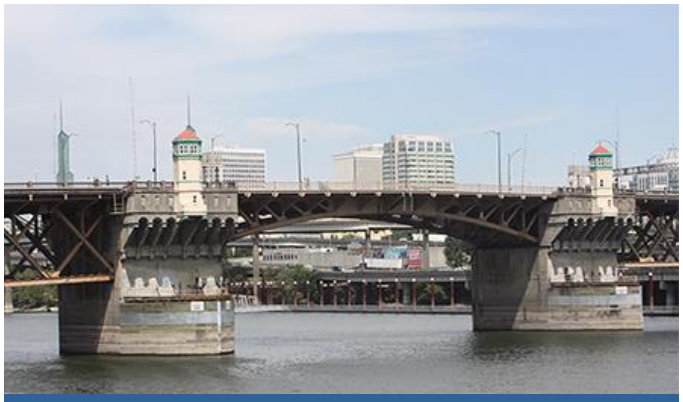

Social/Neighborhood Technical Report

Multnomah County | Earthquake Ready Burnside Bridge Project

Portland, OR

January 29, 2021

Earthquake Ready Burnside Bridge Social/Neighborhood Technical Report

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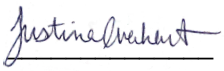
The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, as a professional environmental specialist and urban planner.

 Signature Reserved for Final Version

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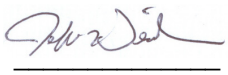 Signature Reserved for Final Version

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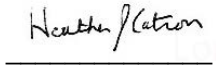 Signature Reserved for Final Version

Approved by Heather Catron (Consultant Project Manager)

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Acronyms, Initialisms, and Abbreviations

ACS	American Community Survey
ADA	Americans with Disabilities Act
API	Area of Potential Impact
CFR	Code of Federal Regulations
EIS	environmental impact statement
EQRB	Earthquake Ready Burnside Bridge
FTA	Federal Transit Administration
I-405	Interstate 405
I-5	Interstate 5
I-84	Interstate 84
LGBT+	An inclusive term used in this analysis to indicate lesbian, gay, bisexual, transgender, and other communities that encompass a wide spectrum of sexuality and gender identity.
PP&R	Portland Parks and Recreation
PRM	Portland Rescue Mission
PSM	Portland Saturday Market
TCE	temporary construction easement
USDOT	U.S. Department of Transportation

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Executive Summary

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 (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.

Large construction projects and changes to the transportation network can affect the surrounding neighborhoods and critical social service resources, as well as those who use them. Social service assistance takes many forms, from housing and meals, sobriety and recovery assistance, to training and employment assistance. This assistance is generally provided free of charge and is considered part of the social safety net.

This analysis focuses on 10 social service providers within four neighborhoods that are located fully or predominantly within a 0.5-mile buffer of the proposed Project Area. The No-Build and Build Alternatives were reviewed for their potential effects on those services. The majority of social services considered in this report would have no direct long-term impacts.

The No-Build Alternative would not require property acquisitions or displacements; however, during and immediately following a major CSZ earthquake, properties under and adjacent to the Burnside Bridge would be impacted, causing extensive property damage and likely loss of life. Destruction caused by a major earthquake would permanently change the ability for residents and visitors to travel through the downtown area. These effects would disproportionately affect the elderly, disabled, and houseless individuals, further inhibiting their ability to access social services. Conversely, in post-earthquake scenarios, all the Build Alternatives are expected to greatly improve public safety and services during and after earthquake seismic events as compared to the No-Build Alternative. The addition of a temporary bridge to the respective Build Alternatives would not result in additional impacts to neighborhoods or social service facilities.

All the Build Alternatives would require full acquisition of Portland Saturday Market (PSM) Administration Offices and the University of Oregon retail space, as well as a permanent easement at the PSM storage location. As a result, these facilities would be displaced by the Project; however, because these spaces are interior and not regularly used by the public, this impact would have a negligible effect on neighborhood cohesion. Under the Enhanced Retrofit Alternative, one of the main access doors to Portland Rescue Mission (PRM) from the sidewalk along W Burnside Street would be temporarily inaccessible for approximately 2 to 3 months, which would require temporary relocation of PRM for 2 to 3 months during construction due to its primary access being blocked. In addition, permanent easements would be required at the Japanese American Historical Plaza and the Ankeny Plaza Structure under all the Build Alternatives except the Long-span Alternative; however, these impacts would not affect the social fabric of the neighborhood as the structures would be present during and after construction.

Under the Retrofit Alternative, the Burnside Skatepark would be demolished during construction. Due to the increase in bridge support size and full demolition of the original

skatepark, the skatepark could not be rebuilt under a retrofitted Burnside Bridge. Demolition of the skatepark would likely disrupt the existing character of the community. Under the Replacement Alternatives with the No Temporary Bridge Option, the Burnside Skatepark would not be demolished, remaining relatively unchanged but intermittently unavailable during construction. With the Temporary Bridge Option, the southern portion of the skatepark would be demolished to construct the temporary bridge but would be rebuilt subsequent to completion of construction.

All the Build Alternative options would require a temporary construction easement (TCE) for the Mercy Corps building and the Eastbank Esplanade, and a TCE for access to the PRM, University of Oregon White Stag Building, and Mercy Corps. All the Replacement Alternatives would require a TCE for access to the Central City Concern - Shoreline building and the Salvation Army. These construction impacts are temporary and are not expected to contribute to long-term changes in social cohesion or neighborhood quality of life. Mitigation would be developed for social service providers and their clients that are expected to experience access impacts.

Mitigation measures would be coordinated with the appropriate organizations prior to construction and would minimize direct impacts in the Area of Potential Impact.

1 Introduction

As a 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 social/neighborhood impacts within the Project's Area of Potential Impact (API). The social/neighborhoods analysis addresses how the Project would directly or indirectly affect neighborhoods, community gathering spaces, social interactions, and community cohesion.

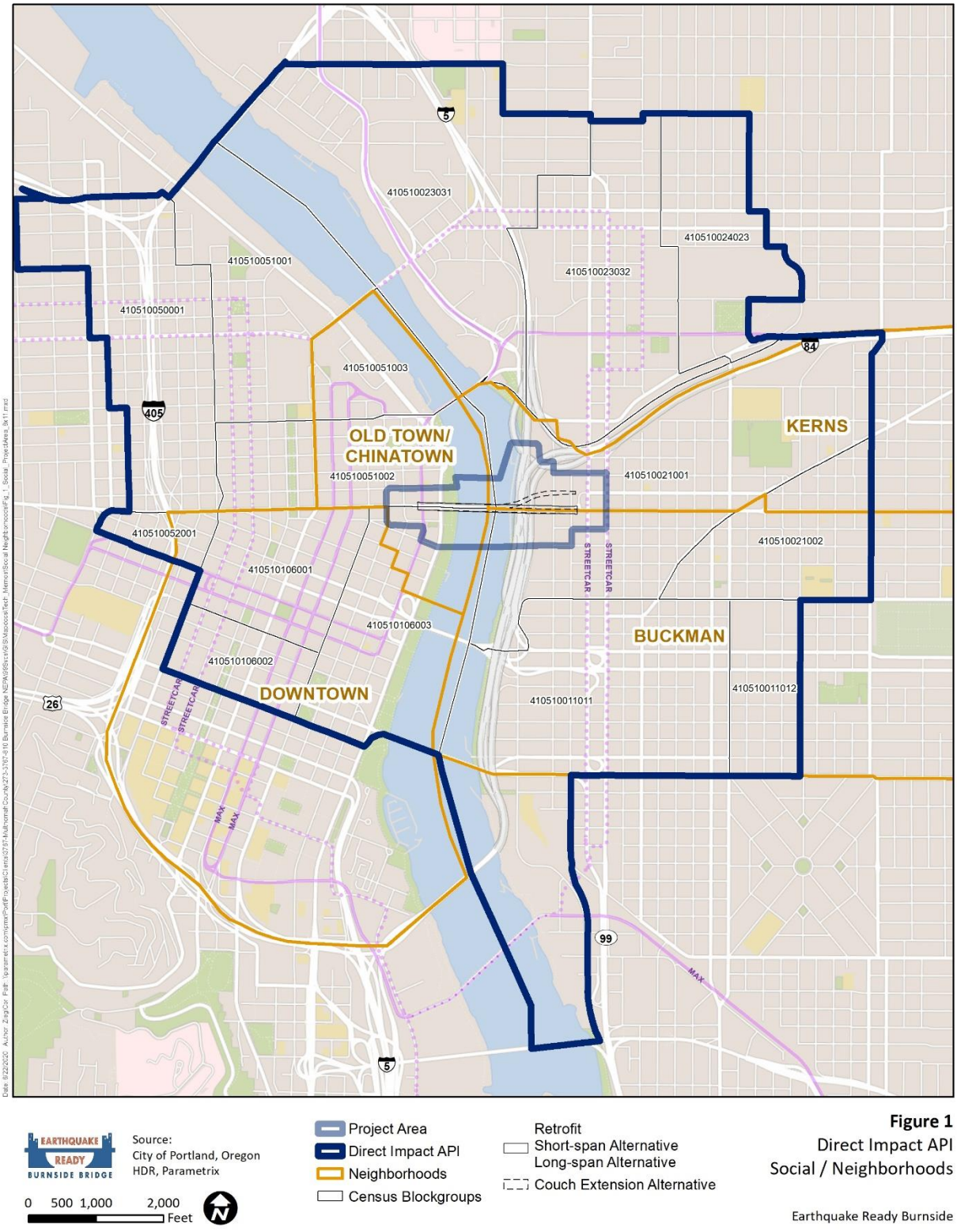
1.1 Project Location

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.

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 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.

Figure 1. Direct Impact API



Source: City of Portland, HDR, Parametrix

2 Project Alternatives

The Project Alternatives are described in detail with text and graphics in the EQRB Description of Alternatives Report (Multnomah County 2021d). 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 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 is described below:

- No-Build Alternative
- Build Alternatives
    - Enhanced Seismic Retrofit (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 Alternative)
- 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 (Multnomah County 2021d) for text and graphical descriptions of the Alternatives.

3 Definitions

The following terminology is used when discussing geographic areas in the EIS:

- **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 (such as for utilities), the geographic extent of the API is the same as that for the Project Area; for other topics (such as for transportation effects) the API is substantially larger to account for impacts that could occur outside of the Project Area. The API for social/neighborhoods is defined in Section 5.1.
- **Direct API –** The Direct API refers to the broader geographic boundary outside of resource-specific APIs where construction-phase impacts such as traffic detours and diversion are likely to occur. Any effects outside of the Direct API are considered indirect environmental effects.
- **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.

The following terms are used in the report to assist the reader in understanding certain concepts and contexts.

- **Census block group** – A combination of census blocks that is a subdivision of a census track of block numbering area, as defined by the U.S. Census Bureau. This is the smallest grouping for which much demographic information is available, to safeguard personally identifiable information about individuals surveyed.
- **Social service provider** – A state-, county-, city-, or nonprofit-operated organization that provides assistance to individuals and families who request it. This assistance takes many forms, from housing and meals, sobriety and recovery assistance, to training and employment assistance. This assistance is generally provided free of charge and is considered part of the social safety net.
- **Low-income** – Low-income is defined in the U.S. Census as a person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines of $26,200 (2020 guidelines) for a family of four. For the purposes of this analysis, to account for a higher regional cost of living, the threshold for low-income is considered to be double this guideline, $51,500.[1] Doubling the guideline also helps account for future inflation and further increases in the regional cost of living.
- **Minority** – The U.S. Census defines minority individuals as those who identify as being either from a racial or ethnic minority:
    - Black or African American – A person having origins in any of the Black racial groups of Africa.

[1] This methodology is also consistent with what the U.S. EPA uses in its EJScreen reporting.

  - Asian – A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
  - American Indian or Alaska Native – A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.
  - Native Hawaiian or Other Pacific Islander – A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
  - Some other race – Includes all other responses not included in the White, Black or African American, American Indian/Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories described above.
  - Hispanic or Latino – A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
  - Respondents reporting entries such as multiracial, mixed, interracial, or a Hispanic or Latino group (for example, Mexican, Puerto Rican, Cuban, or Spanish) in response to the race question are also included as minority individuals.

- **Equity populations** – For the purposes of the Draft EIS, *equity* populations refer to any low-income, minority, unhoused, and/or otherwise vulnerable individuals or community groups per the definitions provided above. Equity populations are inclusive of environmental justice populations as defined by Presidential Executive Order 12898, Federal Actions to Address Environmental Justice to Minority Populations and Low-Income Populations, and the additional federal, state, and local regulations and standards as described in Section 4 of this report. Equity populations make up a large portion of the Project Area. Discussion of equity populations is included in this report in order to provide a comprehensive analysis of the Project impacts on all individuals living and working in the Project Area. However, this is separate from and unrelated to the discussion of E.O. 12898 populations that is in the EQRB Environmental Justice Technical Report (Multnomah County 2021g).
- **Other vulnerable communities** – These groups are generally minority groups that have historically experienced discrimination or persecution, but who are not captured in the definitions of low-income or minority individuals and who are not protected by Title VI of the 1964 Civil Rights Act (42 U.S.C. § 2000d *et seq*.). For the purposes of this report, these communities include individuals in age cohorts (e.g., elderly persons), gender identity and sexual preference identification (e.g., LGBT+[2]), those without stable housing (e.g., unhoused populations), and persons with disabilities.
- **Unhoused** – To avoid potential perception that the individuals and families experiencing housing challenges do not have a “home” within the community or region, this analysis uses the term “unhoused” rather than “homeless” or people “experiencing homelessness.”

[2] LGBT+ is an inclusive term used in this analysis to indicate lesbian, gay, bisexual, transgender, and other communities that encompass a wide spectrum of sexuality and gender identity.

4 Legal Regulations and Standards

4.1 Laws, Plans, Policies, and Regulations

4.1.1 Federal

- Title VI of the Civil Rights Act of 1964

  This policy prohibits discrimination on the basis of race, color, and national origin in programs and activities that receive federal financial assistance.

- Age Discrimination Act of 1975

  This policy prohibits discrimination on the basis of age (applies to all ages) in programs and activities that receive federal financial assistance.

- Americans with Disabilities Act (ADA) of 1990

  The ADA prohibits discrimination against individuals with disabilities in all areas of public life and provides people with disabilities the same rights and opportunities as those available to abled persons.

- Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended

  Provides protections and assistance for people affected by the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects.

- Presidential Executive Order 12898, Federal Actions to Address Environmental Justice to Minority Populations and Low-Income Populations

  This policy focuses on environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities.

- Presidential Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency

  Requires federal agencies to examine the services they provide, identify needs for services to those with limited English proficiency, and develop and implement a system to provide such services.

- U.S. Department of Transportation Order 5610.2, Order to Address Environmental Justice in Minority Populations and Low-Income Populations

  This policy integrates environmental justice objectives into planning, programming, rulemaking, and policy formulation to prevent disproportionately high and adverse effects to minority or low-income populations through Title VI analyses.

- Title 49 of the Code of Federal Regulations (CFR) Part 21, Nondiscrimination in Federally Assisted Programs of the Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964

This policy ensures that any program or activity receiving federal financial assistance from the U.S. Department of Transportation (USDOT) will not exclude, be denied the benefits of, or discriminated against on the grounds of race, color, or national origin.

- U.S. Department of Transportation Federal Transit Administration (FTA), Circular FTA C 4702.1B, *Title VI Requirements and Guidelines for Federal Transit Administration Recipients* (October 1, 2012)

  Provides guidance to grantees on how to comply with Title VI regulations, as well as ensures grantees provide meaningful language access to persons who have limited proficiency in English as a primary language.

- USDOT FTA, Final Circular FTA C 4703.1, *Environmental Justice Policy Guidance for FTA Recipients* (August 15, 2012)

  Provides guidance on recommendations to state departments of transportation, metropolitan planning organizations, public transportation providers, and other recipients of FTA funds on how to fully engage environmental justice populations in the public transportation decision-making process and determine whether environmental justice populations would be subjected to disproportionately high and adverse human health or environmental effects resulting from a transportation plan or project.

- Community Impact Assessment: A Quick Reference for Transportation, Publication No. FHWA-HEP-18-055 (2018)

  A handbook providing information on how to conduct a community impact assessment to evaluate the effects of a transportation action on a community and its quality of life.

4.1.2 Local

- Portland Metro Council Ordinance No. 00-882C amends the Regional Framework Plan and the Urban Growth Management Functional Plan to ensure a choice of housing types and helps reduce regulatory barriers to affordable housing.
- City of Portland Comprehensive Plan policies and area, neighborhood, and community plans, including the Downtown Area Plan, Downtown Community Plan, Central City Community Plan, Kerns Neighborhood Plan, and Buckman Neighborhood Plan.
- Old Town/Chinatown Five-Year Action Plan Extension outlines recommended steps and resources to create a safe, vibrant, economically healthy neighborhood that will maintain Old Town/Chinatown's unique character and harness its opportunities.

4.2 Design Standards

There are no design standards applicable to this topic.

5 Affected Environment

5.1 Area of Potential Impact

The API for the social/neighborhoods analysis assesses long- and short-term environmental impacts using a 0.5-mile buffer from the Project Area. Using this buffer, the entirety of all census tracts and block groups intersecting the 0.5-mile buffer were selected to constitute the D*irect API*, denoting the area where direct environmental impacts are likely to occur as a result of the Project. Therefore, *API* and *Direct API* are used interchangeably throughout the report, as environmental effects are considered for all intersecting census geographies even if partially located outside the strict 0.5-mile buffer. Figure 1 shows the 0.5-mile buffer and Direct API boundary resulting from the selected census geographies. Any impacts outside of the Direct API are considered indirect Project impacts.

In addition, this technical report includes a summary of the relevant findings of the environmental justice analysis, which considers impacts and benefits affecting low-income and minority populations, as well as evaluates whether the Project may affect environmental justice populations differently or more severely than the general population. This environmental justice summary identifies if the Project Alternatives would result in notable differences in their respective levels of social/neighborhood impacts on specific community groups. Impacts within the Direct API for the environmental justice and equity analysis is broader than the API for some of the other environmental topics, and significantly broader than the Project Area.

The Direct API captures broad potential effects including direct physical impacts and infrastructure changes, transportation network changes, short-term construction impacts, changes to access in the area, and other network effects as a result of the Project. An analysis of existing environmental justice populations within the API considers information obtainable via census data, as well as relevant information about equity populations and effects related to employers, public services, learning institutions, houseless people living in the vicinity, and other relevant sources within the API.

5.2 Resource Identification and Evaluation Methods

5.2.1 Published Sources and Databases

The data used to determine and describe neighborhood/social impacts are from the following resources:

- City of Portland Neighborhood Associations websites and publications
- Portland Metro Regional Land Information System
- Multnomah County Department of County Human Services
- 2012–2016 U.S. Census and Census Bureau’s American Community Survey (ACS)

In addition to the information listed above, the analysis was conducted in conjunction with Multnomah County’s public involvement and outreach effort for the Project. The effort included participation from neighborhood and community groups, property owners,

residents, and other interested parties. This was an extension of the efforts previously conducted during earlier phases of the EQRB Project.

Staff coordinated with and consulted local jurisdictions and other local social service agencies and groups to identify important community facilities and features, characterize key features of neighborhoods, and identify formal and informal networks serving community members. The EQRB Diversity, Equity, and Inclusion program also identified and provided information regarding potentially affected populations and respective places of importance.

5.2.2 Field Visits and Surveys

A walking site visit was conducted on June 24, 2019 and included a 3-hour pedestrian survey of the API on both sides of the bridge and on the bridge itself. The visit entailed walking each block, and noting how the area is used by businesses, social services, parks, community facilities (traditional and non-traditional), residents, and other people.

5.3 Existing Conditions

This section provides a qualitative discussion of the existing conditions within the API as it relates to neighborhoods, neighborhood quality of life, community facilities and parks, and social service providers.

5.3.1 Neighborhoods

The API includes four neighborhoods formally recognized by the City of Portland: two on the east side and two on the west side of the Willamette River. Neighborhood associations are officially designated and recognized organizations by the City of Portland for a specific geographic location.

The Old Town/Chinatown and Downtown neighborhoods are located on the west side of the river and are generally divided by W Burnside Street within the API: Old Town/Chinatown is north of Downtown. The Kerns and Buckman neighborhoods are part of the Inner Southeast Neighborhood Coalition and, within the API, are separated by E Burnside Street with Kerns to the north of Buckman. Figure 1 shows the generalized boundaries within the Project vicinity.

Old Town/Chinatown

Old Town/Chinatown is located on the west side of the Willamette River. It is bordered to the west and north by NW Broadway, extends south to W Burnside Street, southeast to the intersection of SW Harvey Milk and SW Naito, then to the Willamette River.

The Old Town neighborhood was Portland’s first recognized historic district, and the neighborhood is one of only two National Historic Landmarks within the City of Portland. The neighborhood has a rich history and boasts one of the finest collections of cast-iron buildings in the nation. Old Town was historically the central location for trade houses, commission agents, financial institutions, and steamship companies due to its close proximity to the Willamette River. Old Town provided goods, services, and trade opportunities, and offered lodging, union halls, missions, reading rooms, ethnic publishing houses, and various entertainment venues.

Old Town has historically had many immigrants, including Japanese and Chinese immigrants who found work and refuge in the area after ship transportation began in 1851 between Portland and San Francisco. Old Town was also home to large numbers of Irish, Germans, Scandinavians, African Americans, Greeks, Sephardic and Russian Jews, Filipinos, and Roma residents and workers.

Chinese and Japanese immigrants were restricted to the area near Portland's wharf and train station due to the Chinese Exclusion Act of 1882 and a 1924 provision including Japanese. Initially, the majority of residents were male bachelors; however, by the late 1870s, merchants' families began to arrive in Portland and a more established community was created through schools, churches, family associations, social clubs, hotels, laundries, restaurants, and theaters.

Old Town/Chinatown is currently home to the Oregon Nikkei Legacy Center, the Lan Su Chinese Garden, the Japanese American Historical Plaza, the Chinatown Gate, Skidmore Fountain, and many notable businesses, including entertainment venues. The neighborhood retains many of its historic buildings, particularly important examples of both masonry and cast-iron buildings. Land use in Old Town/Chinatown includes a mix of commercial, multi-family residential, and parks.

The neighborhood, especially the area within the API surrounding the west end of the bridge, contains multiple social service providers and community centers, including:

- Maybelle Center for Community
- Union Gospel Mission
- Central City Concern Estate Building
- Central City Concern - Shoreline Building
- Portland Rescue Mission
- Salvation Army Female Emergency Center
- Mercy Corps NW
- The Oregon Nikkei Legacy Center
- The Portland Saturday Market Offices
- University of Oregon Portland Campus
- Home Forward
- Liberation Street Church (Portland Night Strike)

Detailed descriptions of these facilities are provided in Section 5.3.6 below.

Downtown

The Downtown neighborhood, located on the west side of the Willamette River, is bordered by W Burnside Street to the north, Interstate 405 (I-405) to the west and south, and the Willamette River on the east. It has one of Portland's oldest neighborhood associations and is home to the bell tower of the First Congregational Church (listed on the National Register of Historic Places), one of only a few examples of Venetian Gothic architecture in the U.S. The Downtown neighborhood is the civic center of Portland and

is home to the Pioneer Courthouse Square, Arlene Schnitzer Concert Hall, Portland Art Museum, Oregon Historical Society, and Portland State University.

The Downtown neighborhood features narrow, compact blocks providing an easily walkable downtown. In the 1970s, Portland re-routed the highway running through the Downtown area that had historically disconnected it from the waterfront and built the Governor Tom McCall Waterfront Park in its place, which opened in 1978. Downtown also incorporates several high-rise buildings including the Wells Fargo Center, U.S. Bancorp Tower, KOIN Center, Park Avenue West Tower, and PacWest Center. Downtown is also notable for its series of park blocks running south to north from I-405 to NW Glisan. Commercial land uses presently compose the majority of Downtown, particularly within the API, followed by multi-family residential and parks.

No social service providers were identified within the Downtown neighborhood within the API.

Kerns

The Kerns neighborhood extends south from Interstate 84 (I-84) to E Burnside Street, east to NE 32nd/33rd Avenues and west to the Willamette River. Kerns is a mix of commercial use, industrial, multi-family and single-family residential, and parks. The neighborhood's proximity to the Willamette River and the rail line provided industrial and fishing employment during the late 1800s and early 1900s, which led to both industrial and residential development in the neighborhood.

Kerns is home to a number of historic buildings, including the art deco style Laurelhurst Theatre (1923) and Coca Cola bottling plant (1941), the Twentieth Century Georgian style da Vinci Arts Middle School (1928) and Benson Polytechnic High School (1908). Neighborhood parks include Buckman Field, Everett Community Garden, and Oregon Park. None of these historic buildings or parks is in the API. Kerns is notable for its vibrant restaurant scene, classic four-square houses (square-looking homes with four upper story bedrooms and four ground floor rooms), and Craftsman bungalows.

The western portion of Kerns immediately north of the API includes major transportation infrastructure, including the Interstate 5 (I-5)/I-84 Interchange, the Eastbank Esplanade multi-use path, Amtrak railroad tracks, a set of Union Pacific Railroad tracks and siding tracks, a Union Pacific operations building, and transportation-reliant businesses (e.g., Pacific Coast Fruit Company and American Medical Response ambulance service).

Today, the eastern end of Kerns immediately north of the Burnside Bridge is one of the fastest growing areas of the city for both residential and employment uses with a number of high-rise office and mixed-use buildings either recently completed or under construction. In recent years, the number of restaurants, bars, and cafes in the neighborhood has increased greatly, as well as the number of other service and retail businesses. The neighborhood includes several social service providers within the API surrounding the east end of the Burnside Bridge. The 681-acre Central Eastside Industrial District spans portions of the eastern end of the Kerns and Buckman neighborhoods. The industrial district is an emerging industrial and commercial area for older wholesale and trades businesses, sustainable industries, food suppliers, and for entrepreneurs. This mix of industries provides commercial and manufacturing jobs in a mixture of new and historic buildings.

Three social service providers are also located within the Kerns neighborhood within the API, including the Multnomah County Crisis Assessment and Treatment Center, the Central City Concern Jeannie Rivers Building, and the Central City Concern Madrona Studios Building. Additional information about these social service facilities may be found in Section 5.3.6 below.

Buckman

The Buckman neighborhood is on the east side of the Willamette River and extends from the river east to SE 28th Avenue, south to SE Hawthorne Boulevard, and north to E Burnside Street. Buckman is mainly composed of commercial uses followed by multi-family and single-family residential, and parks.

Historically, Buckman was the center of East Portland before East Portland merged with the City of Portland in 1891. The Oregon Central Railroad included a branch through East Portland around 1870, which spurred development in the area. The East Portland historic center (now designated as the Grand Avenue Historic District) is listed on the National Register of Historic Places. It encompasses approximately 20 city blocks running along SE Grand Avenue with several primary contributing properties constructed between 1883 and 1915.

The Buckman neighborhood is home to the historic Lone Fir Cemetery (listed on the National Register of Historic Places), established in 1855. It is one of Portland's oldest continuously used cemeteries and is now a *de facto* arboretum. Owned and maintained by Metro, Lone Fir Cemetery has more than 700 trees with 25,000 people buried on its grounds.

Washington High School was used as a high school from 1906 to 1981 and rebuilt in 1924 after a fire destroyed the original building. The facility is now used as an office building and music venue (Revolution Hall) and was listed on the National Register of Historic Places in November 2015.

The Vera Katz Eastbank Esplanade is located on the west side of the neighborhood and features a 1.5-mile pedestrian and bicycle path, 1,200 feet of which is a floating walkway, along the east bank of the Willamette River. Parks in the neighborhood include Colonel Summers Park and Buckman Community Garden.

Today, south of the Burnside Bridge, the area of the API within the Buckman neighborhood includes one large building between I-5 and SE 2nd Avenue (American Medical Response), recently constructed tall modern office buildings between SE 2nd and Martin Luther King Jr. Boulevard, transitioning to lower office and commercial land uses west of SE Grand Avenue and south of SE Ankeny Street. There are few residential uses within the API in Buckman but the area features a growing number of newer restaurants and food purveyors, mixed in with other wholesale and warehouse commercial uses that are part of the Central Eastside Industrial District.

St. Francis of Assisi Catholic Church is located within the Buckman neighborhood within the API. Additional information about this church is provided in Section 5.3.6 below.

5.3.2 Demographics

General Population

Census block groups that were assessed are listed in Table 1 below. This captures approximately 24,531 individuals in the API, which is less than 3 percent of the total county population of over 811,880 recorded at the time of the 2014–2018 American Community Survey. Approximately 33 percent of the API population was accounted for by residents of census tract 51. Census tract 50 has the second highest population in the API (approximately 14 percent), followed closely by census tract 106 (approximately 12 percent).

Table 1. API Population by Census Tract and Census Block Group

Tract	Block Group	Total Population
Census Tract 11.01		2,473
	410510011011	830
	410510011012	1643
Census Tract 21		2,694
	410510021001	1,093
	410510021002	1,601
Census Tract 23.03		2,555
	410510023031	862
	410510023032	1,693
Census Tract 24.02		1,188
	410510024023	1,188
Census Tract 50		3,326
	410510050001	3,326
Census Tract 51		8,148
	410510051001	4,401
	410510051002	2,602
	410510051003	1,145
Census Tract 52		1,003
	410510052001	1,003
Census Tract 106		3,144
	410510106001	650
	410510106002	1,509
	410510106003	985
API Total		24,531
Multnomah County Total		811,880

Source: U.S. Census Bureau, American Community Survey – 2014-2018 5-Year Estimates.

Minority Population

Table 2 presents the percentage of white and minority representation within the census blocks that intersect with the API and Multnomah County.

Table 2. Minority Population within the API and County

Demographics	API	Multnomah County
Total Population	1,643	811,880
Hispanic (all races)[a]	6.1%	11.7%
White Non-Hispanic	76.1%	68.9%
Black Non-Hispanic	6.4%	5.4%
American Indian – Non-Hispanic	0.6%	0.8%
Asian Non-Hispanic	4.9%	7.8%
Pacific Islander – Non-Hispanic	1.1	0.7
Two or More Races – Non-Hispanic	4.6%	4.3%
Total Non-White Minority (Non-Hispanic Non-White Alone)	23.7%	30.8%

Source: U.S. Census Bureau, American Community Survey - 2014-2018 5-Year Estimates

[a] Note: Hispanic origin is generally not considered to be a racial group, but is considered a minority. For the purposes of this evaluation, all individuals identifying as non-white races combined with those of Hispanic origin (of any race) together make up the minority population.

While not captured in the table, individual census block group evaluations indicated that there is one block group (410510106003) within the API where residents are far more likely to be from minority communities. This block group represents the area immediately southwest of the Burnside Bridge (in the Old Town district) and contains 985 individuals, of which 44.0 percent identify as non-white minorities. This block group also exhibits the highest percentage of households in the API that are considered to be linguistically isolated (16.0 percent).

Additional information about minority populations in the API can be found in the EQRB Environmental Justice Technical Report (Multnomah County 2021g).

Disability Population

Additionally, census information was evaluated to determine whether the API contains a concentration of individuals with a disability compared to Multnomah County as a whole. Table 3 shows that the percentage of households within the API identified as containing an individual or individuals with a disability is comparable to that found in the County. However, the census blocks that intersect with the Project Area generally tend to have a higher percentage of households with an individual(s) with a disability, particularly in the census block groups southwest of the Project Area, where the percentage of households with individual(s) with a disability is substantially higher than for Multnomah County as a whole. Based on this analysis, the population with disabilities in this portion of the API is considered an equity population.

Table 3. Households with Individuals with a Disability

Percent of total households in the API identified as having individuals with a disability present

Census Block Group	Total Households	Households with a Disability
410510011011	535	25%
410510011012	1,004	24%
410510021001[a]	640	18%
410510021002	841	10%
410510023031	490	25%
410510023032	1,019	29%
410510024023	597	30%
410510050001	2,321	8%
410510051001	3,002	17%
410510051002[a]	1,897	38%
410510051003	671	39%
410510052001	621	31%
410510106001	520	43%
410510106002	1,206	49%
410510106003[a]	354	54%
Total	**15,718**	**26%**
Multnomah County Total	**321,968**	**24%**

Source: U.S. Census Bureau, American Community Survey – 2014-2018 5-Year Estimates.

[a] Census block groups that intersect with the Project Area.

5.3.3 Housing and Households

Housing on both the west and east sides of the API consists primarily of multi-family residential buildings. The west side of the bridge includes multiple affordable housing options adjacent to W Burnside and NW Couch Streets. According to the 2016 ACS, there were approximately 4,537 housing units on the east side of the river within the API and 9,402 on the west side, for a total of nearly 14,000 homes. The majority of residents (79.4 percent) within the API on both sides of the river rent their homes, rather than own, with a higher percentage of renters on the east side (85.3 percent). This is a much higher percentage of renters than in the county as a whole, in which only 46.0 percent of residents rent homes.

Unhoused Populations

As the census does not accurately capture unhoused individuals residing within the API, the 2019 Point-in-Time Count (Multnomah County 2019) within Multnomah County was

used to obtain information regarding this population. A total of 4,015 unhoused people were counted across 11 neighborhoods on January 23, 2019. Of this amount, 2,037 people were considered unsheltered (sleeping in a public or private place not ordinarily used as regular sleeping accommodation for human beings), with 435 people being counted in SE Portland (from the Willamette River to 2nd Avenue) and 413 people being counted in the Downtown/Old Town/Pearl neighborhoods. In addition, 1,459 people were in emergency shelter and 519 were in transitional housing. These two neighborhoods, which intersect with the API, had the highest share of the unsheltered population compared to the other nine locations that were evaluated in this study.

Based on the 2019 counts, 1,769 persons were found to meet the U.S. Department of Housing and Urban Development definition of “chronically homeless,” defined as people who have experienced homelessness for at least a year, or repeatedly, or unaccompanied individuals with a disabling condition such as a serious mental illness, substance use disorder, or physical disability who have had at least four episodes of homelessness in the past 3 years (HUD 2007).

The 2019 Point-in-Time Count determined that those who identified as White Alone made up 58.4 percent of people unsheltered or in shelters while people of color (everyone except those identified as white) made up 38.1 percent of respondents. Based on the general population within Multnomah County, the relatively high percentage of American Indian/Alaska Natives, Native Hawaiian/Pacific Islanders, and Black/African Americans in the point-in-time count (compared to the general population) indicates a high level of racial disparity in unhoused populations.

Household types (families, adults-only, unaccompanied youth) is an important factor to identify within unhoused populations. In the 2019 count, 91.4 percent of respondents were people in adult-only households. Only 7.9 percent of respondents were households with children, and less than one percent were unaccompanied children.

It should also be pointed out that the point-in-time statistics likely underestimated the true number of unhoused individuals. This was because the point-in-time survey was voluntary and target respondents had the right to refuse participation. In 2019, 707 individuals who were contacted to participate in the street count portion of the point-in-time survey chose not to.

5.3.4 Transportation

Various modes of transportation are prevalent within the API including walking, biking, vehicular travel, and public transportation. TriMet buses and the MAX both have stations located on the east and west sides of the bridge within the API. Also, there are two Portland Streetcar stops at the east end of the Project Area: Martin Luther King, Jr./E Burnside Street and Grand Avenue/E Burnside Street.

Table 4 below provides information on travel modes for residents within the API compared to residents of Multnomah County. Overall, the use of transit, walking, and other non-car transportation methods is far more prevalent for residents within the API (49 percent combined) compared to the county (23 percent), where almost three-fourths of transportation is by private car. This is likely due to multiple factors, including the presence of frequent and more predictable transit within the API, more pedestrian and

bicycle facilities, the challenges of parking a car in the Central City, and potentially to greater transit dependency among the residents.

Table 4. Trips by Mode within the API and County

Travel Mode	API Total	Multnomah County
Workers 16 and over	14,522	422,229
Car, truck, or van	42%	69%
Public transit	21%	12%
Walked	18%	5%
Bicycle	8%	5%
Taxicab, motorcycle, or other means	2%	1%
Worked at home	9%	8%

Source: U.S. Census Bureau, American Community Survey - 2014-2018 5-Year Estimates

5.3.5 Employment and Income

The API encompasses a large portion of the Central City and includes the downtown area which provides substantial employment and relatively high salaries. The API represents 24 percent of the jobs available in the county, and over half these jobs pay more than $3,333 per month ($40,000 per year). Table 5 shows the general worker age and income levels for employees within the API and in Multnomah County.[3]

Jobs within the API are consistent with downtown office, hotel, and restaurant employment, with the greatest representation in the Professional, Scientific, and Technical Services sector (17.9 percent), Accommodation and Food Services (12.0 percent) and Finance and Insurance (9.2 percent). Employment in these three sectors is substantially greater within the API—collectively 39.1 percent of jobs within the API—than in Multnomah County where they represent only 22.0 percent of jobs.

Table 5. Employment and Income

Employment/Income	API	Multnomah County
Total jobs	120,704	502,358
Jobs held by employees age 29 or younger	21.3%	21.2%
Jobs held by employees age 30 to 54	60.3%	57.7%
Jobs held by employees age 55 or older	18.4%	21.1%
Jobs by Earnings – Income of $1,250 per month or less	15.9%	18.3%

[3] Note that this table and discussion provides information on jobs presently within the API, not on the employment characteristics of residents within the API.

Employment/Income	API	Multnomah County
Jobs by Earnings – Income of $1,251 to $3,333 per month	26.9%	32.0%
Jobs by Earnings – Income of More than $3,333 per month	57.2%	49.7%

Source: 2017 U.S. Census Bureau Economic Census, Longitudinal Employment, Housing Dataset. Data from second quarter 2017 estimates (accessed May 2020)

5.3.6 Community Facilities within the Project Area

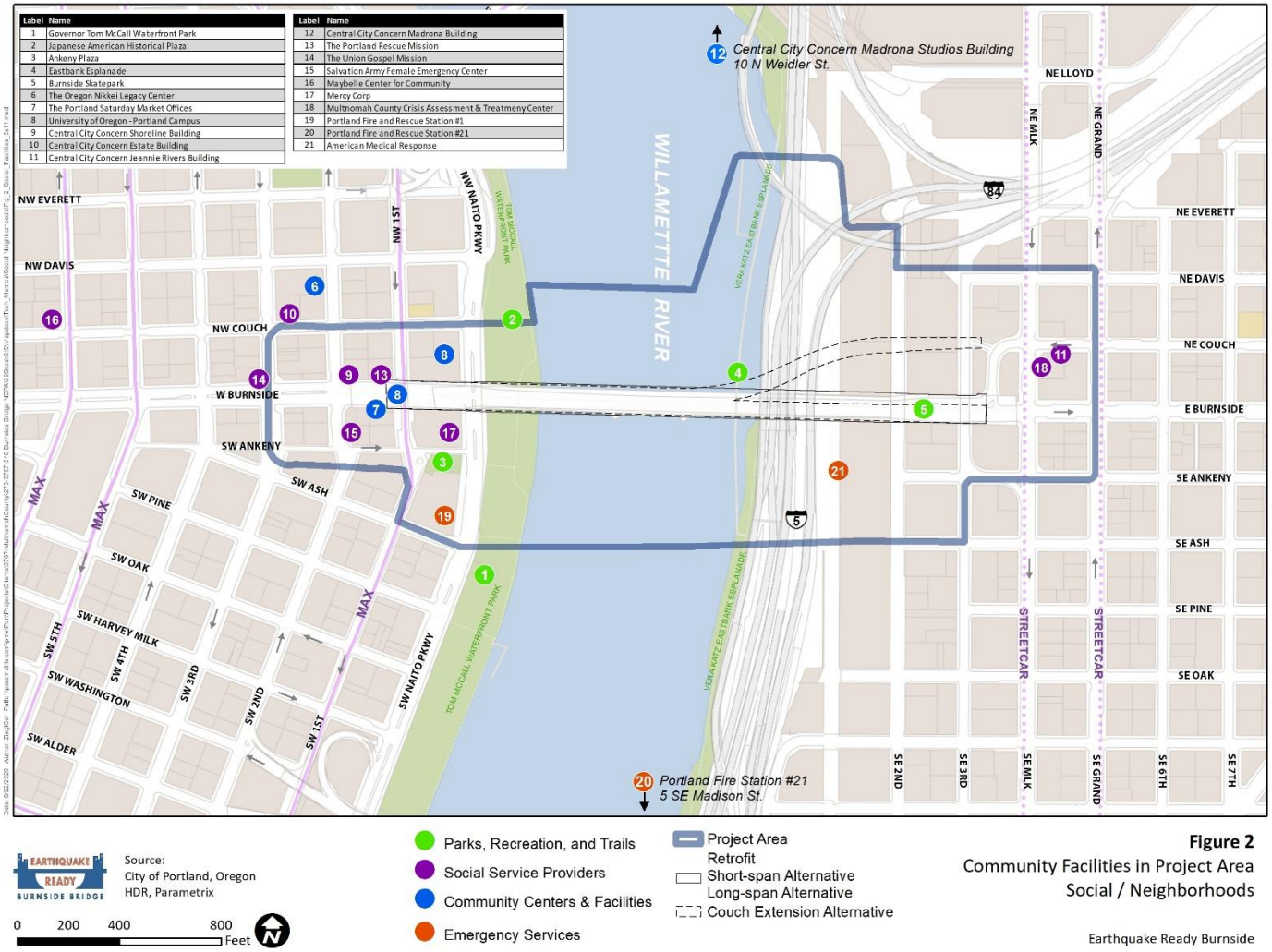
Figure 2 shows the locations of the community and social services listed in this report.

5.3.6.1 Parks, Trails and Recreation Facilities

The Project Area surrounding the Burnside Bridge is home to the following public parks, plazas, trails, and other facilities, all of which function as community gathering spots and provide active or passive recreation activities:

- Governor Tom McCall Waterfront Park includes 30.22 acres along the Willamette River with fountains (including the Bill Naito Legacy Fountain), monuments, paved paths for walking and biking, a plaza, river views, public art, and mature trees. The Japanese American Historical Plaza is also within Waterfront Park, and PSM sets up on weekends under the Burnside Bridge in the park. Waterfront Park also hosts the Rose Festival and other multi-day community events, as well as regular charity runs and walks, parades, organized marches, and protests.
- The Japanese American Historical Plaza is directly north of the Burnside Bridge in Waterfront Park. The plaza includes artwork that tells the history of Japanese Americans in Oregon and bronze reliefs of the U.S. Bill of Rights.
- Ankeny Plaza is a paved 1.33-acre plaza located adjacent to SW Ankeny Street, between SW 1st Avenue and SW Naito Parkway, immediately south of the western approach of the Burnside Bridge. The plaza contains the Skidmore Fountain, Portland's oldest piece of public art.

Figure 2. Community Facilities in Project Area



Source: City of Portland, HDR, Parametrix

- The Vera Katz Eastbank Esplanade is a 1.5-mile-long pathway running along the east side of the Willamette River. The Esplanade provides access to a small-craft boat dock and includes paved paths, public art, and riverfront views.
- The Burnside Skatepark is located under the eastern end of the Burnside Bridge. While not operated by a public agency, it is open to the public for recreation and has been in operation for over 25 years. It is a popular and well-known destination for skaters as it includes numerous features for skating, provides protection from the rain, and is free to use. The skatepark is funded, maintained, and managed by volunteers.

There are more plazas and parks within the larger API, but these are not discussed further in this report as they are considered to be too distant from the Burnside Bridge to be potentially impacted by the Project.

5.3.6.2 Community Centers and Facilities

There are many nonprofit and private community gathering places within the Project Area. The following discussion includes the largest spaces with the most community event activity:

- The Japanese American Museum of Oregon (formerly Oregon Nikkei Legacy Center) at 121 NW 2nd Avenue is a museum preserving and sharing the history and culture of the Japanese American community. It also administers the Japanese American Historical Plaza.
- PSM is located under the west side of the Burnside Bridge and extends into Ankeny Plaza. The market occurs every Saturday and Sunday from March through Christmas Eve. Market administration has offices and storage facilities at 2 SW Naito Parkway.
- The University of Oregon Portland Campus is located on the west end of the bridge in the White Stag Block (70 NW Couch Street) and 109 NW Naito buildings. The Portland campus includes the schools of business and architecture, as well as technology laboratories, a branch of the university library, a school gift shop, and other amenities. Community events are hosted frequently at both buildings.
- The Portland Fire and Rescue Memorial Fire Museum is located adjacent to Ankeny Plaza and features historic Portland firefighting equipment. It generally does not host community events and is not discussed further in this analysis.
- No Multnomah County public libraries are located within the Project Area.

5.3.6.3 Healthcare Facilities

The Oregon College of Oriental Medicine Clinic at NW 1st Avenue and NW Couch Street provides acupuncture and Chinese medicine services. It is a private healthcare provider and educational facility and is not discussed further in this analysis. There are no hospitals or other major medical clinics within the Project Area.

5.3.6.4 Social Services

The area around and under the west side of the Burnside Bridge functions as a form of social service campus, with multiple service providers providing interconnected services to individuals and families in need. Additional social services are also available on the east side of the bridge, making the bridge itself an important transportation corridor for both service providers and their service populations. The discussion below is not an exhaustive list of the diversity of services provided, but is intended to describe some of the assistance activities of major providers within the API.

Portland Rescue Mission

Provides shelter and services to the unhoused population. The shelter serves 21,000 to 25,000 meals per month, shelters approximately 200 people per night, and provides a warming/cooling center, laundry, and 24-hour supervised restrooms. This shelter is the only building with 24-hour emergency access for houseless or other individuals in need in Portland. PRM has a door on the west side of the Central City Concern - Shoreline Building that provides access to Burnside Street.

Central City Concern

Central City Concern aids over 13,000 single adults and families in the Portland metropolitan region through a network of facilities and services annually. Within the Project Area and API, Central City Concern operates numerous facilities and services, including the following:

- The Shoreline Building at 123 W Burnside Street is a three-story structure that includes the Employment Access center on the lower floors of the building; access is on NW 2nd Avenue. This center provides employment assistance to approximately 1,300 individuals per year. Access to the facility for non-residents is available only via Burnside Street. Sixty-two transitional apartment units are located on the upper floors, accessed from the north side sidewalk on the western Burnside Bridge approach. These units provide short-term transitional housing to approximately 300 people per year for an average period of 3 to 4 months, and are accessible to residents and staff 24 hours, 7 days per week. Twelve staff (volunteers or probation officers) are always required to be present on-site. In addition, PRM has a door on the west side of the Central City Concern - Shoreline Building that provides access to Burnside Street.
- The Estate Building at 225 NE Couch Street provides 191 housing units, both transitional and permanent, as well as a mentoring program, parole services, and other services. The building also includes a large community room used for meetings and events, that also serves as a severe weather shelter.
- The Jeannie Rivers Building at 444 NE Couch Street includes a sobering station and dispatch for emergency response for substance abuse issues. The sobering station operates a van staffed by medical professionals that transports inebriated (intoxicated or incapacitated by drugs or alcohol) individuals to the facility.
- The Madrona Studios Building at 10 N Weidler Street in the Rose Quarter is also in the Project vicinity and provides 176 units of affordable and transitional housing.

The Union Gospel Mission

The facility at 3 NW 3rd Ave provides over 200,000 meals a year to the those in need, and provides food boxes, day room, clothing, hygiene items, referral services, addiction recovery support, and cold weather shelter.

The Salvation Army

The Salvation Army has a Female Emergency Center at 30 SW 2nd Avenue that offers emergency shelter for women and assists in finding permanent housing solutions.

Because People Matter

Because People Matter operates Night Strike which meets weekly at the Liberation Street Church, and services are provided under the Burnside Bridge. Night Strike uses the full width under the bridge from Waterfront Trail to Naito Parkway. Volunteers provide meals, haircuts, shaves, foot washes, and clothing/sleeping bag replacements.

Maybelle Center for Community

Maybelle Center for Community is located along the northwest boundary of the API on the corner at 121 NW 6th Avenue. Maybelle builds community and relationships within the Old Town and Downtown areas of Portland through volunteer visits, a community room, individual member support, and housing. The community they serve consists of individuals living in low-income buildings who are experiencing poverty and risk of social isolation.

Mercy Corps

The international headquarters are located immediately south of the western approach to the bridge at 45 SW Ankeny Street. While they do not generally provide daily social services at this location, the building is used to coordinate humanitarian responses to international disasters and crises such as food or water crises. Additionally, Mercy Corps Northwest provides assistance to low-income citizens in Oregon and Washington by providing resources and support to help increase economic self-sufficiency and community integration.

Multnomah County Crisis Assessment and Treatment Center

Located at 30 NE Martin Luther King Jr Boulevard, the center provides a 16-bed secure facility where people can stay from 4 to 14 days while their mental health symptoms stabilize.

Home Forward

Home Forward is located at 135 SW Ash Street. The organization is the largest provider of affordable housing in Oregon, offering a variety of housing options to low-income individuals and families. Home Forward is a public corporation serving all of Multnomah County, including the cities of Gresham, Fairview, Portland, and Troutdale, and other East County communities.

5.3.6.5 Emergency Services

- Portland Fire and Rescue Station 1 is located at 55 SW Ash Street, adjacent to Ankeny Plaza. This station provides emergency response services within the Central City on both the west and east sides of the Burnside Bridge.
- Portland Police Bureau – Central Precinct is located at 1111 SW 2nd Avenue, adjacent to the Multnomah County Justice Center.
- Portland Fire and Rescue Station 21 at 5 SE Madison Street serves the east bank under the east side of the bridge along the Willamette River.
- American Medical Response is a private provider of ambulance services and is located within the Project Area adjacent to the east side of the Burnside Bridge at 1 SE 2nd Avenue. This location includes a call center where ambulances (staged around the city) are dispatched for emergency response.

Discussion of emergency services in this report is limited to this section. Further discussion of the emergency service providers listed above, as well as additional details regarding Project impacts, is provided in the EQRB Public Services Technical Report (Multnomah County 2021k).

5.3.6.6 Other Gathering Places and Events

The west side of the Project Area has several non-traditional gathering places including Floyd's Coffee Shop, Subway (24-hour restaurant), and the restaurants along and near Ankeny Alley which feature outdoor seating. These gathering places are used by a wide diversity of people in Portland, both residents and visitors, and are popular congregation spots for city tours, business meetings, and home to several famous local retail businesses (e.g., Voodoo Donuts).

The west side of the Project Area is also home to the "entertainment district," a concentration of music venues, dance clubs, bars, and other late-night venues. The entertainment district is especially well frequented in the evenings by visitors to the city, many staying in nearby downtown hotels. The district is also the central point in the city for entertainment gatherings that support and welcome members of the LGBT+ community. Several bars and dance clubs within the entertainment district provide supportive and scheduled events for these communities on a regular basis.

PSM is a crafts fair that occurs every weekend (and weekday evenings during the winter holidays) under the west side of the Burnside Bridge within Waterfront Park (between the Willamette River and SW Naito Parkway). The market is famed for crafts and food options, and visiting the market is a frequent event for both residents of and visitors to the region. The Ankeny Market occurs simultaneously in Ankeny Plaza (between SW Naito Parkway and SW 1st Avenue) and is functionally an extension of the Saturday Market.

Given the urban nature of the Central City, there are multiple other well-known gathering places within the API, including such iconic locations as Powell's Books and the park blocks. These gathering places are outside the Project Area are not discussed further in this report as they are considered to be too distant from the Burnside Bridge to be potentially impacted by the Project.

5.3.7 Environmental Justice Summary

Based on the population and income characteristics discussed earlier in this section, the API as a whole is considered to contain a high percentage of environmental justice populations, particularly low-income populations, when compared to the reference geography, Multnomah County. Additionally, residential areas nearest to the Burnside Bridge on the south and east of the bridge contain the highest concentrations of environmental justice populations in the API. These assumptions are based on census data, which may not accurately capture houseless persons in the API. Additional information is provided above in Section 5.3.3 and in the EQRB Environmental Justice Technical Report (Multnomah County 2021g).

6 Impact Assessment Methodology and Data Sources

The impacts analysis addresses the direct long-term, direct short-term, indirect, and cumulative social/neighborhood impacts of the Project Alternatives, including the No-Build Alternative.

6.1 Long-Term Impact Assessment Methods

The analysis of direct long-term social/neighborhood impacts considers findings from the following technical reports for the EIS:

- Displacements and relocations
- Air quality
- Land use and economics
- Noise and vibration
- Historic, archaeological, and cultural resources
- Public services and utilities
- Parks and recreation
- Hazardous materials
- Transportation
- Visual

The analysis discusses beneficial and adverse effects to neighborhoods as a result of each Project Alternative (including the No-Build Alternative) and associated changes (from other sections of the EIS) that could affect neighborhoods. Taken together, these effects are used to determine if there are permanent or long-term direct impacts to the following factors:

- Neighborhood cohesion – Factors that relate to a sense of community or social interaction within a neighborhood, such as the following:
    - Significant changes to the traffic circulation system, including pedestrian and other nonmotorized access.
    - Creation or removal of barriers within or between the neighborhood and other neighborhoods.

  - Impacts of displacement, including of residents, businesses, parks (including open spaces, trails, recreational opportunities), and public or nonprofit institutions.

- Neighborhood quality of life – Factors that relate to the satisfaction residents derive from living in the neighborhood, such as aesthetics; noise; vibration; transportation convenience; proximity to key services and gathering places such as parks, plazas, trails, and recreation; perceived safety and security; and the preservation and/or acknowledgement of historical communities which could be impacted by a large-scale transportation project.
- Community facilities – Factors that affect access to community facilities, such as physical displacement of a facility or long-term changes in transportation access, or noise and vibration impacts that reduce its utility. Community facilities may include but are not limited to the following: parks, trails, schools, libraries, community centers, healthcare facilities, and affordable housing. Outreach efforts include a brief pedestrian survey conducted within the API to further identify community facilities, services, and places that are culturally specific and/or of cultural importance to communities of color and immigrant and refugee communities.
- Social service providers – Groups and facilities that provide support to sensitive populations, including support to unhoused and transitional housing populations, as well as to individuals in recovery programs within the API, that may be impacted by the Project.

This technical report includes a summary of the relevant findings of the environmental justice analysis, which considers impacts and benefits affecting low-income and minority populations, as well as evaluates whether the Project may affect environmental justice populations differently or more severely than the general population. This environmental justice summary identifies if the Project Alternatives would result in notable differences in their respective levels of social/neighborhood impacts on specific community groups.

6.2 Short-Term Impact Assessment Methods

The analysis of direct short-term social/neighborhood impacts includes similar evaluations of impacts on community cohesion, quality of life, community facilities, and social service providers as are addressed in determining long-term impacts, but is focused on potential impacts during construction of each Build Alternative. Specifically, the analysis considers potential short-term impacts on the following factors:

- Neighborhood cohesion – Factors that relate to a sense of community or social interaction within a neighborhood, such as the following examples:
  - Temporary changes or impacts to the traffic circulation system, including pedestrian and other nonmotorized access during construction of each Alternative.
  - Temporary creation or removal of barriers within or between the neighborhood and other neighborhoods during construction of each Alternative.
  - Temporary impacts of displacement, including residents, businesses, and public or nonprofit institutions during construction of each Alternative.

- Neighborhood quality of life – Temporary impacts during construction of each Alternative that could affect the satisfaction residents derive from living in the neighborhood, such as aesthetics, noise, vibration, transportation convenience, proximity to key services, and perceived safety and security.
- Community facilities – Temporary impacts during construction that could affect access to community facilities, such as physical displacement of a facility or temporary changes in transportation access, or noise and vibration impacts that would reduce its utility.
- Social service providers – Temporary impacts that would prevent or make difficult the provision of support services to vulnerable populations during construction.

6.3 Indirect Impact Assessment Methods

The discussion of direct short-term and long-term impacts for social/neighborhoods by nature incorporates an evaluation of indirect impacts for neighborhoods related to other technical report topic areas (traffic, noise, displacement). The analysis of indirect impacts for the social/neighborhoods technical report focuses on potential indirect effects to neighborhoods over time, such as those related to the indirect effects of utility and roadway upgrades in the Project Area that could incentivize further development (and neighborhood impacts) in the Project vicinity.

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 in 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 was conducted for social/neighborhood impacts. The analysis of potential cumulative social/neighborhood impacts focuses on effects to neighborhoods in the short term, such as those related to the combined effects of the construction of multiple development and transportation projects, as well as long-term changes to neighborhood cohesion and quality of life from cumulative development in the Project vicinity.

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

A summary of permanent property acquisitions, easements and displacements for all Build Alternatives is shown below in Table 6. The relevance of these property impacts to the social and neighborhood context is discussed for each Alternative in the sections that follow.

Table 6. Impacted Properties – Long Term

ID	Tax Lot ID	Property Name	Retrofit	Short-span Alternative	Long-Span Alternative	Couch Extension
3	1N1E34DB-01500	Portland Saturday Market Storage (City of Portland)	Easement	Easement	Easement	Easement
4	1N1E34DB-01400	University of Oregon Retail Space (City of Portland)	Full	Full	Full	Full
5	1N1E34DC-00800	Saturday Market Administration Offices (Skidmore Fountain Plaza, LLC)	Full* (1)	Full* (1)	Full* (1)	Full* (1)
12	1N1E34DB-01300	Japanese American Historical Plaza (City of Portland)	Easement	Easement	-	Easement
13	1N1E34DC-03600	Ankeny Plaza Structure (City of Portland)	Easement	Easement	-	Easement

Full = Full Acquisition | Partial = Partial Acquisition | Easement = Permanent Easement

* Saturday Market would be permanently displaced from their administration offices but would only be temporarily displaced from their market location on the waterfront.

(1) A single permanent displacement has been tallied for this business.

7.2.1 No-Build Alternative

The No-Build Alternative assumes that all other programmed and planned projects move forward, but that the Burnside Bridge—lacking a major retrofit or replacement—would remain seismically vulnerable. It includes future projects and land use changes that are anticipated in adopted transportation and land use plans. It also anticipates population and employment growth consistent with regional forecasts, and other documented major trends, such as a changing climate. The No-Build transportation network is based on the existing network plus changes included in the Regional Transportation Plan and the Central City in Motion Plan.

Under pre-earthquake conditions, the No-Build Alternative would not acquire any properties, and thus would not directly displace any residents, businesses, or community facilities. Overall, cohesion within the study neighborhoods would remain relatively similar to today, with some localized changes over time as residents and businesses relocate for other reasons. Neighborhood cohesion, quality of life, community facilities, and social service providers would continue to exist as they are today. No

disproportionate impacts to low-income and minority populations are anticipated under the No-Build Alternative.

In addition, 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 community gathering locations, community facilities, and social service providers, 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, but as the bridge ages and maintenance needs become more frequent and/or widespread, that may not be possible. Some events could potentially be canceled or rescheduled, including those that rely on ship mooring access along Waterfront Park during maintenance activities.

7.2.2 Enhanced Seismic Retrofit Alternative

The Retrofit Alternative would update the existing bridge, replacing major components required to meet seismic design criteria. Bridge footings and bents would be replaced in their current positions. The horizontal profile of the bridge would be modified slightly to provide additional separation from existing buildings, but the appearance of the bridge would be very similar to what exists today.

Direct

Neighborhood Cohesion and Quality of Life

The bridge capacity and modal use is not proposed to change, and the Project would not provide any new connections that would likely alter existing travel patterns (and hence long-term noise impacts). Additionally, because a bridge structure is already present in this area, the Build Alternatives that do not substantially change the form of the bridge (Retrofit, Short-span, and Long-span) are not anticipated to visually alter the setting of the neighborhood.

This Alternative includes some improvements to road geometry at the west approach of the bridge, as well as at intersections within the API. In addition, all Build Alternatives would replace the existing stairs from the south side of the Burnside Bridge to the Eastbank Esplanade with a bike, pedestrian, and ADA-compliant ramp connecting the bridge to the Esplanade. The ramp, currently configured as an eastbound right-in/right-out facility, would improve the safety, access, and convenience for users traveling eastbound to the ramp or from the ramp to eastside neighborhoods. However, the ramp would impact shallow-water habitat, impact the river shoreline, and potentially remove more than a dozen trees. To avoid these impacts, the Project is also considering replacing the existing stairs with new stairs, and potentially adding an elevator. The long-term impact for the Esplanade is that a bike and pedestrian connection would remain. Impacts to natural resources and permitting implications for an expanded structure are considered in the EQRB Vegetation, Wildlife, and Aquatic Species (Multnomah County 2021m) and EQRB Land Use (Multnomah County 2021h) Technical Reports. Additional information about the alternatives assessed may be found in the EQRB Description of Alternatives Report (Multnomah County 2021d).

To some extent, neighborhoods in the API are fragmented by individuals with physical or mental impairments and transient populations that may affect cohesiveness as an existing condition. Given the demographic information presented in Section 5, the proposed enhancements are unifying features that would improve connections among individuals living in and traveling through the area. Bicycle and pedestrian improvements are expected to result in greater cyclist and pedestrian comfort, which in turn would promote the use of these modes of travel and would provide the opportunity for improved connections throughout these neighborhoods. These benefits would particularly affect younger, able-bodied residents who use active forms of transportation and low-income individuals who may not always be able to pay for vehicle or transit use. Similarly, the addition of ADA-compliant facilities would support movement of disabled and elderly residents. Combined, these elements would promote interactions between these populations and across neighborhood boundaries, further integrating these groups. It is anticipated that the proposed improvements could have a more positive impact on social interaction than would occur under No-Build conditions.

Community Facilities and Social Service Providers

Under pre-earthquake conditions, all Build Alternatives would require a full acquisition at the retail space that is currently being leased by the University of Oregon and the PSM administration offices. Both facilities would be permanently displaced from their current locations. It is not anticipated that the permanent relocation of these facilities would alter social interactions, cohesion, or the overall character of the neighborhood. The PSM would only be temporarily displaced from its market location on the waterfront (temporary impacts are described further in Section 7.4).

PSM indicated that its office space requirements are relatively small and could be potentially accommodated through a lease agreement with another organization in the area; however, PSM also needs storage space for vendor equipment, which is currently leased from Portland Parks & Recreation (PP&R). While the impacts on PSM administration are anticipated to be minor, finding suitable storage near the area where the market takes place could be challenging. If the PSM relocation is not within PP&R's properties, it would have an impact on PP&R revenues (economic impacts are discussed further in the EQRB Economic Impacts Technical Report [Multnomah County 2021f]).

Underground permanent easements for bridge column foundations would be required within the Japanese American Historical Plaza and the Ankeny Plaza Structure under all the Build Alternatives except the Long-span Alternative; it is not anticipated that these facilities would be permanently adversely impacted by any of the Build Alternatives.

Under the Retrofit Alternative, the Burnside Skatepark would be demolished during construction. Due to the increase in bridge support size and full demolition of the original skatepark, it has been determined that the skatepark could not be rebuilt under a retrofitted Burnside Bridge. Demolition of the skatepark would result in a reduction of skateboard users in the area, which would likely disrupt the existing character of the community. The long-term historic impacts of this action are discussed further in the EQRB Cultural Resources Technical Report (Multnomah County 2021c) and the Draft Section 4(f) Analysis (it is not a public park but is considered a Section 4(f) resource due to its historic significance) (Multnomah County 2021e). This construction-related impact is further discussed in Section 7.4.

Indirect

Neighborhoods and community resources can experience indirect effects from public infrastructure projects when those projects change the demand for community facilities and social service providers in some way. This could mean increased or decreased neighborhood cohesion and quality of life for residents. Indirect effects could also result from changes to the setting of the neighborhood 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.

The Retrofit Alternative assumes regular maintenance would continue to occur on the bridge after the retrofit is complete. Maintenance with this Alternative is expected to be more frequent and widespread than with the Replacement Alternatives. In some cases, maintenance work would occur over and adjacent to gathering spaces such as Waterfront Park, the Eastbank Esplanade, and Burnside Skatepark, and could require temporary access restrictions to ensure recreation user safety. Canceled events due to maintenance work would prohibit people from the greater Portland area from gathering and connecting in these areas. In general, agencies could 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. Neighborhood events could need to be canceled or rescheduled, which could further alter the cohesion and quality of life for those who live in the area, as well as those visiting from outside the API.

Recent City of Portland and Metro plans recognize the API as part of the Central City business and cultural hub, with plans for intensive development for housing and employment.[4] The plans also recognize Burnside Street as a major arterial within the regional motor vehicle network, an enhanced transit corridor, and a bicycle and pedestrian pathway. All of the Build Alternatives would protect any new development in the area and they would preserve Burnside Street as an emergency corridor during and after an earthquake event, allowing for more effective emergency response when compared to the No-Build Alternative.

7.2.3 Replacement Alternative with Short-Span Approach

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. This Alternative would replace the existing bridge with a bridge with the same connection to W Burnside from the west approach and only slightly modified connections to NE Couch Street and E Burnside from the east approach.

[4] Relevant planning documents in question include Metro Regional Transportation Plan (RTP) (2018), Central City 2035 Plan, and City of Portland 2035 Comprehensive Plan/Transportation System Plan, Metro 2040 Growth Concept.

Direct

Neighborhood Cohesion and Quality of Life

The Short-span Alternative would have similar effects on social interaction, quality of life, and social cohesion as the Enhanced Retrofit Alternative with the following difference:

Under the Short-span Alternative, there would be three fewer pier locations within Waterfront Park compared with the Retrofit Alternative (see the EQRB Parks and Recreation Technical Report [Multnomah County 2021j] for additional details). 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, a portion of the Willamette River Greenway Trail, and as a space for weekly Night Strike gatherings. Having fewer bridge supports in this location would facilitate more convenient access to the space for all of these uses in the future.

Community Facilities and Social Service Providers

The Short-span Alternative would require permanent acquisitions and easements identical to those required for the Retrofit Alternative. The effects of these acquisitions would be the same as described under the Retrofit Alternative.

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. The number of skateboard users in the area would remain unchanged after construction, and the existing character of this part of the neighborhood would remain intact. Construction impacts affecting the Burnside Skatepark are discussed in Section 7.4.

Additional details regarding specific resources are provided in the EQRB Environmental Justice (Multnomah County 2021g) and EQRB Parks and Recreation (Multnomah County 2021j) Technical Reports.

Indirect

The Short-span Alternative is anticipated to have the same indirect impacts as described for the Retrofit Alternative with one exception pertaining to maintenance needs. The Replacement Alternatives are expected to have lower frequency and extent of long-term maintenance over time and would, therefore, have comparatively less maintenance-related noise and access effects on neighborhood resources under and near the Burnside Bridge than with the Retrofit Alternative. Because of this, the Replacement Alternatives are not as likely to negatively affect individuals sensitive to noise and other maintenance-related activities as would the Retrofit Alternative.

7.2.4 Replacement Alternative with Long-Span Approach

The Long-span Alternative would have the same east and west connections as the Short-span Alternative. The Long-span Alternative would combine some of the spans used in the Short-span Alternative resulting in elimination of a pier/bent in Waterfront Park, elimination of an in-water pier/bent near the eastern shoreline of the Willamette

River, and elimination of two sets of upland bents on the east side of the river, west of 2nd Avenue.

Direct

Neighborhood Cohesion and Quality of Life

Compared to the Short-span Alternative, the Long-span Alternative removes an additional support location in Waterfront Park, such that there would only be one bridge support within the park at its western property boundary, along Naito Parkway. Direct impacts to the Eastbank Esplanade are the same as with the Short-span Alternative, except that 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. The lack of bridge columns at this location would lead to a more open feeling for users on the Esplanade. This would result in even more space for activities to be hosted by social services and neighborhood organizations under the bridge, facilitating increased foot-traffic in the area in addition to the benefits described in Section 7.2.2.

Community Facilities and Social Service Providers

The Long-span Alternative would require the same permanent acquisitions and easements as those required for the Short-span Alternative, except that neither the Japanese American Historical Plaza nor the Ankeny Plaza Structure would require permanent easements nor be permanently impacted by this Alternative.

Direct impacts to the other community facilities and social service providers are anticipated to be the same as described under the Short-span Alternative.

Indirect

Like the Short-span Alternative, the Long-span Alternative is expected to have less frequent and less intensive long-term maintenance because it is a fully replaced structure. It would result in less maintenance-related noise and access effects on social services under and near the Burnside Bridge than with the Retrofit Alternative.

7.2.5 Replacement Alternative with Couch Extension

The Couch Extension, like the Short-span and Long-span Alternatives, would require completely removing and replacing the existing bridge structure. Under this Alternative, the new bridge would follow the existing alignment at the west bridgehead but would split before the east bridgehead with separate approaches for NE Couch Street (westbound) and E Burnside Street (eastbound). The approach to NE Couch Street at the east bridgehead would pass through and eliminate the existing pedestrian and bike right-of-way between the Yard and the Eastside Exchange Building between SE 2nd and SE 3rd Avenues.

Direct

Neighborhood Cohesion and Quality of Life

Under this Alternative, the existing pedestrian and bike facility on the Couch Street alignment between NE 3rd Avenue and Couch Street would be removed to accommodate the extension of the Couch Street couplet. Bike and pedestrian traffic would be re-routed along NE 3rd Avenue to NE Davis Street and/or SE Ankeny Street and onto Martin Luther King Jr. Boulevard to access the Burnside Bridge. This would result in an additional 0.15 mile of out-of-distance travel for pedestrians and bicyclists and require:

- Improvements to the ramps at the 3rd Avenue and Martin Luther King Jr. Boulevard intersections with SE Ankeny Street and NE Davis Street to ensure ADA-accessible routes to the Burnside Bridge.
- Bike traffic going to the bridge to be re-routed along NE 3rd Avenue to NE Davis Street and then to a southbound protected bike lane in place of approximately five on-street parking spaces on the west side of NE Martin Luther King Jr. Boulevard between NE Davis Street and NE Couch Street.

The resulting out-of-distance travel for pedestrians could have a potential impact on low-income, minority, and/or unhoused individuals living or working in the area, especially those with disabilities, who may be disproportionately burdened by transit fares or are less likely to have access to a personal vehicle or bicycle. This would make it more difficult for these individuals to access the services provided by the social and community service providers in the API. The loss of the on-street parking spaces would not take away from the character of the neighborhood, nor would it inhibit quality of life for residents or visitors as on-street parking is available on adjacent streets.

Community Facilities and Social Service Providers

The Couch Extension would require permanent acquisitions and easements to community facilities and social service providers identical to those required for the Short-span Alternative.

Indirect

Indirect impacts to social and neighborhood 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 the EQRB Description of Alternatives (Multnomah County 2021d) and the EQRB Parks and Recreation (Multnomah County 2021j) Technical Reports for more information). 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. The Long-span Alternative would have the fewest piers in this area. Therefore, impacts to users of this area would be similar to what is described under the Retrofit and Short-span Alternatives.

7.3 Post-Earthquake Impacts

7.3.1 No-Build Alternative

A major CSZ earthquake would affect buildings, bridges, and other infrastructure not built to CSZ seismic standards. The Burnside Bridge is not rated for a CSZ earthquake and is anticipated to collapse, resulting in further damage to the surrounding transportation infrastructure and buildings.

The immediate effects of a CSZ earthquake would likely include severe damage to, and potential collapse of, several unreinforced masonry buildings at the west bridgehead, independent of the bridge collapse itself. Without definitive engineering studies showing otherwise, this damage state is assumed to apply to the PSM administration offices (Map ID 5), the Salvation Army building at the corner of SW 2nd Avenue (Map ID 6) and W Burnside Street, and the Central City Concern Shoreline Building at NW 2nd Street and W Burnside Street (Map ID 1). There are no social services housed in unreinforced masonry buildings directly adjacent to the east bridgehead.

In addition to building damage from shaking alone, a CSZ earthquake would be anticipated to result in the collapse of the Burnside Bridge onto the buildings below. At the west bridgehead, this collapse would likely result in severe impact to the properties below the west bridgehead (Map IDs 3 and 4), the Ankeny Plaza Structure (Map ID 13), and Tom McCall Waterfront Park. At the east bridgehead, the bridge would likely fall onto I-84, I-5, and the Union Pacific Railroad right-of-way.

The damage state for these buildings would result in the direct displacement of four businesses that provide social or community services. Table 7 and Table 8 below list social services potentially directly affected by the bridge collapse under the No-Build Alternative. This list does not include properties outside of the bridgeheads which would have shared impacts across all Build Alternatives and the No-Build.

Table 7. Social Services and Community Resources Potentially Affected by Bridge Collapse During and After a CSZ Earthquake Under No-Build Conditions

ID	Tax Lot ID	Property Name	Reason for Collapse	Businesses Displaced
1	1N1E34CA-09200	Central City Concern (Shoreline Building)	Shaking	1
3	1N1E34DB-01400	University of Oregon Retail Space (City of Portland)	Bridge Collapse	1
4	1N1E34DB-01500	Portland Saturday Market Storage (City of Portland)	Bridge Collapse	-
5	1N1E34DC-00800	Saturday Market Administration Offices (Skidmore Fountain Plaza, LLC)	Shaking	1
6	1N1E34CD-00300	Salvation Army	Shaking	1
13	1N1E34DC-03600	Ankeny Plaza Structure (City of Portland)	Bridge Collapse	-

Table 8. Social Services and Community Resources Potentially Affected by Bridge Sway During and After a CSZ Earthquake Under No-Build Conditions

ID	Tax Lot ID	Property Name	Number of Businesses
2	1N1E34DB-00900	Portland Rescue Mission	1
10	1N1E34DB-00600	University of Oregon (White Stag Building)	9
11	1N1E34DC -90000	Mercy Corps	1

Buildings that house social services and other community resources adjacent to the bridge could be impacted from the bridge swaying as well. These properties, which have the potential to withstand the earthquake and bridge collapse, are listed in Table 8.

In the weeks, months, and potentially years following a CSZ earthquake, access to community facilities and social services near the bridgehead from both E and W Burnside Street would be closed. Access to some businesses on 2nd Avenue and 3rd Avenue below the east bridgehead, and Naito Parkway and 1st Avenue below the west bridgehead, would be lost due to the bridge's collapse.

The collapse of the Central City Concern and Salvation Army buildings would result in a significant adverse impact to unhoused populations within the API and surrounding region. Central City Concern serves over 13,000 individuals annually, providing direct, 24-hour, 7 days per week social services including healthcare, recovery, and employment assistance.

Considering the demographics of the area and the concentration of social and health service providers near the bridgeheads, post-earthquake impacts are expected to be severe. The potential loss of social services would have a disproportionate impact on the quality of life for many local residents and housed individuals who use these services.

For details of the access and other transportation-related conditions and impacts of the No-Build Alternative post-earthquake, see the EQRB Transportation Technical Report (Multnomah County 2021l). For additional details on the effects to sensitive populations and uses post-earthquake, see the EQRB Land Use (Multnomah County 2021h), EQRB Public Services (Multnomah County 2021k), and the EQRB Environmental Justice (Multnomah County 2021g) Technical Reports.

7.3.2 Enhanced Seismic Retrofit Alternative

Direct

An earthquake-resilient Burnside Bridge would strengthen Portland's transportation network by providing a crossing over the Willamette River that is expected to stand and be usable after a major earthquake. Immediately after an earthquake, it is expected that cross-river travel times would be delayed for residents in the API as use of the bridge would be limited to emergency responders. While the duration the Burnside Bridge would be the only river crossing available is unknown, crowded conditions could extend travel

times between neighborhoods on the east and west sides of the bridge once emergency response is complete and the bridge is open to private vehicle traffic, which would inconvenience travelers in the area who regularly cross the bridge.

As compared with the existing bridge, long-term effects of an earthquake-resilient bridge would experience no or reduced bridge damage, have reduced restoration costs, avoid or reduce fatalities and injuries to people who were on or around the bridge during the earthquake event, reduce transportation disruptions, and ultimately speed up the recovery process for the entire region. Furthermore, over the last several years, the east side of the Burnside Bridge has been undergoing extensive redevelopment with construction of new residential, office, and mixed-use multi-story buildings. An earthquake-resilient Burnside Bridge could further increase the attractiveness of potential development and redevelopment sites in the API, as those locations would suffer relatively small disruptions in transportation connectivity after an earthquake. The EQRB Project could thus encourage or accelerate development and redevelopment projects in the vicinity of the bridge. With intensive new development there is also a risk of gentrification and a loss of affordable housing stock which would have a significant negative impact on current residents given the relatively large share of the population near the bridge is below the poverty line.[5]

Compared with the No-Build Alternative, the bridge under the Retrofit Alternative would not fall onto Waterfront Park, the Eastbank Esplanade, or the Burnside Skatepark and would not block north-south trails that are parts of these resources. This would result in less loss of life within the neighborhoods in the area of the bridge during the seismic event, and less need for reconstruction and debris removal immediately after the event, as compared with the No-Build Alternative.

Under this Alternative, the PSM administration office at the west bridgehead would have already been displaced during construction and, therefore, would not be affected at the time of the earthquake. Having already been relocated, employees and other users of this business could potentially be saved from major injuries or casualty from the collapsing buildings within the API if they are relocated to a seismically sound building elsewhere.

Compared with the No-Build Alternative, the Retrofit Alternative would reduce impacts to adjacent social service properties and neighborhoods, as the seismically retrofitted bridge would not be expected to sway or collapse into the adjacent buildings identified in Table 7 and Table 8. The reduction of bridge movement with this Alternative in place would also provide a better likelihood that access along W and E Burnside Streets at the bridgeheads would be maintained.

Long term, the Retrofit Alternative would reduce cleanup associated with bridge and building collapse and allow faster access to businesses and residences, thereby reducing displacements as compared with the No-Build Alternative. A retrofitted bridge is expected to benefit the neighborhoods and communities surrounding the bridge in the API.

[5] Refer to Section 5.3.5 and Table 5. As an example, nearly 50 percent of population in census tract 106 are below the poverty line.

Indirect

Following the CSZ earthquake, the constructed Retrofit Alternative would remain standing and not only provide access across the river, but also reduce cleanup and collateral damage associated with a bridge collapse. This reduction would be notable in Tom McCall Waterfront Park which would be undamaged and could be used for staging emergency resources or for emergency vehicle access.

As emergency response gives way to long-term recovery efforts, the Burnside Bridge could continue to provide the only downtown crossing for movement of materials and personnel engaged in recovery and reconstruction of infrastructure, institutions, and other necessary facilities. Because the breadth of infrastructure damage and human casualties is uncertain, the breadth and duration of recovery from a CSZ earthquake are uncertain. However, research shows that seismically resilient transportation infrastructure, such as the proposed Burnside Bridge Build Alternatives, can benefit the long-term ability of a region to recover economically and socially after a major disaster. Retention of the Burnside Bridge after an earthquake event is critical in preserving cohesion, maintaining neighborhood interactions, and ultimately reestablishing normalcy.

7.3.3 Replacement Alternative with Short-Span Approach

Direct and indirect impacts resulting from the Short-span Alternative are expected to be similar to those for the Retrofit Alternative. The main difference is that while all Build Alternatives meet the Project's seismic design criteria, the Short-span Alternative, like all of the Replacement Alternatives, provides an even greater reduction in the potential risk of seismic damage than the Retrofit Alternative.

7.3.4 Replacement Alternative with Long-Span Approach

Among all Build Alternatives, the Long-span Option provides the highest reduction in potential risk because it clear-spans most of the soils that are likely to be subject to significant lateral spreading during a CSZ event.

7.3.5 Replacement Alternative with Couch Extension

Direct and indirect impacts resulting from the Couch Extension are expected to be very similar to those for the other Replacement Alternatives.

7.4 Construction Impacts

There would be common off-site construction staging areas for all Build Alternatives. At the current level of design, a final location for off-site staging has not been determined; however, none of the potential sites identified for construction staging is occupied by social services and no temporary displacements would be anticipated due to staging. A summary of temporary construction impacts is provided below in Table 9. Additional information regarding temporary construction impacts is provided below and in the EQRB Acquisitions and Displacements Technical Report (Multnomah County 2021a).

Table 9. Impacted Properties, Temporary

ID	Tax Lot ID	Property Name	Retrofit	Short-Span Alternative	Long-Span Alternative	Couch Extension
1	1N1E34CA-09200	Central City Concern (Shoreline Building)	-	TCE Access	TCE Access	TCE Access
2	1N1E34DB-0900	Portland Rescue Mission	TCE Access (1*)	TCE Access	TCE Access	TCE Access
6	1N1E34CD-00300	Salvation Army	-	TCE Access	TCE Access	TCE Access
10	1N1E34DB-00600	University of Oregon (White Stag Building)	TCE Access	TCE Access	TCE Access	TCE Access
11	1N1E34DC-90000	Mercy Corps	TCE	TCE	TCE	TCE
12	1N1E34DB-01300	Japanese American Historical Plaza (City of Portland)	TCE	TCE	TCE	TCE
13	1N1E34DC-03600	Ankeny Plaza Structure (City of Portland)	TCE	TCE	TCE	TCE
B	N/A	Eastbank Esplanade (City of Portland)	TCE	TCE	TCE	TCE

TCE = Temporary Construction Easement | TCE Access = TCE for access only.

The expected Project construction duration is 3.5 to 6 years, with the variation depending on the Alternative and whether or not a temporary detour bridge is included, as shown in Table 10.

Table 10. Estimated Duration of Construction

Alternative	Without Temporary Bridge (years)	With Temporary Bridge (years)
Enhanced Retrofit	3.5	5
Short-Span Alternative	4.5	6.5
Long-Span Alternative	4.5	6.5
Couch Extension	4.5	6.5

Source: EQRB Description of Alternatives Report (Multnomah County 2021d)

7.4.1 Without Temporary Bridge

Enhanced Seismic Retrofit Alternative

As outlined in the EQRB Description of Alternatives Report (Multnomah County 2021d), under the Retrofit scenario without the temporary bridge, the Burnside Bridge crossing would be closed for a period of 2 years during which all modes would have to use a detour route. For the purpose of this analysis, it was assumed that the construction-related closures of the Burnside Bridge crossing would begin in 2025.

The Burnside Bridge serves as a lifeline for those traveling through the Portland area and over the Willamette River. The need for a seismically resilient Burnside Street lifeline crossing here is crucial for providing a reliable crossing for emergency response, evacuation, and economic recovery after an earthquake. This is necessary to maintain community cohesion and quality of life.

Travel Times

AUTOMOBILE

A full closure of the Burnside Bridge during construction would displace approximately 35,000 daily vehicle trips over the Burnside Bridge and require those trips to shift to other routes and other modes. A full closure of the Burnside Bridge would displace 1,575 westbound vehicles in the AM peak hour and 1,700 eastbound vehicles in the PM peak hour. Travel times across the remaining bridges would likewise experience increases, some routes by as much as 40 percent. It is possible that the increase in motor vehicle delay could influence shifts to active transportation modes, resulting in an increase in daily bike volumes on the adjacent Steel and Morrison Bridges, especially by users that currently travel with a personal vehicle. Neighborhood and social impacts under the option without a temporary bridge would be greatest on automobile users.

TRANSIT AND ACTIVE TRANSPORTATION

Full closure of the Burnside Bridge would impact transit lines in the vicinity, which would experience service disruptions, including for the MAX Red and Blue Lines, as well as TriMet bus Lines 12, 19, and 20, which would be re-routed over the Steel Bridge. All Build Alternatives would impact MAX Red and Blue Line operations. The Retrofit Alternative would require approximately 8 weeks of closures, which is more than the 5 weeks of closures required by the Replacement Alternatives. Additional details regarding these closures are provided in the EQRB Description of Alternatives Report (Multnomah County 2021d).

Several bus stops serving bus lines 12, 19, and 20 would be closed, including the bus stops at NE Couch Street and Martin Luther King Jr. Boulevard (stop ID 13330), W Burnside Street just to the east of NW 1st Avenue on the bridge deck (stop ID 689), and the bus stop at W Burnside Street and SW 2nd Avenue (stop ID 9526). Bus routes would travel an additional 0.62 mile in the eastbound direction and 0.72 mile in the westbound direction due to the detours, almost doubling the length of the route between either end of the Burnside Bridge and more than doubling the travel time.

Pedestrian and bicycle activity would be impacted during periods where the Eastbank Esplanade and the Waterfront Trail are closed at the Burnside Bridge. Potential detour routes for active transportation users would add approximately 8 minutes for cyclists and 15 minutes for pedestrians, disproportionately impacting users with disabilities. Also, if there is no temporary bridge, active transportation users looking to cross the river would either switch modes or need to divert their trip to another bridge – most likely the Steel or Morrison Bridges. In terms of mode shift impacts, diverting active transportation is much more likely to result in people switching modes because they are under their own power and an additional mile biking or walking would cause many people to choose a mode that expends less energy and takes less time. Additional information regarding travel times

and detour routes is provided in the EQRB Transportation Technical Report (Multnomah County 2021l).

Access

Parking lots under the bridge on both sides of the river would have to be closed. In addition, on the east side, closures would be required for on-street parking along 2nd Avenue and 3rd Avenue north and south of Burnside Street. Loss of parking would cause inconvenience to motorists as they would have to find an alternative parking location.

Some parks, attractions, or events located/taking place near or under the bridge would close for the duration of construction. Key impacts are discussed below.

- Unhoused individuals who have established temporary residence under the Burnside Bridge would be displaced for the duration of construction. The number of individuals that would experience displacement is unknown; social service facilities would be accessible to those who use them throughout construction. Additional information pertaining to access to social services is provided in Section 8 below.
- On the east side of the bridge, construction of the Retrofit Alternative would demolish the existing Burnside Skatepark, and the larger bridge columns and foundations would preclude the skatepark from being rebuilt or reopening. Permanent closure of the skatepark would begin during construction causing a loss of enjoyment and recreational benefits to its users.
- The areas of Waterfront Park from under the bridge to the Japanese American Historical Plaza would likely be closed to the general public and used as construction staging areas. The greenspace would be cleared and covered with gravel to accommodate construction vehicle access and storage of materials. This closure would create an obstacle in the continuous flow of the Waterfront Park and trails on the west bank of the Willamette River. Users who access the park from areas around the Burnside Bridge would have to find alternative access points and recreation areas. Construction noise extending from the construction site may also make use of these areas less enjoyable than usual. This is likely to cause some reduction in the number of users and visitors and thus a loss of recreational benefits or reduction in recreational and enjoyment benefits to remaining users and visitors.
- Construction would likely disrupt the Rose Festival, an annual civic festival taking place in May and June involving a number of mainly outdoor events and activities such as parades and pageants, boat races, fairs, and shows. The Grand Floral Parade, one of the key events and attractions of the festival, has been using a route over the Burnside Bridge since the 1960s. The organizers of the parade would have to assess the available options such as a route over the Broadway Bridge that was used until the 1960s. Each year, over 400,000 people attend the Grand Floral Parade, and the festival is estimated to generate $65 million in business revenues across the Portland metropolitan region.[6] Reduction in the perceived attractiveness of the festival could reduce attendance.

[6] Portland Rose Festival 2018 Annual Report.

- Populations exposed to the noise from Project construction would include local residents, people working in the area, users of the recreational facilities in the area, and other visitors. Construction of the east approach could be of particular concern as it is in close proximity to apartment/office/mixed-use buildings near the east approach.

Willamette River recreation is expected to be impacted during construction. The impact these closures would have on the surrounding neighborhood could potentially result in less recreational river traffic through the area, temporarily altering the feel of the area. Additional details are outlined below.

- 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 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 during portions of the Project. 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 exactly 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 the Build Alternatives, with intermittent times of access restrictions.
- Except for temporary closures, Waterfront Trail would be accessible for passage beneath the Burnside Bridge. The experience of traveling on the trail and recreation 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.

Construction is expected to obstruct access/entry points to several buildings in the vicinity of bridge footprint for a period ranging from a few weeks to a few years. Additional details are outlined below.

- One of the main access doors to PRM from the sidewalk along W Burnside Street would be temporarily inaccessible for approximately 2 to 3 months. This door is necessary for fire egress. This would require temporary closure and relocation of PRM for 2 to 3 months during construction.
- PSM would have to be relocated from its current location for the duration of construction. It may be challenging to find an alternative suitable location. The current location has the advantages of being in a downtown tourist area, providing some protection against weather (partially located under the bridge), and having access to electricity and plumbing. PSM has over 300 fee-paying members and

generates gross sales of over $8 million annually.[7] Closure of PSM would then mean a loss of income for the participating vendors, as well as temporary loss of a city institution and tourist attraction.

- On the west side of the bridge, the Retrofit would temporarily obstruct pedestrian access to the Mercy Corps Condominium, a garage door at the University of Oregon White Stag, and two access points from the White Stag building to the bridge on the west side of the bridge. On the east side, construction would affect buildings located on the corner of 3rd Street and the south side of E Burnside Street. This is expected to cause inconvenience and confusion to people residing in the affected buildings or visiting the area.

Maintaining access to PRM and Central City Concern is of particular concern, as accessible pedestrian connectivity is vital for their clients. These organizations provide essential services to the unhoused in a geographic area of Portland that has many unsheltered people (see discussion and statistics in Section 5.3.6). PRM would be temporarily relocated for 2 to 3 months during construction due to its primary access being blocked. Access to Central City Concern's respective facilities would be maintained on Burnside Street; however, the No Temporary Bridge Option would make them more difficult to access from east of the river, as users from the east side would need to cross on a different bridge. See Section 8 for a discussion of options to maintain access during construction.

Noise, vibration, and air pollution from daytime construction activities could be causes of concern for people with disabilities living in Central City Concern and PRM housing, as well as elderly residents and unhoused individuals who may find it difficult to navigate through the area during construction. It is not clear to what extent construction would take place at night; however, these impacts could affect those visiting the entertainment district if construction occurs during nighttime hours. Please refer to the EQRB Noise and Vibration Technical Report (Multnomah County 2021i) for more information regarding noise.

Replacement Alternative with Short-Span Approach

As described in the above Enhanced Retrofit subsection, the Burnside Bridge serves as a lifeline for those traveling through Portland area and over the Willamette River, and a seismically resilient bridge is necessary to maintain community cohesion and quality of life. The duration to construct the Replacement Alternatives is longer than with the Retrofit Alternative, and the number of social service facilities impacted during construction is greater; therefore, the temporary impact to the surrounding neighborhoods from the Replacement Alternatives is generally higher than that of the Retrofit Alternative.

[7] Portland Saturday Market website, https://www.portlandsaturdaymarket.com/about/history/ (accessed December 2019).

Travel Times

AUTOMOBILE

Under this Alternative, travel delays per trip to all traveler groups affected by the closure of the Burnside Bridge crossing would be the same as under the Retrofit Alternative. However, the closure of the Burnside Bridge with the Short-span Alternative is estimated to be approximately 2 years longer than with the Retrofit Alternative, and the duration of construction is expected to be 1 year longer than with the Retrofit Alternative.

TRANSIT

All Replacement Alternatives would require closures of TriMet MAX operations in the area for a total of approximately 5 weeks, which is less than that required for the Retrofit Alternative. All other assumptions regarding transit under this Alternative are the same as described for the Retrofit Alternative. Additional details regarding these closures are provided in the EQRB Description of Alternatives Report (Multnomah County 2021d).

Access

The Eastbank Esplanade would be closed for up to 1.5 years (as opposed for up to 2.5 years under other Build Alternatives). The affected portion of Waterfront Park would be closed for 4.5 years, one year longer than with the Retrofit Alternative, during construction of the Short-span Alternative. Closure of PSM would also be shorter than under other Build Alternatives.

Unlike the Retrofit Alternative, the Replacement Alternatives are anticipated to affect access to the Salvation Army building, as well as access to the Central City Concern - Shoreline Building, which offers transitional housing, during construction. This may create confusion to residents and users of these facilities regarding perceptions of their closures, inconvenience, and longer walk times to alternate building access points. Unlike the Retrofit Alternative, none of the Replacement Alternatives would close access to the PRM or require relocation of its services during construction.

Replacement Alternative with Long-Span Approach

Travel Times

AUTOMOBILE

Under this Alternative, travel delays per trip to all traveler groups affected by the closure of the Burnside Bridge would be the same as under the Retrofit Alternative. However, like the Short-span Alternative closure time, the Long-span Alternative closure time of the Burnside Bridge is estimated to be approximately 2 years longer than under the Retrofit Alternative, and the duration of construction is expected to be 1 year longer than with the Retrofit Alternative.

TRANSIT

The assumptions regarding transit under this Alternative are the same as described for the Short-span Alternative.

Access

Impacts to community facilities and social services under the Long-span Alternative are expected to be similar to those under the Short-span Alternative.

Replacement Alternative with Couch Extension

Most of the construction-related disruptions for the Couch Extension are anticipated to be the same as for the other Replacement Alternatives. The Couch Extension would also affect access points to buildings located on 3rd Avenue between Burnside Street and Davis Street, and on Martin Luther King, Jr. Boulevard between Couch Street and Davis Street, causing additional inconvenience and longer walk times for pedestrians.

7.4.2 With Temporary Bridge

Enhanced Seismic Retrofit Alternative

Travel Times

AUTOMOBILE

Compared to the No-Build Alternative, a temporary bridge for all travel modes would be able to accommodate approximately two-thirds of existing vehicle trips over the Burnside Bridge, reducing the negative congestion impacts to other bridges crossing the Willamette River. Bridges other than the Burnside Bridge would still experience congestion increases, but the magnitude would be lower compared to the full closure option. Volume to capacity ratio increases (essentially, more vehicles using fewer lanes) would be around 2 to 3 percent, with the largest increases on the Morrison Bridge at 8 percent. Travel times across the Willamette River would increase, generally by between 5 and 15 percent. (See the EQRB Transportation Technical Report (Multnomah County 2021l) for more information.) This reflects increases that are generally half as much compared with a full closure.

TRANSIT AND ACTIVE TRANSPORTATION

Under the Temporary Bridge Option, TriMet bus lines 12, 19, and 20 would use the temporary bridge. Transit ridership and travel time information are presented below for both a temporary bridge allowing all traffic and a version that would only carry transit, bicycles, and pedestrians.

Transit lines in the vicinity would experience service disruptions, including the MAX Red and Blue Lines, as these lines pass under the Burnside Bridge along W 1st Avenue. All the Build Alternatives would impact MAX Red and Blue Line operations. For the Retrofit, with a temporary bridge, the total time of shutdown would be approximately 16 weeks.

Under the Temporary Bridge Option, there would be little impact on pedestrian travel conditions as compared to the option without a temporary bridge because a temporary bridge would reduce out-of-direction travel associated with full closure of the crossing. As a result, pedestrian volumes on the downtown bridges would be expected to be the same as during the base condition. Bicycle volumes are also expected to be similar to the base condition; however, similar to the option without a temporary bridge, it is possible that the increase in motor vehicle delay could influence shifts to active transportation modes,

resulting in an increase in daily bike volumes on the adjacent Steel and Morrison Bridges, especially by users that currently travel with a personal vehicle. Neighborhood and social impacts under the Temporary Bridge Option would have less of a disproportionate impact on individuals that normally travel in and through the neighborhood, especially for those individuals with disabilities.

The EQRB Transportation Technical Report (Multnomah County 2021l) provides additional details regarding the methodology and assumptions used to predict travel times.

Access

COMMUNITY FACILITIES AND SOCIAL SERVICE PROVIDERS

TCEs for construction of the Retrofit Alternative with a temporary bridge would be the same as for the Retrofit Alternative without a temporary bridge. In addition, the Temporary Bridge Options would increase some of the other construction-related disruptions compared to the No Temporary Bridge Options, as outlined below:

- There would be additional short-term closures to traffic on I-5, I-84, and Union Pacific Railroad tracks.
- Impacts on city streets would be approximately double those with no temporary bridge.
- For all the Alternatives except the Couch Extension, the Temporary Bridge Option would result in longer closures for PSM. It would also require up to two additional 2-week-long closures of the Willamette River, impacting opportunities for river recreation.
- This Alternative would also require permanent underground easements from two public parcels owned by the City of Portland: the Japanese American Historical Plaza and the Ankeny Plaza Structure. Permanent underground easements would be required at these two parcels due to the need for footings within Tom McCall Waterfront Park at the west bridgehead. These permanent underground easements would not impact cohesion, quality of life, or social interaction within the neighborhood.

Disruption costs in the form of travel time delays to facility users (transit users, motorists, pedestrians) and loss of recreational opportunities would be lower than with no temporary bridge. As with the Build Alternatives without a temporary bridge, the MAX Red and Blue Lines that pass under the Burnside Bridge along W 1st Avenue would experience service disruptions; however, because the temporary bridge would provide one travel lane in each direction across the Willamette River, TriMet bus lines 12, 19, and 20 would be able to continue their service in this area, effectively mitigating disruptions in access to services and amenities typically accessed by foot or by transit, such as the Salvation Army and Mercy Corps.

The Retrofit Alternative with the Temporary Bridge Option benefits PRM, since it could have access to the bridge during about 50 percent of the Project duration; however, PRM would be shut down completely for 2 to 3 months during construction. During the other 50 percent, the north side of the bridge near PRM would be closed.

Noise and vibration impacts would last longer due to a longer construction period than with the No Temporary Bridge option. Also, installation of the temporary bridge itself is expected to cause the highest level of construction noise. This means that people living, working, and visiting the area would be exposed to noise for a longer period of time and be potentially subject to its negative health impacts as discussed in the Health Impact Assessment.

Replacement Alternative with Short-Span Approach

Travel Times

AUTOMOBILE

Under the Short-span Alternative with a temporary bridge, travel delays per trip to all traveler groups affected by the closure of the Burnside Bridge crossing would be the same as under the Retrofit Alternative with a temporary bridge. However, the construction period for this option would take 4 years (as opposed to 2 years). This means that while the nature of the impacts described under the Retrofit Alternative with the Temporary Bridge Option would be the same, the duration of those impacts would be double.

TRANSIT AND ACTIVE TRANSPORTATION

Under the Short-span Alternative with a temporary bridge, travelers using transit and active transportation experience the same effects as under the Retrofit Alternative with a temporary bridge. However, for the Replacement Alternatives, with a temporary bridge, the total time of shutdown would be approximately 10 weeks.

Access

COMMUNITY FACILITIES AND SOCIAL SERVICE PROVIDERS

Impacts are expected to be the same as or similar to the Retrofit Alternative with the Temporary Bridge Option.

Replacement Alternative with Long-Span Approach

Impacts are expected to be the same as or similar to the other Replacement Alternatives with the Temporary Bridge Option.

Replacement Alternative with Couch Extension

Impacts are expected to be the same as or similar to the other Replacement Alternatives with the Temporary Bridge Option.

7.4.3 Potential Off-Site Staging Areas

The construction contractor could use one or more off-site staging areas outside the Project 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. Given this uncertainty,

detailed analysis of impacts is 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 any other site, it is assumed that because of regulatory and time constraints on the contractor, any site they choose would need to be already developed with road and river access. It is also assumed that the contractor would be responsible for relevant 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:

- Willamette Staging Option off Front Avenue
- USACE Portland Terminal 2
- Willamette Staging Option off Interstate Avenue
- Ross Island Sand and Gravel Site

Based on the four sample sites identified, the types of social/neighborhood impacts that could occur from off-site staging include the added area of Willamette River recreation boating restrictions. These could be limited to restriction 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. Like 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

Past and present projects and actions in the vicinity of the Burnside Bridge to which the EQRB Project could contribute cumulative effects to the neighborhood and its social dynamics include the following:

- Recent construction of new buildings at the Burnside Bridgehead at the eastside intersection of Burnside and the Willamette River (2014-2018). These include the Yard (formerly Block 67), a 21-story mixed-use tower constructed at 123 NE 3rd Avenue; The Fair-Haired Dumbell, two 6-story office buildings at 11 NE Martin Luther King, Jr. Boulevard; Aura Burnside, an apartment building at 77 NE Grand Avenue; and Slate (formerly Block 75), a 10-story mixed-use building at 111 NE Martin Luther King, Jr. Boulevard.
- The Burnside Bridge maintenance project, 2015–2019, included improvements and repairs to the main bridge span, approaches, and other elements.

- Ongoing construction in Block 76 West, a 5-story mixed-use building at 218 NE Couch Street, and 5 MLK, a mixed-use building at 5 SE Martin Luther King, Jr. Boulevard.
- The 2001 construction of the Vera Katz Esplanade and bicycle deck on the Steel Bridge, expanding area-wide pedestrian and bicycle network.

Reasonably foreseeable future projects and actions in the vicinity of the Burnside Bridge to which the EQRB Project could contribute cumulative effects include:

- I-5 Rose Quarter Improvements
- TriMet and Portland Streetcar service expansions
- Portland Harbor Superfund Site Remediation project
- Other City of Portland transportation projects (involving primarily lane reductions for expanding bike lane network and transit service capacity)

Together, the above lists yield varying long-term effects on community cohesion, social interaction, community gathering places and general quality of life. Improved roadways and transit infrastructure invite new development to the area, which in turn increases the number of new residents and visitors to the neighborhood. This results in an increased opportunity for interaction between people with differing backgrounds. From an equitability lens, this increases community cohesion and quality of life for both visitors and residents of the neighborhood and surrounding areas. Short-term cumulative effects of construction projects in the area would temporarily reduce community cohesion and quality of life in that it would potentially limit the number of person-to-person interactions and increase traffic congestion, but not in a way that is debilitating for the average person.

7.5.1 No-Build Alternative

As stated in Section 7.2.1, actions implemented under the No-Build Alternative would primarily involve construction maintenance and repairs to ensure that the bridge is fully operational. They would not generate any impacts to the surrounding neighborhoods or their respective community and social service facilities. It is unlikely that the No-Build Alternative would contribute to cumulative impacts with other projects.

7.5.2 Build Alternatives

Long-Term Cumulative Impacts

The Project with its upgraded bicycle and pedestrian paths on the bridge (in particular the Replacement Alternatives) and conversion of some on-bridge parking space into bicycle lanes would connect to the existing bike-pedestrian infrastructure and thus contribute to the expansion of Portland’s network of modern bike and pedestrian infrastructure that is more comfortable and safer to users. In the long term, this may contribute to further growth in use and increased mode shares for bicycle and pedestrian trips in the API.

All Build Alternatives – except for the Couch Extension – have essentially the same footprint as the existing Burnside Bridge. None is forecasted to have a long-term impact on traffic, or any substantial effects on future land use patterns.

As discussed in Section 7.4, the Couch Extension would require additional right-of-way, displace an established business on the east side of the Burnside Bridge, and change access points to some buildings which could combine with impacts from other unrelated projects in the future.

Short-Term Cumulative Impacts

As the introduction to Section 7.5 suggests, the east side of the Burnside Bridge is undergoing extensive redevelopment with the construction of new residential, office, and mixed-use multi-story buildings. In addition, the area has recently been or may still be subject to impacts of various road improvements and reconstruction projects.

To the extent that Project construction would occur concurrently with other projects, traffic disruptions due to detours, street closures, or lane reductions could cascade delays for auto and truck travel across the API, and the length of time over which disruptions are experienced could increase. This also applies to other construction-related disruptions such as construction noise, disruptions in access to businesses and residences, and right-of-way impacts. Noise, vibration, and air pollution from daytime construction activities could be causes of concern for people with disabilities living in Central City Concern and PRM housing, as well as elderly residents and houseless individuals who may find it difficult to navigate through the area during construction. It is not clear to what extent construction would take place at night; however, these impacts could affect those visiting the entertainment district if construction occurs during nighttime hours.

Combined impacts could come from the I-5 Rose Quarter Improvement project and short-term closures of one direction of I-5 during the same period as closures of the Burnside Bridge. Vehicles normally using I-5 would divert to some of the same routes as would traffic from the Burnside Bridge further increasing traffic congestion and travel times on those routes. Additional information regarding traffic is provided in the EQRB Transportation Technical Report (Multnomah County 2021l).

7.6 Compliance with Laws, Regulations, and Standards

7.6.1 No-Build Alternative

No social service properties, communities, or neighborhoods would be directly impacted by this Alternative; therefore, this Alternative is consistent with the laws and policies listed in Section 4 of this report.

7.6.2 Build Alternatives

Federal/State

Relocation of community facilities would follow guidelines and procedures outlined in 49 CFR Part 24, the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs.

Local/Regional

While the Build Alternatives would temporarily reduce accessibility to two educational public service facilities during construction, they would contribute to the overall resiliency goals outlined in the Central City 2035 Plan. All Build Alternatives are consistent with the Central City 2035 Plan since they would upgrade the bridge to be a “major emergency response route.” Should a major earthquake occur, the Burnside Bridge would provide crucial access across the river to aid emergency response services in supporting area-wide recovery, thereby decreasing the amount of time non-emergency public, social, and community services (educational, postal, religious, and waste disposal services) are unavailable.

In addition, the City-owned tax lot under the west end of the bridge off of SW 1st Avenue is currently leased to the University of Oregon as retail space. The City lease agreement includes a bridge maintenance clause, requiring existing tenants to vacate the area when the bridge needs to be maintained or reconstructed. As such, the Project complies with the laws regarding bridge maintenance and reconstruction in this area.

7.7 Conclusion

Under the No-Build Alternative, the Burnside Bridge is not expected to survive a major earthquake. The bridge would be seriously damaged or collapse, and the bridge debris would fall into the Willamette River and onto the roads below. This would likely result in severe disruptions to the transportation of people and goods, as well as to the communities and neighborhoods surrounding the Burnside Bridge. The majority of neighborhoods and social services considered in this report would have no direct long-term impacts.

The No-Build Alternative would not require property acquisitions or displacements; however, during and immediately following a major CSZ earthquake, properties under and adjacent to the Burnside Bridge would be impacted, causing extensive property damage and likely loss of life. Conversely, in post-earthquake scenarios, all the Build Alternatives are expected to greatly improve public safety and services during and after CSZ seismic events as compared to the No-Build Alternative. The addition of a temporary bridge to the respective Build Alternatives would not result in additional impacts to neighborhoods or social service facilities.

The No-Build Alternative would not require property acquisitions or displacements; however, during and immediately following a major CSZ earthquake, properties under and adjacent to the Burnside Bridge would be impacted, causing extensive property damage and likely loss of life. Destruction caused by a major earthquake would permanently change the ability for residents and visitors to travel through the downtown area. These effects would disproportionately affect the elderly, disabled, and houseless individuals, further inhibiting their ability to access social services. Conversely, in post-earthquake scenarios, all the Build Alternatives are expected to greatly improve public safety and services during and after earthquake seismic events as compared to the No-Build Alternative. The addition of a temporary bridge to the respective Build Alternatives would not result in additional impacts to neighborhoods or social service facilities.

All the Build Alternatives would permanently impact two components of PSM (a full acquisition at the PSM administration offices and a permanent easement at the PSM

storage location). In addition, all Build Alternatives would require full permanent acquisition of the retail space that is currently being leased by the University of Oregon. As a result, these facilities would be displaced by the Project; however, because these spaces are interior and not regularly used by the public, this impact would have a negligible effect on neighborhood cohesion. Under the Enhanced Retrofit Alternative, one of the main access doors to PRM from the sidewalk along W Burnside Street would be temporarily inaccessible for approximately 2 to 3 months, which would require closure and temporary relocation of PRM for 2 to 3 months during construction due to its primary access being blocked. In addition, permanent underground easements would be required at the Japanese American Historical Plaza and the Ankeny Plaza Structure under all the Build Alternatives except the Long-span Option; however, these impacts would not affect the social fabric of the neighborhood as the structures would be present during and after construction.

Under the Retrofit Alternative, the Burnside Skatepark would be demolished during construction. Due to the increase in bridge support size and full demolition of the original skatepark, it has been determined that the skatepark could not be rebuilt under a retrofitted Burnside Bridge. Demolition of the skatepark would result in a reduction of skateboard users in the area, which would likely disrupt the existing character of the community. Under the Replacement Alternatives, the Burnside Skatepark would not be demolished, remaining relatively unchanged but intermittently unavailable during construction.

All the Build Alternative options would require a TCE for the Mercy Corps building and the Eastbank Esplanade, and a TCE for access to the PRM, University of Oregon White Stag Building, and Mercy Corps. All the Replacement Alternatives would require a TCE for access to the Central City Concern - Shoreline Building and the Salvation Army. These construction impacts are temporary and are not expected to contribute to long-term changes in social cohesion or neighborhood quality of life. Mitigation would be developed for social service providers and their clients that are expected to experience access impacts.

Compared to the No-Build Alternative, all Build Alternatives are expected to greatly improve public safety and structure stability during and after seismic events. The Earthquake Ready Burnside Bridge would reduce the effects of the next CSZ earthquake through preparation via the creation of a seismically resilient transportation lifeline route. Such a lifeline route would facilitate post-earthquake emergency response, rescue, and evacuation, as well as enable post-disaster regional recovery and help prevent permanent population loss and long-term economic decline, not only in the neighborhoods adjacent to the Burnside Bridge, but also in the greater metropolitan Portland region.

8 Mitigation Measures

Proposed mitigation measures to address permanent and temporary impacts during construction were identified as part of this study. General mitigation measures applicable to all Build Alternatives are described below. Additional mitigation measures for impacts specific to each Build Alternative are described in the subsequent sections.

- Noise would be monitored 24 hours a day throughout the duration of the Project. It is possible that the loudest work could be completed during slow times (summer) to reduce impacts to the University of Oregon. Additional information regarding mitigation for these impacts is provided in the EQRB Noise and Vibration Technical Report (Multnomah Count 2021).
- Air filters, as well as air-conditioned spaces, could be provided for impacted residents and workspaces where opening a window is the only way to cool indoor spaces. Additional information regarding potential mitigation for dust and emissions during construction is described in the EQRB Air Quality Technical Report (Multnomah County 2021b).
- Mitigation measures for organizations that provide housing, including Central City Concern, PMR, and Mercy Corps, could include additional funding for counseling and outreach due to construction and its impacts on the vulnerable population it serves. Similarly, because construction noise and air pollution are causes of concern for people with disabilities, noise and air pollution should be considered from a trauma-informed approach. It is recommended that an advocacy group or hotline to answer questions be made available. In addition, resources for houseless people who live in the area under the bridge could be provided. Coordination with these organizations would be ongoing throughout the duration of the Project.
- Mitigation for impacts to community facilities, including parks and recreation resources, would primarily include returning them to their pre-construction or better condition. This includes a need for close coordination with all of the organizations listed in this report. The Project would need to follow PP&R landscape design guidelines and Bureau of Development Services mitigation requirements for work within the Greenway Overlay Zones.
- Multnomah County and agency partners are considering the provision of free or reduced-price transit tickets to offset the negative impacts of out-of-direction travel during construction. If Multnomah County and agency partners agree to provide this transit subsidy, it will be recorded in the Final EIS and will be counted as a beneficial mitigation measure to offset negative Project impacts on environmental justice and equity populations.
- The Burnside Skatepark, which would be partially demolished by the temporary bridge construction, would be rebuilt after Project construction was complete. Reconstruction would include close coordination with skatepark managers and City of Portland representatives. (the skatepark could not be rebuilt with the Retrofit Alternative).
- Restrictions regarding river use would be communicated with Oregon State Marine Board staff more than 30 days prior to the added restrictions being needed to allow them to develop the necessary regulations and notices.

Please refer to the EQRB Cultural Resources Technical Report (Multnomah County 2021c) for specific monitoring recommendations for sites with historic or cultural significance.

8.1 Enhanced Seismic Retrofit Alternative

One of the main access doors to PRM from the sidewalk along Burnside Street would be temporarily inaccessible for approximately three months. Mitigation could include the addition of an opening on the other side of the building as well as a temporary elevator; however, this may not be feasible given the interior building layout. Coordination with PRM would be ongoing throughout the duration of the Project. Temporary relocation of PRM services and functions may be required.

8.2 Replacement Alternative with Short-Span Approach

Waterfront Park would gain usable space underneath the bridge due to 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.

8.3 Replacement Alternative with Long-Span Approach

- Waterfront Park would gain usable space underneath the bridge due to 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.
- For the Long-span Option, it may be possible through construction methods to reduce the number of closures of I-5 and I-84, the duration of disruptions to the Burnside Skatepark, and the duration of Waterfront Park closure. Methods may include avoiding certain types of groundwork, and possibly performing some work with live traffic flowing.
- Construction of the Couch Street extension over 3rd Avenue to the waterfront would require more temporary street closures than the other Alternatives, and the extension would permanently close the courtyard between 3rd Avenue and 2nd Avenue that currently allows bicyclists to access the westbound bike lane over the bridge from 3rd Avenue. Mitigating this closure entails establishing an alternative route via a new bike lane that eliminates on-street parking on two block faces of 3rd Avenue, one block face of Davis Street, and one block face of Martin Luther King, Jr. Boulevard. All other mitigation for this Alternative would be the same as described under the other Replacement Alternatives.

8.4 Temporary Detour Bridge Option

- The Burnside Skatepark would be rebuilt with this Alternative (except when paired with the Retrofit Alternative). This mitigation would include close coordination with skatepark managers and City of Portland representatives.
- The Build Alternatives with a Temporary Bridge Option can partially mitigate travel delays and travel costs to traffic that normally uses the Burnside Bridge, although they cannot eliminate the delays entirely. The Temporary Bridge Option would retain a multimodal link for all individuals already using the Burnside Bridge, and would help

enhanced cross-river connections to social, health, and emergency response services on the west and east sides.

9 Contacts and Coordination

The analysis was conducted in conjunction with Multnomah County's public involvement and outreach effort for the Project. The effort included participation from neighborhood and community groups, property owners, residents, and other interested parties. Staff coordinated with and consulted local jurisdictions and other local social service agencies and groups to identify important community facilities and features, characterize key features of neighborhoods, and identify formal and informal networks serving community members.

Table 11. Neighborhood and Social Service Contacts and Coordination

Agency/Organization	Contacted (Yes/No/TBD)	Date(s) of Correspondence
Portland Bureau of Emergency Management	TBD	TBD
Portland Parks & Recreation	Yes	July 3, 2019 July 31, 2019 October 29, 2019 November 25, 2019
Portland Fire & Rescue	No	TBD
Portland Police Bureau	No	TBD
911 Bureau of Emergency Communications	TBD	TBD
Multnomah County Office of Emergency Management	TBD	TBD
University of Oregon	TBD	TBD
Portland Rescue Mission	Yes	July 17, 2019 January 15, 2020 January 23, 2020
Nikkei (Japanese American Museum of Oregon)	Yes	June 18, 2019 January 16, 2020
Portland Saturday Market	Yes	July 10, 2019 January 10, 2020
Burnside Skatepark	Yes	May 31, 2019 January 15, 2020
Rose Festival	Yes	July 18, 2019
Central City Concern	Yes	January 15, 2020

TBD = To be determined

10 Preparers

Name	Professional Affiliation	Education/Credentials	Years of Experience
Josh Channell, AICP	(formerly with) Parametrix	Master of Urban and Environmental Planning and Policy American Institute of Certified Planners	16
Justina Everhart	Parametrix	Environmental Planner; Master of Urban and Regional Planning	6
Sabrina Robinson	Parametrix	Environmental Planner	3

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2021b. EQRB Air Quality Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021c. EQRB Cultural Resources Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021d. EQRB Description of Alternatives Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

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

2021f. EQRB Economic Impacts Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021g. EQRB Environmental Justice Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021h. EQRB Land Use Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021i. EQRB Noise and Vibration Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021j. EQRB Parks and Recreation Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

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