EARTHQUAKE READY BURNSIDE BRIDGE

# Senior Agency Staff Group – Meeting 1
# April 4, 2017

# Agenda

- Introductions
- Charter
- Project Overview
- Agency Interests
- Alternatives Development
- Screening Process
- Closing Remarks

*Burnside Bridge*

# SASG Charter

## SASG Purpose

- Input on Feasibility Study
- Identify Agency Interests
- Provide Informed Feedback

## Role and Expectations

- Attend Four SASG Meetings
- Act as Liaison to Policy Group and Agency

# Project Overview

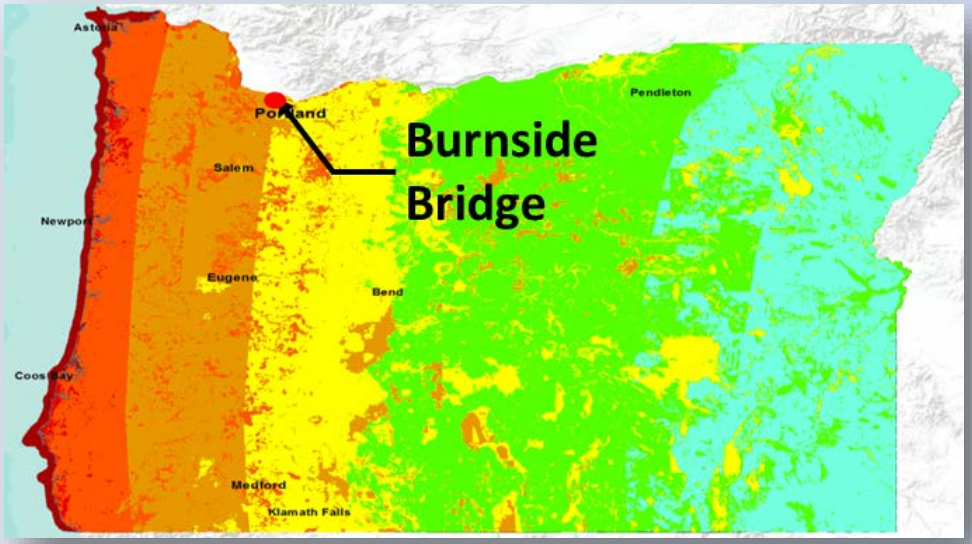
*Burnside Bridge*

- **Purpose**: To create a resilient lifeline crossing
- **Goal**: To recommend rehabilitation and/or replacement alternatives for further NEPA-phase analysis
- **Timing**: Study to be completed in Fall, 2018
- **Funding**: Needed for future phases

# Project Overview

## Regional Earthquake Risk

- 1 in 3 chance of Magnitude 8+ earthquake within 50 years
- Thousands of fatalities and injuries
- Billions in economic loss




Source: *Oregon Resilience Plan (2013)*

# Project Overview

## Earthquake Vulnerabilities

- Downtown bridges vulnerable to major earthquakes
- Board of County Commissioners adopted the Bridge CIP in 2015
- CIP identified the Burnside Bridge as its number one priority for seismic resiliency

# Project Overview

**Burnside Bridge, over 90 years of Service**

- 40,000 vehicles, 2,000 bicycles and pedestrians daily
- Three bus lines
- 300 openings a year
- Crosses Blue/Red Max Lines, 78k weekday riders
- Crosses Union Pacific Railroad mainline

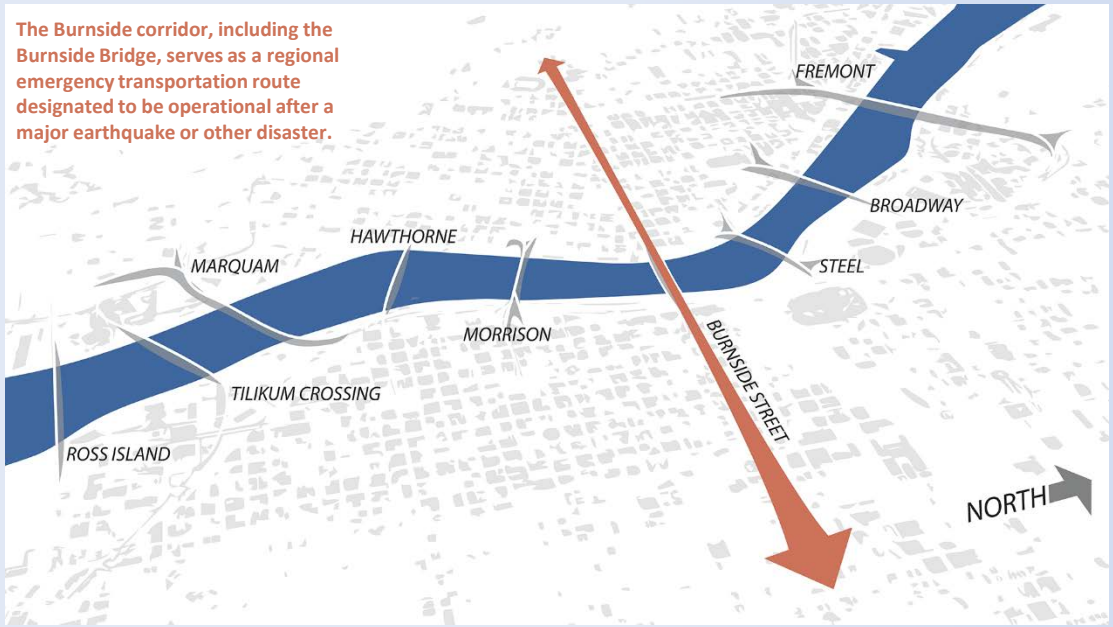
*Burnside Bridge*

# Project Overview

## Burnside Street: Regional Lifeline Route

Over 17 miles long, Burnside Street connects Gresham to Washington County through downtown Portland

- Metro designated Burnside a Priority 1 route in the late 1990s
- City of Portland designated Burnside Street an evacuation route
- Only non-state owned Priority 1 route across the Willamette River
- ODOT is prioritizing investing in the I-205 corridor

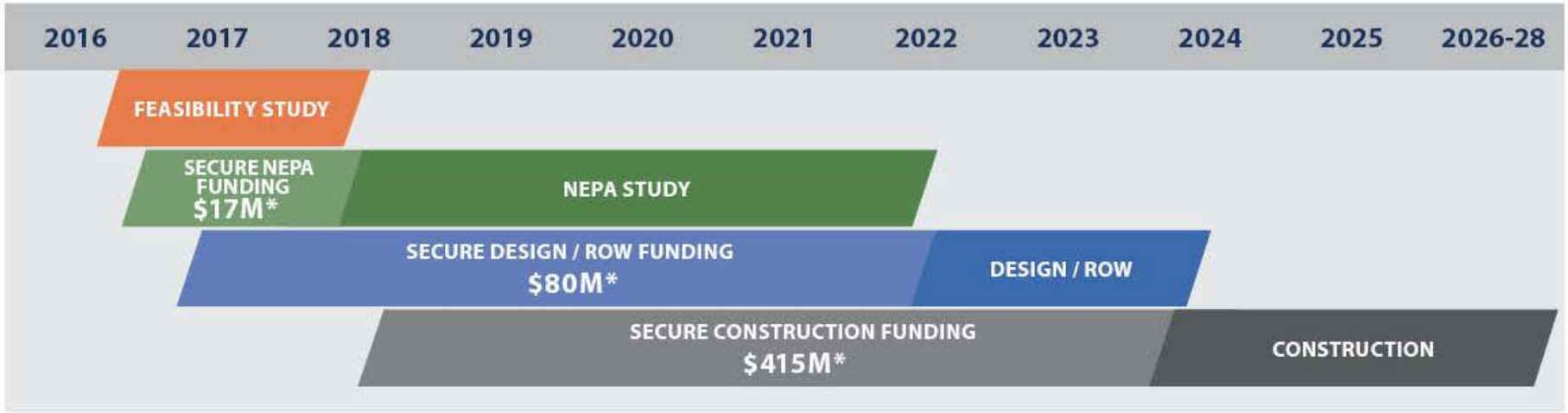



*Sources: Metro Regional Emergency Transportation Routes Report, 1996*

*Portland City-wide Evacuation Plan 2014; portlandoregon.gov/pbem/65295)*

# Project Overview

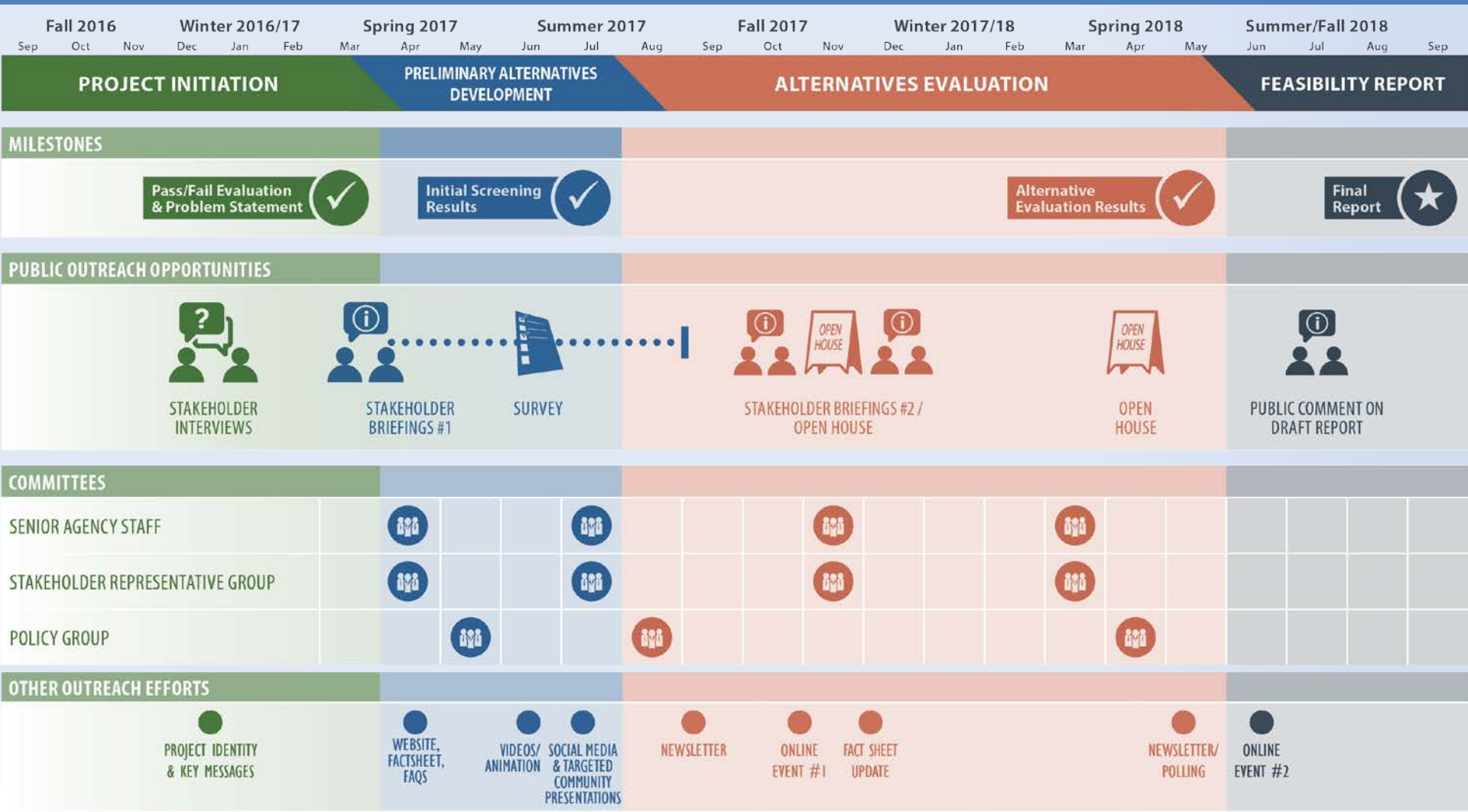
## PROJECT PHASING




* Source: Multnomah County Willamette River Bridges Capital Improvement Plan (2015-2034)

# Project Overview

# Project Overview



# Project Overview

## Policy Group Members

- Multnomah County
- Metro
- TriMet
- Portland Development Commission
- Oregon Department of Transportation (Region 1)
- City of Portland
- City of Gresham
- City of Beaverton
- Clackamas County
- Washington County
- Federal Highway Administration (Oregon)
- U.S. Senator Merkley's office
- U.S. Senator Wyden's office
- U.S. Representative Blumenauer's office
- U.S. Representative Bonamici's office
- Oregon State Senator Taylor (District 21)
- Oregon State Representative Smith Warner (District 45)

# Project Overview

## Stakeholder Representative Group Members

- American Automobile Association (AAA)
- Buckman Community Association
- Burnside Skatepark
- Central City Concern
- Central Eastside Industrial Council (CEIC)
- Multnomah County Bike / Ped Advisory Committee member
- Neighborhood Emergency Teams (NETs)
- Old Town/ Chinatown Association
- Oregon Trucking Association (OTA)
- Portland Spirit
- Portland Saturday Market
- Sharon Wood-Wortman (Historic Resources)
- The Street Trust (formerly BTA)
- University of Oregon School of Architecture student
- Willamette Riverkeeper

# Project Overview

## Seismic Resiliency Committee Members

- Multnomah County Bridge
- ODOT Bridge
- FHWA Bridge
- WSDOT Bridge
- City of Portland – PBOT Bridge
- Portland State University
- HDR Engineering
- Parametrix
- Shannon and Wilson
- Hart Crowser
- Hardesty and Hanover

**Tentative*

# Project Overview

# Agency Interests

## Project Setting

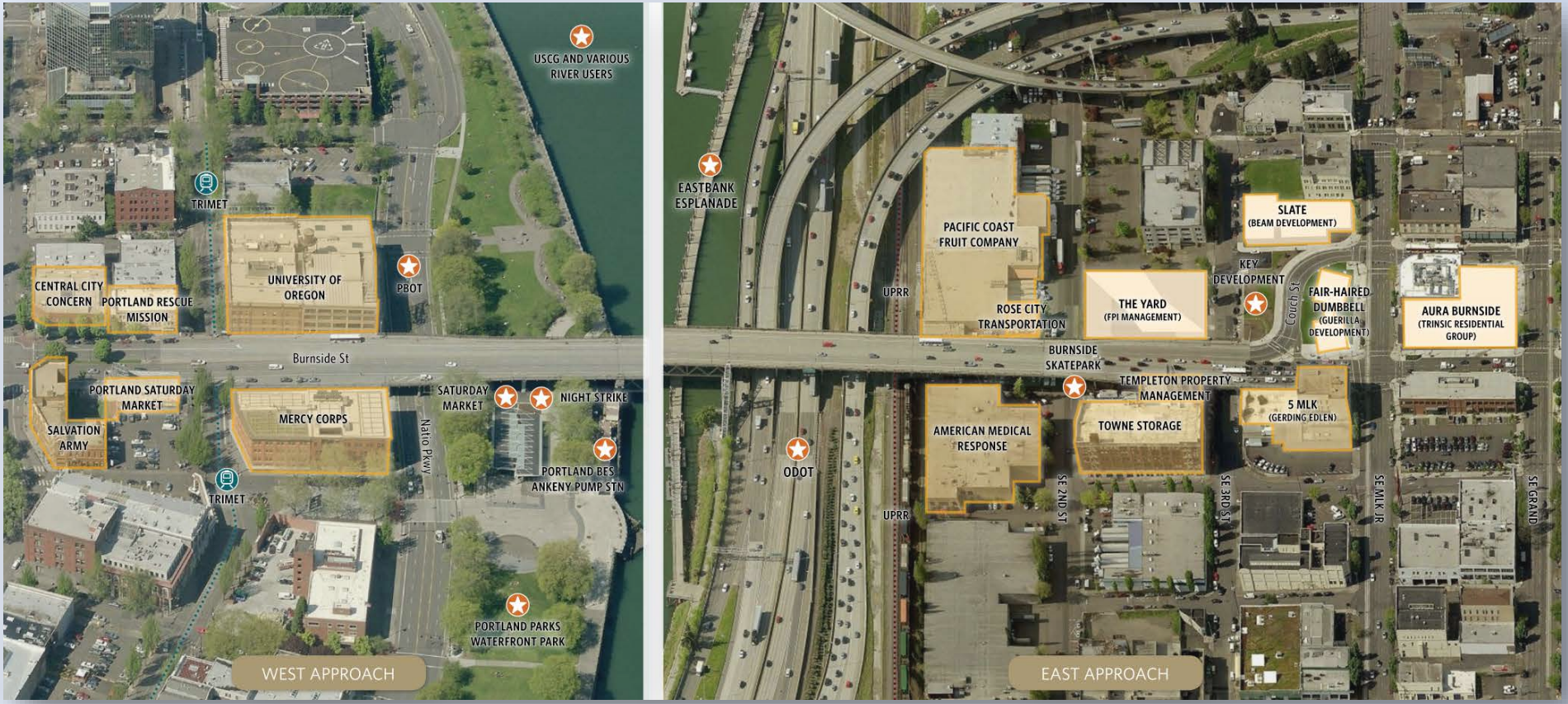
- Urban Environment
- Public Use Areas
- Multi-agency Involvement
- Bridge and River Users
- Natural Environment
- Economic Development

## Agency Interest

- What are your interests in the project?

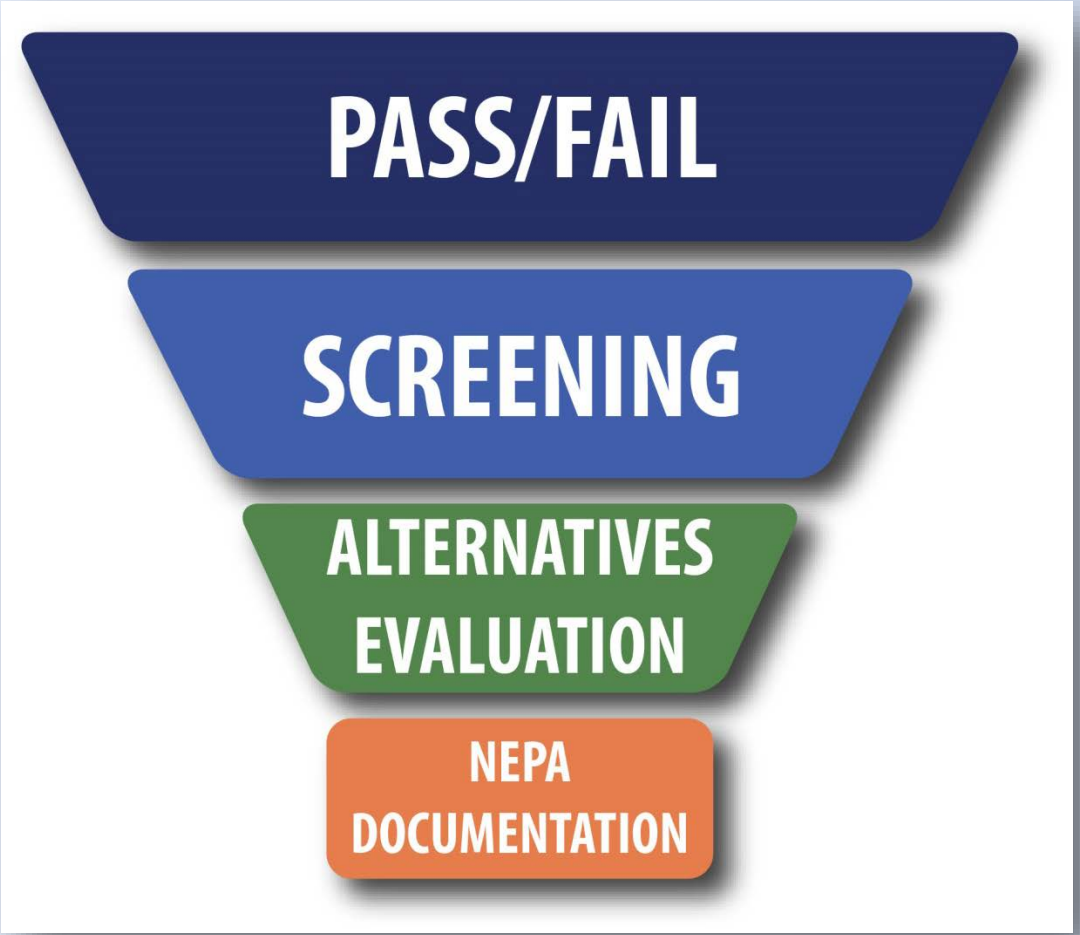
# Agency Interests

## What are your agency interests in the project?



# Alternatives Development

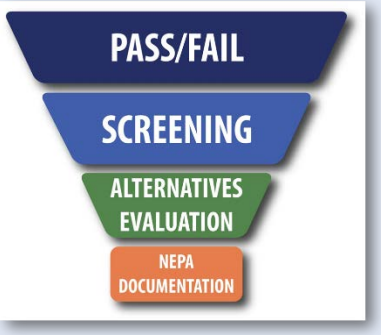
## Multi-Step Process



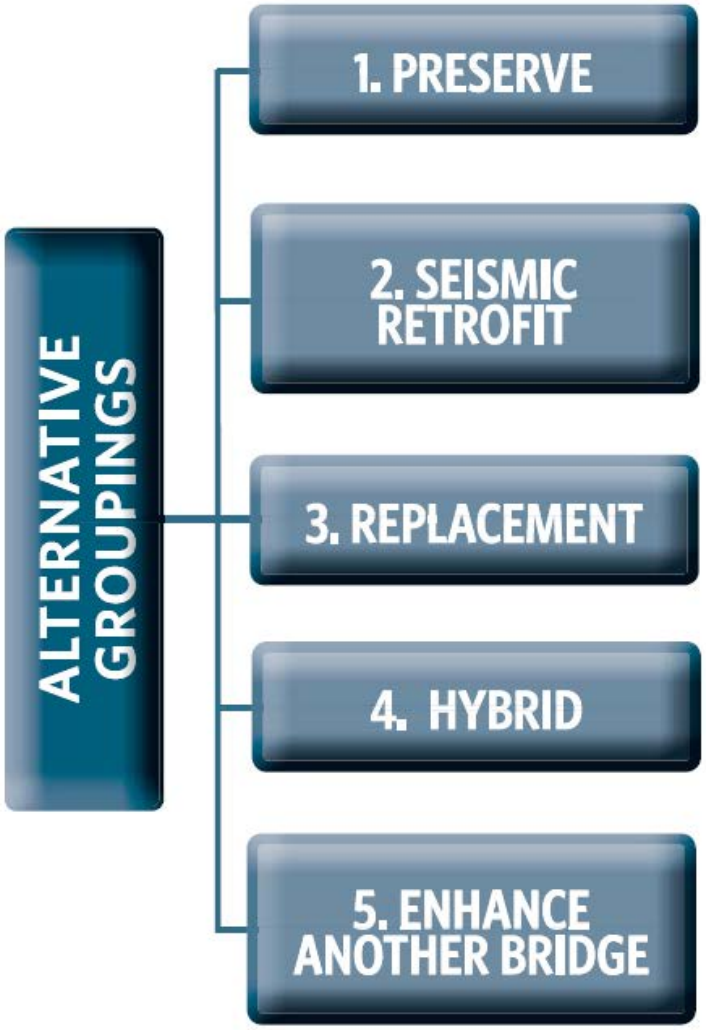
# Problem Statement

## Background, Problem Statement, and Intent

- Intent
  - Achieve seismic resiliency
  - Burnside lifeline river crossing is fully operational following a major earthquake
  - Enable emergency medical, fire, and life safety response
  - Post disaster restoration of services
  - Regional recovery
  - Implement related emergency plans
  - Long term multi-modal functions (independent of seismic resiliency)

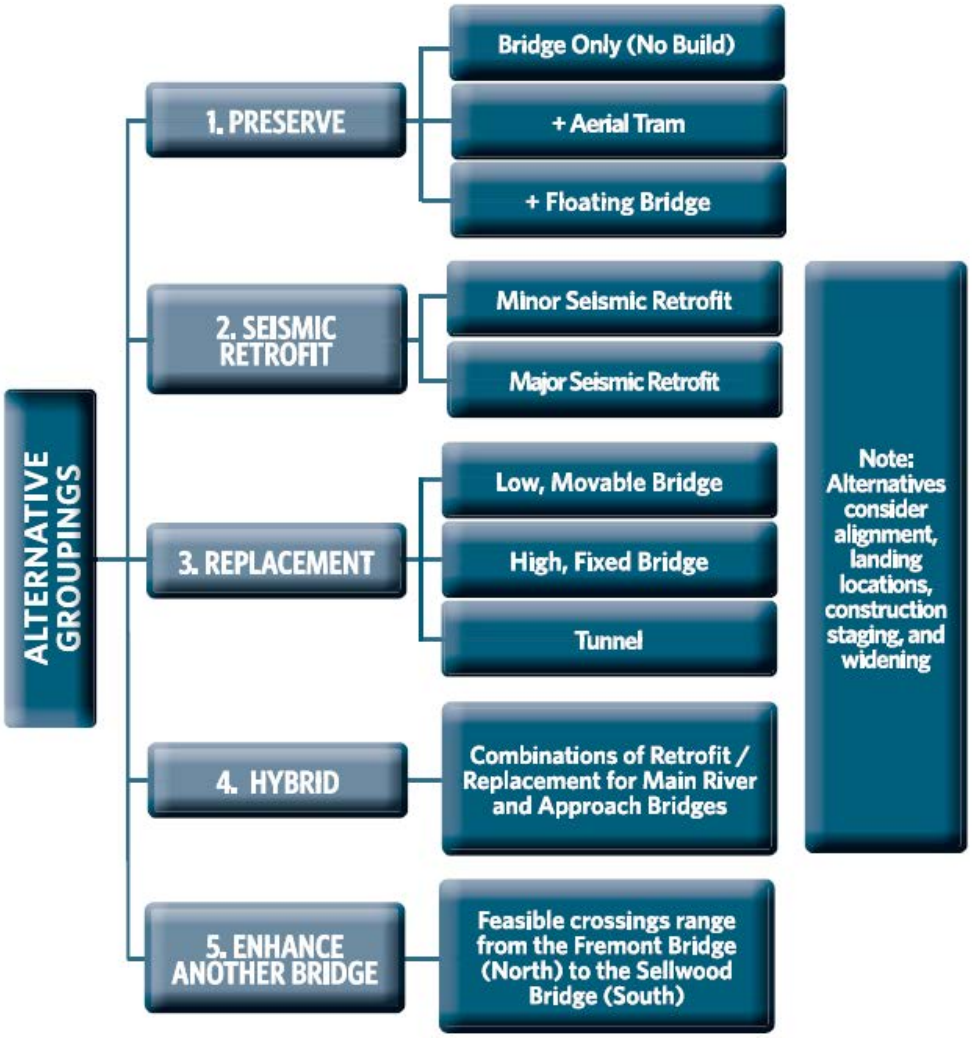


# Alternatives Development




**What Alternative Groupings create an earthquake-ready crossing?**

# Alternatives Development




**What alternatives are being considered within each grouping?**

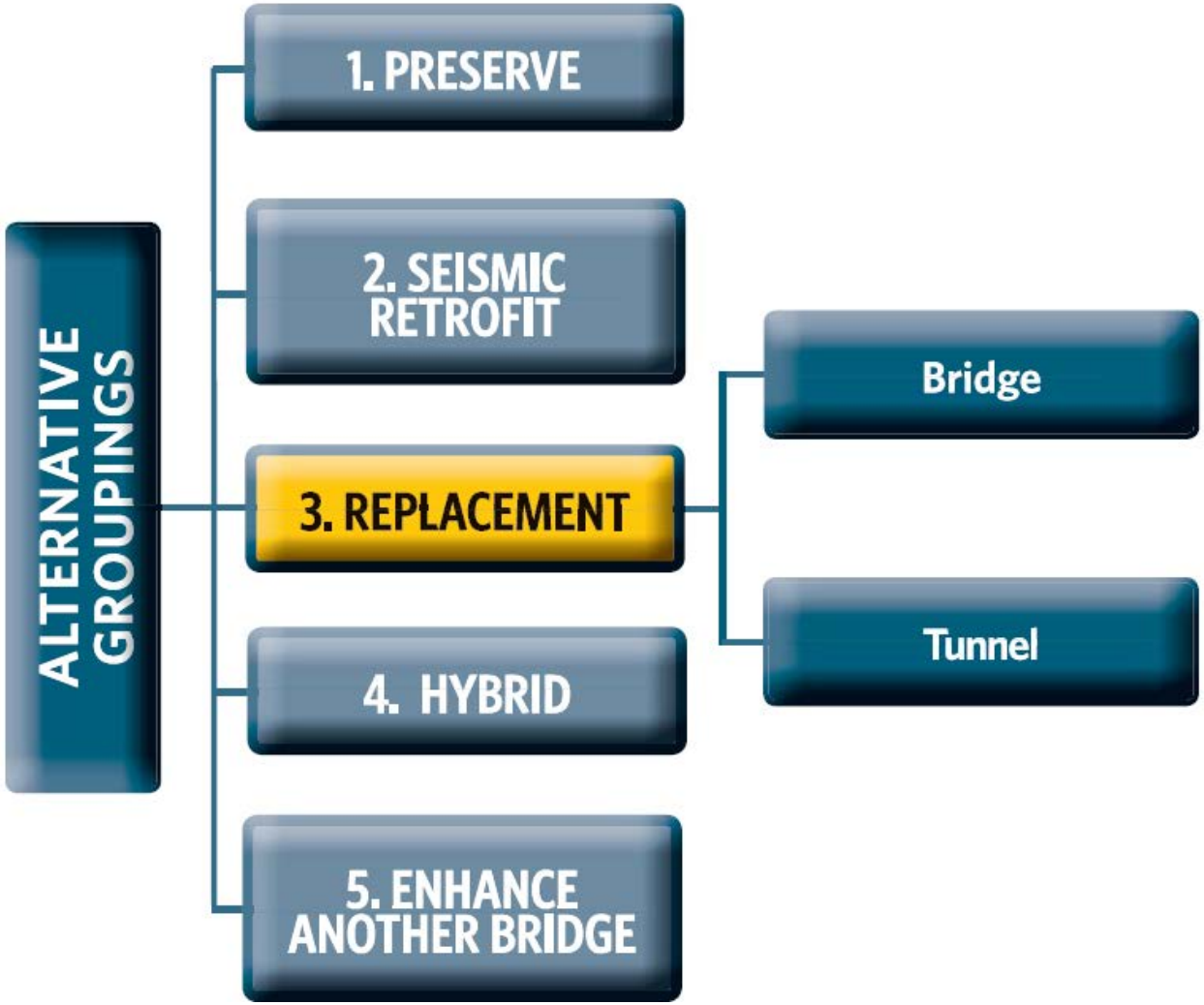
# Low, Movable Bridge Replacement; Existing Alignment; Single Bridge

EARTHQUAKE READY BURNSIDE BRIDGE

REPLACEMENT CROSSING ALTERNATIVES


(This is one of 100+ Design Options under consideration)

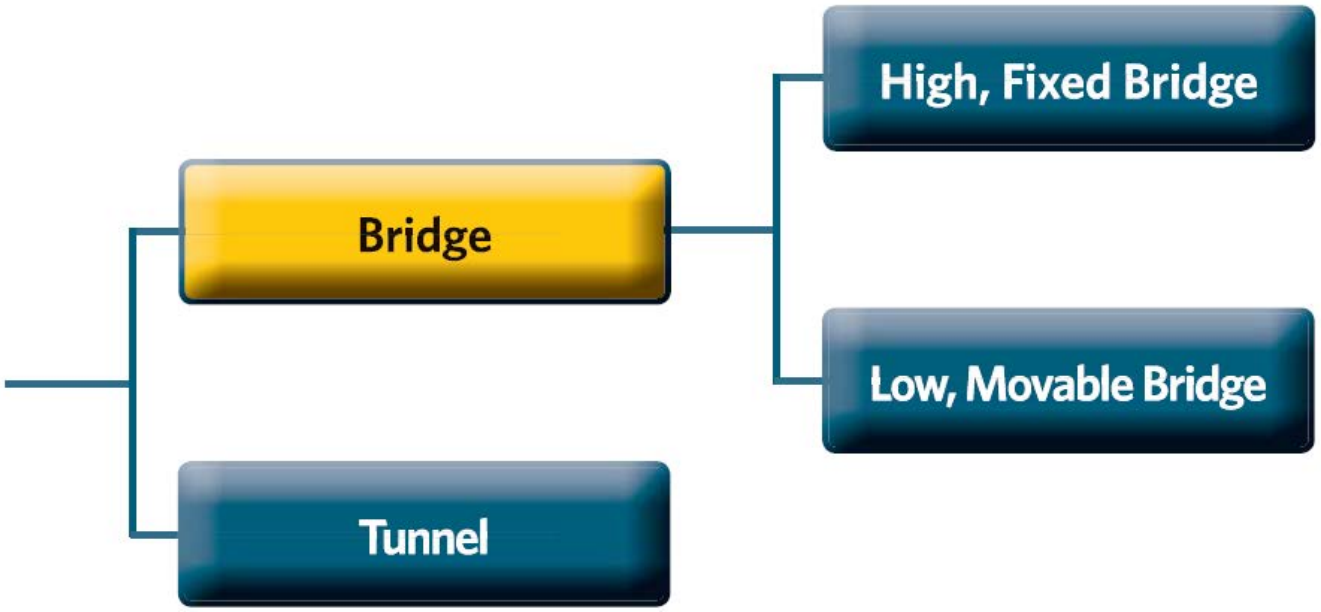
# Alternatives Development




**Key Questions:**

**Q1. What are the bridge replacement options?**

# Alternatives Development

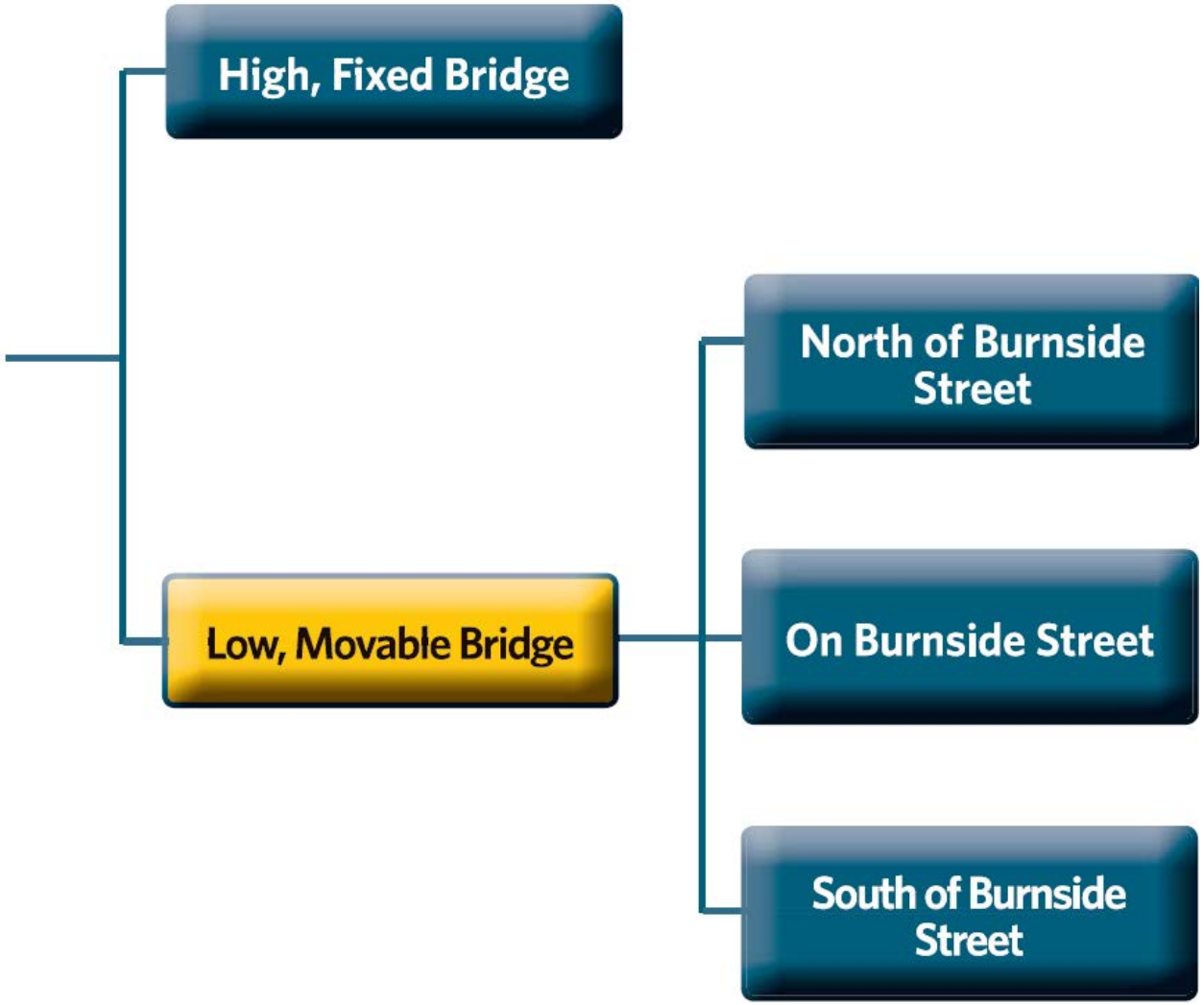



**Key Questions:**

Q1. Bridge

**Q2. How high is the bridge?**

# Alternatives Development



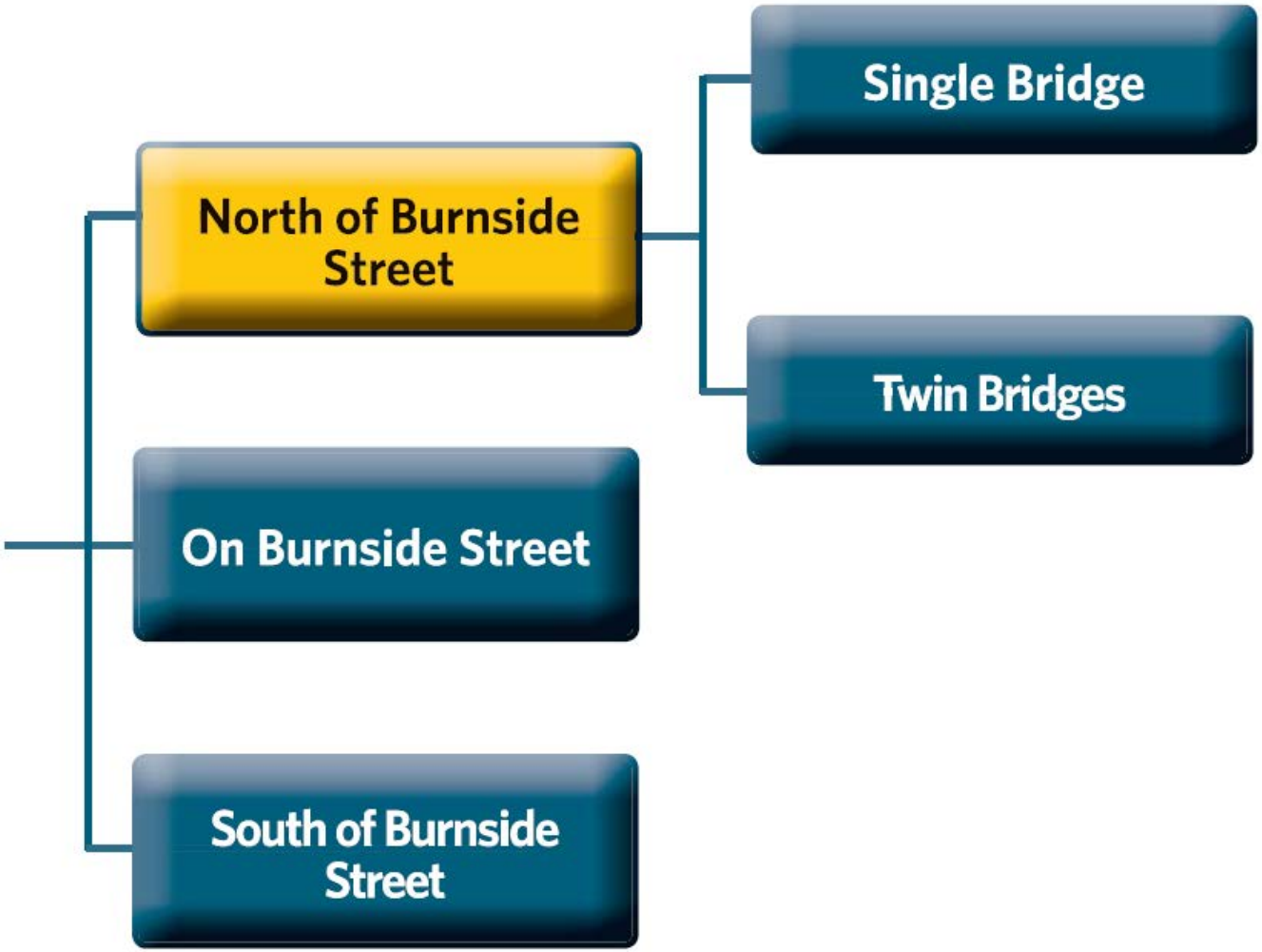

**Key Questions:**

Q1. Bridge

Q2. Low, movable bridge

**Q3. Where does the bridge cross the river?**

# Alternatives Development




**Key Questions:**

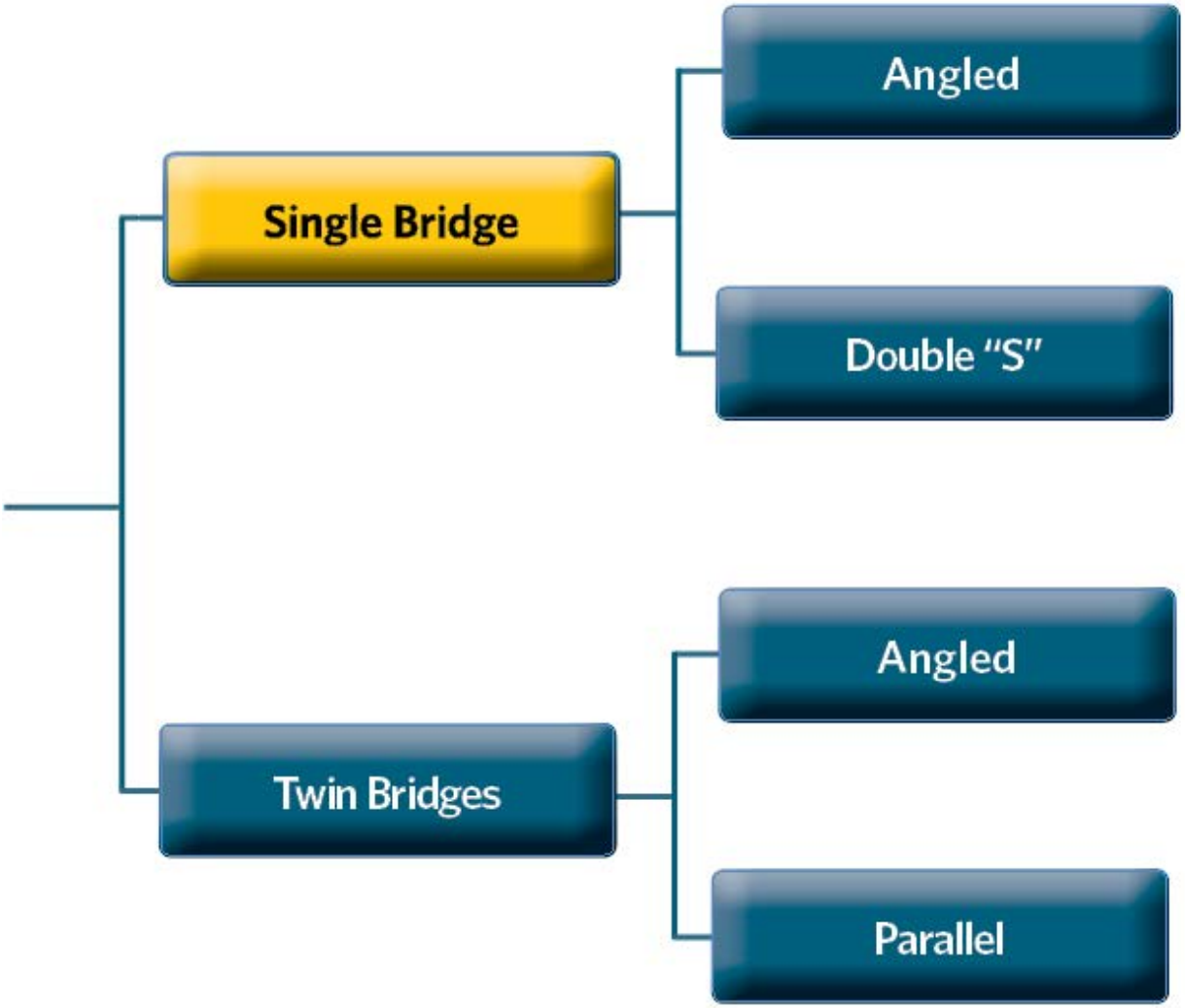
Q1. Bridge

Q2. Low, movable bridge

Q3. North of Burnside Street

**Q4. How many bridges are there?**

# Alternatives Development




**Key Questions:**

Q1. Bridge

Q2. Low, movable bridge

Q3. North of Burnside Street

Q4. Single bridge

Q5. **What is the roadway alignment shape?**

# Low, Movable Bridge Replacement; North Alignment; Single Bridge; West Angled + East Couplet Alignment

EARTHQUAKE READY BURNSIDE BRIDGE

REPLACEMENT CROSSING ALTERNATIVES

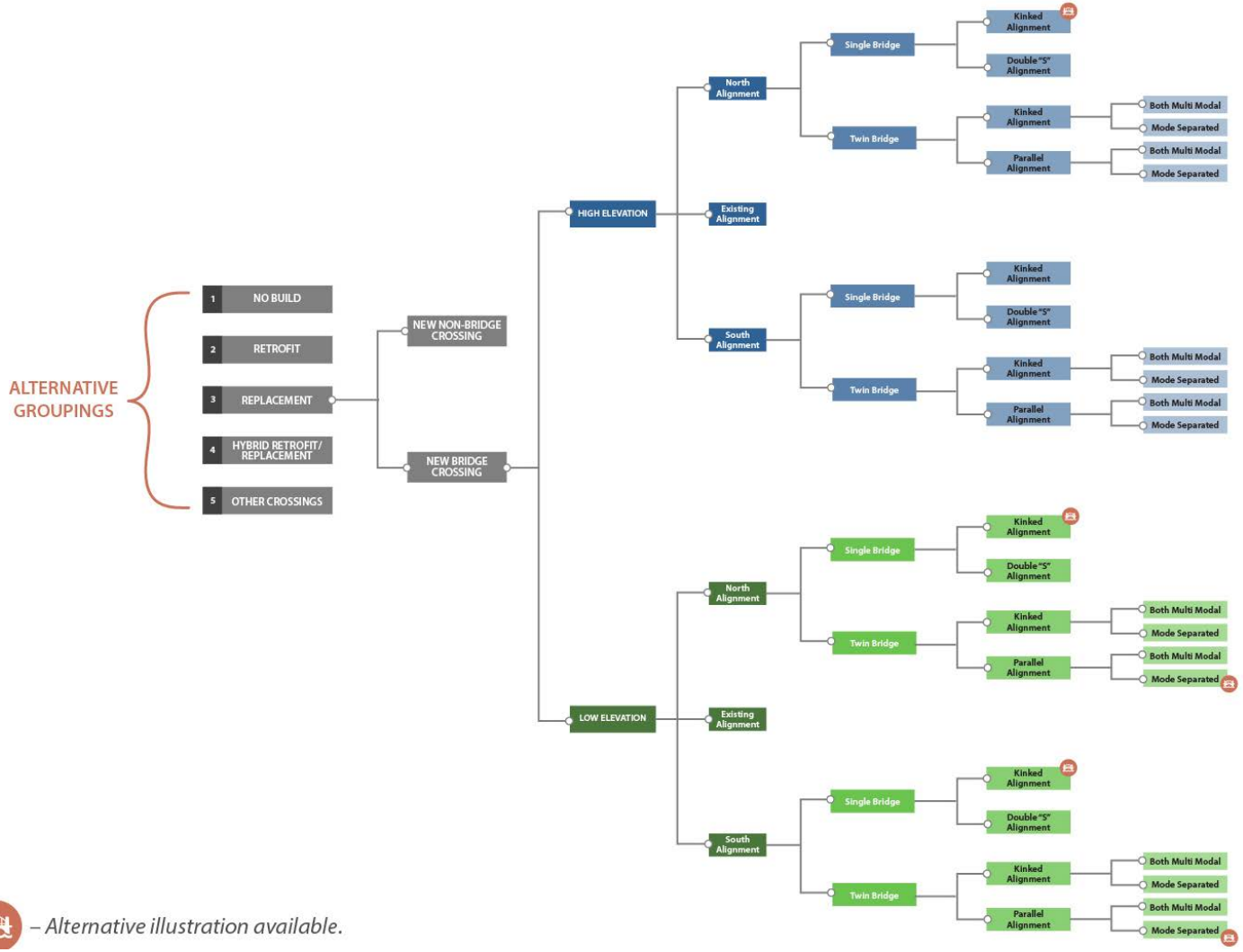

(This is one of 100+ Design Options under consideration)

Multnomah County



HDR

# Alternatives Development




– Alternative illustration available.

HIGH ELEVATION


LOW ELEVATION

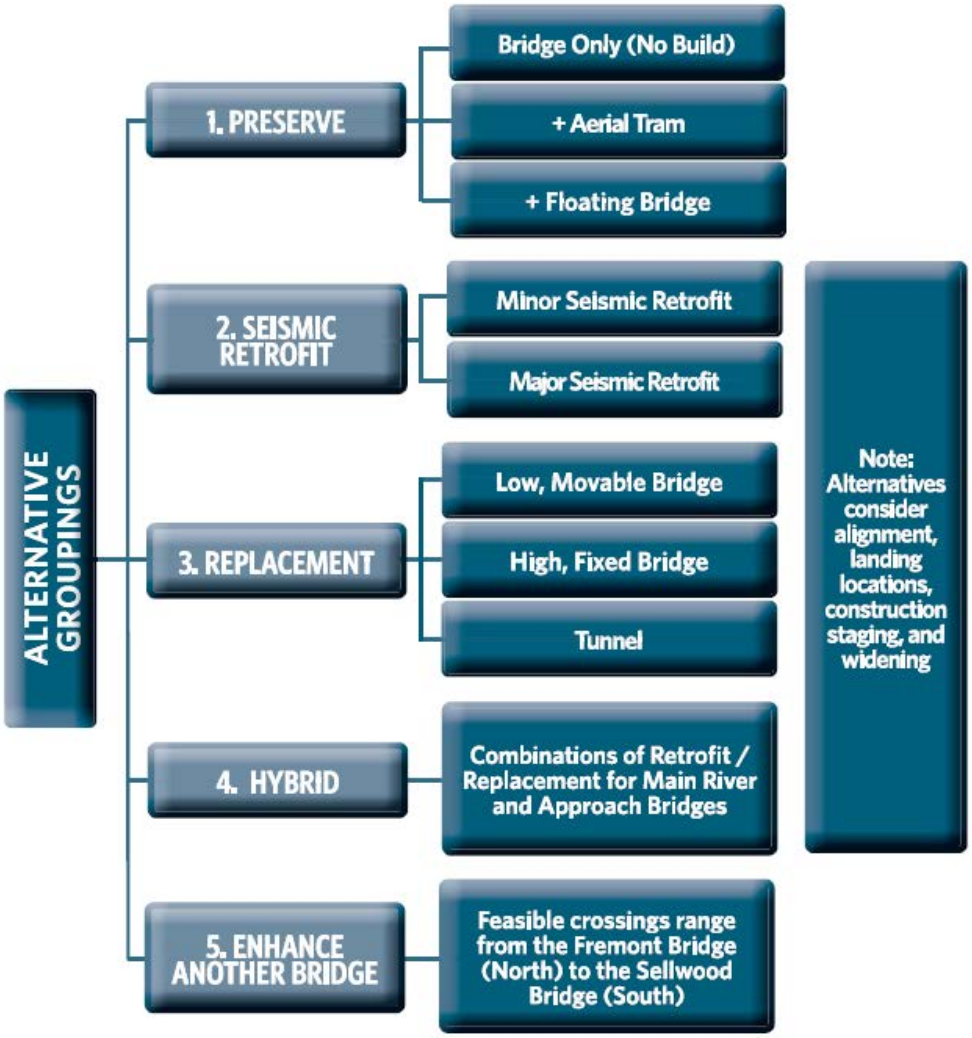

LOW ELEVATION





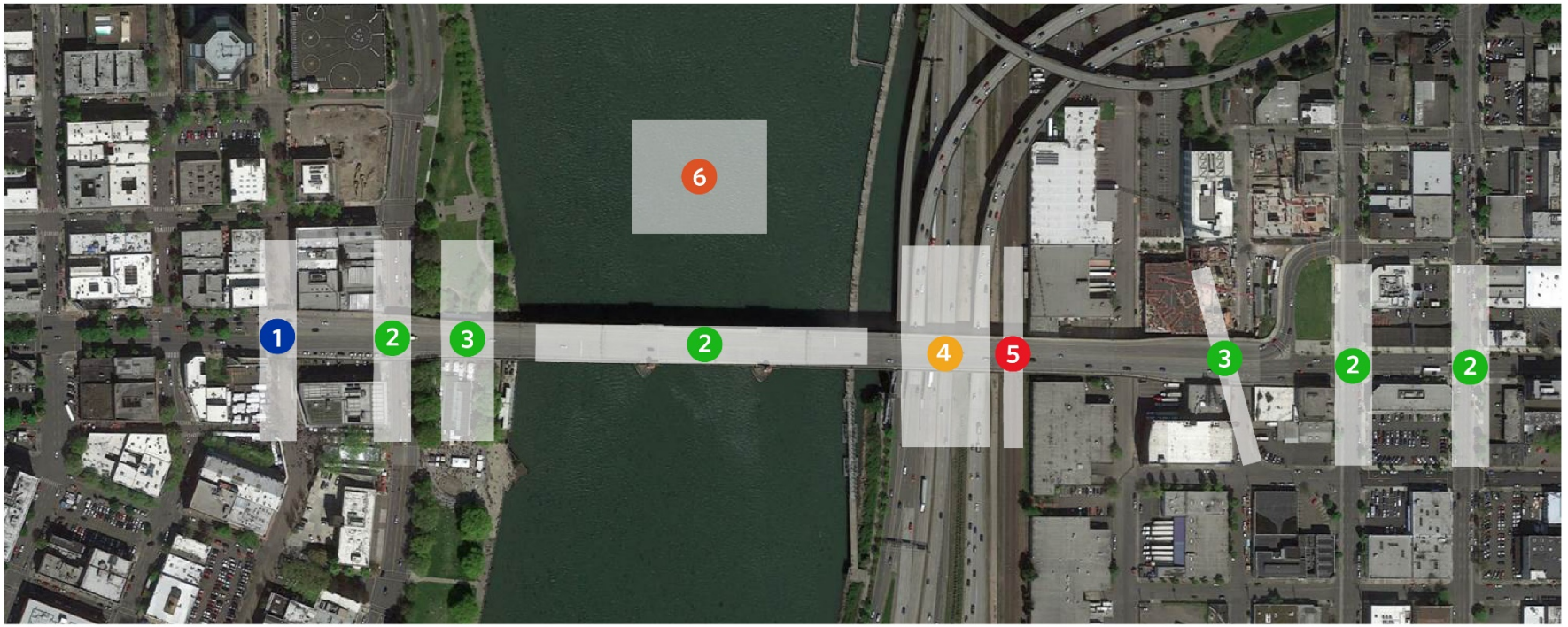
(These are six of 100+ Design Options under consideration)

# Alternatives Development




**Are we missing any alternatives?**

# Technical Pass / Fail Criteria




1 TriMet Lightrail Service

2 City of Portland Roadway (Naito Pkwy, NE/SE MLK, NE/SE Grand)

3 City of Portland Combined Sewer Overflow

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

5 Union Pacific Railroad Mainline

6 U.S. Coast Guard / River Navigation

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# Screening Process


## Screening Criteria

- Reflects the Project Intent
- Organized into Five Topics

1. Seismic Resiliency
2. Emergency Response
3. Multi-modal Needs
4. Consistency with Emergency Plans
5. Long-term Functionality

## Criteria Rating

Step 1: Good/Fair/Fails to meet

Step 2: Good/Fair/Poor

# Screening Criteria

| | Screening Criteria | Definition | Rating (good, fair, fail/poor) |
|---|---|---|---|
| STEP 1 | 1. Seismic Resiliency | • Crossing withstands earthquake | • Seismic Design Criteria |
| STEP 1 | 2. Emergency Response | • Emergency response based on:<br>  • Access<br>  • Distance (time)<br>  • Capacity/Congestion | • **Access:** unobstructed roadway<br>• **Distance:** linking lifeline route on either side of the river<br>• **Capacity/Congestion:** number of lane equivalence |
| STEP 2 | 3. Multi-Modal (post-earthquake) | • Modal access on & around the crossing:<br>  • ADA<br>  • Bike/Pedestrian<br>  • Vehicle (bus, freight, cars)<br>  • River Users | • Access available after the Earthquake |
| STEP 2 | 4. Plan Consistency | • Crossing is consistent with State, Regional & Local Emergency Management Plans | • Level of plan consistency |
| STEP 2 | 5. Long-term Function (independent of earth-quake) | • Level of maintenance<br>• Long-term multi-modal functionality | • Maintenance required to achieve design life<br>• Ability of crossing to improve accommodating multi-modes |

# Closing Remarks

**Next Steps**

- Stakeholder Representative Group and Policy Group Meetings
- Screen Alternative Groupings
- Agency Technical Meetings
- Develop Draft Evaluation Criteria
- Stakeholder Briefings
- SASG Meeting #2 – July 2017 (potential dates?)
- Feedback – 2 weeks from this meeting
- Questions?

# Closing Remarks

Thank You