Quick Recap:
Substitute House Bill 3224

Feasibility Study on Commuter Rail Services

• Requires ST and PSRC to work together
• SHB 3224’s purpose:
  “.. determining whether commuter rail service between eastern Snohomish County and eastern King County … can be a meaningful component of the region’s future transportation system."

• ST and PSRC “shall submit a joint report on the results to Senate & House transportation committees by Feb 1, 2009
Quick Recap: Description of the Woodinville Subdivision Corridor

- 34-miles from Coulon Park to Snohomish plus 7-mile spur from Woodinville to Redmond
- Extensively single-track
- Mostly 100-foot wide Right-of-Way
- 24 bridge structures
- 107 at-grade crossings
Quick Recap:

Condition of the Corridor

- Generally poor condition
  - Old facilities
  - Slow running speeds
- Very curvy
- Most of the ROW is not flat in cross-section
- No signals or train communication system
Quick Recap:

Status in ST2/Mass Transit Expansion
Approved by voters in the RTA District on November 4th

• $50M East King County subarea contribution; Limited to capital elements
• Potential passenger rail partnership
  – For long-term passenger rail service
• Must be committed by December 2011
  – Or, will be reprogrammed to I-405 HOV BRT service
Quick Recap:

Approach

• “Feasibility” study
  – Does not identify:
    • The optimal solution or a “preferred alternative,”
    • The lowest cost, or most cost-effective option

• Conceptual engineering only

• Identifies the cost & ridership of four primary segments

• Uses ST’s ERP-reviewed costing method
Quick Recap: Public Involvement

- **Ad Hoc Advisory Committee**
  - All affected jurisdictions and stakeholders
  - Meetings:
    - July 10th
    - November 19th
    - December 10th

- **Piggyback on Port of Seattle/King County Public Process**
Quick Recap:

General Assumptions for the Study

• Upgrades at permanent infrastructure standards (not a demonstration project)
• Service could be either Sounder vehicles or DMUs
• Complete signal/communication and centralized train control systems
• No new grade-separated crossings
• New structures will accommodate freight and locomotive-hauled passenger trains
• Small, new yard & shops facility
• Two-direction service with 30 minute headways, each weekday
• Average speed, including stops = 24 mph along corridor
Quick Recap:
Station Assumptions for the Study

- **16 stations**
  - 2 in Renton
  - 3 in Bellevue
  - 3 in Kirkland
  - 1 in Redmond
  - 4 in Woodinville
  - 1 in Maltby
  - 1 in Cathcart
  - 1 in Snohomish

- Most would have parking
- Property acquisition necessary at some stations
Quick Recap:

Bridge/Structure Assumptions

• Significant new structures
  • Rail & trail over I-405 southbound lanes
  • Rail parallel to Wilburton trestle (trail on existing trestle)
  • Rail parallel to Snohomish River bridge (trail on existing bridge)

• Other bridges
  • Replacement of 2 low-height bridges damaged by trucks
  • Minimal upgrades to the other 20 bridges
What Work Have We Done since the Advisory Committee Last Met?

- Reconciled ridership forecasts with capital costs (southern terminus at Gene Coulon Park)
- Estimated operating & maintenance costs
- Estimated cost-effectiveness for commuter rail
- Estimated the cost of a parallel trail south of I-90
Significant Updates to the Report
In Response to Other Comments

• Identified all rail and trail bridges
• Additional projects included in commuter rail cost comparison
• Expanded discussion of tourism opportunities
• Identified quantities for trail cost estimate
<table>
<thead>
<tr>
<th>Cumulative Segments</th>
<th>Trips in 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment 2 11.7 miles</td>
<td>Bellevue-to-Woodinville</td>
</tr>
<tr>
<td>Segment 1+2 19.9 miles</td>
<td>Coulon Park-to-Woodinville</td>
</tr>
<tr>
<td>Segment 1+2+3 32.4 miles</td>
<td>Coulon Park-to-Snohomish</td>
</tr>
<tr>
<td>Segment 1+2+3+4 39.2 miles</td>
<td>Coulon Park-to-Snohomish with South Woodinville-to-Redmond Spur</td>
</tr>
</tbody>
</table>

* Ridership adjusted for southern terminus at Coulon Park rather than Renton CBD
Quick Recap:

## Capital Cost Estimates for Commuter Rail

<table>
<thead>
<tr>
<th>Commuter Rail System</th>
<th>Cost Estimate Range</th>
<th>Cost Estimate (2008$ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Segments 1 through 4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renton-to-Bellevue, Bellevue-to-Woodinville, Woodinville-to-Snohomish <strong>plus</strong> Redmond-to-Woodinville (Spur)</td>
<td>Low</td>
<td>$753</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>$979</td>
</tr>
<tr>
<td><strong>System Components</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Yard &amp; Shop</td>
<td>Low</td>
<td>$57</td>
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<tr>
<td></td>
<td>High</td>
<td>$74</td>
</tr>
<tr>
<td>Vehicles (DMU)</td>
<td>Low</td>
<td>$64</td>
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<tr>
<td></td>
<td>High</td>
<td>$74</td>
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<tr>
<td>Corridor Acquisition (by Port of Seattle)</td>
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<td>$107</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>Low</td>
<td>$981</td>
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<tr>
<td></td>
<td>High</td>
<td>$1,233</td>
</tr>
</tbody>
</table>
Quick Recap:

How do these Cost Estimates Compare?

• Typical Commuter Rail Project Costs in U.S.
  – Range is $8 - $20 million/mile depending on needed upgrades

• “Soup-to-Nuts” cost estimate ($24-to-$30 million/mile) is higher due to:
  – Extensive structural, grade crossing and track & signal work
  – Conceptual engineering stage = higher contingency factors
  – Includes some costs likely missing from other projects’ data
  – Assumes some “potential” costs (e.g., hazardous materials/soils clean-up, utility modifications)
## Operations & Maintenance Costs

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Low Range Cost Estimate (2008 $/Year)</th>
<th>High Range Cost Estimate (2008 $/Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle operations &amp; maintenance</td>
<td>6,000,000</td>
<td>8,000,000</td>
</tr>
<tr>
<td>Maintenance of way</td>
<td>2,000,000</td>
<td>3,000,000</td>
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<tr>
<td>Overhead and other costs</td>
<td>16,000,000</td>
<td>21,000,000</td>
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<tr>
<td>Total annual O&amp;M costs</td>
<td>24,000,000</td>
<td>32,000,000</td>
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</tbody>
</table>
# Conceptual Cost-effectiveness

(2008 $)

<table>
<thead>
<tr>
<th>Commuter Rail Segments</th>
<th>Forecasted Daily Trips in 2020</th>
<th>Cost Estimate Range</th>
<th>Capital Cost Estimate</th>
<th>Annualized Capital Cost per Trip in 2020</th>
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</thead>
<tbody>
<tr>
<td>Segment 2 13.5 miles</td>
<td>Bellevue to Woodinville</td>
<td>1,770</td>
<td>Low</td>
<td>$230</td>
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<td></td>
<td></td>
<td></td>
<td>High</td>
<td>$299</td>
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<tr>
<td>Segments 1+2 21.7 miles</td>
<td>Coulon Park to Woodinville</td>
<td>4,580</td>
<td>Low</td>
<td>$414</td>
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<td></td>
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<td>High</td>
<td>$538</td>
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<tr>
<td>Segments 1+2+3 34.1 miles</td>
<td>Coulon Park to Snohomish</td>
<td>5,015</td>
<td>Low</td>
<td>$638</td>
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<td>High</td>
<td>$829</td>
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<tr>
<td>Segments 1+2+3+4 41.0 miles</td>
<td>Coulon Park to Snohomish plus spur</td>
<td>6,070</td>
<td>Low</td>
<td>$753</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>High</td>
<td>$979</td>
</tr>
</tbody>
</table>
Quick Recap:
Capital Cost Estimates for Concurrent Trail

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Renton-to-Bellevue</td>
<td>Low $67</td>
<td>High $72</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Low $87</td>
<td>High $94</td>
</tr>
<tr>
<td>Bellevue-to-Woodinville</td>
<td>Low $109</td>
<td>High $128</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Low $141</td>
<td>High $167</td>
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<tr>
<td>Woodinville-Snohomish</td>
<td>Low $95</td>
<td>High $97</td>
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</tr>
<tr>
<td></td>
<td>Low $124</td>
<td>High $126</td>
</tr>
<tr>
<td>Redmond-Woodinville</td>
<td>Low $27</td>
<td>High $35</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low $35</td>
<td>High $46</td>
</tr>
<tr>
<td>Total</td>
<td>Low $297</td>
<td>High $332</td>
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</tr>
<tr>
<td></td>
<td>Low $387</td>
<td>High $432</td>
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</tbody>
</table>
General findings

• Passenger rail service on the Woodinville Subdivision appears to be feasible
  – Genuine potential for significant ridership
  – Implementing a *permanent* service could be expensive, but far cheaper than establishing a new ROW from scratch
  – Feasibility Study revealed no clear fatal flaws

• If rail bed remains in place, a trail costs more
  – If trail uses rail bed first, passenger rail would cost more later
Conclusions

• Passenger rail could be a meaningful component of the region’s transportation system
  – Segments & stations could be phased-in; most productive first
  – Rail-related capital improvements could be phased-in as corridor ridership grows
  – Corridor connects several Regional Growth Centers

• For most of the Corridor’s length, a concurrent/parallel pedestrian & bicycle trail could also fit within the ROW

• Passenger rail service does not preclude freight and tourism/excursion trains
Next Steps

• Receive final comments now and issue **Final** Report in January
• Presentations to PSRC Transportation Planning Board and ST Board of Directors (12/11)
• Compile jurisdictional and agency comments in a report appendix
• Final Report to Legislative Transportation Committees in January
• Presentation to Transportation Committees, *if requested*, by February 1\textsuperscript{st}
• Further study/refinement of passenger rail in the corridor
• ST request for proposals from interested partners (2009/2010)
BNSF Woodinville Subdivision Feasibility Study

Questions?
Comments?