Ballard Interbay Regional Transportation System (BIRT) Study

Appendix E: Community and Economic Assessment

November 2020

Seattle
Department of
Transportation

Ballard-Interbay Regional Transportation System Project

Community and Economic Assessment

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Executive Summary

This report includes a data-rich overview of the economic and community significance of the Ballard-Interbay Regional Transportation System (BIRT) study area. It provides an overview of the current economic and employment landscape, commute patterns, demographic and housing trends, development patterns and typical uses of the transportation network.

Role of 15th Ave W/NW, Ballard and Magnolia bridge

15th Ave W/NW is a principal arterial and the primary north-south corridor moving people and goods in the BIRT study area. A key part of this arterial, the Ballard bridge currently carries roughly 51,500 vehicles per day (including 1,500 trucks and over 300 bus trips) and 139 bicyclists in a 6-hour period during peak riding months (pre-COVID volumes)[1].

The Magnolia bridge connects to 15th Ave W to the south of the study area. Roughly 13,000 vehicles cross the Magnolia bridge every day[2]. This includes residents of Magnolia travelling to and from work, employees of local businesses in the Magnolia Village area, buses connecting Magnolia to Downtown Seattle, Queen Anne, Ballard and other neighborhoods further north, and visitors that neither live nor work in the area.

Commute Patterns

15th Ave W/NW and the two bridges are essential roadway connections in the BIRT study area and provide access to jobs. The most common places of work for residents in the BIRT study area include downtown Seattle, the Duwamish Manufacturing Industrial Center (MIC), the University of Washington / U. District, downtown Ballard, downtown Bellevue and the Bel-Red area[3].

People working in the BIRT study area predominantly commute from the north, as well as from immediate east and west of study area. Most workers live nearby in Ballard, Interbay, Magnolia, Loyal Heights, and Upper Queen Anne. A smaller number of workers live in Seattle neighborhoods to the north and in Shoreline.

Freight Movement

The Ballard-Interbay Manufacturing Industrial Center (BINMIC) is Seattle's other major industrial center, with maritime industries assets located in the

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[1] City of Seattle, 2020; Ballard Bridge Planning Study Alternatives Comparison Report, SDOT, March 9, 2020.
[2] City of Seattle, 2020.
[3] U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics, 2020.

BIRT study area. The 15th Ave W/NW corridor is heavily used for freight movement accordingly. Roughly 1,500 trucks cross the Ballard bridge every day, and the City projects that this will increase to 2,500 trucks by 2035[4].

Industrial businesses in the study area depend on access to the 15th Ave W/NW freight corridor to transport industrial materials, such as primary metals; intermediate products, like fabricated metals; and final goods, including airplanes, food and apparel, to local and regional markets. Many of these businesses are net exporters of products to the U.S. and the world and help drive Seattle's economy and jobs.

The 15th Ave W/NW freight corridor provides access to Port of Seattle facilities which are an international gateway for imports and exports. Maritime businesses in the BIRT study area, including commercial fishing and seafood processing operations, shipyards, and various related and support services often depend on the freight corridor to procure manufacturing components and inputs and move finished products to markets in the region. The freight corridor is also critical to economic activity in cruise and tourism.

Transit and Non-Motorized Connections

15th Ave W/NW (including the Ballard bridge) and the Magnolia bridge are identified as Major Transit Routes in the City of Seattle Transit Master Plan. Multiple express and local routes use the 15th Ave W/NW corridor, including the RapidRide D Line. The West Seattle and Ballard Link Extensions project will bring light rail to Interbay and Ballard, with three stations in the BIRT study area. The study area also contains several bike and pedestrian pathways such as the Burke-Gilman Trail and Elliott Bay Trail that link neighborhoods to business districts. These pathways also connect to recreation areas like Discovery Park and Golden Gardens Beach.

Socio-Economic Baseline

Population & Demographics

The total population in the BIRT study area was approximately 95,200 in 2019, representing almost 13% of the City of Seattle's total population[5]. Both Ballard and Interbay have experienced major population growth in the last decade. The growth has occurred almost exclusively within areas zoned for mixed use and multifamily development.

The study area population contains about 16% less residents over the age of 65 than the City of Seattle as a whole. However, the median age of the study

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[4] City of Seattle Freight Master Plan, SDOT, September 2016.
[5] US Census Bureau, American Community Survey (ACS), 2019.

area was higher, at 38.2 years, compared with Seattle, at 35.2. On average, the percent of the non-institutionalized population with a disability in the study area was 6.1%, compared with 9.1% in the City of Seattle, as of 2018. Four census tracts – three in Ballard and one in upper Queen Anne – had rates of disability greater than 7%[6].

Compared to the City of Seattle as a whole, the population in the study area is less racially diverse, with a roughly 14% minority resident population. This includes a 6.2% Asian population, a 4.8% Hispanic population, and a 1.7% Black / African American population. In comparison, the City of Seattle had a 14% Asian population, a 6.4% Hispanic population, and a 7.2% Black / African American population. Areas with greater proportions of minority residents exist in the Interbay portion of the 15th Ave W corridor, the Loyal Heights and Greenwood neighborhoods at the north of the study area, northern Queen Anne, and central Magnolia.

The census block groups in the BIRT study area with the highest median household incomes are in the Sunset Hill section of Ballard, in southwestern Magnolia, and in the northern Queen Anne neighborhood. Downtown Ballard, lower Interbay, and around 65th and Greenwood near Phinney Ridge are areas with the lowest median household incomes.

Most of the study area is highly educated, like the City of Seattle. The most highly educated areas – those where at least two-thirds of residents have a bachelor's degree or greater – corresponded to wealthier, single-family zones of the BIRT study area.

Housing

According to the most recent U.S. Census 5-Year American Community Survey (ACS) data from 2014-2018, there are nearly 44,000 housing units of all types within the study area, with 16,200 in Ballard, followed by Magnolia (8,800) and Interbay (3,100). Downtown Ballard and 15th Ave W in Interbay have the highest housing density, from 1,760 to 2,181 housing units per block group in Downtown Ballard to 1,418 units in Interbay. Upper Queen Anne and central and western Magnolia have the lowest density at between 150 and 250 housing units per block group. Occupied housing units in Ballard and Interbay are majority rentals (69% and 56%, respectively), while Magnolia is 55% owner-occupied housing. Median home value and rent is highest in Magnolia and lowest in Interbay.

As of 2020, 840 multifamily buildings with 14,200 units exist in the study area. Average market rents per unit are highest in Ballard ($1,840) but absorption rates are the highest in Interbay, where 153 units (7.1% of

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[6] U.S. Census Bureau ACS 5-Year Estimates, 2014-2018.

inventory) were leased over the last 12 months. Interbay also has the most multifamily construction underway in 2020 (93 units). Magnolia's multifamily construction market is the coolest with only 0.2% of inventory leased last year and no multifamily construction underway[7].

Across the whole study area, households are not cost burdened, meaning a household spends more than one-third of income on housing. Interbay is closest to this threshold with households spending 28% of income on rent, on average.

Industry & Employment

According to data from the Puget Sound Regional Council, employment[8] within the commercial study area grew by 2.1% annually from 2010 to 2018. The fastest growth has been in Greenwood (5.3%), while Magnolia, the North subarea (which includes Ballard), and South subarea (which includes most of Interbay) grew between 1.7% and 2.3% annually over the same period. During this period, employment in the construction and resources sector has seen the fastest growth across the commercial study area while the services sector has experienced the most absolute growth. In 2018, the services sector was the largest in the study area with roughly 50% of total employment. The growth in services has been concentrated in the northern portion of the commercial study area (Ballard neighborhood).

The Ballard-Interbay corridor is home to a wide range of industrial activities. The broader North Industrial area, a region that approximates the Ballard-Interbay corridor, contained 28,700 jobs in 2018 of which an estimated 12,000 jobs were freight-oriented and thus reliant on access to the Ballard-Interbay freight corridor. Many industrial businesses located in this corridor source or export products to other parts of the U.S. and the world and depend on access to a freight corridor connecting Northwest Seattle with Port of Seattle facilities in SODO.

Maritime is another important industrial activity in the BIRT study area. Fishermen's Terminal and Terminal 91 are both Port of Seattle properties and home to a large segment of the North Pacific Fisheries Fleet. In 2017, vessels utilizing either facility employed an estimated 7,200 workers and generated $671.3 million in business revenues.

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[7] CoStar, 2020.

[8] Employment estimates in this report do not include jobs at the Expedia campus which opened in 2019. At the time of this study, the most recent employment estimates available from PSRC were for 2018.

Occupational & Workforce Analysis

Employment in the commercial study area includes a wide range of service and industrial occupations. Services are more prevalent, representing over half of study area jobs. Production, transportation and material moving, and construction and extraction occupations together represent 19% of occupational employment. Jobs in industrial occupations account for just 7% of resident employment compared to 19% of study area employment.

Study area workers earn slightly higher wages compared to the region overall. Approximately 57% of workers in the BIRT commercial study area earn more than the Seattle MSA median wage of $53,400[9].

More than half of jobs within the study area require a high school diploma or less and 32% require a bachelor's degree. Residents of the study area are more educated overall than the occupations within the area require, with 76% of residents having an associate degree or higher and most of them work outside the BIRT study area.

COVID-19 Impacts Overview

The global pandemic has adversely affected all aspects of the regional economy. The severity of impact has varied by industry, with customer-facing businesses hit hardest so far.

A City of Seattle survey conducted in March and May 2020 showed widespread concern among businesses in the study area. More than 1,000 temporary and 134 permanent layoffs were reported. Roughly 41% of responding businesses said they could not make rent payments and 43% were very worried about their business and did not know if they would make it through this crisis. The top three impacts experienced by businesses in the study area were decline in business activity due to uncertainty, fewer visitors to the region and reduced access to customers due to remote working.

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[9] Puget Sound Regional Council, 2020; Washington State Employment Security Department, 2020; U.S. Census Bureau, 2020.

INTRODUCTION

Background and Purpose

Originally a salt marsh, the Interbay neighborhood hosts a diverse mix of businesses and industries representing the broad sweep of Seattle's history. North of Interbay, Ballard is one of Seattle's fastest growing neighborhoods and will be the terminus of Sound Transit's West Seattle and Ballard Link Extensions. The 2019 Washington State legislature allocated funds for the City of Seattle to develop a plan to improve mobility for people and freight in the Ballard-Interbay area.

The Ballard-Interbay Regional Transportation System (BIRT) plan is developed by an interagency team led by SDOT and including the City of Seattle, Port of Seattle, Sound Transit, King County, Washington State Department of Transportation, and the Washington State Military. According to the Washington State legislature:

"The plan must examine replacement of the Ballard bridge and the Magnolia bridge, which was damaged in the 2001 Nisqually earthquake. The city must provide a report on the plan that includes recommendations to the Seattle City Council, King County Council, and the transportation committees of the legislature by November 1, 2020. The report must include recommendations on how to maintain the current and future capacities of the Magnolia and Ballard bridges, an overview and analysis of all plans between 2010 and 2020 that examine how to replace the Magnolia bridge, and recommendations on a timeline for constructing new Magnolia and Ballard bridges."

In analyzing future transportation demand for the Ballard-Interbay area, the project will take into consideration future residential growth in nearby neighborhoods and additional employment at sites such as the Armory, Expedia and the Port of Seattle's Terminal 91. It will also adjust to reflect the recommendations of the Mayor's current Maritime and Industrial Lands Strategy.

This report represents an overview of the economic and community significance of the BIRT study area. It provides an overview of the current economic and employment landscape, commute patterns, demographic and housing trends, development patterns and typical uses of the transportation network. The analysis will help identify who will benefit from transportation system improvements and support the development of the economic and social benefits of the BIRT project per the City's preferred alternatives.

Methods

The analysis begins by identifying the BIRT study area which includes both residential and employment areas served by the Magnolia and Ballard bridge and the Interbay corridor. The assessment identifies main categories of users of the two bridges and the Interbay corridor and determines commute patterns for residents and workers in the study area. It also includes economic and social metrics to describe the role of the Ballard and Magnolia bridges in supporting economic activity and competitiveness of the region's economy.

This report draws on multiple data and information sources, including previous plans and studies, traffic analysis conducted as part of this study, state and federal sources such as the Washington State Employment Security Department, Office of Financial Management and U.S. Bureau of Labor Statistics, and stakeholder outreach.

Organization of Report

The remainder of this report is organized as follows:

- **Study Area**. A description of the study area, including land use patterns and recent and future development in the area.
- **Role of 15th Ave W/NW, Ballard and Magnolia bridge**. A discussion of commute patterns, freight movement and alternative travel in the study area.
- **Socio-economic Baseline**. A summary of socio-economic metrics to describe the study area.
- **COVID-19 Impacts Overview.** A discussion of COVID-19 impacts on businesses in the study area.

STUDY AREA

A critical framework to economic impact analysis is the geography within which impacts are analyzed. The area of direct project influence includes the Ballard, Interbay, and Magnolia neighborhoods. When defining the study area, the analysis looked at local and regional commuting, supply chain linkages and other travel patterns to capture all the important potential effects of the BIRT project.

The study area includes both residential and employment areas served by the Magnolia and Ballard bridges and the corridor. The residential boundary of the study area extends to NW 80th St to the north and Elliott Bay to the south. The commercial study area mostly consists of the Ballard Interbay Northend Manufacturing and Industrial Center (BINMIC), Magnolia's and Greenwood's business districts. (**Exhibit 1**)

Exhibit 1. BIRT Study Area

Ballard

Magnolia

Interbay

Queen Anne

Legend

🎏 School

◼ Interbay Armory Site

▭ Study Area Commercia Boundary

▭ Study Area Residential Boundary

— Highways

— Arterials

╬ Rail Lines

— King County Metro Bus Route

▨ Bodies of Water

▨ Parks & Open Space

▨ Ballard-Interbay Northend MIC

Sources: Community Attributes, 2020.

The **Interbay corridor** extends between Salmon Bay to the north and Elliott Bay to the south. While historically industrial, Interbay's residential population is growing, with a population of roughly 6,400 residents. It includes the BINMIC, a thriving urban industrial center with a diverse mix of businesses and some of Seattle's most productive working waterfront, wharfs, shipyards, and rail yards.

- The Salmon Bay area, stretching from the Ballard Locks to Fremont, supports intense marine-related industrial and manufacturing uses.
- BNSF Railway Balmer Yard in the central part of Interbay contains one of Seattle's major railroad yards, and related locomotive maintenance shops.
- Smith Cove on Elliott Bay at the south end of the corridor is home to Terminal 91, a large general cargo terminal complex, Pier 86, the Port of Seattle's export grain terminal, Smith Cove Park, Elliott Bay Marina, and Pier 90.
- Interbay is also home to a Washington Army National Guard armory, stadium, P-Patch (a large community garden), and a golf course.

Across Salmon Bay to the north is **Ballard**, a fast-growing Seattle neighborhood and manufacturing and industrial community with a population of roughly 34,800. Once a separate incorporated city to the north of Seattle whose economy centered on fishing and cedar shake shingles, Ballard has become a dense, mixed-use urban neighborhood that is one of the most desirable places to live in Seattle. Ballard is in the midst of several transportation improvements. The Ballard Multimodal Corridor aims to create a complete, multimodal corridor along the Ship Canal between the Ballard Locks and 11th Ave NW. The Sound Transit West Seattle and Ballard Link Extensions will provide fast, reliable light rail connections from downtown Seattle to Ballard.

Magnolia, the second largest neighborhood in Seattle by area, is also part of the study area. Magnolia is a predominantly low-density, single-family neighborhood of roughly 18,000 residents that is located on a hilly peninsula northwest of Downtown, connected to the rest of the city by three bridges over the tracks of the BNSF Railway. Magnolia's "Village" is the core of the neighborhood's business community, home to many specialty stores and professional services, industrial and marine services, and community functions such as the Farmer's Market and the Classic Auto Show.

In addition, small parts of the northern and western **Queen Anne** neighborhood of Seattle are included in the study area. The northern part of this neighborhood along Nickerson Street borders on the ship canal and includes large, significant maritime employers in seafood processing and shipyards. The western portion of Queen Anne located within the study area is comprised largely of older single-family neighborhoods and redeveloping

apartment nodes along 14th Avenue and Gilman Street that utilize the Interbay corridor's commercial and transportation assets.

Land Use Overview

Exhibit 2 provides an overview of generalized land uses in the BIRT study area. This study is consistent with the City of Seattle Office of Economic Development Industrial and Maritime Strategy from 2020 in the land uses for industrial areas.

The study area is dominated by residential neighborhoods centered around Ballard, north of the Ship Canal, Magnolia, east of the Interbay corridor, and in the northern and western portions of the Queen Anne neighborhood. The greatest concentration of mostly neighborhood-serving retail and service uses are found in downtown Ballard, with smaller concentrations in lower Interbay, Magnolia, and Greenwood in the far northeast of the study area.

Ballard and Interbay contain a large concentration of industrial uses – including key maritime industry firms and assets along the Ship Canal, at Fishermen's Terminal, and at Pier 90; cruise ship terminals at Pier 91; freight rail and intermodal yards in Interbay; the Seattle Armory site, and other industries such as interior fixtures and furniture, food processing, and craft food and beverage makers.

Large open spaces in the study area include Discovery Park at the northwest corner of Magnolia, the Interbay Golf Course and athletic center, upper Queen Anne's Mt. Pleasant Cemetery, and Ballard's Golden Gardens Park. Large recreational boat marinas include Elliott Bay Marina in Magnolia, and Shilshole Marina in Ballard. Finally, major pedestrian and bike path routes traverse the area with the Burke-Gilman trail along the Ship Canal in Ballard, and the Elliott Bay trail following the BNSF rail through the Interbay corridor to Downtown Seattle.

Exhibit 2. BIRT Study Area General Land Use
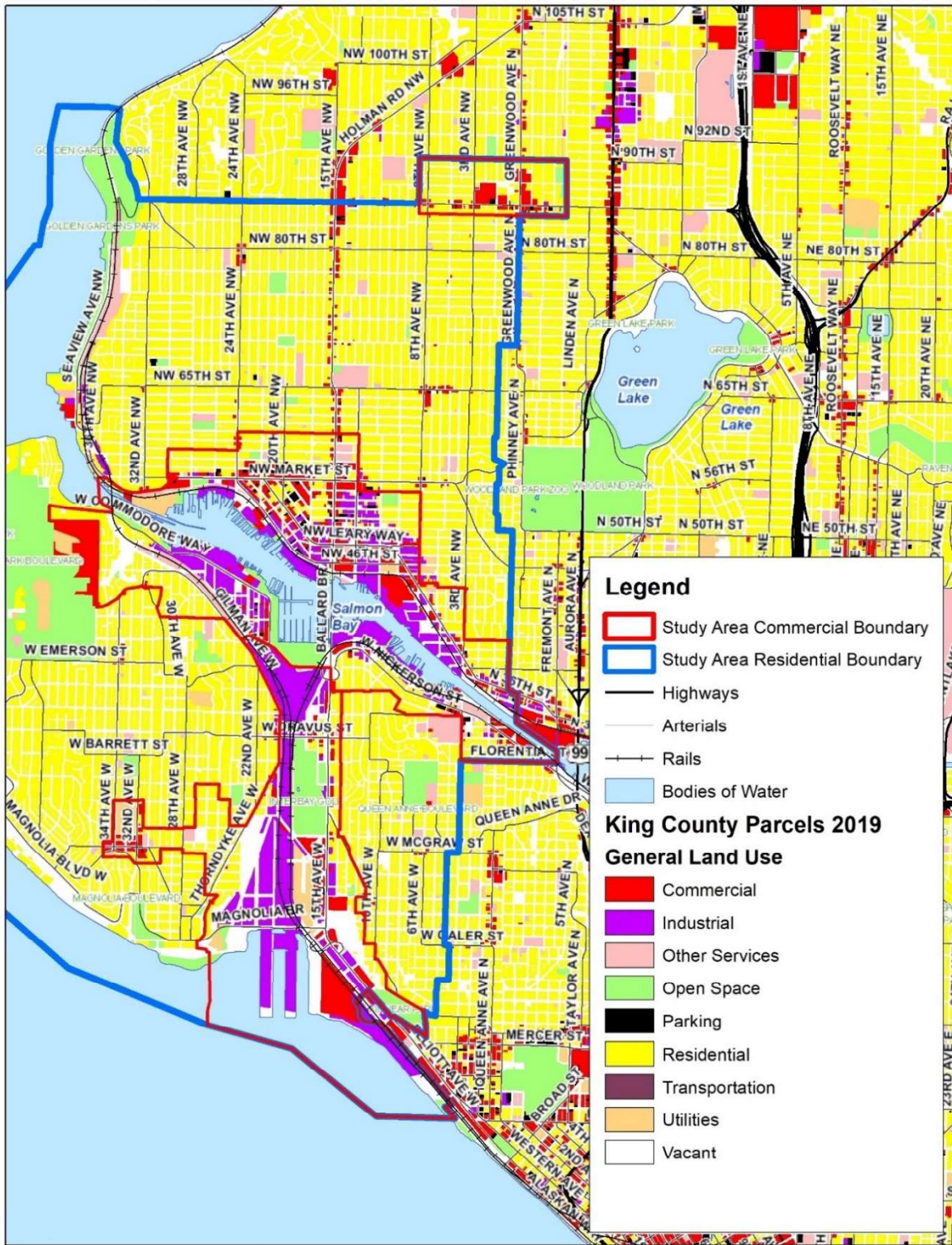
Sources: King County Assessor, 2020; City of Seattle Office of Economic Development, Industrial Lands Land Use and Employment Study, 2017; Community Attributes, 2020.
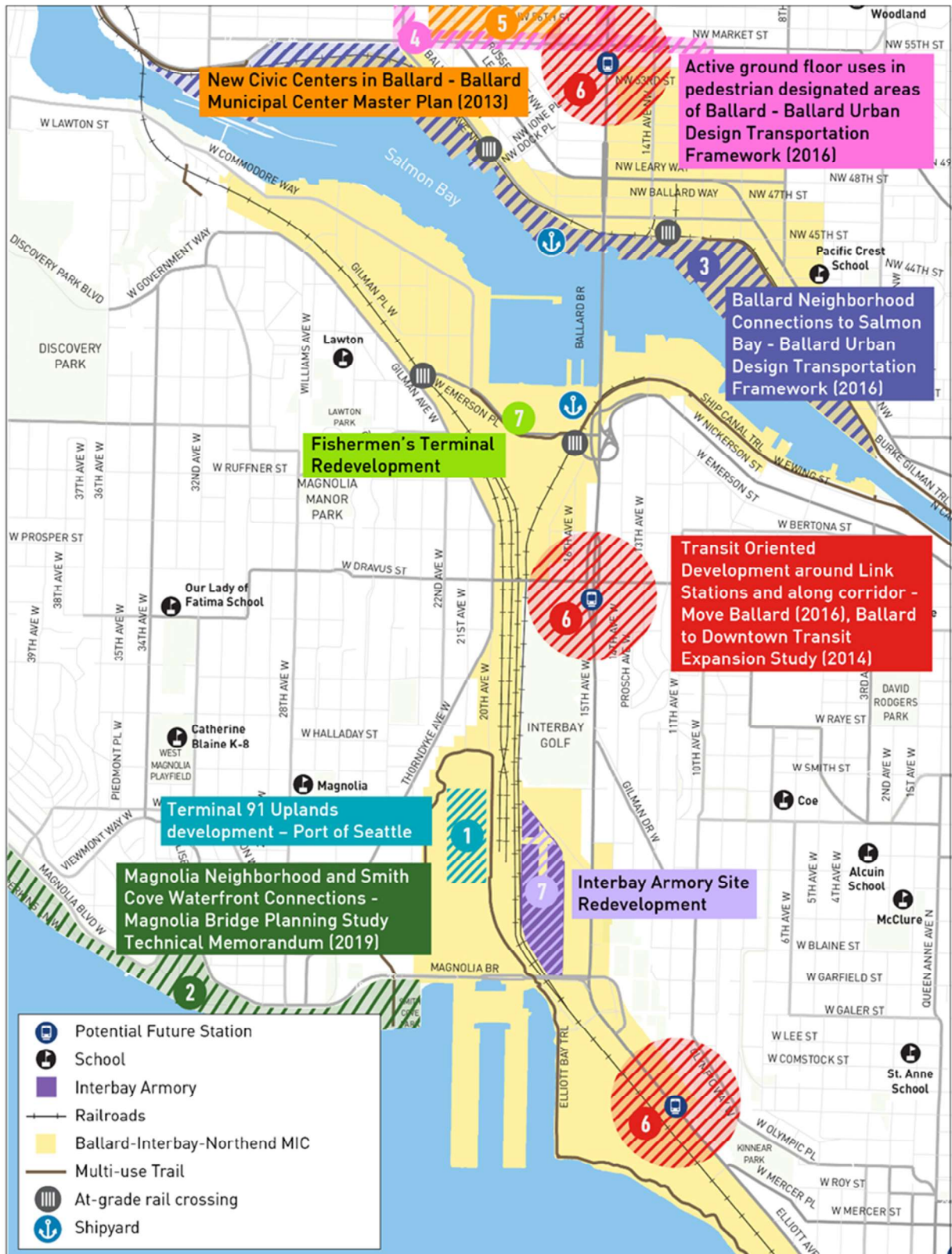
Recent & Future Development

The Ballard and Interbay neighborhoods are experiencing significant residential and employment growth, with implications for land use patterns in these areas. Major projects and initiatives that will shape the future of Ballard-Interbay include the future West Seattle and Ballard Link light rail extensions, Terminal 91 Uplands development, Fishermen's Terminal redevelopment, National Guard Armory redevelopment, the new Expedia corporate campus, and the City of Seattle Industrial and Maritime Strategy. (Error! Not a valid bookmark self-reference.)

Sound Transit's West Seattle and Ballard Link Extensions (WSBLE) and transit service improvements by SDOT and King County Metro will enhance transit access in the study area. Improving transit service and implementing supportive land use policies such as transit-oriented development can encourage more compact, mixed, multi-modal development in the Ballard-Interbay area.

The redevelopment of Terminal 91 Uplands, the National Guard Armory site, and Fishermen's Terminal will increase light industrial space in the BINMIC and support continued growth of manufacturing and industrial uses:

- Armory site development proposals include a mix of uses including housing, office, and open space.
- Phase I development in the Terminal 91 Uplands over the next 10-15 years will consist of approximately 100,000 square feet of light industrial space and associated site infrastructure improvements, with phase II developing another 300,000 square feet of light industrial facilities.
- The Fishermen's Terminal redevelopment (2019-2023) will include roughly 60,000 square feet of new light industrial space for complementary maritime businesses by the end of 2022. A new "Gateway" building is planned in the existing vacant bank building and Net Sheds 7 and 8.

Exhibit 3. Recent and Future Development in the BIRT Study Area, 2020

New Civic Centers in Ballard - Ballard Municipal Center Master Plan (2013)

Active ground floor uses in pedestrian designated areas of Ballard - Ballard Urban Design Transportation Framework (2016)

Ballard Neighborhood Connections to Salmon Bay - Ballard Urban Design Transportation Framework (2016)

Fishermen's Terminal Redevelopment

Transit Oriented Development around Link Stations and along corridor - Move Ballard (2016), Ballard to Downtown Transit Expansion Study (2014)

Terminal 91 Uplands development – Port of Seattle

Magnolia Neighborhood and Smith Cove Waterfront Connections - Magnolia Bridge Planning Study Technical Memorandum (2019)

Interbay Armory Site Redevelopment

Legend:
- Potential Future Station
- School
- Interbay Armory
- Railroads
- Ballard-Interbay-Northend MIC
- Multi-use Trail
- At-grade rail crossing
- Shipyard

Sources: Seattle Department of Transportation, 2020; Community Attributes, 2020.

This section of the report assesses the relative role of the corridor and the two bridges on the businesses, residents, and communities in the study area to gain insight into potential impacts of transportation improvements. It identifies main categories of users, analyzes commute patterns of corridor and bridge users, and discusses the importance of the Ballard bridge and the Interbay corridor for freight movement.

The Ballard bridge spans the Lake Washington Ship Canal, the waterway that links Shilshole Bay in the Puget Sound with Lake Washington. The bridge connects Ballard to Magnolia, Queen Anne to the south and Downtown via 15ᵗʰ Ave West and Interbay. The bridge serves key industries and economic centers in the area, such as the BINMIC, and is part of a local commute route for urban communities throughout the study area.

Exhibit 4. Mode Share by Travel Purpose, Ballard Bridge, 2019
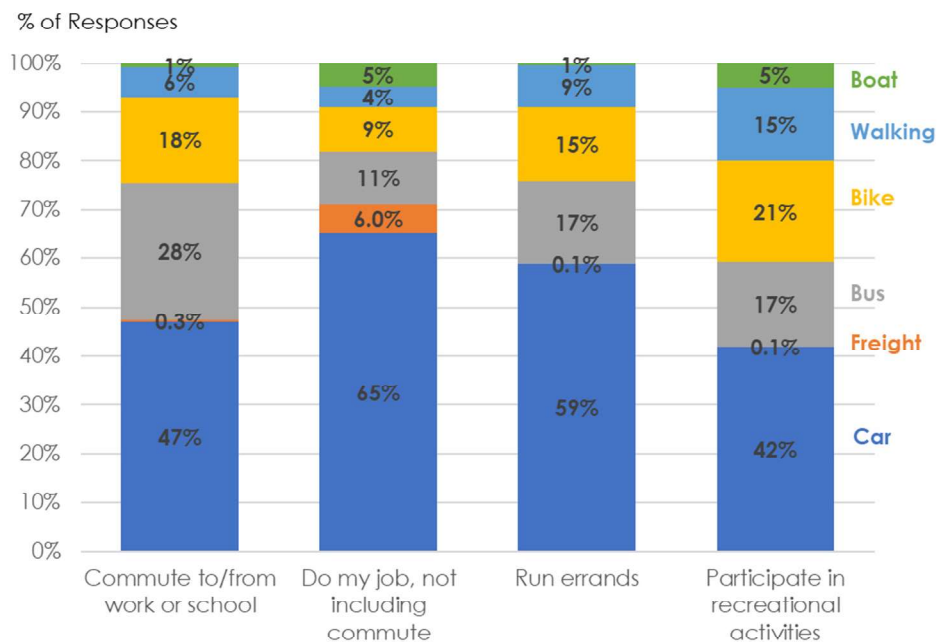
Source: City of Seattle, 2020.

According to a survey conducted by SDOT in August 2019, 83% of bridge users travel the bridge by car and most of the car travel takes place on weekends[10]. The same survey found that most respondents travel across or under the Ballard bridge to run errands and participate in recreational activities. Roughly 46% of respondents indicated they use the bridge to commute to/from work or school and 13% to do their job (including freight,

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[10] Seattle Department of Transportation, Ballard Bridge Planning Study Survey Summary, August 2019.

deliveries, rideshare and other). The car is the preferred travel mode across all purposes. A significant share of commuters takes the bus, while biking and walking is used most by respondents participating in recreational activities. (**Exhibit 4**).

The bridge carried 49,500 vehicles per day on average in 2018 and was one of the top ten arterials by traffic volume in the City of Seattle.[11] Average annual weekday traffic (AAWT) in 2018 was at its lowest level in the past ten years (**Exhibit 5**).

Exhibit 5. Average Annual Weekday Traffic Ballard Bridge Count Station, 2008 – 2018
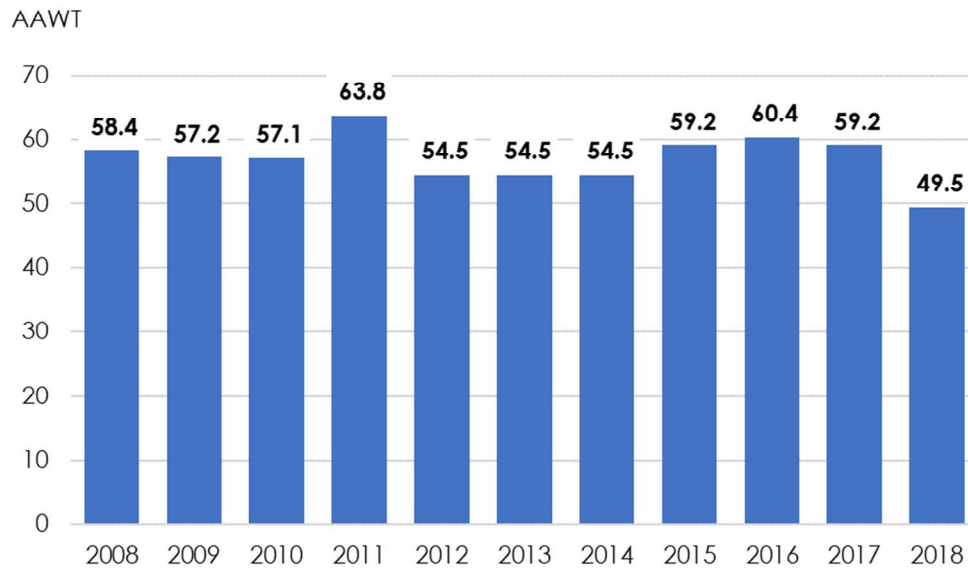
Sources: City of Seattle, 2020.

The Magnolia bridge connects southern Magnolia to Interbay and is one of the three existing connections from the Magnolia neighborhood to the rest of Seattle. The bridge serves the approximately 18,000 residents of Magnolia as well as the local businesses in the Magnolia Village area and any visitors that neither live nor work in the neighborhood. The bridge is also used by King County Metro buses serving Magnolia and emergency services that need to reach the neighborhood.

Of the 1,104 people who participated in SDOT's online open house about the Magnolia Bridge replacement, 91% were neighborhood residents and 84% commute to work in and out of Magnolia. Travel is overwhelmingly done by

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[11] Seattle Department of Transportation, 2019 Traffic Report.

car with 85% driving a personal vehicle alone or with a family member. Another 8% ride transit and 3% walk or bike.[12]

Exhibit 6. Average Annual Weekday Traffic (AAWT) Magnolia Bridge and Other Magnolia Entrance Routes, 2008 – 2018
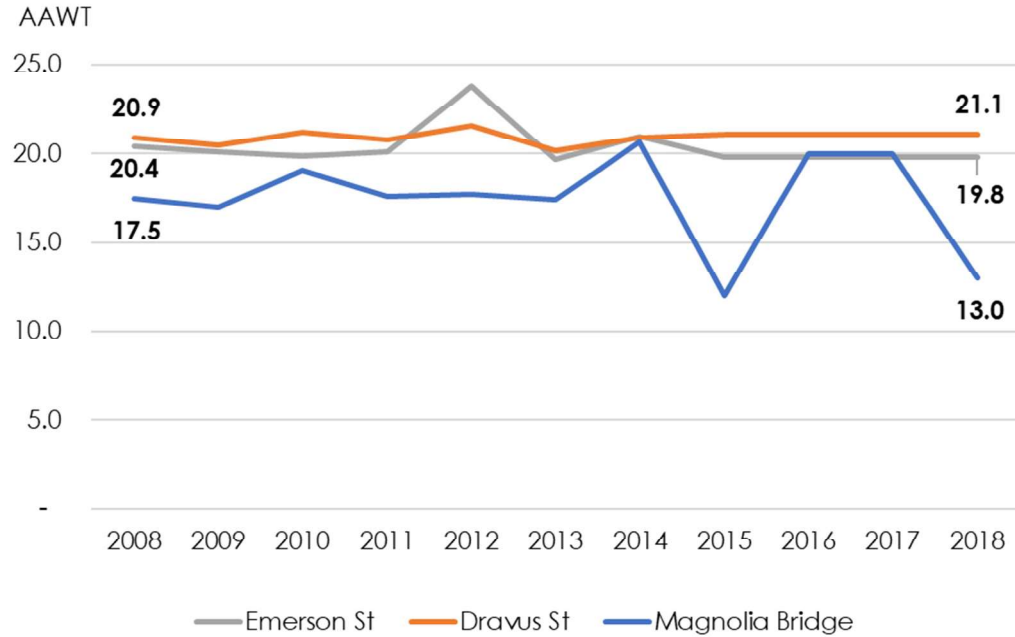
Sources: City of Seattle, 2020.

In 2018, 13,000 vehicles per day on average travelled over the bridge, compared to 21,100 vehicles on the W Dravus Street bridge and 19,800 on the West Emerson Street bridge. AAWT across the Emerson and Dravus Street routes into Magnolia has held steady over the last ten years, with slight annual variations (**Exhibit 6.** Average Annual Weekday Traffic (AAWT) Magnolia Bridge and Other Magnolia Entrance Routes, 2008 – 2018). Dravus St and Emerson St consistently recorded higher AAWT than the Magnolia Bridge.

Commute Trip Analysis

An analysis of commuter trips to, within, and from the study area was performed using the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics. The most recent data available shows that the greatest numbers of residents of the

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[12] Seattle Department of Transportation, Magnolia Bridge Planning Study, July 2018. https://www.seattle.gov/Documents/Departments/SDOT/BridgeStairsProgram/bridges/Magnolia/MagnoliaBridge_Outreach%20Summary_July2018.pdf

study area commute to jobs in downtown Seattle, the University of Washington / U. District, the Duwamish MIC and downtown Ballard – and, to a lesser extent, to downtown Bellevue and Bel-Red (**Exhibit 7**).

The greatest number of employees that work in the study area's commercial and industrial zones (the red boundary in **Exhibit 8.** Where BIRT Workers Live
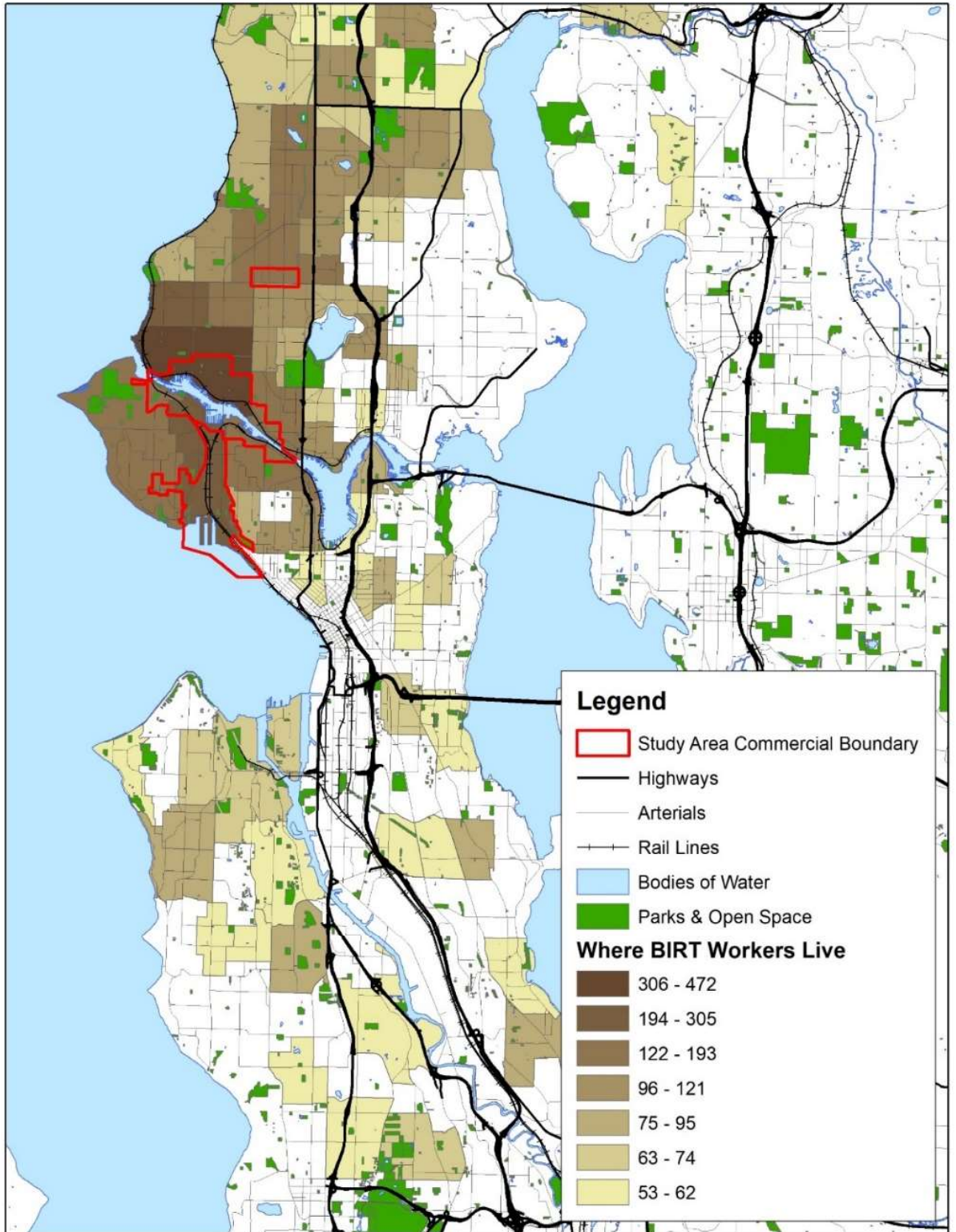
Legend

☐	Study Area Commercial Boundary
—	Highways
—	Arterials
+++	Rail Lines
■	Bodies of Water
■	Parks & Open Space

Where BIRT Workers Live

■	306 - 472
■	194 - 305
■	122 - 193
■	96 - 121
■	75 - 95
■	63 - 74
■	53 - 62

) live nearby in Ballard, Interbay, Magnolia, Loyal Heights and Upper Queen Anne. A smaller number of workers live in and commute from Seattle neighborhoods to the north and in parts of southern Snohomish County

including Shoreline, Edmonds and Lynnwood. This implies that BIRT workers predominantly commute from the north, as well as from immediate east and west of study area.

According to LEHD data, nearly 23,000 workers commute into the study area's commercial and industrial zones from outside, with only 850 living and working within the commercial boundaries. Around 3,100 of these people live within the residential study area boundaries. This is similar to other commercial and industrial employment centers in the region such as the Seattle's Duwamish MIC and the Kent Valley MIC, where nearly all workers commute in from outside the MIC.

The commuter origin and destination data is consistent with traffic volumes shown in **Exhibit 9** indicating that the 15th Ave W/NW corridor is the primary north-south artery into and through the study area. Those commuting to the south for downtown Seattle and the Duwamish employment destinations would use the Ballard Bridge, Magnolia Bridge, and 15th Ave W/NW corridor. In addition, residents commuting east from northern neighborhoods of the study area to UW or across 520 to Bellevue and Bel-Red use 45th Street heavily. Commuters east from southern study area use the Magnolia Bridge to access Elliott Ave W, and onward to Mercer Street and I-5.

Exhibit 7. Where BIRT Residents Work

Legend

- Study Area Residential Boundary
- Highways
- Arterials
- Rail Lines
- Bodies of Water
- Parks & Open Space

Where BIRT Residents Work

- 2,702 - 4,218
- 1,436 - 2,701
- 782 - 1,435
- 506 - 781
- 296 - 505
- 162 - 295
- 79 - 161

Exhibit 8. Where BIRT Workers Live

Legend

- Study Area Commercial Boundary
- Highways
- Arterials
- Rail Lines
- Bodies of Water
- Parks & Open Space

Where BIRT Workers Live

- 306 - 472
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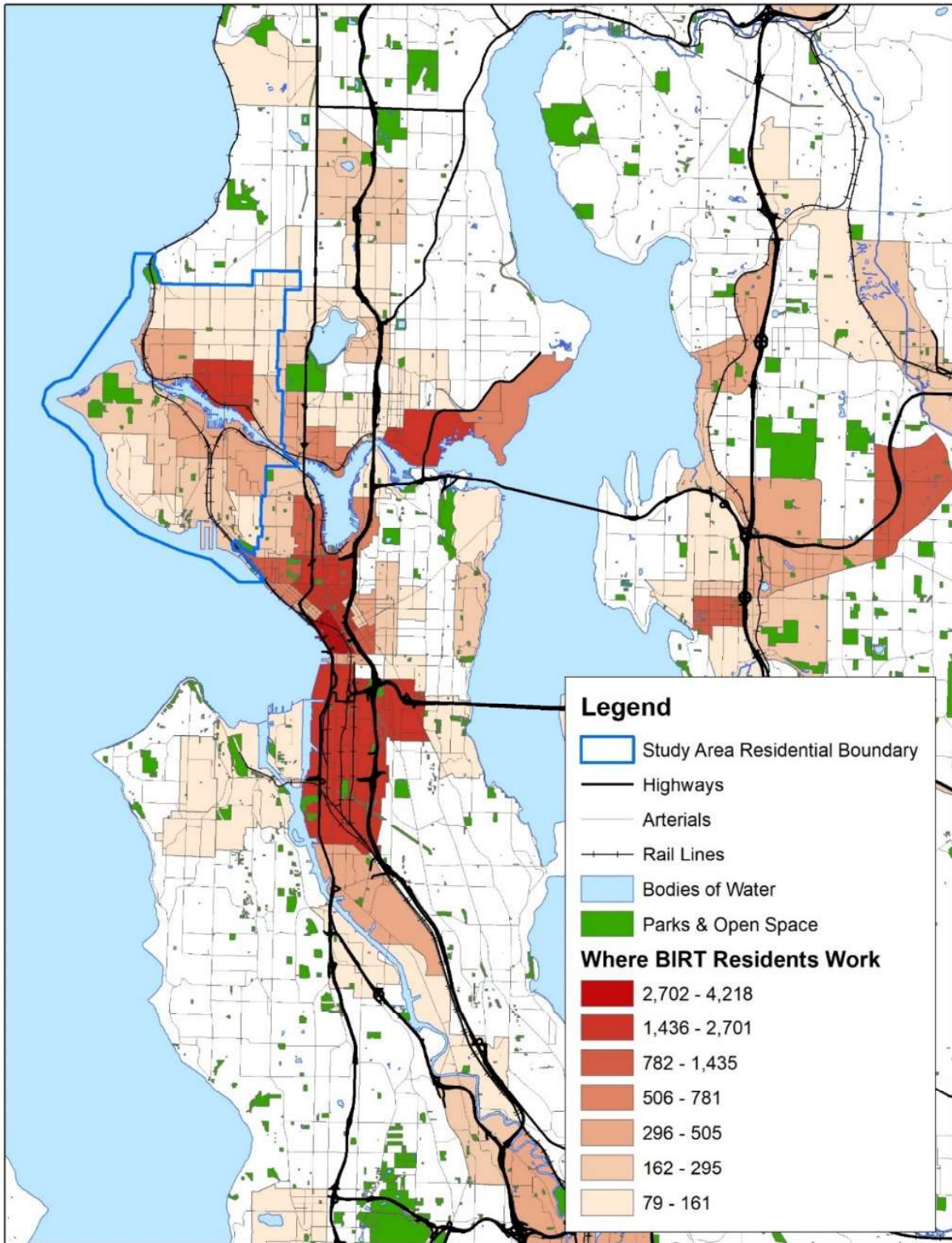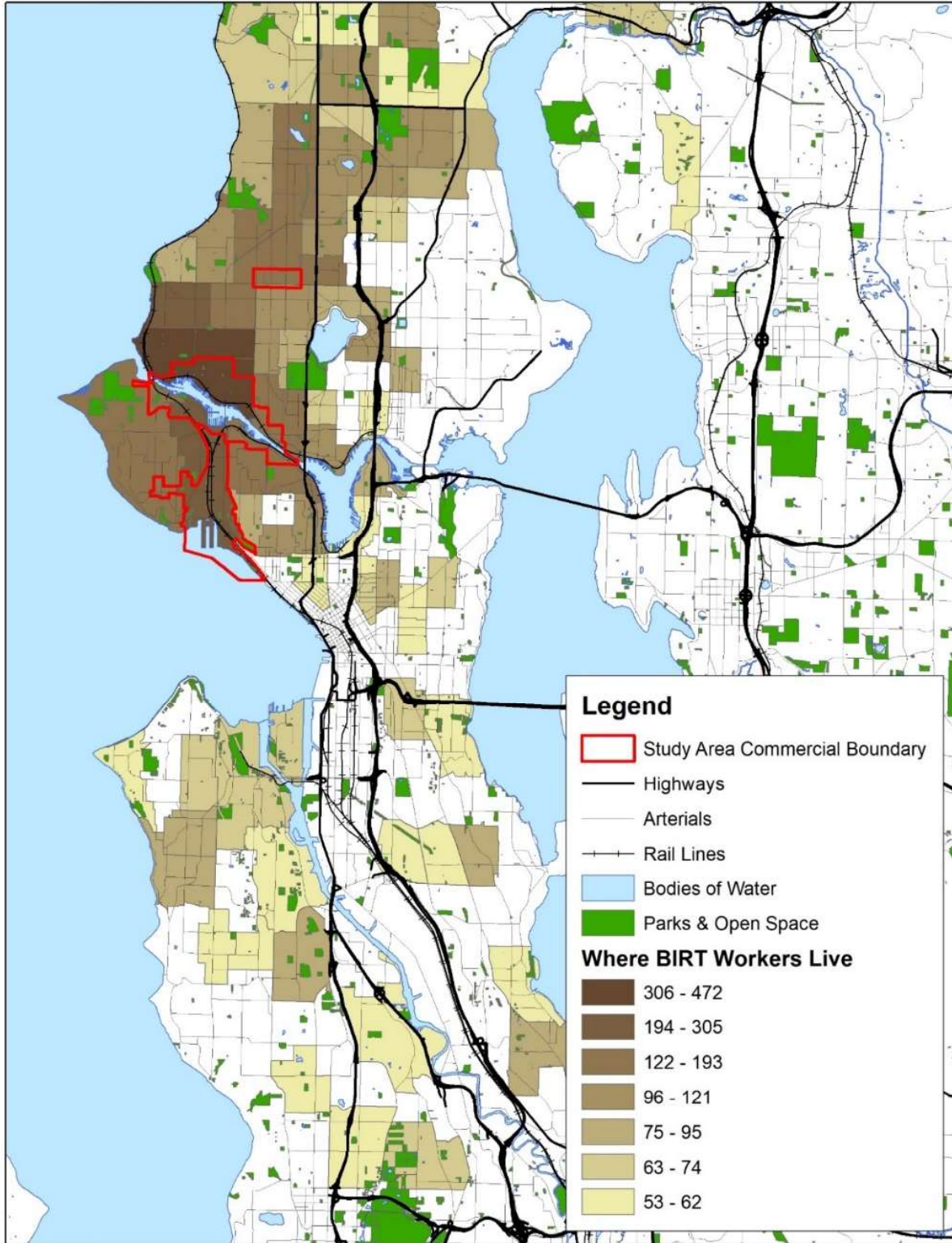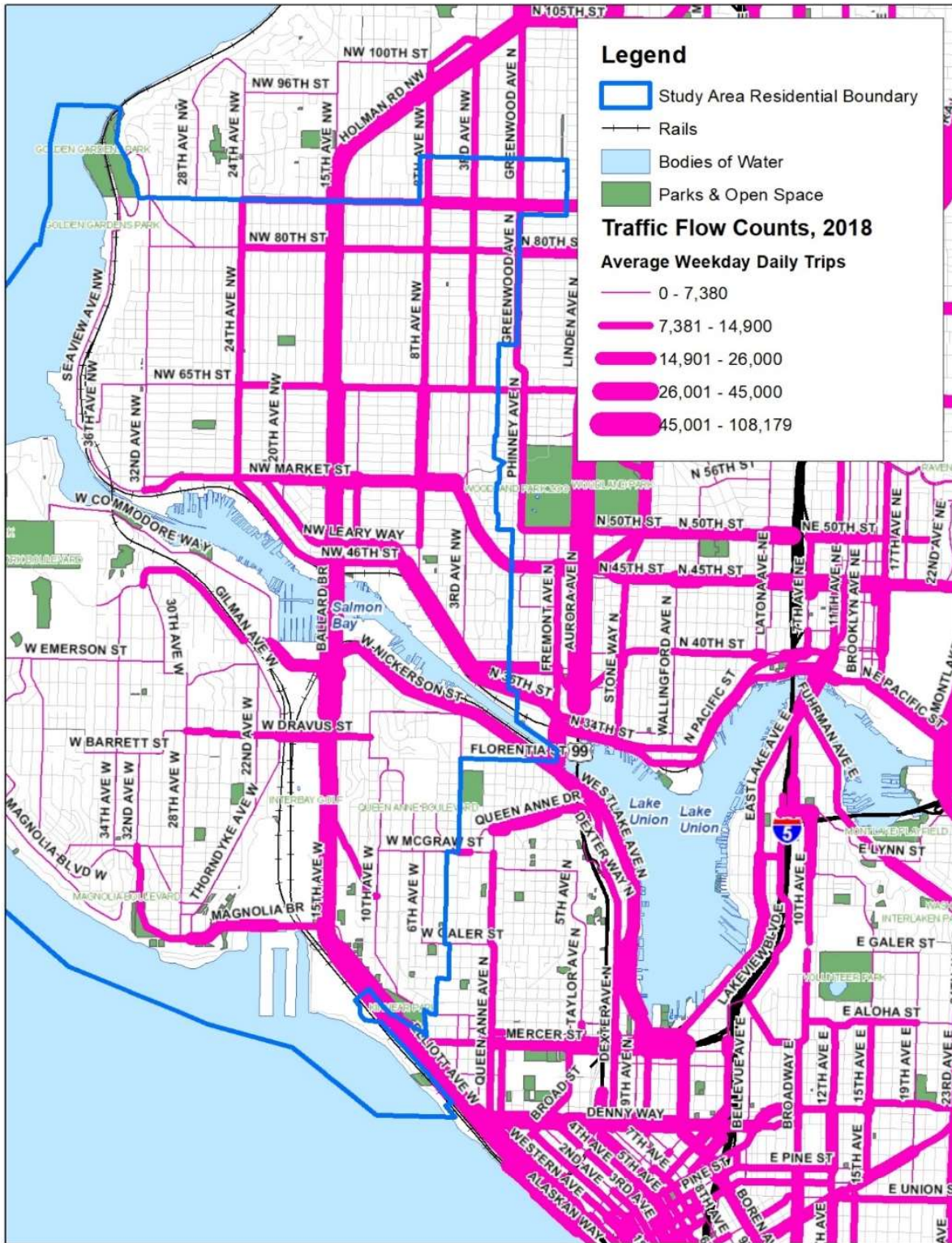**Exhibit 9. Study Area Traffic Flow, Average Annual Weekday Traffic, 2018**

Sources: City of Seattle, 2020; Community Attributes, 2020.

Freight Movement Along the Ballard-Interbay Corridor

The BIRT study area is home to thriving ecosystem of industrial businesses with supply chain linkages both within and outside the region. These include light manufacturing, maritime, food and beverage production, warehouse uses and others. Industrial properties representing the Ballard-Interbay Northern Manufacturing Industrial Center and several industrial adjacent properties on the north of Lake Union are a source of high-wage jobs in the Seattle area and were home to 28,700 jobs in 2018. Many of these businesses rely on the Holman Road – 15th Avenue W/NW freight corridor to reach local and regional suppliers, customers, or other transportation corridors.

This freight corridor is the main North-South freight route in Northwest Seattle. It is a designated major truck street as part of Seattle's 2005 Transportation Strategic Plan (TSP), meaning it carries over 500 trucks per day, and an over-legal route[13], meaning it can accommodate oversized or overweight trucks. Over 1,500 trucks a day travel on 15th Ave W/NW over the Ballard bridge. The City of Seattle Freight Master Plan forecasts that this will increase to roughly 2,500 by 2035. Employment growth in high freight-generating sectors such as wholesale, retail trade and manufacturing is projected to be one of the main drivers of demand for goods movement through the BIRT study area.

The 15th Avenue W/NW corridor is a seaport highway connector, providing reliable connection between the interstate and Seattle's seaports. The corridor provides North-South connection for several maritime assets, including shipyards in BINMIC, Ballard Locks, and the Port of Seattle facilities in Interbay.

The Port of Seattle operates the Fishermen's terminal; T-91 terminal, which is the Port's largest seaport facility and accommodates a cruise terminal, seafood storage and processing, a business complex and various storage facilities; and T-86, the Port's grain elevator. In 2019, the cruise industry at the Port of Seattle[14] directly generated roughly $468 million in business revenues and nearly 3,000 jobs.

The 15th Avenue W/NW corridor also connects to the railroad facility at Balmer Yard. The 80-acre intermodal yard is owned by BNSF Railway and it is mainly used for railcar storage and sorting. Rail is a great asset to the City and rail freight is critical to the success of manufacturing and industrial uses in the study area.

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[13] The Heavy Haul legislation was approved by the City of Seattle in October 2015 to allow movement of heavier cargo containers between the Port of Seattle, industrial businesses, and rail yards with appropriate permits.
[14] Including Pier 66 facility.

The 15th Avenue W/NW corridor passes through local urban villages. Ballard is a fast-growing neighborhood experiencing rapid residential, retail, and business growth. This growth in economic activity simultaneously increases the need for freight access serving the area and restricts freight access due to congestion and limited on-street parking and loading zones.

Transit and Non-Motorized Connections

There are several King County Metro bus routes that use the Ballard and Magnolia bridge and serve residents and workers in the Ballard-Interbay corridor. Metro's RapidRide D Line is the first bus rapid transit service in the study area. The D Line operates daily between Downtown Seattle, Uptown, and over the bridge to Ballard and Crown Hill. It carried around 14,000 riders per day in 2018. Other routes crossing the Ballard bridge include:

- Route 29 connects Downtown Seattle, Queen Anne, and Ballard, with 1,100 weekday riders in 2018
- Route 15X connects Downtown Seattle, Ballard, Crown Hill, and Blue Ridge, with 1,400 weekday riders in 2018
- Route 17X connects Downtown Seattle, Ballard, and Sunset Hill, with 1,100 weekday riders in 2018
- Route 18X connects Downtown Seattle, Ballard, and Loyal Heights, with 1,100 weekday riders in 2018.

Magnolia neighborhood is also served by transit that crosses the Magnolia bridge:

- Route 19 and route 24 connect Magnolia to Downtown Seattle, with 300 and 2,300 weekday riders in 2018
- Route 33 connect Magnolia to Discovery Park to the north and Downtown Seattle to the south, with 2,100 weekday riders in 2018.

Several of these transit routes (RapidRide D Line, 15X, 17X, 18X and 33) have been identified by King County Metro in their 2019 system evaluation as overcrowded routes and require investment to expand capacity. Of these, the RapidRide D Line needs the most investment and requires three additional daily trips.

Future Transit Service Expansion
MetroConnects, King County Metro Transit's vision, includes 26 RapidRide lines around the county by 2040. The 2040 enhanced network envisions new bus services from east Seattle and east King County terminating in the Interbay area. Other planned investments include bus-only lanes and transit priority features.

Sound Transit's West Seattle and Ballard Link Extensions will provide a light rail connection to residential and job centers in Interbay, with three

stations planned in the study area: Smith Cove, Interbay, and Ballard stations. The Ballard to Downtown segment is planned to be completed by 2035 and will add 7.1 miles of light rail service from downtown Seattle to Ballard, including a new downtown Seattle rail-only tunnel.

Pedestrian and Bicycle Access
Bicycle and pedestrian facilities in the study area link neighborhoods to business districts and create connections with recreational and natural areas within the region.

The study area includes several bike facilities. The Elliott Bay Trail in Interbay runs from Century Link Field in the south to Smith Cove in Magnolia to the north. A section of the trail between W. Galer St. and Centennial Park has been improved as part of Expedia's work on its new campus in the area and surrounding public amenities.

Protected bike lanes and safer intersections are being delivered along 20th Ave W, Gilman Ave W, W Government Way, and W Emerson Pl as part of a project called out in the city's Bicycle Master Plan. The project allows bicyclists to ride from the downtown waterfront to Discovery Park and the Ballard Locks almost entirely separated from car traffic. Further north in Ballard, the completion of the Burke Gilman Trail missing link planned to start in 2020 will create a regional facility that provides east-west bicycle connection. Other bike facilities in the study area include the Ship Canal Trail, bicycle lanes without separation and neighborhood greenways.

SOCIO-ECONOMIC BASELINE

Important social and economic equity considerations exist with respect to BIRT regional transportation improvements in the study area. Several demographic and economic metrics were analyzed to better understand the racial, educational, and economic dynamics of the resident and workforce populations of the study area.

Population and Demographics

The total population in the study area was approximately 95,200 in 2019, representing almost 13% of the City of Seattle's total population (753,700, according to 2019 ACS estimates). Of the three neighborhoods comprising the project study area, Ballard and Interbay have experienced major population growth over the last decade.

Ballard's population has increased from approximately 26,200 in 2010 to 34,800 in 2019. The number of residents in Interbay has grown from approximately 4,600 in 2010 to 6,400 in 2019. Magnolia's population grew from approximately 16,400 to 17,800 in that same period. **(Exhibit 10)**

Exhibit 10. Study Area Population by Neighborhood, 2010 and 2019

Neighborhood	2010 Population	2019 Population (Est.)	Annual Growth (CAGR)
Ballard	26,200	34,800	3.2%
Interbay	4,600	6,400	3.7%
Magnolia	16,400	17,800	0.9%
Other Neighborhoods	33,200	36,200	1.0%
All Study Area	**80,400**	**95,200**	**1.9%**

* All Study Area includes census block groups (Other Neighborhoods) located outside of the three named neighborhood sub-boundaries, including areas north and east of Ballard, and areas of Queen Anne.
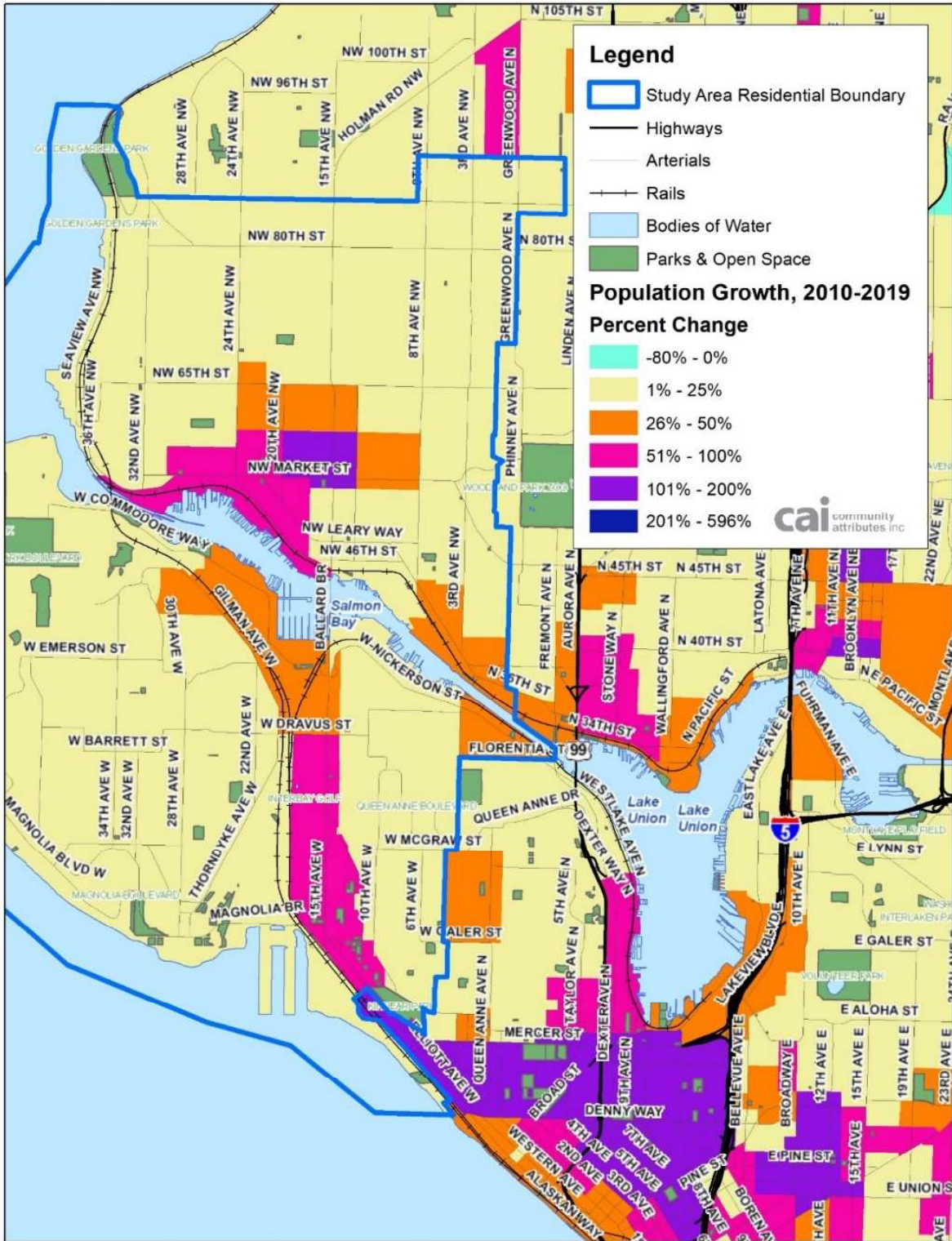
Sources: U.S. Census Bureau, 2019; Community Attributes, Inc, 2020.

The growth in population in the study area has occurred almost exclusively within areas zoned for mixed use and multifamily development in Interbay and, especially, in Ballard, where a city-designated Urban Village occupies most of the downtown area (**Exhibit 11**). The 15th and Market area of downtown Ballard has seen its population more than double (118% growth) from 2010 to 2019, according to latest U.S. Census estimates. The rest of downtown Ballard has seen a 95% population growth in the same period. The development of numerous large mixed-use and multifamily condo and apartment projects have added thousands of units to Ballard's Urban Village in the last decade.

When viewed at the census block group level (**Exhibit 11),** the geography of exceptional population growth seen over the last decade in Ballard and Interbay corresponds closely to a number of significant development sites in the corridor that will shape the economic landscape of the area in years to come. The growth has occurred directly along the corridor that is planned for Sound Transit's West Seattle and Ballard Link Extensions (WSBLE), as well as RapidRide transit service improvements by SDOT and King County Metro. The Terminal 91 Uplands redevelopment, Fishermen's Terminal redevelopment, National Guard Armory site redevelopment, and the new Expedia corporate campus also all intersect these specific areas of high growth.

In upper Interbay, near the employment-rich Fishermen's Terminal area where residential populations were historically non-existent, two large multi-family projects fronting Dravus Street – the Axle and Crane buildings, respectively – have been responsible for a 32% population increase. This number is likely to rise dramatically as these buildings are only now coming to full occupancy.

Exhibit 11. Population Growth in the BIRT Study Area, 2010-2019

Sources: U.S. Census Bureau, 2019; Community Attributes, Inc, 2020.

South of Dravus along 15th Ave W in central and lower Interbay, several other large-scale mixed-use residential projects (including Slate Lofts, The Flats at Interbay, Interbay Place, and Interbay Work Lofts) have further transitioned the formerly industrial corridor toward a residential district. These projects have resulted in a population increase of 76% from 2010-2019.

Both areas correspond to planned expansions of transit-oriented development based on anticipated investments in high-capacity transit such as RapidRide and Link light rail. The 2014 Ballard to Downtown Transit Expansion Study, 2016 Move Ballard plan, and 2017 Metro Connects plan have all included expanded TOD recommendations for this corridor.

Exhibit 12. Sample Interbay Multifamily Housing Development

Unico Development's Slate Lofts and Apartments, a 236-unit multifamily housing development in the heart of the Interbay neighborhood in the BIRT study area. Source: Unico

Population Density

The average population density of the City of Seattle was 8,882 persons per square mile in 2019. According to the most recent U.S. Census population estimates, most of the study area north of the Ship Canal had 2019 population densities[15] greater than the City average. The census block group surrounding 15th and Market Ave. in Ballard had the highest population density in the study area (**Exhibit 13**).

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[15] Population density is expressed in terms of persons per square mile, by census block group.

Exhibit 13. Population Density in the BIRT Study Area, 2019
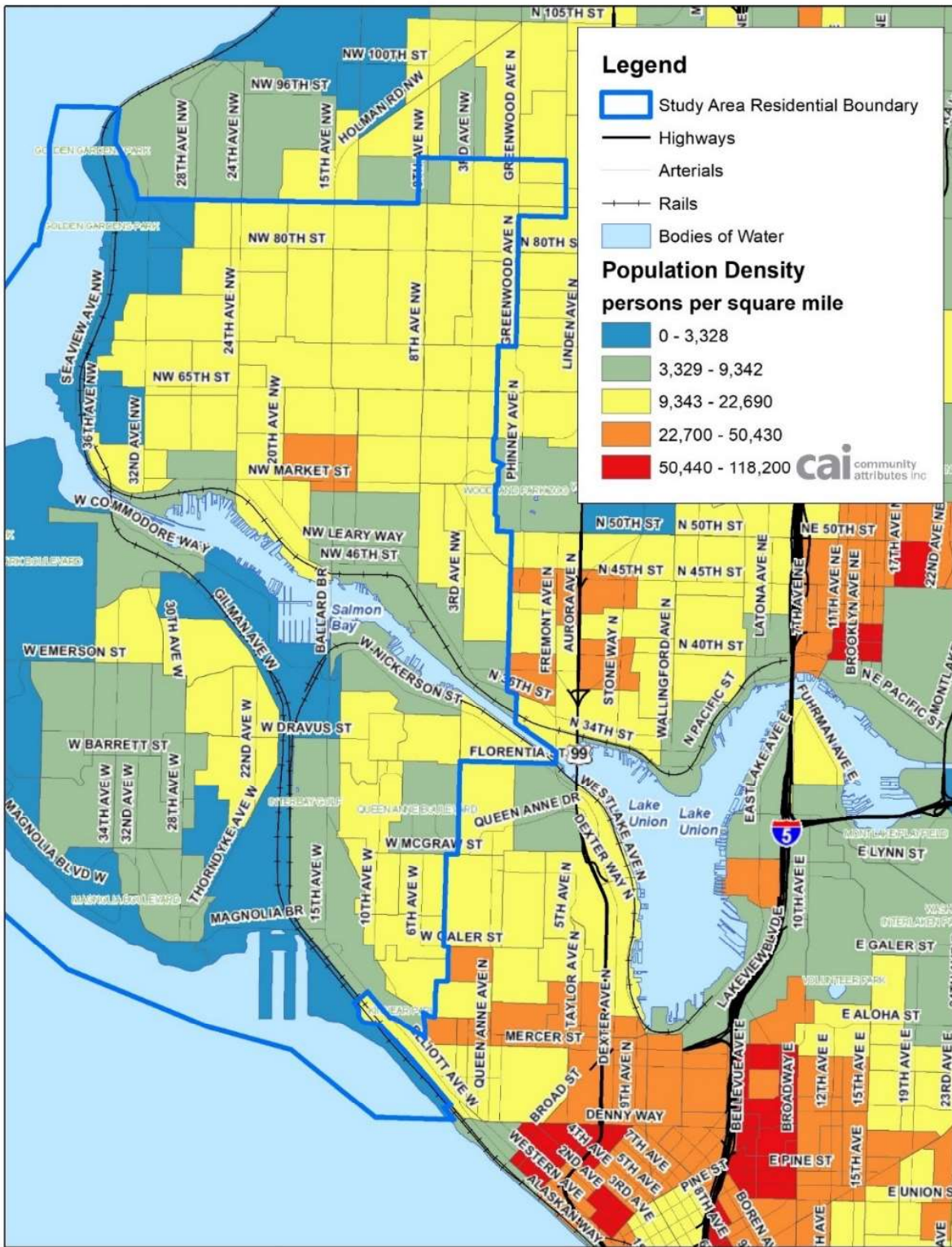
Sources: U.S. Census Bureau, 2019; Community Attributes, Inc, 2020.

Residents in these high-population density zones will be directly served by planned Link light rail and RapidRide bus transit improvements, better linking Ballard residents to local and regional employment centers (**Exhibit 7**).

Two of the three census block groups comprising the Interbay neighborhood had some of the lowest population densities in the study area – unsurprising given the concentration of non-residential uses in these areas. Commercial and industrial areas of Ballard also had less population density than the City average. While these areas currently have relatively low population density, they are planned for both transit-oriented-development (TOD) expansion, and redevelopment of key area employment anchors. Other areas of low population density include the wealthier sections of Sunset Hill in Ballard, and Briarcliff and Southwestern Magnolia.

Population Distribution by Age & Disability

The study area population contains about 16% less residents over the age of 65 than the City of Seattle as a whole. However, the median age of the study area was higher, at 38.2 years, compared with Seattle, at 35.2. According to U.S. Census 5-Year ACS estimates for 2014-2018, the percent of the total population in the study area that was over age 65 was 11% - almost 16% less than the City of Seattle figure (13.1%) for this period. Another 1.6% of the population of the study area was 85 years of age or over (**Exhibit 14**). **Exhibit 15** illustrates the distribution of residents over the age of 65 throughout the study area.

Exhibit 14. Age Distribution, Study Area and City of Seattle, 2014-2018
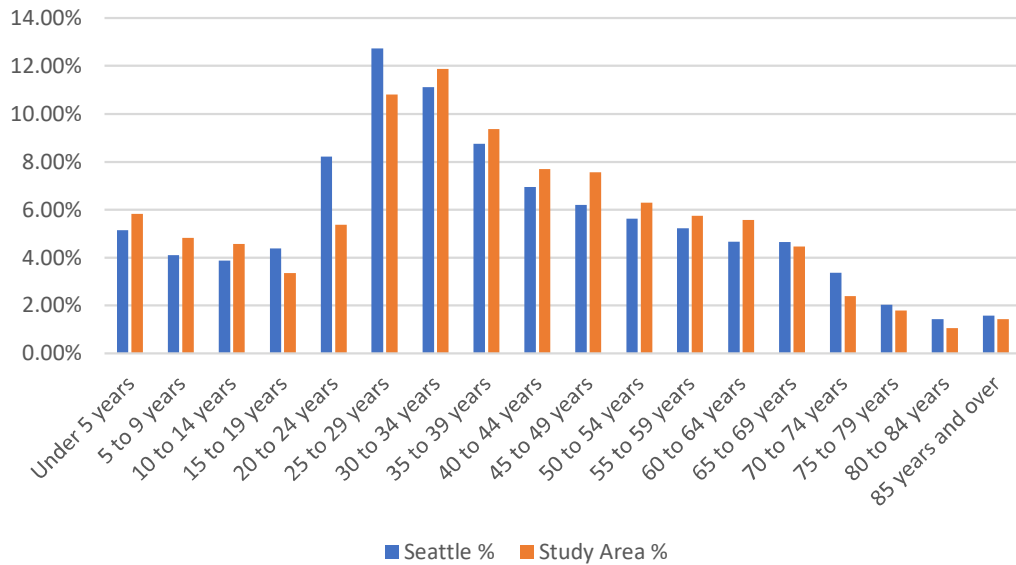
Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

Exhibit 15. Distribution of Residents Aged 65+, 2014-2018
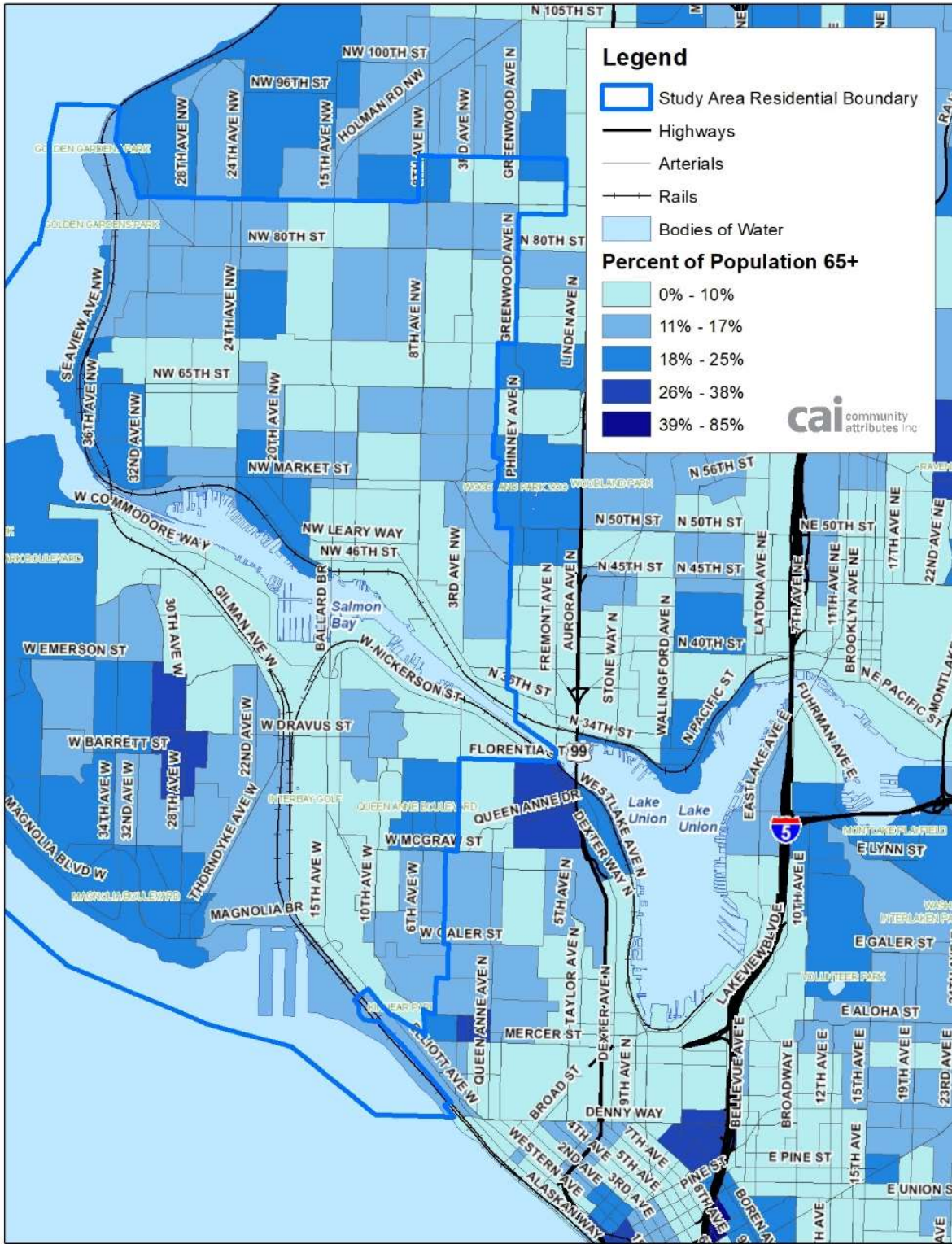
Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

According to U.S. Census 5-Year ACS estimates for 2014-2018, on average, the percent of the total non-institutionalized population with a disability[16] in the BIRT study area was 6.1% from 2014 to 2018, compared to 9.1% in the City of Seattle. Disabilities included hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, and independent living difficulty.

The tracts with the highest disability rates included downtown Ballard and Crown Hill. Four census tracts – three in Ballard and one in upper Queen Anne – had rates of disability greater than 7% (**Exhibit 16**). The tracts with the lowest disability rates were all found at the eastern edge of the study area border, further from the main 15th Avenue NW corridor transit routes. While the proportions of residents over the age of 65 and population with disabilities are both lower than for the City of Seattle as a whole, their distributions are largely distinct apart from some overlap in Downtown Ballard and in Crown Hill.

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[16] The non-institutionalized population excludes persons residing in institutions such as nursing homes, prisons, jails, mental hospitals, and juvenile correctional facilities. Institutions house approximately 4 million persons of whom 2.1 million (52.7%) have a disability (ACS 2011).

Exhibit 16. Percentage of Total Non-Institutionalized Population with a Disability, 2014-2018
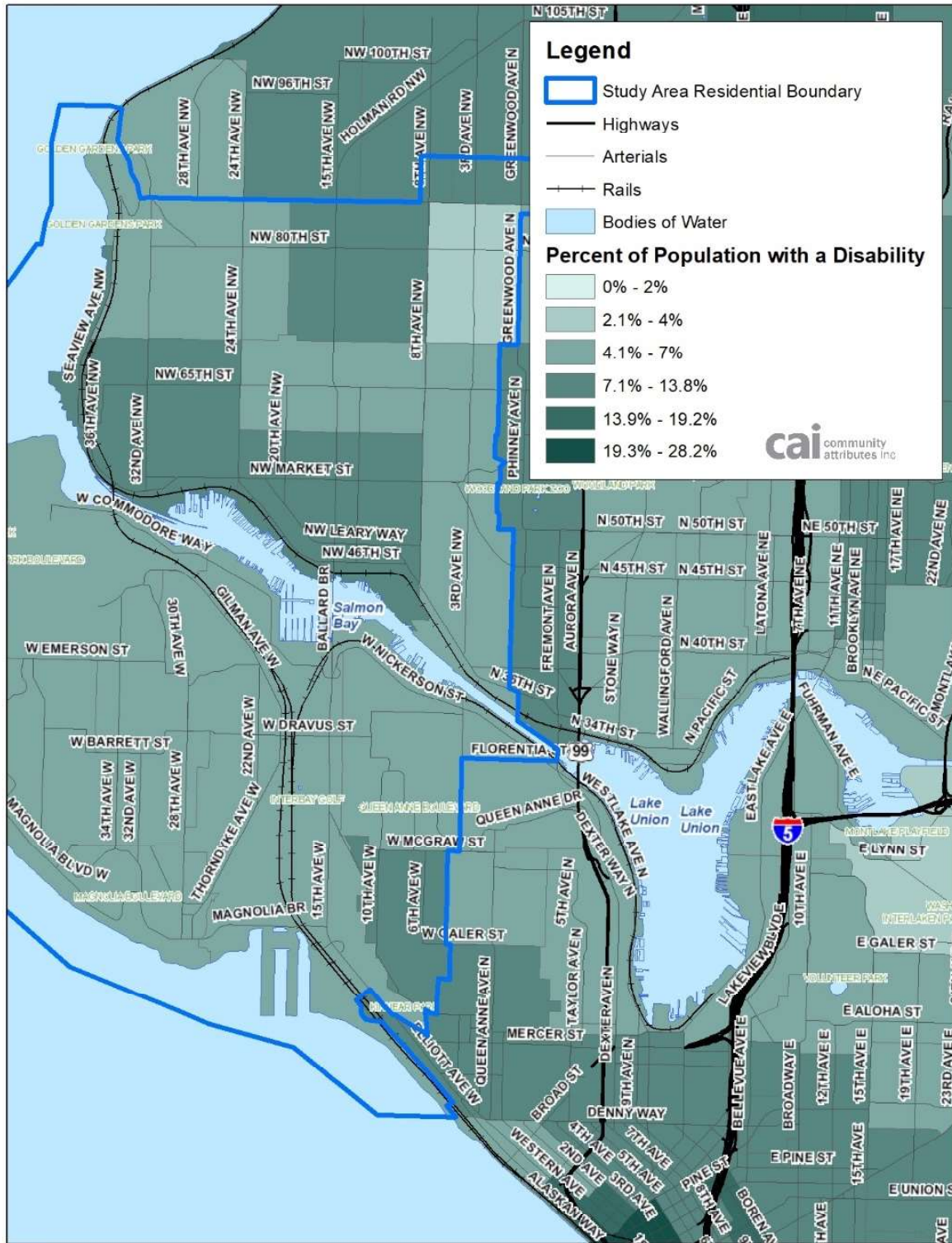
Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

Population Distribution by Race

The overall minority percentage of the population in the study area was roughly 14.4%, compared with 35% for the City of Seattle as a whole, according to U.S. Census 5-Year ACS data from 2014-2018. The breakdown of the study area minority population included a 6.2% Asian population, a 4.8% Hispanic (of all races) population, and a 1.7% Black / African American population. In comparison, the City of Seattle had a 14% Asian population, a 6.4% Hispanic population, and a 7.2% Black / African American population. The Black / African American population in the study area was 76% less than Seattle as a whole, and the Asian population was 56% less. Census tracts with greater proportions of minority residents exist in certain locations of the study area.

The population distribution by race for the study area (**Exhibit 13**) indicates that greater proportions of minority Seattle residents would be served by BIRT transportation improvements in the Interbay portion of the 15th Ave NW corridor. In addition to Interbay, census block groups in the Loyal Heights and Greenwood neighborhoods at the north of the study area, northern Queen Anne, and central Magnolia have higher share of minority residents than the study area as a whole. (**Exhibit 16**).

Exhibit 16. Population Distribution by Race, 2014-2018
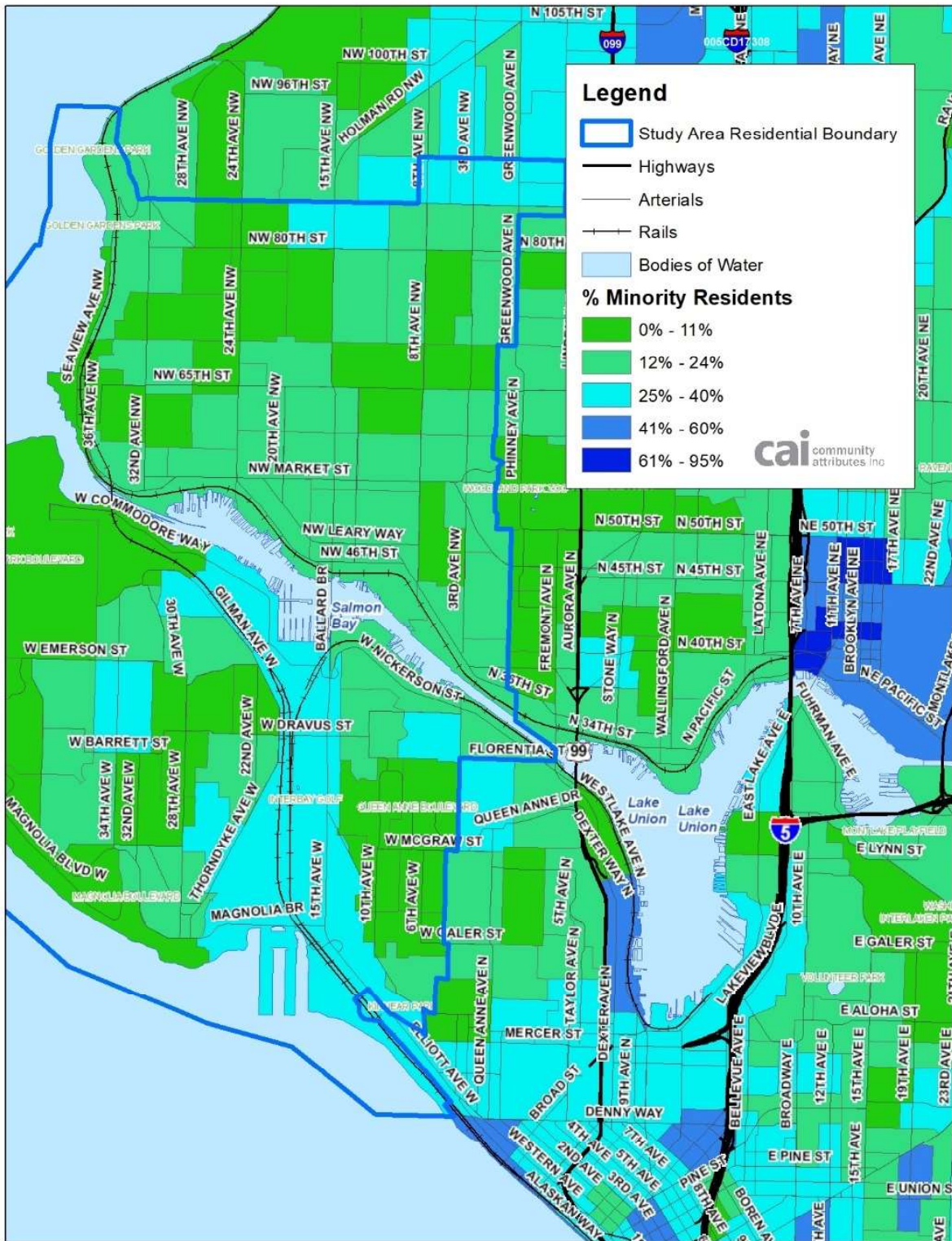
Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

Median Household Income

The census block groups with highest median household incomes for the period 2014-2018 were found in the Sunset Hill section of Ballard, in southwestern Magnolia, and in the northern Queen Anne neighborhood (**Exhibit 17**). The areas with the lowest median household incomes were found in downtown Ballard, lower Interbay, and around 65th and Greenwood near Phinney Ridge.

Residents of areas of low median household income are more likely to have fewer mobility options to meet their basic travel needs, which can impact their quality of life and productivity. Low income households and workers are faced with the rapid rise of the cost of housing in the Seattle area, which has shrunk the choices of residences available that have transit access to jobs. BIRT study area transportation improvements and the Ballard Link light rail and RapidRide expansions could increase employment opportunities for residents of these areas.

Exhibit 17. Median Household Income in the BIRT Study Area, 2014-2018
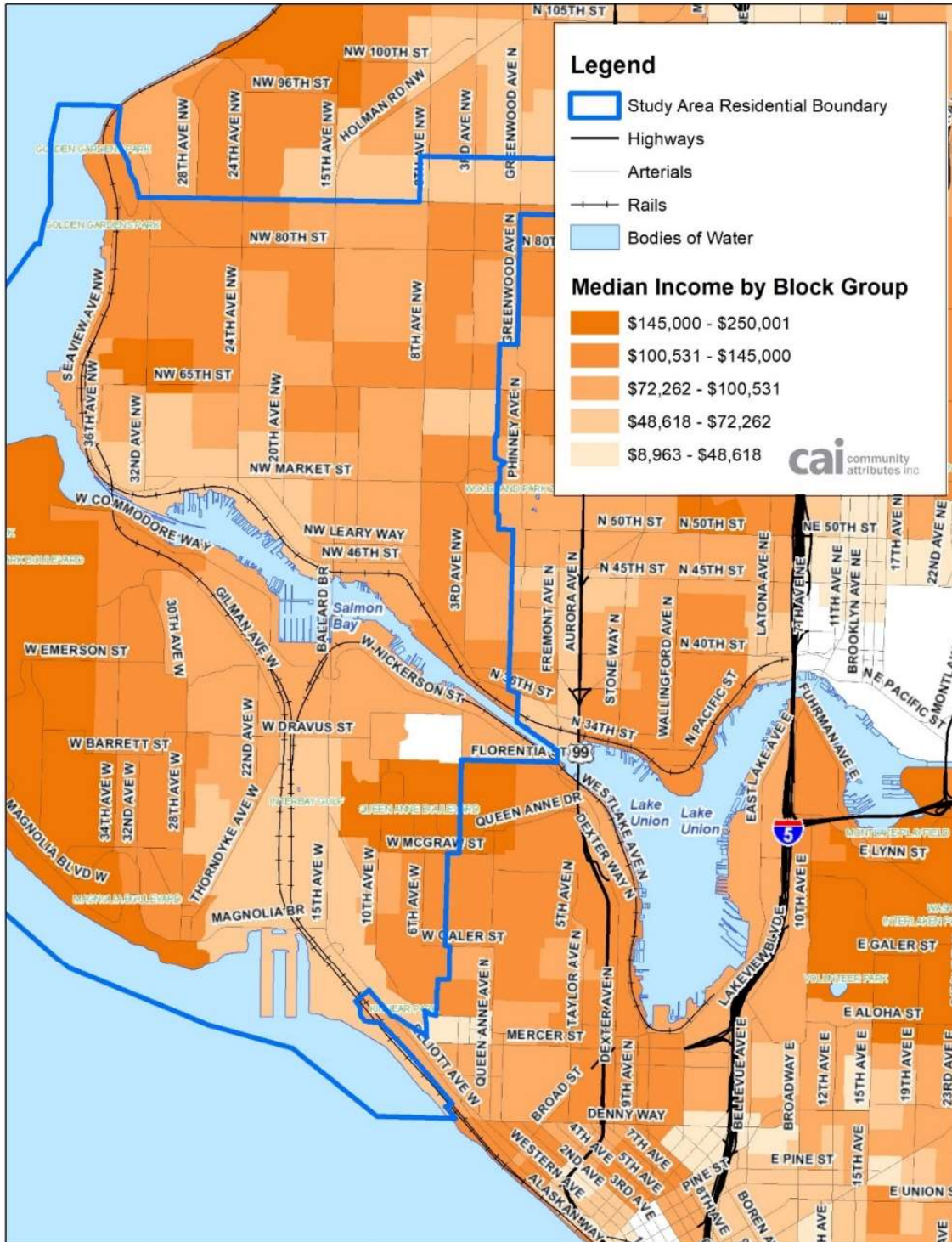
Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.
Note: White regions on the map represent null values in the U.S. Census ACS dataset, including block groups in Queen Anne, and around the University of Washington.

Educational Attainment by Place of Residence

Most of the study area is highly educated, like the City of Seattle. According to ACS estimates, 48% to 100% of residents in all but one on the study area's census block groups had a bachelor's degree or greater. The most highly educated areas – those where at least two-thirds of residents have a bachelor's degree or greater – corresponded to wealthier, single-family zones of the BIRT study area. In most of Interbay, as well as in downtown Ballard and parts of Loyal Heights and Greenwood, only 48%-65% of residents had a bachelor's degree or greater (**Exhibit 18**).

Exhibit 18. Educational Attainment in the BIRT Study Area, 2014-2018

Legend

- Study Area Residential Boundary
- Highways
- Arterials
- Rails
- Bodies of Water
- Parks & Open Space

Educational Attainment
% with Bachelor's or Greater

- 0% - 17%
- 18% - 31%
- 32% - 47%
- 48% - 65%
- 66% - 100%

Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

Housing

American Community Survey estimates for the period 2014-2018 indicate that there are a total of nearly 44,000 housing units of all types within the BIRT study area boundaries (**Exhibit 19**). The 21 census block groups comprising the Ballard neighborhood[17] contained 37% of those units, Interbay contained 7% of the units, and Magnolia contained 20%.

Exhibit 19. ACS 5-Year BIRT Housing Units & Occupancy, 2014-2018

Neighborhood	Total Housing Units	% of All Study Area Housing Units	Occupied Housing Units	Vacant Housing Units	Housing Unit Vacancy
Ballard	16,212	37%	15,409	803	5.0%
Interbay	3,093	7%	2,867	226	7.3%
Magnolia	8,827	20%	8,277	550	6.2%
Other Neighborhoods	15,700	36%	15,143	557	3.5%
All Study Area*	43,832	100%	41,696	2,136	4.9%

* All Study Area includes census block groups (Other Neighborhoods) located outside of the three named neighborhood sub-boundaries, including areas north and east of Ballard, and areas of Queen Anne.

Note: Disaggregated homeowner and rental vacancy rates are only calculated by ACS for mid- to large-size geographies such as MSAs. Multifamily vacancy rates are presented further along in this section using CoStar data.

Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

Overall, from 2014 to 2018, around 5% of all housing units were vacant (**Exhibit 19**). Interbay and Magnolia had slightly higher vacancy rates. Many pockets of higher housing unit vacancy corresponded to concentrations of older, multifamily housing buildings, such as along 32nd and 24th Avenues in Ballard and Loyal Heights, and along Gilman in Magnolia (**Exhibit 21**).

The greatest density of housing units was found in the downtown Ballard area, as well as along 15th Ave W in Interbay. Areas of lower density in housing units were in the study area north of 65th Street, east of 8th Ave., in central and western Magnolia, and upper Queen Anne. (**Exhibit 20**)

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[17] From the Ship Canal north to 70th Street and from Shilshole Bay east to Greenwood Ave.

Exhibit 20. Total Housing Units per Block Group, 2014-2018
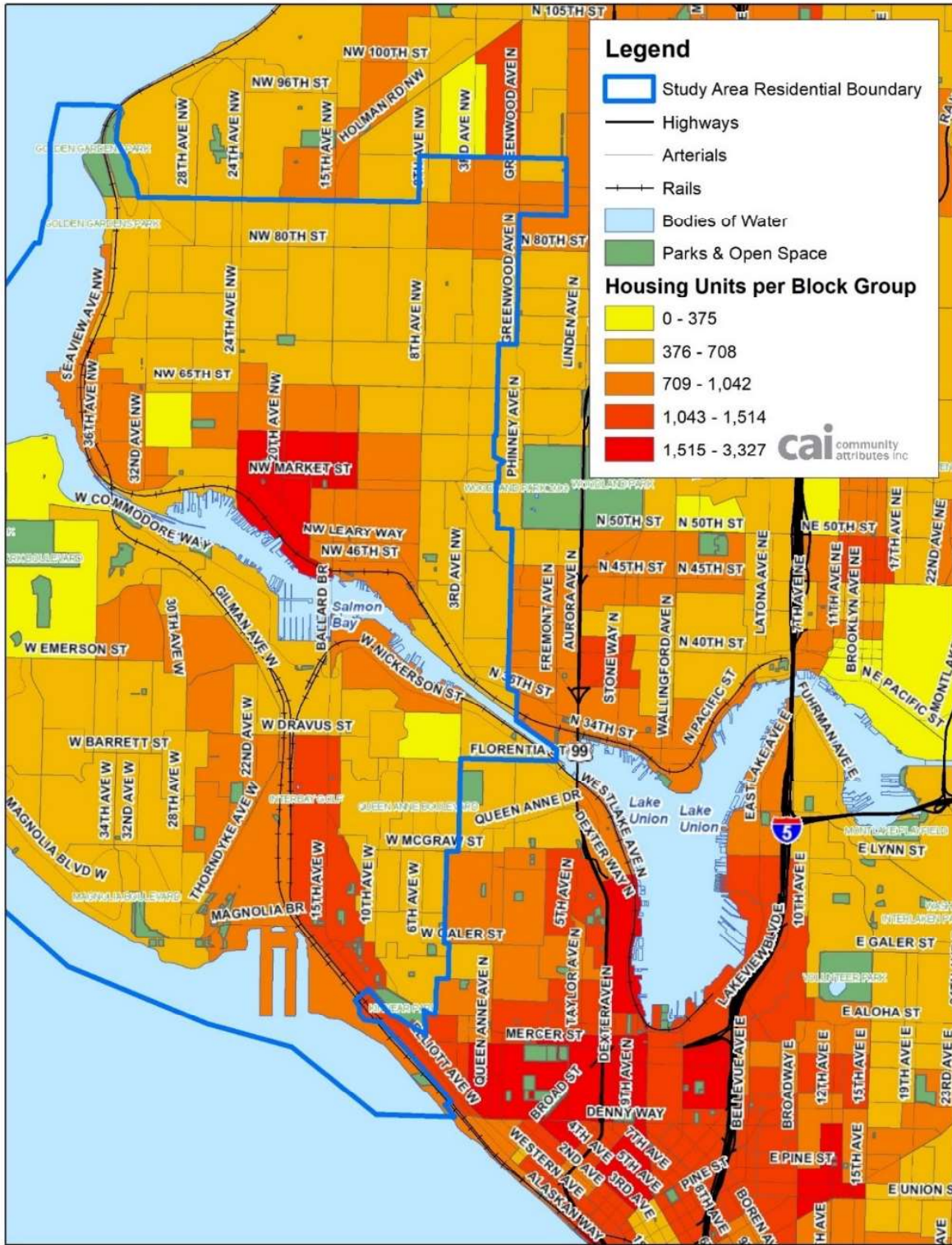
Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

Exhibit 21. Housing Unit Vacancy Rates, 2014-2018

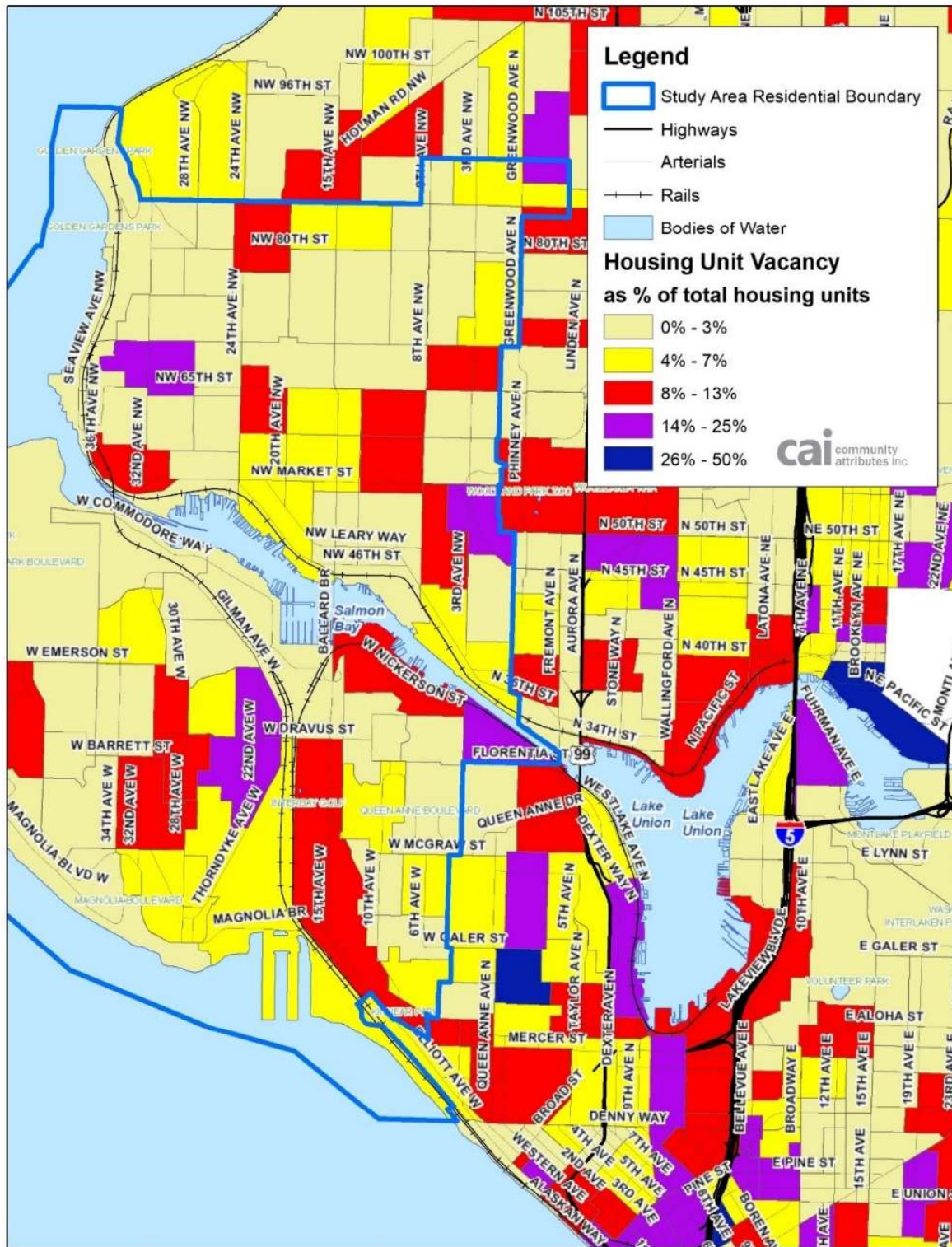*Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.*

Among occupied housing units, Interbay and Ballard had a greater proportion of rental units (69% and 56%, respectively) than owner-occupied units (**Exhibit 22**). Magnolia had a greater proportion of owner-occupied housing (55%). The median value of owner-occupied housing units was highest in Magnolia, and lowest in Interbay. Median rents were again highest in Magnolia and lowest in Interbay.

Additionally, when analyzing median gross rent as a percentage of household income, all three neighborhoods considered, and the study area were below the housing cost burden threshold. Generally, households paying more than one-third of income on housing are cost burdened. The closest was Interbay, where households were found to be spending, on average, nearly 29% of their income on rent.

Exhibit 22. ACS 5-Year BIRT Housing Tenure, Home Value, & Gross Rents, 2014-2018

Neighborhood	Occupied Housing Units	Owner-Occupied Units	Renter-Occupied Units	Median Value of Owner-Occupied Units	Median Gross Rent	Median Gross Rent as a % of Household Income**
Ballard	15,409	6,789	8,620	$603,690	$1,510	24.7
Interbay	2,867	885	1,982	$575,200	$1,422	28.9
Magnolia	8,277	5,690	2,587	$718,180	$1,759	25.9
Other Neighborhoods	15,143	9,407	5,736	$736,380	$1,545	25.8
All Study Area*	41,696	22,771	18,925	$658,363	$1,559	26.3

* All Study Area includes census block groups (Other Neighborhoods) located outside of the three named neighborhood sub-boundaries, including areas north and east of Ballard, and areas of Queen Anne.

** Renter-occupied housing, last 12 months.

Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

The greatest concentrations of renter-occupied housing units were found in downtown Ballard, along other areas of Market Street in Ballard, and along 15th Ave W in Interbay (**Exhibit 23**). The areas of least concentration of renter-occupied housing were found in the Sunset Hill section of Ballard and in Briarcliff and southwestern Magnolia.

Exhibit 23. Renter-Occupied Housing Concentrations, 2014-2018
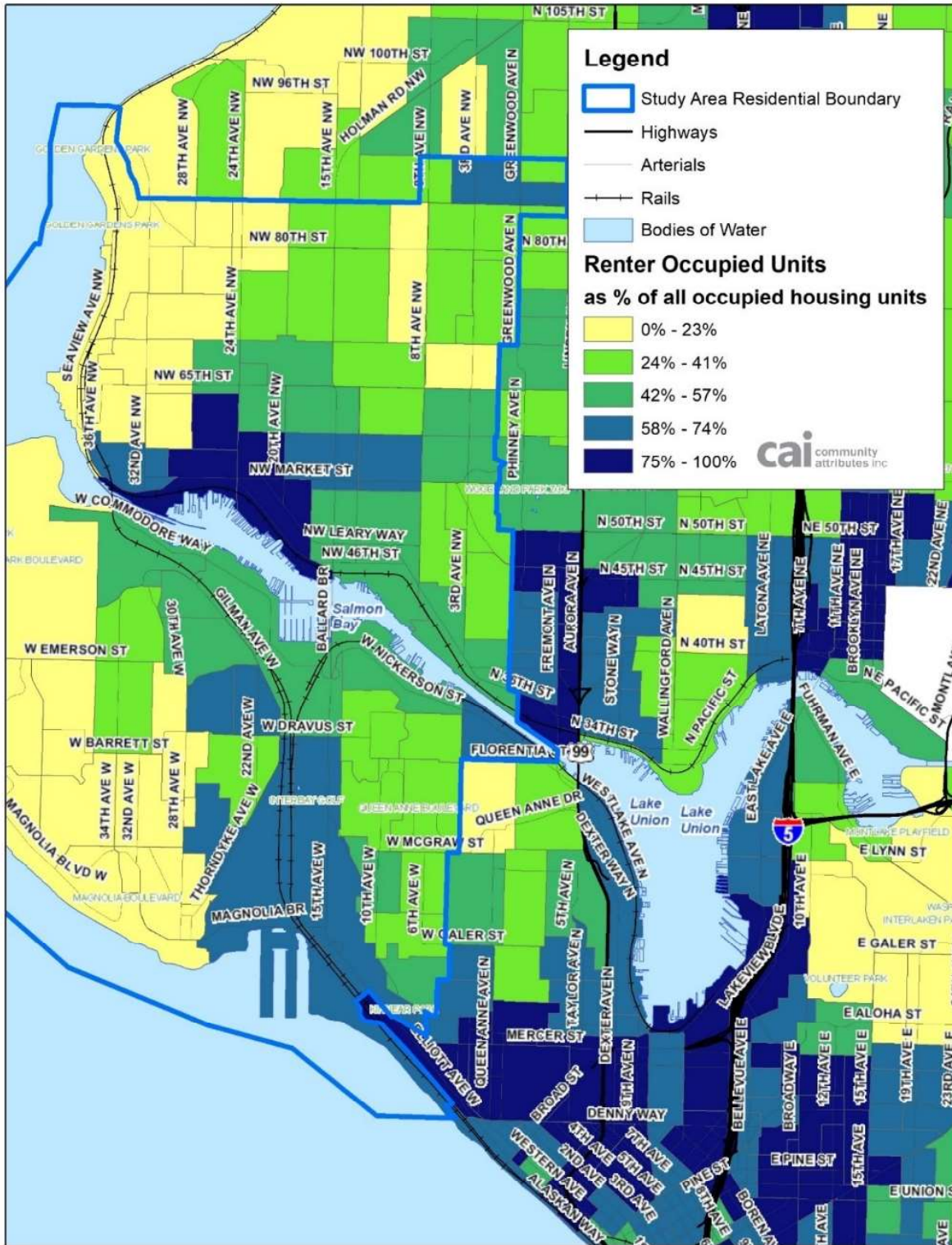
Sources: U.S. Census Bureau ACS 5-Year Estimates, 2014-2018; Community Attributes, Inc, 2020.

In addition to U.S. Census ACS data, commercial property data from CoStar was used to analyze the latest multifamily housing market data available for the study area[18]. As of the first quarter of 2020, a total of 14,164 multifamily units, in 840 buildings, existed in the BIRT study area (**Exhibit 24**). The overall multifamily vacancy rate for the study area was 5.2%, with the greatest vacancy in Ballard, and the lowest in Magnolia.

Exhibit 24. CoStar BIRT Multifamily Housing Market Summary, Q1 2020

Neighborhood	Existing Buildings	Inventory Units	Vacant Units	Vacancy Rate	Average Market Rent / Unit	Average Market Sale Price / Unit	Absorption (12 mo. absorption % of inventory)	Pipeline (under construction units)
Ballard	450	8,139	469	5.8%	$1,839	$349,000	2.8%	53
Interbay	115	2,150	71	3.3%	$1,775	$415,000	7.1%	93
Magnolia	94	1,482	44	3.0%	$1,746	$348,000	0.2%	0
Other Neighborhoods	181	2,393	152	5.4%	$1,792	$440,000	0.7%	259
All Study Area*	840	14,164	736	5.2%	$1,788	$388,000	2.7%	405

** All Study Area includes many census block groups located outside of the three named neighborhood sub-boundaries, including areas north and east of Ballard, and areas of Queen Anne.*

Sources: CoStar, 2020; Community Attributes, Inc, 2020.

Average market rents per unit (averaging studio, one-bedroom, two-bedroom, and 3-bedroom units) were highest in Ballard at $1,839 in Q1, 2020 (**Exhibit 24**). However, the greatest average market sale prices per unit were found in Interbay. The Interbay multifamily units also saw the greatest one-year absorption rate – with 153 units (7.1% of inventory) leased in the previous 12 months. Magnolia had the coolest rental market, with only .2% of inventory leased in the last year.

The pipeline in multifamily housing consisted of 405 total units under construction in the study area from Q1 2019 through Q1 2020. 93 of these units were in Interbay, 53 in Ballard, and zero in Magnolia.

Industry and Employment

The commercial study area (**Exhibit 1** for commercial study area boundaries**)** has been divided into four subareas for the purpose of industry and employment analysis: south of W Emerson St, north of W Emerson St, Magnolia business district and Greenwood business district.

Overall, employment within the BIRT commercial study area has grown by 0.7% annually since 2000 and by 2.1% annually since 2010. The north portion of the commercial study area, which includes Ballard, has grown at 2.0% annually since 2010. The southern portion of the commercial study area, which includes most of Interbay, has grown only slightly slower at 1.7%

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[18] No data was available for the single-family home market.

annually. Both the Greenwood and Magnolia subareas have been growing faster in terms of employment than the commercial study area as a whole, by 5.3% and 2.3% respectively (**Exhibit 26**).

Throughout the commercial study area, the construction and resource sector has seen the fastest rate of growth, while the services sector has seen the most growth in absolute terms. The growth in services has been concentrated in the northern portion of the commercial study area and has averaged more than 3% annually. Employment growth in the Interbay or southern portion of the study area has been concentrated in manufacturing and construction and resources. Only government and manufacturing employment have decreased between 2010 and 2018.

Exhibit 25. Employment by Industry and Neighborhood, 2018

	North	South	Greenwood	Magnolia	Total
Const/Res	2,420	420	40	30	2,910
FIRE	670	260	60	80	1,070
Manufacturing	3,120	1,120	20	10	4,260
Retail	2,700	550	510	130	3,880
Services	12,610	2,120	1,130	640	16,500
WTU	2,350	630	70	10	3,050
Government	620	230	30	30	910
Education	-	80	-	80	160
Total	**24,480**	**5,400**	**1,860**	**1,010**	**32,750**

Source: Puget Sound Regional Council, 2020.

Note: FIRE represents Finance, Insurance and Real Estate. WTU represents Wholesale, Transportation and Utilities.

Exhibit 26. Change in Employment by Industry and Neighborhood, 2010 – 2018

	North	South	Greenwood	Magnolia	Total
Const/Res	4.4%	9.1%	3.7%	14.7%	5.1%
FIRE	-0.4%	8.0%	2.3%	1.7%	1.5%
Manufacturing	-2.2%	3.5%	-4.9%	0.0%	-1.0%
Retail	1.6%	0.9%	4.8%	0.0%	1.8%
Services	3.6%	0.0%	6.0%	3.4%	3.2%
WTU	1.1%	0.0%	11.2%	-8.3%	0.9%
Government	-3.0%	3.1%	5.2%	-3.5%	-1.4%
Education	0.0%	1.7%	0.0%	1.7%	1.7%
Total	**2.0%**	**1.7%**	**5.3%**	**2.3%**	**2.1%**

Source: Puget Sound Regional Council, 2020.

Industrial Activity in the Commercial Study Area

The Ballard-Interbay corridor is home to a wide range of industrial activities. These include port operations, manufacturing, and maritime businesses. The

broader North Industrial area, a region that approximates the Ballard-Interbay corridor but with some additional parcels along South Lake Union, was to home to 28,700 jobs in 2018. Of these, an estimated 12,000 jobs were in industries considered to be freight-oriented, and thus reliant on access to the Ballard-Interbay freight corridor for delivery or shipment of components, intermediate, and finished goods.

Of the remainder, other major industries with a strong presence in the area include information and communication technology (ICT; 5,600 jobs), other types of manufacturing (1,200 jobs), and various other services (6,500 jobs). A large share of job growth for non-freight-oriented industries between 2000 and 2018 came from the information and community technology (ICT) sector.

Exhibit 27. Employment in Seattle's North Industrial Areas by Industry, 2000-2018

Industry	2000	2018
Freight-oriented activities		
Construction and Utilities	2,300	2,100
Distribution & E-commerce	700	1,300
Food & Beverage Production	600	600
Aerospace	700	700
Transportation & Logistics	100	500
Maritime	4,700	5,600
Fishing	600	2,500
Other Manufacturing	2,100	1,200
Non-freight-oriented activities	7,600	16,700
Total	**18,800**	**28,700**

Sources: Puget Sound Regional Council, 2020; Community Attributes Inc., 2020.

Fishermen's Terminal and Terminal 91 are both Port of Seattle properties and home to a large segment of the North Pacific Fisheries Fleet. In 2017, vessels utilizing either facility, such as repairs or maintenance, offloading, or moorage during the offseason employed an estimated 7,200 workers and generated $671.3 million in business revenues. These vessels earned approximately half a billion dollars in revenues in the Alaska fisheries.[19] Terminal 91 includes commercial fishing facilities for loading and offloading larger catcher-processor vessels, providing critical infrastructure for Seattle-based fishing operations.

Many industrial businesses located in the Ballard-Interbay corridor are highly tradable, meaning they either source and/or export products to other parts of the U.S. and world. For example, the commercial fishing companies, along with many other food manufacturers in Washington state, on average

[19] Port of Seattle, Port of Tacoma, and The Northwest Seaport Alliance Economic Impact Analysis, 2019.

export more than 50% of their finished products to other parts of the U.S., and nearly 20% overseas.[20] Manufacturing businesses depend on access to a freight corridor to source inputs and ship products using the corridor connecting Northwest Seattle with Port of Seattle facilities in SODO.

Occupational and Workforce Analysis

The services sector supports a wide range of office and administrative support occupations as well as computer and mathematical occupations within the commercial study area, each representing more than 10% of employment. Production, transportation and material moving, and construction and extraction occupations together represent nearly 20% of occupational employment and more than 6,000 jobs. These occupations are mostly found in the manufacturing; warehousing, transportation and utilities; and construction and extraction sectors. (**Exhibit 28**)

Exhibit 28. Occupational Categories by Place of Work, Commercial Study Area, 2018

Occupation	Study Area Employment	Share of Employment
Office and Administrative Support Occupations	3,960	12%
Computer and Mathematical Occupations	3,210	10%
Sales and Related Occupations	2,950	9%
Business and Financial Operations Occupations	2,930	9%
Food Preparation and Serving Related Occupations	2,560	8%
Management Occupations	2,270	7%
Production Occupations	2,160	7%
Transportation and Material Moving Occupations	2,050	6%
Construction and Extraction Occupations	2,010	6%
Healthcare Practitioners and Technical Occupations	1,370	4%
Installation, Maintenance, and Repair Occupations	1,090	3%
Personal Care and Service Occupations	1,060	3%
Architecture and Engineering Occupations	950	3%
Building and Grounds Cleaning and Maintenance Occupations	680	2%
Healthcare Support Occupations	670	2%
Educational Instruction and Library Occupations	650	2%
Arts, Design, Entertainment, Sports, and Media Occupations	630	2%
Protective Service Occupations	450	1%
Life, Physical, and Social Science Occupations	370	1%
Community and Social Service Occupations	360	1%
Legal Occupations	250	1%
Farming, Fishing, and Forestry Occupations	130	0%
Total	**32,750**	**100%**

Sources: Puget Sound Regional Council, 2020; Washington State Employment Security Department, 2020; U.S. Census Bureau, 2020; Community Attributes, Inc, 2020.

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[20] Washington State Office of Financial Management, "Washington State Input-Output Model," 2012.

As ICT employment has grown throughout Seattle, industrial areas and the Ballard-Interbay area, software developers are a common occupation. Other common occupations within the Ballard-Interbay area include retail salespersons, food preparation and serving workers, and office clerks. Service-related occupations dominate employment within the commercial study area. The service sector represents more than 50% of employment in 2018, an increase of 29% since 2010.

Exhibit 29. Average Wage by Occupational Category, Commercial Study Area, 2018

Occupation	Study Area Employment	Average Wage
Management Occupations	2,270	$128,800
Healthcare Practitioners and Technical Occupations	1,370	$114,800
Computer and Mathematical Occupations	3,210	$109,800
Architecture and Engineering Occupations	950	$90,900
Legal Occupations	250	$86,200
Business and Financial Operations Occupations	2,930	$80,000
Life, Physical, and Social Science Occupations	370	$78,900
Protective Service Occupations	450	$70,200
Arts, Design, Entertainment, Sports, and Media Occupations	630	$68,500
Construction and Extraction Occupations	2,010	$62,200
Sales and Related Occupations	2,950	$62,000
Installation, Maintenance, and Repair Occupations	1,090	$58,100
Educational Instruction and Library Occupations	650	$57,800
Community and Social Service Occupations	360	$56,600
Transportation and Material Moving Occupations	2,050	$55,600
Office and Administrative Support Occupations	3,960	$47,600
Production Occupations	2,160	$46,600
Building and Grounds Cleaning and Maintenance Occupations	680	$46,300
Farming, Fishing, and Forestry Occupations	130	$45,500
Healthcare Support Occupations	670	$44,600
Personal Care and Service Occupations	1,060	$41,100
Food Preparation and Serving Related Occupations	2,560	$35,800
Total	**32,750**	

Sources: Puget Sound Regional Council, 2020; Washington State Employment Security Department, 2020; Bureau of Labor Statistics, 2020; Community Attributes Inc., 2020.

Note: Average Wage figures are for Seattle-Tacoma-Bellevue MSA.

Study area workers earn slightly higher wages compared to the region overall. The median wage throughout the Seattle-Tacoma-Bellevue MSA is $53,360. Approximately 57% of workers in the BIRT commercial study area earn more than the Seattle MSA median wage. An estimated 21% of workers earn wages less than $35,000, and another 21% earn between $35,000 and $50,000. (**Exhibit 30**).

Exhibit 30. Wage Percentiles, Commercial Study Area, 2018

	Study Area Employment	Share of Employment
Less than $35,000	7,030	21%
$35,000-$50,000	7,020	21%
$50,000-$85,000	9,520	29%
$85,000-$125,000	5,010	15%
More than $125,000	4,170	13%
Total	**32,750**	**100%**

Sources: Puget Sound Regional Council, 2020; Washington State Employment Security Department, 2020; Bureau of Labor Statistics, 2020; Community Attributes Inc., 2020.

Note: Average Wage figures are for Seattle-Tacoma-Bellevue MSA.

Across the study area, 63% of occupations do not require higher education for entry (**Exhibit 31**). For comparison, 24% of residents in the study area have less education than an associate degree. Individuals in the study area generally have a higher level of education than the occupations within the area. The average wage among employees in the study area is $69,700 and the average wage of residents in the area is $60,300. On average workers in the study area earn more than residents of the study area.

Exhibit 31. Typical Education Level Required for Occupations in Commercial Study Area, 2018

Educational Requirement	Study Area Employment	Share of Jobs
No formal educational credential	6,970	21%
High school diploma or equivalent	11,090	34%
Postsecondary nondegree award	1,580	5%
Some college, no degree	900	3%
Associate degree	780	2%
Bachelor's degree	10,330	32%
Master's degree	480	1%
Doctoral or professional degree	620	2%
Total	**32,750**	**100%**

Sources: Puget Sound Regional Council, 2020; Washington State Employment Security Department, 2020; U.S. Census Bureau, 2020; Community Attributes, Inc, 2020.

Exhibit 32. Occupational Categories by Place of Residence, Residential Study Area, 2018

Occupation	Resident Employment	Share of Employment
Sales and Related Occupations	3,330	10%
Office and Administrative Support Occupations	3,230	10%
Management Occupations	2,950	9%
Arts, Design, Entertainment, Sports, and Media Occupations	2,830	9%
Educational Instruction and Library Occupations	2,750	9%
Healthcare Practitioners and Technical Occupations	2,710	8%
Business and Financial Operations Occupations	2,460	8%
Food Preparation and Serving Related Occupations	1,710	5%
Architecture and Engineering Occupations	1,500	5%
Legal Occupations	1,390	4%
Personal Care and Service Occupations	1,210	4%
Transportation and Material Moving Occupations	820	3%
Computer and Mathematical Occupations	760	2%
Life, Physical, and Social Science Occupations	760	2%
Community and Social Service Occupations	730	2%
Production Occupations	700	2%
Construction and Extraction Occupations	690	2%
Healthcare Support Occupations	560	2%
Building and Grounds Cleaning and Maintenance Occupations	360	1%
Installation, Maintenance, and Repair Occupations	350	1%
Protective Service Occupations	250	1%
Farming, Fishing, and Forestry Occupations	20	0%
Total	**32,070**	**100%**

Sources: U.S. Census Bureau, 2020; Community Attributes, Inc, 2020.

Residents of the Ballard-Interbay study area are employed in a diversity of occupation types. In total, nearly 30% of residents are employed in management occupations, sales occupations, and office and administrative occupations (**Exhibit 32**). These occupational categories represent 28% of employment within the area. Another 26% of resident occupations are made up of arts and recreation, educational instruction, and healthcare occupations. The same group accounts for 8% of employment in the study area.

Common occupations among more traditional industrial activities are underrepresented among residents compared to workers within the area. Occupations like production, transportation and material moving, and construction and extraction occupations represent 7% of jobs among residents and 19% of jobs in the study area.

COVID-19 IMPACTS OVERVIEW

The sudden emergence and spread of the COVID-19 have adversely affected all aspects of the regional economy. These impacts vary in intensity based on

industry and economic activities. Between the middle of March and mid-June, there have been 733,000 initial unemployment claims made among workers in King, Pierce, and Snohomish counties. Most claims are from workers in industries that directly interact with customers, such as retail, accommodation, and food services. Even before the spread of COVID-19 in Washington state, factory closures in China disrupted supply chains for many Washington state businesses.
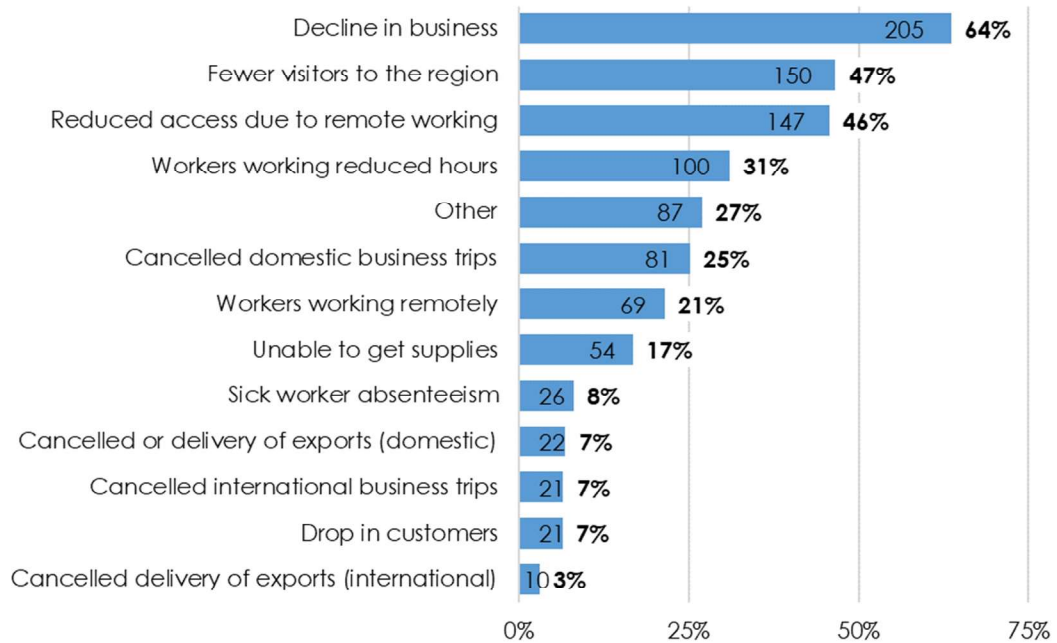
These impacts materialize into costs directly for businesses, workers, and households that utilize the Ballard-Interbay corridor. Many types of manufacturing have been temporarily prohibited or curtailed in compliance with social distancing. Many of these businesses were already and continue to be impacted by supply chain disruptions brought on by the virus, such as seafood processors in Interbay that rely on Chinese facilities for processing of Alaskan-caught seafood for re-export. Many commuters—especially those traveling to downtown Seattle from areas northwest—and households in the Ballard-Interbay region employed in non-essential industries have worked from home during this period, reducing traffic volumes.

The City of Seattle distributed a survey on business impacts and concerns due to COVID-19 in March and May 2020, collecting nearly 8,100 responses across both surveys. Of these, 321 were from businesses and workers in the BIRT study area. Approximately half these businesses have no employees and another 38% have less than five employees. 82% made less than $1 million in revenue in 2019. Roughly 48% are women-owned and 19% are minority or person of color owned.

The following are findings related to COVID-19 impacts among the businesses from the study area:

- 1,001 temporary and 134 permanent layoffs were reported. Roughly 63% did not anticipate any further layoffs.
- 36% were unsure whether they could make rent or mortgage payments and 41% said they could not.
- 83% were worried or very worried about their business and did not know if they will make it through.
- The top three impacts experienced by businesses in the study area were decline in business activity due to uncertainty, fewer visitors to the region, and reduced access to customers due to remote working (**Exhibit 33**).

Exhibit 33. COVID-19 Related Business Impacts Among Businesses in the Study Area, 2020

Impact	Count	Percentage
Decline in business	205	64%
Fewer visitors to the region	150	47%
Reduced access due to remote working	147	46%
Workers working reduced hours	100	31%
Other	87	27%
Cancelled domestic business trips	81	25%
Workers working remotely	69	21%
Unable to get supplies	54	17%
Sick worker absenteeism	26	8%
Cancelled or delivery of exports (domestic)	22	7%
Cancelled international business trips	21	7%
Drop in customers	21	7%
Cancelled delivery of exports (international)	10	3%

Sources: City of Seattle Office of Economic Development, 2020; Community Attributes, Inc, 2020.

Outlook for Virus Recovery for the Local Economy and Relevant Industries

Most national projections show the deepest economic contractions occurring in the second quarter, followed by economic recovery in the third and fourth quarters of 2020. The first quarter of 2020 experienced a 4.8% annualized contraction in the U.S. economy. Projections for the second quarter, where the impacts of the virus in terms of laid off or furloughed workers and reduced consumer spending have been most severe, range between -30% and -40%, on an annualized basis.

Even after national output rebounds later this year, there will likely be a prolonged lag effect on employment recovery. Some workers will be able to go back to work, but for others the businesses they were employed in—especially in the case of restaurants—may close permanently.

Several uncertainties could dramatically shape the future labor market. These include expedited or accelerated adoption of new work settings, business operations, and household consumption habits, such as remote work, scaling back of air travel and certain business expenses, and greater and sustained reliance on e-commerce and in-home entertainment. The pandemic has also caused some U.S. businesses to diversify their supply

chains away from China, which could affect business costs and sourcing options for Ballard-Interbay manufacturers.

The virus may also induce more lasting, transformative changes amongst Seattle residents and businesses. These could include an increase in household savings rates and reluctance of consumers to patronize restaurants and crowded spaces. Downtown businesses might reassess their office real estate needs and support remote work. These changes may affect daily traffic volumes and activity along the Ballard-Interbay corridor.