Board of County Commissioners

Feasibility Study Review
Resolution to Adopt Range of Alternatives, Purpose and Need Statement

Department of Community Services
Transportation Division
November 1, 2018
Agenda

1. Background
2. Community Engagement
3. Feasibility Study Review
4. Environmental Review Phase
5. Resolution
Background

Regional Earthquake Risk


- "The Really Big One: An earthquake will destroy a sizable portion of the coastal Northwest. The question is when." - The New Yorker, July 20th, 2015


Illustration by Christoph Niemann; Map by Ziggymaj / Getty

CASCADIA SUBDUCTION ZONE (CSZ) EARTHQUAKE
Last major quake in Oregon occurred 317 years ago, a timespan that exceeds 75% of the intervals between the major quakes to hit Oregon over the last 10,000 years.
Background

Willamette River Bridge Capital Improvement Plan (2015-2034)

- **2015**: 10 projects, $125.43 million
- **2019**: 16 projects, $130.23 million
- **2020**: 12 projects, $877.48 million
- **2024**:
- **2025**: 18 projects, $166.85 million

Seismic:
- 6 projects, $705.47 million

Maintenance:
- 50 projects, $594.63 million

* Including Burnside Bridge retrofit or replacement.
Background

Seismic Vulnerability - Regional “Lifeline” Routes
Earthquake Ready Burnside Bridge - Project Purpose

Create a seismically resilient Burnside Street lifeline crossing of the Willamette River that will remain fully operational and accessible for vehicles and other modes of transportation immediately following a major CSZ earthquake.

Support the region’s ability to provide rapid and reliable emergency response, rescue and evacuation after a major earthquake, as well as enable post-earthquake economic recovery.

Provide a long-term, low-maintenance and safe crossing for all users.
Where are we now?
Background

Key Constraint - Adjacent Infrastructure
Background

Key Outreach - Adjacent Stakeholders
Community Engagement
## Community Engagement

<table>
<thead>
<tr>
<th>Metric</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee Meetings</td>
<td>14</td>
</tr>
<tr>
<td>Project Website Pageviews</td>
<td>8,929</td>
</tr>
<tr>
<td>In-Person Briefings, Presentations and Events</td>
<td>65</td>
</tr>
<tr>
<td>Mailers Distributed</td>
<td>25,663</td>
</tr>
<tr>
<td>Social Media Reach (Individuals)</td>
<td>54,000</td>
</tr>
<tr>
<td>News Releases and E-Blasts</td>
<td>21</td>
</tr>
<tr>
<td>Video Views</td>
<td>82,050</td>
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<tr>
<td>September Online Open House Users</td>
<td>1,747</td>
</tr>
<tr>
<td>Comments Received</td>
<td>418</td>
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</tbody>
</table>
Community Engagement

- Urgency to get the project done earlier
- Desire for bike paths, pedestrian paths and bus only lanes
- Concerns about impacts to nearby buildings and the overall transportation system
- Most said they agree or strongly agree with choice of recommended options, remarking that they were reasonable and well thought out
- More support for a new bridge than a retrofit, but still some support for retrofit
- More support for movable than fixed, but some support for both
- Views and aesthetics should still be considered, making the bridge an “iconic” part of Portland
- Interest in keeping some historical components/aesthetics of the bridge, concern for demolishing the bridge and its historical importance

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Alternatives Development

Variations considered:
- alignment
- landing locations
- construction staging
- widening
# Feasibility Study Review

## Screening Process

### Screening Steps

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Each option was screened against the core requirements of seismic resiliency, emergency response, and compatibility with major infrastructure.</td>
</tr>
<tr>
<td>2</td>
<td>Each remaining option was evaluated on how well it functioned immediately after an earthquake in addition to everyday use.</td>
</tr>
<tr>
<td>3</td>
<td>Each remaining option was further evaluated for its performance in six key categories:</td>
</tr>
<tr>
<td>4</td>
<td>REMAINING OPTIONS Four options have risen to the top through the screening process. We will be asking for your feedback before choosing the final range of options for further study in the environmental phase.</td>
</tr>
</tbody>
</table>

### Option Groups

- **No Build**
  - Maintain existing bridge as is.
  - These options are not seismically resilient or cannot support emergency response.

- **Seismic Retrofit**
  - Upgrade the existing bridge.
  - A full seismic retrofit of the bridge is not feasible due to significant impacts to I-5 during construction.

- **Enhanced Seismic Retrofit**
  - Retrofit most of the existing bridge, but replace the spans over I-5 and the railroad.

- **Replacement**
  - Build a new crossing such as a high fixed bridge, low movable bridge, twin bridges or a tunnel.

- **Enhance Another Bridge**
  - Retrofit or replace a different bridge across the Willamette River.
  - Other bridge does not provide a rapid and reliable connection to the Burnside lifeline route after an earthquake.

### Key Categories

- **Seismic Resiliency**
  - Support reliable and rapid emergency response after an earthquake.

- **Non-Motorized Transportation**
  - Support access and safety for bicyclists, pedestrians, and people with disabilities.

- **Connectivity**
  - Support street system integration and function for all modes.

- **Equity**
  - Minimize adverse impacts to historically marginalized communities.

- **Built Environment**
  - Promote land use compatibility and minimize impacts to parks and historic resources.

- **Financial Stewardship**
  - Ensure public funds are invested wisely.

### Remaining Options

- **Enhanced Seismic Retrofit**
  - An upgrade of the existing bridge to meet current seismic standards. To reduce the construction impacts on the I-5 corridor and railroad, part of the bridge will be replaced.

- **Replacement: Fixed Bridge**
  - A new fixed bridge with a maximum clearance of 97 feet, at about the same location as the current bridge. It doesn’t open, but is tall enough to allow ships to pass without halting traffic. The west landing touches down about 3 blocks further west than the current bridge, near NW 5th Avenue.

- **Replacement: Movable Bridge**
  - A new movable bridge at about the same height and location as the current bridge.

- **Replacement: Movable Bridge – NE Couch Connection**
  - A new movable bridge at about the same height as the current bridge. The east landing splits to connect to NE Couch Street. Westbound traffic uses NE Couch Street. Eastbound traffic uses E Burnside Street.
Feasibility Study Review
Enhanced Seismic Retrofit - Unwidened

[Image: Diagram of bridge structure with a section highlighted and labeled "Replaced"]

[Images: Two photographs of the bridge structure, one showing the underside and the other showing the bridge with vehicles on it.]
Feasibility Study Review

Replacement: Fixed Bridge - Widened
Feasibility Study Review

Replacement: Movable Bridge - Widened

Example

Example
Feasibility Study Review
Replacement: Movable Bridge, Couch Connection - Widened

[Map and diagrams of bridge and surrounding area]

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Feasibility Study Review

Preliminary Project Costs ($M)

Burnside St is open to traffic during construction

Burnside St is closed to traffic during construction

$$$

$$

$
Feasibility Study Review

Total Preliminary Project Costs ($M)

Notes:
1. Project costs include NEPA, Design, ROW, and Construction phases
2. Project costs are escalated to the year of construction
3. Cost based on high-level conceptual design
Environmental Review Phase

Earthquake Ready Burnside Bridge Project - Timeline

What’s next?
# Environmental Review Phase

### Key Milestones

- **2018**
  - Q1: Early Scoping
  - Q2: Notice of Intent
  - Q3: Alternatives Refinement
  - Q4: Board Action Points

- **2019**
  - Q1: Technical Analysis
  - Q2: Refine Analysis
  - Q3: Ongoing Engagement Activities
  - Q4: Senior Agency Staff Group

- **2020**
  - Q1: Publish Draft EIS
  - Q2: Preferred Alternative
  - Q3: Community Engagement
  - Q4: Policy Group

- **2021**
  - Q1: Record of Decision
  - Q2: (Public Hearing)
  - Q3: Community Task Force
  - Q4: Committee Meetings

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**Legend**

- Board Action Points
- Key Milestones
- Key Engagement Events
- Ongoing Engagement Activities
- Senior Agency Staff Group
- Community Task Force
- Policy Group

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**Source:** Earthquake Ready Burnside Bridge
Environmental Review Phase

Key Activities Moving Forward

- Identifying funding for future phases (local, state, federal)
- Understanding project impacts
- Developing a strategy to manage traffic during construction
- Strengthening regional partnerships around resiliency and enhanced transportation
- Continuing to engage the public and stakeholders early and often
Resolution

EXHIBIT A
Statement of Purpose and Need

Introduction
Oregon is located in the Cascadia Subduction Zone (CSZ), making it subject to some of the world’s most powerful, recurring earthquakes. Studies show that the most recent CSZ earthquake occurred just over 300 years ago and that there is a significant risk that the next major earthquake will occur within the lifetimes of the majority of Oregon residents. The best available science warns that given current conditions, the next major CSZ event is expected to result in thousands of deaths, widespread damage to our region’s critical infrastructure, and long-term adverse social and economic impacts. The effects of the next CSZ earthquake can be reduced through preparation, including creating seismically resilient transportation “lifeline routes,” particularly to provide access to critical facilities in urban areas. Such lifeline routes will facilitate post-earthquake emergency response, rescue and evacuation, as well as enable post-disaster regional recovery and help prevent permanent population loss and long-term economic decline. The importance of having a seismically resilient lifeline route across the Willamette River is why Multnomah County has proposed to make the Burnside Bridge earthquake ready.

Project Purpose
The primary purpose of this project is to create a seismically resilient Burnside Street lifeline crossing of the Willamette River that will remain fully operational and accessible for vehicles and other modes of transportation immediately following a major CSZ earthquake. A seismically resilient Burnside Bridge will support the region’s ability to provide rapid and reliable emergency response, rescue and evacuation after a major earthquake, as well as enable post-earthquake economic recovery. In addition to ensuring that the crossing is seismically resilient, the purpose is also to provide a long-term, low-maintenance and safe crossing for all users.

Project Need
The Earthquake Ready Burnside Bridge project is intended to address the following needs:

Need for a Seismically Resilient River Crossing and Lifeline Route
The Cascadia Subduction Zone: Geologic evidence shows that more than 40 major earthquakes have originated along the CSZ fault over the last 10,000 years. The interval between CSZ earthquakes has ranged from a few decades to over a thousand years. The last major earthquake in Oregon occurred 318 years ago, a timespan that exceeds 75 percent of the intervals between major Oregon earthquakes.

November 2018

Exhibit B

ENHANCED SEISMIC RETROFIT
An upgrade of the existing bridge to meet current seismic standards. Because a retrofit over the I-5 corridor and railroad is not feasible due to long-term closures during construction, that portion of the bridge will be replaced. This option would maintain its existing 86-foot width over the river.

REPLACEMENT: Fixed Bridge
A new fixed bridge with a maximum clearance of 97 feet, at about the same location as the current bridge to allow for ship passage. The west landing could touch down up to three blocks further west of the current bridge. This option assumes a width of approximately 110 feet over the river.

REPLACEMENT: Movable Bridge
A new movable bridge at about the same height and location as the current bridge. This option assumes a width of approximately 110 feet over the river.

REPLACEMENT: Movable Bridge – NE Couch Connection
A new movable bridge at about the same height as the current bridge. The east landing splits to connect to NE Couch Street. Westbound traffic enters from NE Couch Street. This option assumes a width of approximately 110 feet over the river.