DRAFT Equity Technical Report

February 2023

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Equity Technical Report

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ACRONYMS AND ABBREVIATIONS

BIPOC	Black, Indigenous, and People of Color
CRC	Columbia River Crossing
C-TRAN	Clark County Public Transit Benefit Area Authority
EAG	Equity Advisory Group
GIS	geographic information system
HCT	high-capacity transit
I-5	Interstate 5
IBR	Interstate Bridge Replacement
LPA	Locally Preferred Alternative
NEPA	National Environmental Policy Act
ROD	Record of Decision
RTC	Regional Transportation Council
SDEIS	supplemental draft environmental impact statement
SR	State Route
TriMet	Tri-County Metropolitan Transportation District
WSDOT	Washington State Department of Transportation

1. PROJECT OVERVIEW

1.1 Introduction

This technical report describes the analysis of the potential equity impacts (i.e., benefits and burdens) pertaining to the Interstate Bridge Replacement (IBR) program's Modified Locally Preferred Alternative (Modified LPA). The report supplements the IBR program environmental justice analysis by broadening the focus to communities beyond minority and low-income populations, consistent with the IBR definition of equity:

The IBR program defines equity in terms of both process and outcomes. Together, process equity and outcome equity contribute to addressing the harmful impacts of and removing longstanding injustices experienced by historically underserved communities.

Process Equity *means that the program centers and prioritizes access, influence, and decision-making power for equity priority communities throughout the program in establishing objectives, design, implementation, and evaluation of success.*

Outcome Equity *is the result of successful Process Equity and is demonstrated by tangible transportation, community, and economic benefits for equity priority communities.*

Equity priority communities are those who experience and/or have experienced discrimination and exclusion based on identity or status, such as:

- *Black, Indigenous, and People of Color*
- *People with disabilities*
- *Communities with limited English proficiency*
- *Persons with lower incomes*
- *Houseless individuals and families*
- *Immigrants and refugees*
- *Young people*
- *Older adults*

The objectives of this report are to:

- Define the project study area and the methods of data collection and evaluation used for the analysis (Chapter 2).
- Analyze potential benefits and burdens resulting from the construction and operation of the Modified LPA in comparison to the No-Build Alternative (Chapters 3 and 4).

The Modified LPA is a modification of the Locally Preferred Alternative for the Columbia River Crossing (CRC) project, which completed the National Environmental Policy Act (NEPA) process with a signed Record of Decision (ROD) in 2011 and two re-evaluations that were completed in 2012 and 2013. The

CRC project was discontinued in 2014. The IBR program's Supplemental Draft Environmental Impact Statement (SDEIS) is evaluating the effects of changes in project design since the CRC ROD, as well as changes in regulations, policy, and physical conditions.

Please refer to the separate IBR Program Description file on the portal for a description of the Modified LPA, Modified LPA Construction, and the No-Build Alternative. The IBR Program Description will be inserted into the final version of this technical report.

2. METHODS

This chapter describes the methods used to assess the potential equity impacts (benefits and burdens) resulting from the construction and operation of the Modified LPA. The scope of the analysis is broader than that of the required environmental justice analysis under NEPA, as IBR has made a commitment to the community to center equity beyond legal and statutory requirements. This work is consistent with Presidential Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, as well as through regional partner consensus to center equity throughout the program.

2.1 Defining Equity, Setting Objectives

In tandem with the IBR Equity Advisory Group (EAG), the program has adopted an equity framework[1] to guide the processes and desired outcomes in terms of furthering equity. At the core of the framework is a program-specific equity definition and six equity objectives, which together form the basis for the analysis presented in this report.

2.1.1 IBR Definition of Equity

The IBR program defines equity in terms of both process and outcomes. Together, process equity and outcome equity contribute to addressing the harmful impacts of and removing longstanding injustices experienced by historically underserved communities.

***Process Equity** means that the program centers and prioritizes access, influence, and decision-making power for equity priority communities throughout the program in establishing objectives, design, implementation, and evaluation of success.*

***Outcome Equity** is the result of successful Process Equity and is demonstrated by tangible transportation, community, and economic benefits for equity priority communities.*

Equity priority communities are those who experience and/or have experienced discrimination and exclusion based on identity or status, such as:

- *Black, Indigenous, and People of Color*
- *People with disabilities*
- *Communities with limited English proficiency*
- *Persons with lower incomes*

[1] The complete *IBR Program Equity Framework* can be accessed through the program website: https://www.interstatebridge.org/media/lkfj1xuz/ibr_equityframework_20220511_remediated.pdf.

- *Houseless individuals and families*
- *Immigrants and refugees*
- *Young people*
- *Older adults*

2.1.2 IBR Equity Objectives

The IBR program has established six equity objectives:

1. **Mobility and accessibility**: Improve mobility, accessibility, and connectivity, especially for lower income travelers, people with disabilities, and historically underserved communities who experience transportation barriers.
2. **Physical design**: Integrate equity, area history, and culture into the physical design elements of the program including bridge aesthetics, artwork, amenities, and impacts to adjacent land uses.
3. **Community benefits**: Find opportunities for and implement local community improvements in addition to required mitigations.
4. **Workforce equity and economic opportunity**: Ensure that economic opportunities generated by the program benefit minority and women owned firms, Black, Indigenous, and People of Color (BIPOC) workers, workers with disabilities, and young people.
5. **Decision-making processes**: Prioritize access, influence, and decision-making power for Equity Priority Communities throughout the program in establishing objectives, design, implementation, and evaluation of success.
6. **Avoid further harm**: Actively seek out options with a harm-reduction priority rather than simply mitigate disproportionate impacts on historically impacted and underserved communities and populations.

2.2 Precedent

While an equity technical report is not an established element of the NEPA process, there is local precedent for the practice. The environmental impact statement for the Multnomah County Earthquake Ready Burnside Bridge Project includes this type of report to assess impacts and benefits for historically marginalized populations that are not considered environmental justice communities under Executive Order 12898. Potentially affected populations included in that assessment were:

- Unhoused populations
- Adults aged 65 and older
- Disability population
- Limited English proficiency population

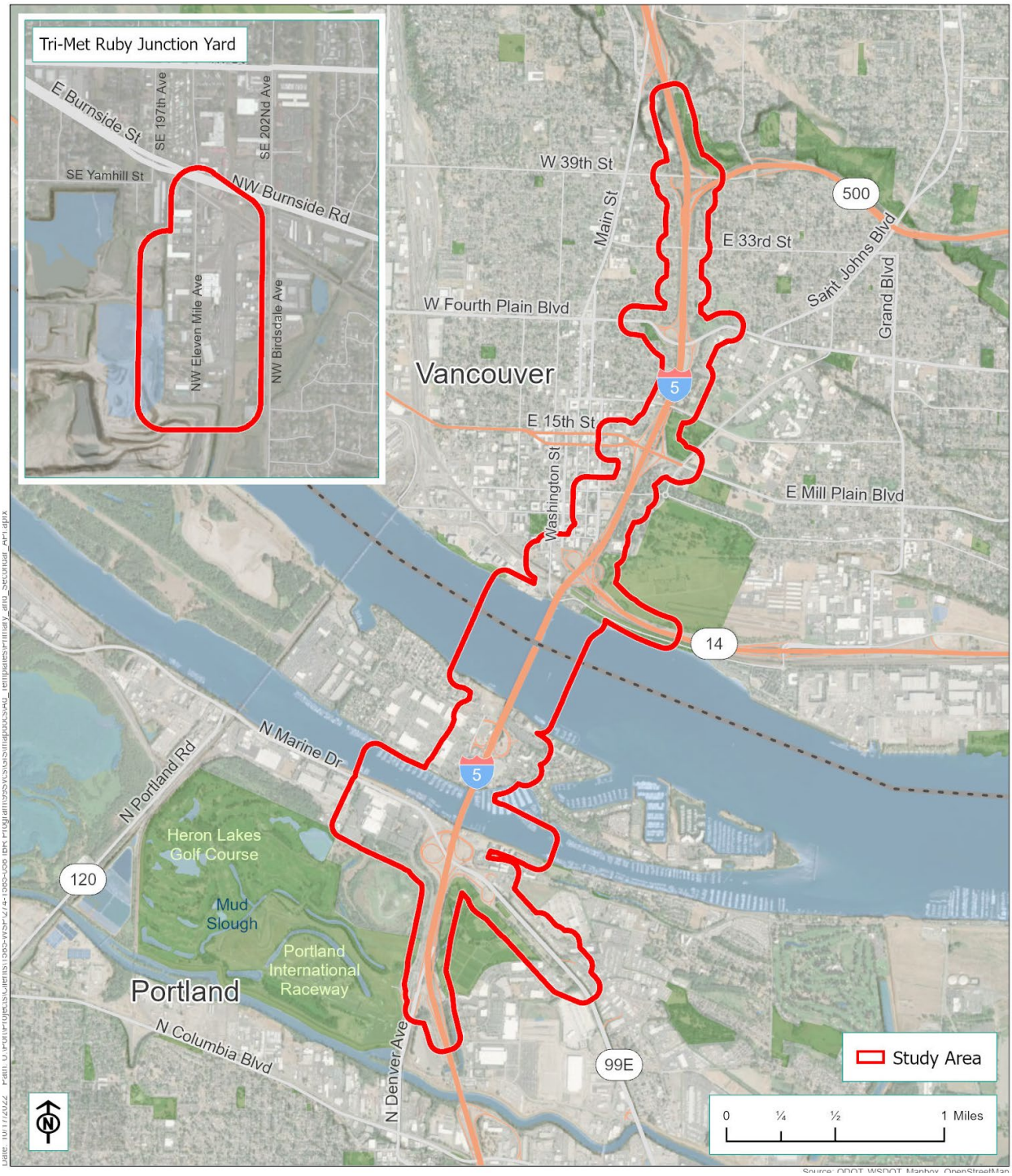
The report also examined impacts to social and emergency service providers because of these populations' reliance on them for access to housing, nutrition, health care, employment, case management, and other social services.

2.3 Study Area

This report analyzes benefits and burdens on three geographic levels:

- The IBR study area, which area runs along a 5-mile segment of Interstate 5 (I-5), approximately between the State Route (SR) 500 interchange in Washington and the I-5/Columbia Boulevard interchange in Oregon. North of the Columbia River, the study area expands west into downtown Vancouver and east near Clark College to include potential high-capacity transit (HCT) alignments and park-and-ride locations. It also includes the TriMet Ruby Junction rail yard (see Figure 2-1).
- A larger IBR program area that includes neighborhoods adjacent to the IBR study area (see Figure 4-1.
- The broader Portland-Vancouver-Hillsboro Metropolitan Area.

Figure 2-1. IBR Program Study Area



2.4 Data Collection Methods

This report is based on a variety of both quantitative and qualitative data sources. Demographic data were used as a starting point to assess the presence of equity priority communities living within the study area. The analysis also draws from quantitative data and findings from other relevant discipline reports including physical impacts from bridge construction and long-term operation. Qualitative data were drawn from sources that included the EAG and community engagement activities. The following sections summarize the specific data sources that were used to assess benefits and burdens on equity priority communities.

2.4.1 Quantitative Data

The quantitative analysis relied heavily on geographical information system (GIS) analysis, using demographic, employment, and transportation network data sources, including:

- 2020 U.S. Census (U.S. Census Bureau 2020)
- 2016–2020 American Community Survey (U.S. Census Bureau 2022)
- 2022 Metro, RTC, C-TRAN, TriMet, and IBR Analysis
- Metro Regional Land Information System (Metro n.d.)
- 2022 Point-in-Time Counts (the counties of Multnomah and Clark [Regional Research Institute 2019; Clark County Council for the Homeless 2022])

2.4.2 Qualitative Data

The analysis also incorporates qualitative data derived from the program's community engagement activities, which include listening sessions, partnerships with community-based organizations, surveys, attendance at community events, and others. It is informed through consultation with the EAG, which provides insight and input on the program's processes, approaches, and decisions that may affect historically underserved and underrepresented communities.

2.5 Technical Analysis Methods

Both benefits and burdens for equity priority communities related to the Modified LPA are evaluated.

2.5.1 Defining Equity Priority Communities

The IBR equity definition lists eight equity priority communities. Table 2-1 further defines these communities according to the data sources used for the analysis.

Table 2-1. IBR Equity Priority Communities

Community	Full Description	Data Source
Black, Indigenous, and People of Color Populations	People selecting any race/ethnicity combination besides White/non-Hispanic on the Census.	2020 U.S. Census
People with Disabilities	People living with a serious difficulty within four basic areas of functioning: hearing, vision, cognition, and ambulation.	2016–2020 American Community Survey
Communities with Limited English Proficiency	People who indicate that they speak English less than "very well."	2016–2020 American Community Survey
Persons with Lower Incomes	People or households with income at or below 200% of the federal poverty level.	2016–2020 American Community Survey
Houseless Individuals and Families	People and families lacking, or in need of, a house or dwelling.	Multnomah County and Clark County Point in Time Counts
Immigrants and Refugees	People born outside of the United States ("Foreign Born Population").	2016–2020 American Community Survey
Young People	People under 25 years of age.	2016–2020 American Community Survey
Older Adults	People 65 years of age or older.	2016–2020 American Community Survey

Sources: 2020 U.S. Census (U.S. Census Bureau 2020); 2016–2020 American Community Survey (U.S. Census Bureau 2022); Multnomah County Point-in-Time Count (Regional Research Institute 2019)

2.5.2 Benefits Analysis

The Mobility and Accessibility objective in the *IBR Program Equity Framework* states, "improve mobility, accessibility, and connectivity, especially for lower income travelers, people with disabilities, and historically underserved communities who experience transportation barriers." This section of the report examines the extent to which the Modified LPA furthers this objective across improvements by infrastructure type (HCT, active transportation, and highway).

2.5.2.1 High-Capacity Transit

The first component of the HCT analysis combines demographic and jobs data to estimate how the transit alignment in the Modified LPA would impact access to jobs (which doubles as a proxy for access to services). Drawing from a methodology developed by TransitCenter (TransitCenter 2022), the analysis calculates jobs reachable via HCT within 45 minutes during peak and midday hours using a weighted average for persons within a certain demographic and geographic area. Results are provided for each equity priority community for which data are available and examine changes in access for the "average" IBR program area resident and the "average" Portland-Vancouver metropolitan area resident. These changes are compared with the levels of change to those estimated for non-equity priority community counterparts.

The second component of the HCT analysis examines the demographics of each station area (residents within a half-mile walk of the station) and compares the percentage of the population comprised of equity priority community members to the IBR program area and the Portland-Vancouver metropolitan area.

2.5.2.2 Active Transportation

The Modified LPA includes several improvements serving pedestrians and bicyclists. The equity analysis conducted is qualitative in nature and relies on the program's community engagement to ensure consistency with feedback received.

2.5.2.3 Highway/Driving

Rising housing costs throughout the Portland metropolitan area, particularly with respect to rent in neighborhoods near the Portland core, have led to significant migration from Multnomah County to Clark County for many seeking to reduce housing cost burdens. This has impacted commute times and transportation costs for those who now must cross the Columbia River into Oregon for work or to access other essential destinations. As such, improvements in driving conditions may carry differential impacts between equity priority communities and their counterparts.

This analysis estimates these impacts by using conducting a similar analysis to that conducted for HCT (i.e., weighted average change by demographic).

2.5.3 Burdens Analysis

This report compiles the information gathered and analyzed across multiple technical reports to examine how equity priority communities would potentially be impacted in the short and long term by the Modified LPA, including:

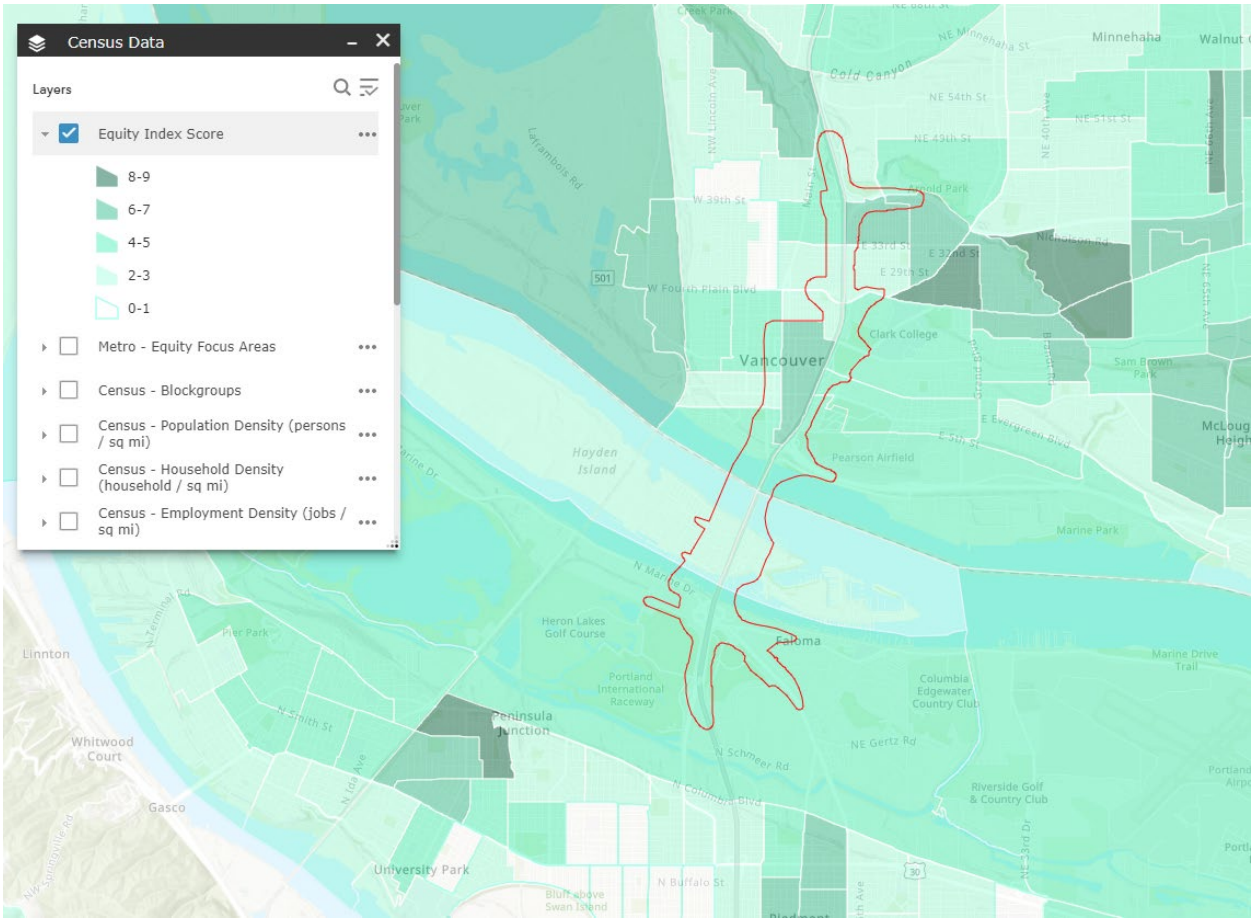
- Property acquisitions
- Residential displacements
- Commercial displacements
- Temporary construction-related impacts
- Long-term air quality impacts

Results are provided as a matrix that lists equity priority communities and anticipated impacts across five program subareas.

3. MAPPING EQUITY PRIORITY COMMUNITIES

Early in the Modified LPA development process, IBR staff developed an equity index to identify areas where equity priority communities live in the program area and broader metropolitan region. The index awards points to geographic areas (block groups or census tracts) where there is an above-average percentage of priority populations in comparison to the region as a whole. For example, 25% of the region's households are low-income according to the American Community Survey, so if greater than 25% of households in a block group were low-income, it was awarded a point. Figure 3-1 shows a screenshot of this interactive web-based tool, revealing that equity priority communities as a whole are concentrated most heavily in downtown Vancouver and just to the east of the study area.

Figure 3-1. Screenshot of IBR Equity Index



4. DISTRIBUTION OF PROGRAM BENEFITS

One of the six core objectives in the *IBR Program Equity Framework* is to "improve mobility, accessibility, and connectivity, especially for lower income travelers, people with disabilities, and historically underserved communities who experience transportation barriers." This analysis examines the extent to which the Modified LPA would further this objective across improvements by infrastructure type (HCT, active transportation, and highway).

4.1 High-Capacity Transit

4.1.1 HCT Analysis 1: Transit Access Improvements

The first component of the HCT benefits analysis combines demographic and jobs data to estimate how the light rail alignment in the Modified LPA would impact access to jobs (which doubles as a proxy for access to services) via transit. Drawing from a methodology developed by TransitCenter (TransitCenter n.d.), the analysis calculates jobs reachable within 45 minutes during peak and midday hours by using a weighted average for persons within a certain demographic (each equity priority community) based on their residential distribution within each geographic area (the IBR program area, shown in Figure 4-1, and the broader Portland-Vancouver metropolitan area). Results are provided for each equity priority community for which data are available, which does not include houseless individuals and families.

The analysis estimates changes in access via transit for the average IBR program area resident from each equity priority community and the average Portland-Vancouver metropolitan area resident from each equity priority. It then compares the levels of change to those estimated for non-equity priority community counterparts.

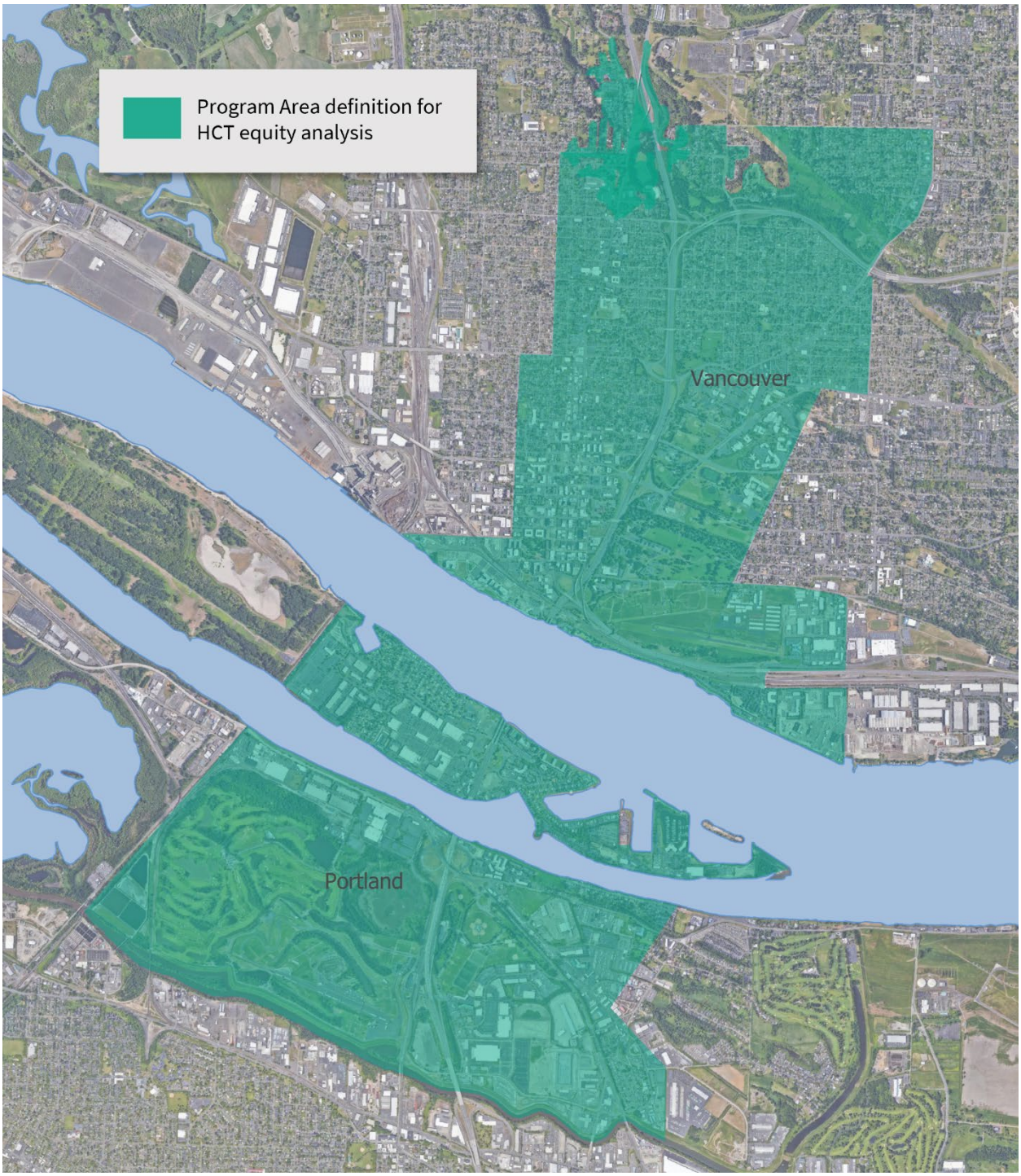
An important caveat is that this approach combines current census data with projected transit service and distribution of jobs in 2045. It therefore serves as one equity indicator, acknowledging that changes in both employment and population will occur between now and 2045.

4.1.1.1 HCT Analysis 1 Findings

Results are summarized in Table 4-1 (for program area residents) and Table 4-2 (for residents of the broader Portland-Vancouver metropolitan area).

The program area analysis estimates that each demographic group would be able to reach an average of 52% to 78% more jobs during the morning peak and an average of 48% to 73% more jobs during the midday (within a 45-minute transit trip). This equates to increases of about 12,600 to 23,000 jobs during the morning peak and 11,700 to 18,000 jobs during the midday.

Figure 4-1. IBR Program Area as Defined for the Purposes of HCT Analysis 1



The degree of access improvements differs between equity priority communities and their counterparts. For program area residents, three demographic groups—people with disabilities, persons with lower incomes, and older adults—are estimated to see greater increases than their

counterparts during both the peak and midday hours. On the other hand, BIPOC communities, those with limited English proficiency, immigrants and refugees, and young people are estimated to see less of an increase in access compared to their demographic counterparts.

At the regional level, average access improvements are minimal (1% to 2% or about 300 to 1,000 jobs). This is because the HCT investment included in the Modified LPA would not impact the vast majority of 45-minute transit trips across the region. Estimates are similar when comparing equity priority communities and their demographic counterparts.

Table 4-1. Transit Access Improvements Analysis for Program Area Residents: Percentage Increase in Jobs Access over No-Build Alternative – 45-minute Travel Time

Community	Morning Peak Average [1] Member of Community (e.g., BIPOC)	Morning Peak Average Counterpart (e.g., White Non-Hispanic/ Latino)	Midday Average Member of Community (e.g., BIPOC)	Midday Average Counterpart (e.g., White Non-Hispanic/ Latino)
Black, Indigenous, and People of Color (BIPOC)	60%	72%	57%	73%
People with Disabilities	78%	64%	71%	58%
Communities with Limited English Proficiency	74%	78%	61%	71%
Persons with Lower Incomes	63%	59%	59%	57%
Immigrants and Refugees	62%	67%	52%	61%
Young People (Under 25)	52%	63%	48%	60%
Older Adults (65+)	67%	56%	66%	52%
Homeless individuals and families	*Data not available to perform analysis*			

1 Average access is calculated based on residential distribution of each demographic group and weighted accordingly.

Sources: Metro 2045 Regional Model; 2020 Census (U.S. Census Bureau 2020); 2016-2020 American Community Survey (U.S. Census Bureau 2022).

Table 4-2. Transit Access Improvements Analysis for Portland-Vancouver Metropolitan Area Residents: Percentage Increase in Jobs Access over No-Build Alternative – 45-minute Travel Time

Community	Morning Peak Average [1] Member of Community (e.g., BIPOC)	Morning Peak Average Counterpart (e.g., White Non-Hispanic/ Latino)	Midday Average Member of Community (e.g., BIPOC)	Midday Average Counterpart (e.g., White Non-Hispanic/ Latino)
Black, Indigenous, and People of Color (BIPOC)	2%	2%	1%	1%
People with Disabilities	2%	2%	1%	1%
Communities with Limited English Proficiency	2%	1%	1%	1%
Persons with Lower Incomes	2%	2%	1%	1%
Immigrants and Refugees	1%	2%	1%	1%
Young People (Under 25)	2%	2%	1%	1%
Older Adults (65+)	2%	2%	1%	1%

1 Average access is calculated based on residential distribution of each demographic group and weighted accordingly.

Sources: 2022 Metro, RTC, C-TRAN, TriMet, and IBR Analysis; 2020 Census (U.S. Census Bureau 2020); 2016-2019 American Community Survey (U.S. Census Bureau 2022)

4.1.2 HCT Analysis 2: Station Area Demographics

The second component of the HCT analysis estimates the demographic makeup of each station area[2] (residents within a half-mile walk of the station, or "walksheds," graphically depicted in Figure 4-2). It compares the percentage of the population comprised of equity priority community members to the IBR program area and the Portland-Vancouver metropolitan region. The purpose of these comparisons is to assess potential disparities between the makeup of the program area and the areas best served by light rail stations in the Modified LPA and to provide an informational comparison to the region at large.

[2] Station area walksheds do not align exactly with census geographies. Population estimates are calculated by determining the percentage of a census block group or tract's land area the walkshed covers, then multiplying this percentage by the total census block group or tract total population. This assumes an even distribution of the population throughout each census block group or tract, which is not necessarily the case in reality. Therefore, these estimates have a margin of error.

4.1.2.1 HCT Analysis 2 Findings

Table 4-3 displays the results of the station area demographic analysis across each equity priority community, with the exception of houseless individuals and families due to a lack of data necessary for the analysis. Demographic characteristics of station area walksheds are largely comparable to the program area as a whole, indicating equitable improvements in access. Below is a synopsis of findings by demographic group:

- **BIPOC population** percentages are similar between the program area as a whole and the residents of the station area walksheds (30% and 28%, respectively). This is also similar to the metropolitan area at large.
- **People with disabilities** comprise a high proportion of the program area population as compared to the metropolitan area (16% vs. 12%, respectively), and station walksheds have particularly high concentrations of people with disabilities (an estimated 22% of the population across all stations).
- **Limited-English proficiency population** percentages are relatively low across all station areas (with the exception of the Expo Center station area) compared to the program area as a whole.
- **Low-income residents** comprise a high percentage of station walksheds on the Washington side of the river — higher than the program area as a whole and the metropolitan area at large.
- **Immigrants and refugees** ("foreign born populations" in the American Community Survey) comprise an estimated 6% of the population in station area walksheds as compared to 9% of the program area. Both are lower than the 13% across the metropolitan area.
- **Age:** The station area walksheds have relatively high percentages of older adults and low percentages of young people compared to both the program area as a whole and the metropolitan area.

4.1.3 Community and EAG Input Regarding HCT

As described in the fall 2021 IBR Community Engagement Report (IBR 2021), feedback received through multiple EAG meetings, a series of listening sessions for members of equity priority communities, and a community survey revealed broad support for HCT generally and light rail specifically. Many community members expressed a desire to better connect Portland and Vancouver via public transit as the region grows and the two communities become less bifurcated.

The community survey asked respondents about their preferred new station locations, using a menu of options. The most popular selections were the Vancouver waterfront, Clark College, and Hayden Island; this was consistent across demographic groups. Informed by early equity analysis, the EAG also advocated for a station at Clark College, recommending the program address any gaps in service quality that might arise by opting to terminate the line at Evergreen Blvd. The program is currently working with TriMet and C-Tran on transit optimizations that would respond to this recommendation.

Figure 4-2. Modified LPA HCT (Light Rail) Stations and Half-Mile Walksheds

Table 4-3. Equity Priority Communities in HCT Station Area Walksheds, IBR Program Area, and Portland-Vancouver Metropolitan Area (Percentage of Total Population)

Community	Expo Center Walkshed	Hayden Island Walkshed	Vancouver Waterfront Walkshed	Evergreen Walkshed	All station walksheds combined	Program Area	Metropolitan Area
Black, Indigenous, and People of Color	35%	27%	24%	23%	28%	30%	31%
People with Disabilities	15%	22%	25%	22%	22%	16%	12%
Communities with Limited English Proficiency	7%	3%	4%	3%	3%	6%	7%
Persons with Lower Incomes	16%	15%	54%	44%	41%	31%	24%
Immigrants and Refugees	1%	4%	6%	5%	6%	9%	13%
Young People (under 25)	10%	9%	14%	17%	14%	23%	29%
Older Adults (65+)	27%	28%	26%	19%	25%	18%	15%

Sources: 2020 Census (U.S. Census Bureau 2020); 2016–2020 American Community Survey (U.S. Census Bureau 2022)

4.2 Active Transportation

The program area currently lacks adequate bicycle and pedestrian facilities. In response, the Modified LPA includes significant improvements to local active transportation infrastructure. This includes facilities to support north-south bicycle and pedestrian travel through the corridor, as well as east-west connections across I-5. Specific elements include:

- New shared-use paths on the Columbia River Bridges, Marine Drive Interchange, Hayden Island Interchange, and the SR 14 Interchange.
- Improved east-west connectivity (bicycle lanes, sidewalks, and signage) at Mill Plain, Fourth Plain, 29th Street, and 33rd Street.
- A community connector (wide pedestrian crossing) at Evergreen Boulevard.

Many community members, agency partners, and advisory group members have voiced their support for high-quality active transportation facilities; their feedback has informed the design and location of improvements. The EAG specifically asked that the program reconnect neighborhoods divided by I-5 wherever possible. The EAG also urged the program to prioritize accessibility for people with disabilities, which is a key element of design engineering.

The Active Transportation Community Working Group, convened in fall 2021, provided another source of input. Common themes the program heard from this group included:

- Wider sidewalks
- Physical barriers to support bike safety
- Direct and easily navigable routes
- Linkages to the regional transportation network

4.2.1 Active Transportation Analysis Findings

Given their quality, ubiquity, and alignment with community and EAG feedback, planned active transportation components of the Modified LPA strongly support the equity objective to “improve mobility, accessibility, and connectivity, especially for lower income travelers, people with disabilities, and historically underserved communities who experience transportation barriers.” The facilities would provide new, safe connections where none exist today and would vastly improve the quality of those that do. However, the level of detail determined at this stage (in terms of accessibility improvements)

4.3 Highway and Driving Improvements

4.3.1 Driving Access Analysis

Similar to HCT Analysis 1, the driving access analysis combines demographic and jobs data to estimate how the highway improvements in the Modified LPA would impact access to jobs (which doubles as a proxy for access to services). Drawing from a methodology developed by TransitCenter

(TransitCenter n.d.), the analysis calculates jobs reachable within 45 minutes during peak and midday hours using a weighted average for persons within a certain demographic (each equity priority community) based on their residential distribution within each geographic area (the IBR program area and the broader Portland-Vancouver metropolitan area). Results are provided for each equity priority community for which data are available, which does not include houseless individuals and families.

The analysis estimates changes in driving access for the average IBR program area resident and the average Portland-Vancouver metropolitan area resident and compares the levels of change to those estimated for non-equity priority community counterparts.

An important caveat is that this approach combines current census data with projected distribution of jobs in 2045. It therefore serves as one equity indicator, acknowledging that changes in both employment and population will occur between now and 2045.

4.3.1.1 Driving Access Analysis Findings

Results are summarized in Table 3-4 (for program area residents) and Table 3-5 (for residents of the broader Portland-Vancouver metropolitan area).

The program area analysis estimates that each demographic group would be able to reach an average of 18% to 20% more jobs during the morning peak and an average of about 3% more jobs during the midday (within a 45-minute drive). This equates to increases of about 170,000 to 187,000 jobs during the morning peak and 35,000 to 42,000 jobs during the midday.

Estimated access improvements are similar between program area residents from equity priority communities and their demographic counterparts.

At the regional level, average access improvements are 3% to 4% (30,000 to 38,000 jobs) during the morning peak and about 1% (12,000 to 14,000 jobs) during the midday.

Estimates are similar when comparing equity priority communities and their demographic counterparts.

Table 3-4. Driving Access Improvements Analysis for Program Area Residents: Percentage Increase in Jobs Access over No-Build Alternative – 45-minute Travel Time

Community	Morning Peak Average [1] Member of Community (e.g., BIPOC)	Morning Peak Average Counterpart (e.g., White Non-Hispanic/ Latino)	Midday Average Member of Community (e.g., BIPOC)	Midday Average Counterpart (e.g., White Non-Hispanic/ Latino)
Black, Indigenous, and People of Color (BIPOC)	19%	19%	3%	3%
People with Disabilities	19%	19%	3%	3%
Communities with Limited English Proficiency	19%	19%	3%	3%

Community	Morning Peak Average [1] Member of Community (e.g., BIPOC)	Morning Peak Average Counterpart (e.g., White Non-Hispanic/ Latino)	Midday Average Member of Community (e.g., BIPOC)	Midday Average Counterpart (e.g., White Non-Hispanic/ Latino)
Persons with Lower Incomes	19%	18%	3%	3%
Immigrants and Refugees	19%	19%	3%	3%
Young People (Under 25)	20%	19%	3%	3%
Older Adults (65+)	18%	19%	3%	3%

1 Average access is calculated based on residential distribution of each demographic group and weighted accordingly.

Sources: 2022 Metro, RTC, C-TRAN, TriMet, and IBR Analysis; 2020 Census (U.S. Census Bureau 2020); 2016-2020 American Community Survey (U.S. Census Bureau n.d.).

Table 3-5. Driving Access Improvements Analysis for Portland-Vancouver Metropolitan Area Residents: Percentage Increase in Jobs Access over No-Build Alternative – 45-minute Travel Time

Community	Morning Peak Average [1] Member of Community (e.g., BIPOC)	Morning Peak Average Counterpart (e.g., White Non-Hispanic/ Latino)	Midday Average Member of Community (e.g., BIPOC)	Midday Average Counterpart (e.g., White Non-Hispanic/ Latino)
Black, Indigenous, and People of Color (BIPOC)	4%	3%	1%	1%
People with Disabilities	4%	3%	1%	1%
Communities with Limited English Proficiency	3%	4%	1%	1%
Persons with Lower Incomes	3%	3%	1%	1%
Immigrants and Refugees	3%	4%	1%	1%
Young People (Under 25)	4%	3%	1%	1%
Older Adults (65+)	4%	3%	1%	1%

1 Average access is calculated based on residential distribution of each demographic group and weighted accordingly.

Sources: Metro 2045 Regional Model; 2020 Census (U.S. Census Bureau 2020); 2016-2019 American Community Survey (U.S. Census Bureau n.d.)

4.3.2 Community and EAG Input Regarding Highway and Driving Improvements

Opinions are mixed regarding the highway infrastructure elements of the Modified LPA. While many engaged have urged the program to include additional lanes to solve congestion, others oppose

freeway expansion due to climate and livability concerns. Advocacy groups have raised concerns about the induced demand they say will result from inclusion of any auxiliary lanes in the Modified LPA.

The EAG did not express either support or opposition to the inclusion of one auxiliary lane in the Modified LPA. Rather, the group expressed an interest in further understanding potential property and environmental impacts associated with different design options. They also recommended the program consider the disproportionate impact that congestion can have on people working long hours or multiple shifts, workers who often must adhere to strict shift schedules, and parents—particularly single parents.

5. DISTRIBUTION OF PROGRAM BURDENS

This chapter applies the Equity Framework to several other technical reports that describe in detail the temporary and long-term adverse impacts related to the construction and operation of the Modified LPA. These reports include:

- Acquisitions
- Environmental Justice
- Neighborhoods and Populations

Construction is expected to last approximately 6 years; the precise phasing is not yet determined.

5.1 Short- and Long-Term Impacts

Table 5-1 lists where the percentage of equity priority communities are above average compared to the population of the Portland-Vancouver metropolitan area, as well as the property, construction-related, and air quality impacts identified across five geographic subareas: Oregon Mainland, Hayden Island, Downtown Vancouver, Upper Vancouver, and Ruby Junction.

Note that in several cases, more analysis is needed to determine the degree of these impacts and who specifically will bear related burdens, particularly with regard to houseless populations. Program staff will continue to conduct equity analysis, engage the community, and consult with the EAG to identify and address potential impacts.

Table 5-1. Overview of Impacts to Equity Priority Communities in the IBR Program Area

Subarea	Equity Priority Communities with Above Average Representation [1]	Property Acquisitions and Displacements	Construction-Related Impacts	Long-Term Air Quality
Oregon Mainland	• BIPOC • Low-Income • People with Disabilities • Older Adults	• 4 single-family homes displaced (3 floating homes, 1 on land) • 6 retail/service businesses displaced • 19 partial parcel acquisitions	• Temporary noise and air quality impacts and increases in truck traffic during construction, particularly in the areas immediately adjacent to I-5. • Temporary effects on visual quality and aesthetics. • Traffic detours and road closures. • Traffic spillovers in the Bridgeton, East Columbia, and Kenton neighborhoods.	Not expected to be adversely impacted as a result of the project.
Hayden Island	• People with Disabilities • Older Adults	• 32 single-family homes displaced (all floating homes) • 14 retail/service businesses displaced • 20 partial parcel acquisitions	• Temporary noise and air quality impacts and increases in truck traffic during construction, particularly in the areas immediately adjacent to I-5. • Residents living in floating homes and the mobile home park may be particularly susceptible to air quality impacts due to their proximity to both the highway and transit alignments. • Temporary effects on visual quality and aesthetics. • Traffic detours and road closures.	

Subarea	Equity Priority Communities with Above Average Representation [1]	Property Acquisitions and Displacements	Construction-Related Impacts	Long-Term Air Quality
Downtown Vancouver	• Low-Income • People with Disabilities • Older Adults	• 13 office/professional/ healthcare businesses displaced • 25 partial parcel acquisitions	• Temporary noise and air quality impacts and increases in truck traffic during construction, particularly in the areas immediately adjacent to I-5. • Temporary effects on visual quality and aesthetics • Traffic detours and road closures. • Temporary closures of east-west bicycle and pedestrian connections at SR 14, Evergreen Boulevard, and Mill Plain Boulevard.	
Upper Vancouver	• BIPOC • Limited English proficiency • Low-Income • Older Adults • Young People	• 7 single-family homes displaced • 61 partial parcel acquisitions	• Temporary noise and air quality impacts and increases in truck traffic during construction, particularly in the areas immediately adjacent to I-5. • Temporary effects on visual quality and aesthetics. • Traffic detours and road closures. • Temporary closures of east-west bicycle and pedestrian connections at McLoughlin Boulevard, Fourth Plain Boulevard, 29th Street and 33rd Street. • Traffic spillovers in the Minnehana, Rose Village, Central Park, Hudson's Bay, and Columbia Way neighborhoods.	

Subarea	Equity Priority Communities with Above Average Representation [1]	Property Acquisitions and Displacements	Construction-Related Impacts	Long-Term Air Quality
Ruby Junction	• BIPOC • Immigrants and Refugees • Low-Income • Young People	• 6 retail/service businesses displaced	• Temporary noise and air quality impacts and increases in truck traffic during construction, particularly in the areas immediately adjacent to I-5. • Temporary effects on visual quality and aesthetics. • Traffic detours and road closures.	

1 1 Equity priority communities are listed where their percentage of the population is above average for the Portland-Vancouver metropolitan area in at least one census
2 tract in that geographic area. Sources: 2020 Census (U.S. Census Bureau 2020), 2016–2020 American Community Survey (U.S. Census Bureau 2022)

3 BIPOC = Black, Indigenous, and People of Color

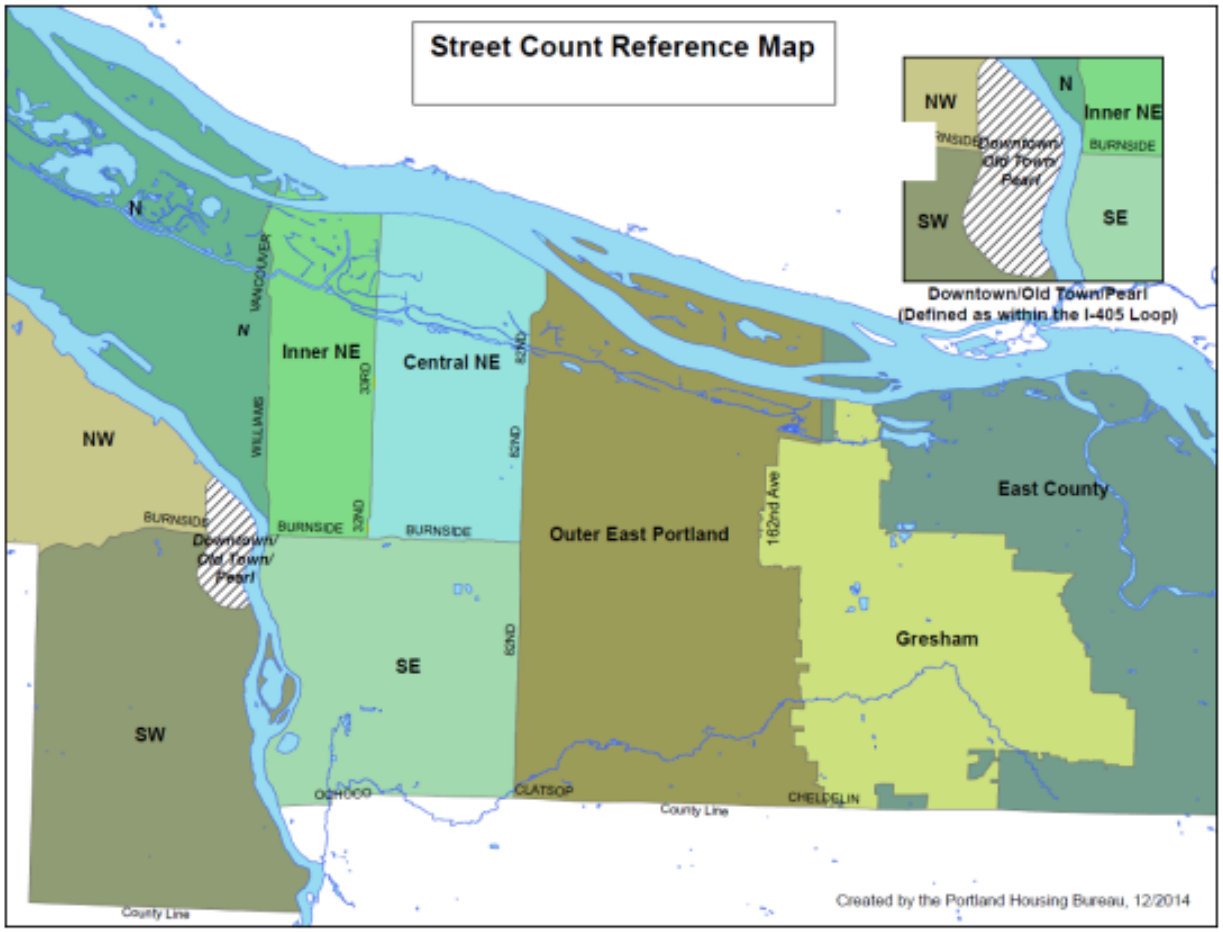
5.1.1 Houseless Populations

Construction of the Modified LPA is likely to impact houseless individuals and families living in the program area. Those living within existing or to-be-acquired right-of-way will be displaced and those living nearby may experience construction externalities, such as noise, vibration, and pollution.

While Multnomah and Clackamas counties have Point-in-Time Count data that provides a census of the houseless population every 2 years, the geographic areas for which these data are available are too large to determine a count for the program area (Clark County's figures are only available at the county level and Multnomah County's street count areas are shown in Figure 5-1). Table 5-2 shows houseless population counts for these areas. Note that figures do not necessarily reflect the number of people who are likely to be impacted by the program.

Given these data limitations, determining the degree of impact to this community calls for require extensive in-person outreach in partnership with organizations providing related services.

Figure 5-1. Multnomah County Point-in-Time Geographic Areas (2019)



Source: Regional Research Institute 2019.

Table 5-2. Houseless Populations for Areas Containing the IBR Program Area

Geographic Area	Population
Inner Northeast Portland	123 households
North Portland	198 households
Clark County	625 persons

Sources: Point-in-Time Counts for Multnomah County (Regional Research Institute 2019) and Clark County (Clark County Council for the Homeless 2022)

5.2 Tolling

The Modified LPA tolling program would place a burden on low-income travelers, who are disproportionately BIPOC. The Environmental Justice Technical Report provides a summary of issues and research related to tolling equity, including potential mitigation measures. In addition to those mentioned in that report, the program is looking to implement a low-income toll program wherein qualified drivers receive some level of financial relief. The details of this program, such as income thresholds, subsidy form, and amounts, will be determined in the future.

6. SYNOPSIS AND NEXT STEPS

The Modified LPA would provide significant benefits to equity priority communities in terms of increased mobility and accessibility, particularly due to the HCT and active transportation elements. The HCT analysis identified some disparities in terms of increased access between equity priority communities and their counterparts. Planned C-TRAN service improvements can help reduce these disparities by creating convenient bus connections from the Evergreen terminus to Clark College and surrounding racially diverse neighborhoods.

Program area communities would experience some adverse impacts related to property acquisitions and construction. The program team is conducting additional research to determine the extent and degree of these impacts in relation to equity priority communities; this information will inform potential strategies to avoid, minimize, and/or mitigate them. In addition to technical analysis, this research will include continued engagement with the program's advisory groups, partner agencies, and the community.

Additionally, the program is in the early stages of developing a Community Benefits Agreement. While the specific components of the Community Benefits Agreement are not determined at this time, its development will be collaborative and guided by the *IBR Program Equity Framework*. It is likely to include a variety of investments and strategies to ensure workforce and contracting equity, enhance the local community, and offset burdens associated with the construction and operation of the Modified LPA.

7. REFERENCES

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