Parks and Recreation Technical Report

Multnomah County | Earthquake Ready Burnside Bridge Project

Portland, OR

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Earthquake Ready Burnside Bridge
Parks and Recreation Technical Report

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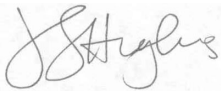
CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, as a professional environmental planner.



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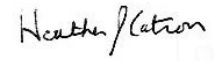

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Approved by Heather Catron (Consultant Project Manager)

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Acronyms, Initialisms, and Abbreviations

API	Area of Potential Impact
CFR	Code of Federal Regulations
CSZ	Cascadia Subduction Zone
DSL	Oregon Department of State Lands
EIS	environmental impact statement
EQRB	Earthquake Ready Burnside Bridge
FHWA	Federal Highway Administration
GIS	geographic information system
I-5	Interstate 5
LWCF	Land and Water Conservation Fund
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
OAR	Oregon Administrative Rules
OPRD	Oregon Parks and Recreation Department
OSMB	Oregon State Marine Board
PBOT	Portland Bureau of Transportation
PP&R	Portland Parks & Recreation
PSM	Portland Saturday Market
USDOT	US Department of Transportation
WRWT	Willamette River Water Trail

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Executive Summary

Park land and recreational facilities in the Project Area are owned and managed by the City of Portland. In addition to on-land recreation, the Project Area includes many types of recreation on the Willamette River. This report provides a description of park and recreation land and facilities that could be affected by the Project and discloses the potential impacts to those resources.

The Project proposes to build a seismically resilient Burnside Street lifeline crossing over the Willamette River that would remain fully operational and accessible for vehicles and other modes of transportation following a major Cascadia Subduction Zone earthquake. The Burnside Bridge would provide a reliable crossing for emergency response, evacuation, and economic recovery after an earthquake. Additionally, the bridge would provide a long-term safe crossing with low maintenance needs.

Park and recreation resources in the Area of Potential Impact (API) were identified, and the No-Build and Build Alternatives were reviewed for their potential effects on those resources. The majority of parks and recreation resources considered in this report, including Governor Tom McCall Waterfront Park (Waterfront Park), Ankeny Plaza, the Willamette Greenway Trail, and the Vera Katz Eastbank Esplanade (Esplanade), would have no adverse direct long-term impacts.

The Burnside Skatepark would be permanently removed and displaced by the Seismic Retrofit Alternative but would not have long-term impacts under the other Build Alternatives. Waterfront Park and the Esplanade would benefit from the long-term effects of the Replacement Alternative with Long-span Approach having substantially fewer bridge supports in or near these resources. The Short-span Alternative would also reduce bridge supports in or near the resources as compared with the Retrofit Alternative, but to a lesser extent.

Temporary construction-phase impacts would affect Waterfront Park, the Willamette Greenway Trail, the Esplanade, and Willamette River recreation activities. These temporary impacts would include access restrictions, detours, special event disruptions and cancellations, temporary demolition, tree removal, and noise and air quality disruptions.

Within Waterfront Park, the temporary impacts would directly affect the southern half of the Japanese American Historical Plaza, the area under the Burnside Bridge, and a portion of the Willamette Greenway Trail under all of the Build Alternatives. This would disrupt many annual events held in Waterfront Park that use these areas. With the addition of a temporary bridge, the area impacted in Waterfront Park would extend to the south from the Burnside Bridge to include the plaza around the Ankeny Plaza Structure and the Bill Naito Legacy Fountain. Temporary closure of these areas would further impact events held in Waterfront Park. The durations of closures under all scenarios vary, with the shortest duration of 3.5 years being under the Retrofit Alternative with the No Temporary Bridge Option.

The Esplanade would be disassembled and moved out of the way of during portions of the construction under all of the Build Alternatives. Users would be rerouted to detours,

though this would not mitigate for lost recreation use. The Esplanade restrictions would also impact the Kevin J. Duckworth Memorial Dock, which is attached to the Esplanade. The durations of access restrictions would vary with the Alternatives, with the shortest duration of 18 months occurring under the Long-span Alternative with no temporary bridge.

Willamette River recreational users could continue to pass under the bridge with the exception of 2 to 10 short episodes of up to 3 weeks each in duration. Boaters would be required to adhere to maintaining safe distances from all construction-related equipment and activities as coordinated with the Oregon State Marine Board and the Multnomah County Sherriff's office.

In post-earthquake scenarios, all the Build Alternatives are anticipated to greatly improve the safety of recreation resources in the API during and after earthquake events as compared with the No-Build Alternative.

Mitigation for long-term and temporary impacts largely consists of following established regulations for reconstructing temporarily impacted areas, replanting trees and landscaping, coordinating with Portland Parks & Recreation for additional mitigation and construction management practice needs, and maintaining early and frequent coordination with the Oregon State Marine Board to establish safe boating regulations around the construction areas. Additional mitigation for recreation and event impacts would be developed through Non-Park Use Permits with Portland Parks & Recreation and the Section 4(f) evaluation process.

Section 4(f) compliance is described in the EQRB Draft Section 4(f) Analysis (Multnomah County 2021e). Section 6(f) analysis will be included as an addendum to this technical report once additional information is available.

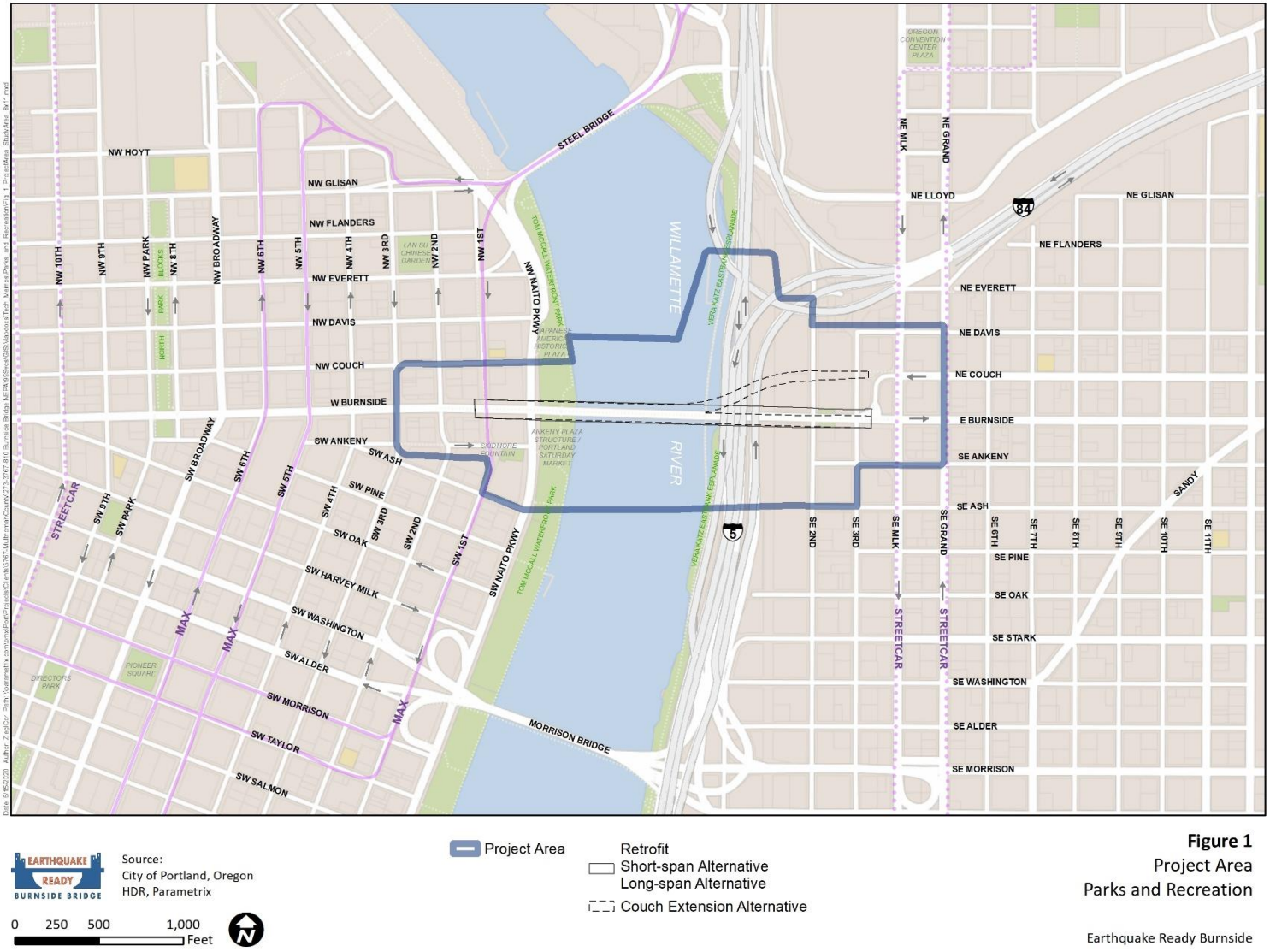
1 Introduction

As part of the preparation of the Environmental Impact Statement (EIS) for the Earthquake Ready Burnside Bridge (EQRB) Project, this technical report has been prepared to identify and evaluate parks and recreation resources in the Project's Area of Potential Impact (API).

1.1 Project Location

The Project Area is located within the central city of Portland. The Burnside Bridge crosses the Willamette River connecting the west and east sides of the city. The Project Area encompasses a one-block radius around the existing Burnside Bridge and W/E Burnside Street, from NW/SW 3rd Avenue on the west side of the river to NE/SE Grand Avenue on the east side. Several neighborhoods surround the area including Old Town/Chinatown, Downtown, Kerns, and Buckman. Figure 1 shows the Project Area.

Figure 1. Project Area



Source: City of Portland, HDR, Parametrix

1.2 Project Purpose

The primary purpose of the Project is to build a seismically resilient Burnside Street lifeline crossing over the Willamette River that would remain fully operational and accessible for vehicles and other modes of transportation following a major Cascadia Subduction Zone (CSZ) earthquake. The Burnside Bridge would provide a reliable crossing for emergency response, evacuation, and economic recovery after an earthquake. Additionally, the bridge would provide a long-term safe crossing with low maintenance needs.

2 Project Alternatives

The Project Alternatives are described in detail with text and graphics in the EQRB Description of Alternatives Report. That report describes the Alternatives' current design as well as operations and construction assumptions.

Briefly, the Draft EIS evaluates the No-Build Alternative and four Build Alternatives. Among the Build Alternatives there is an Enhanced Seismic Retrofit Alternative that would replace certain elements of the existing bridge and would retrofit other elements. There are three Replacement Alternatives that would completely remove and replace the existing bridge. In addition, the Draft EIS considers options for managing traffic during construction. Nomenclature for the Alternatives/Options are:

- No-Build Alternative
- Build Alternatives
    - Enhanced Seismic Retrofit Alternative (Retrofit Alternative)
    - Replacement Alternative with Short-span Approach (Short-span Alternative)
    - Replacement Alternative with Long-span Approach (Long-span Alternative)
    - Replacement Alternative with Couch Extension (Couch Extension)
- Construction Traffic Management Options
    - Temporary Detour Bridge Option (Temporary Bridge) includes three modal options:
        - Temporary Bridge: All modes
        - Temporary Bridge: Transit, Bicycles and Pedestrians only
        - Temporary Bridge: Bicycles and Pedestrians only
    - Without Temporary Detour Bridge Option (No Temporary Bridge)

Please see the EQRB Description of Alternatives Report for text, maps and graphical descriptions of the Alternatives.

3 Definitions

The following terminology is used when discussing geographic areas:

- **Project Area –** The area within which improvements associated with the Project Alternatives would occur and the area needed to construct these improvements. The Project Area includes the area needed to construct all permanent infrastructure, including adjacent parcels where modifications are required for associated work such as utility realignments or upgrades. For the EQRB Project, the Project Area includes approximately a one-block radius around the existing Burnside Bridge and W/E Burnside Street, from NW/SW 3rd Avenue on the west side of the river to NE/SE Grand Avenue on the east side.
- **Area of Potential Impact (API) –** This is the geographic boundary within which physical impacts to the environment could occur with the Project Alternatives. The API is resource-specific and differs depending on the environmental topic being addressed. For all topics, the API encompasses the Project Area, and for some topics, the geographic extent of the API is the same as that for the Project Area; for other topics, the API is substantially larger to account for impacts that could occur outside of the Project Area. The API for parks and recreation resources is defined in Section 5.1.
- **Project vicinity –** The environs surrounding the Project Area. The Project vicinity does not have a distinct geographic boundary but is used in general discussion to denote the larger area, inclusive of the Old Town/Chinatown, Downtown, Kerns, and Buckman neighborhoods.

4 Legal Regulations and Standards

4.1 Laws, Plans, Policies, and Regulations

The following is a list of federal, state, and local laws, regulations, plans, and policies that guided or informed the assessment of parks and recreational resources:

4.1.1 Federal

- Land and Water Conservation Fund (LWCF) Act, Section 6(f) – State and local governments often obtain grants through the LWCF Act of 1965 to acquire or make improvements to parks and recreational areas. Section 6(f) of the LWCF Act prohibits the conversion of property acquired or developed with these funds to a non-recreational purpose without the approval of the National Park Service and provision of replacement property. Properties that were acquired and/or developed with Section 6(f) LWCF funds are referred to as LWCF-assisted properties. Section 6(f) analysis will be included as an addendum to this technical report once additional information is available.
- Section 4(f) of the US Department of Transportation (USDOT) Act of 1966 – Section 4(f) is a section under this USDOT statute protecting publicly owned parks,

recreational areas, and wildlife and waterfowl refuges, as well as historic resources from impacts from federal transportation projects. Section 4(f) requirements and methods are described separately in the EQRB Draft Section 4(f) Analysis.

- Wild and Scenic Rivers Act of 1968 – Preserves certain rivers with outstanding natural, cultural, and recreational values. The mainstem Willamette River is not designated as a Wild and Scenic River.

4.1.2 State and Local

- Oregon Administrative Rules (OAR). 1973. OAR 660-015 Statewide Planning Goals and Guidelines. Salem, Oregon. Nineteen statewide planning goals and guidelines provide overarching standards and approaches through the Land Conservation and Development Department that are then implemented at the local level with particular emphasis on the following:
    - Oregon Statewide Planning Goal 5. This planning goal protects and plans for Oregon Natural Resources, Scenic and Historic Areas, and Open Spaces.
    - Oregon Statewide Planning Goal 8. This planning goal addresses recreational needs of citizens and visitors and provides for the siting of necessary recreation facilities.
    - Oregon Transportation Planning Rule. This division implements Statewide Planning Goal 12, Transportation, to provide and encourage a safe, convenient and economic transportation system.
    - Oregon Statewide Planning Goal 15. The Willamette River Greenway is focused on the Willamette River and applies to cities and counties along the river.
- Park land and recreational facilities in the Project Area are owned and managed by the City of Portland Parks & Recreation. The City of Portland designated general parks goals and policies within its comprehensive plans, parks master plans, and strategic plans. These plans, which comply with the statewide planning goals, are then further implemented by the Portland Zoning Code. The Waterfront Park Master Plan (City of Portland 2003) includes goals and management strategies for Waterfront Park within the Project Area.
- The City of Portland Willamette River Recreation Strategy (2012) provides policy guidance and goals to achieve increased river recreation in Portland. The plan includes an inventory of river recreation facilities and opportunities, user trends and preferences, conflicts, and recommendations.
- Metro owns and manages open spaces and trails throughout the Portland metropolitan area. The Metro Urban Growth Management Functional Plan (Metro 2018) includes goals and management strategies for the Portland metropolitan area.

The analysis of parks and recreational resources considers the applicable comprehensive plan goals and policies and statewide planning goals as well as both existing and future planned parks.

4.2 Design Standards

The Project Area is within several City of Portland Zoning Code base zones, overlay zones and districts, described in detail in the EQRB Land Use Resources Technical Report. These regulations include development standards that apply to location, bulk, height, materials, landscaping, and other standards. The standards are generally intended for building and landscaping development, and are not specific to bridge design, however the standards will be reviewed in detail when the bridge design is reviewed for applicable building and planning permits. Specific sections of the code that could apply include the following (additional standards may also apply):

- General Industrial Base Zone
- Central Commercial Base Zone
- Central Employment Base Zone
- Open Space Base Zone
- Design Overlay Zone
- River Overlay Zone
- Historic Resources Overlay
- Central City Plan District
- Tom McCall Waterfront Park Landscape Design Guidelines

5 Affected Environment

5.1 Area of Potential Impact

The API for the parks and recreation analysis is limited to the areas on, under and adjacent to the bridge that would be permanently or temporarily impacted by each Alternative. This area, shown in Figure 1, is identical to the Project Area, which is bound by NW/SW 3rd Avenue, NW Couch Street, and SW Ankeny Street on the west end of the bridge and NE/SE Grand Avenue, NE Davis Street, and SE Ankeny Street on the east end of the bridge.

5.2 Resource Identification and Evaluation Methods

5.2.1 Published Sources and Databases

Parks and recreational resources, including any subject to Section 4(f) or Section 6(f), have been identified through review of Metro's regional property database and City of Portland park district mapping and Oregon Parks and Recreation Department's (OPRD) LWCF GIS mapping layer. Verification of mapping information was be confirmed through interviews with affected agencies and site visits where necessary. The following data were used to determine and describe parks' and recreational resources' existing conditions for this technical report:

- Metro's regional property database parks and open space parcels
- Metro's regional trail mapping and published documentation
- City of Portland parks and recreation mapping data
- City of Portland parks master plans
- OPRD's LWCF GIS layer

Six park and/or recreational resources within the Project Area include the Vera Katz Eastbank Esplanade, a 1.5-mile-long bike and pedestrian trail along the east bank of the Willamette River; Governor Tom McCall Waterfront Park, a 30-acre park between downtown Portland and the Willamette River; the Willamette River Greenway Trail; the Willamette River Water Trail; Ankeny Plaza; and the Burnside Skatepark. Additionally, recreation occurs on the Willamette River, including near the Burnside Bridge.

5.2.2 Field Visits and Surveys

A site visit to park and recreation resources was conducted on June 24, 2019, to observe and verify facilities and uses.

5.3 Existing Conditions

This section describes the park and recreation resources found within the Project Area and generally identifies the background of the resource, the features and uses of the resource that occur within the Project Area, any known future plans, and any known maintenance access requirements. See Figure 2 for park and recreation locations.

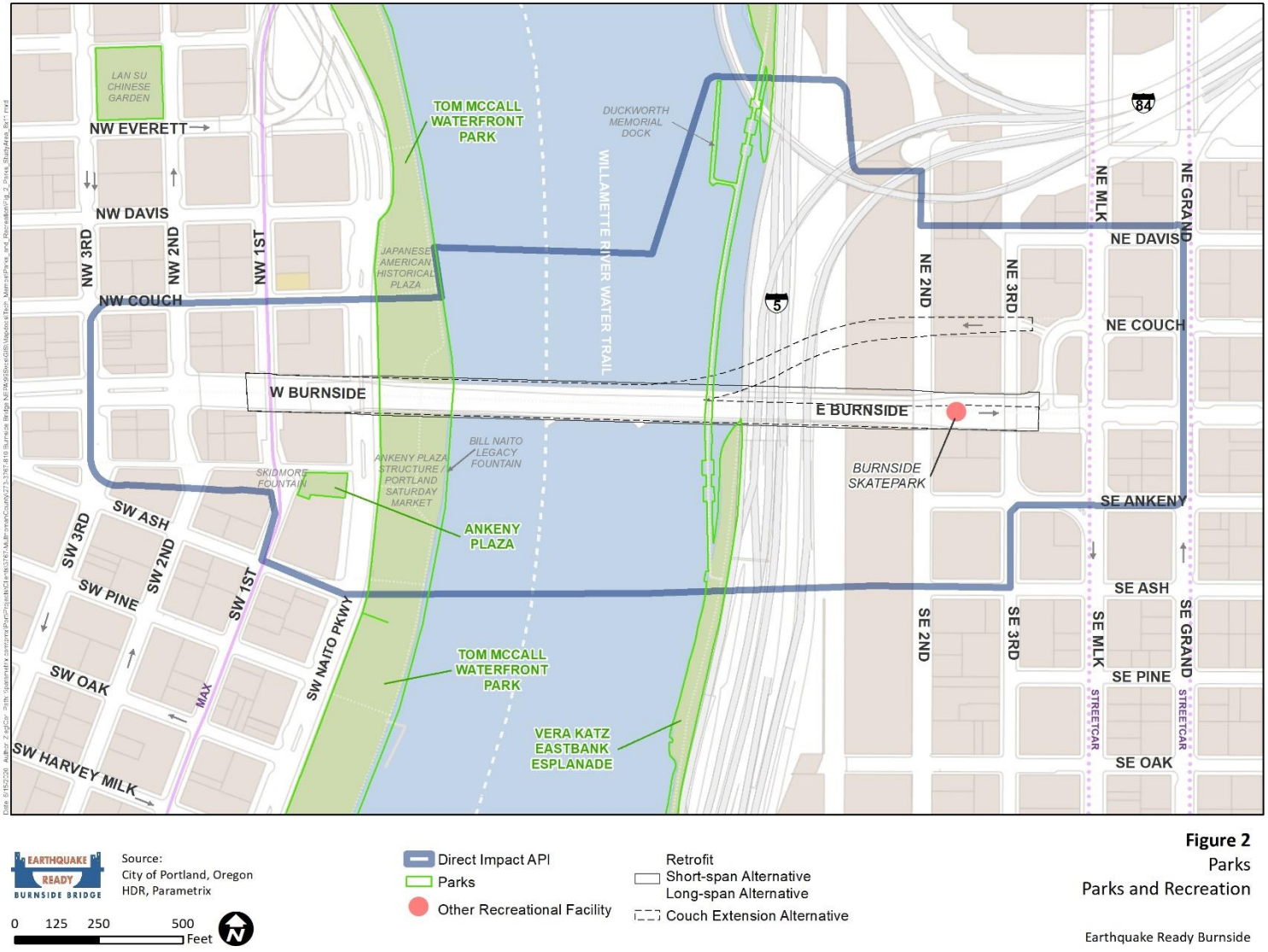
Three locations that received LWCF funding assistance were identified within Waterfront Park and the Eastbank Esplanade. These locations appear to be outside of the Project Area (OPRD n.d.). Communication with OPRD is ongoing to determine the relationship of these grant areas to the Project.

5.3.1 Willamette River Recreation

The Willamette River is an important and accessible recreation resource. This section discusses general recreational boating, one public dock within the API, and the Willamette River Water Trail as river recreation within the affected environment.

The Oregon State Marine Board (OSMB) oversees recreational boating in Oregon including development of boating regulations and river use data collection. According to the OSMB, the Project API includes a stretch of the Willamette River that receives over 250,000 boater use days (196,460 motorized boats and 53,995 non-motorized boats), making it the most-used section of water in Oregon for recreational boaters (OSMB 2017). The nearest public boat launch to the south is on the west bank of the river at Willamette Park, approximately 3 miles south of the Burnside Bridge. The nearest public boat launch to the north is on the east bank of the river at Swan Island, approximately 3.5 miles to the northwest of the Burnside Bridge. The area directly around the Burnside Bridge acts primarily as pass-through from one part of the river to another, rather than as a destination. However, in addition to individual recreational boating, on-river events are held on the Willamette River annually including The Big Float and the Portland Bridge Swim, among others.

Figure 2. Parks



Source: City of Portland, HDR, Parametrix

Located within the API, the Kevin J. Duckworth Memorial Dock is a floating dock connected to the Eastbank Esplanade just north of the Burnside Bridge. Named for former Portland Trail Blazer Kevin J. Duckworth, the dock was developed with a grant from the OSMB in cooperation with the City of Portland Bureau of Transportation (PBOT) and is operated by PBOT. Users can tie their boats to the dock, fish from the dock, and launch small non-motorized watercraft from the dock. Plans are underway to approve swimming from the Duckworth Dock as an allowed activity.

The Willamette River Water Trail (WRWT) administered by OPRD is a 216-mile-long water-based trail. Generally, a water trail serves canoeists, kayakers, and other non-motorized boaters and provides multiple access points so that users can travel on the water trail for short or long distances. The WRWT is not a specific location or route within the river. Public docks, boat launches, and campgrounds along the length of the WRWT support the use of the trail and provide opportunities for many types of users. Within the Project Area, the Kevin J. Duckworth Memorial Dock is attached to the Eastbank Esplanade. This dock is not identified as a destination within the WRWT online mapping system but could offer a place for WRWT users to temporarily tie up and rest. As non-motorized boats, WRWT users are generally small enough to navigate the river along its width, east to west, meaning that users can pass beneath the Burnside Bridge at any open location and are not restricted to passing only when the bridge is lifted.

5.3.2 Willamette River Greenway Trail

The Willamette River Greenway Trail is an interconnected network of trails managed and/or owned by a number of entities, including the City of Portland. The trails are components of the Willamette River Greenway Program, originated with the Willamette River Greenway Act by the Oregon Legislature in 1967 and modified in 1973 (Bauer 1980) to preserve natural spaces and public access to the Willamette River. The Willamette River Greenway program was further refined by Statewide Planning Goal 15, originally adopted in 1975 and last amended in 1988 (OAR 660-015-0005).

The Willamette Greenway Trail follows the east and west banks of the Willamette River from Champoeg State Park to the river's confluence with the Columbia River in North Portland. Major built segments include trails at West Linn's Willamette Park and Mary S. Young State Park, Lake Oswego's George Rogers Park and Foothills Park, and Portland's Willamette Park, Tom McCall Waterfront Park, and Vera Katz Eastbank Esplanade. Portions of the trail within Tom McCall Waterfront Park and the Vera Katz Eastbank Esplanade are discussed further below.

5.3.3 Vera Katz Eastbank Esplanade

The Vera Katz Eastbank Esplanade (Esplanade) is part of the Willamette River Greenway Trail and is a City of Portland property. The 1.5-mile Esplanade extends north from the Hawthorne Bridge, past the Morrison and Burnside Bridges, and terminates at the Steel Bridge, with connections to eastside neighborhoods as well as across the river to Governor Tom McCall Waterfront Park. The City of Portland developed the Esplanade after its completion of the Eastbank Riverfront Park Master Plan in 1994 (City of Portland 1994). Construction was completed in May 2001.

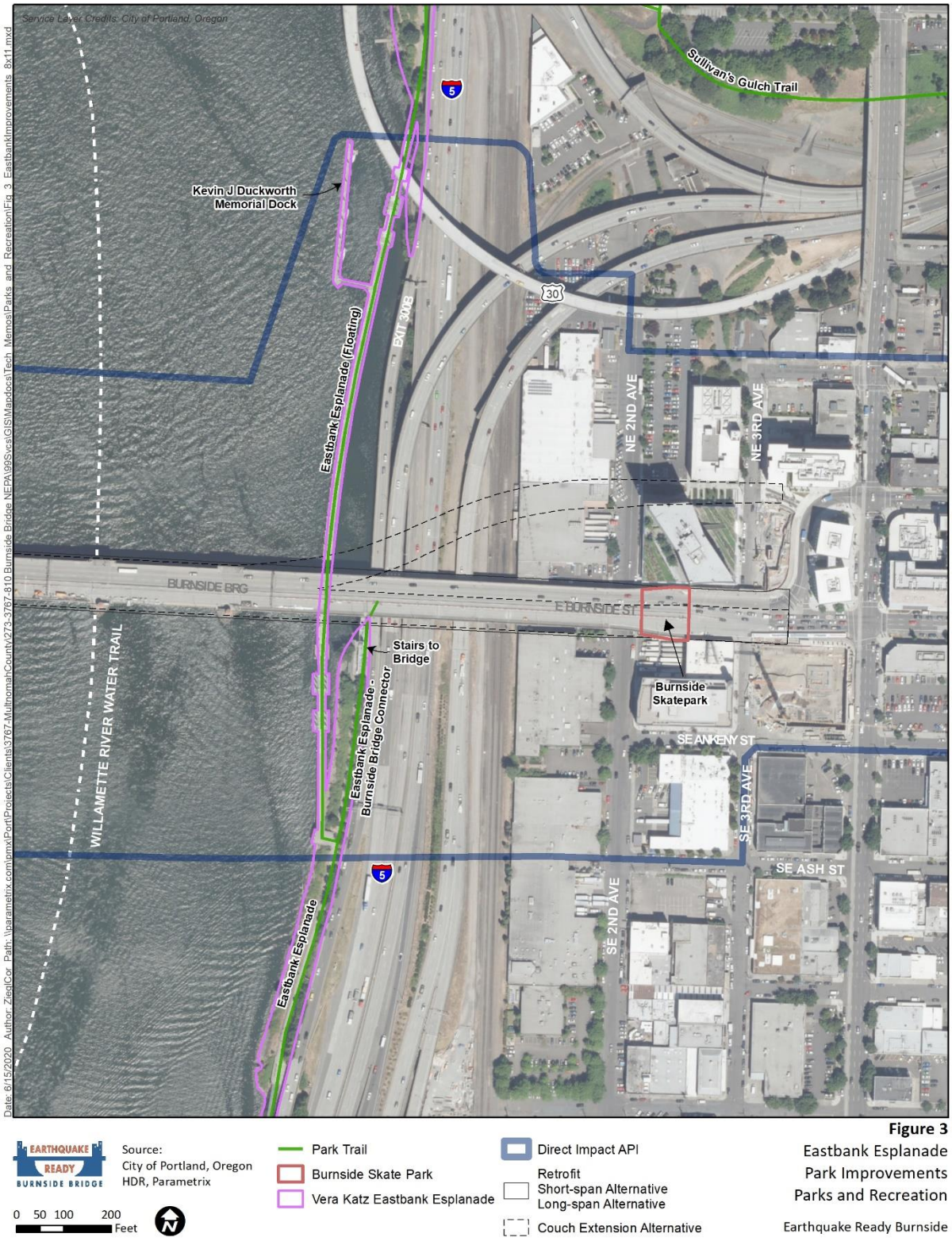
The Esplanade is accessed by the public via numerous surface sidewalks, roads, and walkways from the Hawthorne Bridge north to the Steel Bridge. The Esplanade is accessed from paths, sidewalks, and ramps to a bidirectional facility on the Morrison and Steel bridges and is accessed by paths north and south of the Hawthorne Bridge to directional facilities on the Hawthorne and Tilikum Bridges. All bridges provide multiple access points to the active transportation facilities on those bridges.

Access to the Esplanade from the south side of the Burnside Bridge consists of a stairway with an ADA-accessible lift chair. It is unknown whether the chair is operational at this time. The Esplanade is open at all hours, all days. Existing park facilities at the Esplanade include a multiuse pedestrian and bicycle trail, public art, public dock, and viewpoints of the city skyline and the West Hills. The Esplanade includes a 1,200-foot-long floating walkway and the Kevin J. Duckworth Memorial Dock, 120-foot public dock that provides moorage for recreational boaters and canoe launch, as well as space for a future river taxi and other commercial uses (see Figure 3). Metro conducts trail counts throughout the region annually, and the most recent data available for the Esplanade indicate the peak 2-hour volume on a weekend day on the Eastbank Esplanade was 818 trail users in 2015 (Metro n.d.). The Project team collected automatic traffic counts for bicycle volumes on the Burnside Bridge and other downtown bridges as well as on several key connection locations in Downtown Portland on Wednesday May 15, 2019. The daily volume collected for the Esplanade near the Burnside Bridge was 1,150 bicycle trips. See the EQRB Transportation Technical Report (Multnomah County 2021i) for more information on the weekday daily count.

Many events occur on the Esplanade throughout the year. Most walking or running events incorporate a loop including the Esplanade and portions of Waterfront Park. The loop route events depend on the full connection of the loop to create a safe and attractive walk/run event. Events information is consolidated and described below, within the existing conditions information for Waterfront Park.

The Esplanade structure is owned by the City of Portland, while the riverbed and banks of navigable rivers (up to the ordinary high water mark), which include this reach of the Willamette River, belong to the State of Oregon (Oregon Department of Justice 2005). The City of Portland has a license for the overwater structures from the Oregon Department of State Lands (DSL) to operate the structures (DSL License No. 9978-LI 2014). Portland Parks & Recreation (PP&R) used federal funds for transportation enhancements from the Intermodal Surface Transportation Efficiency Act of 1991, overseen by the Federal Highway Administration, for discrete sections of the Esplanade, which included the segment from the Burnside Bridge to the Steel Bridge (which is within the Project Area) (City of Portland City Council Ordinance No. 168719).

Figure 3. Eastbank Esplanade Park Improvements



Source: City of Portland, HDR, Parametrix

5.3.4 Governor Tom McCall Waterfront Park

Governor Tom McCall Waterfront Park (Waterfront Park) is an approximately 36-acre park stretching between the Willamette River and Downtown Portland from SW Montgomery Street at the south end to the Steel Bridge at the north end. Construction began in 1974 as Harbor Drive was demolished with the advent of the Eastbank Freeway (Marquam Bridge, Interstate 5 [I-5]). Waterfront Park was completed and dedicated in 1978.

The park is made up of many distinct areas providing a variety of recreation opportunities. There are four main features of the park within the Project Area (see Figure 4):

- The Willamette River Greenway Trail
- Japanese American Historical Plaza
- Ankeny Plaza Structure/Portland Saturday Market location
- The Meadow and Bill Naito Legacy Fountain

These areas are described below, followed by a description of maintenance and access and future planning for Waterfront Park.

The Willamette River Greenway Trail/Waterfront Trail

As described in Section 5.3.1, the Willamette River Greenway Trail is an interconnected network of trails made up of sections within multiple jurisdictions along the Willamette River. The portion of the Willamette River Greenway Trail within Waterfront Park is referred to as Waterfront Trail and runs north-south along the west bank of the Willamette. It provides a space for walking, bike riding, running, etc., directly adjacent to the seawall. Where the trail crosses underneath the Burnside Bridge, it passes behind, or west of the bridge structure and the Ankeny Pump Station. Available Metro trail counts from 2015 indicate 942 users during the weekday peak 2-hour time period (Metro n.d.). The Project team collected automatic traffic counts for bicycle volumes on the Burnside Bridge and other downtown bridges as well as on several key connection locations in Downtown Portland on Wednesday May 15, 2019. The daily volume collected for the Waterfront Trail just north of the Burnside Bridge was 1,500 bicycle trips. Trips on SW Naito Parkway just south of the Burnside Bridge were 1,250 and also included E-scooters, where the Waterfront Trail data did not. See the EQRB Transportation Technical Report (Multnomah County 2021i) for more information on the weekday daily count.

Figure 4. Waterfront Park Improvements

Source: City of Portland, HDR, Parametrix

Japanese American Historical Plaza and Bill of Rights Memorial

Extending north from the Burnside Bridge within Waterfront Park, the Japanese American Historical Plaza and Bill of Rights Memorial were dedicated on August 3, 1990. The plaza is within PP&R–owned land but is also managed by the Japanese American Museum of Oregon. Its purpose is to raise public awareness of diverse cultural experiences in America, specifically the Japanese-American experience and the history of the internment camps during World War II (Japanese American Museum of Oregon n.d.). The plaza consists of a memorial garden, a two-section sloping berm with granite pavers and vertical stones and arching walkways with vertical boulders placed throughout.

The stones feature 12 poems as part of the memorial. The artwork tells the story of immigration and the different roles Japanese-Americans had before and during the war. A sculpture by Jim Gion serves as a gateway to the Plaza at NW Couch Street. One hundred ornamental cherry trees are planted along the plaza's north-south orientation and add to the reflective character, although they were donated to the City outside of the process of developing the plaza.

Events held or hosted at the plaza are primarily related to the purpose of the plaza and memorial including the following:

- Day of Remembrance for Nuclear Bombs
- Sunday in Spring, or Sakura Sunday
- Self-guided tour location with a mobile phone app, narrated by George Takei through Public Art PDX
- Various vigils and anniversaries

Portland Saturday Market

Portland Saturday Market (PSM) is a non-profit outdoor market made up of Pacific Northwest vendors selling their artwork and crafts every Saturday and Sunday from March through Christmas Eve. PSM leases space within Waterfront Park and has an established vendor layout area both underneath and outside of the Ankeny Plaza Structure/pavilion cover west of the Ankeny Pump Station building, under and south of the Burnside Bridge, and north of the fountain in the park. PSM began in 1974 and located under the Burnside Bridge in 1976. PSM moved to its current location within Waterfront Park in 2009 in a location specifically designed to accommodate its activities.

PSM has over 350 members and attracts an estimated one million visitors to Downtown Portland and Waterfront Park annually, earning an estimated $8 million in gross sales (PSM 2019). Part of PSM's agreement to operate within Waterfront Park includes a minimum license fee and fifty percent of the annual net income associated with the operations of PSM.

As an attraction in Waterfront Park, PSM is a prominent ongoing activity that draws users for the market who then may also visit other areas of the park, such as the fountain, the seating overlooking the Willamette River, or the Willamette River Greenway Trail. The economic relationship and activities of PSM are discussed in the EQRB Economic Impacts Technical Report (Multnomah County 2021f).

The Ankeny Plaza Structure that PSM occupies during the weekends functions as a shade and rain cover for park users during the weekdays and has a fountain/water feature that that operates during summer months.

The Meadow and Bill Naito Legacy Fountain

The southern end of the Project Area includes the Bill Naito Legacy Fountain and a portion of an area of Waterfront Park known as The Meadow. The Bill Naito Legacy Fountain opened in 2009 and has a curved low-sloping concrete-stepped seating area bordering on a circular hardscape that alternately slowly fills the depression with water for wading and sprays higher fountains of water into the air. Families with children are often found playing in and around the water.

The Meadow, south of the fountain is a generally flat grassy field with deciduous trees on the east and west borders. The Willamette River Greenway Trail is aligned north-south between The Meadow and the seawall. The Meadow area within the Project Area does not provide any specific recreation features but is used for passive outdoor enjoyment by walkers and picnickers. The Meadow is much larger than the portion within the Project Area and is heavily used for large outdoor events.

Events

Waterfront Park hosts a variety of events throughout the year. Potentially best known for the large annual events such as the Waterfront Blues Festival, Oregon Brewers Festival, The Bite of Oregon Festival, and many events associated with Rose Festival, the park also hosts smaller events and walking/running events that include the Willamette River Greenway Trail as part of the route. Many of these are loop routes that incorporate both sides of the Willamette River by creating a loop with the Eastbank Esplanade, the Hawthorne Bridge, and the Steel Bridge. These loop routes depend on an accessible continuous route that passes underneath the Burnside Bridge on both sides of the river.

The list below includes examples of the types of events that occur within or pass through the Project Area, and is not meant to be a comprehensive list of events:

- Shamrock Run – Early Spring – 22,000 attendees
- March of Dimes WalkAmerica – Mid-Spring – 1,000 attendees
- Doggie Dash – Late Spring – 4,000 attendees
- Rose Festival / Fleet Week – Late Spring – 10,000 attendees
- American Heart Association Heart and Stroke Walk – Early Summer – 4,500 attendees
- Turbine Runner 5K – Mid-Summer – 100 attendees
- Providence Bridge Pedal & Kids Pedal – Mid-Summer – 1,500 attendees
- Walk to End Alzheimer’s – Late Summer – 2,000 attendees
- Race for the Cure – Early Fall – 8,000 attendees
- American Foundation for Suicide Prevention Walk, – Early Fall – 2,200 attendees
- Jingle Bell Run – Early Winter – 1,000 attendees

Depending on the type of event, areas of the park can be segmented off with fencing and used for tents, carnival rides, food carts, performance spaces, event support functions, and other activities. Fleet Week and other events also include direct access to ships mooring along the seawall. The configurations and ability to use the park areas is critical to the success of the events and relies on multiple access points and maneuverability within the park.

Through hosting such events, Waterfront Park is an integral and active part of downtown Portland and is visited by thousands of people every year who might otherwise not come to the park or downtown. The economic impact of the events and activities within Waterfront Park is discussed in the EQRB Economic Impacts Technical Report (Multnomah County 2021f).

Maintenance and Other Features

Maintenance

Maintenance vehicles access Waterfront Park within the Project Area daily. Within the summer months, they pass through the Project Area approximately three times per day for garbage removal and general maintenance access. The vehicles use hardscaped areas primarily but avoid the Japanese American Historical Plaza, because the stone pavers are susceptible to damage from vehicle traffic.

Bureau of Environmental Services Project

The City of Portland Bureau of Environmental Services has a planned odor control project within the Project Area of Waterfront Park, beneath and just to the north of the Burnside Bridge that will be completed before construction on the Burnside Bridge would begin. This project will replace media and equipment in two existing underground vaults, and the vault entries will also be slightly enlarged. The resulting condition will not change or affect recreation usage in the area.

US Coast Guard Public Access Facility

The U.S. Coast Guard granted the City of Portland's request to designate a portion of the Willamette River adjacent to the seawall in Waterfront Park as a Public Access Facility, as an exemption under 33 CFR § 105. The exemption is based on the statement by the City of Portland that the seawall in Waterfront Park is primarily used for public recreation, entertainment, and tourism, and is not exclusively used to receive vessels, nor does it receive cruise ships, car ferries, or specific types of passenger vessels (City of Portland 2018). The Public Access Facility area within the Project Area includes the seawall starting at the southern end of the Ankeny Dock and extends south from there (see Figure 4).

Portland Loo – Public Restroom

A Portland Loo is located in Waterfront Park within the Project Area near the intersection of SW Ash Street and SW Naito Parkway. This is one of six Portland Loo locations in downtown Portland, and one of two within Waterfront Park. With the Better Naito project described below, the Portland Loo location within Waterfront Park may change.

Better Naito

The City of Portland is converting one northbound motor vehicle lane on Naito Parkway into a two-way bicycle and pedestrian route as a transportation improvement project, in part to provide a safe way for people to travel to and access events within Waterfront Park. This will reduce conflicts between vehicles, cyclists, and pedestrians. The project is scheduled for construction in 2020, so will be an existing condition for the EQRB Project. In the Project Area, the Better Naito project will affect sidewalks and trees adjacent to Naito Parkway.

Future Plans

The Waterfront Park Master Plan was completed in 2005 and is an update to the original Downtown Waterfront Park Master Plan prepared in 1975. The master plan provides direction for future development of Waterfront Park. It includes policies, development concepts, and specific projects and actions for future improvements. Since adoption of the master plan, development within the Project Area has implemented goals listed for the Ankeny Pump Station area to create an “activity center, interactive water features, and the ability for an open air market” (now the PSM location). The master plan also envisions major regrading of The Meadow area south of the Burnside Bridge and the Bill Naito Legacy Fountain to slope the park down toward the Willamette River and create a cantilevered walkway over the water, along with improvements to Ankeny Dock, currently unused and below the sea wall (City of Portland 2005). PP&R does not have current implementation plans for this conceptual redevelopment within The Meadow.

5.3.5 Ankeny Plaza

Ankeny Plaza is a 1.33-acre City of Portland park property just south of the Burnside Bridge between SW 1st Avenue and SW Naito Parkway, adjacent to SW Ankeny Street. The hardscaped plaza is on the National Register of Historic Places and is noted by PP&R as the first true public space in the Skidmore-Old Town District. It is now marked by historic building material components, wrought iron details, and rows of deciduous trees.

Skidmore Fountain is a prominent feature in the park and is Portland’s oldest piece of public art. It was dedicated on September 22, 1888, and is modeled after fountains Stephen G. Skidmore viewed at the 1878 Paris Exposition (City of Portland n.d.b).

Today Ankeny Plaza is used by PSM and Skidmore Market/Ankeny Market operating on weekends. There are no developed recreation-specific features and no benches within the plaza.

5.3.6 Burnside Skatepark

The Burnside Skatepark is an independently funded, maintained, and operated skateboard park located beneath the east end of the Burnside Bridge on SE 2nd Avenue on City of Portland right-of-way. The skatepark was developed in 1990 without public funding and without permission from the City of Portland or Multnomah County, but has been acknowledged as an important recreation feature in the city. There is no admission fee for use, and the facility is funded by donations. The skatepark is not considered a recreation Section 4(f) resource but is considered potentially eligible for listing on the

National Register of Historic Places, and as such is a Section 106 resource subject to Section 4(f). See the EQRB Draft Section 4(f) Analysis (Multnomah County 2021e) for further details.

6 Impact Assessment Methodology and Data Sources

6.1 Long-Term Impact Assessment Methods

All identified public parks and recreational resources are evaluated for direct long-term potential impacts. Conceptual engineering information developed for the Project, along with property boundary maps for the identified resources, were used to determine potential physical impacts. Coordination with other topics, including the acquisitions, visual, noise and vibration, transportation, and vegetation and wildlife analyses, were used to assess indirect impacts. The analysis of direct long-term impacts considers the following:

- Direct impacts that convert parkland permanently from recreational use to transportation use.
- Direct and indirect impacts to recreational use such as detrimental visual or noise changes that would affect park use.
- Permanent changes that either improve or decrease access to park resources.

There is an indication that recreational lands subject to LWCF requirements could be impacted by the Project; however, LWCF funds were not applied within the Project Area. Coordination with the OPRD LWCF program, the National Park Service, and the City of Portland is ongoing to identify the extent of the site purchased and/or developed using LWCF monies and could result in recommendations for mitigation that could be applied to reduce, avoid, or offset impacts. Once LWCF information is available, an addendum will be prepared regarding Section 6(f) analysis and compliance information.

6.2 Short-Term Impact Assessment Methods

Short-term impacts are focused primarily on the effects of the Project during construction, that would be temporary in nature. These can include impacts to the accessibility of parks or trails, impacts on adjacent parks or trails that temporarily affect their quality as recreation resources, and impacts directly to park or trail properties that would occur during construction, but would not be permanent.

For parks and trails near construction activities, access could be affected by detours and street or lane closures, and by increased congestion caused by construction traffic. For example, access to activities within Waterfront Park beneath the Burnside Bridge could be restricted during construction. Analysis of temporary occupancy of recreation properties considers whether detours or alternate access is necessary.

Parks or park areas that are adjacent to construction areas or that have property directly impacted by the Project could also experience temporary effects on parking, trees, or

other vegetation that could be removed during construction. Impacts from construction such as light, glare, dust, and noise could also affect users of some of the parks and trails, including the ability of the parks to host the variety and size of events that are traditionally held in or near the Project Area and the ability to use the full extent of trails. This analysis describes the impacts that may occur to parks and recreational resources during construction.

Portions of park properties, including Waterfront Park, may be used as staging and construction access areas during the construction of the bridge or bridge improvements. Section 7.4 identifies the location, duration, and impacts of those activities.

6.3 Indirect Impact Assessment Methods

Potential indirect impacts on parks and recreational resources resulting from the Project may include changes to surrounding areas or environmental conditions but are unlikely to affect the resource directly. Evaluation of potential indirect impacts on parks and recreational resources considers how the long-term operation of the Project may create barriers or changes in park use patterns from increased noise or visual changes that affect recreational use.

6.4 Cumulative Impact Assessment Methods

The cumulative impacts analysis considers the Project's impacts combined with other past, present, and reasonably foreseeable future actions that would have environmental impacts on the Project vicinity. Based on the list of foreseeable transportation and other development projects that are anticipated to occur in the Project vicinity within the same time frame, as well as relevant past actions that have defined the Project vicinity, a qualitative analysis of potential cumulative effects has been conducted for parks and recreational resources. The analysis of potential cumulative parks and recreational resource impacts includes both near-term construction effects as well as long-term operational impacts.

7 Environmental Consequences

7.1 Introduction

The description of long-term impacts is divided into (1) pre-earthquake impacts, based on each Alternative's footprint and its day-to-day operations, as well as (2) impacts that would occur after the next CSZ earthquake, including how each Alternative affects resiliency, emergency response, and longer-term recovery.

7.2 Pre-Earthquake Impacts

7.2.1 No-Build Alternative

Under the No-Build Alternative there would be no permanent conversion of park and recreation uses to another use, and no changes in permanent access from the Burnside Bridge to the recreation features would occur.

This Alternative assumes regular maintenance would continue to occur on the bridge, and, in some cases, this maintenance work would occur over and adjacent to areas of Waterfront Park, the Eastbank Esplanade, and Burnside Skatepark and may require temporary access restrictions to ensure recreation user safety. In general, agencies may attempt to schedule maintenance work that would temporarily restrict access to the least busy times of the year for scheduled events in Waterfront Park and the Eastbank Esplanade, but as the bridge ages and maintenance needs become more frequent and or widespread, that may not be possible. It could be necessary to cancel or reschedule events during maintenance activities, including events that rely on ship mooring access along Waterfront Park.

7.2.2 Enhanced Seismic Retrofit Alternative

Direct

No permanent conversion of park property to a transportation or other use would occur under the Retrofit Alternative or any other Build Alternatives. However, the Burnside Skatepark, a non-publicly owned/operated recreation resource, would be permanently closed as discussed below. The majority of direct impacts to users of Waterfront Park are discussed in the Section 7.4, Construction Impacts.

Willamette River Recreation

No long-term effects are anticipated to recreational boating, use of the WRWT, on-water events, or the Duckworth Dock under any of the Build Alternatives.

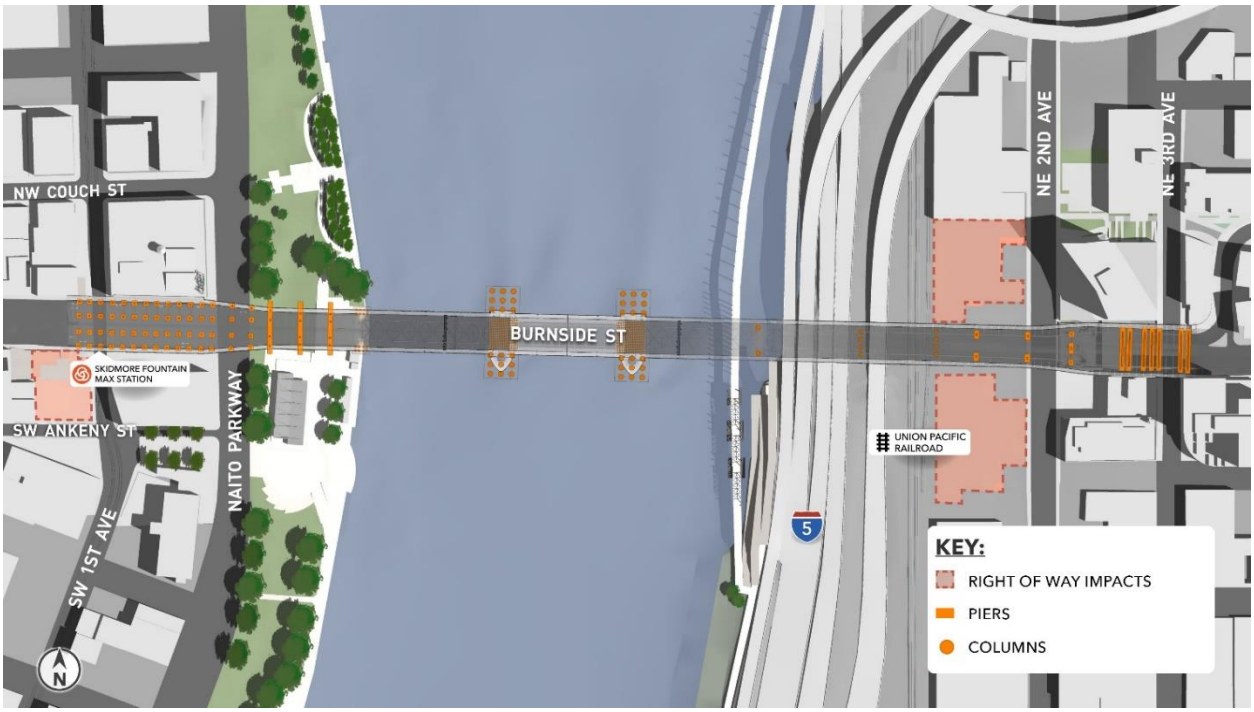
Waterfront Park and Willamette River Greenway Trail

Under this Alternative, the bridge supports within Waterfront Park would remain in the same locations as in the current condition, though there would be substantial alteration to Pier 1 adjacent to the harbor wall (see Figure 5). After construction, the footprint of the supports would be the same size and would not impact the area available for recreation within Waterfront Park.

Eastbank Esplanade

As part of all Build Alternatives, the staircase connection from the south side of the Burnside Bridge to the Eastbank Esplanade would be replaced with a bike, pedestrian, and ADA-accessible ramp connecting the bridge to the Esplanade. This would improve the safety, access, and convenience for users. However, the ramp would impact shallow water habitat, impact the river shoreline, and potentially remove more than a dozen trees and pathway on the shore above the floating portion of the Esplanade. To avoid these impacts, the Project is also considering only replacing the existing stairs with new stairs, and potentially adding an elevator. Specific ramp designs and alternatives have not been evaluated. The long-term impact for the Esplanade is that a bike and pedestrian connection would remain. Impacts to natural resources and permitting implications from an expanded structure are considered in the EQRB Vegetation, Wildlife, and Aquatic Species (Multnomah County 2021j) and EQRB Land Use Technical Reports (Multnomah County 2021g).

Figure 5. Pier Locations – Retrofit Alternative



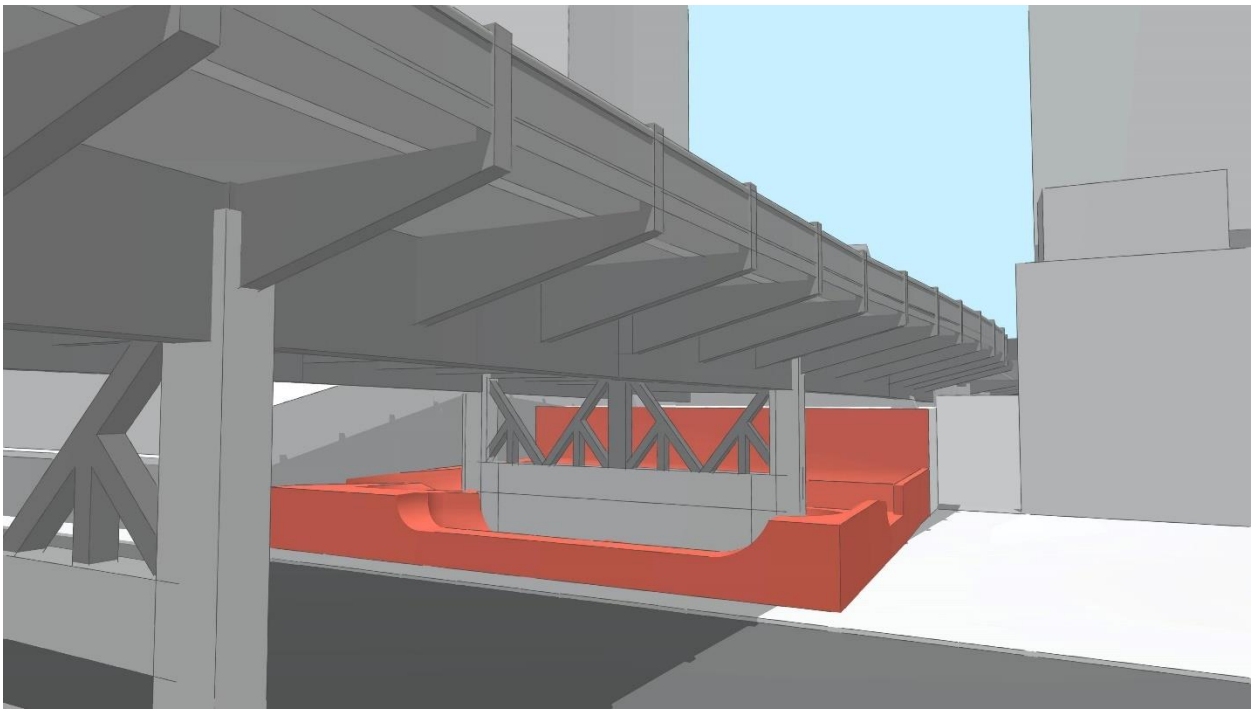
Ankeny Plaza

There are no direct impacts to Ankeny Plaza with any of the Build Alternatives.

Burnside Skatepark

Under the Retrofit Alternative, the Burnside Skatepark would be demolished during construction (see Figure 6). Due to the increase in bridge support size and full demolition of the original skatepark, it has been determined that the skatepark would not be rebuilt under the Retrofit Alternative. This impact means that none of the original components would remain after construction, and the skatepark would not be replaced. The long-term historic impacts of this action are discussed in the EQRB Cultural Resources Technical Report (Multnomah County 2021c) and the EQRB Draft Section 4(f) Analysis (it is not a public park, but it is considered a Section 4(f) resource due to its historic characteristics) (Multnomah County 2021e). This construction-related impact is further discussed in Section 7.4, Construction Impacts.

Figure 6. Burnside Skatepark Displacement with Retrofit Alternative



Indirect

Parks and recreation resources can experience indirect effects from public infrastructure projects when those projects change the demand for parks and recreation in some way. This could mean increased or decreased usage and, hence, changes to maintenance needs or overall park services' needs. Indirect effects can also result from changes to the setting of the park such that a scenic or quiet setting that was integral to the type of recreation experience provided is no longer present and changes the best type of recreation use for an area. Under the Retrofit Alternative and all other Build Alternatives, none of these conditions is anticipated to occur, so none of these types of indirect impacts is expected in the long term. The bridge capacity and modal use is not proposed to change, and the Project would not provide a new connection that would be likely to alter existing travel patterns (and noise impacts), thus no park demand changes are anticipated. Additionally, because a bridge structure is already present above the park and within view of all park users, the Build Alternatives that do not substantially change the form of the bridge (Retrofit and Short-span Alternatives) are not anticipated to change the setting of the park visually.

The Retrofit Alternative assumes regular maintenance would continue to occur on the bridge after the retrofit is complete. In some cases, this maintenance work would occur over and adjacent to areas of Waterfront Park, the Eastbank Esplanade, and the Burnside Skatepark and could require temporary access restrictions to ensure recreation user safety. In general, agencies may attempt to schedule maintenance work that would temporarily restrict access to the least busy times of the year for scheduled events in Waterfront Park and the Eastbank Esplanade, but as the bridge ages and maintenance needs become more frequent and or widespread, that may not be possible. It could be

necessary to cancel or reschedule events during maintenance activities, including events that rely on ship mooring access along Waterfront Park. Maintenance with the Retrofit Alternative is expected to be more frequent and widespread than with the Replacement Alternatives and cost from 1.25 to 1.35 times more than with the Replacement Alternatives.

7.2.3 Replacement Alternative with Short-span Approach

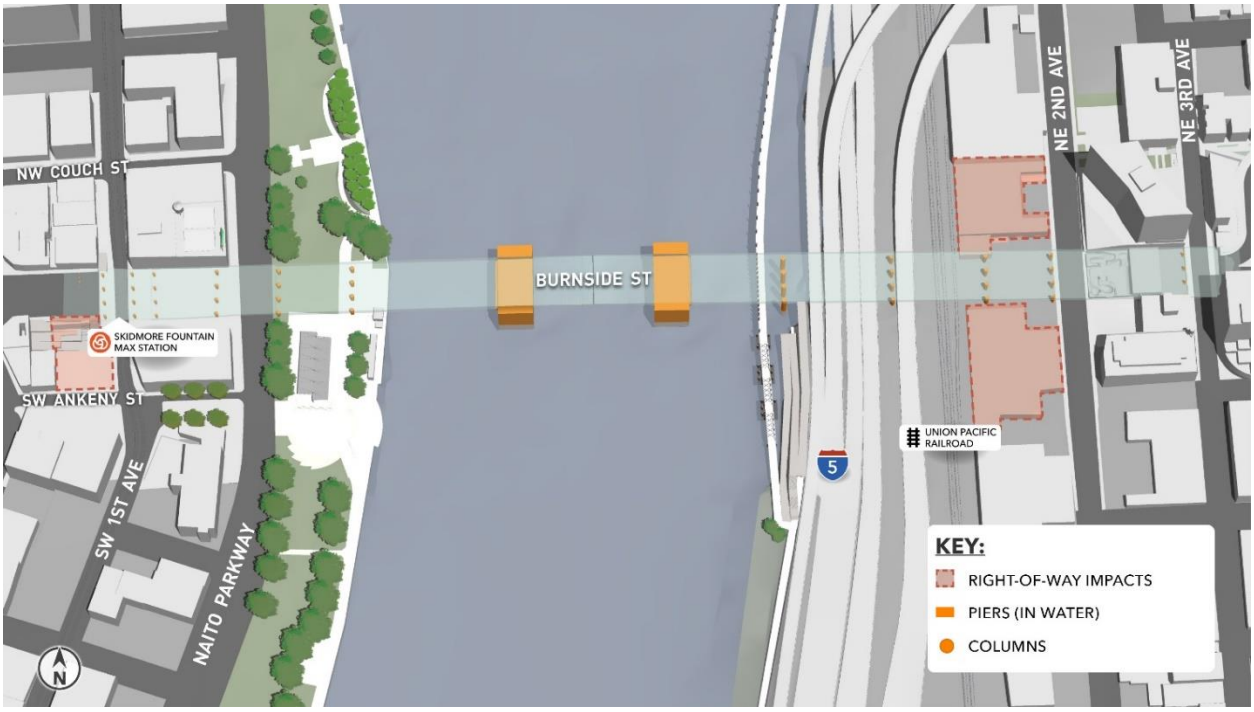
Direct

The Short-span Alternative proposes to construct a new bridge to replace the existing structure on the existing alignment. It includes a movable bridge span over the primary navigation channel and fixed bridge spans for the east and west approaches.

Waterfront Park and Willamette River Greenway Trail

Under the Short-span Alternative, there would be three fewer pier locations within Waterfront Park compared with the Retrofit Alternative (see Figure 5 and Figure 7; also see the EQRB Visual Resources Technical Report for detailed renderings) (Multnomah County 2021k). Pier 1 and three of the existing sets of columns would be eliminated, providing a more open experience to the water from the park and increasing usable park space. The space under the bridge is currently used for maintenance, access to the Ankeny Pump Station, underground utilities, a part of the PSM weekly stall locations, and a portion of the WRWT. Having fewer bridge supports in this location would facilitate all of these uses in the future.

Figure 7. Pier Locations – Short-Span Alternative



Eastbank Esplanade

Direct impacts to the Eastbank Esplanade are the same as with the Retrofit Alternative.

Ankeny Plaza

There are no direct impacts to Ankeny Plaza with any of the Build Alternatives.

Burnside Skatepark

Under the Short-span Alternative, the Burnside Skatepark would not be demolished, and would remain relatively unchanged, but intermittently unavailable during construction. This would be a substantially lower level of impact than with the Retrofit Alternative. Construction impacts affecting the Burnside Skatepark are discussed in Section 7.4, Construction Impacts.

Indirect

The Short-span Alternative is anticipated to have the same indirect impacts as described for the Retrofit Alternative with the following exceptions.

The Replacement Alternatives are expected to have lower frequency and extent of long-term maintenance over time and would then comparatively have less maintenance-related noise and access effects on parks and recreation resources under and near the Burnside Bridge than with the Retrofit Alternative.

The Short-span Alternative places a pier in generally the same location as the Existing Pier 4 that would remain in place with the Retrofit Alternative (see Figure 5 and Figure 7).

7.2.4 Replacement Alternative with Long-span Approach

Under the Long-span Alternative, large segments of the east and west approaches would be supported by above-deck superstructure. For the east approach, the height of the superstructure above the bridge deck could range from approximately 140 feet for a tied-arch bridge up to 250 feet or more for a cable-stayed bridge. On the west side, this Alternative would include a clear span extending from the movable span in the river, approximately 450 feet to the east side of Naito Parkway. On the east side of the bridge, the Long-span Alternative would clear span from the movable span in the river to just west of 2nd Avenue. Direct impacts from this Alternative are described below.

Direct

Waterfront Park and Willamette River Greenway Trail

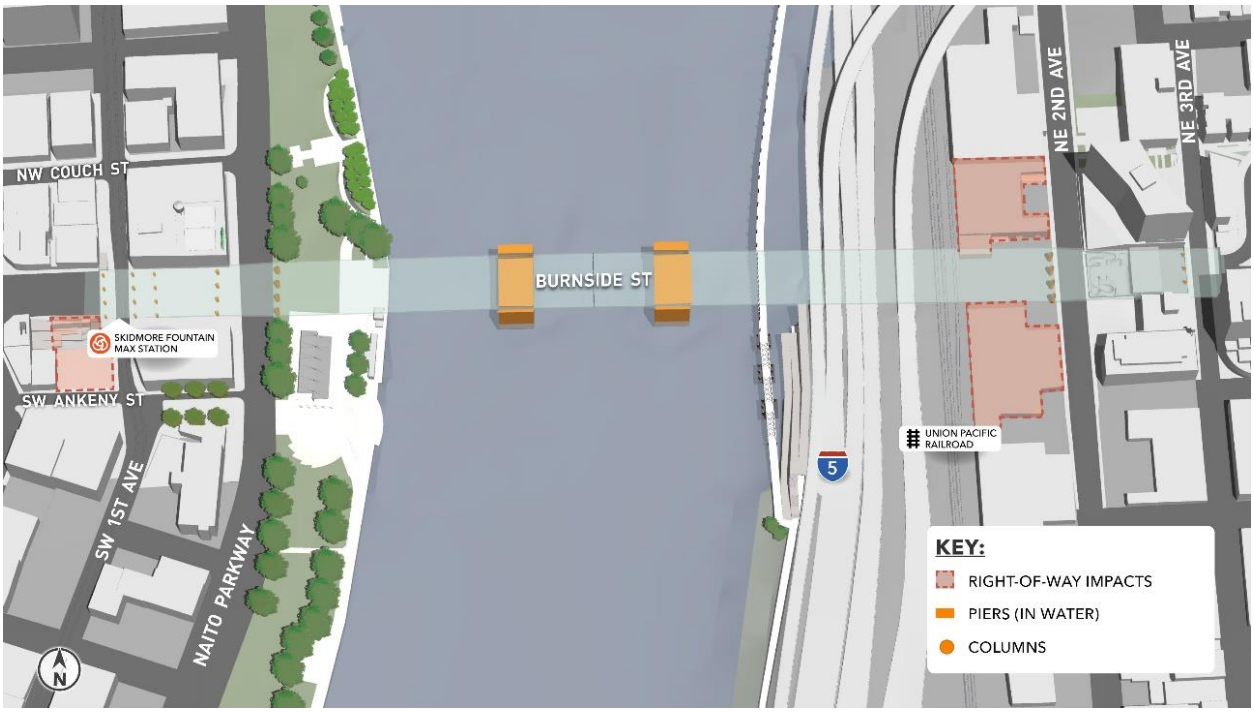
The Long-span Alternative removes an additional support location, such that there would only be one bridge support within Waterfront Park, at the west property boundary of the park, along Naito Parkway (see Figure 8).

Eastbank Esplanade

Direct impacts to the Eastbank Esplanade would be the same as with the Retrofit Alternative with the following addition. Compared with the Short-span Alternative, the Long-span Alternative would eliminate the pier between the Eastbank Esplanade and

east bank of the Willamette River, creating an uninterrupted area with no bridge supports (see Figure 8, also see the EQRB Visual Resources Technical Report [Multnomah County 2021k] for detailed renderings). The lack of infrastructure in the river at this location would lead to a more open feeling for users on the Esplanade. However, with the Long-span Alternative, there would be above-deck bridge components not currently present or proposed under any other Alternative. The bridge type is undetermined at this time, but the introduction of increased bulk and height of the bridge structure both over the Esplanade and over Waterfront Park would change the setting for users of these facilities. It is likely the reaction to a larger, taller structure overhead would be varied depending on the user, and it is not anticipated that this change would either increase or decrease recreation resource usage. This change does not add horizontal bulk that would increase shading of the Esplanade. See the EQRB Visual Resources Technical Report (Multnomah County 2021k) for further discussion about the visual impact of the Long-span Alternative.

Figure 8. Pier Locations – Long-Span Alternative



Ankeny Plaza

There would be no direct impacts to Ankeny Plaza with any of the Build Alternatives.

Burnside Skatepark

Direct impacts to the Burnside Skatepark would be the same as with the Short-span Alternative.

Indirect

The Long-span Alternative is anticipated to have the same indirect impacts as described for the Retrofit and Short-span Alternatives with the following exceptions. Like the Short-

span Alternative, the Long-span Alternative is anticipated to have less frequent and less intensive long-term maintenance because it is a fully replaced structure. The Long-span Alternative would result in less maintenance-related noise and access effects on parks and recreation resources under and near the Burnside Bridge than with the Retrofit Alternative.

7.2.5 Replacement Alternative with Couch Extension

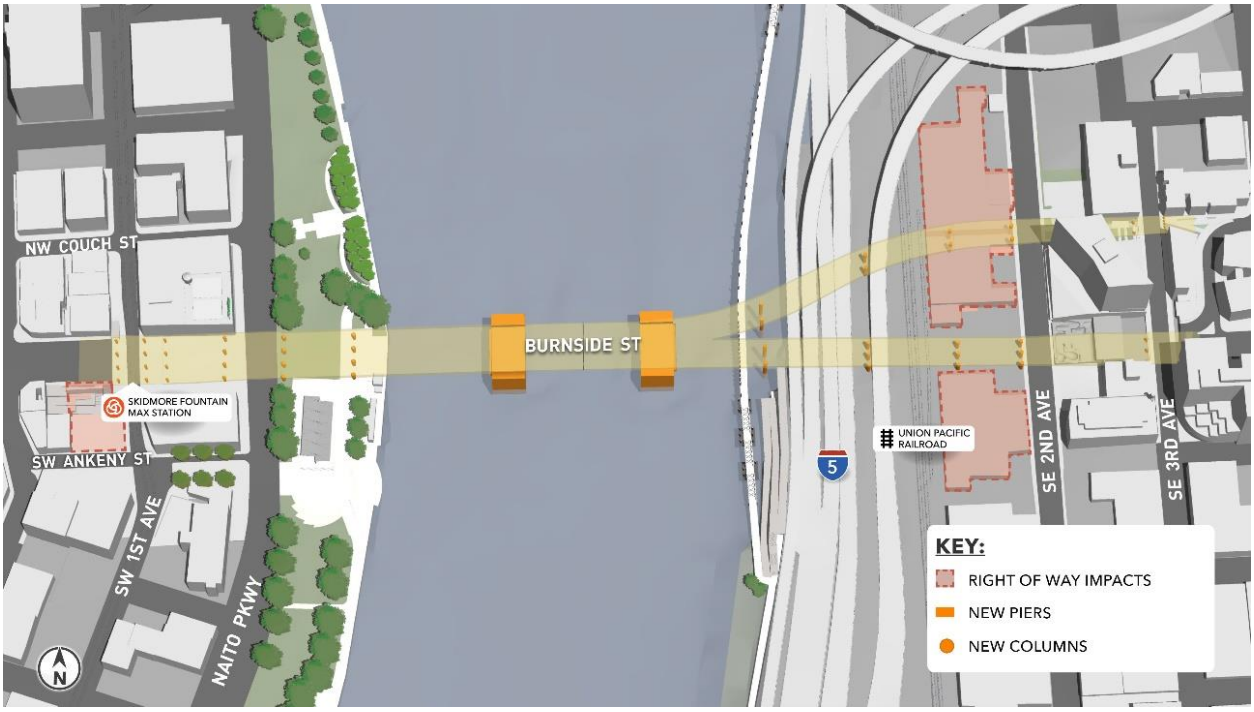
Direct

Direct impacts to parks and recreation resources under the Couch Extension are the same as described for the Short-span Alternative.

Indirect

Indirect impacts to parks and recreation resources under the Couch Extension are the same as described for the Short-span Alternative with the exception that instead of one structure passing over the Eastbank Esplanade, the Burnside Bridge would be split into what would appear as two structures crossing over the Esplanade (see Figure 9). Although there would be a split bridge overhead, the overall area of coverage and number of piers adjacent to the Esplanade would be approximately the same as with the Retrofit and Short-span Alternatives. See the EQRB Visual Resources Technical Report (Multnomah County 2021k) for detailed renderings of visual changes with the Couch Extension. The Long-span Alternative would have fewer piers in this area.

Figure 9. Pier Locations – Couch Extension



7.3 Post-Earthquake Impacts

7.3.1 No-Build Alternative

Under the No-Build Alternative, the Burnside Bridge would not be replaced or receive upgrades to bring it up to seismic standards capable of withstanding a CSZ 1,000-year earthquake event. The Burnside Bridge and all other downtown Portland Willamette River crossings are expected to fail to an extent that they would all be unusable. More details about these conditions can be found in the EQRB Description of Alternatives Report (Multnomah County 2021d).

The existing bridge is anticipated to collapse onto the area of Waterfront Park, the Eastbank Esplanade, and the Burnside Skatepark below and nearby the bridge, likely causing injuries and loss of life to people in these areas and long-term damage to these recreation resources. Bridge debris would create impassible barriers to the north-south connections currently provided by Waterfront Park and the Eastbank Esplanade, and clearing these areas could receive a low priority compared to immediate recovery needs. Several months after a CSZ event, debris may begin to be cleared in areas not critical for vehicle transportation, although trail systems considered safe passageways after the event could be prioritized as well. Long-term recovery could include reconstruction of recreation resources as close as possible to their existing conditions, or new configurations and uses could be proposed depending on recovery and recreation needs and priorities in local government plans.

7.3.2 Enhanced Seismic Retrofit Alternative

All of the Build Alternatives are designed to remain fully operational and accessible for vehicles and other modes of transportation following a major CSZ 1,000-year earthquake event. Additionally, all Build Alternatives include providing clearance between the bridge and adjacent buildings to allow independent movement during a seismic event.

Direct

With the assumption that all Build Alternatives are generally equal in seismic performance and transportation functionality, anticipated impacts to parks and recreation resources during and after a major seismic event are expected to be the same.

Compared with the No-Build Alternative, a retrofitted bridge would not fall onto Waterfront Park or the Eastbank Esplanade or block north-south trails that are parts of these resources. While it would also not collapse onto the current site of the Burnside Skatepark, the skatepark would no longer be there because it would have been removed by the construction of the Retrofit Alternative. A retrofitted bridge would result in fewer injuries and less loss of life within the recreation resources during the seismic event, and less need for reconstruction and debris removal after the event. The portions of the trails underneath the Burnside Bridge would be available to bicyclists and pedestrians to access the bridge or other destinations to the extent that debris was not present north and south of the bridge.

Indirect

As an area with little expected debris, portions of Waterfront Park could experience increased usage by pedestrians not able to use roads, and potentially be used as a staging area for recovery operations. However, if other bridges were collapsed onto Waterfront Park north and south of the Burnside Bridge, bike and pedestrian passage would still be interrupted.

7.3.3 Replacement Alternative with Short-Span Approach

Impacts during and after an earthquake are anticipated to be the same as described in the Retrofit Alternative, with the exception that the Burnside Skatepark would continue to exist under the Burnside Bridge.

7.3.4 Replacement Alternative with Long-Span Approach

Impacts during and after an earthquake are anticipated to be the same as described in the Retrofit Alternative, with the exception that the Burnside Skatepark would continue to exist under the Burnside Bridge.

7.3.5 Replacement Alternative with Couch Extension

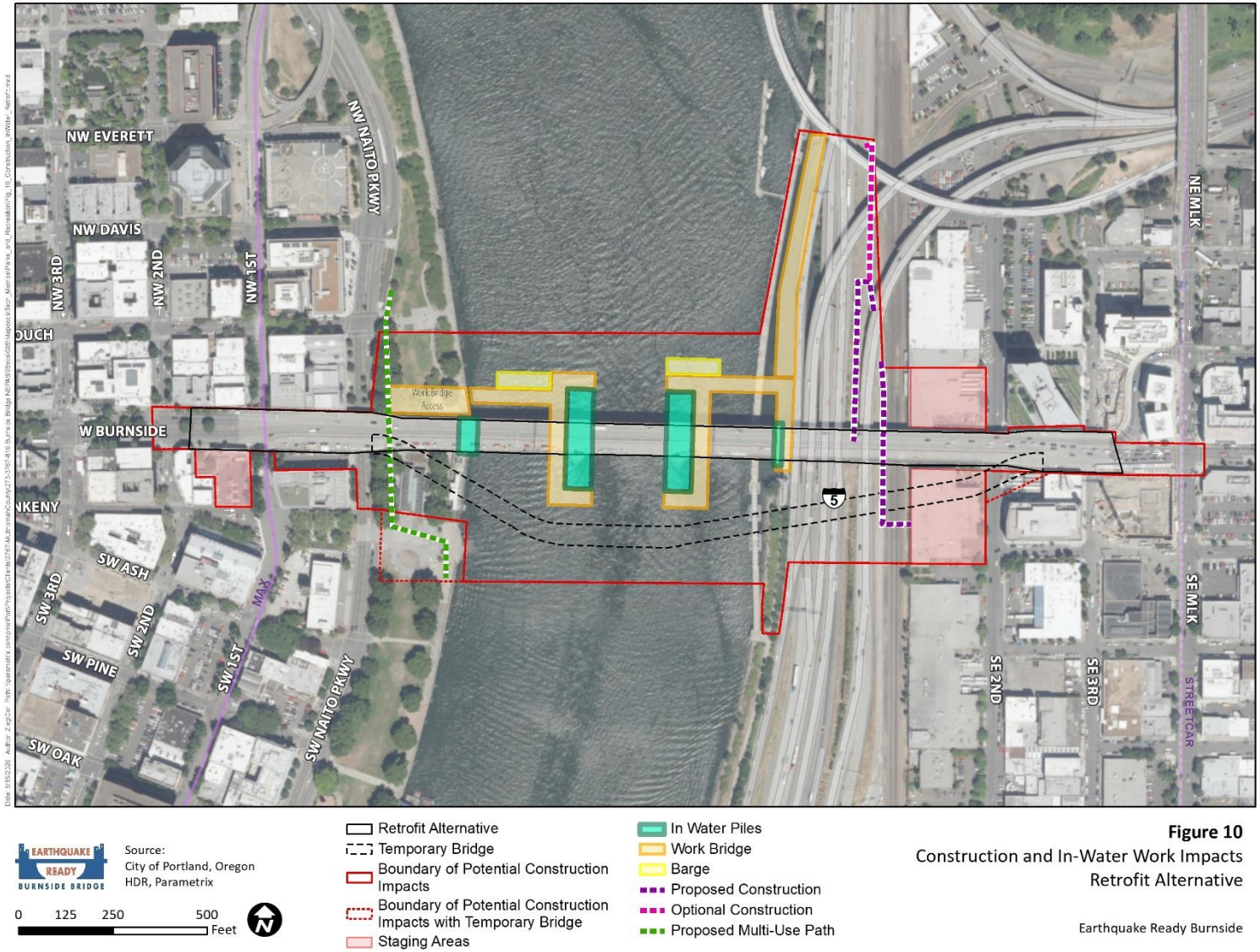
Impacts during and after an earthquake are anticipated to be the same as described in the Retrofit Alternative, with the exception that the Burnside Skatepark would continue to exist under the Burnside Bridge.

7.4 Construction Impacts

The majority of impacts to park and recreation resources from all Build Alternatives would occur during construction and would not be permanent after construction is complete.

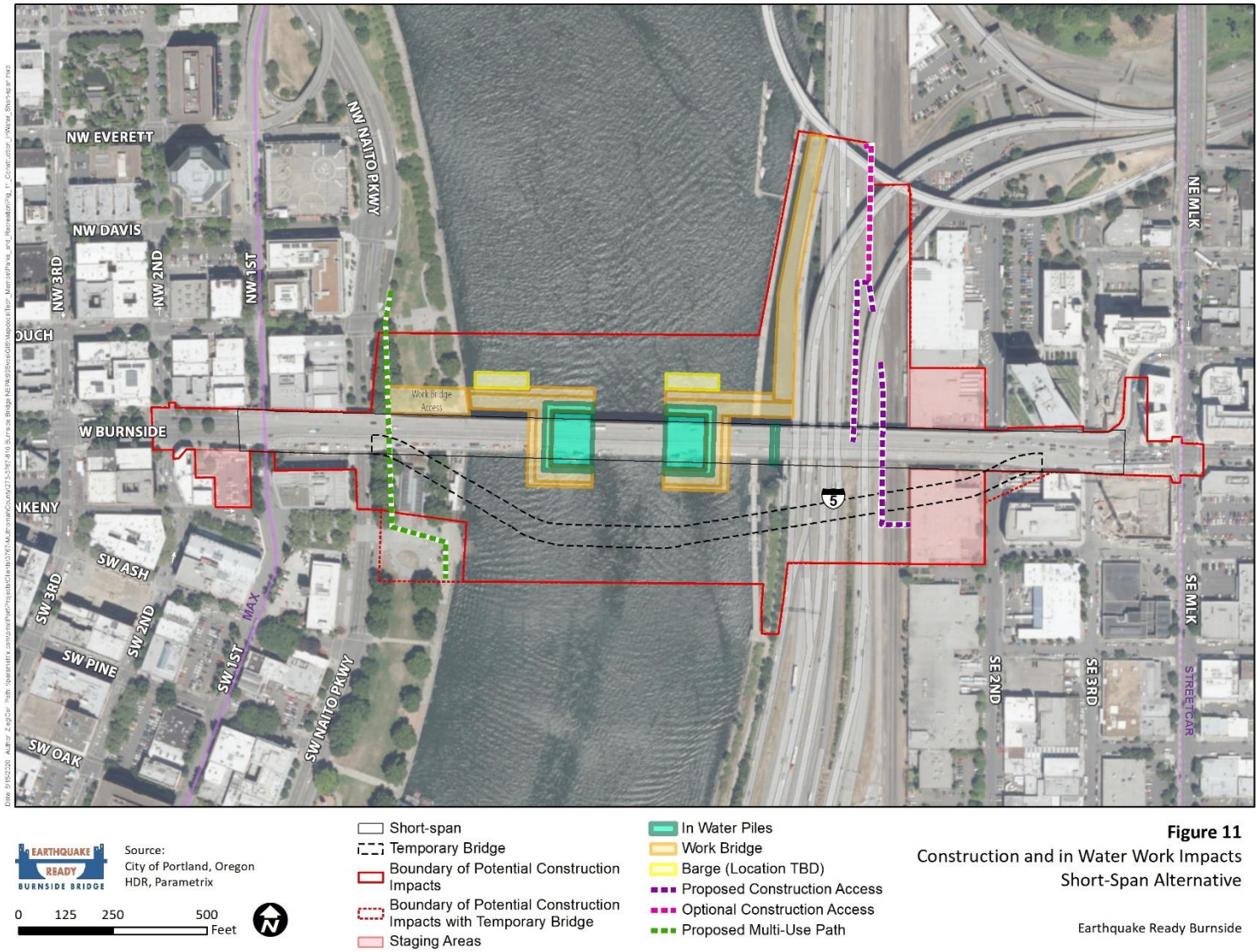
The area expected to be impacted by construction activities is shown on Figure 10 through Figure 13 as the Boundary of Potential Construction Impacts. The area is the same for all Build Alternatives without a temporary bridge. With a temporary bridge, the Boundary of Potential Construction Impacts is expanded to include an additional area in Waterfront Park, south of the bridge for all Build Alternatives. In addition to impact area, the length of time of construction and specific construction activities varies by Alternative with and without a temporary bridge. Table 1 summarizes the anticipated construction durations and closures with each of the Build Alternatives. Table 2 summarizes specific types of construction impacts for each Alternative. Each of these construction impact aspects is further described in this section which is separated into construction impacts without and with the use of a temporary bridge as part of the Project.

Figure 10. Construction and In-Water Work Impacts – Retrofit Alternative



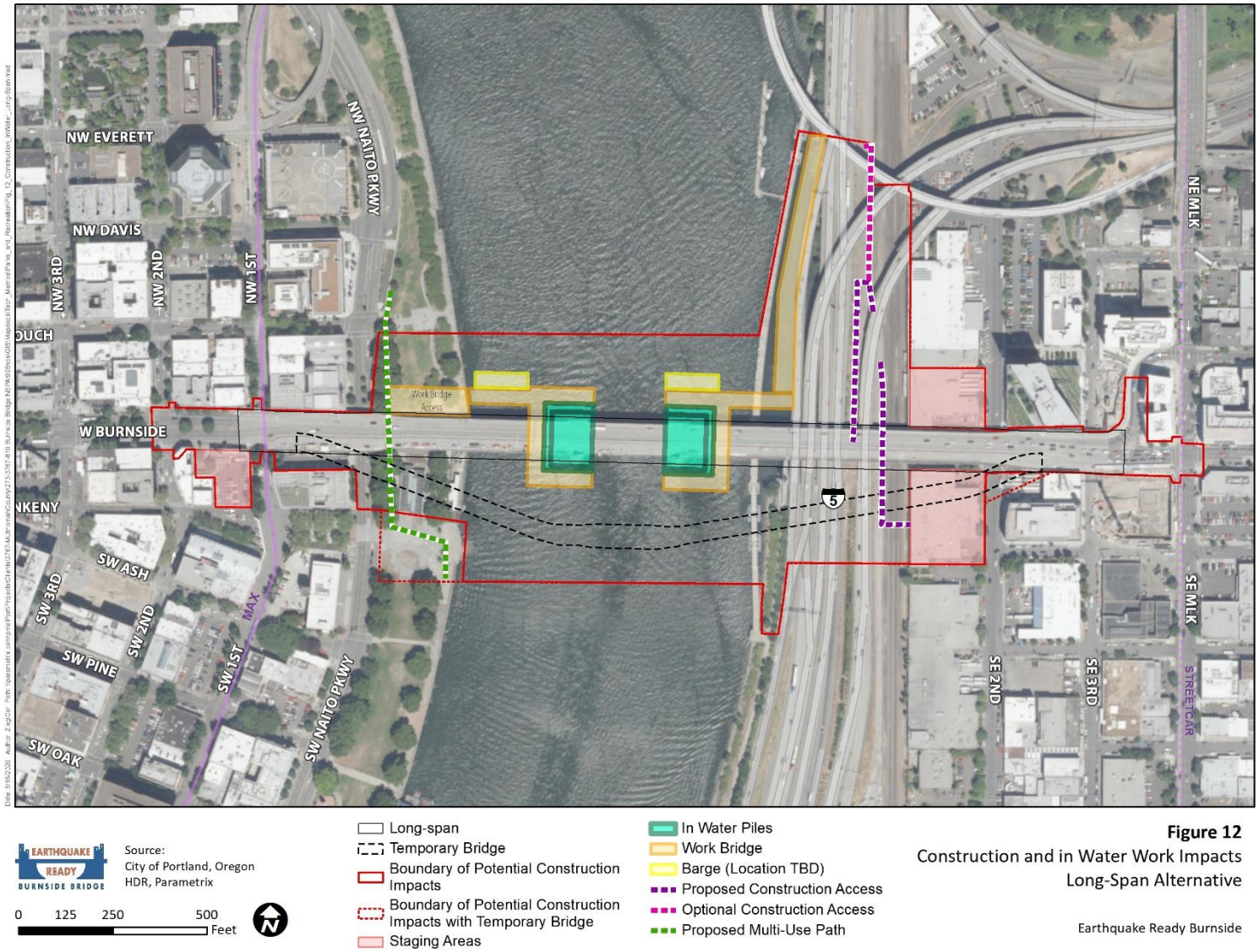
Source: City of Portland, HDR, Parametrix

Figure 11. Construction and In-Water Work Impacts – Short-Span Alternative



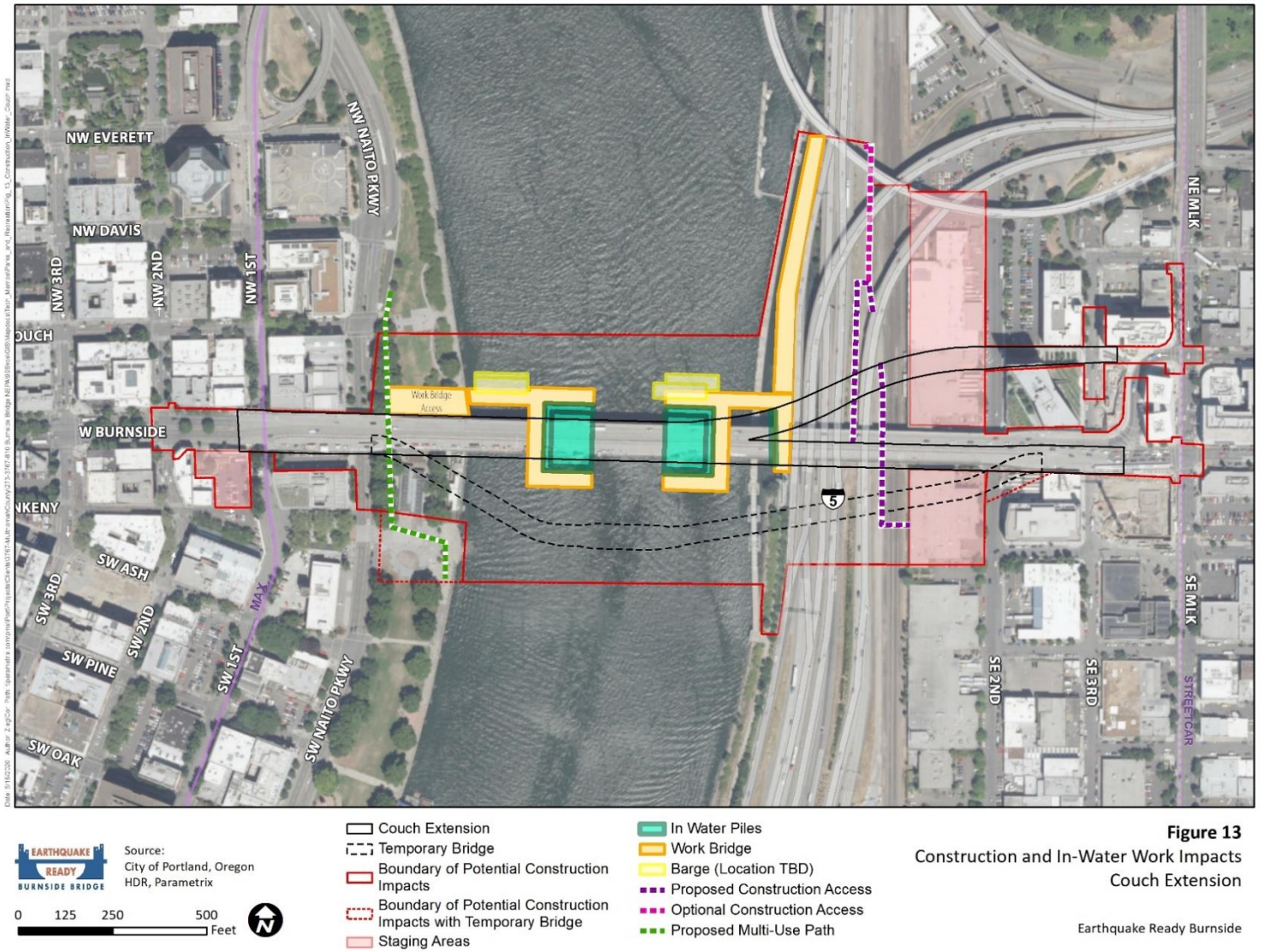
Source: City of Portland, HDR, Parametrix

Figure 12. Construction and In-Water Work Impacts – Long-Span Alternative



Source: City of Portland, HDR, Parametrix

Figure 13. Construction and In-Water Work Impacts – Couch Extension



Source: City of Portland, HDR, Parametrix

Table 1. Construction Timing with Parks and Recreation Resources

	Retrofit	Short-span Alternative	Long-Span Alternative	Couch Extension
Overall Construction – No Temporary Bridge	3.5 years	4.5 years		4.5 years
Overall Construction – Temporary Bridge	5 years	6.5 years		6.5 years
Waterfront Park Restrictions – No Temporary Bridge	3.5 years	4.5 years		4.5 years
Waterfront Park Restrictions – Temporary Bridge	5 years	6.5 years		6.5 years
Willamette River Passage Under Bridge – No Temporary Bridge	6–10 weeks (intermittent)			
Willamette River Passage Under Bridge – Temporary Bridge	8–12 weeks (intermittent)			
Eastbank Esplanade Detour – No Temporary Bridge	26 months	30 months	18 months	30 months
Eastbank Esplanade Detour – Temporary Bridge	30 months	34 months	22 months	34 months
Burnside Skatepark Closure – No Temporary Bridge	Permanent	4 months		4 months
Burnside Skatepark Closure – Temporary Bridge	Permanent	8 months		8 months

Table 2. Construction Activities Affecting Parks and Recreation Resources

Resource and Anticipated Construction Impact	Retrofit	Short-span Alternative	Long-Span Alternative	Couch Extension
Waterfront Park				
Harbor Wall Replacement	Yes	Potential	No	Potential
Pier within Waterfront Park	Yes (expand existing)	Yes (new)	No	Yes (new)
In-Ground Improvements	Yes	Yes	No	Yes
Japanese American Plaza Southern Portion Impacts	Yes	Yes		Yes
Ankeny Plaza Structure Deconstruction/Rebuild	Yes – With a Temporary Bridge			
Bill Naito Fountain Area Closure	Yes – With a Temporary Bridge			
Willamette Greenway Trail Detour	Yes			
Tree Removal North of Bridge (most notably 4 large deciduous trees and 20 smaller flowering ornamental trees)	Yes			
Tree Removal South of Bridge	No (6 Large deciduous Trees and 3 smaller trees with Temporary Bridge)	Yes – 2 Large Deciduous Trees (4 additional large trees and 3 smaller trees with Temporary Bridge)		

Resource and Anticipated Construction Impact	Retrofit	Short-span Alternative	Long-Span Alternative	Couch Extension
Eastbank Esplanade				
In-Ground Improvements	Yes	Yes	No	Yes
Temporary Floating Esplanade Relocation/Detour	Yes			
Reconstructed Access to South Side of Bridge	Yes			
Piers Between Esplanade and Riverbank	Yes (existing)	Yes	No	Yes
Burnside Skatepark				
Full Demolition	Yes	No		No
Temporary Structure Occupying Skatepark	Yes - With a Temporary Bridge			

7.4.1 Without Temporary Bridge

Enhanced Seismic Retrofit Alternative

Willamette River Recreation

During construction of any of the Build Alternatives, the navigation channel would remain open except for short-term closures. Each closure could be up to 3 weeks in duration, and the number of closures could range from 2 to 10 closures over the full length of construction, depending on the type of bridge lift chosen. A vertical lift would require a lower number of river closures, while a bascule lift would require a higher number of closures. During the majority of the construction period, a minimum width of 165 feet would be open to navigation.

For boater safety during construction, the Project would create an exclusion area to restrict recreational boaters from entering dangerous active construction zones. This would generally include a 200-foot area around all active construction components, including the work bridges, barges, piers, etc. It is too early in Project development to specify when and how long each instance of exclusion would be. The intention is that recreational boaters would continue to be allowed to pass through the API for the majority of the construction period with all Build Alternatives, with intermittent times of restricted access. Times for restrictions would be communicated with OSMB staff more than 30 days prior to allow for OSMB to develop the regulations and notices. With the Retrofit Alternative, the overall construction period is 3.5 years.

Similarly, except for temporary closures, the WRWT would be accessible for passage beneath the Burnside Bridge. The experience of travelling on the WRWT and recreational boating in general, would be affected by the presence of large construction equipment and noise; however, in a highly urban setting these activities are typical of the surroundings.

Waterfront Park and Willamette River Greenway Trail

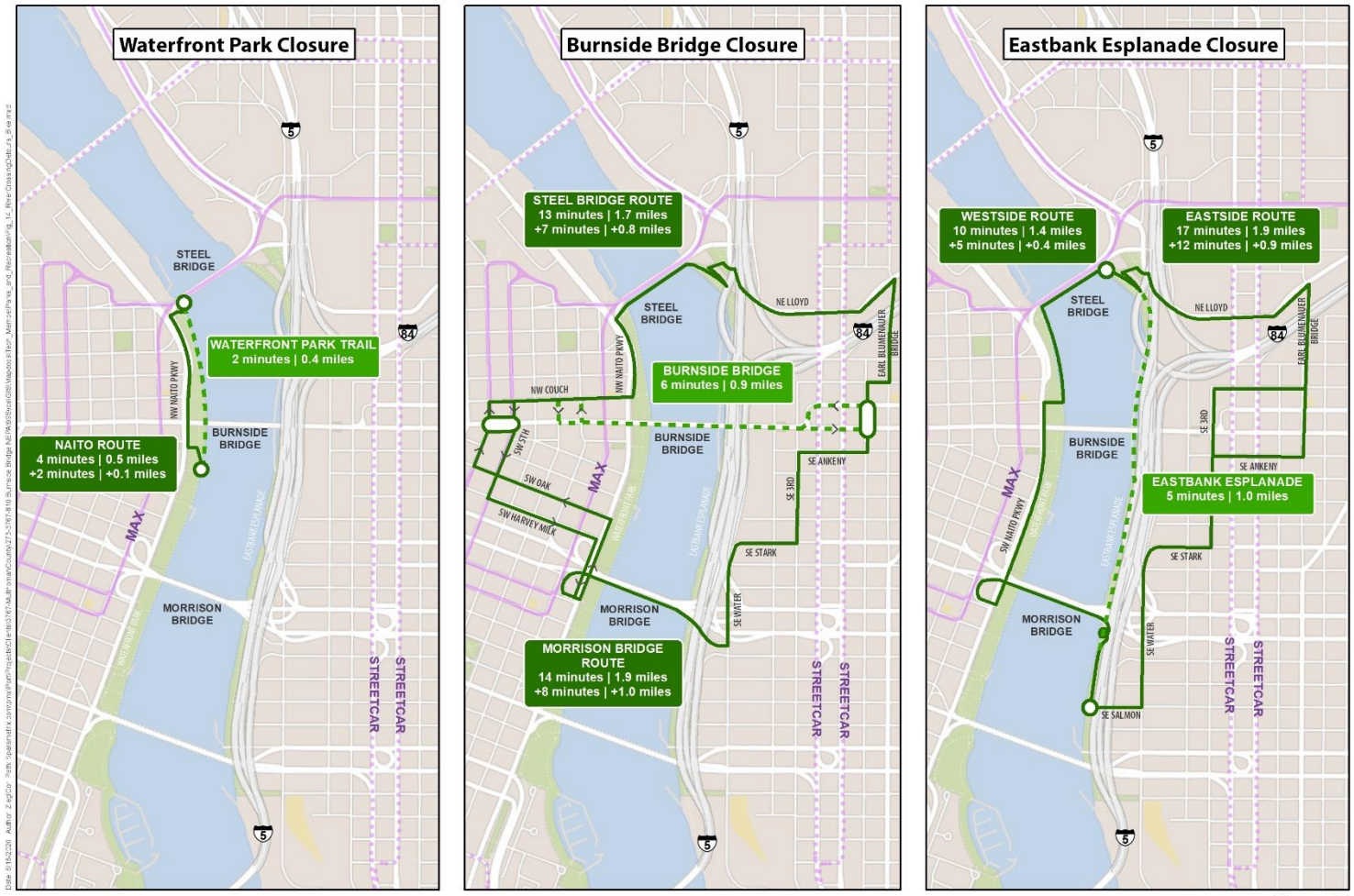
The portion of Waterfront Park within the Boundary of Potential Construction Impacts would be closed to recreation uses for the 3.5-year construction period under this Alternative. Waterfront Trail users would either be flagged through the area or would be rerouted around the work site on the east lane of Naito Parkway, currently used for the Better Naito project (see Figure 14 and Figure 15 for bike and pedestrian detour routes). At most, the detour routes on the west side of the Willamette River are expected to add 2 minutes of detour travel for north-south Greenway Trail users.

The closure north of the bridge would require that a portion of the Japanese American Historical Plaza and Bill of Rights Memorial area be used for construction (see Figure 10 through Figure 13). All the trees in this area would likely be removed for construction access. Notably, this includes four large, mature deciduous trees (at least 40-year-old trees) and 20 ornamental flowering cherry trees adjacent to the plaza. After construction, the trees would be replaced with new trees according to Title 11 and other applicable City requirements for mitigation. The full area from the north edge of the bridge to the south edge of the plaza would be cleared of pavers and used as a construction and staging area. This would include demolition of the arching slate-covered berm that makes up the southern half of the Japanese American Historical Plaza and Bill of Rights Memorial. The area would be returned to existing conditions after construction.

PSM would need to operate at another location for the duration of construction. PP&R's lease agreement with PSM would need to be adjusted. If the PSM relocation is not within PP&R's properties, it would have an impact on PP&R revenues. These economic impacts are discussed in the EQRB Economic Impacts Technical Report (Multnomah County 2021f).

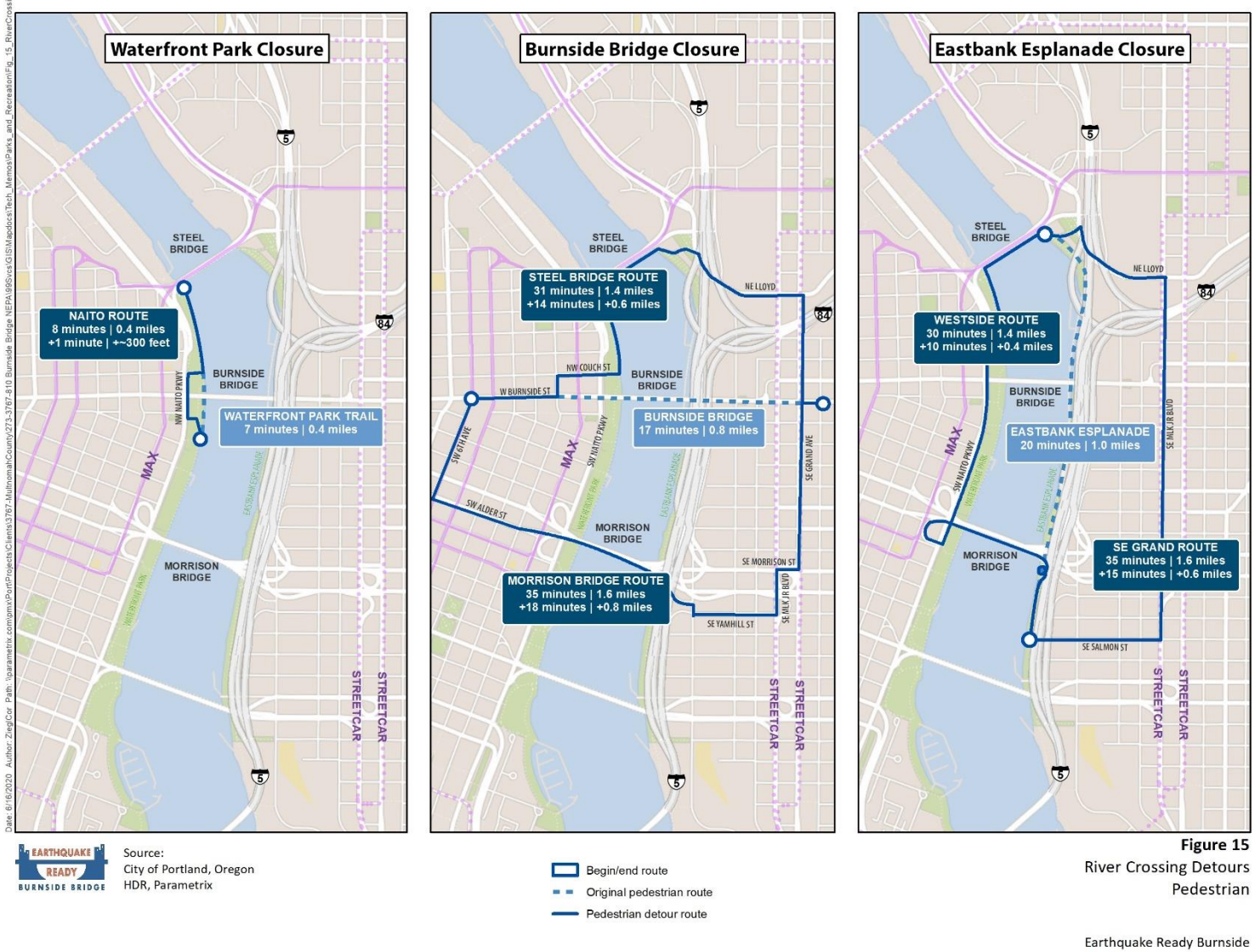
As discussed in Section 5.3.3, many events are hosted in Waterfront Park on an annual basis. For the duration of construction, these events could not occur within the Boundary of Potential Construction Impacts area. Events normally held in the Japanese American Historical Plaza could still use the unimpacted north half of the plaza; however, because these events are typically memorials, vigils, and remembrance days, their reflective, quiet nature would likely be disturbed by intense construction on the bridge unless they occurred on weekends when no major construction would occur. Running and walking events that normally use the Willamette River Greenway Trail could continue to occur but would need to use the detour routes, which may not be acceptable to many event coordinators because the detours cannot replicate the uninterrupted circuit provided by the existing routes. The many events held in The Meadow and farther south in Waterfront Park could continue, but they would be restricted from park access within the Boundary of Potential Construction Impacts.

Figure 14. River Crossing Detours – Bicycles



Source: City of Portland, HDR, Parametrix

Figure 15. River Crossing Detours – Pedestrian



Source: City of Portland, HDR, Parametrix

Some of the events held in Waterfront Park depend on much of the park being available for event use. PP&R is concerned that many events that use the area within the Boundary of Potential Impacts, even just for auxiliary event support functions, would choose to not use Waterfront Park at all during the full construction period, and may choose to permanently relocate to a new location. It is not possible to foresee if this would happen because of the many factors involved in event planning, space demands, ability to redesign features, etc. If events were to permanently relocate out of PP&R property, PP&R would lose a substantial source of revenue.

The Rose Festival and Fleet Week combined events generate the largest number of attendees of the annual events in Waterfront Park. Each year, the City of Portland imposes a road construction moratorium during the Rose Festival. The Project would request an exemption from the moratorium for bridge construction, but would specify that the contractor may need to provide access for the Fleet Week ships to dock along the harbor wall within the Boundary of Potential Construction Impacts and may need to provide safe public access for festival attendees to access the ships. Other commercial boats providing recreation opportunities may not be able to dock along the seawall of Waterfront Park within the Boundary of Potential Construction Impacts. Economic impacts resulting from restrictions on events are discussed in the EQRB Economic Impacts Technical Report (Multnomah County 2021f).

PP&R maintenance activities rely on access under the Burnside Bridge, and maintenance vehicles and personnel need to pass under the bridge to access the north end of the park daily throughout the year and up to three times per day during the summer months. The Project team would work with PP&R to provide safe maintenance access with this general frequency.

Eastbank Esplanade

The Boundary of Potential Construction Impacts for all Build Alternatives encompasses approximately 80 percent of the length of the floating portion of the Esplanade. Because construction barges need to access both sides of the Esplanade and extensive work would occur directly above and below the Esplanade, it is impractical and unsafe to allow users access during construction. Intermittently during construction, portions of the floating structure would be disconnected and moved out of the way to allow barge movement and other construction activities. For the Retrofit Alternative, the estimated closure/detour length of time is 26 months. During this time, bike and pedestrian trail users would use the proposed detour routes shown in Figure 14 and Figure 15. Depending on the detour route taken, the added time would be 5 to 12 minutes for bicyclists and 10 to 15 minutes for pedestrians. Detour routes were identified those which were the most reasonable routes and which would be easy to indicate with signage. In practice, bicyclists and pedestrians are also anticipated to identify their own detour routes if that is preferred.

As discussed in Section 5.3.3, many events occur on the Esplanade throughout the year, often creating an uninterrupted loop route by linking up with a portion of the Willamette River Greenway Trail on the west side of the river. As both of these trails would be impacted by construction, many of the typical annual events would either not occur or would use detour routes. Detours would affect the overall length of loop route events and would generally avoid the waterfront for some of an event route. Due to this, the detours

do not replace the recreational experience provided by the Esplanade, and event coordinators may choose to not host events due to the changed conditions. The economic impact of not hosting some of the typical events is discussed in the EQRB Economic Impacts Technical Report (Multnomah County 2021f).

Ankeny Plaza

No construction impacts would occur within Ankeny Plaza under any of the Build Alternatives.

Burnside Skatepark

The Retrofit Alternative would require that the skatepark permanently removed. The skatepark would not be rebuilt in its current location. The skatepark is also discussed in the EQRB Cultural Resources Technical Report (Multnomah County 2021c) and the EQRB Draft Section 4(f) Analysis (it is not a public park but it is considered a Section 4(f) resource because of its historic status) (Multnomah County 2021e).

All Resources

The EQRB Noise and Vibration Technical Report (Multnomah County 2021h) indicates that some phases of construction would result in relatively high construction noise levels with exceedances of the City of Portland's construction noise limits, but that these could be reduced by implementing mitigation techniques. See the EQRB Noise and Vibration Technical Report (Multnomah County 2021) for additional information.

The EQRB Air Quality Technical Report (Multnomah County 2021a) indicates that emissions from construction activities would result in temporary and localized increases in carbon monoxide and particulate matter levels as a result of operating heavy construction equipment and vehicle travel to and from the site and would result in an increase in dust from demolition and ground-disturbing activities. That report indicates mitigation practices that would be used to minimize these impacts.

Replacement Alternative with Short-Span Approach

The construction impacts described above for the Retrofit Alternative all apply with the Short-span Alternative with a few differences, described in this section. One difference is that the anticipated length of overall construction time with the Short-span Alternative is 4.5 years, instead of 3.5 years with the Retrofit Alternative. There are no additional differences for Willamette River recreation or the Ankeny Plaza.

Waterfront Park and Willamette River Greenway Trail

In Waterfront Park, the Short-span Alternative would mean an additional year of closure within the Boundary of Potential Construction Impacts. The same detour restrictions would apply, but for 4.5 years. Within the Japanese American Historical Plaza, the same removal of trees and potential temporary impacts to the berm would occur, but reconstruction would occur 1 year later. The same is true for PSM operation. However, the Short-span Alternative would remove two mature deciduous trees immediately south of the Burnside Bridge that would not be removed under the Retrofit Alternative. These physical construction actions would not change the Boundary of Potential Construction

Impacts that is the overall construction impact preventing use of this area of Waterfront Park and its components.

Eastbank Esplanade

The Short-span Alternative would have the same Boundary of Potential Construction Impacts as all the Build Alternatives. Closure of and detour around the floating portion of the Eastbank Esplanade would occur to allow construction barge access for deconstruction of the existing bridge and construction of the new bridge. With the Short-span Alternative, the Esplanade would be closed for 30 months (see Table 1).

Detour routes and out-of-direction travel time impacts and event disruption impacts would be the same as described for the Retrofit Alternative but would last for 30 months with the Short-span Alternative.

Burnside Skatepark

With all of the Replacement Alternatives and options without a temporary bridge, the skatepark existing condition could remain relatively unaffected during construction, because the work occurring would be over the skatepark, not at the ground level. No new bent locations are proposed within the skatepark with the Replacement Alternatives, and the existing bent within the skatepark could be left in place and cut off at the top during bridge demolition, leaving the ground surface unaltered. However, intermittent closures would be necessary, preventing use of the skatepark on and off over a period of 4 months. Communication with the skatepark managers about closure timing would facilitate continued use during construction when conditions allowed.

Replacement Alternative with Long-Span Approach

The construction impacts described above for the Short-span Alternative all apply with the Long-span Alternative with a few differences, described in this section. There are no additional differences for Willamette River recreation, Waterfront Park and the Willamette River Greenway Trail, Ankeny Plaza, or the Burnside Skatepark.

Eastbank Esplanade

The Long-span Alternative would have the same Boundary of Potential Construction Impacts as all the Build Alternatives. Closure of and detour around the floating portion of the Eastbank Esplanade would occur to allow construction barge access for deconstruction of the existing bridge and construction of the new bridge. With the Long-span Alternative, the Esplanade would be closed for 18 months (see Table 1). The Long-span Alternative has the shortest overall closure of the Esplanade compared with the other Build Alternatives.

Detour routes and out-of-direction travel time impacts and event disruption impacts would be the same as described for the Retrofit Alternative but would last for 18 months.

Replacement Alternative with Couch Extension

The construction impacts to parks and recreation resources discussed for the Short-span Alternative and Long-span Alternative with respect to closure areas, detours, and durations that affect parks and recreation resources would be the same for the Couch

Extension. There are differences in specific construction actions between the Alternatives causing different on-the-ground effects during construction, but these differences do not change the areas closed to use. See the EQRB Construction Technical Report (Multnomah County 2021b) for more information on these actions.

7.4.2 With Temporary Bridge

A temporary bridge could be constructed in conjunction with any of the Build Alternatives to allow construction of the main river spans to take place while maintaining some level of either vehicular, pedestrian, and bicycle traffic, or just pedestrian and bicycle traffic during construction. The temporary bridge would be constructed to the south of the permanent bridge and tie into both the east and west approach spans (see Figure 10 through Figure 12).

Enhanced Seismic Retrofit Alternative

The Retrofit Alternative with a temporary bridge would have similar construction impacts described above without a temporary bridge, with some additions. This section describes these additional impacts. One major difference that applies throughout the impact area is that construction for the Retrofit Alternative with a temporary bridge would last 5 years, instead of 3.5 years (see Table 1).

Willamette River Recreation

Temporary impacts to Willamette River recreation with a temporary bridge would be the same as described for all Build Alternatives without a temporary bridge with the addition that the Temporary Bridge Option could require up to two additional closure periods of up to 2 weeks each. Additionally, the construction exclusion areas would extend farther south than with no temporary bridge to provide safety to water users and separation from construction activities.

Waterfront Park and Willamette River Greenway Trail

The construction of a temporary bridge would require an expansion of the area of the Boundary of Potential Construction Impacts to include additional active construction south of the bridge within Waterfront Park (see Figure 10). As a result, six mature deciduous trees and three smaller deciduous trees south of the Burnside Bridge would be removed and replaced after construction according to Title 11 and other City mitigation requirements (see Figure 13 in the EQRB Vegetation, Wildlife, and Aquatic Species Technical Report [Multnomah County 2021j]). The Ankeny Plaza Structure would be deconstructed and stored. The structure would be reconstructed after bridge construction is complete.

The Bill Naito Legacy Fountain and surrounding hardscape plaza area would be closed and non-operational for recreation use for the duration of construction. The hardscape and other features would be protected from construction impacts and returned to existing conditions after construction is complete. Waterfront Trail users would either be flagged through the area on the detour shown in Figure 14 and Figure 15, or would be rerouted around the work site using the east lane of Naito Parkway, currently used for the Better Naito project.

The increased area of restricted access compared with the No Temporary Bridge Option has a greater potential to cause event managers to choose to not hold events in Waterfront Park because of the reduced space available. PP&R views this increased impact area as a greater risk that the events would relocate away from Waterfront Park permanently (White 2020).

Eastbank Esplanade

With a temporary bridge there would be an additional structure over a portion of the Esplanade during construction. The length of time that the Esplanade would need a detour route is 30 months, or 4 months longer that with no temporary bridge.

Burnside Skatepark

With the Retrofit Alternative with or without a temporary bridge, the Burnside Skatepark would be fully demolished and would not be reconstructed.

All Resources

The temporary bridge construction would cause additional noise from pile driving in-water piles which could affect surrounding land uses. The EQRB Noise and Vibration Technical Report (Multnomah County 2021h) indicates that short-term noise and vibration impacts with and without a temporary bridge could be reduced by implementing mitigation measures; see that report for additional details.

The EQRB Air Quality Technical Report (Multnomah County 2021a) indicates that emissions from construction activities would result in temporary and localized increases in carbon monoxide and particulate matter levels as a result of operating heavy construction equipment and vehicle travel to and from the site and would result in an increase in dust from demolition and ground-disturbing activities. That report identifies mitigation practices that would be used to minimize these impacts.

Replacement Alternative with Short-Span Approach

The Short-span Alternative with a temporary bridge would have similar construction impacts as described above without a temporary bridge, with some additions. This section describes these additional impacts. One major difference that applies throughout the impact area is that construction for the Retrofit Alternative with a temporary bridge would last 6.5 years, instead of 4.5 years (see Table 1).

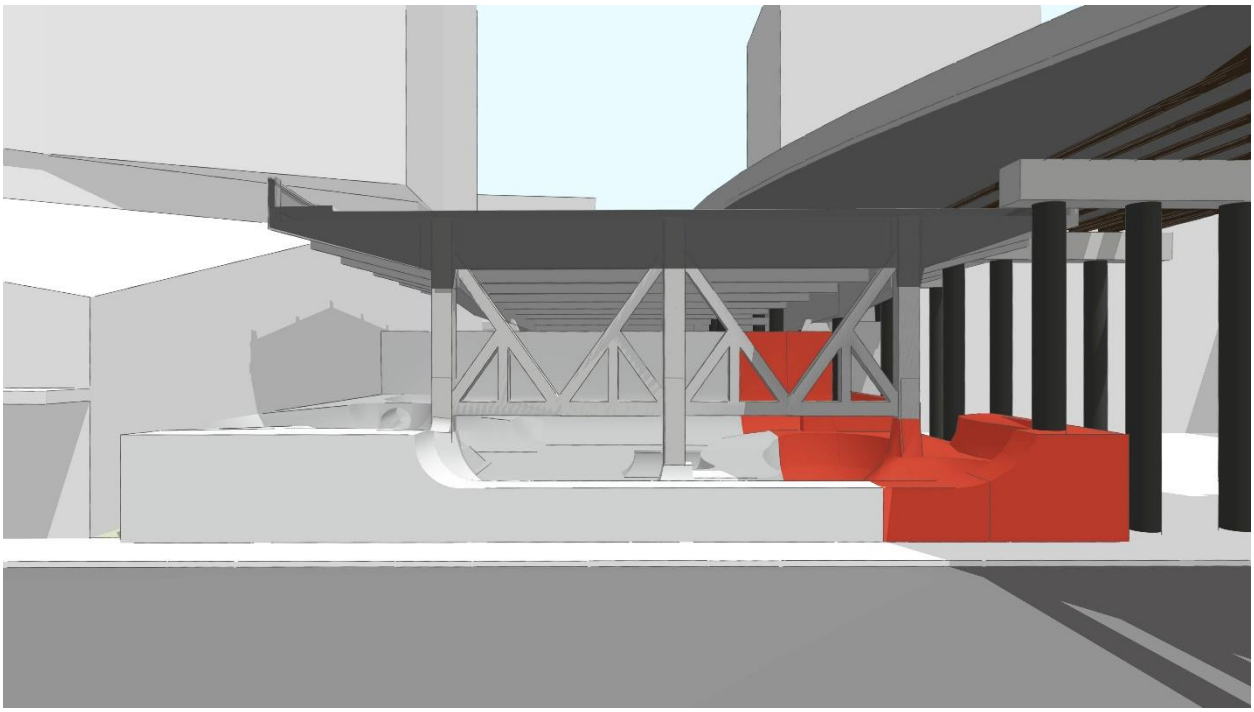
Waterfront Park and Willamette River Greenway Trail

Increased construction impact areas south of the bridge for the Short-span Alternative are nearly the same as those discussed for the Retrofit Alternative, but impacts would occur over 6.5 years. The same number of trees south of the bridge in Waterfront Park would be removed; however, under the Short-span Alternative approach, two of the nine trees in this area would be removed regardless of whether a temporary bridge was used or not.

Burnside Skatepark

For all Replacement Alternatives with a temporary bridge, the east end tie-in with the permanent bridge structure would require placement of bridge bents and columns within the skatepark, causing damage to the current configuration of the skatepark that would be repaired or replaced after construction (see Figure 16). This is a more intense impact to the skatepark under this Alternative than without the temporary bridge. Due to the placement of the temporary bridge bents, the skatepark would be unavailable for use for 8 months, rather than for 4 months without a temporary bridge.

Figure 16. Temporary Partial Impact – Burnside Skatepark with Temporary Bridge



Replacement Alternative with Long-Span Approach

The Long-span Alternative with a temporary bridge would have the same construction impacts as described for the Short-span Alternative with temporary bridge.

Replacement Alternative with Couch Extension

Construction impacts under the Couch Extension with a temporary bridge are the same as those without a temporary bridge, but with the additional impacts described above for the Short-span Alternative with a temporary bridge.

7.4.3 Potential Off-Site Staging Areas

The construction contractor may use one or more off-site staging areas, outside the bridge study area to store and and/or assemble materials that would then be transported by barge to the construction site. Off-site staging could occur with any of the Alternatives. Whether, where, and how to use such sites would be the choice of the contractor, and, therefore, the actual site or sites cannot be known at this time with certainty. Given this

uncertainty, detailed analysis of impacts are not possible at this time. To address this uncertainty, four possible sites have been identified that represent a much broader range of potential sites where off-site staging could occur. While the contractor could choose to use one of these or another site, it is assumed that because of regulatory and time constraints on the contractor, any site chosen would need to be already developed with road and river access. It is also assumed that the contractor would be responsible for any permitting and/or mitigation that could be required for use of a chosen site. The Draft EIS is identifies the types of impacts that could occur from off-site staging, based on the above assumptions. This analysis is not intended to "clear" any specific site, but rather to ensure disclosure of the general types of impacts based on the possible sites.

The four representative sites include a Willamette Staging Option off Front Avenue, USACE Portland Terminal 2, a Willamette Staging Option off Interstate Avenue, and a Ross Island Sand and Gravel Site.

Based on the representative sites identified, the types of parks and recreation impacts that could occur from off-site staging include added area of Willamette River recreation boating restrictions. These could be limited to restricted areas near the shore of staging areas and around construction barges moving to and from the staging areas. If any trails are located on or near the staging areas, detours would be anticipated to be established to route users safely around the staging areas. Similar to the Willamette Greenway Trail and the Eastbank Esplanade, detours provide a transportation mitigation, but do not mitigate for lost recreation use.

If a contractor chooses to use an off-site staging area, the following local, state, and federal regulations could apply:

- Oregon Statewide Planning Goal 15. The Willamette River Greenway is focused on the Willamette River and applies to cities and counties along the river.
- Non-Park Use Permit if any staging were to occur on parks land or public trails.

7.5 Cumulative Effects

Cumulative impacts are the result of incremental effects of the Project Alternatives combined with the effects of past, present, and reasonably foreseeable future actions that can culminate in significant impacts on the environment. Cumulative impacts can result from individually minor actions that combine over the short term (such as simultaneous construction projects) or over a long period of time.

Past actions important to the affected parks and recreation resources within the API include the following (see the EQRB Cumulative Impacts Methodology memo for the full list):

- Early 1900s – The automobile was introduced, and by the 1930s many middle-class families could afford cars and travel greater distances for work, shopping, or leisure.
- 1926 – The current Burnside Bridge was constructed in response to growing population and the increasing use of motor vehicles.
- 1927 to 1928 – The "Laurgaard Plan" guided construction of the Front Street intercepting sewer and construction of the seawall, marking the beginning of major redevelopment of the west side waterfront.

- 1938 – Oregon voters approved the Water Purification and Prevention of Pollution bill, establishing the Oregon State Sanitary Authority with modest enforcement powers. This action marked the incremental beginnings of a program to reduce pollution in the Willamette River system.
- 1940 to 1943 – Front Avenue was widened and Harbor Drive, a six-lane road, was constructed along much of what is now Waterfront Park to improve traffic. The construction of the road required demolition of most of the historic buildings remaining along Front Avenue that had not been demolished during construction of the seawall.
- 1940s to 1960s – Major flooding of the Willamette River. To control flooding, store water, and generate electrical power, a series of major dams were constructed in the Willamette River system as part of the US Army Corps of Engineers Willamette River Project. The dams also had negative effects on Willamette salmon runs.
- 1950s to 1960s – The interstate highways around Portland, I-84 (1963), I-5 (1966), and I-405 (1964), were constructed. Construction of the interstate highway system greatly increased freight and automobile traffic. Construction also resulted in fragmentation or separation of some Portland neighborhoods.
- 1970s – With I-405 providing an alternate route for travel, Harbor Drive is removed and Tom McCall Waterfront Park opened.
- 1988 – The Willamette Greenway Plan was created with a goal to protect, conserve, maintain and enhance the scenic, natural, historic, economic, and recreational qualities of the lands along the Willamette River. The plan also identified a continuous recreational trail along both sides of the Willamette River.
- 2001 – The Vera Katz Esplanade and a bicycle deck on the Steel Bridge were constructed, expanding the area-wide pedestrian and bicycle network.
- 2015 to 2019 – The Burnside Bridge Maintenance Project conducted improvements and repairs to the main bridge span, approaches, and other elements.

Present actions that could cumulatively affect the parks and recreation resources include the following:

- Better Naito Forever will implement a year-round version of the Better Naito project that has been in place seasonally since 2015. The project will provide a two-way cycletrack and sidewalk along the west side of Waterfront Park. Signal upgrades and advanced vehicle detection will facilitate auto access to I-5 via the Morrison Bridge.

Reasonably foreseeable future actions that could cumulatively affect the parks and recreation resources are described below:

- The I-5 Rose Quarter Improvement Project work along I-5 and on city surface streets in and around the Broadway/Weidler interchange will include improvements for vehicular traffic, transit, bicyclists, and pedestrians. As discussed below, construction closures of I-5 and pedestrian/bicycle facilities on the Willamette Greenway could coincide with those of the EQRB Project.

7.5.1 No-Build Alternative

There are no anticipated cumulative effects to park and recreation resources under the No-Build Alternative pre-earthquake scenario. Under a post-earthquake scenario, damage to parks and recreation resources adjacent to the Burnside Bridge would be cumulatively worse as debris from the bridge structure would fall on and within these resources and delay recovery for future park use.

7.5.2 Build Alternatives

Long-term effects to parks and recreation resources from the Burnside Bridge Project under all of the Build Alternatives are not cumulatively substantial because no permanent loss of park and recreation resources would occur under any of the scenarios. Portions of the resources would be unavailable for use during construction periods ranging from 3.5 years to 6.5 years, but all the resources would be returned to pre-construction operation and quality after construction, with the exception that the Burnside Skatepark would not be rebuilt under the Retrofit Alternative.

Short-term effects consider the construction impacts discussed in Section 7.4 cumulatively with those of other present and reasonably foreseeable future projects. Disruption and closure to portions of Waterfront Park near the bridge for 3.5 to 6.5 years and nearly all of the floating portion of the Eastbank Esplanade for 4 to 8 months is a unique impact to the EQRB Project when compared to most of the other present and foreseeable future projects, except for the I-5 Rose Quarter Improvements and the Better Naito projects. Both of those projects will also cause construction disruption to Waterfront Park or the Eastbank Esplanade in the foreseeable future, though to a lesser extent than the longest scenarios for the EQRB Project.

The portion of the I-5 Rose Quarter project construction phasing that would require detours for users of the Esplanade would occur over a period of approximately 2 years at the beginning of the project, potentially in 2023 and 2024 (ODOT 2017). As the EQRB Project is anticipated to begin construction in 2024, coordination between these projects and PP&R would facilitate closure schedules to reduce the overall impact to the Esplanade.

The Better Naito project, which would affect access points into Waterfront Park during construction, is expected to begin in 2020 and will be complete before the EQRB Project begins construction. Thus, construction impacts from these projects will not cumulatively impact Waterfront Park at the same time. They will extend the presence of construction activity and noise adjacent to or within the park over a longer period of time.

7.6 Compliance with Laws, Regulations, and Standards

Section 4 of this report identifies federal, state, and local laws, regulations, and standards applicable to parks and recreation resources. This section discusses Project compliance and identifies potential permits.

Federal

The status of the parks and recreation resources discussed in this report is currently under evaluation with OPRD and the National Park Service to determine the resources'

LWCF status. Some portions of Waterfront Park and the Eastbank Esplanade have received LWCF assistance in the past, but because of the age of the grants and the identified location of the grant assistance actions being outside of the Project API, a formal boundary determination by the National Park Service is underway.

Section 4(f) status and compliance for publicly owned parks and recreation resources is not included in this report and is instead discussed in a separate EQRB Draft Section 4(f) Analysis (Multnomah County 2021e).

State

The Project would comply with Oregon Statewide Planning Goal 5, Natural Resources, Scenic and Historic Areas, and Open Spaces and Goal 8, Recreation Needs, because it would not permanently reduce open spaces or recreation opportunities and would not preclude the development of future planned recreation areas. Similarly, the Project would comply with Goal 15, Willamette River Greenway, as it would not permanently impact the Willamette River Greenway. There would be temporary detour routes for a small portion of the Greenway Trail during 3.5 to 6.5 years of construction, but no permanent change.

Local

The Waterfront Park Master Plan (2003) and City of Portland Willamette River Recreation Strategy (2012) both provide valuable background history of recreation in the Project vicinity and lay out goals and potential recreation development opportunities. The long-term impacts of the Project would not interfere with any of the identified plans or priorities within these plans as no areas would be removed from recreation use permanently. Short-term construction impacts would reduce access within Waterfront Park and the Eastbank Esplanade under all the Build Alternatives, which is inconsistent with the goals of these plans; however, all efforts would be made to reduce closures and detours to the extent possible.

PP&R *Tom McCall Waterfront Park Landscape Design Guidelines* (PP&R 2008) would be used to design restoration work within Waterfront Park to return the park to pre-construction conditions. The Project team would coordinate with PP&R to determine if deviations from existing conditions or the design guidelines would be preferred.

The City of Portland Bureau of Development Services Title 33 Zoning Code contains development standards and approval criteria that apply to Tom McCall Waterfront Park. These include Open Space base zone, Design overlay zone, River General overlay zone, and the River Environmental overlay zone. This area is also in the Skidmore/Old Town Historic District and the Central City Plan District. The bridge design itself within Waterfront Park would need to be evaluated against all applicable standards and criteria in these zones, as would the redevelopment/restoration of the park facilities after construction. The typical process could include Type II or Type III land use reviews processed by the Bureau of Development Services and include an opportunity for public comment and potentially review by a hearing officer or other land use decision making body. Compliance with these standards would be required prior to issuance of any land use reviews or building permits.

7.7 Conclusion

Evaluation of the No-Build and Build Alternatives for the EQRB Project found the following conclusions with respect to park and recreation resources:

- Pre-earthquake long-term impacts are expected to be least under the Long-span Alternative because of fewer piers in or near park resources.
- Post-earthquake long-term impacts are expected to be least under any of the Build Alternatives as compared with the No-Build Alternative.
- The Replacement Alternatives would have less temporary physical impact than the Retrofit Alternative because they would avoid destruction of the Burnside Skatepark.
- The overall shortest duration impact would be with the Retrofit Alternative with no temporary bridge. The duration of closures to the Eastbank Esplanade would be shorter with the Long-span Alternative than with any other Replacement Alternatives and options.
- The Temporary Bridge Option has greater temporary impacts than the No Temporary Bridge Option because of the longer construction-related closures, a larger area of construction impact in Waterfront Park, and because it would destroy parts of the Burnside Skatepark.

8 Mitigation Measures

The majority of impacts to parks and recreation resources are temporary construction-phase impacts. Mitigation for short-term impacts is discussed in Section 8.1.5. Mitigation for long-term impacts under each Build Alternative is discussed in Section 8.1.1 through Section 8.1.4.

8.1.1 Enhanced Seismic Retrofit Alternative

Long-term Impact Mitigation – The Burnside Skatepark would not be rebuilt with this Alternative. Some form of mitigation would need to be coordinated with skatepark managers and City of Portland representatives if an alternate site might be identified. Because of the grassroots nature of the skatepark, it is unclear whether a new park would be desirable as part of this process. Mitigation actions for impacts from the ramp connecting the Burnside Bridge to the Esplanade would be determined through permitting actions.

8.1.2 Replacement Alternative with Short-Span Approach

Long-term Impact Mitigation – 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. Mitigation actions for impacts from the ramp connecting the Burnside Bridge to the Esplanade would be determined through permitting actions.

8.1.3 Replacement Alternative with Long-Span Approach

Long-term Impact Mitigation – 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. Mitigation actions for impacts from the ramp connecting the Burnside Bridge to the Esplanade would be determined through permitting actions.

8.1.4 Replacement Alternative with Couch Extension

Long-term Impact Mitigation – Mitigation would be the same as under the Short-span Alternative.

8.1.5 Construction Impacts Mitigation

Mitigation for temporary, construction-phase impacts would primarily include returning park facilities to their pre-construction (or better) condition. This would require close coordination with PP&R, the Japanese American Museum of Oregon, PSM, and the Burnside Skatepark managers. The Project would need to follow PP&R landscape design guidelines and Bureau of Development Services mitigation requirements for work within the River Overlay Zones. During coordination for a Non-Park Use Permit, additional mitigation measures could be identified. Where no physical mitigation options are available to replace temporary lost use of recreation activities, such as with the temporary closure of the Eastbank Esplanade and lost revenues due to event cancellation, the City of Portland could consider a financial contribution into a recreation fund as mitigation through the Non-Park Use Permit process. These measures apply to all Build Alternatives.

Portions of the recreation resources described in this report would be unavailable for recreation use for the various durations described above, depending on the Alternative and options selected. Mitigation for restricted use is being provided in the form of detour routes for the Waterfront Trail and Eastbank Esplanade to ensure these north-south bike and pedestrian connections remain usable. Additional mitigation measures should be considered to replace the recreation aspects of these trails lost during construction.

Mitigation for impacts to Willamette River recreational boaters would primarily be in the form of early and frequent communication with OSMB and law enforcement agencies to ensure boaters are aware of restrictions due to construction.

The southern portion of the Japanese American Historical Plaza within the Boundary of Potential Construction Impacts would be demolished and reconstructed as part of the Project to allow access for construction under any Build Alternative. Some possible mitigation options could include the following:

- 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.

With the Temporary Bridge Option, there are additional construction impacts in Waterfront Park and the Burnside Skatepark when compared to construction without a temporary bridge. However, mitigation approaches remain the same as those described above including close coordination with PP&R and Burnside Skatepark managers to ensure the spaces are returned to the same or better conditions. The additional disturbance area in Waterfront Park would require replacement of the four additional trees that would be removed due to the temporary bridge. Replacement would follow City of Portland guidelines.

Mitigation for economic impacts of park and recreation areas being unavailable for event use is addressed in the EQRB Economic Impacts Technical Report (Multnomah County 2021f).

See the EQRB Noise and Vibration (Multnomah County 2021h); Transportation (Multnomah County 2021i); and Air Quality (Multnomah County 2021a) Technical Reports for additional recommended mitigation measures for construction impacts within or near parks and recreation resources.

9 Contacts and Coordination

Parks and recreation resources that could potentially be impacted by the Project are identified in Section 5.3. Their essential characteristics and facilities, and current and intended recreational uses, were determined through evaluation of existing documents and mapping, as well as through coordination with the agencies responsible for the establishment and management of each resource.

Coordination included requesting information on special conditions or restrictions on park or recreational properties, the types of recreational uses at each location, and potentially the frequency, intensity, and accessibility of each type of use. Information will also be requested related to environmental or other protections, special use permits, or special seasonal uses.

Table 3 below provides a list of the formal meetings held with each of the stakeholders. Additional communication via phone and email also occurred. Continued communication and coordination is anticipated.

Table 3. Meetings with Parks and Recreation Stakeholders

Stakeholder	Meeting Dates
Portland Parks & Recreation (PP&R)	July 3, 2019 July 31, 2019 October 29, 2019 November 25, 2019 May 29, 2020 September 2, 2020
Portland Parks Board	August 6, 2019
PP&R Parks Director	September 13, 2019
Japanese American Museum of Oregon	June 18, 2019 January 16, 2020
Portland Saturday Market	July 10, 2019 January 10, 2020
Burnside Skatepark	May 31, 2019 January 15, 2020
Rose Festival	July 18, 2019

10 Preparers

Name	Professional Affiliation	Education	Years of Experience
Jennifer Hughes	Parametrix	Environmental Planner	20

11 References

Bauer, Webb Sterling.

1980. A Case Analysis of Oregon's Willamette River Greenway Program. PhD diss., Oregon State University.

City of Portland.

n.d.a. Eastbank Esplanade. https://www.portlandoregon.gov/parks/finder/index.cfm?PropertyID=105&action=ViewPark. Accessed March 3, 2018.

n.d.b. Ankeny Park. https://www.portlandoregon.gov/parks/finder/index.cfm?action=ViewPark&PropertyID=50&subareas=6. Accessed March 3, 2018.

1994. Eastbank Riverfront Park Master Plan. Prepared by Hargreaves Associates, Portland, Oregon.

2003. Waterfront Master Plan. https://www.portlandoregon.gov/parks/63838.

2008. Skatepark System Plan. https://www.portlandoregon.gov/parks/article/202401.

2018. Letter requesting designation as public access facility for seawall adjacent to Governor Tom McCall Waterfront Park. Letter from Jamal Fox, Portland Parks & Recreation, to Captain of the Port, U.S. Coast Guard.

DSL (Oregon Department of State Lands).

2014. Public Recreation Facility License No. 9978-LI. October

Federal Transit Administration.

2010. Portland-Milwaukie Light Rail Project Final Environmental Impact Statement. Appendix K. Final Section 4(f) Evaluation. https://trimet.org/pdfs/pm/FEIS/FEIS_Vol2_Appendices.pdf.

Japanese American Museum of Oregon.

n.d. Japanese American Historical Plaza. http://www.oregonnikkei.org/plaza.htm. Accessed August 26, 2019.

Metro.

n.d. Metro Area Trail Counts. https://www.oregonmetro.gov/intertwine-trail-counts-and-survey-data. Accessed August 26, 2019.

2018. Urban Growth Management Functional Plan. https://www.oregonmetro.gov/urban-growth-management-functional-plan.

Multnomah County.

2021a. EQRB Air Quality Technical Report.

2021b. EQRB Construction Technical Report.

2021c. EQRB Cultural Resources Technical Report.

2021d. EQRB Description of Alternative Report.

2021e. EQRB Draft Section 4(f) Analysis. Attachment M to the EQRB Draft Environmental Impact Statement. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021f. EQRB Economic Impacts Technical Report.

2021g. EQRB Land Use Resources Technical Report.

2021h. EQRB Noise and Vibration Technical Report.

2021i. EQRB Transportation Technical Report.
2021j. EQRB Vegetation, Wildlife, and Aquatic Species.
2021k. EQRB Visual Resources Technical Report.

PP&R (Portland Parks & Recreation).
2008. Tom McCall Waterfront Park Landscape Design Guidelines.

OPRD (Oregon Parks and Recreation Department).
n.d. Land_Ownership/LO_LWCF (MapServer). https://maps.prd.state.or.us/arcgis/rest/services/Land_Ownership/LO_LWCF/MapServer. Accessed on August 26, 2019.

Oregon Department of Justice.
2005. Questions Presented to the Oregon Department of Justice by the Oregon State Land Board Concerning Questions About the Ownership and Use of Waterways in This State. http://www.doj.state.or.us/wp-content/uploads/2017/06/op8281.pdf. Accessed March 3, 2018.

ODOT (Oregon Department of Transportation).
2017. I-5: Broadway/Weidler Interchange Project, Construction Phasing Concept Plan. https://www.i5rosequarter.org/wp-content/uploads/2018/07/RQ-I5_Construction-Phasing-Concept-Plan_FINAL_2017.04.04.pdfAccessed February 2, 2020.

OSMB (Oregon State Marine Board).
2017. Triennial Survey of Boaters 2017 Data. https://www.oregon.gov/osmb/info/Pages/Triennial-Survey.aspx 2020.

PSM (Portland Saturday Market).
n.d. History. https://www.portlandsaturdaymarket.com/about/history. Accessed August 26, 2019.

White, Tate. Senior Planner, Portland Parks & Recreation.
2020. Personal communication during a meeting with Tate White on May 29, 2020.