

Task 4.3 Existing Conditions in the Study Area – Community and Business

Date:	January 19, 2024	Jacobs
Project name:	Sunrise Corridor Community Visioning	2020 SW Fourth Avenue, 3rd Floor
Attention:	Clackamas County Sunrise Visioning Team	Portland, OR 97201
Client:	Clackamas County	
Prepared by:	Jacobs	

The purpose of this memorandum is to assess some of the existing community and business elements of the Sunrise Corridor Vision Study Area. The project study area is around the OR212/OR224 corridor in Clackamas County, stretching from the eastern edge of I-205 west to roughly SE 172nd Avenue, and from the Clackamas County line to the Clackamas River. This memorandum presents findings about population, race and ethnicity, age, housing, education, median household income, people below the poverty level, employment industries, and characteristics of employees within the study area. The study team generally selected data from the ten-year period from 2011 to 2021 to illustrate recent trends. This document does not capture the full economic conditions that will accompany the economic competitiveness report.

Figure 1. Aerial View of Corridor, Year 2000



Source: University of Oregon Library Services

Summary

Below are some of the key findings from the assessment of the existing conditions of community and business.

- Between 2011 and 2021 the population of the study area increased by 2,159 people or 40% over a ten-year period due to overall housing growth and will likely increase in the future.
- Metro forecasted Happy Valley population to increase by over 57,000 people, or 154% by 2045. Clackamas County and the Portland Metropolitan Statistical Area (MSA) are forecast to increase population 5% and 26%, respectively. With more people throughout the region, housing, business, and transportation demands in the study area will increase.
- There are almost two times more jobs in the study area than residents. In 2020, the study area had 14,250 jobs and about 7,500 residents.
- The top four industries in the study area include manufacturing, wholesale trade, transportation warehousing, and construction. The mix of light industrial jobs has changed over the past 10 years, while the Clackamas Industrial Area continues to be a Regionally Significant Industrial Area in Oregon Metro's planning framework.
- Trails in the study area include the Hidden Falls to Rose Creek Loop Hike, the Carver Park and the Clackamette Park floating route, and the Sunrise Expressway Multi-Use Path.
- Rock Creek Confluence Restoration Project was completed in 2015 and connects Rock Creek to its floodplain, improves water quality, and provides critical habitat for the regional salmon population.



View of the Sunrise Corridor. Source: Clackamas County

1.1 Population and Jobs

The population and jobs section provides a snapshot of the demographic and employment within the study area, Happy Valley, Clackamas County, Portland Metro, and the State of Oregon as whole. This section presents U.S. Census data for population, race and ethnicity, age, housing, educational attainment, and income. Future population was collected through Portland Metro's land use model, and job data was collected and analyzed through the U.S. Census Bureau's LEHD Origin-Destination Employment Statistics.

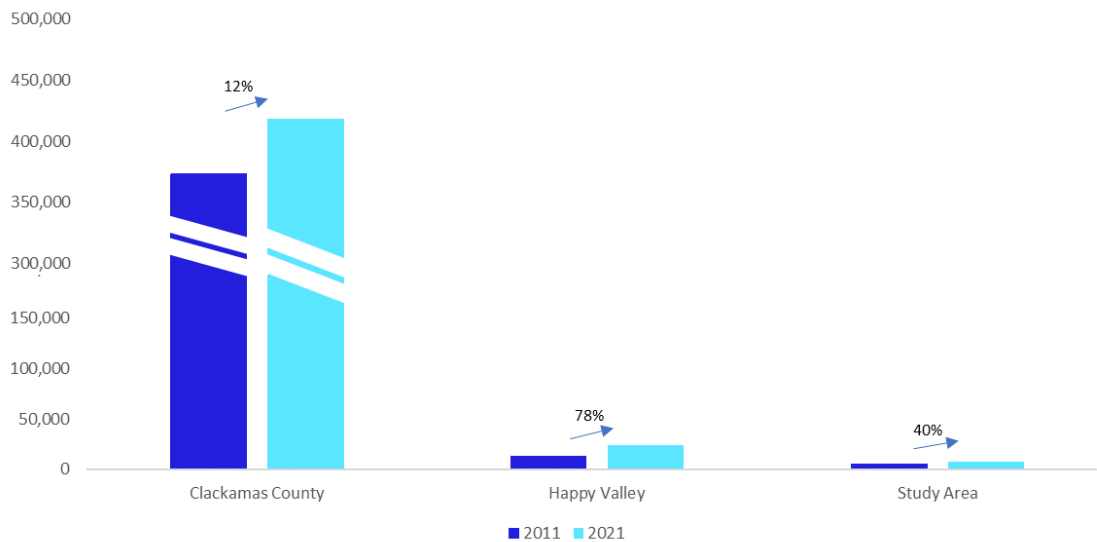
The study team presented data for 2011 and 2021 to show changes over 10 years. The year 2021 is the most recent year for job data by location, and thus used as the most recent year for the analysis.

1.1.1 Population Trends

Between 2011 and 2021 the study area average population increased by 40%, the second highest increase among all geographies next to Happy Valley (Figure 2). Happy Valley has seen high population growth at nearly 80% or 10,000 people between 2011 and 2021. The growth coincides with increased housing development since the turn of the century, leading to commensurate growth in infrastructure and services. Growth has been consistent at the county, region and state levels, with about 12% growth since 2011.

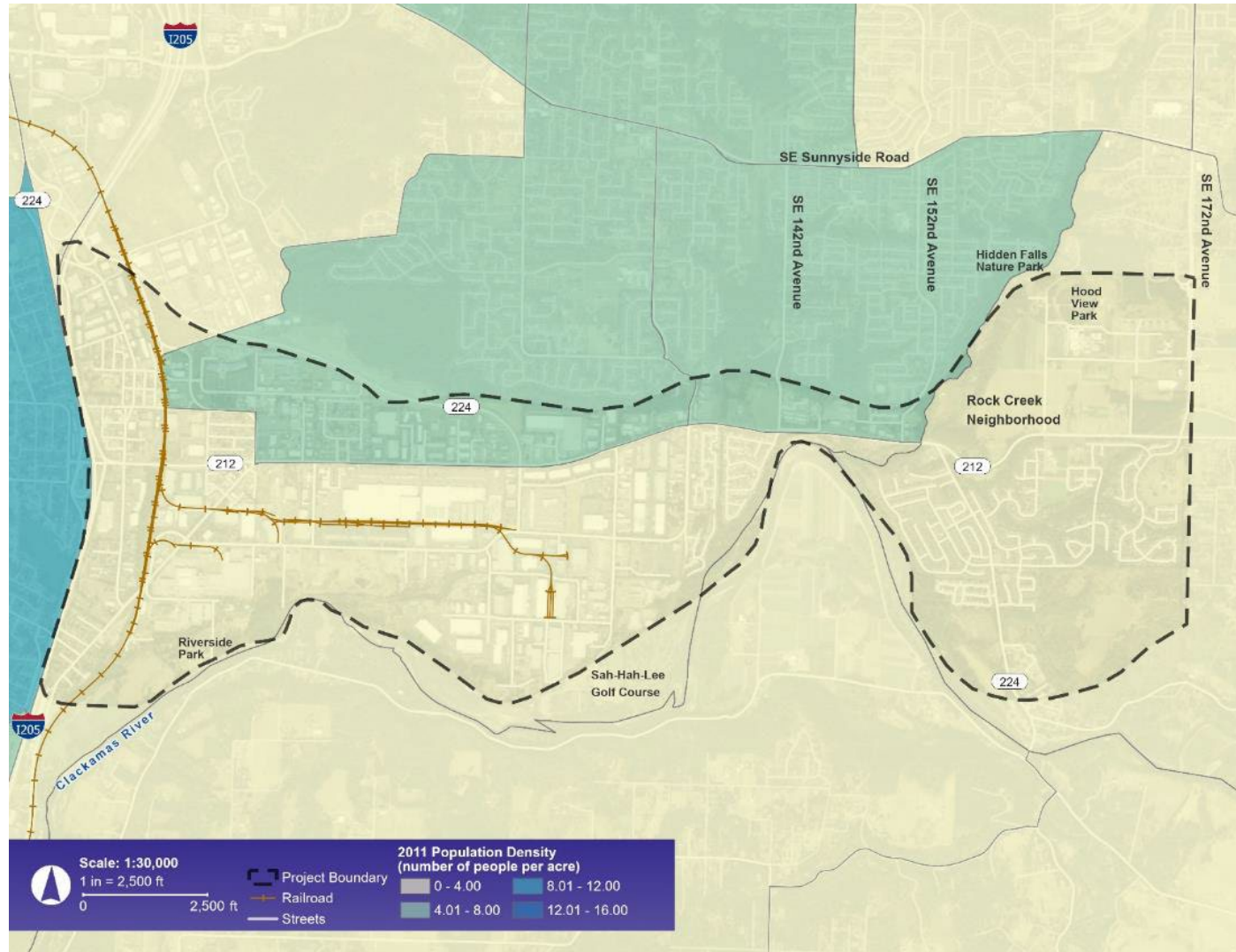
The population’s geographic center in the study area shifted south from 2011 to 2021, as shown in Figure 3 and Figure 4. The study area’s densest population area in 2011, where just over 1,800 people lived, was located north of OR212, south of OR224, and stretched east from I-205 to SE 135th Avenue. In 2021 the higher density area shifted to south of OR212, from I-205 east to SE 142nd Avenue, with 2,900 people.

Figure 2. Population and Population Percent Change, 2011-2021



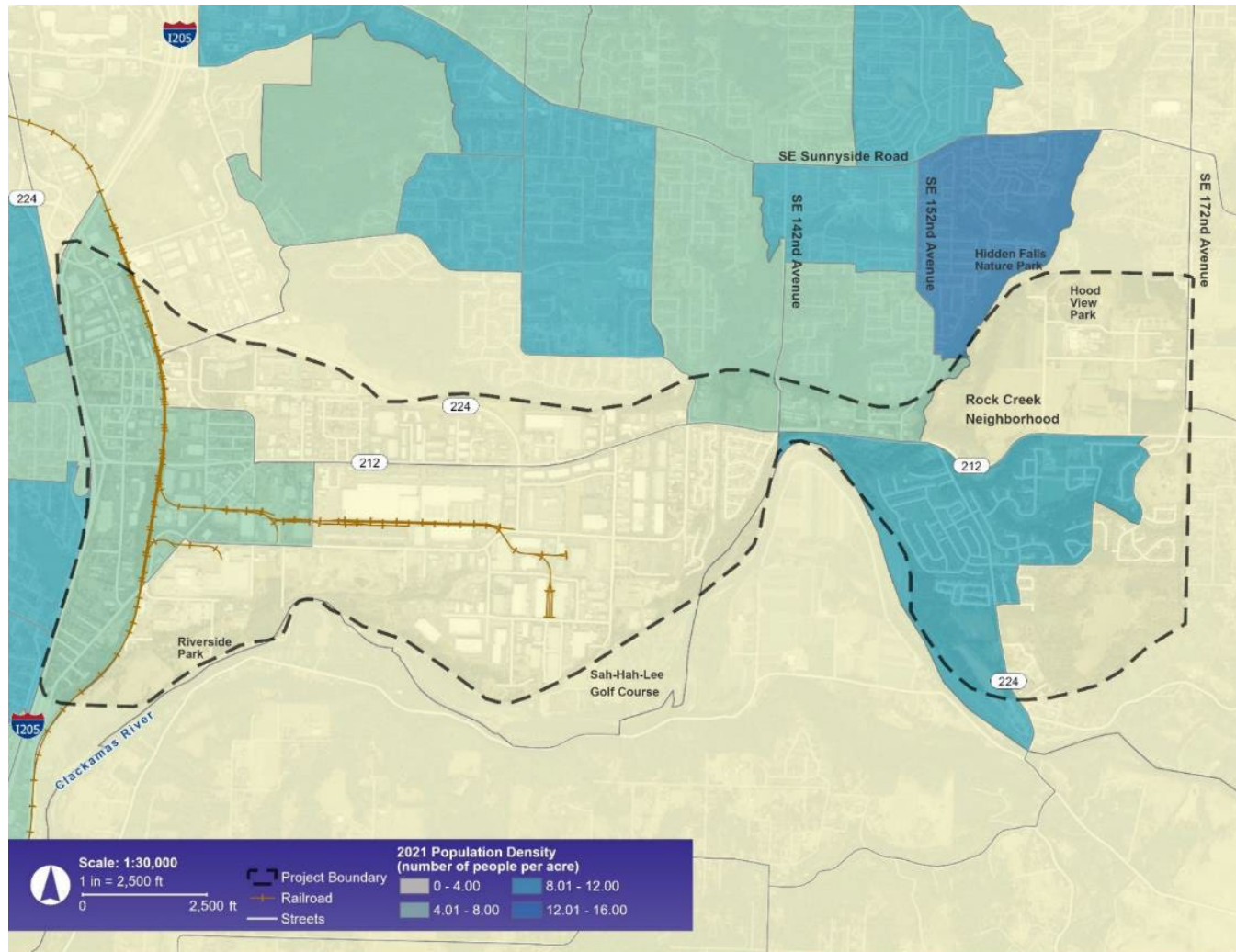
Source: ACS 5-Year Estimates Subject Tables, Table S0101

Figure 3. 2011 Study Area Population Density



Source: Metro RLIS, ACS 5-Year Estimates; Data available at tract level

Figure 4. 2021 Study Area Population Density

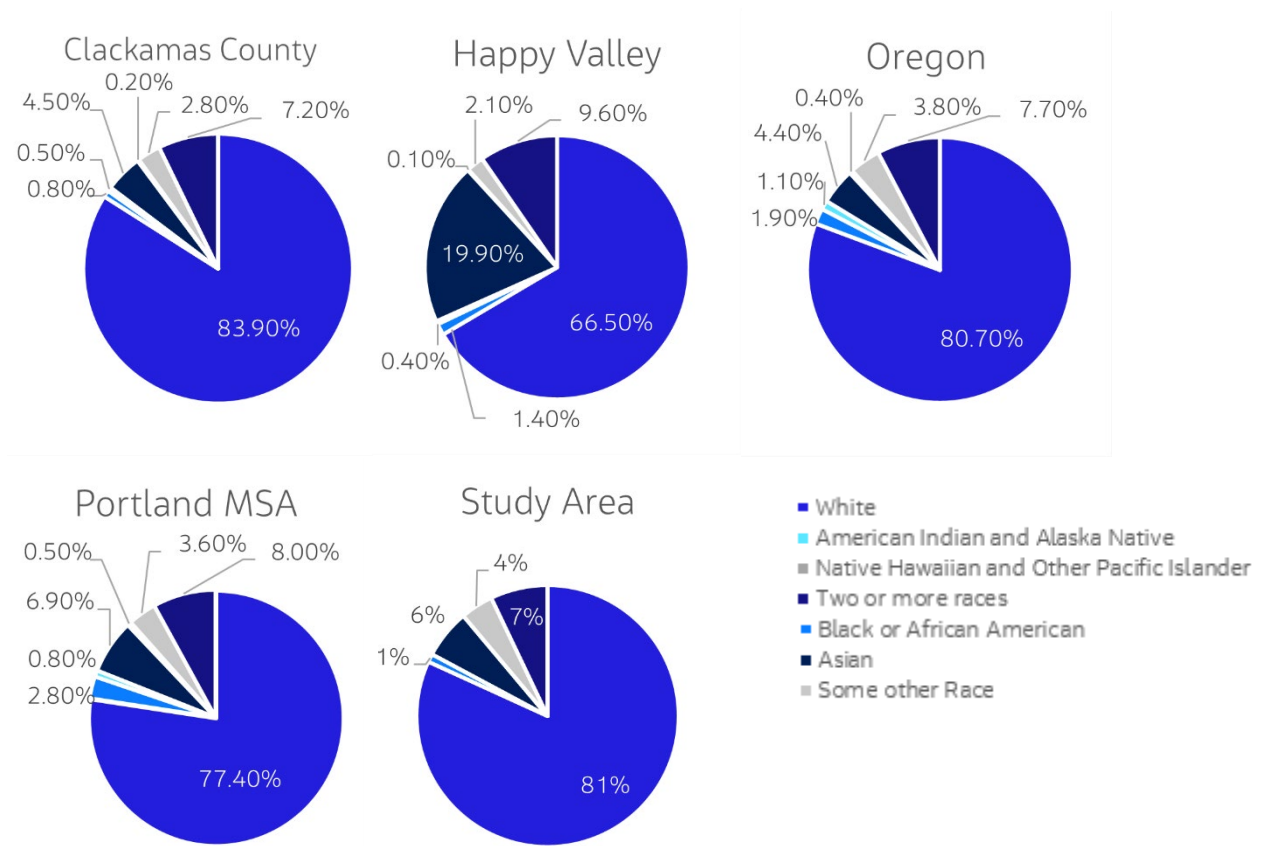


Source: Metro RLIS, ACS 5-Year Estimates; data shown at Census block group level given data available from US Census.

1.1.2 Study Area Demographics

People identifying as white make up most of all people across geographies studied, with over 80% in Oregon and Clackamas County, and 81% in the study area (Figure 5). Those who identify as two or more races make up the second most populace category for each geography, with 7% accounting for the study area’s total population. People who identify as Asian account for the third highest race and ethnicity category for each geography, with its accounting for nearly 20% of Happy Valley’s total population.

Figure 5. Race and Ethnicity Share of Total Population by Geography, 2021

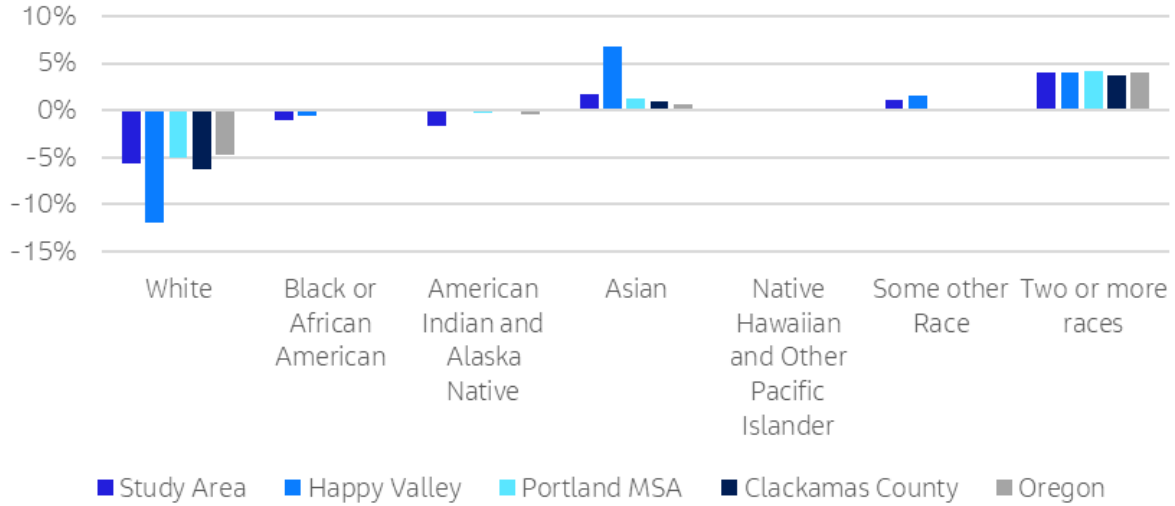


Source: ACS 5-Year Estimates Subject Tables, Tables S0501 and S0601

People identifying as Hispanic or Latino made up 9.1% of the Clackamas County population in 2021, up from 7.5% in 2011. This is lower than the 12% average statewide. In Happy Valley people of Hispanic or Latino origin made up 3.6% of the city in 2011, growing to 6.4% in 2021.

The white population share in the study area decreased by about 6 percentage points over the 10-year period, with a 1.7 percentage point increase in the Asian population share and a 4-percentage point increase in the share of people identifying two or more races. The County and State data show similar trends. In Happy Valley, the data shows a 12-percentage point decrease in the share of people identifying as White alone, with a 7-percentage point increase in the share of population identifying as Asian, and four percentage points greater share of people identifying two or more races (Figure 6).

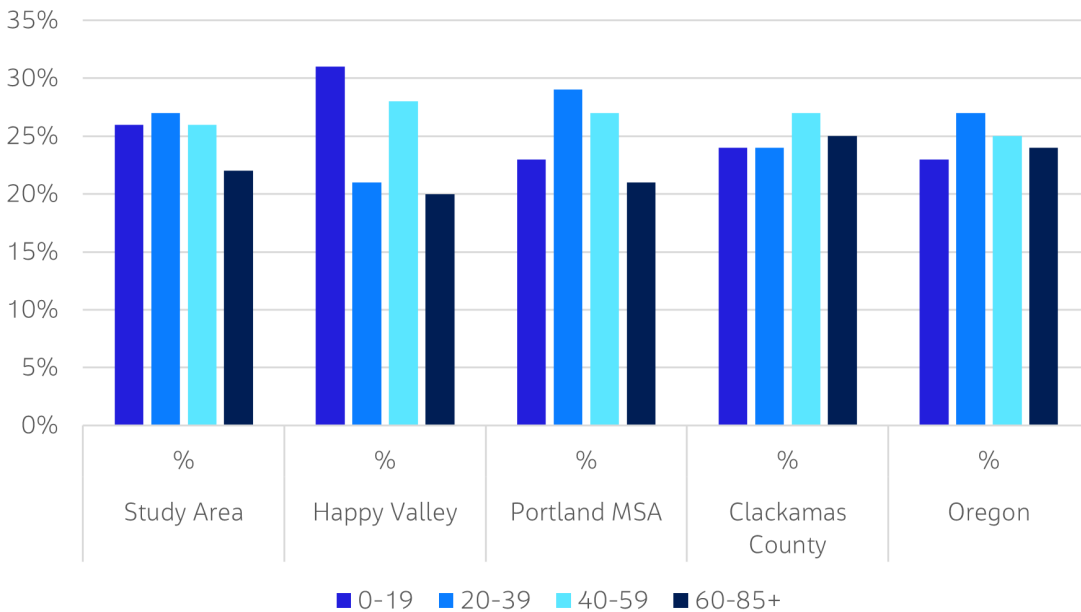
Figure 6. Race and Ethnicity Percent Change in Population Share, 2011-2021



Source: ACS 5-Year Estimates Subject Tables, Tables S0501 and S0601 Study Area Population Age

According to the 2021 U.S. Census Bureau's American Community Survey, the number of people by age category is evenly spread (Figure 7). Each age category accounts for roughly one quarter of the total population for the Portland Metropolitan Statistical Area (MSA), Clackamas County, and Oregon. The 0–19-year-old group makes up 31% of Happy Valley's population, while those within the 20–39 age range make up 21%. People within the 0–19 age range make up a relatively higher proportion of the population for both the study area and Happy Valley compared to all other geographies. The study area generally follows the same pattern as the Portland metro, the county, and the State percentages with each category comprising around one quarter of the study area's population.

Figure 7. 2021 Population Age by Geography

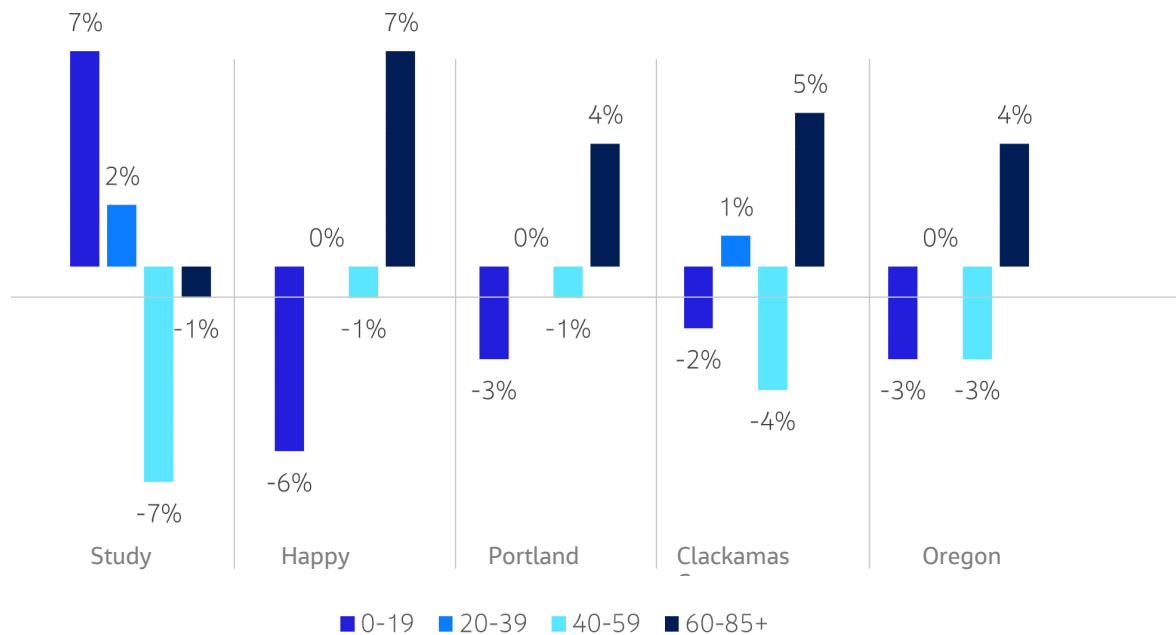


Source: ACS 5-Year Estimates Subject, Tables S0101

Ten Year Age Trends

The study area population trended younger between 2011 and 2021, with the share of under 19-year-olds increasing 7 percentage points, with a commensurate decrease in people aged 40 to 59. Happy Valley population shifted older, however, with the over 60-year-old group increasing its share 7 percentage points over the period, and the under-9-year group decreasing share 6 percentage points. The County, region and State had similar shifts to a greater share of older adults in the population. The youngest category decreased share by about 3 percentage points, while the over-60 group increased 4 to 5 percentage points (Figure 8).

Figure 8. 2011-2021 Percentage Point Change in Population Share



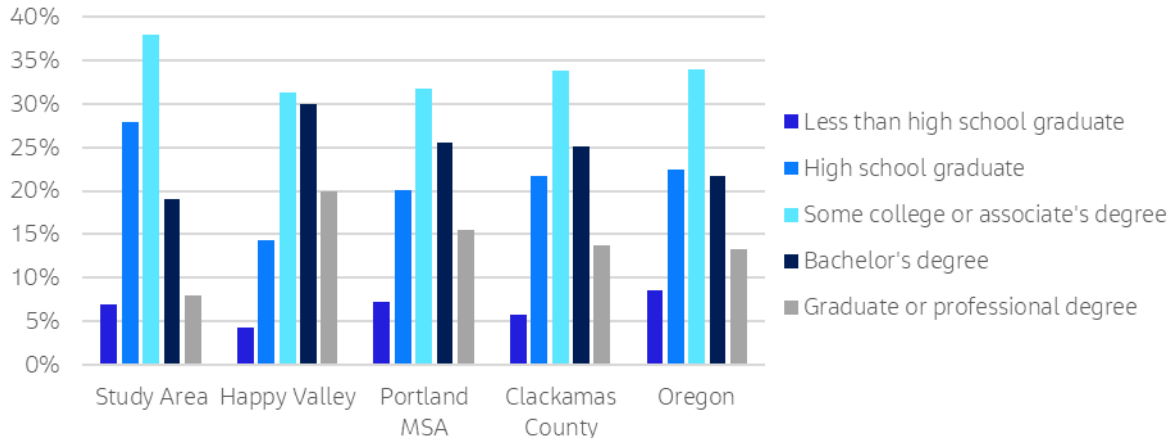
Source: ACS 5-Year Estimates Subject, Tables S0101

1.1.3 Study Area Educational Attainment

2021 Educational Attainment Data

People with some college or associate degree account for the highest number for all geographies, between 32% and 34% (Figure 9). In 2021, Happy Valley had the highest number of people with graduate or professional degrees at 20% of its total population, while it was 8% in the study area’s population. People with less than a high school diploma account for the smallest number across all geographies, between 4 and 8.5%. The study area has a higher proportion of the population with a high school diploma or some college or associate degree compared to all other geographies, while Happy Valley has the highest proportion of people who have earned either bachelor’s or graduate degrees.

Figure 9. Educational Attainment for Population 25 Years and Over by Geography, 2021

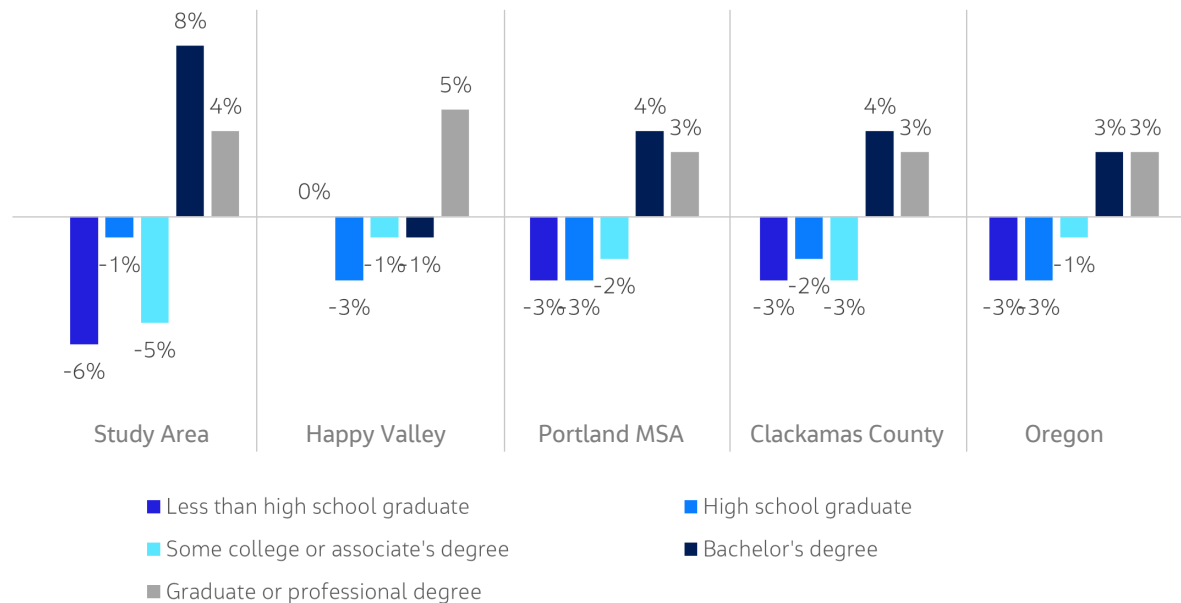


Source: ACS 5-Year Estimates Subject Tables, Tables S0501 and S0601

Ten Year Educational Attainment Trend

The study area, Portland metro, Clackamas County, and Oregon, saw a decrease in the share of people with less than a high school diploma from 2011 to 2021, while Happy Valley had no change. At the same time, the share of people with bachelor’s degrees or higher had an increased share at all geographies, suggesting a more educated population. Compared to all other geographies over the ten-year period, the study area saw the greatest shift in the share of people with higher education, increasing the share of people with bachelor’s degrees by 8 points (Figure 10).

Figure 10. 2011-2021 Percent Point Change Educational Attainment

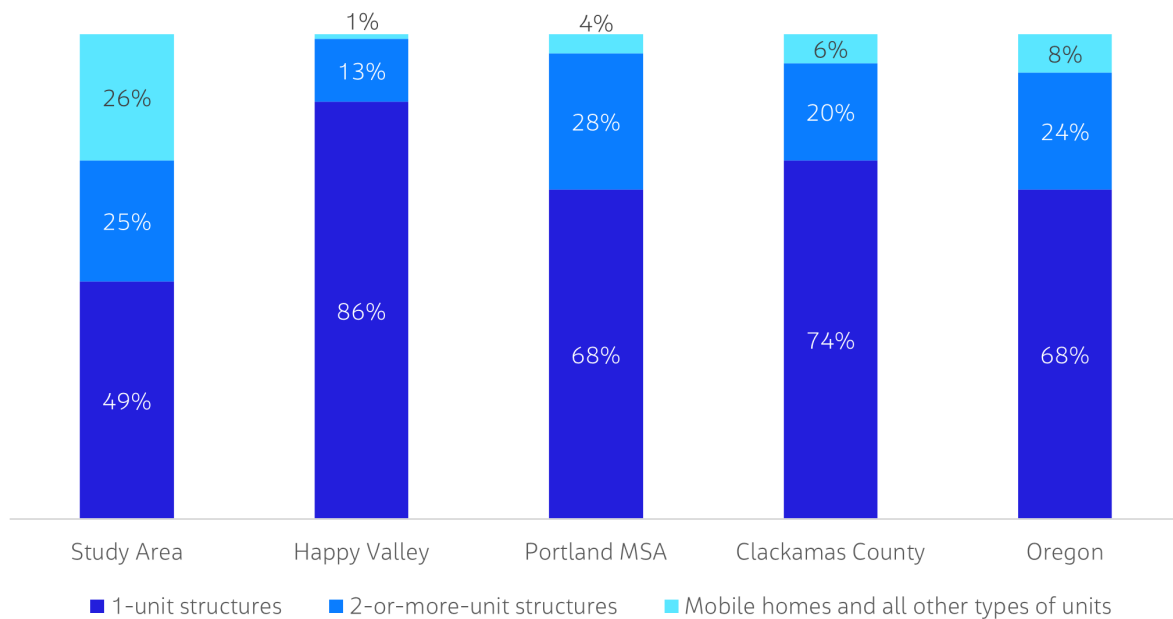


Source: ACS 5-Year Estimates Subject Tables, Tables S0501 and S0601

1.1.4 Study Area Housing

Housing types include 1-unit structures, 2-or-more-unit structures, and mobile homes (Figure 11). 1-unit structures is the study area's predominate housing type, accounting for 49% of all housing. 2-or-more-unit structures and mobile homes/other categories account for the other half – 25% and 26% respectively.

Figure 11. Housing Data by Geography, 2021



Source: ACS 5-Year Estimates Table S1101



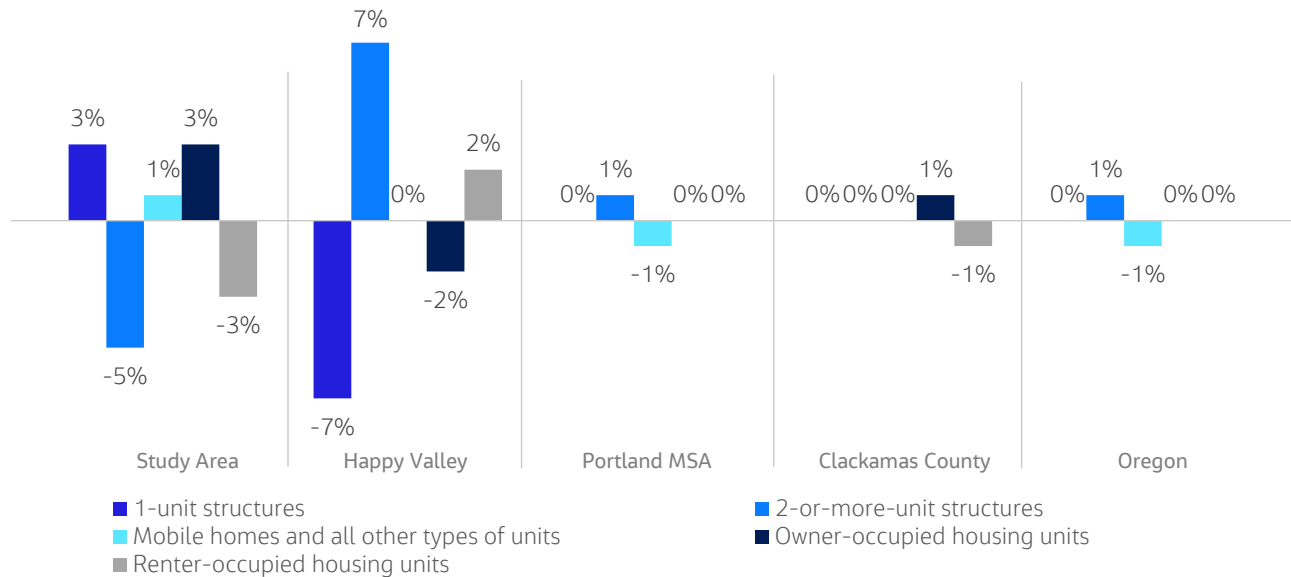
Mobile home park in study area. Source: Jacobs

Ten Year Housing Trends

Since 2011, the state and region have seen the housing mix by type remain steady. In the study area, single unit houses and mobile homes increased their share by 3 and 1 percentage points, respectively. The share of 2 or more-unit housing decreased increased about five percentage points.

The share of renters in Happy Valley increased 2 points, matching the decrease in the share of homeowners. The study area shifted 3 points to more owner-occupied housing units (from renter-occupied).

Figure 12. Percentage Point Change in Share by Type



Source: ACS 5-Year Estimates Table S1101

Housing Cost Burden

Households are defined as experiencing a housing cost burden if housing costs are equal to or exceed 30% of their annual income¹. In Happy Valley (the geography to the study area for which data is available) the proportion of the population experiencing housing cost burdens increases as household income increases, from 2.8% of lowest-income households, to 7.8% for the highest earning households (Table 1). This sets Happy Valley apart from the other geographies analyzed, where lower income household groups have the highest housing cost burden. In general the housing cost burden in this area is lower than the state overall. Between 2011 and 2021, nearly all geographies and income brackets experienced a decrease in households experiencing a housing cost burden, with Happy Valley seeing the greatest decrease for households earning an annual income of \$75,000 or greater. A

¹ [Defining Housing Affordability | HUD USER](#)

Table 1 Percentage of Total Households who are Housing Cost Burdened by Income Bracket, 2021

HH Income	Happy Valley	Portland MSA	Clackamas County	Oregon
Less than \$20,000	2.8%	7.8%	7.0%	9.5%
\$20,000 to \$34,999	4.0%	7.4%	7.1%	8.2%
\$35,000 to \$49,999	4.4%	6.8%	6.2%	6.3%
\$50,000 to \$74,999	6.2%	7.0%	6.4%	5.8%
\$75,000 or more	7.8%	4.3%	5.6%	3.3%

Source: ACS 5-Year Estimates Table S1101

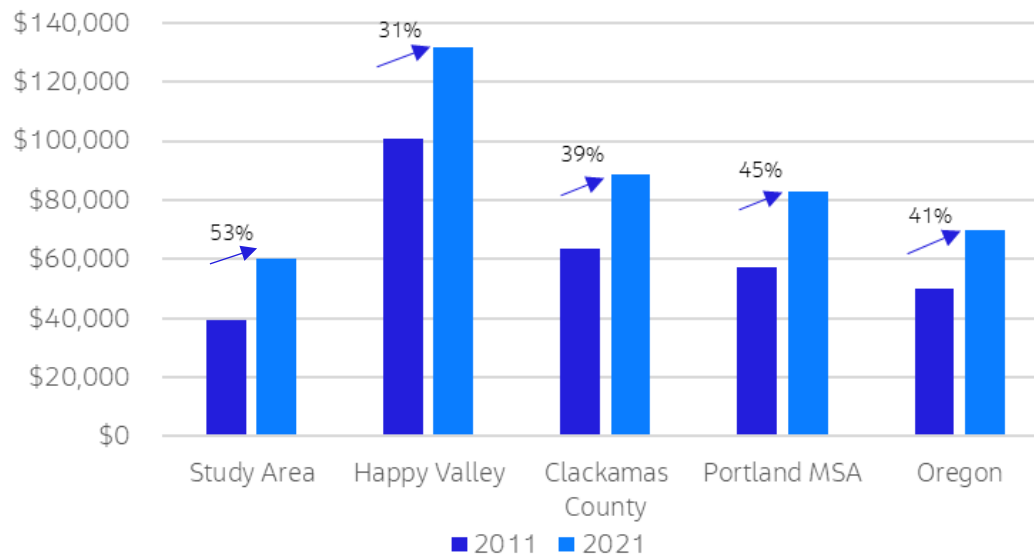
1.1.5 Study Area Economic Data

The study area is a relatively small area in which to analyze and understand economic data. However, the comparisons to neighboring and surrounding jurisdictions help understand who uses the Sunrise corridor, and how investments in the area may relate to or be prioritized with investments in neighboring areas. The following paragraphs and charts show the median household income, households in poverty, median individual incomes, and unemployment. Generally, the data shows that residents in the Sunrise study area have lower incomes than surrounding areas, though this and other data shows that the corridor is used by people accessing higher income areas around the region.

Median Household Income

The Median Household Income (MHI) increased for all geographies between 2011 and 2021 (Figure 13). The study area MHI increased 53% or nearly \$21,000 although this geography experienced the smallest relative increase in MHI among all other geographies measured.

Figure 13. Median Household Income by Geography



Source: American Community Survey, ACS 5-Year Estimates Subject Tables, Tables S0501 and S0601

Poverty Level

The share of people in households earning less than the federal poverty level was 18% in the study area in 2011, decreasing to 14% in 2021. This is 6 percentage points higher than the County share, and 10 percentage points higher than Happy Valley’s 4% rate in 2021. Happy Valley has had the lowest share of households living in poverty.

The share of people living in poverty generally decreased in every geography studied, at 4% in the study area, 3% in the MSA and State, and 2% in the County. Happy Valley's population in poverty increased 1% over the ten-year period, though its rate is 8 percentage points lower than the State (Table 2).

Table 2 Percent Point Change in Persons Earning Below Poverty Level, 2011-2021

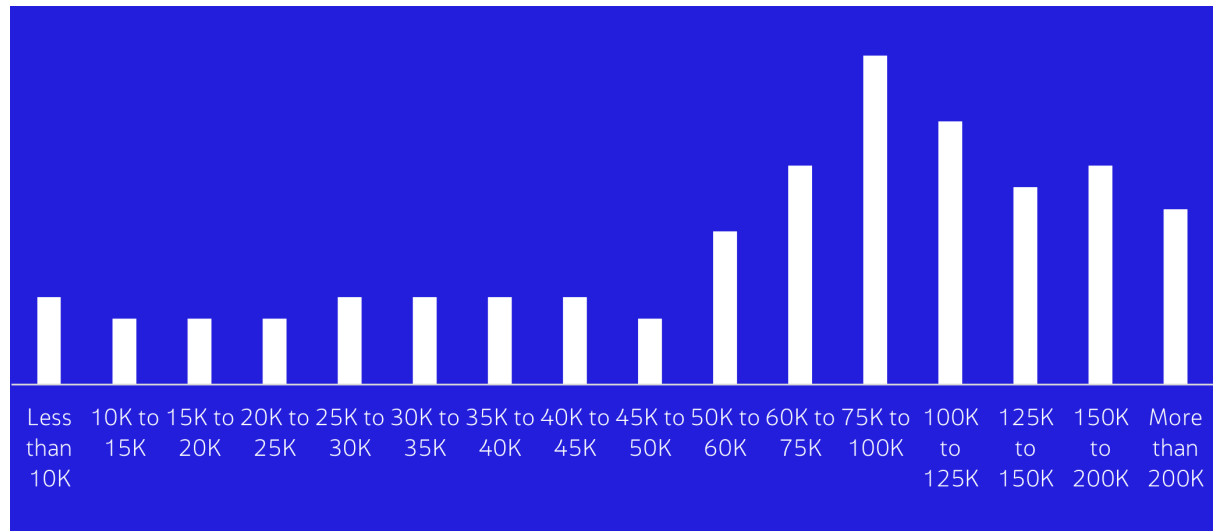
Percent of Persons below poverty Level	2011	2021	2011-2021 Change	
			Number	Percent
Study Area	18%	14%	-652	-4%
Happy Valley	3%	4%	540	1%
Clackamas County	10%	8%	-4,097	-2%
Portland MSA	13%	10%	-29,908	-3%
Oregon	15%	12%	-52,130	-3%

Source: American Community Survey, ACS 5-Year Estimates Subject Tables, Tables S0501 and S0601

Streetlight Traveler Economic Data

Streetlight traffic data at the intersection of OR212 and SE 142nd Avenue was analyzed to represent and understand the demographics of people who passed through the area from April 1, 2021 to May 31, 2021. People traveling through this intersection typically had higher incomes compared to all geographies, with 70% of drivers earning an annual income of \$50,000 or greater (Table 3).

Figure 14. Income of Drivers along Study Intersection, April 1 to May 31, 2021

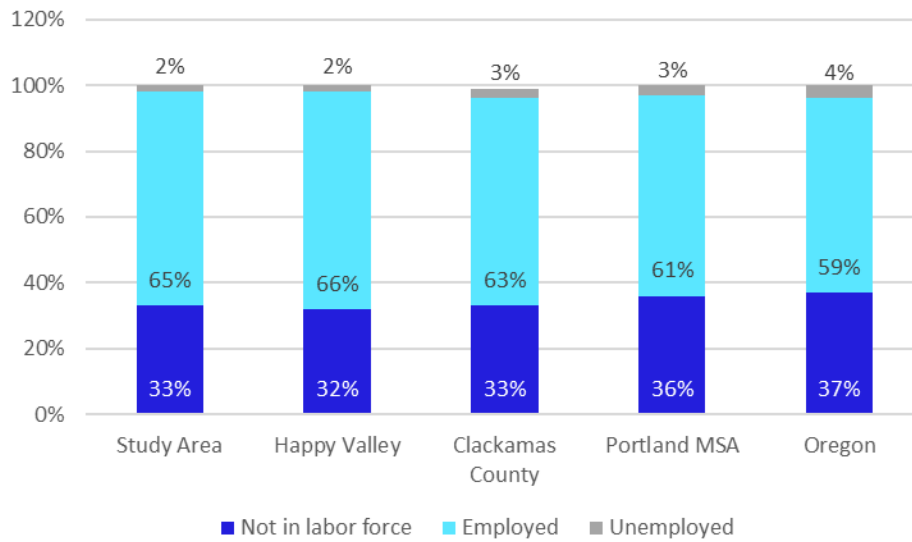


Source: StreetLight Data; Streetlight is based on mobile communication device location data (e.g. cell phones).

Employment

One way employment data is analyzed is through number of people employed, number of people unemployed, and those not in the labor force. Employment among these three categories, and across all geographies is about the same level – 59% to 66%. The percentages for those unemployed and not in the labor force are similar across all geographies (Figure 15).

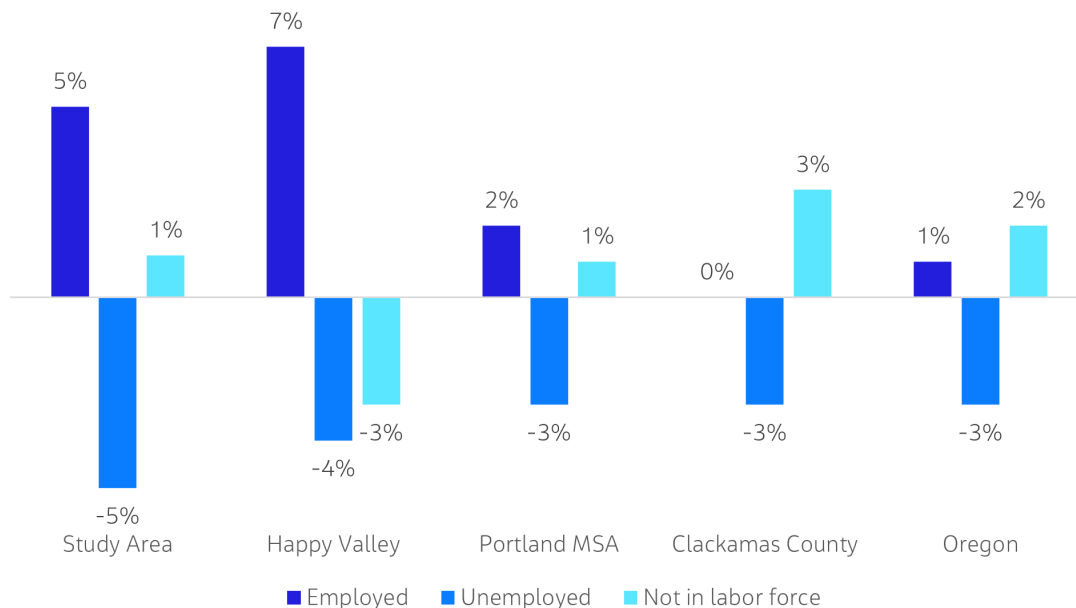
Figure 15. 2021 Employment Type by Geography



Source: American Community Survey, ACS 5-Year Estimates Subject Tables, Tables S0501 and DP03

At 5 percent, the study area has seen the greatest reduction in unemployment rate compared to all other geographies, which have seen between a 3 and 4 percent reduction. The study area and Happy Valley have seen a relatively high increase in the employment rate at 5% and 7% respectively (Figure 16).

Figure 16. Percentage Point Change in Employment Share, 2011-2021

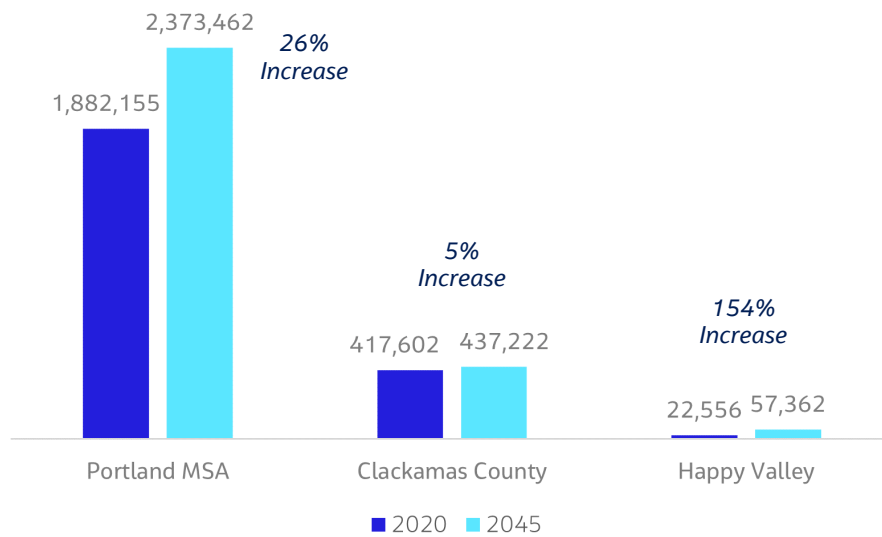


Source: American Community Survey, ACS 5-Year Estimates Subject Tables, Tables S0501 and DP03

1.1.6 Future population

Oregon law requires that at least every six years Metro forecast the population and employment growth for the Portland region for the following 20 years². Metro's forecasts support regional and local planning, accommodating for population growth and necessary development. Future populations for Happy Valley, Clackamas County, and the Portland metro area all increase (Figure 17). Happy Valley projects a population increase of over 34,000 people, a 154% increase by 2045, Clackamas County with an increase of 5%, and the Portland metro with an increase of 26%. Happy Valley is an outlier in terms of housing growth, and the study area is primarily industrial. Therefore, it may not experience the forecasted level of growth based on zoning. The study area is not forecasted, but the increases for Happy Valley and Clackamas County indicate an increase for the study area is also likely.

Figure 17. Future Population Forecast



Source: Oregon Metro, 2045 Distributed Forecast of Population, Households, and Employment

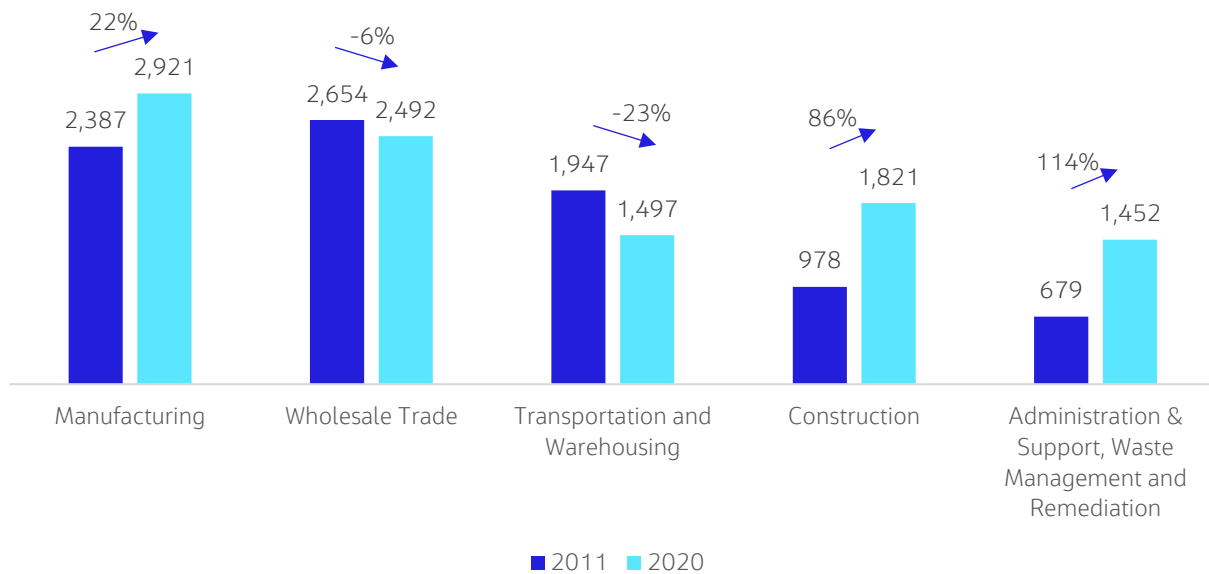
² Oregon Metro, 2045 Distributed Forecast. Accessed October 2023. <https://www.oregonmetro.gov/2045-distributed-forecast#:~:text=Oregon%20law%20requires%20that%20at,within%20the%20urban%20growth%20boundary>.

1.1.7 Jobs

In 2021 about 14,200 workers were employed within the study area. Employment is most dense in the center of the study area in the Clackamas Industrial Area north and south of OR212, east of I-205 and west of SE 142nd Avenue (Figure 20 and Figure 21).

The top five industries in the study area are manufacturing, wholesale trade, construction, transportation and warehousing, and Administration & Support. Manufacturing and wholesale trade together make up almost 40% of all jobs in the study area. Transportation and warehousing jobs made up about 10% of jobs in the study area, having decreased from a 17% share in 2011. Manufacturing, however, maintained its share of total jobs at about one-fifth. The Construction sector grew by over 85% in the period, increasing its share of total jobs from 8.4% to 12.8%. The Administration & Support sector share today grew 114% since 2011. For more information see Figure 18 and Figure 19.

Figure 18. Number of Jobs by Industry Sector, 2011 and 2021



Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics

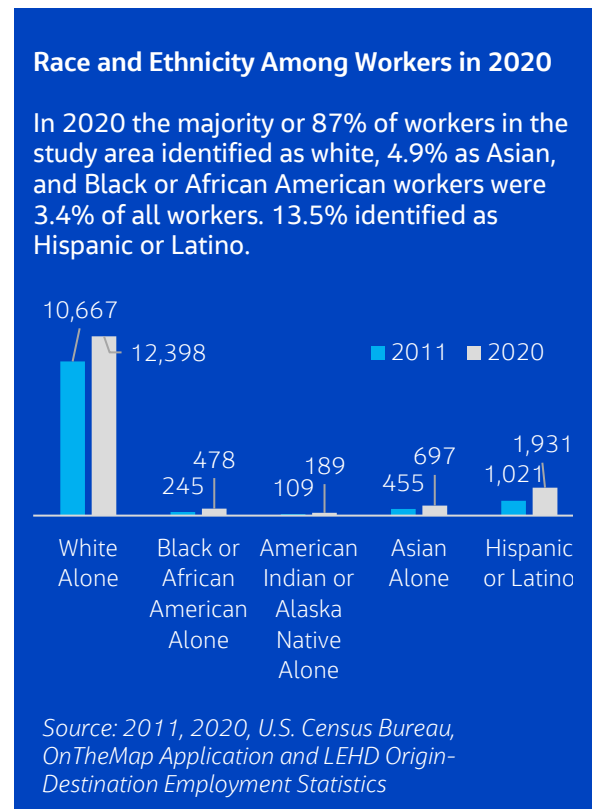
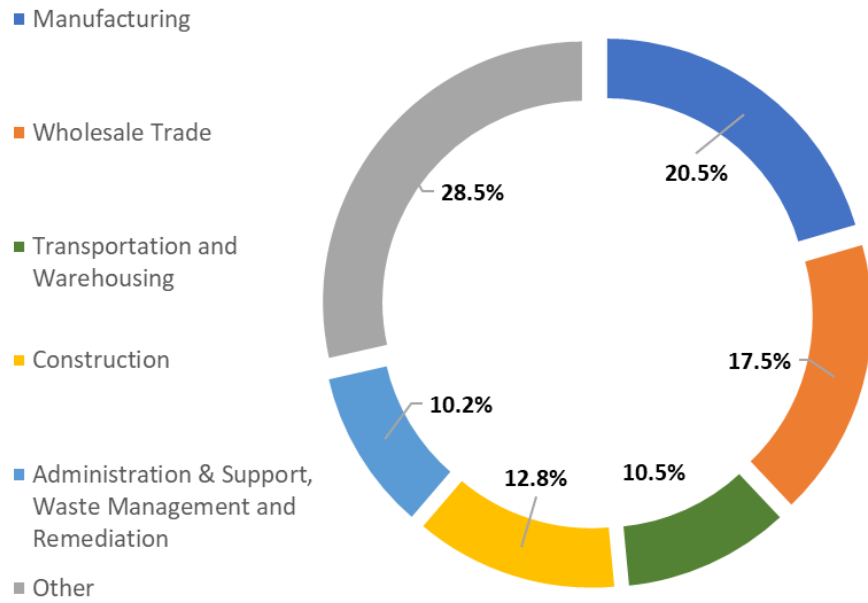
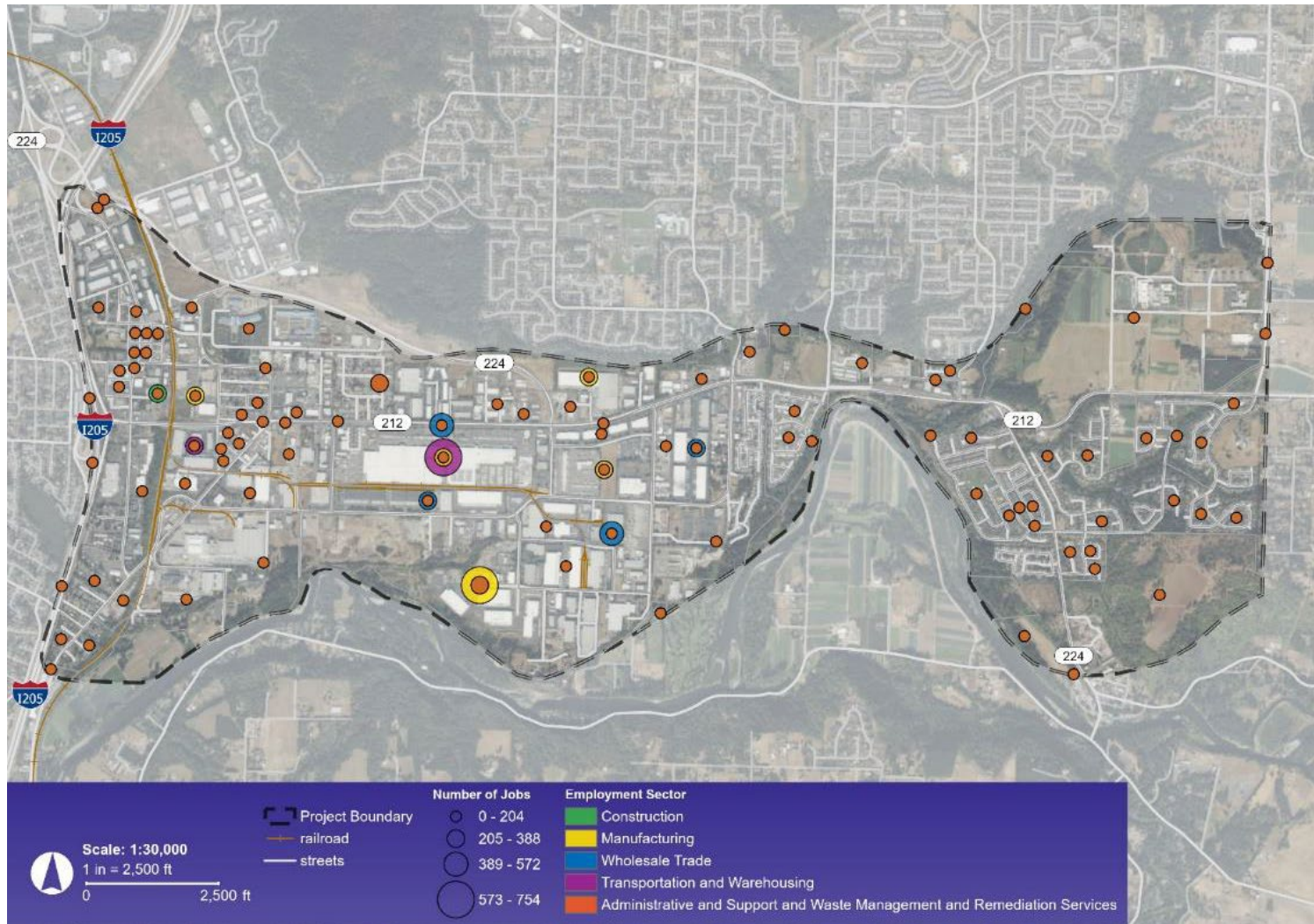


Figure 19. Top Five Industry Sector Job Shares



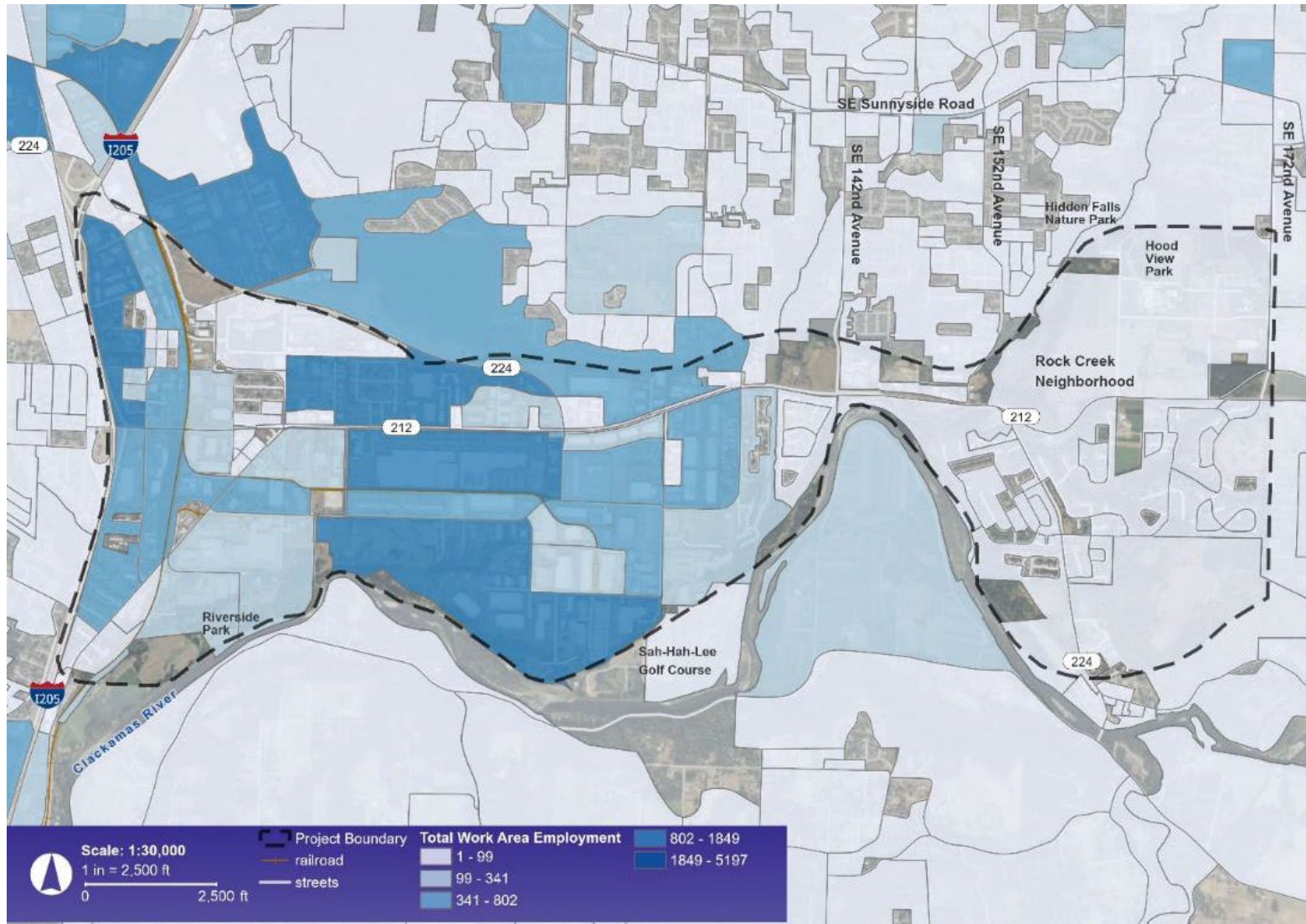
Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics

Figure 20. Top Employment Industry by Census Block Group



Source: Census LEHD Origin-Destination Employment Statistics

Figure 21. 2021 Study Area Employment Map

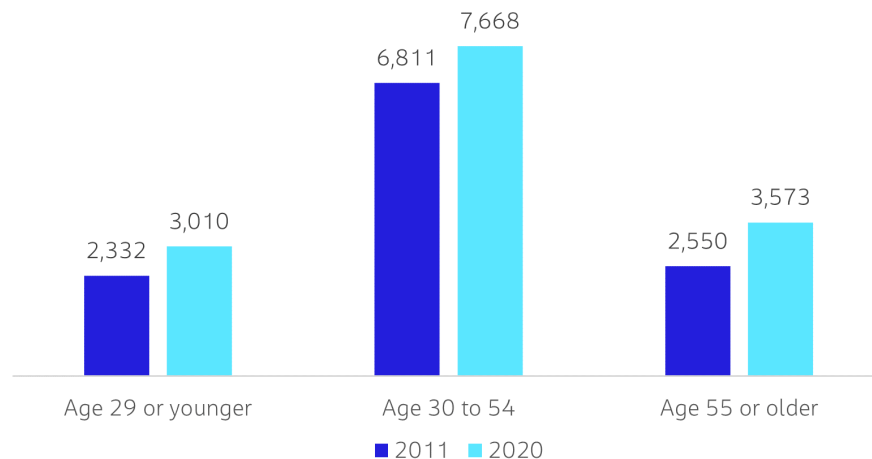


Source: Metro RLIS, U.S. Census LEHD Origin-Destination Employment

1.1.7.1 Workers Age and Education Level

The age of all workers in the study area are grouped into three categories including 29 years or younger, 30 to 54 years old, and 55 years or older. Workers within the 30 to 54 years old range account for the most jobs, 7,668 or 54% of all jobs. The other two age group categories make up the remaining jobs almost equally, at 21% and 25% (Figure 22).

Figure 22. Jobs by Worker Age in Study Area, 2011-2020



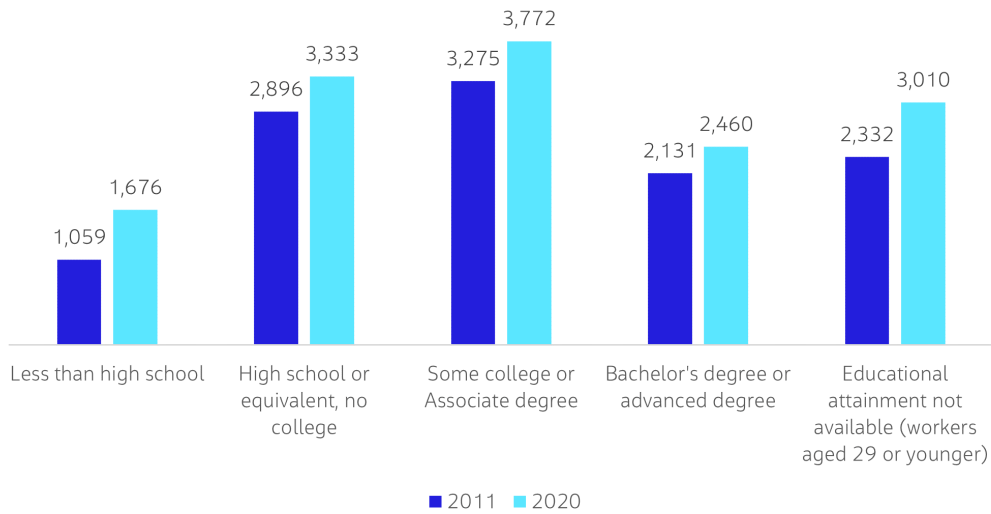
Source: 2011, 2020, U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics

1.1.7.2 Worker Educational Attainment

The Census breaks educational attainment into four categories – less than high school, high school or equivalent, some college or associate degree, and bachelor’s degree or advanced degree. High school or equivalent and some college or associate degree are the top two categories of people within the study area, representing a combined 50% of all workers, or 7,105 workers. 17.3% have received a bachelor’s degree or higher, and 11.8% have less than a high school education (Figure 23). Study area percentages of educational attainment among workers align similarly to Clackamas County as a whole. Together, high school or equivalent and some college or associate degree represent nearly 47% of all workers in Clackamas County. Workers with educational attainment levels of a bachelor’s degree or higher were the second highest category at 23% in Clackamas County, while it was just the third highest category for the study area³.

³ U.S. Census OnTheMap, 2020, Clackamas County. Accessed October 2023. <https://onthemap.ces.census.gov/>

Figure 23. Worker Educational Attainment in Study Area, 2011-2020



Source: 2011, 2020, U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics

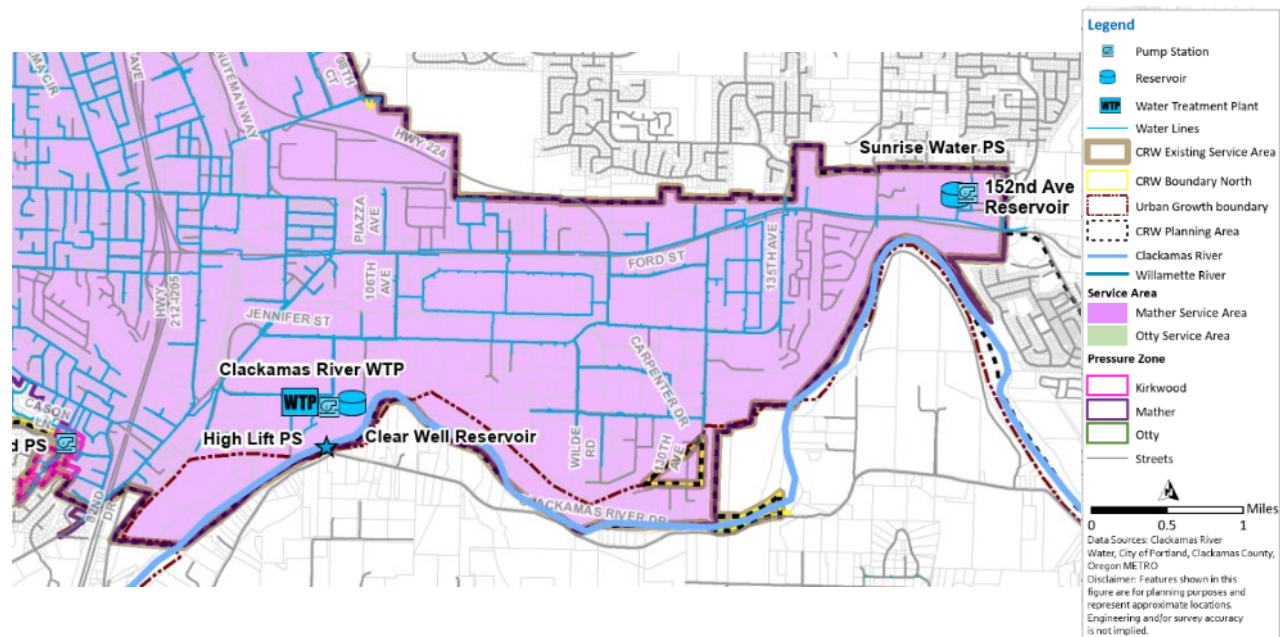
1.2 Water and Stormwater

Water service for the study area is provided by Clackamas River Water and Sunrise Water Authority. Clackamas River Water provides water to most of the study area – from the western boundary to near where OR 224 and OR 212 split on the east side. The eastern portion of the study area, while small, is serviced by Sunrise Water Authority. Sunrise Water Authority purchases water from Clackamas River Water⁴.

Preserving both the water infrastructure and the Clackamas River as the area continues to develop and intensify will be a critically important effort within a heavily industrial area. Water for customers and residents within the project study comes from two sources – surface water that is drawn from the Clackamas River and ground water that is extracted from wells within the service areas of a provider. Two pump stations, two reservoirs, and one water treatment plant, all located within the study area, are used to draw and treat water from the Clackamas River (Figure 24).

More broadly, the Clackamas River is the primary source of drinking water to more than 300,000 residents in Clackamas and Washington Counties. The Clackamas River Water Providers (CRWP) was formed to work closely with various stakeholders to ensure protection of the River’s watershed and clean drinking water supply⁵.

Figure 24. Study Area Water Infrastructure



Source: Clackamas River Water, Water System Master Plan, 2019

⁴ Clackamas River Water, Water System Master Plan, 2019. Accessed November 2023.

⁵ Sunrise Water Authority, Watershed Protection. Accessed November 2023. <https://www.sunrisewater.com/your-water/water-supply/watershed-protection/>

1.3 Health and Livability

Clackamas County has prioritized health and livability in three key categories: access to care, culture of health, and healthy behaviors⁶. These three categories include indicators that measure success or outcomes of the priorities. These categories, their top indicators, associated morbidities and root causes are summarized in the Community Health Improvement Plan Priorities in the Blueprint for a Healthy Clackamas County 2020-2023 report. The priorities are primarily focused on providing services to ensure people have healthy, productive lives.



Local rail line access to various warehouse, shipping, and manufacturing facilities in study area. Source: Jacobs

1.3.1 Access to Health Care and Human Services

Access to health care and human services improves both individual and community health, as well as support services such as transportation, food assistance and assistance enrolling in and using health insurance.

Access to Health Care and Human Services

Goals:

1. Residents in Clackamas County are **connected to high quality comprehensive health care services** that are reflective of community needs within each health equity zone.
2. Clackamas County has **equitable transportation systems and community design** that supports resident health, safety, and access to essential services.

KEY FINDINGS:

- 94.4% of residents in Clackamas County have health insurance coverage – 5.6% are uninsured.
- The number of transportation crashes decreased slightly from 3,664 to 3,554 between 2017 and 2018. Fatalities increased from 29 to 34 during the same time.
- Housing, food/meals, and utility assistance were the highest needs among Clackamas County residents in 2020.

⁶ Blueprint for a Healthy Clackamas County, 2020-2023. Health, Housing, and Human Services, Clackamas County Accessed November 2023.

1.3.2 Culture of Health

A culture of health is broadly defined as a community in which good health and well-being flourish across geographic, demographic, and social sectors, where every person has the opportunity to make choices that lead to a healthy lifestyle and an even healthier community. A Culture of Health looks different to different people, but embraces a wide variety of beliefs, customs, and abilities.

Culture of Health Goals:

1. Clackamas County residents have affordable, stable, safe and accessible housing.
2. All Clackamas County residents have access to affordable culturally acceptable healthy food.

KEY FINDINGS:

- 22.1% of adults in the County engage in regular physical activity – higher than the 20% healthy people 2020 target.
- Between 2014 and 2017, 14% of females and 22% of males in Clackamas County reported binge drinking - below the healthy people 2020 target of 24%.
- Per capital opioid prescription refills in Clackamas County had decreased from 207.1 per 1,000 residents to 155 per 1,000 by June 2022.

1.3.3 Healthy Behaviors

Healthy behavior is influenced by the social, cultural and physical environments in which we live and work. It is shaped by individual choices and external Clackamas County has equitable transportation systems and community design that supports resident health, safety, and access to essential services.

Healthy Behaviors Goals:

1. Clackamas County has a **coordinated system of care** providers and support organizations for the prevention, treatment and recovery of individuals affected by mental health challenges, substance use, and/or identified as being at risk for suicide.
2. Clackamas County creates and promotes opportunities for residents to participate in health **promoting physical activity** to lower the risk and complications of chronic disease. These opportunities exist at work, play, school, home, in neighborhoods and when in transit.

KEY FINDINGS:

- In 2019, 68% of households on the housing waitlist reported having a person with a disability. 18% of households included children.
- In 2019 the majority of individuals awaiting housing were White, non-Hispanic/Latino, female, between 25 and 62 years old.
- Food insecurity in Clackamas County decreased by almost 4 percentage points between 2017 and 2018.

1.4 Natural Environment Connectivity

The study area contains or is proximal to numerous natural amenities, including parks, hiking trails, and the Clackamas River.

- The 1.2-mile Hidden Falls to Rose Creek Loop Hike within Hidden Falls Nature Park provides paved access to Rock Creek, and a footbridge allows visitors to view 15-foot waterfalls along the pathway.
- The 8-mile Carver Park to Clackamette Park floating route on the Clackamas River provides opportunities for paddling, passing the confluence of Rock Creek and ends at the Clackamette Park along the Clackamas River.
- The Sunrise Expressway multi-use path is a 2.5-mile off-street trail which extends along Highway 224 between SE Mather Road and SE Highway 212. This path is used for biking, walking, and running and provides access to Highway 212.
- Rock Creek Confluence Restoration Project is located at the confluence of Rock Creek and the Clackamas River and addressed degraded channel and riparian areas. Completed in 2015 and implemented by Water Environment Services, the project reconnected the Rock Creek to its floodplain, improved water quality, and restored 12 acres of vegetation to native species. Additionally, this site provides a critical habitat for the regional salmon population.

Unfortunately, the natural areas and outdoor recreation facilities are somewhat disconnected within the study area to adjoining natural areas. There are relatively few public access points to the Clackamas River, for example. Figure 25 illustrates existing river access points, hiking trails, and striped biking lanes. Riverside Park and Carver Park are the main public access points to the Clackamas River, with recreation areas and boat ramps. Other river access points are located on private property, including near a bottling facility, on the Sah Ha Lee Golf Course, and in the Windswept Waters residential development near the Rock Creek confluence.



Clackamas River Access. Source: Clackamas County

The Sunrise Expressway multi-use path links the study area to neighborhoods north of the corridor, and to the I-205 multi-use path that connects north and south parallel to the freeway. However, the path has notable gaps between the Expressway and I-205 and connects to unprotected cycling lanes and sidewalks in the Clackamas Industrial Area. The multi-use path runs near the Mount Talbert Nature Park, though an inaccessible forested area is a barrier to access.

Tree Canopy

Tree canopy cools the urban environment and reduces urban heat island effects by providing shade and through transpiration. Tree canopy captures rainwater, reducing localized flooding and preventing stormwater runoff that can lead to water pollution. Furthermore, trees are critical for supporting mental health. The tree coverage map helps show how undeveloped areas like creek beds, riverside areas, and

Technical Memorandum

steep slopes present opportunities to connect open space and provide recreational access. The tree coverage can also show how rapid development over the past 50 years or more has created wide swaths of areas without potential shade or other benefits wooded areas, street trees or parks can provide.

Figure 25. Access to Nature Features near Study Area



Source: Metro RLIS and Clackamas County