Major Program Highlights: Transportation Projects

Presentation to the Customer Review Panel
11/09/2016
Objectives of Presentation

Provide information about transportation projects that affect SPU, in particular Move Seattle:

• Provide context for utility involvement on transportation projects
• Describe what SPU is doing to be strategic and forward-looking on Move Seattle
• Describe “must do” and “opportunistic” work on Move Seattle with preliminary cost estimates
• Preview the decisions ahead for SPU, which SPU will present and seek input from the CRP
Regulatory Context

Seattle Municipal Code

15.04.035 - The paramount purpose of streets is for travel and transportation

15.32.120 - Displacement for public use. Anyone upon order of the authorizing official shall upon ten (10) days’ notice, at his, her or its own cost and expense, move any underground, surface or overhead facilities which interfere with any local improvement district work or with any construction for street or transportation purposes authorized or ordered by the City.
Transportation Projects for SPU

• SR 99 tunnel
• Seawall
• Waterfront
• Center City Connector Streetcar
• Broadway Streetcar Extension
• SR 520
• SR 99 paving
• Sound Transit North Link
• Move Seattle
Utility Work on Transportation Projects

- Utility infrastructure needs to move
- Utility infrastructure is in poor condition
- Standards for infrastructure change
- Construction will damage utility infrastructure
- Insufficient capacity in the utility system
- Cost effective time to replace or upgrade utilities
Drivers for Move Seattle

- Population growth and increasing density
- Climate change
- Fixed amount of right of way
- Aging infrastructure
- Vision Zero
Move Seattle Background

Nine-year $930M levy, approved by voters in November 2015 that provides funding for:

• Safe routes
• Congestion relief
• Maintenance and preservation

Levy provides about 30% of the City’s transportation budget

Replaces the $365M Bridging the Gap levy approved by voters in 2006
Move Seattle Projects Overview

- 7 multimodal transit corridors
- 180 lane miles of paving
- 17 bridges (1 new, 16 seismic retrofits)
- 250 blocks of new sidewalks
- Improved bike facilities - greenways and protected bike lanes
- South Park and Broadview partnership projects with SPU
SPU Move Seattle Projects that Start in 2016-2018

- 25 Move Seattle projects
  - 1 bridge
  - 2 corridors
  - 20 paving
  - Madison BRT
  - Lander Grade Separation

- Significantly more projects than Bridging the Gap levy

Project Type
- Bridge Replacement
- Freight Mobility
- Major Corridor (BRT/MultiModal)
- Paving

Project Name
1. 23rd Ave (Phase 3)
2. 25th Ave NE
3. 3rd Ave
4. 4th Ave S
5. 6th Ave
6. Delridge Multimodal Corridor
7. E Marginal/Heavy Haul Corridor
8. Fairview Ave Bridge Replacement
9. Faulkner Way SW Boulevard
10. Greenwood Av N
11. Madison Street BRT
12. Meridian Ave N
13. Michigan/Bailey/Crescent
14. NE 45th Pl / 35th Ave NE
15. NE Pacific St
16. Nelliston St
17. Renton Ave S - Phase III
18. S Columbia Way
19. S Dearborn St
20. S Lander St Grade Separation
21. S Spokane St
22. Serrt Ave S/S Myrtle St / S Othello St
23. University Way NE / Cowen PI NE / 15th Ave NE
24. Unknown project to replace Rainier Ave S (Not shown)
25. Wilson Ave S
SPU’s Objectives for Move Seattle

Be Efficient:
• Partner with SDOT to reduce customer impacts
• Create consistent and timely processes to complete projects

Be Forward Looking:
• Proactively maintain, repair, and replace assets

Keep Seattle the best place to live:
• Protect and improve our systems and identify opportunities to improve service
• Plan and budget in advance to inform potential rate path implications
SPU’s Current Activities

- Created interdepartmental coordination lead position in July 2015
- Started high level assessment of Move Seattle project impacts before the levy passed
- Established One City Principles for SPU and SDOT
- Created a Public Asset Protection and Cost Sharing Agreement with City Light, SDOT and SPU
- Work in progress on cross-departmental project information sharing
Planning for Move Seattle

- Regularly communicate on Move Seattle planning, programming documents with SDOT
- Develop rolling 3- to 5-year cost estimates for SPU Move Seattle expenditures
- Develop a consistent process for early coordination with SDOT
- Coordinate design for both SPU and SDOT infrastructure
Description of SPU’s “Must do” and Opportunity Projects

Must Do:
• Utility needs to move
• Utility infrastructure is in poor condition
• Standards have changed
• Construction will damage utility infrastructure

Opportunity Projects:
• Improve service
• Rehabilitate or replace aging infrastructure
SPU’s Must-Do Projects

Required for all Move Seattle projects:

• Review plans for code and design standard compliance
• Protect assets that might be damaged by construction
• Survey and replace worn or broken maintenance hole covers, water valve box covers.
Completed Must-Do Project Example - 23rd Avenue – Phase 1

• Existing 6” cast iron, lead-joint water main under old trolley ballast (thick concrete with old railroad ties)
• 6” water main not expected to survive ballast removal
• 6” water main replaced with 12” ductile iron water main
DWW Must-Do Project Example
Madison Bus Rapid Transit (BRT)

• Upgrade inlet to standard size
• Replace pipes that have deteriorated beyond repair
• Pipe “spot repair”, i.e. dig up and replace a damaged section of pipe.
Water Must-Do Project Example
Madison BRT

- Concrete pavement removal
- Streetcar track removal
- Other example - bridge
SPU Opportunity Projects

Criteria:

• Reduce project cost by combining with transportation project
• Reduce risk of failure
• Add capacity to provide adequate service
• Reduce impact of construction to public
Completed Opportunity Project Example - 1st Ave S & S Spokane

- Reconstruction of S Spokane St (2010)
- Replaced seismically vulnerable 30” cast iron–lead joint water main with a 30” ductile iron water main
Opportunity Project Example for Move Seattle – E Marginal Way

Drainage and Wastewater Opportunity
- Increase capacity
- Reduce sewer overflows and flooding

Water Opportunity
- Replace seismically vulnerable cast iron pipe with ductile iron
- Essential improvement to deliver water for firefighting post earthquake
Identifying “Must Do” and Opportunity Projects – Drainage & Wastewater

3. Drainage and Wastewater System Maintenance

3.1. Maintenance Strategies & Planning (Christine Baker & Deb Buckley)

2. Planning & Program Management

2.1. Capital Portfolio Management (Tracy Tackett)

1.3.2. Systems Modeling (Tai Oviebo)

Wastewater and Combined systems:

2.2. Capital Portfolio Management (Tracy Tackett)

1. System Assessment, Operations, & Monitoring

1.1. GIS Research & Investigations (David Shin)

- Please provide map and spreadsheet with asset information.
- Utilizing the PACT database, identify if the project is within a CIP project drainage area or potential CIP site area.
- Identify if the project area is located in an NDS partnering area.

1.2. DWW Pipe Rehab (Jeff Williams/Hermie Ambion)

- Are there active rehab packets or other work orders in the project area? If so, what is the estimated time frame for completion?
- Please review CCTV and identify assets in the project area that need to be repaired or replaced.
- Is there any other relevant rehab information worth sharing?

1.3. Engineering, Investigations & Modeling

1.3.1. Drainage Investigation (Justin Twenter)

- Are there known flooding or drainage issues in the project area?
- Is there a history of flooding complaints in the project area or downstream?
- Within the project area, is there a location noted in the SPOT骨干 display?
## Identifying “Must Do” and Opportunity Projects - Water

### Unavoidable Conflict

<table>
<thead>
<tr>
<th>Condition</th>
<th>Replace</th>
<th>Evaluate</th>
<th>Protect in Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unavoidable conflict with buried utility or structure</td>
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<tr>
<td>Pavement</td>
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<tr>
<td>Concrete panel removal, 12” thick or greater with standard depth cover or less</td>
<td>Replace</td>
<td>Evaluate</td>
<td>Protect in Place</td>
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<tr>
<td>Concrete panel removal, 6” to 11” thick</td>
<td>Replace</td>
<td>Evaluate</td>
<td>Protect in Place</td>
</tr>
<tr>
<td>Concrete panel removal, up to 6” thick</td>
<td>Replace</td>
<td>Evaluate</td>
<td>Protect in Place</td>
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<tr>
<td>Other materials</td>
<td>Replace</td>
<td>Evaluate</td>
<td>Protect in Place</td>
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### Pavement

<table>
<thead>
<tr>
<th>Water Main Material</th>
<th>Replace</th>
<th>Evaluate</th>
<th>Protect in Place</th>
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</thead>
<tbody>
<tr>
<td>Galvanized, CI (LJ or slip joint). Class A, B, C, D</td>
<td>Replace</td>
<td>Evaluate</td>
<td>Protect in Place</td>
</tr>
<tr>
<td>DI, welded steel, C-900 PVC</td>
<td>Replace</td>
<td>Evaluate</td>
<td>Protect in Place</td>
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</tbody>
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### O&M Cost Impacts

<table>
<thead>
<tr>
<th>Recommended SPU Action</th>
<th>Selective Upgrades</th>
<th>Joint Clamping</th>
<th>Protect in Place</th>
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<tbody>
<tr>
<td>Replace Main</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Evaluate</td>
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### Transportation Factors

<table>
<thead>
<tr>
<th>System Performance Improvements</th>
<th>Replace Main</th>
<th>Selective Upgrades</th>
<th>Clamping</th>
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</thead>
<tbody>
<tr>
<td>System Flexibility Factors</td>
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<tr>
<td>Excessive shutdown block size</td>
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<tr>
<td>Poor dewatering/refill conditions</td>
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<tr>
<td>Poor valve access</td>
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### System Renewal Factors

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<tbody>
<tr>
<td>Replace Main</td>
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<td></td>
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<tr>
<td>Evaluate</td>
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</tbody>
</table>
Early Project and Cost Estimates
Drainage & Wastewater

- 21 “must do” projects
- 4 opportunity projects

Total cost estimates for projects starting in 2016 - 2018

Must do projects
$13.5 - 28.9

Opportunity projects
$23.7 - 50.9

$37.2 M - $79.8 M
Early Project and Cost Estimates
Water

- 22 “must do” projects
- 2 opportunity projects

Total cost estimates for projects starting in 2016 – 2018

$46.7 M - $100.0 M
Looking Forward

• SPU will continue to have a vital role in transportation projects to support a growing population.
• SPU will return to the CRP in early 2017 with more information on costs for “must do” and opportunity projects and their relative influence on rates.
• SPU and SDOT are committed to continuing to improve internal processes and coordination to streamline projects and make them more cost effective.