not to cross the lake
- When 520 is tolled and more transit service is added, travel speeds on 520 increase, but there is little or no change on alternate routes.
- If 90 is also tolled, more drivers choose to stay on 520, but more traffic is seen on alternate routes.
- Of the four initial scenarios, none produce funding from tolls within the legislature's target of \$1.5 to \$2.0 billion. Two raise less and two raise more.
- Public input will be necessary to identify next steps.

## What happens next?

Additional information on how tolls may impact low income bridge users

- Outreach to groups

- Public feedback

- Transit survey results

Learn more about...

- Rising gas prices and affect on tolling scenario results

- Travel model and financial estimates

- Other toll scenarios or assumption changes suggested by public

- Follow-up on peer review recommendations

## What happens next?

Public open houses to hear from the public

July 29 – UW Bothell North Creek Events Center

July 31 – Spirit of Washington Events Center (Renton)

August 5 – Naval Reserve at South Lake Union (Seattle)

August 6 – Bellevue City Hall

August 7 – Kirkland Performance Center

August 13 – Mercer Island Community Center

All meetings are from 5 to 7:30 p.m. Presentation at 6 p.m.

Comments on four initial tolling scenarios due to the committee by August 31.

## What happens next?

**Send comments by August 31:**

**Web:** [www.build520.org](http://www.build520.org)

**Email:** [info@build520.org](mailto:info@build520.org)

**Postal Mail:**

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***QUESTIONS?***