Introductions and Agenda

• Sound Transit update
• King County Parks update
• University of Minnesota study
• WSDOT update
  – Express toll lanes two-year performance update
  – Next steps for north end I-405 improvements
  – Funding and phasing for the north end
• Public comment
• Wrap-up
EAG Meeting Topics/Schedule

**Meeting 1**
- Funded project updates (Renton to Bellevue, peak-use shoulder lane)
- 522 to 527 phasing overview
- ST3 BRT coordination
- King County ERC trail coordination

**April 12, 2017**

**Meeting 2**
- Peak-use shoulder lane update
- Renton to Bellevue update
- ST/King County coordination

**July 13, 2017**

**Meeting 3**
- 522 to 527 preliminary funding options
- Two-year express toll lane milestone
- Renton to Bellevue projections
- Direct Connector project update
- ST/King County coordination

**Oct. 17, 2017**

**Meeting 4**
- Two-year express toll lane update
- Next steps for I-405 improvements
- Next steps for 522 to I-5
- ST/King County coordination

**Jan. 3, 2018**

**Key Discussion Questions for Meeting 4**
- What are the EAG’s recommendations on next steps for I-405 improvements?
I-405 Master Plan

Regional Consensus
- EIS Record of Decision, 2002
- Multimodal, multiagency plan

Roadways
- 2 new lanes in each direction
- Local arterial improvements

Transit & Transportation Choices
- Bus Rapid Transit system
- New transit centers
- 50% transit service increase
- HOV direct access ramps and flyer stops
- Potential managed lanes system
- 5000 new Park & Ride spaces
- 1700 new vanpools

Environmental Enhancements
Sound Transit Update
I-405 Bus Rapid Transit

Don Billen
Acting Executive Director
Planning Environmental and Project Development
Sound Transit
King County Parks Update
Eastside Rail Corridor Regional Trail

Erica Jacobs
Project Manager
King County Parks
Eastside Rail Corridor Regional Trail
WSDOT Executive Advisory Group
January 3, 2018
Presentation Overview

• Rail Removal and Interim Trail Update
• Segments in Design
• WSDOT Trail Projects in ERC
• Prioritized Implementation Timeline
• TIGER Grant Submission
Interim Trail Under Construction

- From Cross Kirkland Corridor at 108th Ave. NE to SR 520
  - One mile section connecting Kirkland into Bellevue

- From Gene Coulon Park to Newcastle Beach Park
  - Four mile section with connections between Bellevue and Renton
Wilburton Segment Design: 2017-2019

- Funded with Parks Levy and $2 million Federal Highway Administration (FHWA) Grant
- Most urban and dynamic portion of the trail including:
  - Historic Wilburton Trestle
  - Connections to SR 520 and I-90 Trails
  - Major crossings and bridges over I-90, I-405, NE 8th Street and others
  - At the heart of the redeveloping Wilburton area
  - Connections to East Link Light Rail Stations, Spring District
- Public and stakeholder engagement will begin early 2018
NE 8th Street Crossing Design: 2017-2019

- Grade-separated trail crossing of NE 8th Street in Bellevue
- Partially funded with FHWA grant
- Overall Goal: Achieve best possible integration of trail with Wilburton Station and surrounding land uses
- Possible construction timing 2020-2022 (pending funding)
- Art integration into bridge design: artist selected by 4Culture
- Public and stakeholder engagement to begin early 2018
WSDOT Trail Projects

• I-405 Bicycle-Pedestrian Bridge at the Wilburton Gap, timed with Wilburton Trestle construction and opening
• 2.5 miles of trail in the ERC between Ripley Lane and Coal Creek Parkway
• Interagency Design Criteria Workshop December 12th
• Design-Build Contract Advertisement 2018
• Construction July 2019 – December 2020
Wilburton Trestle and Crossing
## ERC Timeline of Prioritized Segments

### Eastside Rail Corridor - Anticipated Schedule (Funding Dependent) 2017-2023

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>Phase 1 Rail Removal and Interim Gravel Trail</strong></td>
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<tr>
<td>108th to SR 520</td>
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<td>Gene Coulon Park to Newcastle Beach Park</td>
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<tr>
<td><strong>Lakefront Segment</strong></td>
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<tr>
<td>2.5 Miles of Trail from Ripley Lane to Coal Creek Pkwy (WSDOT to construct)</td>
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<td><strong>Wilburton Segment</strong></td>
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<tr>
<td>Design of Wilburton Segment</td>
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<tr>
<td>Construction of Segment with Wilburton Trestle (NE 4th to I-90)*</td>
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<tr>
<td>Wilburton Gap Bridge across I-405 (WSDOT to construct)**</td>
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<tr>
<td>Construction: 520 to NE 8th with Spring Blvd. connection*</td>
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<td><strong>NE 8th Street Crossing</strong></td>
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<td>Construction Bid Advertisement</td>
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<tr>
<td>Construction Window Coordinated with East Link Construction</td>
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</tr>
</tbody>
</table>

- **Opening to Public**
- **Design Phase Activities**
- **Construction Phase**

*Construction Timing Dependent on Funding

**WSDOT is aiming for late 2020 opening, exact timing dependent on progress of design-build contractor**
Federal TIGER Grant Submission

• Kirkland and King County partnered to submit a TIGER* grant for the Wilburton Center Segment and Totem Lake Connector.
• $25 million- TIGER funding request
• $44 million – total project cost
• Over 50 letters of support, including
  • 5 Federal elected officials
  • 12 State elected officials
• [link](http://www.kingcounty.gov/EastsideConnect)

*Transportation Investment Generating Economic Recovery (TIGER) Grant Program
Questions?

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Project Manager
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www.kingcounty.gov/eastsiderailcorridortrail
Washington State Legislature
Joint Transportation Committee
Study on I-405 Express Toll Lanes

Dr. Alireza Khani
Department of Civil, Environmental
and Geo-Engineering
University of Minnesota
Study Objectives

• “Independent and objective analysis”

• Describe performance on various segments of the I-405 corridor representing typical trips, and describe where the corridor is working, and where it is not working

• What evidence (i.e. performance measures) can be obtained from the data about the effectiveness of the ETL corridor during its pilot phase?
Statutory Performance Measures

Washington state statute RCW 47.56.880 lists several general performance measures for the I-405 ETL facility. Of these, three measures are of primary interest to this study:

- Whether the express toll lanes generate sufficient revenue to pay for all I-405 express toll lane-related operating costs;

- Whether the express toll lanes maintain speeds of 45 miles per hour (mph) at least 90 percent of the time during peak periods; and

- Whether the average traffic speed changed in the general purpose lanes.
Financial Performance Measure Met.

ETL Speed Performance Measure Not Met.
This study finds that on average the amount of time in peak period where ETL speed is above the 45 mph statutory goal is 85 percent in the northbound direction and 78 percent in the southbound direction (Jan 2017 – Jun 2017).

GPL Speeds Showed No Significant Change.
Study Process

• Six month study (began June, 2017)

• Extensive work with staff workgroup (staff from JTC, Legislature, OFM, WSDOT, Transportation Commission)

• Data transfer from WSDOT completed in August, 2017

• Developed **database and computer programs** specifically for this study
Approach to Data Analysis

- Three potential sources of data:
  - WSDOT loop detectors
  - ETL toll transaction data
  - HERE/INRIX cell-phone derived data

- Data source characteristics:
  - Availability
  - Content: traffic volume, seed, density, travel time
  - Resolution
Double Loop Detector Data

- Source: WSDOT
- Speed and volume per lane
- Every 0.5 miles
- Every 20 seconds
- January 2014 to June 2017
- Nearly 13M records per month
ETL Transaction Data

- Source: WSDOT
- ETL *volume and travel time*
- By origin/destination, January, 2016 – June, 2017
- Per segment, every minute
- Vehicle location & time at ETL gantries (10 NB and 11 SB)
- Trip types: HOV, AVI, IMG
- More than 4M records per month

**ETL Transaction data tells us which trips are more common and the volume they comprise in each segment of the corridor**
HERE & INRIX Data

- Derived from use of proprietary smart phone navigation apps
- Tracks aggregate travel time
- Every 5 minutes
- For cars and trucks
- Nearly 300K records per month

- **Not used for analysis in this study**
  - No lane information
  - No distinction between GPL and ETL
  - No volume information
Available WSDOT Data

What can be obtained from Loop Detector & ETL Transaction data?

- **Volume:**
  - Both on GPL and ETL
  - Both before and after

- **Speed:**
  - Both on GPL and ETL
  - Both before and after

- **Travel Time:**
  - Both on GPL and ETL
  - Both before and after

  - Widely accepted/being used
  - High volume/amount
  - High resolution
  - Comprehensive (complete info)
## Data Summary & Comparison

<table>
<thead>
<tr>
<th>Data set</th>
<th>Loop Detector Data</th>
<th>ETL Transaction Data</th>
<th>HERE Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td>Speed and volume, date, time, milepost</td>
<td>Transaction date, time, locations, toll</td>
<td>Estimated segment travel times</td>
</tr>
<tr>
<td></td>
<td>and lane information</td>
<td>amount, etc.</td>
<td></td>
</tr>
<tr>
<td>Sample rate</td>
<td>20 seconds, every 0.5 miles</td>
<td>Real time at 21 gantries</td>
<td>5 minutes, 0.5-0.8 miles</td>
</tr>
<tr>
<td>Advantages</td>
<td>Provides both volume and speed info;</td>
<td>Tracks trips on ETL, so complete trip</td>
<td>Estimated travel times for different types of</td>
</tr>
<tr>
<td></td>
<td>High resolution data; Provides lane</td>
<td>info; Provides accurate travel time info;</td>
<td>vehicles</td>
</tr>
<tr>
<td></td>
<td>usage info; Provides good coverage</td>
<td>Provides accurate volume info</td>
<td></td>
</tr>
<tr>
<td></td>
<td>along the corridor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disadvantages</td>
<td>Reported speeds are local, need</td>
<td>Lacks info on GPL and HOV lanes before ETL</td>
<td>No volume information;</td>
</tr>
<tr>
<td></td>
<td>processing for travel time</td>
<td></td>
<td>No distinction between ETL and GPL;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No lane usage info;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Small sample size;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Potentially biased travel times</td>
</tr>
<tr>
<td># of records*</td>
<td>13 million / month</td>
<td>4 million / month</td>
<td>300,000 / month</td>
</tr>
</tbody>
</table>

* # of records does not necessarily mean the number of sampled vehicles.
NB Monthly Travel Times, Jan 2014 – Jun 2017

Effect of opening the ETL in September, 2015
• Improvement in NB ETL peak-period travel times
• Little change in NB ETL off-peak or GPL peak-period travel time
• NB GPL travel times do not show noticeable changes after opening of ETL
• Travel time variation in the segments between NE 85th St to NE 160th St and between SR 520 to ST 522 (high travel time variability indicates lower reliability)
Effect of opening the ETL in September, 2015

- Travel times on all segments of the ETL are lower and more reliable compared with travel time on the HOV lanes before opening the ETL
- Noticeable but less dramatic improvement in SB ETL off-peak travel time
- Improvement in ETL peak-period travel times in all depicted common-trip segments
- No sustained change in GPL travel times
Average daily VMT increased throughout the corridor

In the SB single ETL section, VMT increased on both GPL and ETL.

In the SB double ETL, VMT increased on both GPL and ETL.

In the NB single ETL section, VMT increased on both GPL and ETL.

In the NB double ETL section, VMT increased on both GPL and ETL.
Average daily VMT increased throughout the corridor

- The corridor carries more vehicles after ETL opening
- Along with better travel times, this indicates a better-performing corridor
- For comparison, the average Washington State VMT increased in 2014 by 1.7%; in 2015 by 3.6%; and in 2016 by 2.7%

<table>
<thead>
<tr>
<th></th>
<th>GPL</th>
<th>HOV/ETL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Northbound</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan-Jun 2015</td>
<td>924,600</td>
<td>144,342</td>
<td>1,068,942</td>
</tr>
<tr>
<td>Jan-Jun 2017</td>
<td>936,339</td>
<td>229,857</td>
<td>1,166,195</td>
</tr>
<tr>
<td>Percent Change</td>
<td>1.3%</td>
<td>59.2%</td>
<td>9.1%</td>
</tr>
<tr>
<td><strong>Southbound</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan-Jun 2015</td>
<td>983,689</td>
<td>137,213</td>
<td>1,120,903</td>
</tr>
<tr>
<td>Jan-Jun 2017</td>
<td>1,067,442</td>
<td>266,858</td>
<td>1,334,299</td>
</tr>
<tr>
<td>Percent Increase</td>
<td>8.5%</td>
<td>94.5%</td>
<td>19.0%</td>
</tr>
</tbody>
</table>
ETL volume in peak period increased more than its capacity increase

<table>
<thead>
<tr>
<th>Direction</th>
<th>Section</th>
<th>Lane Type</th>
<th>Jan'15-Jun'15 Avg</th>
<th>Jan'17-Jun'17 Avg</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NB</strong></td>
<td>Single</td>
<td>GPL</td>
<td>102,903</td>
<td>105,754</td>
<td>2.8%</td>
</tr>
<tr>
<td></td>
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<td>HOV/ETL</td>
<td>25,441</td>
<td>36,451</td>
<td>43.3%</td>
</tr>
<tr>
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<td>Total</td>
<td>128,344</td>
<td>142,205</td>
<td>10.8%</td>
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<tr>
<td></td>
<td>Double</td>
<td>GPL</td>
<td>133,248</td>
<td>128,228</td>
<td>-3.8%</td>
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<td></td>
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<td>HOV/ETL</td>
<td>32,039</td>
<td>79,584</td>
<td>148.4%</td>
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<tr>
<td></td>
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<td>Total</td>
<td>165,287</td>
<td>207,812</td>
<td>25.7%</td>
</tr>
<tr>
<td></td>
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<td>Total NB</td>
<td>293,632</td>
<td>350,017</td>
<td>19.2%</td>
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<tr>
<td><strong>SB</strong></td>
<td>Single</td>
<td>GPL</td>
<td>86,252</td>
<td>104,724</td>
<td>21.4%</td>
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<td></td>
<td></td>
<td>HOV/ETL</td>
<td>20,972</td>
<td>29,588</td>
<td>41.1%</td>
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<td></td>
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<td>Total</td>
<td>107,224</td>
<td>134,312</td>
<td>25.3%</td>
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<tr>
<td></td>
<td>Double</td>
<td>GPL</td>
<td>147,249</td>
<td>150,812</td>
<td>2.4%</td>
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<td></td>
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<td>HOV/ETL</td>
<td>21,855</td>
<td>74,987</td>
<td>243.1%</td>
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<tr>
<td></td>
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<td>Total</td>
<td>169,104</td>
<td>225,799</td>
<td>33.5%</td>
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<td></td>
<td></td>
<td>Total SB</td>
<td>276,328</td>
<td>360,111</td>
<td>30.3%</td>
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</table>
ETL & GPL Speed Profiles

We analyzed monthly lane type speed throughout the corridor, by time of day. This led us to our conclusions about the percent of time the ETL was above 45 mph.

Northbound, % ETL above 45 mph

Southbound, % ETL above 45 mph
This is a **key finding** in our study: the maximum toll in the ETL during peak hours is too low to keep traffic flowing at or above 45 mph 90% of the time.

In peak hours, drivers entering the ETL “lock in” a toll rate that doesn’t always reflect building traffic volume. Drivers paid as much as $4 less than what was required to keep traffic flowing, based on the traffic in the corridor at the end of their trip.
**ETL Facility Breakdown**

**THE PROBLEM:** ETL speeds falling short of 45 mph threshold + facility breaking down too often.

**THE CAUSE:** Toll rates not responding fast enough to volume changes + motorists allowed to lock in toll rates not reflective of actual conditions.

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Lighter traffic volume at start  

Express Toll Lane (ETL)  

Heavier traffic volume at end

---

When vehicle enters ETL, the price is appropriate for current level of traffic several miles downstream.

---

When this vehicle reaches a low capacity point several miles down the road it will contribute to a flow breakdown and generate recurrent congestion.
Corridor Performance Findings

1. ETL speed performance measure not met
2. Speed improved after transforming HOV lane to ETL
3. ETL facility increasing corridor throughput
4. GPL Speeds showed no significant change
5. ETL toll rates max out during 15 percent of peak period
6. Tolling algorithm is not optimally responsive and toll rate is too low as traffic volume builds
Many factors are impacting the GPL speeds:
- Opening of the 1.8-mile northbound shoulder lane
- Recent changes in striping, signage and merge lanes
- Population growth in the area
- Change in carpool rules from 2+ HOV to 3+ HOV

Relative impact of multiple variables on corridor performance cannot be measured without the use of more sophisticated traffic modeling.
Recommendations

Top Tier Short-Term Recommendations

1. Improve ETL speed through a more responsive dynamic toll algorithm

2. Improve ETL speed through segmented corridor tolling
Recommendations

Second Tier Short-Term Recommendations

3. Move toward an “open access” ETL facility to smooth lane transfer

4. Increase maximum toll rate to reduce ETL breakdown

5. Adjust AM peak period times to increase ETL speed
Recommendations

Long-Term Recommendations

6. Extend second full ETL in each direction to improve ETL speed and capacity

7. Add capacity to ensure lane continuity and ease bottlenecks

8. Increase transit options to improve throughput and speed
Recommended Future Studies

• Analyze corridor travel demand patterns by origin-destination and alternative routes and propose a pricing algorithm with prices varying by entrance ramp location

• Conduct field tests of different price ranges and price change increments to determine Value of Time (VOT) and price elasticities

• Develop a traffic simulation model to experiment with different pricing algorithms and to optimize pricing algorithm parameters.
Conclusion

The I-405 ETL facility is meeting statutory performance measure related to financial sustainability, but not the performance measure related to average ETL speeds.

- Due in part to overall traffic volume growth and a toll rate algorithm and pricing not adequately responsive to rapidly-increasing traffic volume during peak periods.

As time passes and conditions change, even the most sophisticated ETL facilities require regular adjustments.

- Recommendations should be considered part of the natural evolution of the corridor, not criticisms of work that has been done in the past.
- Implementation of recommendations should improve I-405 ETL performance and increase throughput and efficiency.
Questions?

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Discussion

Facilitated by:
Roger Millar, P.E., AICP
Secretary of Transportation
WSDOT Update

Ed Barry, P.E.
Director
WSDOT Toll Division

Kim Henry, P.E.
Program Administrator
I-405/SR 167 Corridor Program

Doug Vaughn
Chief Financial Officer
WSDOT
UM study validates WSDOT data
• UM findings are consistent with WSDOT analysis of I-405 corridor.

• UM study reinforces that with express toll lanes:
  • Speeds and reliability has improved over previous HOV lanes
  • More vehicles are moving through the I-405 corridor.

• Study examined data through June 2017.
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Next Steps</th>
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</thead>
</table>
| Improve ETL speed though a more responsive dynamic toll algorithm    | • WSDOT is working on changing the algorithm to update the toll rate more frequently.  
• In addition, WSDOT is evaluating other changes to make it more responsive to increasing traffic volumes during the peak period commute.  |
| Improve ETL speed through segmented corridor tolling                 | • WSDOT has planned segmented tolling for the 40-mile corridor.  
• Further analysis required to determine feasibility of near-term implementation.                                                                 |
| Move toward an “open access” ETL facility to smooth lane transfer     | • WSDOT has extended ETL access and changed access types in several places based on driver feedback.  
• Further analysis needed to understand potential tradeoffs.                                                                 |
| Increase maximum toll rate to reduce ETL breakdown                   | • Washington State Transportation Commission sets maximum toll rate.                                                                                                                                 |

*WSDOT*
### University of Minnesota Study

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjust AM peak period times to increase ETL speed</td>
<td>• WSDOT will study the effects of this potential change.</td>
</tr>
</tbody>
</table>
| Extend second full ETL in each direction to improve ETL speed | • Legislature provided $5 million to begin engineering additional capacity in the northern, single-lane section.  
• WSDOT has begun engineering and phasing strategies to provide capacity improvements in that area. |
| Add capacity to ensure lane continuity and ease bottlenecks | • The I-405 Master Plan is the long-term plan to manage congestion in the corridor.  
• WSDOT continuously monitors current and future traffic to prioritize capacity improvements from the Master Plan. Identified improvements require funding and authorization from the State Legislature. |
| Increase transit options to improve throughput and speed | • Sound Transit 3 includes a $860 million investment to implement Bus Rapid Transit by 2024, which coincides with the completion of Renton to Bellevue Express Toll Lanes - completing the 40-mile system.  
• The I-405 Master Plan identifies BRT and other transit improvements including HOV direct access ramps for the corridor. |
Next steps on recommendations

- WSDOT will conduct further analysis to determine which recommendations can be implemented.
- Discussion with the Legislature and Washington State Transportation Commission will be necessary on how to address some of the recommendations in the report.

Updated data shows further improvements

- Updated WSDOT data shows further improvements in speed and performance after UM study timeframe.
- Latest data from April – September 2017 shows ETL reliability increase; ETL moving 45 mph 85% of the time (94% northbound / 76% southbound)
- Spring and Summer 2017 data shows GP lane speeds now moving faster than two year ago in most places.
- Express toll lane speeds have held steady in most places, increased significantly northbound from Bothell to Lynnwood.
Revenue


Total Revenue: $44.5M

- Operations Costs: $15.7M
- Toll Revenue Used for Peak-Use Shoulder: $11.5M
- Remaining Funds for I-405 Improvements: $17.3M

$44.5M

Other Revenue: $1.5M

Civil Penalty: $3.2M

Good To Go! Pass revenue: $1.8M

Over $44.5M

$37.9M

Toll revenue
Improving speed performance

Speeds have improved over HOV lane
- Between April and September, express toll lanes speeds moved 45 mph or faster 85% of the peak period. This is an improvement over the previous HOV lane which met this standard only 56% of the time.

Three of four segments exceed goal
- When looking at individual segments, the southbound single-lane section is the only section to report under the target of 45 mph or faster 90% of peak periods – its also the only section of the corridor to not have added capacity. This is pulling down the overall average.
I-5 HOV and regular lanes experience extremely heavy traffic during rush hour
Northbound I-5 (Northeast 130th Street)
Daily Volume: 105,000

Tuesday, July 12, 2017 4:50 p.m.
I-405 express toll lanes offer a more reliable choice during afternoon rush hour

Northbound I-405 (north of Northeast 85th Street)
Daily Volume: 107,000

Tuesday, July 25, 2017 4:30 p.m.
Comparison of vehicles moved in five-lane sections of I-405 and I-5 with similar traffic
Comparison of people moved in five-lane sections of I-405 and I-5 with similar traffic

Transit agencies report benefits from I-405 express toll lanes

Community Transit
• Northbound bus travel times have improved 7.5% and reliability has improved
• Southbound bus travel times are consistent and arrive early more often
• Buses experienced twice as much variability on I-5 as on I-405, resulting in $2.6 million in added schedule maintenance costs for 2015

King County Metro
• Routes that travel on I-405 are moving faster since the express toll lanes opened between Bellevue and Lynnwood
• Afternoon trips are experiencing the greatest travel time savings (6 to 10 minutes)

Sound Transit
• Relying on express toll lanes to operate new I-405 Bus Rapid Transit system reliably
Comparison of traffic congestion with changes to express toll lane system

2017 Morning Commute, Lynnwood to Bellevue (5 to 11 a.m.)

**CURRENT CONFIGURATION**

- More congestion in HOV lane
- Bigger bottleneck at SR 522, reducing traffic throughput

**CONVERSION TO 2+ HOV LANE**

- Multiple hours of spillback to I-5, with ~700 vehicles stuck on ramp to I-405 in peak hour

**Comparison of traffic congestion with changes to express toll lane system**
Comparison of traffic congestion with changes to express toll lane system

2017 Morning Commute, Lynnwood to Bellevue (5 to 11 a.m.)

**CURRENT CONFIGURATION**
- General purpose lanes
- Express toll lanes

**CONVERSION TO SINGLE ETL**
- General purpose lanes
- Single express toll lane

Spillback to I-5, with ~600 vehicles stuck on ramp to I-405 in peak hour

More congestion in express toll lane

Bigger bottleneck at SR 522, reducing traffic throughput

Increased express toll lane congestion, higher toll rates throughout corridor

Similar GP congestion

Legend:
- Free Flow (>45 mph)
- Moderate (45 mph – 35 mph)
- Heavy (35 mph – 20 mph)
- Stop and go (<20 mph)
Potential next steps to accelerate north end improvements

- With optimal delivery, and assuming all funding can be identified, all planned improvements between SR 522 and SR 527 could be delivered by 2024.
- With toll revenue only (pay as you go), southbound capacity improvements could be accelerated by staging the project in two construction contracts:
  
  **Phase 1A – Southbound Capacity ($225M)**
  - Partially rebuilds SR 522 interchange
  - Second southbound express toll lane between SR 522 and SR 527

  **Phase 1B – Northbound Capacity and Transit ($225-$275M)***
  - Second northbound express toll lane between SR 522 and SR 527
  - Direct access ramp/Bus Rapid Transit station at SR 527
  - Environmental and transit elements

*Not inflated

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I-405/SR 522 Interchange
Existing conditions
I-405/SR 522 Interchange
Phase 1A

Dual southbound express toll lanes on existing northbound structure
New northbound bridge
I-405/SR 522 Interchange
Phase 1B

Dual southbound express toll lanes on existing northbound structure

New center express toll lane direct access

Complete northbound capacity
Preliminary OST Financial Analysis

• Assumptions:
  – Current law: Tolling I-405 Bellevue to Lynnwood with $10 toll cap
  – Assumes sales beginning in FY 2021 with 25-year level debt service
  – Toll revenues pay for O&M and toll and facility R&R costs

• Preliminary Results (Scenarios require bond authorization):
  – If only toll revenue was pledged, approximately $76.5 million in bond proceeds could be generated
  – If toll revenue, motor vehicle fuel tax, and the full faith and credit of the state were pledged, approximately $200 million in bond proceeds could be generated
40 Mile Corridor

EAG endorsed 40-mile express toll lane plan in 2010

The existing I-405 express toll lanes between Bellevue and Lynnwood are part of a planned 40-mile corridor that will ultimately extend south to the Pierce County line. This system will provide drivers with an option for a faster, more reliable trip. Immediate next steps include:

I-405 Bellevue to Lynnwood Express Toll Lanes
• Opened September 2015

SR 167 HOT Lane Extension
• Opened December 2016

I-405/SR 167 Direct Connector
• Under construction
• Open to traffic in 2019

Renton to Bellevue Widening and Express Toll Lanes
• Construction to begin in 2019
• Open to traffic in 2024

I-405 North End Improvements
• Legislature authorized $5 million toward preliminary engineering
Key Discussion Questions for Meeting 4
• What are the EAG’s recommendations on next steps for I-405 improvements?
Public Comment

Facilitated by:
Anne Broache
I-405/SR 167 Program Communications
Wrap Up

Roger Millar, P.E., AICP
Secretary of Transportation