

Attachment J

Summary of Potential Mitigation

For other questions including those related to the Americans with Disabilities Act and Civil Rights Title VI accommodations, call 503-988-5050. You can also call Oregon Relay Service 7-1-1 or email burnsidebridge@multco.us. For information about this project in other languages please call 503-988-5970.

Para obtener información sobre este proyecto en español, ruso u otros idiomas, llame al 503-988-5970 o envíe un correo electrónico a burnsidebridge@multco.us.

Для получения информации об этом проекте на испанском, русском или других языках, свяжитесь с нами по телефону 503-988-5970 или по электронной почте: burnsidebridge@multco.us.

Attachment J. Potential Mitigation Measures for Short-Term and Long-Term Impacts

This table lists potential mitigation measures to address short-term and long-term impacts identified during the SDEIS process. Following the SDEIS comment period, any refinements to design or construction assumptions, and any updated impacts analysis, mitigation commitments for the preferred alternative will be recorded in the Record of Decision.

Legend:

AQ = Air Quality
CC = Climate Change
CR = Cultural Resources.
DI = Displacements
EC= Economics
EQ= Equity and Environmental Justice
FL = Flooding and Hydraulics
HI = Health Impact Assessment

HZ = Hazardous Materials
LU = Land Use
NO = Noise
PR= Parks and Recreational resources
PS = Public Services
SG = Soils and Geology
SN = Social/Neighborhoods
SU = Sustainability

ST = Stormwater
TR = Transportation
UT = Utilities
VR = Visual Resources
VF = Vegetation, Wildlife and Fish
WW = Wetlands and Waters
4f = Section 4(f)

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A	B	C	D	E	F	G	H	I	J	K	L	M	N
Topic	Subtopic	Description	How resources are impacted	Technical Report	Potential Mitigation Measures to Consider	Mandatory or Discretionary?	Is this mitigation to comply with regulatory requirement?	Build Alternative	Construction Traffic Management Option	Cost Estimate	City Level Interest	Agency Interest	Notes
1	Property	Displacement	Skatepark Closure	Burnside Skatepark temporary closure. Construction work for all alternatives would temporarily close public access to and use of the Skatepark.	CR	Select alternatives or options with minimal duration of closure.	TBD	N/A	All	TBD			Total duration of closure would be much longer with the Retrofit Alternative than the Replacement Alternatives, and longer with Temp Bridge than with No Temp Bridge.
8	Property	Displacement	Skatepark Closure	Burnside Skatepark temporary closure. Construction work for all alternatives would temporarily close public access to and use of the Skatepark.	CR	Attempt to reduce closure duration through design modifications or construction methods.	Mandatory	N/A	All	TBD			Total duration of closure would be much longer with the Retrofit Alternative than the Replacement Alternatives, and longer with Temp Bridge than with No Temp Bridge.
9	Property	Displacement	Skatepark Closure	Burnside Skatepark temporary closure. Construction work for all alternatives would temporarily close public access to and use of the Skatepark.	CR	If closure duration is extensive, then consider the following for mitigation: Extensive documentation of the Skatepark in its current form, working with the skater community and others to recover and preserve as many images as possible of the evolution of the Skatepark since 1990.	TBD	N/A	All	TBD			Total duration of closure would be much longer with the Retrofit Alternative than the Replacement Alternatives, and longer with Temp Bridge than with No Temp Bridge.
10	Property	Displacement	Skatepark Closure	Burnside Skatepark temporary closure. Construction work for all alternatives would temporarily close public access to and use of the Skatepark.	CR	If closure duration is extensive, then consider the following for mitigation: video documentation of activity at the Skatepark.	Mandatory	N/A	All	TBD			Total duration of closure would be much longer with the Retrofit Alternative than the Replacement Alternatives, and longer with Temp Bridge than with No Temp Bridge.
11	Property	Displacement	Skatepark Closure	Burnside Skatepark temporary closure. Construction work for all alternatives would temporarily close public access to and use of the Skatepark.	CR	If closure duration is extensive, then consider the following for mitigation: Conduct oral histories with past and present users of the Skatepark of the history of the Skatepark and its importance to the skating community. This should include Internet and social media postings, as well as outreach to other users who are not local residents.	Mandatory	N/A	All	TBD			Total duration of closure would be much longer with the Retrofit Alternative than the Replacement Alternatives, and longer with Temp Bridge than with No Temp Bridge.
12	Property	Displacement	Skatepark Closure	Burnside Skatepark temporary closure. Construction work for all alternatives would temporarily close public access to and use of the Skatepark.	CR	If closure duration is extensive, then consider the following for mitigation: Determine if there are other opportunities to support other existing DIY Skatepark that are accessible to Skatepark users.	Mandatory	N/A	All	TBD			Total duration of closure would be much longer with the Retrofit Alternative than the Replacement Alternatives, and longer with Temp Bridge than with No Temp Bridge.
13	Property	Structure	Harbor Wall	Removal and replacement of part of the Harbor Wall due to alterations at Pier 1	CR	Rebuild this section of Harbor Wall to complement appearance of existing wall.	Mandatory	Section 106 NHPA	Enhanced Seismic Retrofit	Included in base costs			Removal and replacement of part of the Harbor Wall due to alterations at Pier 1
38	Property	Structure	Vibration	Vibrations from construction equipment could cause adverse effects to unreinforced masonry (URM) historic buildings	CR	During bridge demolition and construction within 100 feet of unreinforced masonry buildings, monitor vibration levels inside the buildings and inspect conditions. Revise construction methods where necessary to avoid vibration-related structural damage	Mandatory	N/A	All	Temporary Bridge: All modes	Included in base costs		
39	Property	Structure	Vibration	Vibrations from construction equipment could cause adverse effects to unreinforced masonry (URM) historic buildings	CR	For those buildings for which there is currently no available information on seismic retrofitting, contact building owners or managers to determine if seismic retrofitting has been undertaken or is planned.	Mandatory	N/A	All	Temporary Bridge: All modes	Included in base costs		
40	Property	Structure	Vibration	Vibrations from construction equipment could cause adverse effects to unreinforced masonry (URM) historic buildings	CR	Conduct engineering assessments to better define the vulnerability to vibration damage for individual buildings.	Mandatory	N/A	All	Temporary Bridge: All modes	Included in base costs		
41	Property	Structure	Vibration	Vibrations from construction equipment could cause adverse effects to unreinforced masonry (URM) historic buildings	CR	Coordinate with the City of Portland and Prosper Portland on the Old Town/Chinatown Five-Year Action Plan Extension, 2019-2024, which defines an objective of rehabilitating historic buildings of unreinforced masonry construction. The project would not fund rehabilitation of buildings that are not impacted by the project, but could encourage prioritization of seismic retrofitting from other funding sources.	Mandatory	N/A	All	Temporary Bridge: All modes	Included in base costs		
42	Construction	Health	Short-term disruptions to physical activity	Impediment to active transportation space	HI	<ul style="list-style-type: none"> Establish and publicize alternate routes for recreation. Select a construction approach that maximizes physical activity during the construction phase. Minimize closure of the Vera Katz Eastbank Esplanade. The Long-span Alternative with no Temporary Bridge would result in the least displacement of physical activity on the esplanade. Collaborate with researchers to monitor changes to physical activity from recreation during closures. Minimize the duration of Burnside Skatepark closure. Promote alternate venues for skating and related cultural events during the closure, consulting with users on preferences prior to finalizing a plan. Replacement Alternatives with no Temporary Bridge would result in the shortest closure of the skatepark. 	Discretionary			TBD			
43	Construction	Health	Short-term health risks from air pollution during construction	Air pollution	HI	<ul style="list-style-type: none"> Adhere to clean diesel contracting rules, and use electric equipment or other pollution controls when possible. Adopt dust control measures for demolition of buildings and the bridge. Offer indoor air filtration and air conditioning to affected residents and small businesses. Establish plans for pollution reductions on days with wildfire smoke infiltration, high ozone, or wintertime inversions. 	Discretionary			TBD			
44	Property	Displacements	Temporarily displaced land uses	Relocation of Land Uses	LU	Compensation and relocation assistance for temporarily displaced land uses	Mandatory	N/A	All	TBD			

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45	Property	Land Use	Zoning	Design and construction impacts to land uses and their functions	LU	<ul style="list-style-type: none"> Comply with local and state land use plans and design guidelines Comply with Greenway Overlay Zone design guidelines for river resource protection Comply with local land use permitting (Greenway Overlay Zone) to evaluate impacts of the new Eastbank Esplanade connection 	Mandatory	N/A	All		TBD			
46	Property	Access	Parking Access	Multiple impacts to parking and vehicular ingress and egress including the Saturday Market building, Mercy Corps, etc.	LU	<ul style="list-style-type: none"> Identify potential opportunities to reduce property impacts during design Prepare a schedule and plan to communicate temporary access closures 	Mandatory	N/A	All		TBD			
47	Property	Access	Social Services	Impacts to social services	LU	<ul style="list-style-type: none"> Identify opportunities to avoid or reduce access impacts through design and construction refinements Conduct ongoing coordination with social service providers throughout Project duration Provide signage and advanced information about access and transit modifications 	Mandatory	N/A	All		TBD			
48	Construction	Transportation	Traffic	Temporary impacts from traffic diversions, delays, and transit routes	LU	<ul style="list-style-type: none"> Increase public awareness about the Project construction schedule Provide transparent signage for detour routes and closures Identify the construction approach and measures that could reduce the duration of closures Coordinate with TriMet on affected bus routes Coordinate with City of Portland and Metro to develop traffic management plan 	Mandatory	N/A	All		TBD			
49	Construction	Transportation	Active Transportation	Disruptions to public spaces commonly used for physical activity	LU	<ul style="list-style-type: none"> Establish and publicize safe alternate and detour routes for recreation Maintain bike and pedestrian connections where feasible Provide permanent enhancements to bike and pedestrian routes impacted by construction 	Mandatory	N/A	All		TBD			
50	Construction	Land Use	Noise/Vibration/Dust	Impacts from air, dust, and sound pollution	LU	<ul style="list-style-type: none"> Coordination with staff and residents, both homeless and others, to understand potential impacts Adopt dust control measures and noise monitoring during construction Consider providing indoor respite space especially during summer and air filters for buildings Comply with state and local noise level rules 	Mandatory	ORS 467 & OAR 340-035	All		Included in base costs			
51	Construction	Vegetation and Wildlife	Natural Resources	Removal and damage to landscaping and trees	LU	<ul style="list-style-type: none"> Protect and maintain street and park trees where feasible Prepare and adopt a mitigation planting plan and schedule in coordination with City of Portland 	Mandatory	Portland City Code Chapter 11.5	All		Included in base costs			
52	Construction	Noise and Vibrations	Noise	Noise and vibration created by construction	NO	Follow all noise control measures in in Section 290.32 of ODOT standard specifications.	Mandatory	ORS 467 & OAR 340-035	All		Included in base costs			
53	Construction	Events	Eastbank Esplanade	Event cancellation due to construction	PR	Financial contribution into a recreation fund as mitigation through the Non-Park Use Permit process	Discretionary							
54	Construction	General construction impacts	Social/Neighborhood	Construction impacts to access and transportation as well as long-term business and community impacts caused by the project	SN	Provide a construction web page for people and businesses to access with questions and concerns regarding any temporary access impacts to businesses, and measures to maintain access.	Discretionary		All		Included in base costs			
55	Construction	Transportation	Transit	Construction impact to transit	TR	Rose Lane BAT lanes to maintain operating times for Streetcar and buses along MLK Blvd and Grand Avenue within the Transit Direct API encompassing the intersections of Burnside/MLK Blvd, Burnside/Grand Avenue, Couch/MLK Blvd, and Couch/Grand Avenue.	Discretionary		All		Included in base costs			
56	Construction	Transportation	Transit	Construction impact to transit	TR	Bus prioritization at temporary bridgehead at both the east and west banks of the Willamette River, including potential queue jumps and signal timing.	Discretionary		All		Included in base costs			
57	Construction	Transportation	Transit	Construction impact to transit	TR	Rerouting additional bus lines to the Burnside Bridge	Discretionary		All		Included in base costs			
58	Construction	Transportation	Transit	Construction impact to transit	TR	Free or subsidized TriMet passes to Social Service agency clients (See Environmental Justice and Equity Report).	Discretionary		All		Included in base costs			

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52	Construction	Transportation	Active Transportation	Construction impact to active transportation	TR	Traffic calming measures in either: (1) places where bikeways don't have separated facilities within the Bicycle and Pedestrian Direct API, or (2) on select neighborhood greenway streets immediately adjacent to the dedicated bicycle / pedestrian detour routes	Discretionary		All		Included in base costs			
60	Construction	Transportation	Active Transportation	Construction impact to active transportation	TR	Specify and sign/mark detour routes to the Steel Bridge to the north, and to either the Morrison or Hawthorne Bridge to the south.	Discretionary		All		Included in base costs			
61	Construction	Transportation	Safety	Construction impact to active transportation	TR	Low-cost safety countermeasures at intersections within the Direct API or on select neighborhood greenway streets immediately adjacent to the dedicated bicycle / pedestrian detour routes. Examples: traffic signal backplates, right-turn or left-turn traffic calming, protected left-turn lane where left turn lane already exists, and temporary traffic signal phasing to separate pedestrians and bicyclists from turning motor vehicles	Discretionary		All		Included in base costs			
62	Construction	Utilities	Relocations	Utility relocation	UT	During construction, the Project contractor could work with utilities to locate their infrastructure and coordinate construction improvements with the utility relocations that occur during construction.	Mandatory	Public Law 91-646, Title III 23 CFR 645 Oregon Revised Statute (ORS) 758.010	All		Included in base costs			
63	Construction	Vegetation and Wildlife	Natural Resources	Construction impacts to natural resources such as vegetation, wildlife, and aquatic species	VF	Implement the following construction BMPs: ODOT Oregon Standard Specifications for Construction (2018)	Mandatory	<ul style="list-style-type: none"> • ODOT Hydraulics Design Manual (2014) • City of Portland Stormwater Management Manual (2016) • Federal Aid Highway Program Programmatic User's Guide (2016) • City of Portland Protecting Nesting Birds (2018) • ODOT Erosion Control Manual (2019) • NOAA Fisheries/USFWS Section 7 Consultation (Biological Opinion - forthcoming) 	All		Included in base costs			
64	Construction	Vegetation and Wildlife	Natural Resources	Construction impacts to aquatic species	VF	Cofferdams isolate specific work areas within the river, reducing exposure of fish to high levels of underwater sound caused by pile driving. Bubble curtains are used during pile driving outside of cofferdams to minimize in-water sound pressure levels. NOAA Fisheries requires fish salvage to avoid and minimize take by physically removing fish from construction areas and releasing them downstream. For each Build Alternative, fish salvage would occur to remove fish from within cofferdams. Conducting in-water construction work during the IWWW minimizes potential impacts to migrating salmonids when their presence is expected to be lowest.	Discretionary		All		Included in base costs			
65	Construction	Vegetation and Wildlife	Natural Resources	Construction impacts to natural resources such as vegetation, wildlife, and aquatic species	VF	On-site riparian restoration which would include removal of invasive vegetation and revegetation with native trees and shrubs. Other on-site restoration includes revegetation in the API to replace the vegetation that was removed during construction	Discretionary		All		Included in base costs			
66	Construction	Noise and Vibrations	Noise	Noise and vibration created by construction	NO	Follow all noise control measures in in Section 290.32 of ODOT standard specifications.	Mandatory	ORS 467 & OAR 340-035						

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2	Construction	Demolition	Materials	Impacts to waste as a result of demolition of the bridge	4f	Reuse of non-structural components, such as operator towers and handrail balustrades, are likely feasible to reuse	Mandatory	Section 4f	All		Included in base costs			
3	Construction	Demolition	Materials	Impacts to record of the bridge	4f	Fully adequate documentation of the bridge will be defined as part of the Section 106 process which will be completed prior to finalization of the Section 4(f) documentation	Mandatory	Section 4f	All		Included in base costs			
4	Construction	Bridge Removal/Construction	Air Quality	Burnside Bridge full removal and new bridge construction.	AQ	Mitigation measures for potential temporary construction impacts normally include best management practices for dust suppression. Construction contractors are required to comply with Division 208 of Oregon Administrative Rules (OAR) 340, which addresses visible emissions and nuisance requirements. Subsection of OAR 340-208 places limits on fugitive dust that causes a nuisance or violates other regulations. Violations of the regulations can result in enforcement action and fines	Mandatory	OAR 340-208, Subsection 210 ODOT Standard Specification, Section 290	All		Included in base costs			
5	Construction	Bridge Removal/Construction	Air Quality	Burnside Bridge full removal and new bridge construction.	AQ	Based on ODOT Standard Specification, Section 290, construction contractors must follow certain control measures, which include vehicle and equipment idling limitations, designed to minimize vehicle track-out and fugitive dust	Mandatory	OAR 340-208, Subsection 210 ODOT Standard Specification, Section 291	All		Included in base costs			
6	Construction	Bridge Construction	Climate Change	Burnside Bridge Construction	CC	Reuse or partial reuse of the temporary bridge after construction is complete would reduce and offset the cumulative GHG emissions used for materials and construction of the temporary bridge	Discretionary		All		Included in base costs			
7	Construction	Bridge Construction	Climate Change	Burnside Bridge Construction	CC	The lift bridge portion of the temporary bridge could be purchased or rented from a manufacturer, and if purchased, then resold to another bridge project or sold back to the manufacturer	Discretionary		All		Included in base costs			
8	Construction	Bridge Construction	Climate Change	Burnside Bridge Construction	CC	The approach spans leading up to the lift portion could potentially be resold to be used in another construction project or recycled.	Discretionary		All		Included in base costs			
9	Construction	Bridge Alterations	Cultural	Burnside Bridge alterations. With Retrofit, the bridge would continue in its present alignment but the cumulative effects of alterations such as relocation and replacement of Pier 4, new bracing, increased massing of the bascule piers, etc., would compromise its integrity. Specifically, while location and setting would remain unchanged, design, materials, workmanship, and feeling would be adversely affected.	CR	Retain as many of the original design and engineering features of the bridge as feasible. For example, retaining the octagonal form and Italianate architectural style of the retrofitted operator towers.	Mandatory	Section 106 NHPA	Enhanced Seismic Retrofit		Included in base costs			
10	Construction	Bridge Removal	Cultural	Burnside Bridge full removal	CR	Consult with SHPO to determine if the 2000 HAER documentation of the bridge should be updated. Alternatively, documentation of the bridge prior to any alterations would be state-level documentation in consultation with SHPO.	Mandatory	Section 106 NHPA	Replacement Alternatives		Included in base costs			
11	Construction	Bridge Removal	Cultural	Burnside Bridge full removal	CR	Appropriate interpretation and education (I&E) measures: brochures and other publications, development of displays and exhibits, interpretive panels, websites, and phone apps.	Mandatory	Section 106 NHPA	Replacement Alternatives		Included in base costs			
12	Construction	Bridge Removal	Cultural	Burnside Bridge full removal	CR	Events that recognize and celebrate the bridge's history.	Discretionary	Section 106 NHPA	Replacement Alternatives		Included in base costs			
13	Construction	Bridge Removal	Cultural	Burnside Bridge full removal	CR	It may be possible to salvage and reuse some architectural elements that would be removed or otherwise lost.	Discretionary	Section 106 NHPA	Replacement Alternatives		Included in base costs			

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14	Construction	Bridge Removal	Cultural	Disturbing and/or damaging archaeological resources due to removal/placement of bents and proposed grouting	CR	Develop a more refined archaeological sensitivity model that would not only define where archaeological resources may be present but also the types of artifacts and features that may be present.	Mandatory	Section 106 NHPA	All		Included in base costs			
15	Construction	Bridge Removal	Cultural	Disturbing and/or damaging archaeological resources due to removal/placement of bents and proposed grouting	CR	Prepare a research design that defines research questions that can potentially be addressed by archaeological resources in the project area. The research design would also define what artifacts and features are best for addressing the research questions.	Mandatory	Section 106 NHPA	All		Included in base costs			
16	Construction	Bridge Removal	Cultural	Disturbing and/or damaging archaeological resources due to removal/placement of bents and proposed grouting	CR	Once a preferred alternative is defined, identify those locations at which ground-disturbing activity is proposed and is an area defined as having a high potential for archaeological resources. Preliminary archaeological field excavations could be undertaken to determine if archaeological deposits are present (e.g., shovel probing, backhoe trenching). The results of these efforts could be used to further refine the model.	Mandatory	Section 106 NHPA	All		Included in base costs			
17	Construction	Bridge Removal	Cultural	Disturbing and/or damaging archaeological resources due to removal/placement of bents and proposed grouting	CR	Define locations where archaeological monitoring would be required during construction or other ground-disturbing activity.	Mandatory	Section 106 NHPA	All		Included in base costs			
18	Construction	Bridge Removal	Cultural	Disturbing and/or damaging archaeological resources due to removal/placement of bents and proposed grouting	CR	Define procedures or protocols to be followed when archaeological resources are encountered during construction. This would include a rapid assessment to both optimize gathering relevant archaeological data and minimize construction delays.	Mandatory	Section 106 NHPA	All		Included in base costs			
19	Construction	Bridge Demolition	Cultural	Demolishing the Burnside Bridge.	CR	Many of the images of the 1926 Burnside Bridge in the collections of the City of Portland are not scanned and available online. Identify historic photographs and other visual materials in the City of Portland archives that depict the 1926 Burnside Bridge, including images made during design, construction, dedication, use of the bridge between 1926 and the present day. Scan these photographs and make them publicly available through the City of Portland archives portal online. These images may also be used in other mitigation and documentation efforts.	Discretionary	Section 106 NHPA	All		TBD			
20	Construction	Bridge Demolition	Cultural	Demolishing the Burnside Bridge.	CR	Expand on the proposal to update/refresh/bolster the existing HAER documentation of the Burnside Bridge and upgrade the image quality of the illustration plates in the narrative document. Make a better-quality set of HAER images available online.	Discretionary	Section 106 NHPA	All		TBD			
21	Construction	Bridge Demolition	Cultural	Demolishing the Burnside Bridge.	CR	Manufacture a 3D model of the bridge of durable materials for documentation and public exhibition. Digital 3D scan of the bridge to support other mitigation, such as interpretation. Perhaps the 3D scan could also be used to create a file that people could download and have 3D printed for their own model.	Discretionary	Section 106 NHPA	All		TBD			

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22	Construction	Bridge Demolition	Cultural	Demolishing the Burnside Bridge.	CR	Preserve videos of the bridge such as: <ul style="list-style-type: none"> • Video of the bridge opening and closing. • Video of the bridge cab interior during opening and closing. With narration from operator explaining the process of opening and closing the bridge. • Video of the internal bridge machinery during the opening and closing sequence. • Video record of the bridge demolition/deconstruction. 	Discretionary	Section 106 NHPA	All		TBD			
23	Property	Demolition	Skatepark Demolition	Burnside Skatepark demolition—retrofitting the columns and foundations under the bridge (with Retrofit Alternative) requires demolishing the facility. The retrofitted bents would permanently occupy some of the space where the Skatepark is. The Temporary Bridge would partially demolish the Skatepark but would not permanently occupy space where the Skatepark is located.	CR	Nomination of the Skatepark to the National Register of Historic Places in consultation with the skating community.	Mandatory	Section 106, Section 4(f)	Enhanced Seismic Retrofit	Temporary Bridge: All modes	TBD			Enhanced Retrofit Alternative would demolish the Skatepark during construction and permanently take a significant portion of the space. Replacement bridge results in partial demolition of skatepark. Skatepark would be restored after removing temporary bridge.
24	Property	Demolition	Skatepark Demolition	Burnside Skatepark demolition—retrofitting the columns and foundations under the bridge (with Retrofit Alternative) requires demolishing the facility. The retrofitted bents would permanently occupy some of the space where the Skatepark is. The Temporary Bridge would partially demolish the Skatepark but would not permanently occupy space where the Skatepark is located.	CR	Extensive documentation of the Skatepark in its current form, working with the skater community and others to recover and preserve as many images as possible of the evolution of the Skatepark since 1990.	Mandatory	Section 106, Section 4(f)	Enhanced Seismic Retrofit	Temporary Bridge: All modes	TBD			Enhanced Retrofit Alternative would demolish the Skatepark during construction and permanently take a significant portion of the space. Replacement bridge results in partial demolition of skatepark. Skatepark would be restored after removing temporary bridge.
25	Property	Demolition	Skatepark Demolition	Burnside Skatepark demolition—retrofitting the columns and foundations under the bridge (with Retrofit Alternative) requires demolishing the facility. The retrofitted bents would permanently occupy some of the space where the Skatepark is. The Temporary Bridge would partially demolish the Skatepark but would not permanently occupy space where the Skatepark is located.	CR	Video documentation of activity at the Skatepark.	Mandatory	Section 106, Section 4(f)	Enhanced Seismic Retrofit	Temporary Bridge: All modes	TBD			Enhanced Retrofit Alternative would demolish the Skatepark during construction and permanently take a significant portion of the space. Replacement bridge results in partial demolition of skatepark. Skatepark would be restored after removing temporary bridge.
26	Property	Demolition	Skatepark Demolition	Burnside Skatepark demolition—retrofitting the columns and foundations under the bridge (with Retrofit Alternative) requires demolishing the facility. The retrofitted bents would permanently occupy some of the space where the Skatepark is. The Temporary Bridge would partially demolish the Skatepark but would not permanently occupy space where the Skatepark is located.	CR	Conduct oral histories with past and present users of the Skatepark of the history of the Skatepark and its importance to the skating community. This would include internet and social media postings, as well as outreach to other users who are not local residents.	Mandatory	Section 106, Section 4(f)	Enhanced Seismic Retrofit	Temporary Bridge: All modes	TBD			Enhanced Retrofit Alternative would demolish the Skatepark during construction and permanently take a significant portion of the space. Replacement bridge results in partial demolition of skatepark. Skatepark would be restored after removing temporary bridge.
27	Property	Demolition	Skatepark Demolition	Burnside Skatepark demolition—retrofitting the columns and foundations under the bridge (with Retrofit Alternative) requires demolishing the facility. The retrofitted bents would permanently occupy some of the space where the Skatepark is. The Temporary Bridge would partially demolish the Skatepark but would not permanently occupy space where the Skatepark is located.	CR	Determine if there are other opportunities to support other existing DIY Skatepark that are accessible to Skatepark users.	Mandatory	Section 106, Section 4(f)	Enhanced Seismic Retrofit	Temporary Bridge: All modes	TBD			Enhanced Retrofit Alternative would demolish the Skatepark during construction and permanently take a significant portion of the space. Replacement bridge results in partial demolition of skatepark. Skatepark would be restored after removing temporary bridge.
28	Property	Demolition	Skatepark Demolition	Burnside Skatepark demolition—retrofitting the columns and foundations under the bridge (with Retrofit Alternative) requires demolishing the facility. The retrofitted bents would permanently occupy some of the space where the Skatepark is. The Temporary Bridge would partially demolish the Skatepark but would not permanently occupy space where the Skatepark is located.	CR	Select an alternative that avoids physical impacts to the Skatepark and/or permanent displacement.	TBD	Section 106, Section 4(f)	Enhanced Seismic Retrofit	Temporary Bridge: All modes	TBD			Enhanced Retrofit Alternative would demolish the Skatepark during construction and permanently take a significant portion of the space. Replacement bridge results in partial demolition of skatepark. Skatepark would be restored after removing temporary bridge.

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29	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	DI	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
30	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	DI	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
31	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	DI	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
32	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	DI	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
33	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	DI	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
34	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	DI	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
35	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	DI	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
36	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	DI	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
37	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	DI	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
38	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	DI	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
39	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	DI	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
40	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	DI	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
41	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	DI	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
42	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	DI	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
43	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	DI	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
44	Construction	Transportation	Transit	Disruption of Skidmore MAX station operations	EC	Coordination with TriMet on potential to provide "bus bridging" or other supplemental transit services to transport passengers around the Skidmore MAX station when closed for project construction.	Discretionary		All		Included in base costs			
45	Construction	Traffic Maintenance	Traffic	Traffic build up due to construction	EC	Scheduling of work requiring temporary closures of various transportation facilities for periods of low traffic levels (such as at night and during weekends).	Discretionary		All		Included in base costs			
46	Construction	Traffic Maintenance	Traffic	Wayfinding due to road closures	EC	Signage and advanced information about detours and closures to allow travelers to plan their trips in advance and avoid any confusion and additional delays.	Discretionary		All		Included in base costs			
47	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EC	Provision of parking in alternate locations (if feasible) and Compensation for loss of parking.	Discretionary		All		Included in base costs			
48	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EC	Assistance in establishing alternate access points to buildings where access will be made more difficult (if feasible).	Mandatory	49 CFR Part 24	All		Included in base costs			

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1	Topic	Subtopic	Description	How resources are affected	Technical Report	Potential Mitigation	Mandatory or Discretionary?	Regulatory	Build Alternative	Construction Traffic Management Option	Cost Estimate	City-Level Interest	Agency Interest	Notes
49	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EC	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
50	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EC	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
51	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EC	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
52	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EC	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
53	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EC	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
54	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EC	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
55	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EC	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
56	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EC	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
57	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EC	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
58	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EC	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
59	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EC	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
60	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EC	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
61	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EC	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
62	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EC	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
63	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EC	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
64	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EQ	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
65	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EQ	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
66	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EQ	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
67	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EQ	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
68	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	EQ	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
69	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EQ	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
70	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EQ	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			

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71	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EQ	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
72	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EQ	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
73	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	EQ	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
74	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EQ	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
75	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EQ	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
76	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EQ	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
77	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EQ	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
78	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	EQ	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
79	Economics	Contracting	Community Benefits Agreement	Ensurance of project benefits to reach benefits of Project construction reach low-income and minority workers, disadvantaged, small, woman, or minority-owned business enterprises.	EQ	Community Benefits Agreements involving union representatives, minority contractors, pre apprenticeship training programs, Multnomah County officials, and non-profit workforce development organizations to ensure environmental justice populations have expanded and equal opportunities to participate in the work program.	Discretionary		All		Included in base costs			
80	Transportation	Traffic Maintenance	Active Transportation	Travel delays and costs to multimodal traffic crossing the Willamette River	EQ	Multnomah County and agency partners are considering the provision of free or reduced-price transit tickets to offset the negative impacts of out-of-direction travel during construction	Discretionary		All		TBD			
81	Transportation	Traffic Maintenance	Public Transit	Disruption of Skidmore MAX station operations	EQ	Coordination with TriMet on potential to provide "bus bridging" or other supplemental transit services to transport passengers around the Skidmore MAX station when closed for project construction.	Discretionary		All		Included in base costs			
82	Transportation	Traffic Maintenance	Active Transportation	Bikes from Ankeny St bikeway would need to be re-routed to Davis and MLK	EQ	Provide bike/ped route upgrades to 3rd Ave, Davis St, and MLK	Discretionary		Couch Extension		Included in base costs			Bikes from Ankeny St bikeway would need to be re-routed to Davis and MLK (Couch Extension)
83	All	Community specific impacts	Community specific impacts	Potential impacts to EJ communities	EQ	Multnomah County has engaged community stakeholders, social service providers, non-profit organizations, and agency partners to identify additional environmental justice considerations and potential mitigation measures that can be achieved as part of the Draft EIS process. Recommendations from these groups will inform the Final EIS reporting of impacts and desired mitigation measures.	Mandatory	40 CFR § 1506.6	All		Included in base costs			

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84	Construction	In-Water Work	Water Quality	Increase in base flood elevation	FL	Size the bridge pier structures to minimize increase in water surface elevation for the 100-year peak flood discharge.	Mandatory	<ul style="list-style-type: none"> Floodplain Management Presidential Executive Order 11988 and 23 CFR 650A require FHWA projects like this one to demonstrate the project necessity and why the alternative selected is the only practicable choice. 23 CFR 650A Section 113 – FHWA, Location and Hydraulic Design of Encroachments on Flood Plains, Only practicable alternative finding PCC 24.50.060.D and 44 CFR 60.3(d)(3) require such projects to demonstrate that no increase of the base flood elevation would occur, as documented through a no rise certification. Construction within the Special Flood Hazard Area requires a permit from the City of Portland to ensure floodplain protection requirements are met. 	All		Included in base costs			
85	Construction	In-Water Work	Water Quality	Increase in base flood elevation	FL	Lengthen the bridge spans to reduce the number of piers in the floodplain.	Discretionary	<ul style="list-style-type: none"> Floodplain Management Presidential Executive Order 11988 and 23 CFR 650A require FHWA projects like this one to demonstrate the project necessity and why the alternative selected is the only practicable choice. 23 CFR 650A Section 113 – FHWA, Location and Hydraulic Design of Encroachments on Flood Plains, Only practicable alternative finding PCC 24.50.060.D and 44 CFR 60.3(d)(3) require such projects to demonstrate that no increase of the base flood elevation would occur, as documented through a no rise certification. Construction within the Special Flood Hazard Area requires a permit from the City of Portland to ensure floodplain protection requirements are met. 	All		Included in base costs			
86	Construction	In-Water Work	Water Quality	Increase in base flood elevation	FL	Size the bridge pier structures to pass the 100-year peak flood discharge with little or no increase in the water surface elevation.	Mandatory	<ul style="list-style-type: none"> Floodplain Management Presidential Executive Order 11988 and 23 CFR 650A require FHWA projects like this one to demonstrate the project necessity and why the alternative selected is the only practicable choice. 23 CFR 650A Section 113 – FHWA, Location and Hydraulic Design of Encroachments on Flood Plains, Only practicable alternative finding PCC 24.50.060.D and 44 CFR 60.3(d)(3) require such projects to demonstrate that no increase of the base flood elevation would occur, as documented through a no rise certification. Construction within the Special Flood Hazard Area requires a permit from the City of Portland to ensure floodplain protection requirements are met. 	All		Included in base costs			
87	Construction	In-Water Work	Water Quality	Increase in base flood elevation	FL	<ul style="list-style-type: none"> Size the bridge pier structures to minimize increase in water surface elevation for the 100-year peak flood discharge. Lengthen the bridge spans to reduce the number of piers in the floodplain. Appropriate mitigation measures would be developed after the hydraulic design of the bridge has been completed. Potential mitigation measures to reduce hydraulic impacts could include: Design pier shaping to minimize energy losses. 	Mandatory	<ul style="list-style-type: none"> Floodplain Management Presidential Executive Order 11988 and 23 CFR 650A require FHWA projects like this one to demonstrate the project necessity and why the alternative selected is the only practicable choice. 23 CFR 650A Section 113 – FHWA, Location and Hydraulic Design of Encroachments on Flood Plains, Only practicable alternative finding PCC 24.50.060.D and 44 CFR 60.3(d)(3) require such projects to demonstrate that no increase of the base flood elevation would occur, as documented through a no rise certification. Construction within the Special Flood Hazard Area requires a permit from the City of Portland to ensure floodplain protection requirements are met. 	All		Included in base costs			

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88	Construction	In-Water Work	Water Quality	Increase in base flood elevation	FL	Lengthen the bridge spans to reduce the number of piers in the floodplain.	Discretionary	<ul style="list-style-type: none"> Floodplain Management Presidential Executive Order 11988 and 23 CFR 650A require FHWA projects like this one to demonstrate the project necessity and why the alternative selected is the only practicable choice. 23 CFR 650A Section 113 – FHWA, Location and Hydraulic Design of Encroachments on Flood Plains, Only practicable alternative finding PCC 24.50.060.D and 44 CFR 60.3(d)(3) require such projects to demonstrate that no increase of the base flood elevation would occur, as documented through a no rise certification. Construction within the Special Flood Hazard Area requires a permit from the City of Portland to ensure floodplain protection requirements are met. 	All		Included in base costs			
89	Construction	In-Water Work	Water Quality	Increase in base flood elevation	FL	Design pier shaping to minimize energy losses.	Discretionary	<ul style="list-style-type: none"> Floodplain Management Presidential Executive Order 11988 and 23 CFR 650A require FHWA projects like this one to demonstrate the project necessity and why the alternative selected is the only practicable choice. 23 CFR 650A Section 113 – FHWA, Location and Hydraulic Design of Encroachments on Flood Plains, Only practicable alternative finding PCC 24.50.060.D and 44 CFR 60.3(d)(3) require such projects to demonstrate that no increase of the base flood elevation would occur, as documented through a no rise certification. Construction within the Special Flood Hazard Area requires a permit from the City of Portland to ensure floodplain protection requirements are met. 	All		Included in base costs			
90	Soils	Liquefaction	Ground stability	Identified impacts to soils and geology are associated with strategies to enhance or replace the existing bridge and bridge access foundations to meet the objective of a seismically resilient Burnside Street Bridge.	GS	Seismic resiliency has been incorporated into the design of all alternatives. Additional mitigation measures to minimize impacts will be addressed using information obtained through subsequent geotechnical evaluations and during design engineering utilizing standard-of-practice bridge construction methods. Mitigation measures will be identified that meet applicable state and federal design and construction codes that govern transportation projects.	Mandatory	ODOT BDM 1.17	All		Included in base costs			
91	Impacts to Health	Impervious Surface	Impervious surface area changes	Urban heat island effects due to increased pavement	HI	Minimize large expanses of pavement.	Discretionary		All		Included in base costs			
92	Impacts to Health	Impervious Surface	Impervious surface area changes	Urban heat island effects due to increased pavement	HI	Coordinate with City of Portland to add trees or other shade structures where feasible.	Discretionary		All		Included in base costs			
93	Impacts to Health	Safety	Public Health	Negative health impacts of a major earthquake	HI	Select one of the build alternatives that minimizes the risk of bridge collapse	Discretionary		All		TBD			
94	Impacts to Health	Safety	Public Safety	Traffic crash deaths in the project area	HI	Select an alternative with maximum crash reduction	Discretionary		All		Included in base costs			
95	Impacts to Health	Safety	Public Safety	Traffic crash deaths in the project area	HI	Allow maximum speeds of 25 mph	Discretionary		All		Included in base costs			
96	Impacts to Health	Air Quality	Long-term risks from air pollution during operation	Long-term risks from air pollution during operation	HI	Select an alternative that allows design features that maximize distance between vehicle pollution and people walking and cycling	Discretionary		All		Included in base costs			
97	Impacts to Health	Health	Maximize long-term physical activity	Impediment to active transportation space	HI	<ul style="list-style-type: none"> Prioritize direct, low-stress routes for people walking, cycling, and taking transit. Leverage transportation demand management strategies to promote long-term adoption of mode changes adopted during construction. 	Discretionary		All		Included in base costs			

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98	Impacts to Health	Health	Eliminate serious and fatal traffic crash deaths in the Project Area	Injury and death as a result of traffic	HI	<ul style="list-style-type: none"> Develop an action plan to address safety concerns that arise during construction Select an alternative with maximum crash injury reduction. The Short-span and Long-span Alternatives result in the greatest reduction in all crashes. Design for speeds of 25 mph. Minimize impacts of urban heat Minimize large expanses of pavement, and coordinate with the City of Portland to add trees or other shade structures where feasible. Minimize removal of existing trees and vegetation. 	Discretionary		All		Included in base costs			
99	Impacts to Health	Health	Prevent harm and create health benefits for the unhoused population	Disproportionate impacts to houseless communities	HI	<ul style="list-style-type: none"> Conduct outreach regarding construction impacts including air pollution exposure, noise, and access to social services. Mitigate short-term displacement of facilities used by the unhoused population. Work with partner agencies to identify opportunities to provide long-term benefits from the Project, such as restrooms or storage facilities. If there is no Temporary Bridge, provide assistance such as transit passes to people accessing social services near the western bridgehead. 	Discretionary		All		Included in base costs			
100	Social Cohesion	Health	Impacts on social cohesion	Impacts on social cohesion	HI	Acknowledge native peoples and lands	Discretionary		All		TBD			
101	Social Cohesion	Health	Impacts on social cohesion	Impacts on social cohesion	HI	Mitigate impacts to the Japanese American Historical Plaza	Discretionary		All		TBD			
102	Economics	Businesses	Impacts on social cohesion	Economic impacts on local businesses	HI	Coordinate with existing non-profits to support recruiting and job training efforts, prioritizing low income residents and people of color.	Discretionary		All		TBD			
103	Impacts to Health	Impervious Surface	Climate Change	General impacts of urban heat	HI	Minimize large expanses of pavement, coordinate with the City of Portland to add trees or other shade structures where feasible	Discretionary		All		TBD			
104	Impacts to Health	Impervious Surface	Climate Change	General impacts of urban heat	HI	Minimize removal of existing trees and vegetation	Discretionary		All		TBD			
105	Property	Hazardous Materials	Environmental due diligence	Exposure to hazardous materials during construction including asbestos	HZ	Conduct Environmental Site Assessments.	Mandatory	ASTM E 1527-13	All		Included in base costs			
106	Construction	Hazardous Materials	Hazardous Materials Encountered During Construction	Exposure to hazardous materials during construction including asbestos	HZ	Conduct hazardous building materials survey prior to demolition.	Mandatory	(WAC 296-155) & (WAC 296-62 Part I-1)	All		Included in base costs			
107	Construction	Hazardous Materials	Hazardous Materials Encountered During Construction	Exposure to hazardous materials during construction including asbestos	HZ	Create a Health and Safety Plan (HASP) to minimize exposure to hazardous materials	Mandatory	OSHA	All		Included in base costs			
108	Construction	Hazardous Materials	Hazardous Materials Encountered During Construction	Exposure to hazardous materials during construction including asbestos	HZ	Create a site-specific contaminated media management plan would ensure proper characterization, management, storage, disposal, and reporting of contaminated materials encountered during construction activities.	Mandatory	DEQ CMMP	All		Included in base costs			
109	Construction	Hazardous Materials	Hazardous Materials Encountered During Construction	Pollution to the Willamette River during construction	HZ	Employ BMPs through: Spill Plan, Construction Stormwater and Erosion Control Plan, and Sediment Evaluation Framework.	Mandatory	ODOT Oregon Standard Specifications for Construction	All		Included in base costs			
110	Property	Displacements	Land Use	All Alternatives would require property acquisitions/ displacements and easements.	LU	See Displacements	N/A				Included in base costs			

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111	Transportation	Noise and Vibrations	Traffic Noise	Traffic noise generated by traffic on the new bridge	NO	Consideration of speed restrictions, truck restrictions, and alignment changes during design.	Discretionary		All					
112	Property	Visual and Aesthetics Changes	Landscaping	Loss of street trees and trees in Waterfront Park	PR	Protect and maintain street and park trees where feasible. Post-construction, replace any trees removed during project construction.	Mandatory	PP&R landscape design guidelines and Bureau of Development Services mitigation requirements Section 4(f)	All	All	Included in base costs			Temporary Bridge removes additional trees south of the Bridge
113	Property	Visual and Aesthetics Changes	Landscaping	Removal and damage to landscaping and hardscape from construction activities	PR	Mitigation for impacts to parks and recreation resources will primarily include returning parks facilities to their pre-construction or better condition. This includes a need for close coordination with PP&R, the Nikkei Endowment association (Japanese American Museum of Oregon), and the Burnside Skatepark managers.	Mandatory	PP&R landscape design guidelines and Bureau of Development Services mitigation requirements Section 4(f)	All		Included in base costs			
114	Property	Visual and Aesthetics Changes	Landscaping	Removal and damage to landscaping and hardscape from construction activities	PR	The Project will follow PP&R landscape design guidelines and Bureau of Development Services mitigation requirements for work within the Greenway Overlay Zones.	Mandatory	PP&R landscape design guidelines and Bureau of Development Services mitigation requirements Section 4(f)	All		Included in base costs			
115	Property	Parks and Recreation	Skatepark	Retrofit Alt would fully demolish and permanently occupy part of the area currently used for Skatepark. It's not an official park but it is a recreational resource.	PR	A portion of Burnside Skatepark could be rebuilt after construction. Investigate opportunities to replace lost area adjacent to remaining area occupied by Skatepark. This mitigation would include close coordination with Skatepark managers and City of Portland.	Discretionary	Section 4(f)	Enhanced Seismic Retrofit		TBD			
116	Property	Parks and Recreation	Waterfront Park	Replacement alters beneficial impacts to Waterfront Park from removing bents and/or piers in the park	PR	Waterfront Park would gain usable space underneath the bridge because of the elimination of bridge supports. Coordination with City of Portland representatives would be necessary to ensure the finished design of the space after construction meets City design and maintenance preferences.	Discretionary		Replacement Alternatives		Included in base costs			Largest benefit with Long-Span Approach
117	Property	Parks and Recreation	Japanese American Historical Plaza	Displacement of portions of the Japanese American Historical Plaza	PR	<ul style="list-style-type: none"> Carefully plan deconstruction to facilitate reassembly post-construction. Provide for a temporary exhibit in the unimpacted area of the plaza to highlight the information currently provided in the southern half of the memorial. Involve the Japanese Consul for replacement of removed ornamental flowering cherry trees. Involve memorial designers and stone mason during deconstruction and reconstruction. Coordinate closely with the Japanese American Museum of Oregon on the formation of these and other mitigation solutions. 	Discretionary				TBD			
118	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
119	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
120	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			

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1	Topic	Subtopic	Description	How resources are affected	Technical Report	Potential Mitigation	Mandatory or Discretionary?	Regulatory	Build Alternative	Construction Traffic Management Option	Cost Estimate	City-Level Interest	Agency Interest	Notes
121	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
122	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
123	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
124	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
125	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
126	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
127	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
128	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
129	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
130	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
131	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
132	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
133	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
134	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
135	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
136	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
137	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
138	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
139	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
140	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
141	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
142	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			

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143	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
144	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
145	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
146	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
147	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
148	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
149	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
150	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
151	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
152	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
153	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
154	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
155	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
156	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
157	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
158	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
159	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
160	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
161	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
162	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	PS	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
163	Emergency Public Services	Traffic Maintenance	Public Services	Traffic queuing impact to emergency vehicle movement	PS	Lane Option 3 (Reversible Lane) scenario, a traffic operations control center and dynamic signaling would assist emergency vehicle movement over the bridge.	Discretionary		All		Included in base costs			

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164	Geotechnical Studies	Soil stabilization	Geology	Liquefaction of ground	SG	Bridge foundations and other bridge elements would be improved or constructed, and soil improvements would be implemented to address identified poor soil strength and potential for liquefaction in response to a seismic event.	Mandatory	ODOT BDM 1.17	All		Included in base costs			
165	Geotechnical Studies	Excavation	Geology	Contamination of groundwater and Willamette River	SG	City of Portland Erosion, Sediment, and Pollutant Control Plan would be implemented to prevent runoff with sediment or other pollutants from reaching drainage systems or the Willamette River.	Mandatory	Portland City Code [PCC] 10.30.020	All		Included in base costs			
166	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
167	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
168	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
169	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	All		Included in base costs			
170	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	All		Included in base costs			
171	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
172	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	All		Included in base costs			
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176	Property	Acquisitions and Displacements	Public Services, Businesses	Displacement of AMR, Saturday Market Administration Offices and others	SN	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	All		Included in base costs			
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181	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	SN	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
182	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	SN	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
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185	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	SN	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
186	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	SN	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
187	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	SN	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
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195	Property	Acquisitions and Displacements	Public Services - University of Oregon classroom	Displacement of University of Oregon classroom	SN	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Replacement Alternatives		Included in base costs			
196	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
197	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
198	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
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200	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
201	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	As design and construction assumptions advance, identify potential opportunities to reduce property impacts.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
202	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
203	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
204	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
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207	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Acquisitions and Relocations conducted in accordance to Uniform Relocation & Real Property Acquisition Policy Act of 1970.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
208	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Identify potential relocation sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
209	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Coordination with Multnomah County and the City of Portland to identify potential relocations sites for displaced businesses.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
210	Property	Acquisitions and Displacements	Businesses	Displacement of Pacific Fruit Company	SN	Preparation of a schedule and plan for communicating temporary access closures.	Mandatory	49 CFR Part 24	Couch Extension		Included in base costs			
211	Construction	Water Quality	Impervious surface area changes	Increased Runoff and Water Quality impacts. Permanent Contributing Impervious Area (CIA) adds pollutants to stormwater runoff	ST	Implement storm water quality measures approved by NMFS. Two bioswales 8' wide and 220' long would address treatment requirements; however, they are not practical given the developed character and shortage of available land in the bridge area. Instead, use underground, manufactured stormwater filters, location TBD.	Mandatory	City of Portland National Pollutant Discharge Elimination System Stormwater Discharge Permit No. 101314. Clean Water Act (33 USC 1251-1387); City of Portland BES Best Management Practices;	All		TBD			
212	Construction	Water Quality	Impervious surface area changes	Portions of project will contribute to the City of Portland's Combined Sewer Overflow System.	ST	Mitigate any increases in storm water quantity through detention using underground pipes or vaults to meet the design criteria in the current version of the City of Portland BES Sewer and Drainage Facilities Design Manual.	Mandatory	City of Portland BES Sewer and Drainage Facilities Design Manual	All		TBD			
213	Transportation	Safety	Traffic safety	Traffic crash deaths in the project area	TR	Select an alternative with maximum crash reduction	Discretionary	N/A	All		TBD			
214	Transportation	Safety	Traffic safety	Traffic crash deaths in the project area	TR	Allow maximum speeds of 25 mph	Discretionary	N/A	All		TBD			
215	Transportation	Safety	Traffic safety	Traffic crash deaths in the project area	TR	The fatal and injury crashes could be reduced by adding two feet of shoulder width to both directions of travel (i.e., four-foot total shoulder width in each direction)	Discretionary	N/A	Lane options 1, 2,3		TBD			
216	Transportation	Traffic Maintenance	Transit	Impacts to bus operations due to queuing	TR	Relocate the existing WB bus stop and dwell space off the bridge deck or provide additional width on the bridge deck to accommodate the stop and dwell space	Discretionary	N/A	All		TBD			
217	Transportation	Traffic Maintenance	Transit	Impacts to bus operations due to queuing	TR	WB Bus Queue Jump on NE Couch Street at MLK Boulevard and Grand Avenue	Discretionary	N/A	Lane options 2&3		TBD			
218	Transportation	Traffic Maintenance	Active Transportation	Impacts to cyclists and pedestrians due to narrower space	TR	Ensure that there are mode-specific pavement markings on both the sidewalk and separated bike lanes to reinforce which space is for each mode and mitigate the narrower space for active transportation	Discretionary	N/A	aLL		TBD			
219	Utilities	Utility Relocation	Disruptions to Utility Service	CenturyLink Local and PGE require 24/7 access to vaults and hatches for bridge	UT	Obtaining vertical and horizontal limits of these key underground utilities could occur early in design and the recommended actions included as part of the early design package.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
220	Utilities	Utility Relocation	Disruptions to Utility Service	CenturyLink Local and PGE require 24/7 access to vaults and hatches for bridge	UT	Protection measures include: - 12-inch separation for CenturyLink - 9-foot excavation clearance from poles for PGE	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
221	Utilities	Utility Relocation	Disruptions to Utility Service	NW Natural shuts down large diameter lines during warm months	UT	Obtaining vertical and horizontal limits of these key underground utilities could occur early in design and the recommended actions included as part of the early design package.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
222	Utilities	Utility Relocation	Disruptions to Utility Service	NW Natural shuts down large diameter lines during warm months	UT	Protection measures include: - 30" of cover - 1-foot separation - Watchperson needed for excavations within 10 feet of high-pressure	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			

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223	Utilities	Utility Relocation	Disruptions to Utility Service	TriMet utilities	UT	Obtaining vertical and horizontal limits of these key underground utilities could occur early in design and the recommended actions included as part of the early design package.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
224	Utilities	Utility Relocation	Disruptions to Utility Service	TriMet utilities	UT	Protection measures include: - 10-foot clearance of overhead wires - 10 feet from track centerline for excavation - 6-inch clearance to conduits - Protect rails with rubber mats/timbers	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
225	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	Relocation plans would be prepared and service disruptions approved by affected utility providers before construction begins.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
226	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	Coordination would occur with utility owners to ensure that contingency plans for management of potential utility service disruptions during construction are accommodated.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
227	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	During the final design phase, the relocation sites for affected utilities could be mapped and the effects of the relocation actions confirmed.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
228	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	Multnomah County could design its Project improvements, identify resultant potential conflicts with utilities, and provide the conflict list and notification to the utility owners, including public agencies.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
229	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	Multnomah County could provide updated design plans and conflict lists as the Project design progresses and coordinate with the utility owners to determine the resolution of the identified conflicts.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
230	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	The utility owners will need to address conflicts identified by the County, review the plans for additional conflicts not identified by the County, and address those conflicts. For addressing the conflicts, the utility owners may need to pothole locations, provide relocation design, and construct the relocation. This responsibility also would include obtaining permits and approvals from every applicable jurisdiction and review authority.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
231	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	The utility owners, including public agencies, might contract through a Utility Agreement to have Multnomah County perform some or all of these responsibilities. A Utility Agreement is required to be able to reimburse a utility owner with prior rights for its reimbursable expenses.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
232	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	Multnomah County could coordinate with the utility owners to determine the timing and requirements associated with its relocation and coordinate schedule for any utility relocations that cannot occur prior to construction beginning.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Topic	Subtopic	Description	How resources are affected	Technical Report	Potential Mitigation	Mandatory or Discretionary?	Regulatory	Build Alternative	Construction Traffic Management Option	Cost Estimate	City-Level Interest	Agency Interest	Notes
233	Utilities	Utility Relocation	Disruptions to Utility Service	Relocation of Utilities	UT	Multnomah County is required to certify that all arrangements have been made to resolve the identified utility conflicts and allow the Project improvements to proceed as identified in the construction contract. This certification is required prior to the Project bidding for construction.	Mandatory	ODOT Oregon Utility Relocation Manual	All		TBD (subject to existing IGA with utility companies)			
234	Construction	Water Quality	Fill and Structure in Floodplain or Below OHW	Loss of in-stream, shallow water, and riparian habitat	VF	Compensatory mitigation on-site or off-site at mitigation bank	Mandatory	ESA Section 7, City of Portland zoning title 33	All		Included in base costs			
235	Property	Visual and Aesthetics Changes	Streetscape	Change in the visual character of the crossing and approaches	VR	Develop design to be compatible with the existing visual character of the project environments.	Mandatory	Land Use Review	All		Subject to level of visual impact change desired, the cost is included in the base cost			
236	Property	Visual and Aesthetics Changes	Streetscape	Change in the visual character of the crossing and approaches	VR	Consider visual impacts when selecting bridge type.	Mandatory	Land Use Review	All		Subject to level of visual impact change desired, the cost is included in the base cost			
237	Property	Visual and Aesthetics Changes	Streetscape	Change in the visual character of the crossing and approaches	VR	Consider visual impacts when selecting materials and colors	Mandatory	Land Use Review	All		Subject to level of visual impact change desired, the cost is included in the base cost			
238	Property	Visual and Aesthetics Changes	Landscaping	Loss of street trees and trees in Waterfront Park	VR	Protect and maintain street and park trees where feasible. Post-construction, replace any trees removed during project construction.	Mandatory	Title 11	All	All	Included in base costs			Temporary Bridge removes additional trees south of the Bridge
239	Construction	Water Quality	Fill and Structure in Floodplain or Below OHW	The installation of permanent structure (i.e., steel shafts and concrete seal course) within the river.	WW	Minimization would be achieved by constraining the in-water footprint as much as practicable as per design, implementing construction BMPs, and providing stormwater treatment.	Mandatory	Clean Water Act (33 USC 1251-1387); Rivers and Harbors Act of 1899 (33 USC 403); Oregon's Removal-Fill Law (ORS 196.795-990)	All		Included in base costs			
240	Compensation	Water Quality	Mitigation Bank	Unavoidable impacts of bidge construction to the Willamette River	WW	A mitigation bank has been identified to potentially purchase mitigation credits	Discretionary		All		Included in base costs			
241	Construction	Water Quality	Fill and Structure in Floodplain or Below OHW	The installation of permanent structure (i.e., steel shafts and concrete seal course) within the river.	WW	Compensation would be achieved by support and implementation of one of two habitat restoration projects (Linton Mill Habitat Development; Eastbank Crescent Riverfront project) within and along the lower Willamette River.	Mandatory	Clean Water Act (33 USC 1251-1387); Rivers and Harbors Act of 1899 (33 USC 403); Oregon's Removal-Fill Law (ORS 196.795-990)	All		Included in base costs			
242														
243														