



## **Board of County Commissioners**

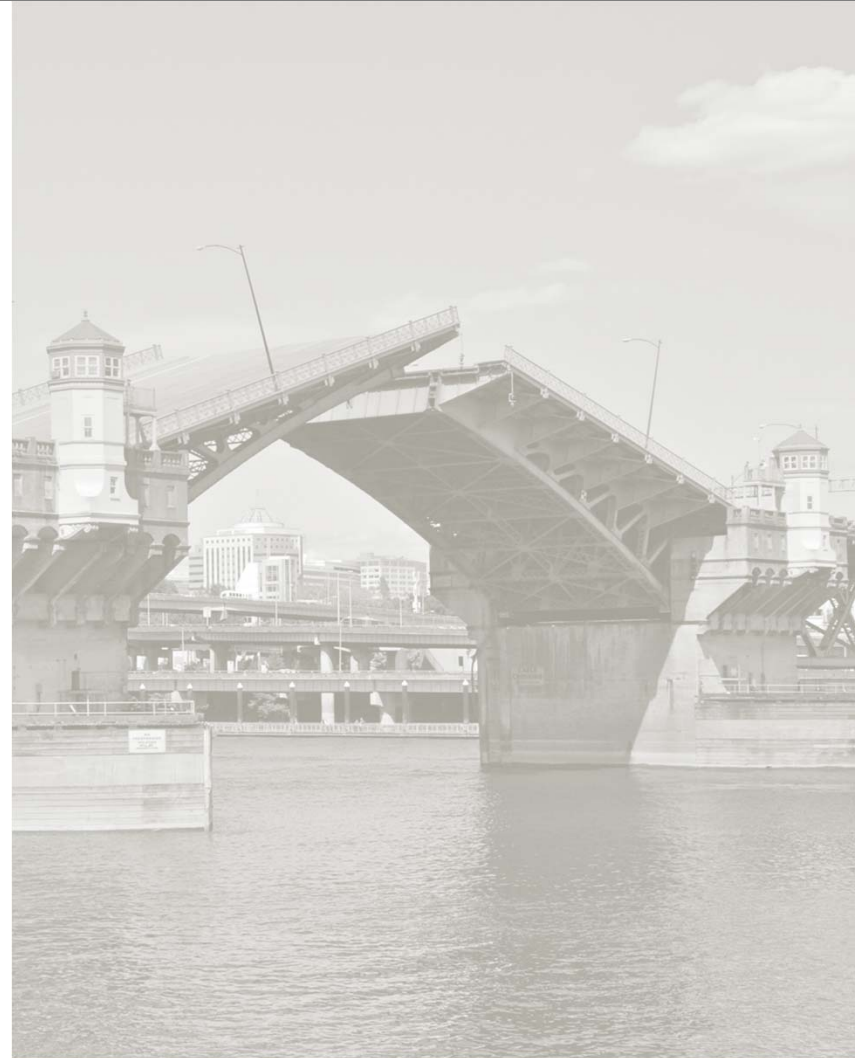
Feasibility Study Review

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**



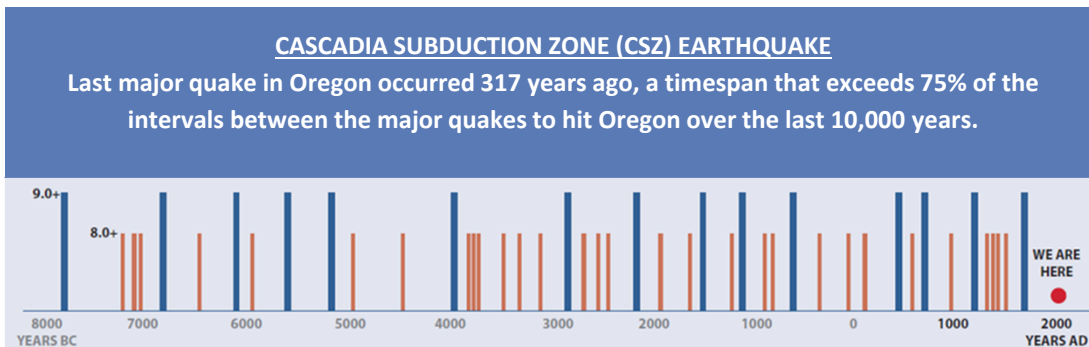
# Background

## Regional Earthquake Risk

- "The Oregon Resilience Plan: Reducing Risk and Improving Recovery for the Next Cascadia Earthquake and Tsunami" - Report to the 77<sup>th</sup> Legislative Assembly from Oregon Seismic Safety Policy Advisory Commission (OSSPAC), Feb, 2013
- "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
- "Unprepared: An Oregon Field Guide Special" - Season 27 Episode #2701 Oct 1st, 2015

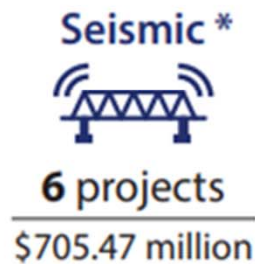


Illustration by Christoph Niemann; Map by Ziggymaj / Getty

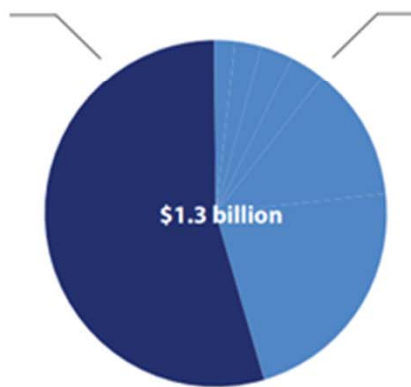


# Background

## Willamette River Bridge Capital Improvement Plan (2015-2034)

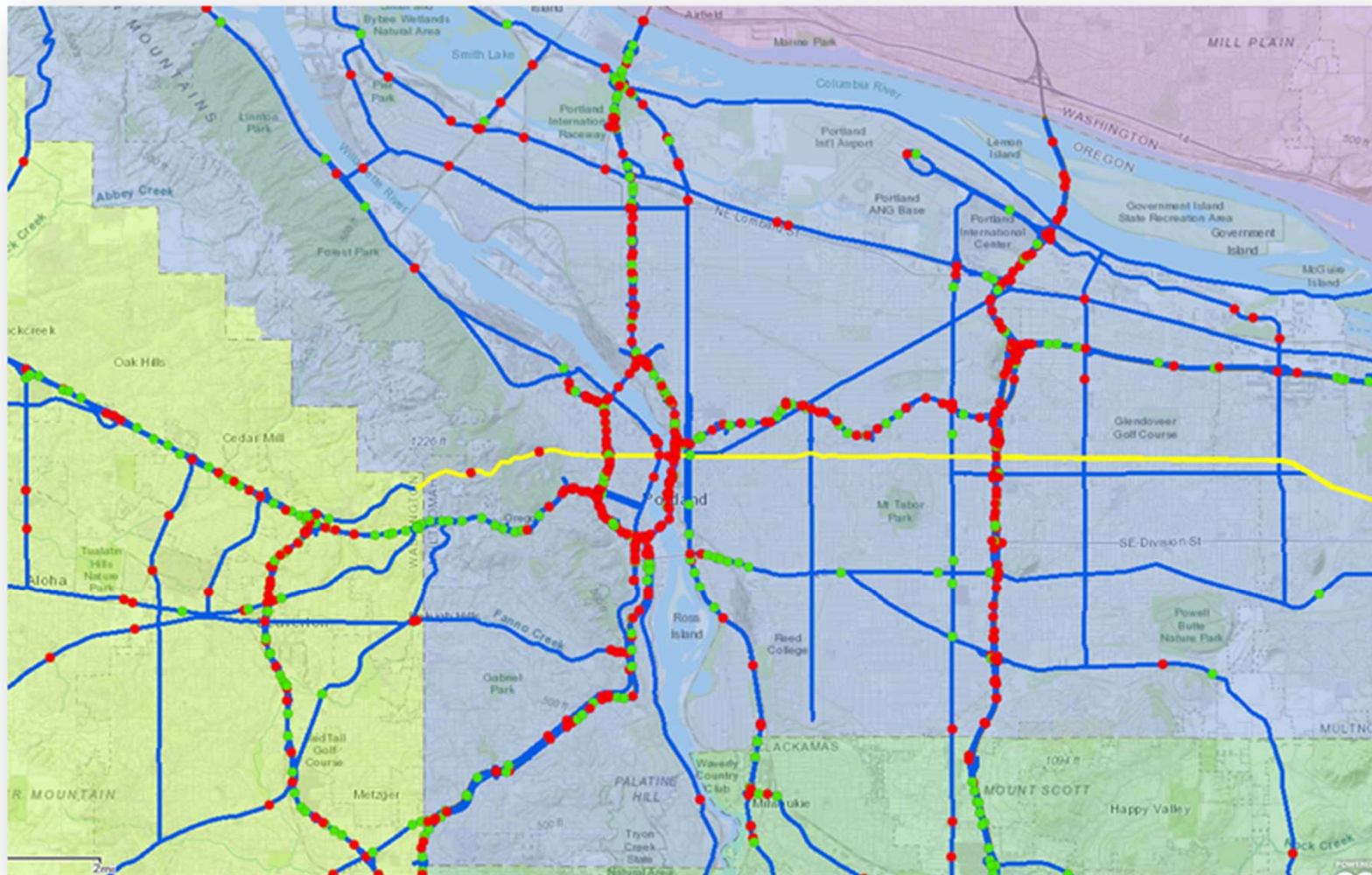


\* Including Burnside Bridge retrofit or replacement.



# Background

## Seismic Vulnerability - Regional “Lifeline” Routes



# Background

## 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.



# Background



## Earthquake Ready Burnside Bridge – Project Timeline

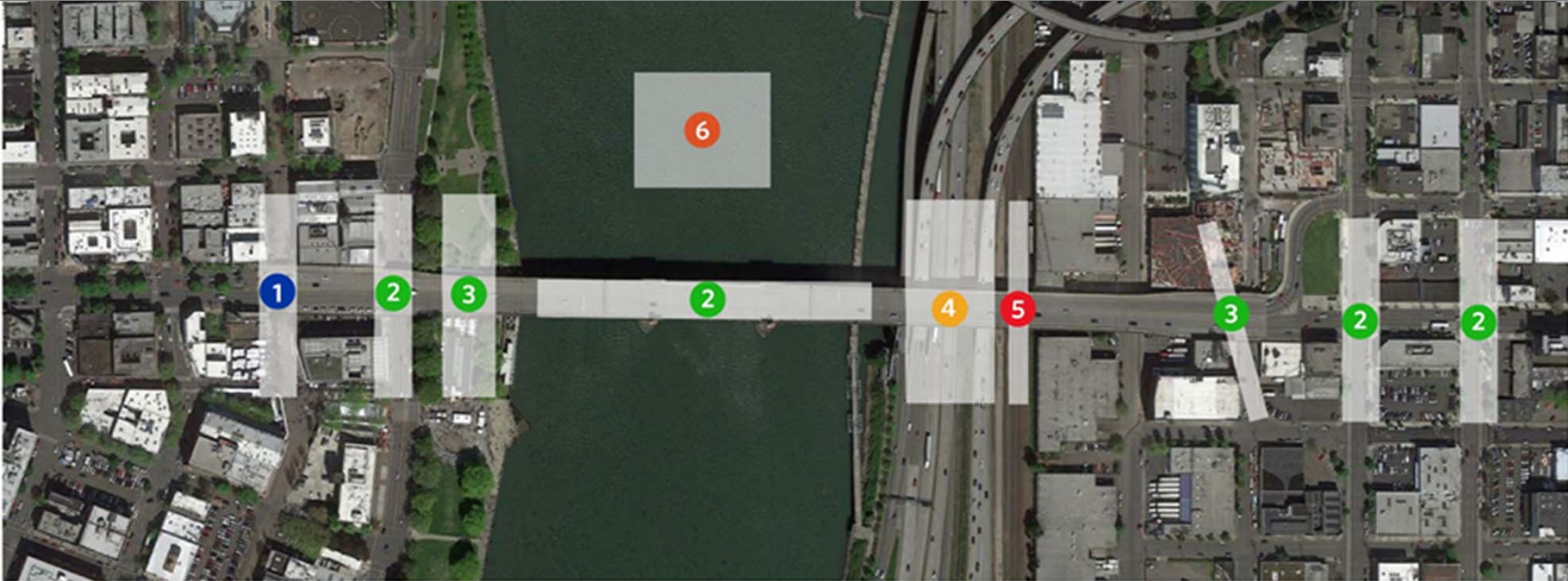


Where are we now?




# Background

## Key Constraint - Adjacent Infrastructure



 **1** TriMet Lightrail Service

 **4** Oregon Department of Transportation Highway Facilities (I-5 and I-84)

 **6** U.S. Coast Guard / River Navigation

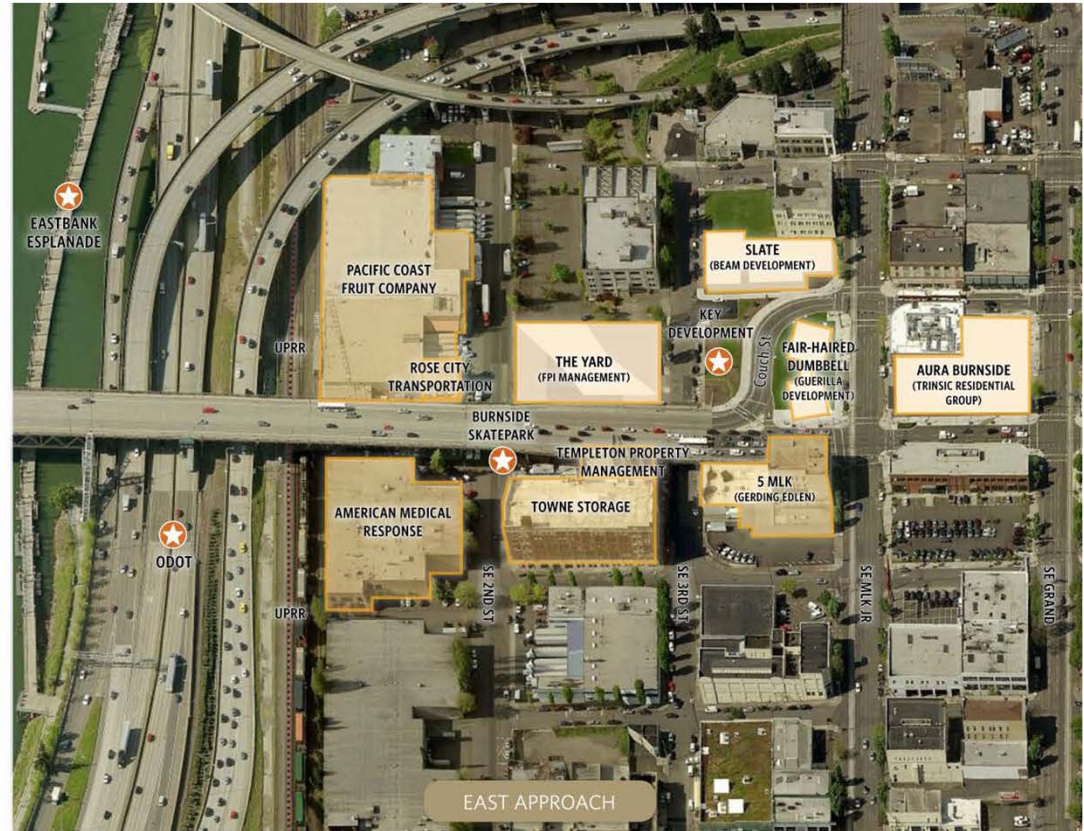
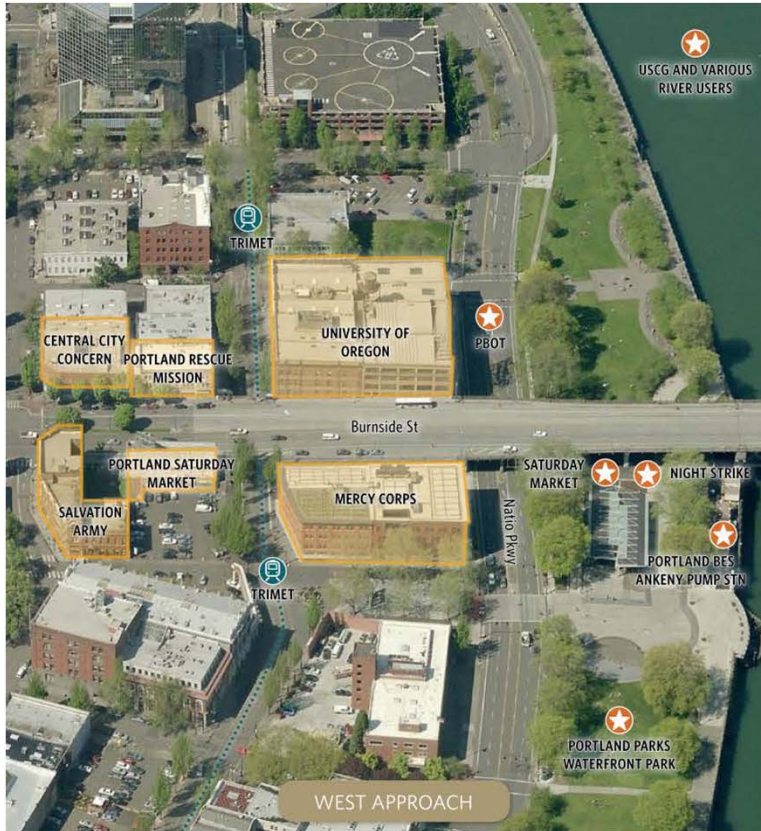
 **2** City of Portland Roadway (Naito Pkwy, NE/SE MLK, NE/SE Grand)  
**3** City of Portland Combined Sewer Overflow

 **5** Union Pacific Railroad Mainline

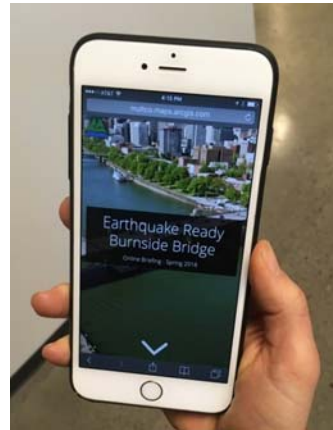
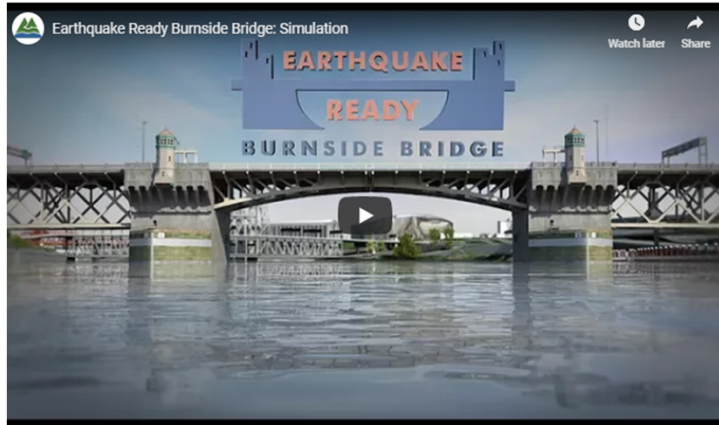


# Background

## Key Outreach - Adjacent Stakeholders



# Community Engagement



Multnomah County is working to create an earthquake-safe Willamette River crossing



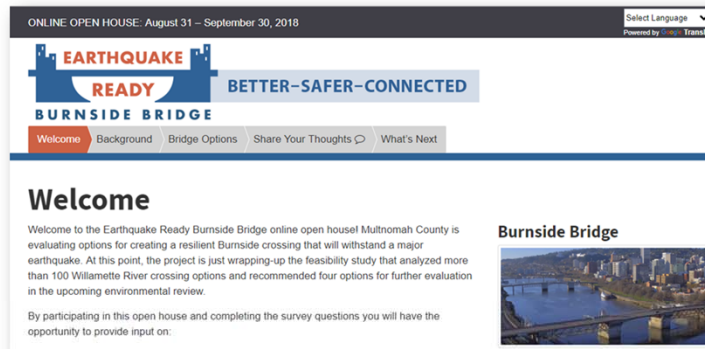
### BETTER. SAFER. CONNECTED.

Portland's aging downtown bridges are not expected to withstand a major earthquake. That is why Multnomah County is taking the lead on making at least one earthquake ready. Located in the heart of downtown, the Burnside Bridge is a regionally established lifeline route across the Willamette River. Lifeline routes are important because they:

- ▶ Help firetrucks, ambulances, and police cars respond in an emergency
- ▶ Reunite family and loved ones
- ▶ Help our economy recover

### WHAT IS THE PLAN?

Since 1926, the Burnside Bridge has served us well. To take us across the river for another 100 years, it needs an upgrade. Over the next several years, Multnomah County will evaluate options for creating a resilient Burnside crossing that will withstand a major earthquake. The first step is to narrow a long list of over 100 options through a screening process to arrive at a short list of recommended options to be evaluated in more detail in a later phase.



**BURNSIDEBRIDGE.ORG**

FOLLOW THE PROJECT ON TWITTER:  
@MultCoBridges, #ReadyBurnside

VISIT THE PROJECT WEBSITE TO:

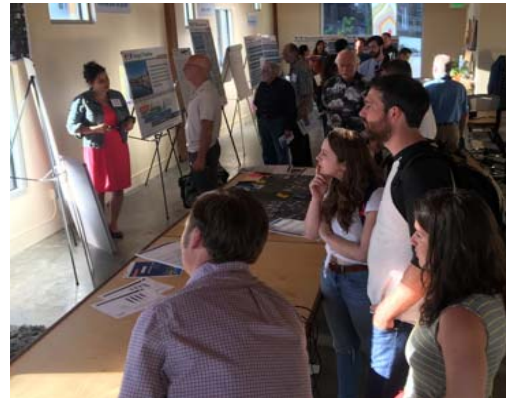
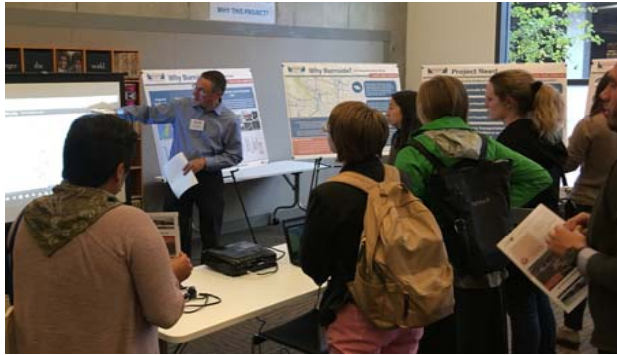
- Sign up for updates.
- Request a presentation for your community or business groups.
- Learn about upcoming meetings, events and other ways to provide input.

FOR MORE INFORMATION, CONTACT:

Miko Pullen  
Multnomah County Communications Office  
miko.pullen@multco.us  
(503) 209-4111



# Community Engagement



# Community Engagement



# 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

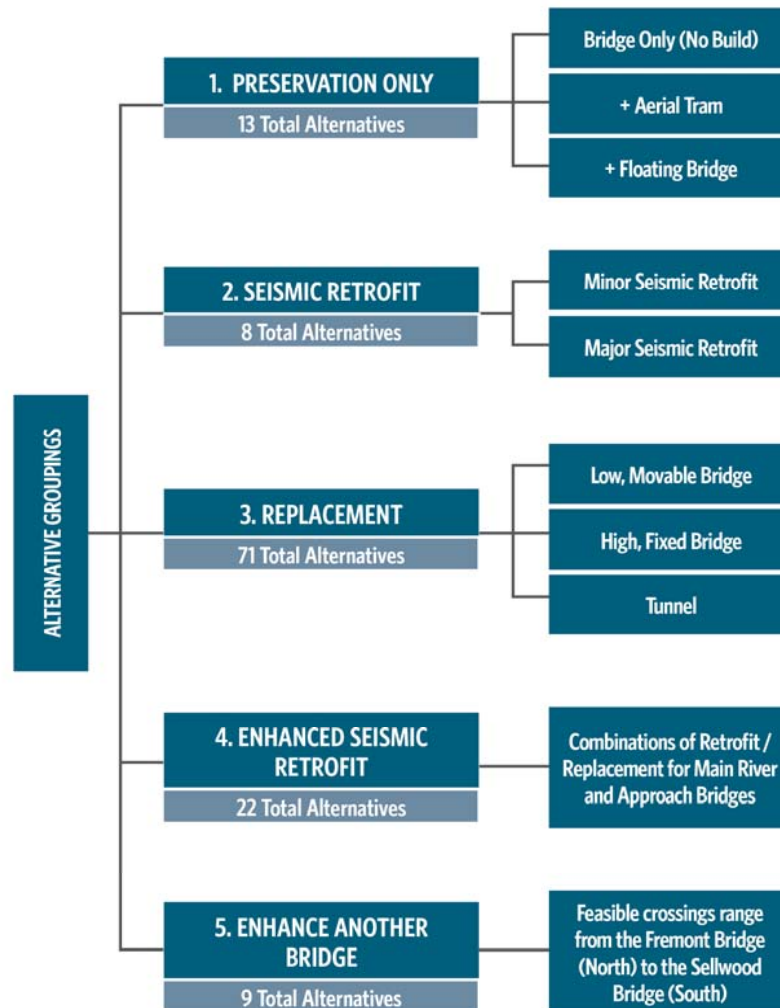


Interest in keeping some historical components/aesthetics of the bridge, concern for demolishing the bridge and its historical importance



# Feasibility Study Review

## Alternatives Development



### Variations considered:

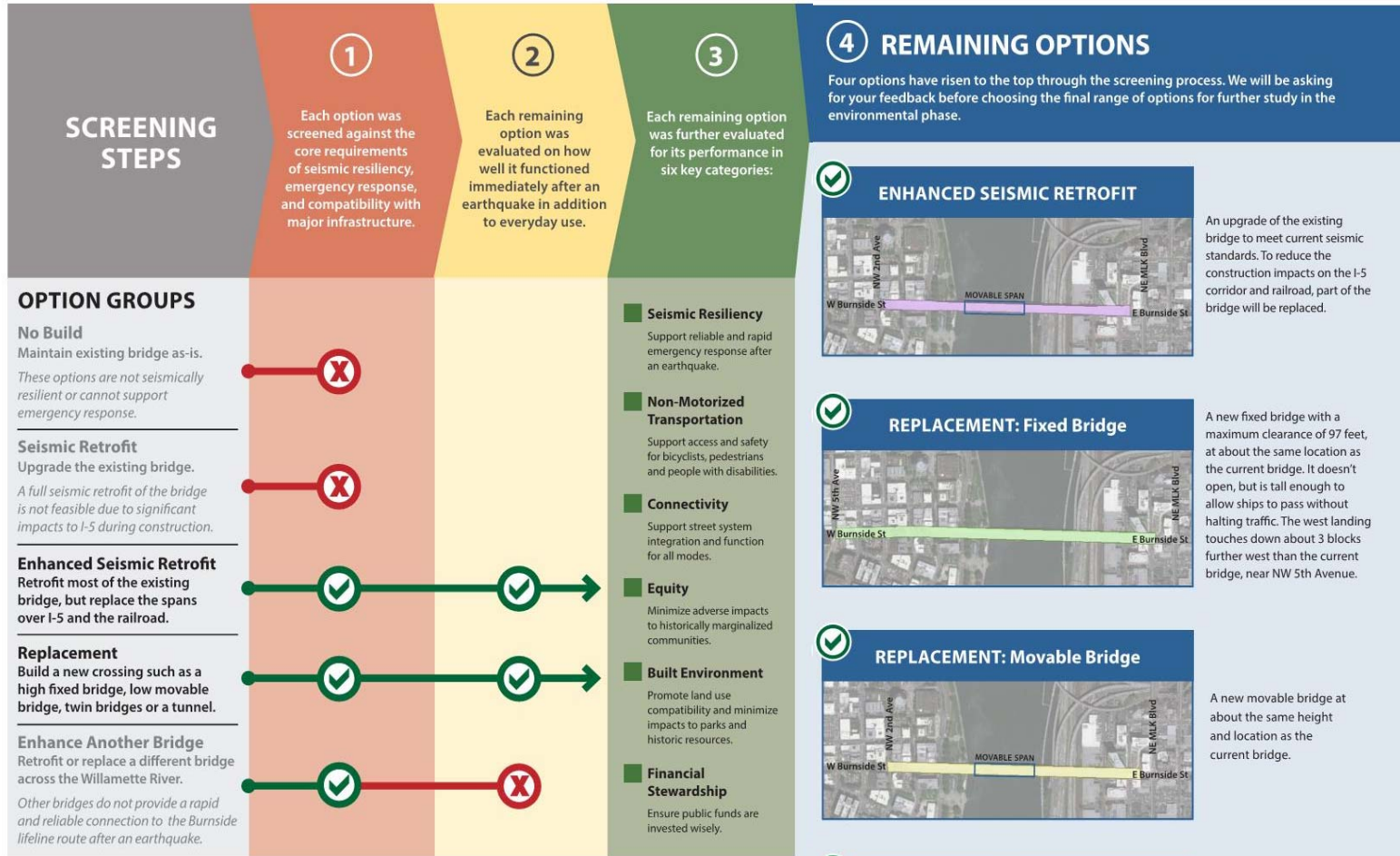
- alignment
- landing locations
- construction staging
- widening



# Feasibility Study Review

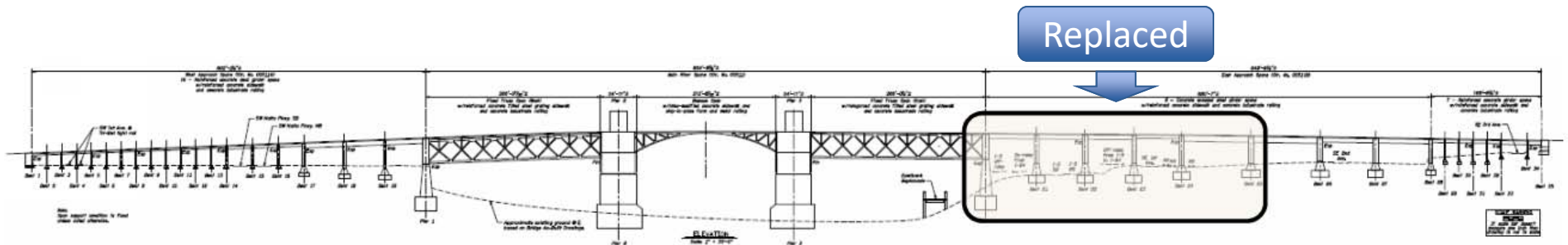


## Screening Process



# Feasibility Study Review

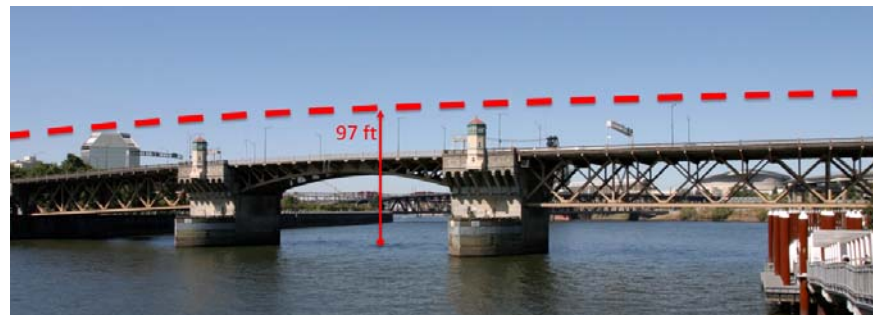
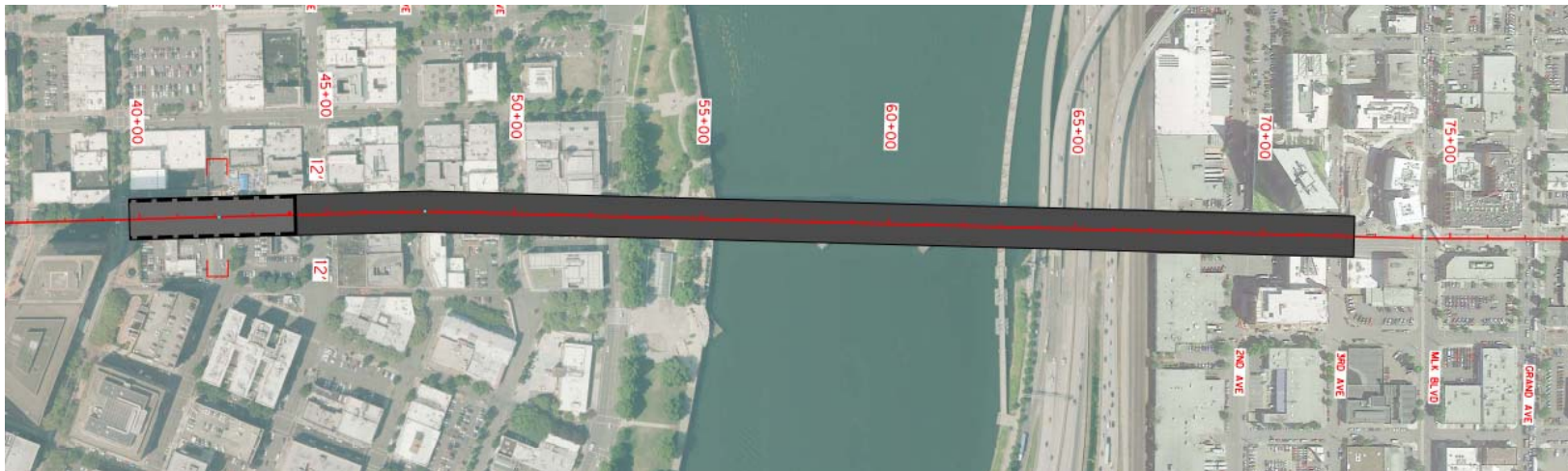
## Enhanced Seismic Retrofit - Unwidened





# Feasibility Study Review

## Replacement: Fixed Bridge - Widened



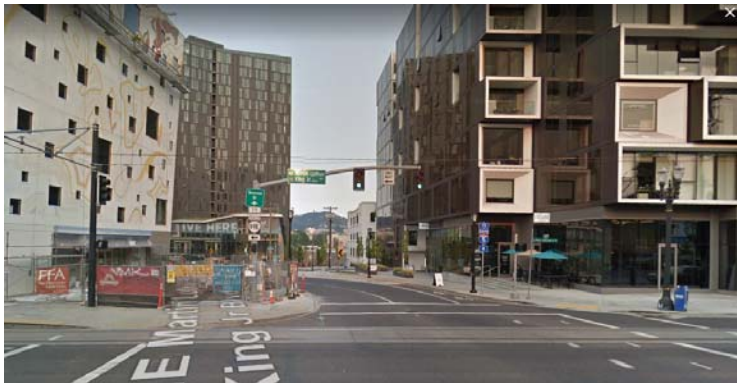
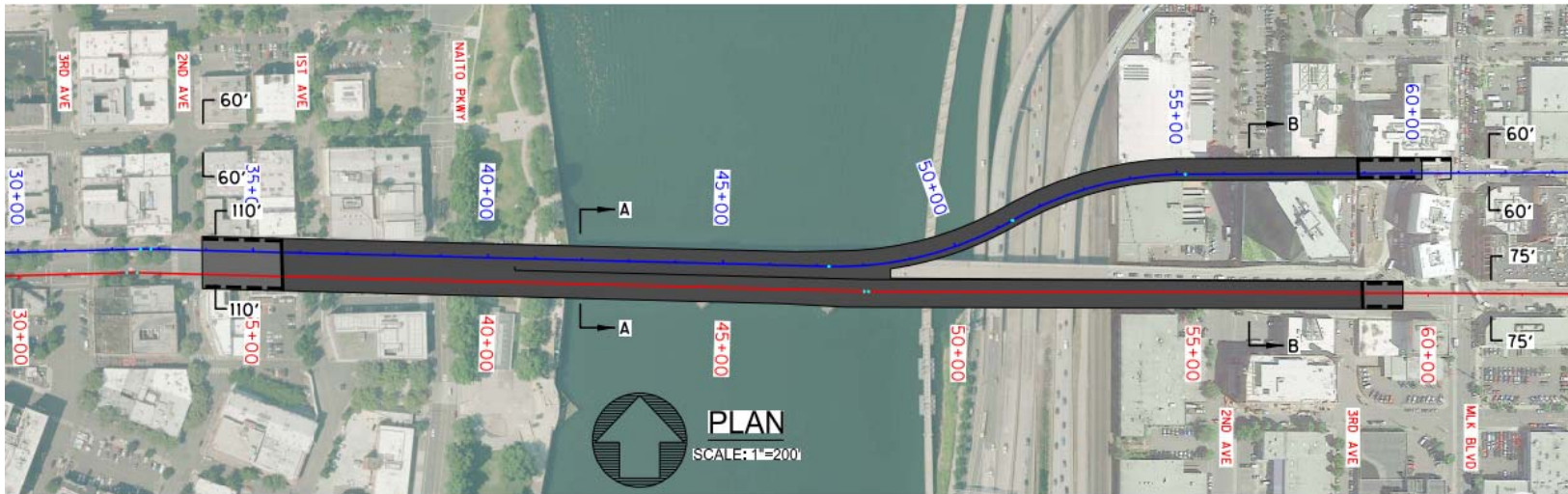
# Feasibility Study Review

## Replacement: Movable Bridge - Widened



# Feasibility Study Review

## Replacement: Movable Bridge, Couch Connection - Widened



# Feasibility Study Review

## Preliminary Project Costs (\$M)

Burnside St is open to traffic during construction

\$\$\$

Burnside St is closed to traffic during construction

\$\$

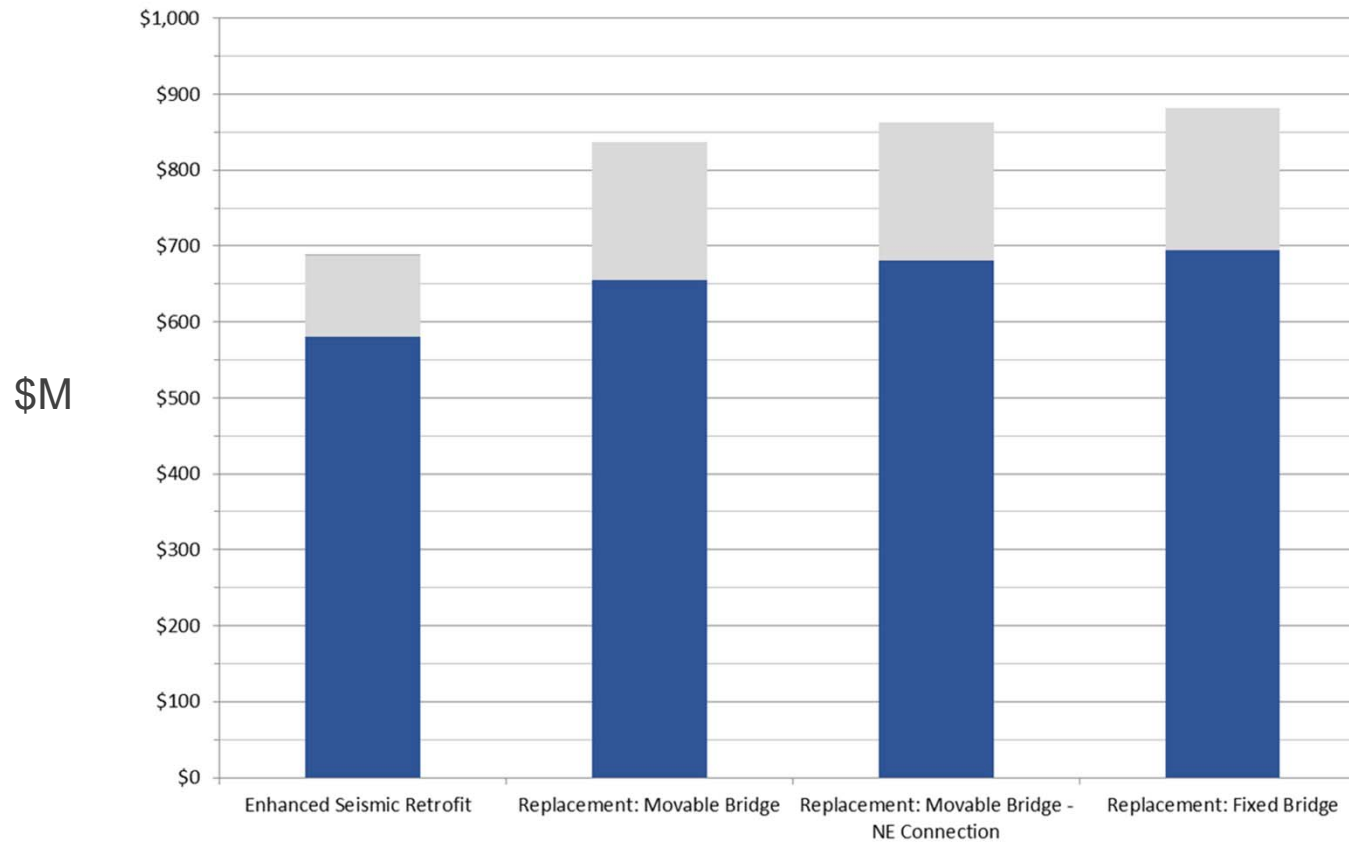
\$



# 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



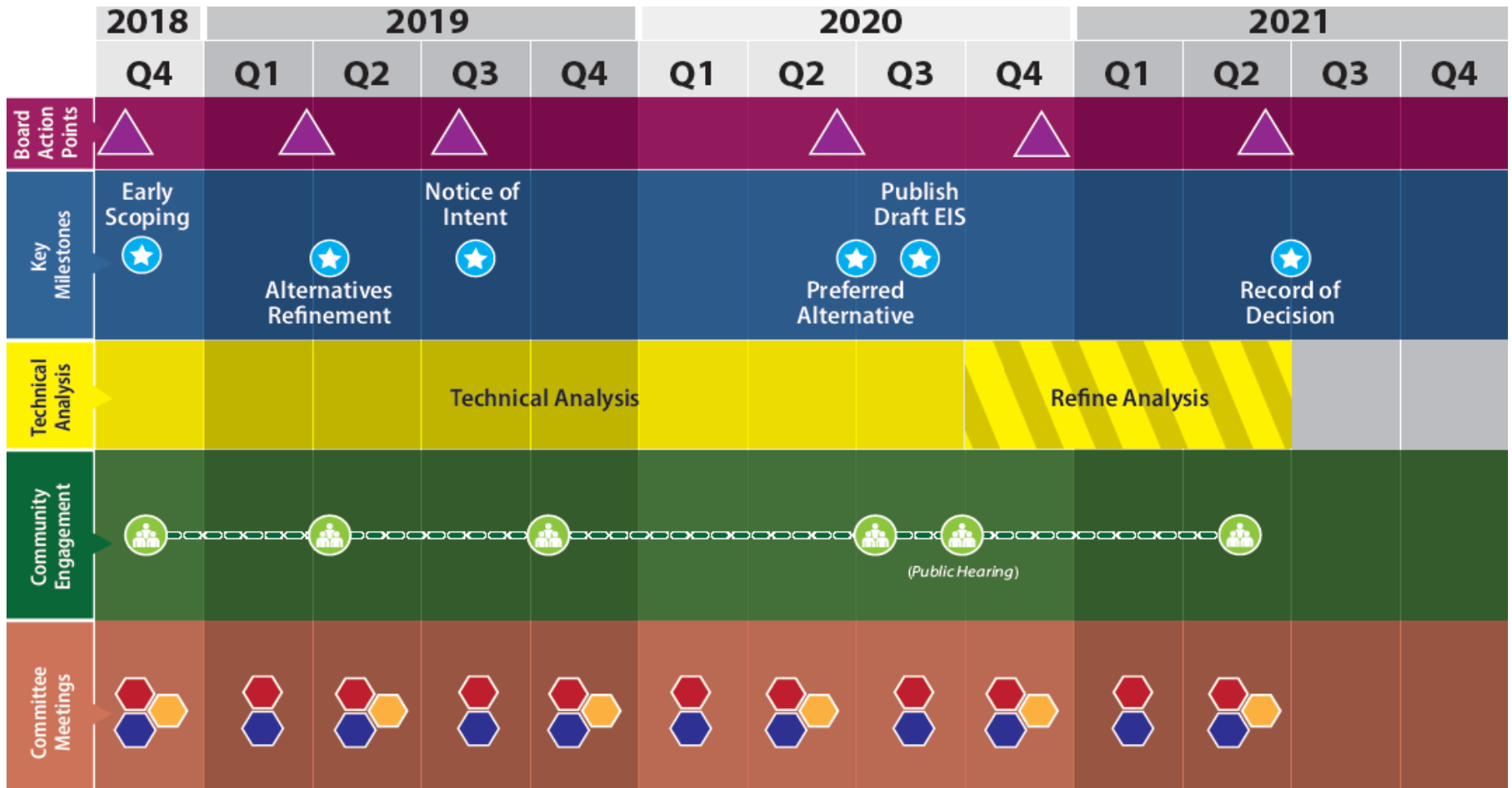
## Earthquake Ready Burnside Bridge Project - Timeline



What's next?



# Environmental Review Phase



Board Action Points

Key Milestones

Key Engagement Events

Ongoing Engagement Activities

Senior Agency Staff Group

Community Task Force

Policy Group



# 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



**Earthquake Ready Burnside Bridge**  
Better. Safer. Connected.



## 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.<sup>1</sup> 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.<sup>2</sup>

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.<sup>3</sup> 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. The



## Exhibit B

BETTER - SAFER - CONNECTED

### 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.

