EARTHQUAKE READY BURNSIDE BRIDGE

Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED June 22, 2020

Senior Agency Staff Group – Agenda Meeting #12

Project:	Earthquake Ready Burnside Bridge
Subject:	Senior Agency Staff Group Meeting #12
Date:	Monday, June 22, 2020
Time:	*(2:45 p.m. Early Arrival)* 3:00 – 5:00 p.m.
Location:	WebEx Virtual Meeting

SASG MEMBERS

Mark Lear, Portland Bureau of Transportation
Brian Monberg, City of Gresham
Chris Deffebach, Washington County
Malu Wilkinson, Metro
Mike Bezner, Clackamas County
Steve Witter, TriMet
Mike Morrow, FHWA
Sam Hunaidi, ODOT
Katie Morrison, Sen. Kathleen Taylor's Office
Dan Bower, Portland Streetcar
Greg Theisen, Port of Portland
Lucy Williams, Rep. Smith Warner's Office
Jean Senechal Biggs, City of Beaverton
Brett Horner, Portland Parks Bureau

PROJECT TEAM INVITES

Ian Cannon, MultCo
Megan Neill, MultCo
Liz Smith Currie, MultCo
Chris Fick, MultCo
Mike Pullen, MultCo
Heather Catron, HDR
Steve Drahota, HDR
Cassie Davis, HDR
Liz Stoppelmann, HDR
Jeff Heilman, Parametrix
Joey Posada, EnviroIssues

Purpose:

- Review Community Task Force recommendation on Preferred Alternative and evaluation scoring results.
- Provide an update on the project and key activities since the SASG last met.
- Review where we are at in the process and Type Selection phase coming next.
- Share and get input on summer outreach approach and tools.

Agenda:

Time	Topic	Lead
2:45 p.m.	*Early Arrival – join WebEx meeting platform early to get familiar and situated.*	*All*
3:00 p.m.	Welcome and Introductions	Heather Catron
3:10 p.m.	CTF Recommendation • Preferred Alternative: What we heard • Scoring results: Key differentiators • Long Span Fact Sheet	Mike Pullen / Megan Neill
3:40 p.m.	Type Selection Phase and Process	Heather Catron / Steve Drahota
3:50 p.m.	Project Update • Tech Reports • Funding • NOI • Owner's Rep Contract	Jeff Heilman / Megan Neill
4:15 p.m.	Summer Outreach	Cassie Davis
4:30 p.m.	Upcoming Meetings and Next Steps	Heather Catron
5:00 p.m.	Adjourn	All

EARTHQUAKE READY BURNSIDE BRIDGE

Multnomah County is working to create an earthquake ready Willamette River crossing

Understanding the Long Span Alternative

FACT SHEET

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Summer 2020

What is a long span bridge?

A type of bridge that requires fewer support columns, allowing for longer spacing, or spans, between columns. A vertical support structure above the deck of the bridge is needed to accomplish the longer spans. A variety of vertical structures can be considered for this project, including tied arch, truss, and cable stayed options (see examples on back page).

Why are we considering it?

The long span alternative allows for fewer columns in the Geotechnical Hazard Zones on each side of the river, reducing project risks and costs.

Decisions Regarding Long Span Alternative

Environmental Phase Decisions

Choosing a Preferred Alternative at this stage of the process means deciding on a class of bridge that considers high level variables including:

- Retrofit or replacement
- Alignment
- Width
- Number and approximate location of columns
- Approximate span lengths

Future Phase Decisions

Type Selection Phase Decisions (TS)

- Bridge superstructure type
- Column sizes and locations
- Movable bridge type

Specific to Cable Stayed option:

- Tower location

Final Design Phase Decisions (FD)

- Column shape
- Bridge lighting, railings, color and texture

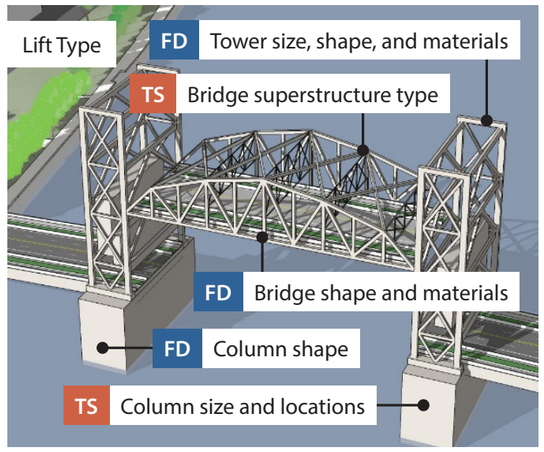
Specific to Tied Arch option:

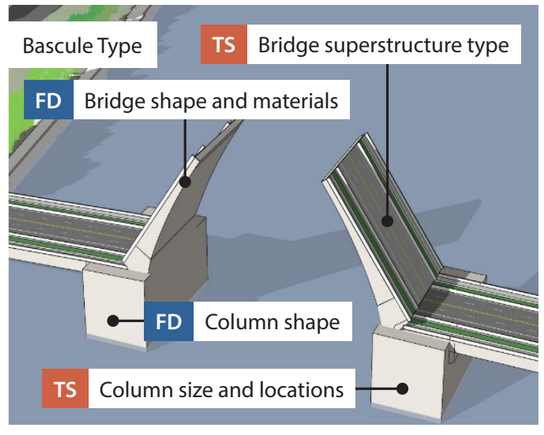
- Arch height
- Arch rib materials, size, curvature, and shape
- Cross-frame size and shape
- Cable size and pattern

Specific to Cable Stayed option:

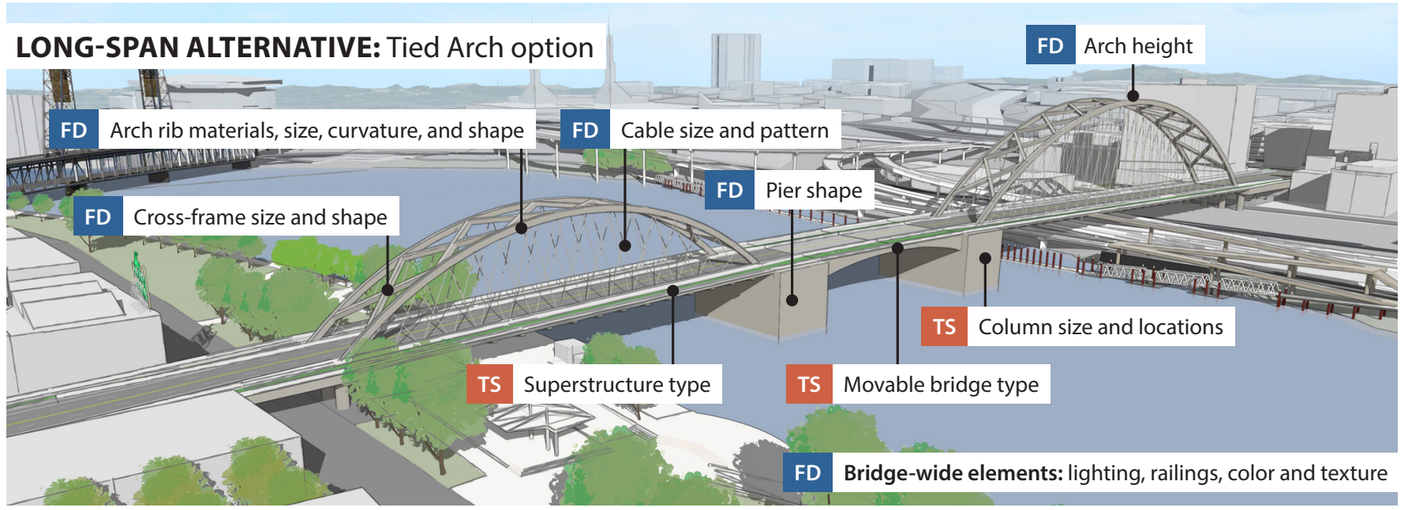
- Tower height, size, shape, and materials
- Cable size and pattern

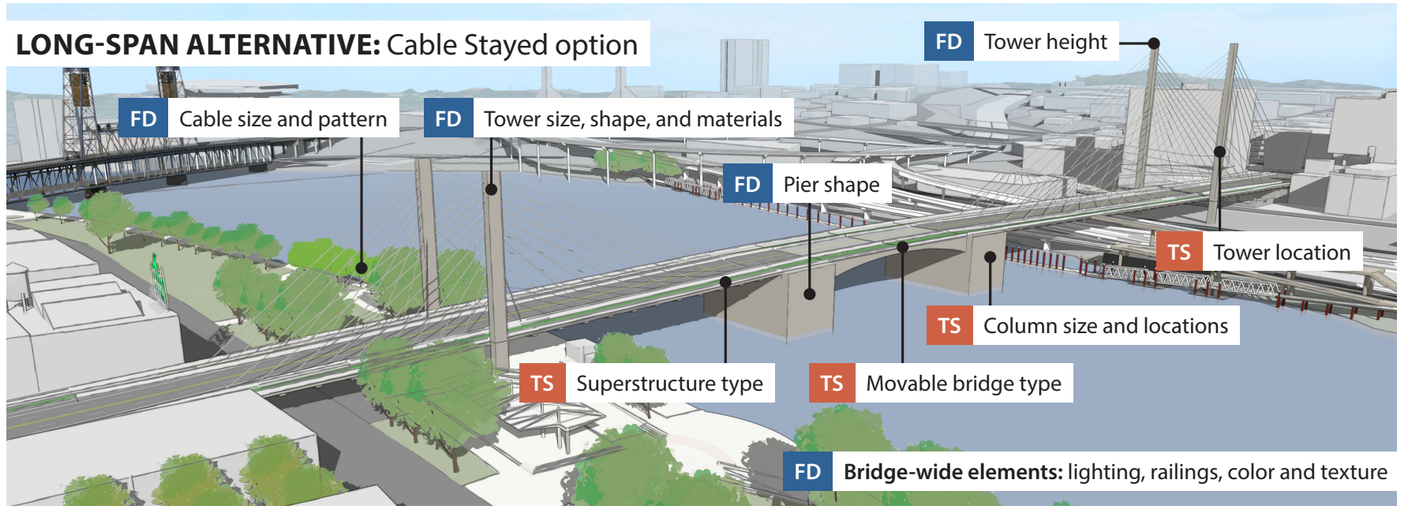
Movable Span Type: variables for consideration





Working with the community and agency professionals, we will develop urban design guidelines and evaluation criteria to help in refining aesthetic features during Type Selection and Final Design.

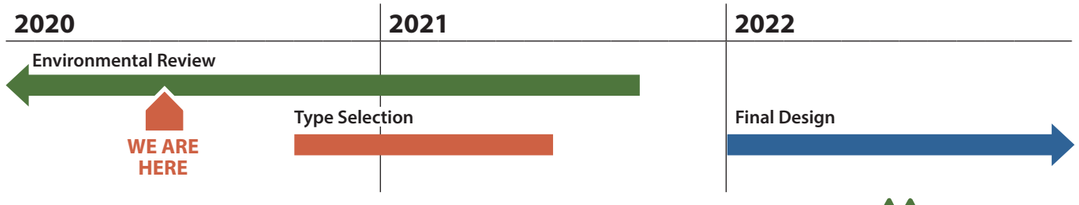




LEGEND:

- TS Type Selection Phase
- FD Final Design Phase

Schedule



Multnomah County

Bridge Type Examples

BRIDGE TYPE OPTION: Tied Arch examples


Hastings Bridge, Minnesota


Torikai Ohas Bridge, Japan


Siuslaw River Bridge, Oregon


Tacony-Palmyra Bridge, Pennsylvania


Gateway Bridge, Michigan

BRIDGE TYPE OPTION: Cable Stayed examples


Indian River Inlet Bridge, Delaware


Chongqing Expressway Bridge


Copper River Bridge


Tilikum Crossing Bridge, Oregon

BRIDGE TYPE OPTION: Through Truss examples


Main Street Bridge, Florida

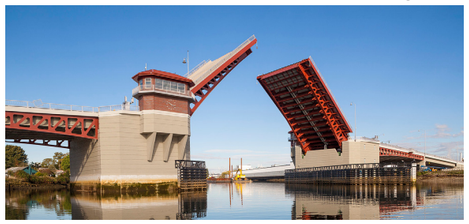

Triboro (Harlem River) Bridge


Tower Bridge, CA


Broadway Bridge


Hawthorn Bridge

MOVABLE SPAN: Bascule examples


South Park Bridge

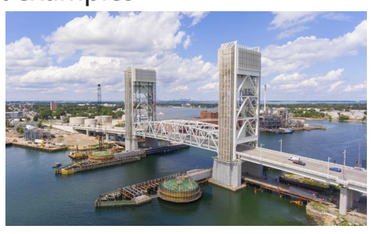

Harbor Bridge, Spain


New Johnson St. Bridge, Canada


Woodrow Wilson Bridge

MOVABLE SPAN: Vertical Lift examples


Teregganu Bridge


Fore River Bridge


Pont Jacques Chaban - Delmas


Manchester Millenium Bridge, England

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BurnsideBridge.org

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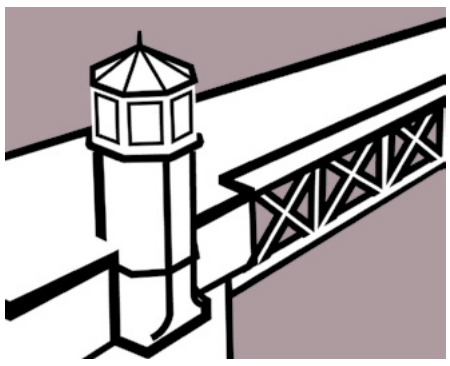
Multnomah County

ALTERNATIVE 1: Enhanced Seismic Retrofit



Description:

Upgrade of the existing bridge to meet current seismic standards.This includes a combination of retrofitting portions of the bridge and replacing others.

Total Score out of 100	
Full Bridge Closure	61
Temporary Bridge	53

BETTER - SAFER - CONNECTED

Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Seismic Resiliency	1a.1:	Maximize confidence in post-earthquake crossing operability and reparability.	3.33	○	10.3 of 14 possible	○	8.6 of 14 possible
	1a.2:	Maximize ability for all modes to use the crossing post-earthquake.	3.33	◒		◒	
	1a.3	Minimize risk that adjacent buildings could damage or block the bridge after a major earthquake, and minimize risk that crossing construction could lessen the seismic resilience of adjacent buildings.	3.33	●		●	
	1b.1	Minimize delay in achieving a seismically resilient crossing.	4.29	●		◒	
Community Quality of Life	2a.1	Minimize long-term noise and light/shadow impacts.	2.35	◒	3.7 of 8 possible	◒	2.5 of 8 possible
	2a.2	Minimize long-term impacts to community facilities and events under and near the bridge (e.g., Skatepark, Saturday Market, park festivals, parades, organized runs, etc.).	2.35	○		○	
	2b.1	Minimize temporary impacts to community facilities and events under and near the bridge.	3.00	◒		○	
Equity and Environmental Justice	3a.1	Minimize temporary impacts to social service providers.	1.21	●	4.6 of 8 possible	●	4.6 of 8 possible
	3a.2	Maintain social service providers' long-term ability to provide current level of service and potential for enhancement.	1.21	●		●	
	3a.3	Avoid disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.21	◒		◒	
	3b.1	Minimize temporary impacts to social service providers.	1.17	○		○	
	3b.2	Avoid temporary disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.17	◔		◔	
	3b.3	Ensure that design and construction approach allow ample opportunities for DBE firms to be involved in the construction/ contracting process.	1.17	◒		◒	
Crime Reduction and Personal Safety	4a.1	Maximize personal safety and crime reduction by following principles of Crime Prevention Through Environmental Design (CPTED).	1.65	○	0.3 of 2 possible	○	0.3 of 2 possible
Business and Economics	5a.1	Minimize business displacements and permanent access impacts.	0.90	●	2.9 of 4 possible	●	2.9 of 4 possible
	5a.2	Support redevelopment potential consistent with local plans.	0.90	●		●	
	5b.1	Minimize temporary access impacts to businesses.	0.68	◒		●	
	5b.2	Minimize temporary regional economic impacts.	0.68	◔		◔	
	5b.3	Minimize loss of economic benefits (includes businesses and charities) from temporary impacts to major community events under and near the bridge.	0.68	◒		○	

Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING 1 ○ 2 ◔ 3 ◒ 4 ◕ 5 ●

Scores range from 1 (empty circles) at the lowest and 5 (full circles) at the highest.

Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Parks and Recreation Resources	6a.1	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	3.4	○	1.7 of 6 possible	○	1.1 of 6 possible
	6b.2	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	2.08	◔		○	
Historic Resources	7a.1	Minimize historic resource impacts.	4.95	●	5.2 of 6 possible	●	5.2 of 6 possible
	7b.1	Minimize temporary impacts to historic resources.	1.09	○		○	
Visual and Aesthetics	8a.1	Minimize adverse impacts to existing views and view corridors.	1.28	◕	1.5 of 4 possible	◓	1.3 of 4 possible
	8a.2	Maximize aesthetic experience for all users approaching, on, and under the bridge.	1.28	○		○	
	8a.3	Create opportunity for a crossing that provides an iconic/ demonstrative visual experience.	1.28	○		○	
		N/A					
Natural Resources, Climate Change, and Sustainability	9a.1	Minimize impacts to water quality and flooding.	3.29	◔	5.9 of 11 possible	◔	3.5 of 11 possible
	9a.2	Minimize impacts to fish and wildlife.	3.29	○		○	
	9b.1	Minimize temporary impacts to water quality and flooding.	0.97	●		◔	
	9b.2	Minimize temporary impacts to air quality, greenhouse gas emissions and carbon sequestration.	0.97	●		◔	
	9b.3	Minimize temporary impacts to fish and wildlife.	0.97	◕		◔	
	9b.4	Minimize resource consumption and waste production during construction.	0.97	●		○	
Pedestrians, Bicyclists and People with Disabilities (ADA – Americans with Disabilities Act)	10a.1	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	3.14	◔	7.9 of 12 possible	◔	9.2 of 12 possible
	10a.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	3.14	◕		◕	
	10a.3	Maximize access/connectivity for pedestrians and ADA.	3.14	◕		◕	
	10b.1	Minimize temporary travel time and access/connectivity impacts to bicyclists.	0.89	◓		●	
	10b.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	0.89	◓		●	
	10b.3	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	0.89	○		◔	
Motor Vehicles, Freight, and Emergency Vehicles	11a.1	Maximize safety for motor vehicles and freight.	3.41	◓	6.2 of 11 possible	◓	6.0 of 11 possible
	11a.2	Maximize emergency service operations and responsiveness.	3.41	○		○	
	11b.1	Minimize temporary access and travel time impacts to freight and emergency vehicles.	1.39	◕		◕	
	11b.2	Minimize temporary safety, impacts to motor vehicles, freight, and emergency vehicles.	1.39	●		◓	
	11b.3	Minimize temporary access and travel time impacts to motor vehicles.	1.39	◕		◕	
Transit	12a.1	Maximize Streetcar readiness.	2.64	◓	7.8 of 11 possible	◓	6.6 of 11 possible
	12a.2	Maximize bus accessibility.	2.64	●		●	
	12a.3	Minimize transit collision vulnerability.	2.64	○		○	
	12b.1	Minimize temporary impacts to transit access, safety, travel times, and ridership.	3.08	●		◓	
Fiscal Responsibility	13a.1	Minimize total Project cost.	2.75	●	3.3 of 6 possible	○	1.1 of 6 possible
	13a.2	Minimize long-term maintenance needs/costs.	2.75	○		○	
		N/A					
ALTERNATIVE 1: Enhanced Seismic Retrofit			Total		61		53

Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING 1 ○ 2 ◔ 3 ◓ 4 ◕ 5 ●

Scores range from 1 (empty circles) at the lowest and 5 (full circles) at the highest.

ALTERNATIVE 2: Replacement – Short Span

Description:

New movable bridge at about the same height and location as the current bridge (also considered a conventional in-kind replacement).

Total Score out of 100		
	Full Bridge Closure	75
	Temporary Bridge	66

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Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Seismic Resiliency	1a.1:	Maximize confidence in post-earthquake crossing operability and reparability.	3.33	◔	13 of 14 possible	◔	9.5 of 14 possible
	1a.2:	Maximize ability for all modes to use the crossing post-earthquake.	3.33	◔		◔	
	1a.3	Minimize risk that adjacent buildings could damage or block the bridge after a major earthquake, and minimize risk that crossing construction could lessen the seismic resilience of adjacent buildings.	3.33	●		●	
	1b.1	Minimize delay in achieving a seismically resilient crossing.	4.29	●		○	
Community Quality of Life	2a.1	Minimize long-term noise and light/shadow impacts.	2.35	◔	5.1 of 8 possible	◔	3.9 of 8 possible
	2a.2	Minimize long-term impacts to community facilities and events under and near the bridge (e.g., Skatepark, Saturday Market, park festivals, parades, organized runs, etc.).	2.35	◒		◒	
	2b.1	Minimize temporary impacts to community facilities and events under and near the bridge.	3.00	◒		○	
Equity and Environmental Justice	3a.1	Minimize temporary impacts to social service providers.	1.21	●	5.7 of 8 possible	●	6.0 of 8 possible
	3a.2	Maintain social service providers' long-term ability to provide current level of service and potential for enhancement.	1.21	●		●	
	3a.3	Avoid disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.21	●		●	
	3b.1	Minimize temporary impacts to social service providers.	1.17	◒		◔	
	3b.2	Avoid temporary disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.17	◒		◒	
	3b.3	Ensure that design and construction approach allow ample opportunities for DBE firms to be involved in the construction/ contracting process.	1.17	◒		◒	
Crime Reduction and Personal Safety	4a.1	Maximize personal safety and crime reduction by following principles of Crime Prevention Through Environmental Design (CPTED).	1.65	◒	1.0 of 2 possible	◒	1.0 of 2 possible
Business and Economics	5a.1	Minimize business displacements and permanent access impacts.	0.90	●	3.0 of 4 possible	●	2.9 of 4 possible
	5a.2	Support redevelopment potential consistent with local plans.	0.90	●		●	
	5b.1	Minimize temporary access impacts to businesses.	0.68	◒		●	
	5b.2	Minimize temporary regional economic impacts.	0.68	◒		◔	
	5b.3	Minimize loss of economic benefits (includes businesses and charities) from temporary impacts to major community events under and near the bridge.	0.68	◒		○	

Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING 1 ○ 2 ◔ 3 ◒ 4 ◕ 5 ● Scores range from 1 (empty circles) at the lowest and 5 (full circles) at the highest.

Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Parks and Recreation Resources	6a.1	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	3.4	◔	3.7 of 6 possible	◒	2.5 of 6 possible
	6b.2	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	2.08	◔		○	
Historic Resources	7a.1	Minimize historic resource impacts.	4.95	◔	5.4 of 6 possible	◔	4.3 of 6 possible
	7b.1	Minimize temporary impacts to historic resources.	1.09	●		◒	
Visual and Aesthetics	8a.1	Minimize adverse impacts to existing views and view corridors.	1.28	●	2.3 of 4 possible	◔	2.1 of 4 possible
	8a.2	Maximize aesthetic experience for all users approaching, on, and under the bridge.	1.28	◒		◒	
	8a.3	Create opportunity for a crossing that provides an iconic/ demonstrative visual experience.	1.28	○		○	
		N/A					
Natural Resources, Climate Change, and Sustainability	9a.1	Minimize impacts to water quality and flooding.	3.29	◒	6.8 of 11 possible	◒	4.9 of 11 possible
	9a.2	Minimize impacts to fish and wildlife.	3.29	◒		◒	
	9b.1	Minimize temporary impacts to water quality and flooding.	0.97	●		◔	
	9b.2	Minimize temporary impacts to air quality, greenhouse gas emissions and carbon sequestration.	0.97	◔		○	
	9b.3	Minimize temporary impacts to fish and wildlife.	0.97	◒		○	
	9b.4	Minimize resource consumption and waste production during construction.	0.97	◒		○	
Pedestrians, Bicyclists and People with Disabilities (ADA – Americans with Disabilities Act)	10a.1	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	3.14	◔	8.5 of 12 possible	◔	10.1 of 12 possible
	10a.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	3.14	◔		◔	
	10a.3	Maximize access/connectivity for pedestrians and ADA.	3.14	◔		◔	
	10b.1	Minimize temporary travel time and access/connectivity impacts to bicyclists.	0.89	○		●	
	10b.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	0.89	○		◒	
	10b.3	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	0.89	○		◔	
Motor Vehicles, Freight, and Emergency Vehicles	11a.1	Maximize safety for motor vehicles and freight.	3.41	◒	7.0 of 11 possible	◒	7.0 of 11 possible
	11a.2	Maximize emergency service operations and responsiveness.	3.41	◒		◒	
	11b.1	Minimize temporary access and travel time impacts to freight and emergency vehicles.	1.39	◔		◔	
	11b.2	Minimize temporary safety, impacts to motor vehicles, freight, and emergency vehicles.	1.39	◒		◒	
	11b.3	Minimize temporary access and travel time impacts to motor vehicles.	1.39	◔		◔	
Transit	12a.1	Maximize Streetcar readiness.	2.64	◒	7.6 of 11 possible	◒	7.6 of 11 possible
	12a.2	Maximize bus accessibility.	2.64	●		●	
	12a.3	Minimize transit collision vulnerability.	2.64	◒		◒	
	12b.1	Minimize temporary impacts to transit access, safety, travel times, and ridership.	3.08	◒		◒	
Fiscal Responsibility	13a.1	Minimize total Project cost.	2.75	●	5.5 of 6 possible	◒	4.4 of 6 possible
	13a.2	Minimize long-term maintenance needs/costs.	2.75	●		●	
		N/A					
ALTERNATIVE 2: Replacement – Short Span			Total		75		66

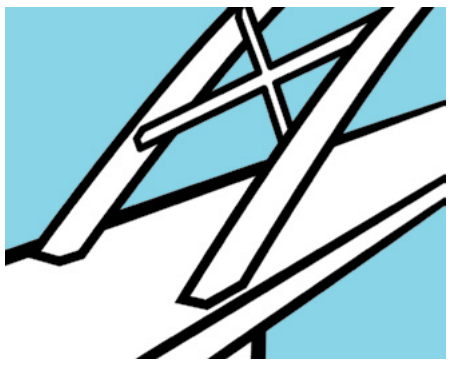
Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING

1 ○ 2 ◔ 3 ◒ 4 ◔ 5 ●

Scores range from 1 (empty circles) at the lowest and 5 (full circles) at the highest.

ALTERNATIVE 3: Replacement – Long Span



Description:

New movable bridge at about the same height and location as the current bridge but with longer and fewer spans than compared to all other alternatives. This would include additional above deck structure to accomplish.

Total Score out of 100		
Full Bridge Closure	82	
Temporary Bridge	72	

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Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Seismic Resiliency	1a.1:	Maximize confidence in post-earthquake crossing operability and reparability.	3.33	●	13.6 of 14 possible	●	10.2 of 14 possible
	1a.2:	Maximize ability for all modes to use the crossing post-earthquake.	3.33	◔		◔	
	1a.3	Minimize risk that adjacent buildings could damage or block the bridge after a major earthquake, and minimize risk that crossing construction could lessen the seismic resilience of adjacent buildings.	3.33	●		●	
	1b.1	Minimize delay in achieving a seismically resilient crossing.	4.29	●		○	
Community Quality of Life	2a.1	Minimize long-term noise and light/shadow impacts.	2.35	●	7.7 of 8 possible	●	5.3 of 8 possible
	2a.2	Minimize long-term impacts to community facilities and events under and near the bridge (e.g., Skatepark, Saturday Market, park festivals, parades, organized runs, etc.).	2.35	●		●	
	2b.1	Minimize temporary impacts to community facilities and events under and near the bridge.	3.00	●		○	
Equity and Environmental Justice	3a.1	Minimize temporary impacts to social service providers.	1.21	●	6.2 of 8 possible	●	6.0 of 8 possible
	3a.2	Maintain social service providers' long-term ability to provide current level of service and potential for enhancement.	1.21	●		●	
	3a.3	Avoid disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.21	●		●	
	3b.1	Minimize temporary impacts to social service providers.	1.17	◒		◔	
	3b.2	Avoid temporary disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.17	●		◒	
	3b.3	Ensure that design and construction approach allow ample opportunities for DBE firms to be involved in the construction/ contracting process.	1.17	◒		◒	
Crime Reduction and Personal Safety	4a.1	Maximize personal safety and crime reduction by following principles of Crime Prevention Through Environmental Design (CPTED).	1.65	●	1.7 of 2 possible	●	1.7 of 2 possible
Business and Economics	5a.1	Minimize business displacements and permanent access impacts.	0.90	●	3.3 of 4 possible	●	2.9 of 4 possible
	5a.2	Support redevelopment potential consistent with local plans.	0.90	●		●	
	5b.1	Minimize temporary access impacts to businesses.	0.68	◒		●	
	5b.2	Minimize temporary regional economic impacts.	0.68	◒		◔	
	5b.3	Minimize loss of economic benefits (includes businesses and charities) from temporary impacts to major community events under and near the bridge.	0.68	●		○	

Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING 1 ○ 2 ◔ 3 ◒ 4 ◕ 5 ●

Scores range from 1 (empty circles) at the lowest and 5 (full circles) at the highest.

Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Parks and Recreation Resources	6a.1	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	3.4	●	4.7 of 6 possible	◕	3.7 of 6 possible
	6b.2	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	2.08	◓		◔	
Historic Resources	7a.1	Minimize historic resource impacts.	4.95	◓	4.1 of 6 possible	◔	3.0 of 6 possible
	7b.1	Minimize temporary impacts to historic resources.	1.09	●		◓	
Visual and Aesthetics	8a.1	Minimize adverse impacts to existing views and view corridors.	1.28	◓	3.3 of 4 possible	◔	3.1 of 4 possible
	8a.2	Maximize aesthetic experience for all users approaching, on, and under the bridge.	1.28	●		●	
	8a.3	Create opportunity for a crossing that provides an iconic/ demonstrative visual experience.	1.28	●		●	
		N/A					
Natural Resources, Climate Change, and Sustainability	9a.1	Minimize impacts to water quality and flooding.	3.29	◕	9.0 of 11 possible	◕	7.0 of 11 possible
	9a.2	Minimize impacts to fish and wildlife.	3.29	●		●	
	9b.1	Minimize temporary impacts to water quality and flooding.	0.97	●		◔	
	9b.2	Minimize temporary impacts to air quality, greenhouse gas emissions and carbon sequestration.	0.97	◕		○	
	9b.3	Minimize temporary impacts to fish and wildlife.	0.97	●		◓	
	9b.4	Minimize resource consumption and waste production during construction.	0.97	◓		○	
Pedestrians, Bicyclists and People with Disabilities (ADA – Americans with Disabilities Act)	10a.1	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	3.14	◕	8.5 of 12 possible	◕	10.1 of 12 possible
	10a.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	3.14	◕		◕	
	10a.3	Maximize access/connectivity for pedestrians and ADA.	3.14	◕		◕	
	10b.1	Minimize temporary travel time and access/connectivity impacts to bicyclists.	0.89	○		●	
	10b.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	0.89	○		◓	
	10b.3	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	0.89	○		◕	
Motor Vehicles, Freight, and Emergency Vehicles	11a.1	Maximize safety for motor vehicles and freight.	3.41	◓	7.0 of 11 possible	◓	7.0 of 11 possible
	11a.2	Maximize emergency service operations and responsiveness.	3.41	◓		◓	
	11b.1	Minimize temporary access and travel time impacts to freight and emergency vehicles.	1.39	◕		◕	
	11b.2	Minimize temporary safety, impacts to motor vehicles, freight, and emergency vehicles.	1.39	◓		◓	
	11b.3	Minimize temporary access and travel time impacts to motor vehicles.	1.39	◕		◕	
Transit	12a.1	Maximize Streetcar readiness.	2.64	◓	7.6 of 11 possible	◓	7.6 of 11 possible
	12a.2	Maximize bus accessibility.	2.64	●		●	
	12a.3	Minimize transit collision vulnerability.	2.64	◓		◓	
	12b.1	Minimize temporary impacts to transit access, safety, travel times, and ridership.	3.08	◓		◓	
Fiscal Responsibility	13a.1	Minimize total Project cost.	2.75	●	5.5 of 6 possible	◓	4.4 of 6 possible
	13a.2	Minimize long-term maintenance needs/costs.	2.75	●		●	
		N/A					
ALTERNATIVE 3: Replacement – Long Span			Total		82		72

Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING

1 ○ 2 ◔ 3 ◓ 4 ◕ 5 ●

Scores range from 1 (empty circles) at the lowest and 5 (full circles) at the highest.

ALTERNATIVE 4: Replacement – Couch Extension

Description:

New movable bridge of about the same height as the current bridge but instead of NE Couch St connecting into Burnside where it does now on the eastside, the bridge would extend out and over NE 2nd Ave and the highway and connect back to the bridge at a point over the river.

Total Score out of 100	
Full Bridge Closure	65
Temporary Bridge	57

BETTER - SAFER - CONNECTED

Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Seismic Resiliency	1a.1:	Maximize confidence in post-earthquake crossing operability and reparability.	3.33	◓	9.0 of 14 possible	◓	5.5 of 14 possible
	1a.2:	Maximize ability for all modes to use the crossing post-earthquake.	3.33	○		○	
	1a.3	Minimize risk that adjacent buildings could damage or block the bridge after a major earthquake, and minimize risk that crossing construction could lessen the seismic resilience of adjacent buildings.	3.33	◓		◓	
	1b.1	Minimize delay in achieving a seismically resilient crossing.	4.29	●		○	
Community Quality of Life	2a.1	Minimize long-term noise and light/shadow impacts.	2.35	◔	4.1 of 8 possible	◔	2.9 of 8 possible
	2a.2	Minimize long-term impacts to community facilities and events under and near the bridge (e.g., Skatepark, Saturday Market, park festivals, parades, organized runs, etc.).	2.35	◓		◓	
	2b.1	Minimize temporary impacts to community facilities and events under and near the bridge.	3.00	◓		○	
Equity and Environmental Justice	3a.1	Minimize temporary impacts to social service providers.	1.21	●	5.7 of 8 possible	●	6.0 of 8 possible
	3a.2	Maintain social service providers' long-term ability to provide current level of service and potential for enhancement.	1.21	●		●	
	3a.3	Avoid disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.21	●		●	
	3b.1	Minimize temporary impacts to social service providers.	1.17	◓		◔	
	3b.2	Avoid temporary disproportionate adverse impacts to vulnerable and Environmental Justice communities.	1.17	◓		◓	
	3b.3	Ensure that design and construction approach allow ample opportunities for DBE firms to be involved in the construction/ contracting process.	1.17	◓		◓	
Crime Reduction and Personal Safety	4a.1	Maximize personal safety and crime reduction by following principles of Crime Prevention Through Environmental Design (CPTED).	1.65	◓	1.0 of 2 possible	◓	1.0 of 2 possible
Business and Economics	5a.1	Minimize business displacements and permanent access impacts.	0.90	◔	2.2 of 4 possible	◔	2.5 of 4 possible
	5a.2	Support redevelopment potential consistent with local plans.	0.90	●		●	
	5b.1	Minimize temporary access impacts to businesses.	0.68	○		●	
	5b.2	Minimize temporary regional economic impacts.	0.68	◓		◓	
	5b.3	Minimize loss of economic benefits (includes businesses and charities) from temporary impacts to major community events under and near the bridge.	0.68	◓		○	

Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING 1 ○ 2 ◔ 3 ◓ 4 ◕ 5 ●

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Criteria Topic		Criteria Description	Weighting %	Full Bridge Closure		Temporary Bridge	
				Rating	Criteria Topic Score	Rating	Criteria Topic Score
Parks and Recreation Resources	6a.1	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	3.4	◔	3.7 of 6 possible	◒	2.5 of 6 possible
	6b.2	Minimize park displacements and adverse functionality impacts (include impacts to river recreation).	2.08	◔		○	
Historic Resources	7a.1	Minimize historic resource impacts.	4.95	◔	4.7 of 6 possible	◒	3.6 of 6 possible
	7b.1	Minimize temporary impacts to historic resources.	1.09	●		◒	
Visual and Aesthetics	8a.1	Minimize adverse impacts to existing views and view corridors.	1.28	◔	2.1 of 4 possible	◔	2.1 of 4 possible
	8a.2	Maximize aesthetic experience for all users approaching, on, and under the bridge.	1.28	◒		◒	
	8a.3	Create opportunity for a crossing that provides an iconic/ demonstrative visual experience.	1.28	◒		◒	
		N/A					
Natural Resources, Climate Change, and Sustainability	9a.1	Minimize impacts to water quality and flooding.	3.29	◒	6.8 of 11 possible	◒	4.7 of 11 possible
	9a.2	Minimize impacts to fish and wildlife.	3.29	◒		◒	
	9b.1	Minimize temporary impacts to water quality and flooding.	0.97	●		○	
	9b.2	Minimize temporary impacts to air quality, greenhouse gas emissions and carbon sequestration.	0.97	◔		○	
	9b.3	Minimize temporary impacts to fish and wildlife.	0.97	◒		○	
	9b.4	Minimize resource consumption and waste production during construction.	0.97	◒		○	
Pedestrians, Bicyclists and People with Disabilities (ADA – Americans with Disabilities Act)	10a.1	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	3.14	◒	5.8 of 12 possible	◒	7.4 of 12 possible
	10a.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	3.14	◒		◒	
	10a.3	Maximize access/connectivity for pedestrians and ADA.	3.14	◔		◔	
	10b.1	Minimize temporary travel time and access/connectivity impacts to bicyclists.	0.89	○		●	
	10b.2	Minimize temporary travel time and access/connectivity impacts to pedestrians.	0.89	○		◒	
	10b.3	Maximize City's Vision Zero principles for safety and comfort for bicyclists, pedestrians, and other low-impact vehicles (e.g., scooters, skateboards).	0.89	○		◔	
Motor Vehicles, Freight, and Emergency Vehicles	11a.1	Maximize safety for motor vehicles and freight.	3.41	◒	6.8 of 11 possible	◒	6.8 of 11 possible
	11a.2	Maximize emergency service operations and responsiveness.	3.41	◒		◒	
	11b.1	Minimize temporary access and travel time impacts to freight and emergency vehicles.	1.39	◔		◔	
	11b.2	Minimize temporary safety, impacts to motor vehicles, freight, and emergency vehicles.	1.39	◒		◒	
	11b.3	Minimize temporary access and travel time impacts to motor vehicles.	1.39	◒		◒	
Transit	12a.1	Maximize Streetcar readiness.	2.64	●	9.8 of 11 possible	●	9.8 of 11 possible
	12a.2	Maximize bus accessibility.	2.64	●		●	
	12a.3	Minimize transit collision vulnerability.	2.64	●		●	
	12b.1	Minimize temporary impacts to transit access, safety, travel times, and ridership.	3.08	◒		◒	
Fiscal Responsibility	13a.1	Minimize total Project cost.	2.75	◒	3.3 of 6 possible	○	2.2 of 6 possible
	13a.2	Minimize long-term maintenance needs/costs.	2.75	◒		◒	
		N/A					
ALTERNATIVE 4: Replacement – Couch Extension			Total		65		57

Indicates: ■ Long Term ■ Short Term

AVERAGE CRITERION RATING

1 ○ 2 ◔ 3 ◒ 4 ◕ 5 ●

Scores range from 1 (empty circles) at the lowest and 5 (full circles) at the highest.

Upcoming Technical Reports Submittal Dates

Submittal Dates to County for Agency Review	
7/6/20 **Mon** Agency Comments Due 7/27	EIS Batch 1 • Acquisitions and Relocations • Soils and Geology • Hazardous Materials • Stormwater • Wetlands and Waters • Right-of-Way • Utilities • Supporting Document (updated if agency comments required): ○ Description of Alternatives
7/14/20 **Tues** Agency Comments Due 8/4	EIS Batch 2 • Land Use • Hydraulics • Parks and Recreation • Noise and Vibration • Vegetation, Wildlife and Aquatic Species
7/23/20 **Thurs** Agency Comments Due 8/13 *(Transp. Comments Due 8/20)*	EIS Batch 3 • Public Services • Climate Change • Air Quality • Cultural Resources (Hist./Arch.) • Visual Resources • Economics • Transportation

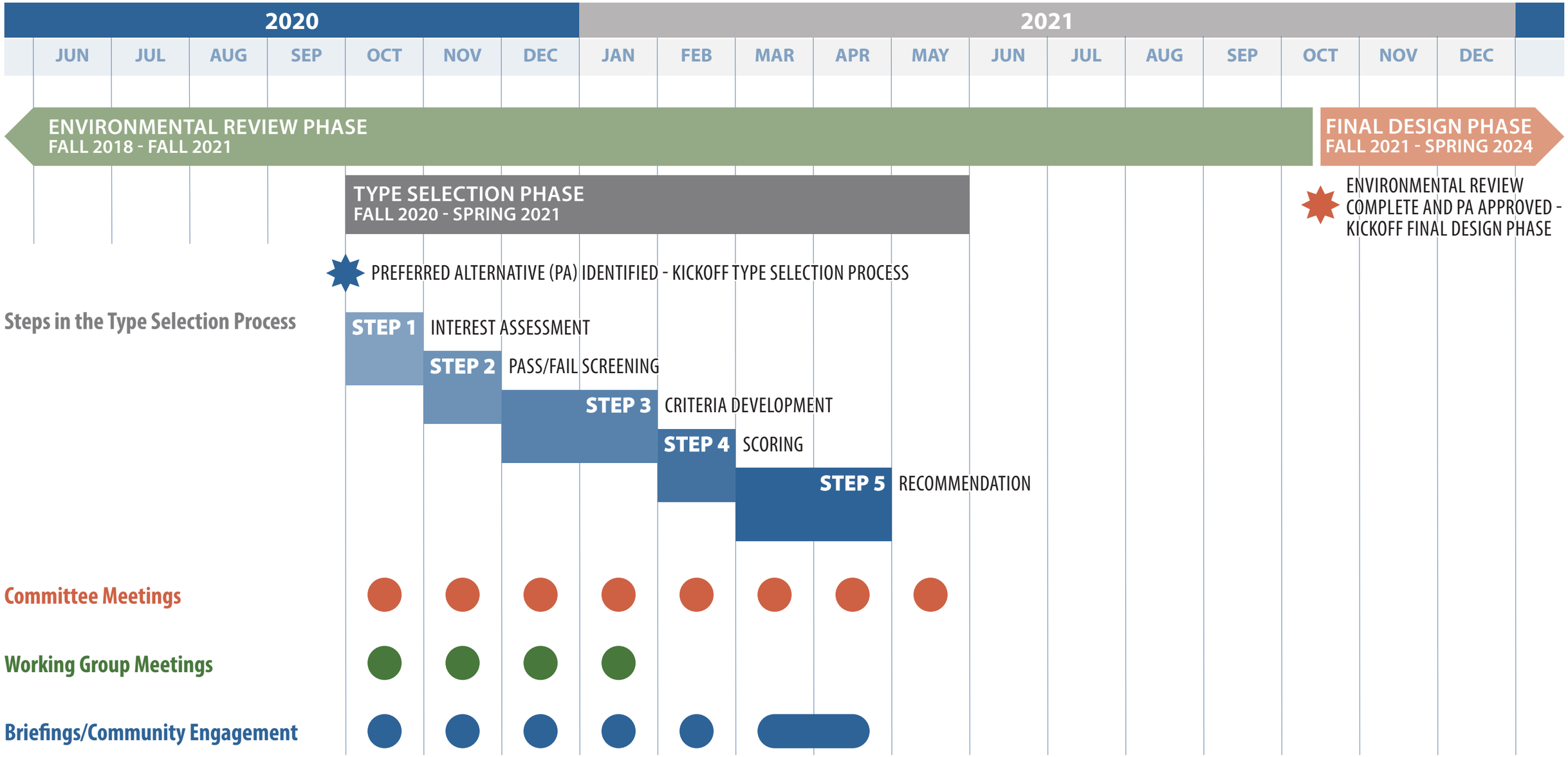
7/28/20
Tues
 	
Agency Comments Due 8/18
	EIS Batch 4
	• Environmental Justice/Equity
	• Section 4(f)
	• Social/Neighborhoods
	• Greenroads
	• Health Impact Assessment (MultCo prepared)
	
	Design Tech Reports
	• Construction Approach Tech Report
	• Enhanced Retrofit Tech Report
	• Bridge Replacement Tech Report
	• Geotechnical Tech Report
	• Preliminary Navigation Study
	• Supporting Documents (updated if agency comments required):
	  ○ Seismic Design Criteria
	  ○ Bridge Design Criteria
	  ○ Roadway Deficiency Tech Memo
	  ○ Facilities Standards List
	  ○ Fixed Bridge Removed Recommendation

EARTHQUAKE READY BURNSIDE BRIDGE

TYPE SELECTION PHASE TIMELINE

BETTER – SAFER – CONNECTED

June 2020



Multnomah County