Senior Agency Staff Group Meeting

Department of Community Services
Transportation Division

July 14, 2017
1. Introductions
2. Project Update
3. Screening Process
4. Screening Results
5. Schedule Review
6. Closing Remarks
2. Project Update

Key Activities

- Board of County Commissioners
- Policy Group
- Senior Agency Staff
- Project Team
- Public
- Technical Community
- Stakeholders (Including the Stakeholder Representative Group (SRG))
2. Project Update

Stakeholder Outreach – Key Activities

- **Committee Meetings**
  - SRG #1 – April 17, 2017

- **Briefings**
  - Kerns Neighborhood Assoc., March 15, 2017
  - MultCo Bike Ped Committee, April 12, 2017
  - Buckman Neighborhood Assoc., April 13, 2017
  - Port of Portland, July 6, 2017
  - USACE, July 11, 2017

- **Equity & Diversity Outreach**
  - Briefings vs. workshops
  - Bridgetown Night Strike, July 11, 2017
  - VOZ, July 21, 2017
2. Project Update

Technical Community – Key Activities

- Emergency Management Roundtable, June 14th, 2017

- Seismic Resiliency Committee Meeting, June 20th, 2017
  - Seismic Design Criteria
  - Technical Design Guidance
2. Project Update

Technical Community – Emergency Management Round Table

All Regional Emergency Transportation Routes (ETRs)
Last updated 2005

Key Finding #1

- Assumptions have been made about the availability of transportation routes after a major earthquake
2. Project Update

Technical Community – Emergency Management Round Table

Key Finding #2
- Agencies working towards the same goal
  - Transportation Recovery Plan (PBEM)
  - Debris Management Plan (Metro)
  - URM Seismic Retrofit Project (PBEM)

Key Finding #3
- Many opportunities to coordinate moving forward.
2. Project Update

Technical Community – Seismic Resiliency Committee

Key Performance Criteria

➤ Examples:

• What does the earthquake look like?

• What heavy haul or specialty vehicles will need to use the bridge?

• When will the bridge be operable following an earthquake?

• What assumptions are being made about crossing design features (height, width, elevation, etc.)?
2. Project Update

Technical Community – Seismic Resiliency Committee

Key Findings #1

- What does the soil look like?
- How bad is the liquefaction?
- How much would it cost to fix it?
2. Project Update

Technical Community – Seismic Resiliency Committee

➢ Key Finding #2 – A Different Look

• Enlarged members
  ▪ Widened and thickened piers
  ▪ Enlarged footings
  ▪ Additional deep foundation members
2. Project Update

Key Activities

Board of County Commissioners

Policy Group

Senior Agency Staff

Project Team

Public

Stakeholders
Including the Stakeholder Representative Group (SRG)

Technical Community
2. Project Update

Key Activities – Public Outreach

- Outreach
  - Website, social media
  - Videos
  - Survey
2. Project Update

Key Activities – Public Outreach

Website/Videos

Project Overview - Teaser

Lifeline

Earthquake

Emergency Response

Simulation
2. Project Update

Key Activities – Public Outreach

Survey

- What should Multnomah County consider as we begin to look at options for an earthquake ready river crossing?
- What opportunities do you see with this project?
- What questions do you have about this project?
- Is there anything else you want to tell us?
2. Project Update

Key Activities – Public Outreach

Survey
2. Project Update

Key Activities – Public Outreach

Survey

SAMPLE (Pending survey results)
3. Screening Results

Screening Process

- NEPA Documentation
- Evaluation
- Scoring
- Pass/Fail
3. Screening Results

Screening Process – Pass/Fail Criteria

PASS/FAIL

Major Infrastructure Compatibility

Seismic Resiliency

Emergency Response
3. Screening Results

Pass/Fail Criteria – Major Infrastructure Compatibility

FAIL = Causes prolonged, substantial interruption or degradation of the use or function of other major infrastructure
3. Screening Results

Pass/Fail Criteria – Seismic Resiliency

FAIL =

The crossing option does not fully comply with the Seismic Design Criteria
3. Screening Results

Pass/Fail Criteria – Emergency Response

FAIL (any of the following) =

- The route from the lifeline to the crossing:
  - Has two or more blockage locations, including seismically vulnerable bridges
  - Is more than 2 miles of out of direction travel

- The crossing option has two or fewer travel lanes usable by emergency vehicles
3. Screening Results

Screening Process – Scoring Criteria

**SCORING**

**Post-Earthquake**
- Seismic Design
- Emergency Function
- Emergency Plan Consistency

**Pre-Earthquake**
- Everyday Function
- Ease of Maintenance

**Rating**
- 1 = Poor
- 3 = Fair
- 5 = Good
3. Screening Results

Scoring Criteria – Seismic Design

PASS/FAIL
SCORING
EVALUATION
NEPA
DOCUMENTATION

Post-Earthquake

Seismic Design

Emergent Response

Rating
1 = Poor
3 = Fair
5 = Good
## 3. Screening Results

### Scoring Criteria – Emergency Response

#### Earthquake Response

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Poor</td>
</tr>
<tr>
<td>3</td>
<td>Fair</td>
</tr>
<tr>
<td>5</td>
<td>Good</td>
</tr>
</tbody>
</table>

- **A. Access / Obstructions**
- **B. Distance / Travel Time**
- **C. Capacity / Congestion**
3. Screening Results

Scoring Criteria – Emergency Function

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
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<tbody>
<tr>
<td>1 = Poor</td>
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<td>3 = Fair</td>
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<tr>
<td>5 = Good</td>
<td>Motor Vehicle</td>
</tr>
<tr>
<td></td>
<td>River Users</td>
</tr>
</tbody>
</table>
3. Screening Results

Scoring Criteria – Emergency Plan Consistency

Rating
1 = Poor
3 = Fair
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3. Screening Results

Scoring Criteria – Everyday Function

Pre-Earthquake

Everyday Function

Rating

1 = Poor
3 = Fair
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3. Screening Results

Scoring Criteria – Ease of Maintenance

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<td>Good</td>
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## Sample Calculation

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Seismic</th>
<th>Emergency Service</th>
<th>Emergency Function</th>
<th>Emrg. Plan</th>
<th>Pre-EQ Function</th>
<th>Ratings</th>
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</thead>
<tbody>
<tr>
<td>In-kind, Low Movable Replacement</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Weighted scores</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>25.0</td>
</tr>
</tbody>
</table>

### Calculation Sheet Description

1. **Alternative ID**
2. **Screening Numerical Criteria Ratings**
   - 1 = Poor
   - 3 = Fair
   - 5 = Good
3. **Criteria Equally Weighted**
4. **Ratings Distributed by % of Total Available Score**
3. Screening Results

Alternative Groupings

SCORING RANGES

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

- **Preserve**: Fail
- **Seismic Retrofit**: Fail
- **Replacement**: Between 50% and 70%
- **Hybrid**: Between 60% and 70%
- **Enhance Another Bridge**: Between 40% and 50%
3. Screening Results

Alternative Groupings Results
3. Screening Results

Alternative Grouping – Preserve

- All ‘Preserve’ alternatives failed the Pass/Fail criteria
  - **Preservation (No Build):** Did not meet seismic standards
  - **Preservation (+ Misc.):** Did not satisfy immediate Emergency Service requirements
3. Screening Results

Alternative Grouping – Seismic Retrofit

- All ‘Retrofit’ alternatives failed the Pass/Fail criteria
  - **Pure Seismic Retrofit**: Could not be constructed to avoid long-term disruptions to I-5
3. Screening Results

Alternative Grouping – Replacement

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Score</th>
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<tbody>
<tr>
<td>Low, Existing Alignment</td>
<td></td>
</tr>
<tr>
<td>Low, Offset North</td>
<td></td>
</tr>
<tr>
<td>Low, Offset South</td>
<td></td>
</tr>
<tr>
<td>Low, Offset N. Twin Multi-Modal</td>
<td></td>
</tr>
<tr>
<td>Low, Offset N. Twin Mode-Separated</td>
<td></td>
</tr>
<tr>
<td>Low, Offset S. Twin Multi-Modal</td>
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<tr>
<td>Low, Offset S. Twin Mode-Separated</td>
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<tr>
<td>Low, Stacked, Existing</td>
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<tr>
<td>High, Existing Alignment</td>
<td></td>
</tr>
<tr>
<td>High, Offset N. Alignment</td>
<td></td>
</tr>
<tr>
<td>High, Offset South</td>
<td></td>
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<tr>
<td>High, Offset N. Twin Multi-Modal</td>
<td></td>
</tr>
<tr>
<td>High, Offset N. Twin Mode-Separated</td>
<td></td>
</tr>
<tr>
<td>High, Offset S. Twin Multi-Modal</td>
<td></td>
</tr>
<tr>
<td>High, Offset S. Twin Mode-Separated</td>
<td></td>
</tr>
<tr>
<td>Tunnel</td>
<td></td>
</tr>
</tbody>
</table>

- **All ‘Replacement’ alternatives pass**
  - **Low-elevation Movable**: Scored high for most criteria
  - **High-elevation Fixed**: Scored in middle due to more bike / pedestrian impacts vs low-elevation
  - **Tunnel**: Scored lowest due to impacts to bike / pedestrian, challenges for connectivity, and less ideal post-EQ recovery accessibility vs other alternatives
3. Screening Results

Alternative Grouping – Hybrid

- All ‘Hybrid’ alternatives pass despite reliance on aging materials
  - **Hybrid**: Reliance on many existing structural elements reduced the seismic score compared to replacement alternatives
3. Screening Results

Alternative Grouping – Enhance Another Bridge

- All alternatives except Morrison Bridge failed the Pass/Fail criteria
  - **All except Morrison**: Long detour routes, multiple obstructions, and/or narrow bridges resulted in **FAIL**
  - **Morrison Bridge**: Has the lowest score of all rated alternatives
3. Screening Results

Key Findings and Recommendations

Results: Of the 5 groups of alternative types, 3 groups were eliminated through the screening process.
3. Screening Results

Key Findings and Recommendations

Results:
Of the 5 groups of alternative types, 3 groups were eliminated through the screening process.
4. Alternatives Evaluation

PASS/FAIL

SCORING

EVALUATION

NEPA DOCUMENTATION
4. Alternatives Evaluation

Guiding Principles

- Measurable at the level of design and information that will be available in this step
- Help differentiate alternatives
- Reflect input received to-date
- Narrow range of crossing options to be carried forward into an environmental impact statement.
4. Alternatives Evaluation

- Natural Environment
- Transit Access and Connectivity
- Historic/Cultural
- Permitting Requirements
- Seismic Performance
- Social Resources (neighborhoods, social services, etc.)
- Recreation
- Land Use and Economic Development
- Construction
- Sustainability
- Cost
- Facility Use (HazMat, emergency equipment, vessels, heavy haul, etc.)
- Right of Way (neighborhoods, traffic congestion)
- Traffic Congestion
- Bike/Ped/ADA Access
- Equity and Diversity
- Others?
4. Alternatives Evaluation

Concepts Development - Example
5. Schedule Review

<table>
<thead>
<tr>
<th>PROJECT INITIATION</th>
<th>PRELIMINARY ALTERNATIVES DEVELOPMENT</th>
<th>ALTERNATIVES EVALUATION</th>
<th>FEASIBILITY REPORT</th>
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<tr>
<td><strong>MILESTONES</strong></td>
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<td>Pass/Fail Evaluation &amp; Problem Statement</td>
<td>Initial Screening Results</td>
<td>Alternative Evaluation Results</td>
<td>Final Report</td>
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<td><strong>PUBLIC OUTREACH OPPORTUNITIES</strong></td>
<td>ONLINE EVENT #1</td>
<td>STAKEHOLDER BRIEFINGS #2</td>
<td>OPEN HOUSE</td>
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<td>Stakeholder Interviews</td>
<td>STAKEHOLDER BRIEFINGS #1</td>
<td>ONLINE EVENT #2</td>
<td>ONLINE EVENT #2</td>
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<td>Survey</td>
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<td>PUBLIC COMMENT ON DRAFT REPORT</td>
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<tr>
<td><strong>COMMITTEES</strong></td>
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<tr>
<td>Senior Agency Staff</td>
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We are here
6. Closing Remarks

Thank You