

DATE: June 29, 2023
TO: Early Learning Washington County
FROM: Andrew Dyke, Melissa Rowe, and Salma Huque (ECONorthwest)
SUBJECT: Task 2: Demographic Analysis, Target Population Forecast, and Job Cluster Analysis

Introduction

Washington County contracted with ECONorthwest to conduct an analysis of infrastructure and workforce needs for an expansion of early childhood care and education for 0–5-year-olds in Washington County, Oregon.

This memorandum provides results for Task 2, a demographic analysis and population forecast, and for Task 2.1, an analysis of job clusters across the county.

Task 2. Demographic Analysis

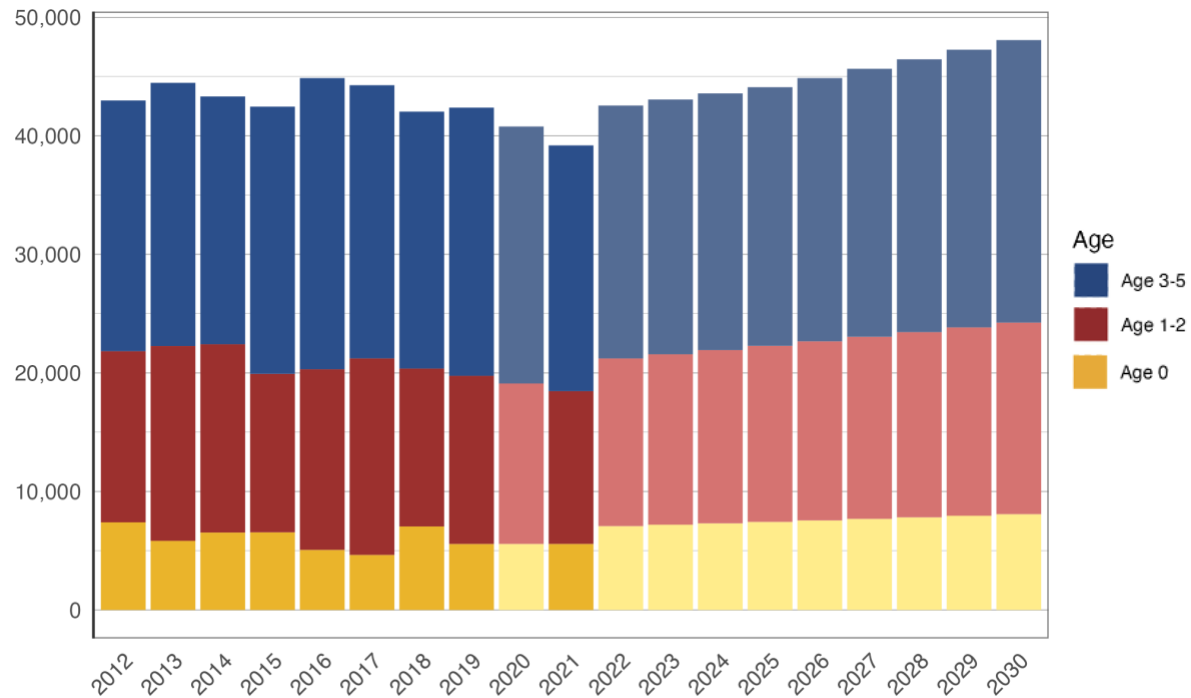
Historic Population

In 2021, 39,191 children under the age of 6 lived in Washington County. From 2012 to 2021, the total number of children in the county remained relatively stable, with a high of 44,871 in 2016 and a low of 39,191 in 2021. Approximately half of the children in the county are aged 0 to 2 and the other half are aged 3 to 5. There have been no significant changes to these breakdowns by age over time. Exhibit 1 shows the population of children by age group over the last ten years, as well as the forecast described below.

Population Forecast

We forecast population growth by age from 2022 to 2030 using county estimates from Portland State University's Population Research Center (PRC). Based on PRC's population forecast for Washington County, we estimate the number of children will increase to 44,101 in 2025 and 48,075 in 2030 (Exhibit 1). We assume that the age distribution of children will stay the same as in 2021.

Exhibit 1. Young Children in Washington County, by Age Group



Source: U.S. Census Bureau (2012-2021),¹ Chun et al. (2020).² Note: Values for 2020 were calculated as the average between 2019 and 2021 to avoid using experimental weights. Values from 2022 to 2030 were projected using county population forecasts published in 2020.

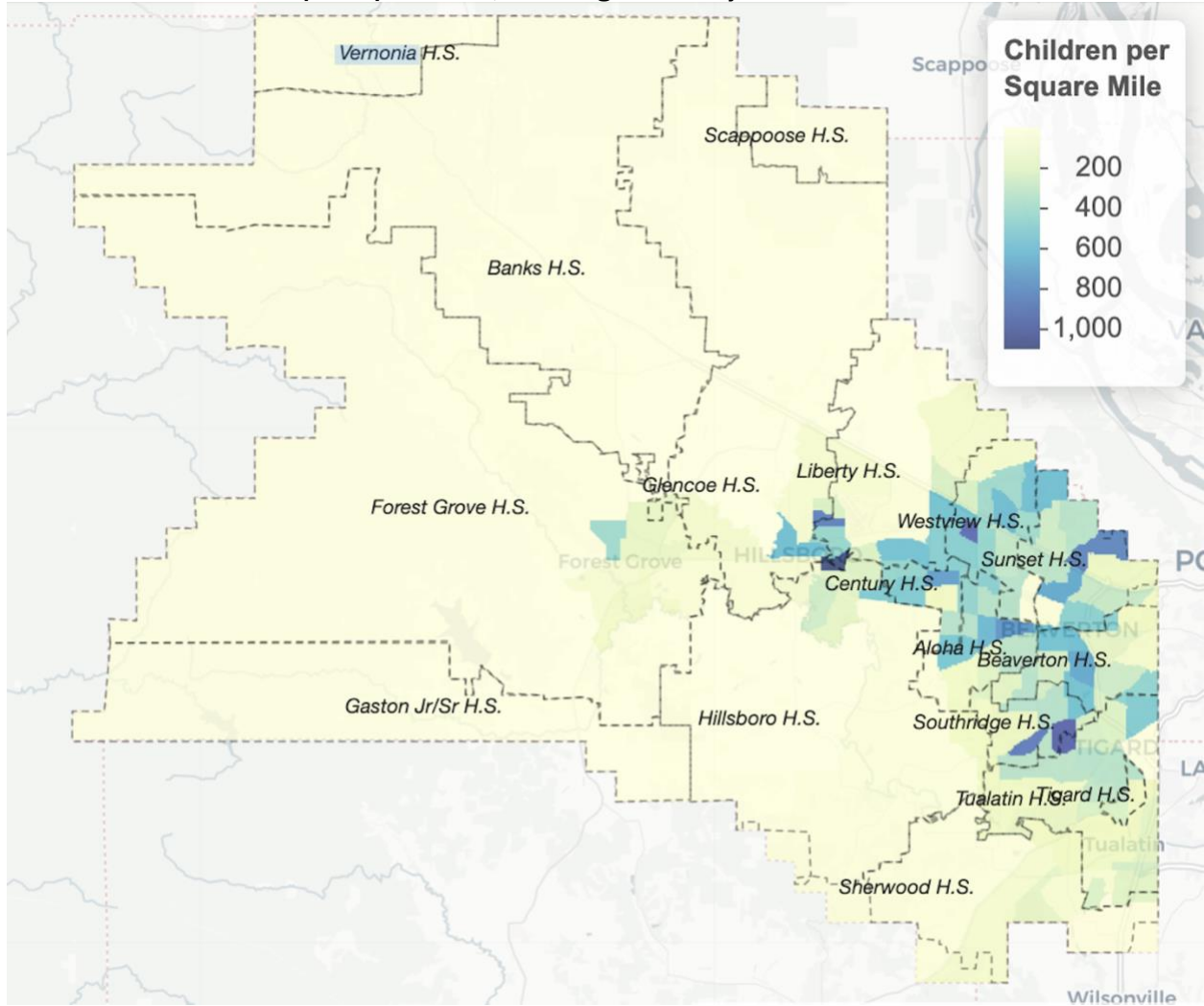
Exhibit 2 shows the population density of children in Washington County by Census tract, followed by Exhibit 3, which shows the detail for the southeast part of the county. (All subsequent maps in this memo focus on the southeast part of the county, to display the detail among the smaller tracts in that part of the county.)

The highest concentration of children (about 1,200 children per square mile) lives in southeast Hillsboro; Beaverton, South Beaverton, Hillsboro, and Cedar Mill are additional areas of concentration. Higher population density also extends along OR-8 into Forest Grove and Cornelius. There are smaller numbers of young children in the rural parts of Washington County to the northwest and southwest.

¹ U.S. Census Bureau; American Community Survey (ACS), One-Year Public Use Microdata Sample (PUMS), 2012-2021; accessed via API (20 February 2023).

² Chun et al. (2020). *Coordinated Population Forecast for Washington County, its Urban Growth Boundaries (UGB) and Area Outside UGBs 2020-2070*. Portland State University’s Population Research Center.

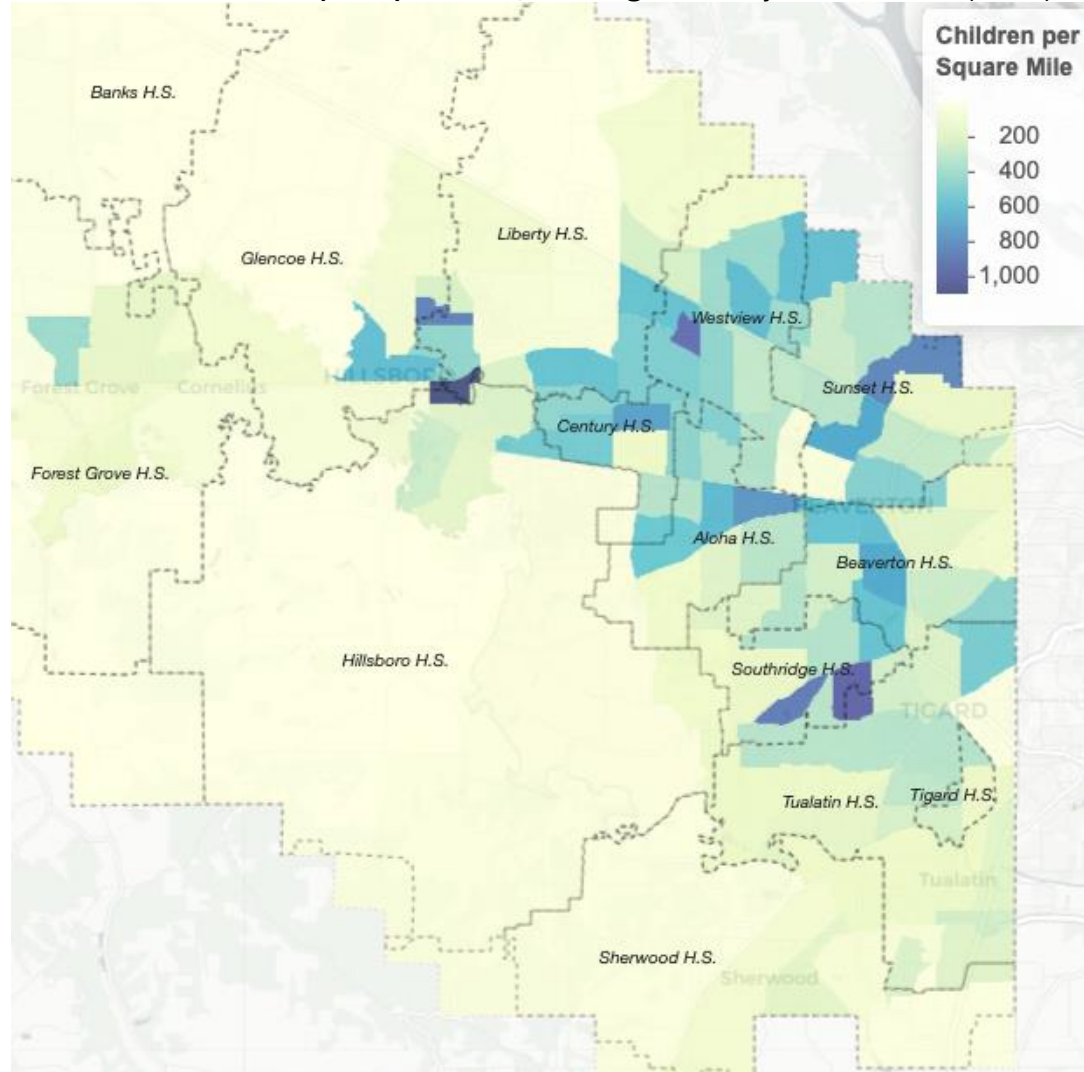
Exhibit 2. 0-5-Year-Olds per Square Mile, Washington County Census Tracts



Source: ECONorthwest (2023)³

³ ECONorthwest. Synthetic Population Data Created using PopulationSim v0.5.1. Data from U.S. Census Bureau; Five-Year American Community Survey (ACS) and Five-Year Public Use Microdata Sample (PUMS), 2021; accessed via API (2023).

Exhibit 3. 0–5-Year-Olds per Square Mile, Washington County Census Tracts (detail)



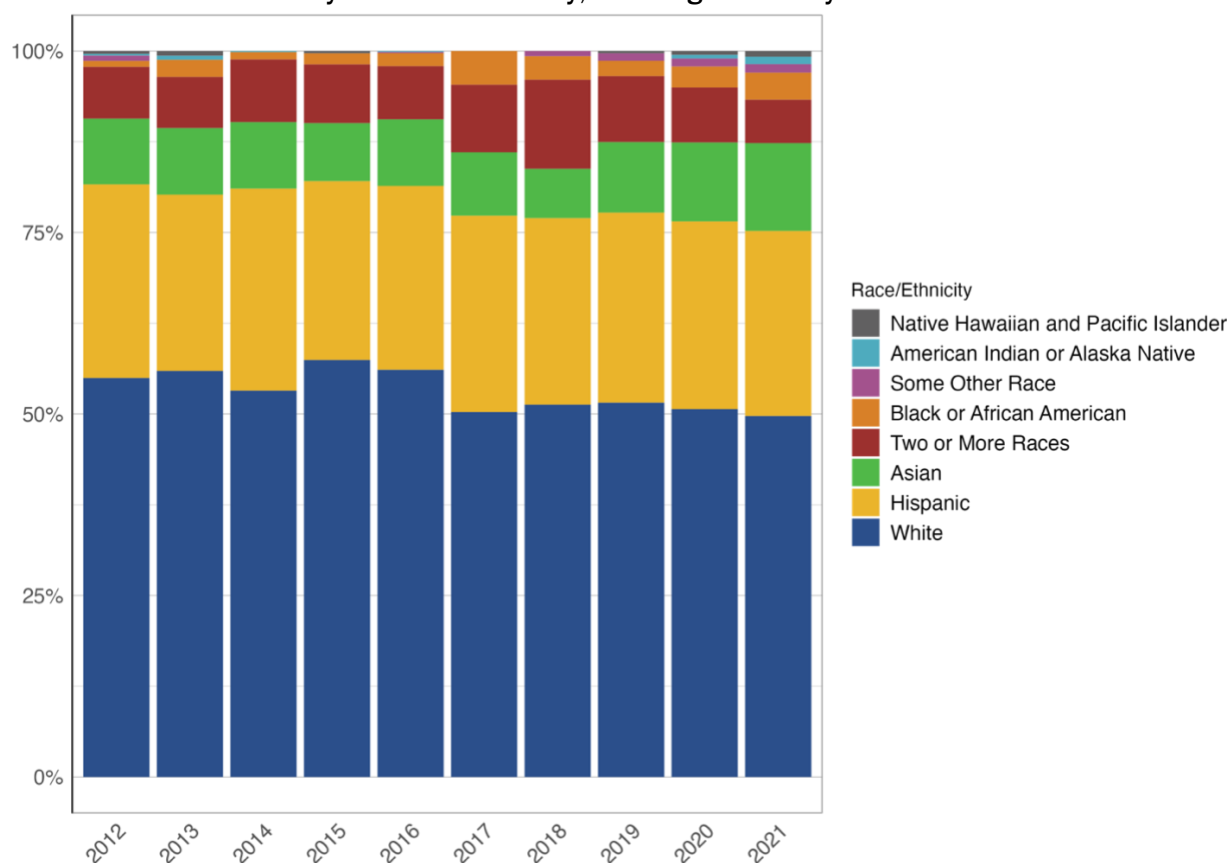
Source: ECONorthwest (2023)⁴

⁴ ECONorthwest. Synthetic Population Data Created using PopulationSim v0.5.1. Data from U.S. Census Bureau; Five-Year American Community Survey (ACS) and Five-Year Public Use Microdata Sample (PUMS), 2021; accessed via API (2023).

Race and Ethnicity

Exhibit 4 shows the race and ethnicity of children in Washington County by age group over time. In 2021, 50 percent of children were white (not Hispanic) and 26 percent were Hispanic of any race. A further 12 percent were Asian (not Hispanic). The exhibit also shows that the proportion of white children and children of two or more races is slightly decreasing over time, while the proportion of Asian children is increasing.

Exhibit 4. 0–5-Year-Olds by Race and Ethnicity, Washington County



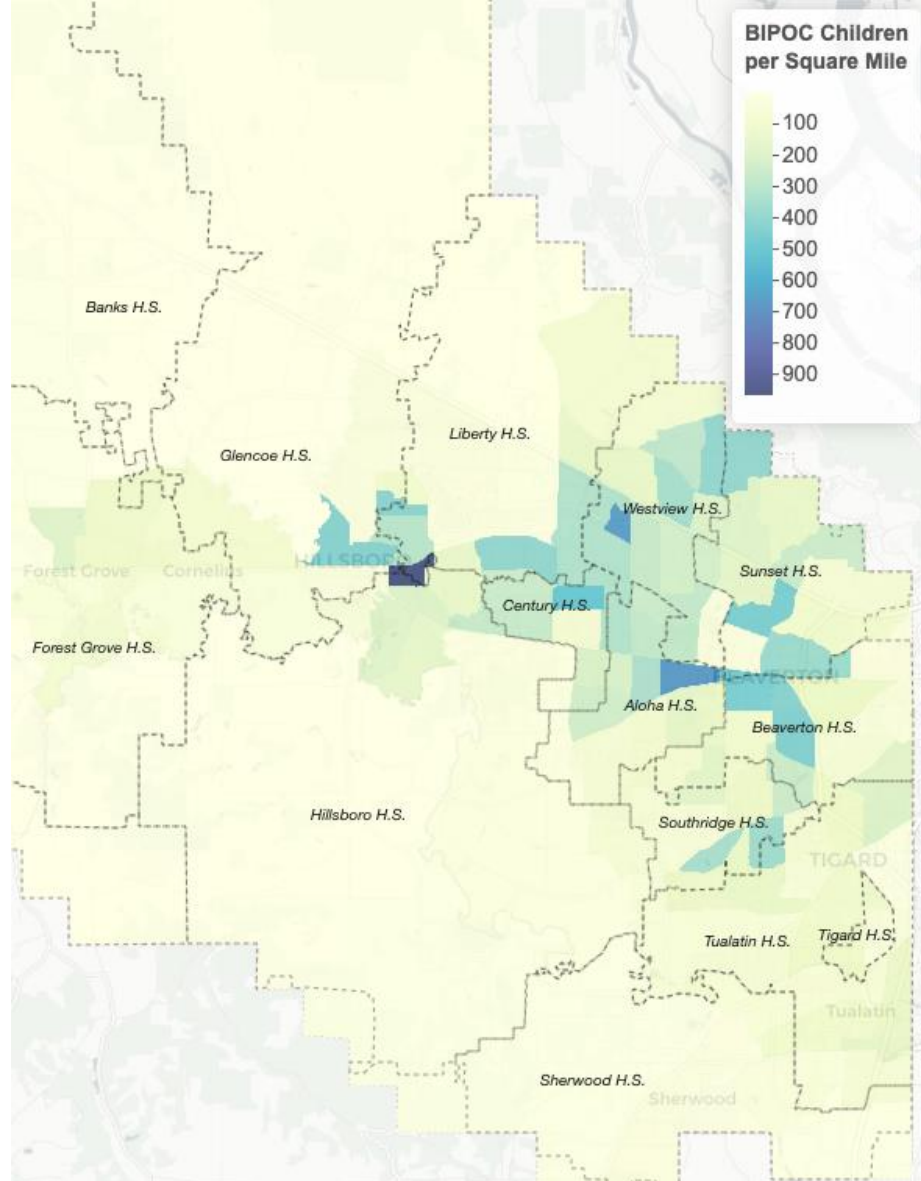
Source: U.S. Census Bureau (2012-2021).⁵ Notes: Values for 2020 were calculated as the average between 2019 and 2021 to avoid using experimental PUMS weights. “Hispanic” refers to people who identify as ethnically Hispanic regardless of race (e.g., white Hispanic, Asian Hispanic). All other reported categories include people who identify as that race and not Hispanic (e.g., white non-Hispanic, Asian non-Hispanic).

Exhibit 5 shows the number of BIPOC 0-5-year-olds per square mile in each Census tract.⁶ Tracts in eastern Hillsboro, west Tigard, west Beaverton, and the Orenco-AmberGlen area have some of the highest densities of BIPOC children.

⁵ U.S. Census Bureau; American Community Survey (ACS), One-Year Public Use Microdata Sample (PUMS), 2012-2021; accessed via API (2023).

⁶ “BIPOC” in this memo includes the following Census race/ethnicity categories: Hispanic (of any race), American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian and Pacific Islander, Two or More Races, and Some Other Race.

Exhibit 5. Number of BIPOC 0–5-Year-Olds per Square Mile, 2021, Washington County (detail)



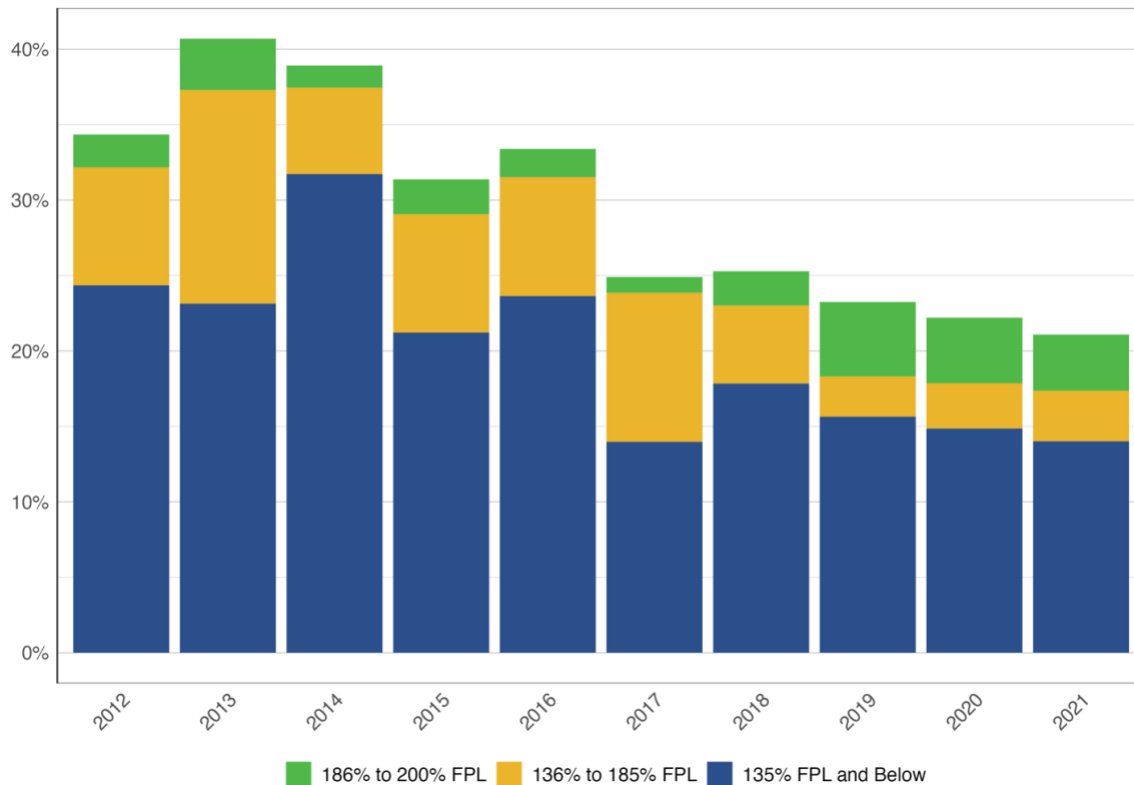
Source: ECONorthwest (2023).⁷ Note: “BIPOC” includes the Census categories of Hispanic (of any race), American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian and Pacific Islander, Two or More Races, and Some Other Race.

⁷ ECONorthwest. Synthetic Population Data Created using PopulationSim v0.5.1. Data from U.S. Census Bureau; Five-Year American Community Survey (ACS) and Five-Year Public Use Microdata Sample (PUMS), 2021; accessed via API (2023).

Poverty Level

Exhibit 6 shows the share of Washington County 0–5-year-olds living at different income thresholds relative to the federal poverty level (FPL).⁸ In 2021, 21 percent of children under 6 were at or below 200 percent FPL. The number of children below this threshold has decreased by half from 2013, showing a remarkable improvement. Other measures of poverty and self-sufficiency may show varying rates of change over the same time period.

Exhibit 6. Share of 0–5-Year-Olds Living in Low-Income Households (Below 200 Percent of the Federal Poverty Level), Washington County



Source: U.S. Census Bureau (2012-2021).⁹ Note: Values for 2020 were calculated as the average between 2019 and 2021 to avoid using experimental PUMS weights.

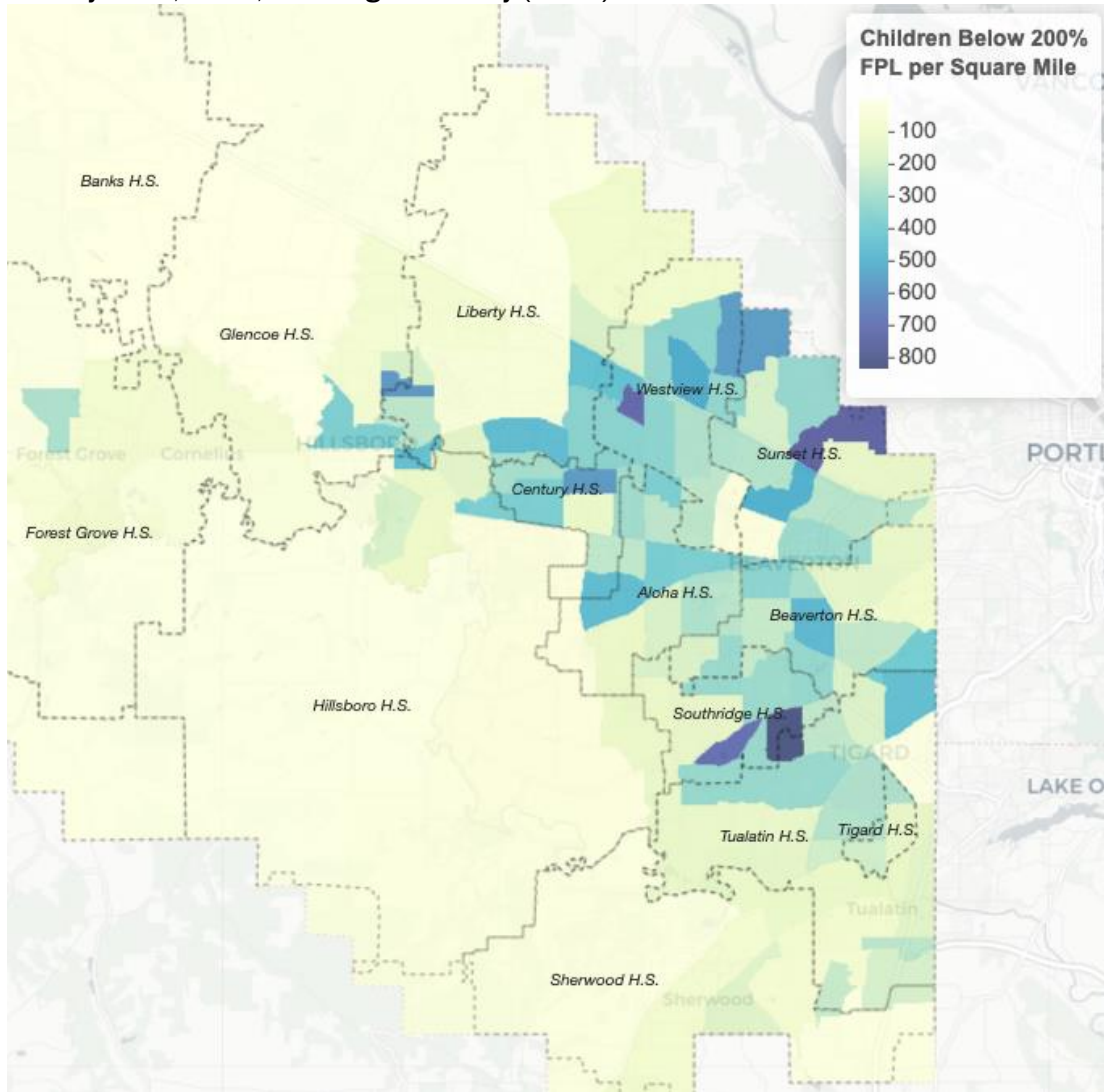
Exhibit 7 shows the distribution of these children in Washington County (number per square mile by tract). Areas with the highest numbers of low-income children per square mile include Jack Park in Tigard, Cedar Mill, Orenco-AmberGlen, and north Hillsboro.

The final displays in this section, Exhibits 8, 9, and 10, provide summary information about the characteristics and numbers of children ages 0-5 in the county. Exhibit 8 includes the forecast of children ages 0-5 through 2030, by age group (age 0, ages 1-2, and ages 3-5).

⁸ In 2021, the federal poverty guideline for a family of four was \$26,500.

⁹ U.S. Census Bureau; American Community Survey (ACS), One-Year Public Use Microdata Sample (PUMS), 2012-2021; accessed via API (20 February 2023).

Exhibit 7. Number of 0–5-Year-Olds per Square Mile Living Below 200 Percent of the Federal Poverty Level, 2021, Washington County (detail)



Source: ECONorthwest (2023)¹⁰

¹⁰ ECONorthwest. Synthetic Population Data Created using PopulationSim v0.5.1. Data from U.S. Census Bureau; Five-Year American Community Survey (ACS) and Five-Year Public Use Microdata Sample (PUMS), 2021; accessed via API (2023).

Exhibit 8. Age and Poverty Status of Children Ages 0 to 5, Washington County

Year	Number of 0-5-Year-Olds	Age			Poverty Status			
		Age 0	Ages 1-2	Ages 3-5	135% FPL and below	136% to 200% FPL	Total <200% FPL	Greater than 200% FPL
2012	42,980	7,393	14,436	21,151	10,467	4,294	14,761	28,219
2013	44,469	5,831	16,438	22,200	10,290	7,807	18,097	26,372
2014	43,319	6,532	15,886	20,901	13,743	3,115	16,858	26,461
2015	42,460	6,550	13,371	22,539	9,009	4,311	13,320	29,140
2016	44,871	5,067	15,239	24,565	10,606	4,376	14,982	29,889
2017	44,268	4,643	16,582	23,043	6,189	4,833	11,022	33,246
2018	42,040	7,044	13,323	21,673	7,501	3,127	10,628	31,412
2019	42,376	5,569	14,185	22,622	6,630	3,219	9,849	32,527
2020	40,784	5,571	12,886	20,734	6,062	2,994	9,056	31,728
2021	39,191	5,570	13,536	21,678	5,494	2,769	8,263	30,928
2022	42,553	7,074	14,147	21,332				
2023	43,062	7,190	14,380	21,492				
2024	43,578	7,308	14,616	21,654				
2025	44,101	7,428	14,856	21,817				
2026	44,871	7,554	15,109	22,208				
2027	45,655	7,683	15,365	22,606				
2028	46,452	7,813	15,627	23,012				
2029	47,263	7,946	15,892	23,425				
2030	48,075	8,081	16,162	23,831				

Source: U.S. Census Bureau (2012-2021),¹¹ Chun et al. (2020).¹² Notes: FPL = Federal Poverty Level. Values for 2020 were calculated as the average between 2019 and 2021 to avoid using experimental PUMS weights. Population estimates from 2022 to 2030 were forecast using data from PSU's Population Resource Center.

¹¹ U.S. Census Bureau; American Community Survey (ACS), One-Year Public Use Microdata Sample (PUMS), 2012-2021; accessed via API (20 February 2023).

¹² Chun et al. (2020). *Coordinated Population Forecast for Washington County, its Urban Growth Boundaries (UGB) and Area Outside UGBs 2020-2070*. Portland State University's Population Research Center.

Exhibit 9. Race/Ethnicity of Children Under Age 6, Washington County

Year	Number of 0–5-Year-Olds	White	BIPOC				
			Total BIPOC	Hispanic (any race)	Asian	Two or More Races	All Other Races
2012	42,980	23,619	19,361	11,466	3,898	3,058	939
2013	44,469	24,872	19,597	10,797	4,081	3,129	1,590
2014	43,319	23,049	20,270	12,055	3,974	3,738	503
2015	42,460	24,389	18,071	10,458	3,398	3,430	785
2016	44,871	25,163	19,708	11,365	4,122	3,284	937
2017	44,268	22,253	22,015	11,969	3,869	4,118	2,059
2018	42,040	21,564	20,476	10,797	2,860	5,153	1,666
2019	42,376	21,847	20,529	11,094	4,119	3,846	1,470
2020	40,784	20,666	20,118	10,544	4,430	3,093	2,051
2021	39,191	19,484	19,707	9,994	4,741	2,340	2,632

Source: U.S. Census Bureau (2012-2021),¹³ Chun et al. (2020).¹⁴ Notes: Values for 2020 were calculated as the average between 2019 and 2021 to avoid using experimental PUMS weights. “White” includes those who identify as white and non-Hispanic. “BIPOC” includes the Census categories of Hispanic (of any race), American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian and Pacific Islander, Two or More Races, and Some Other Race. “All Other Races” includes American Indian or Alaska Native, Native Hawaiian and Pacific Islander, Black or African American, or Some Other Race.

Exhibit 10. Number of 0–5-Year-Olds Living in Low-Income Households, Washington County

Race/Ethnicity	Number of 0–5-Year-Olds <200% FPL
White	3,508
Hispanic (any race)	3,845
All Other Races	1,951

Source: U.S. Census Bureau (2021 5-year sample).¹⁵ Notes: FPL = Federal Poverty Level. “White” includes those who identify as white and non-Hispanic. “All Other Races” includes the Census categories of American Indian or Alaska Native, Native Hawaiian and Pacific Islander, Asian, Black or African American, Two or More Races, or Some Other Race.

¹³ U.S. Census Bureau; American Community Survey (ACS), One-Year Public Use Microdata Sample (PUMS), 2012-2021; accessed via API (20 February 2023).

¹⁴ Chun et al. (2020). Coordinated Population Forecast for Washington County, its Urban Growth Boundaries (UGB) and Area Outside UGBs 2020-2070. Portland State University’s Population Research Center.

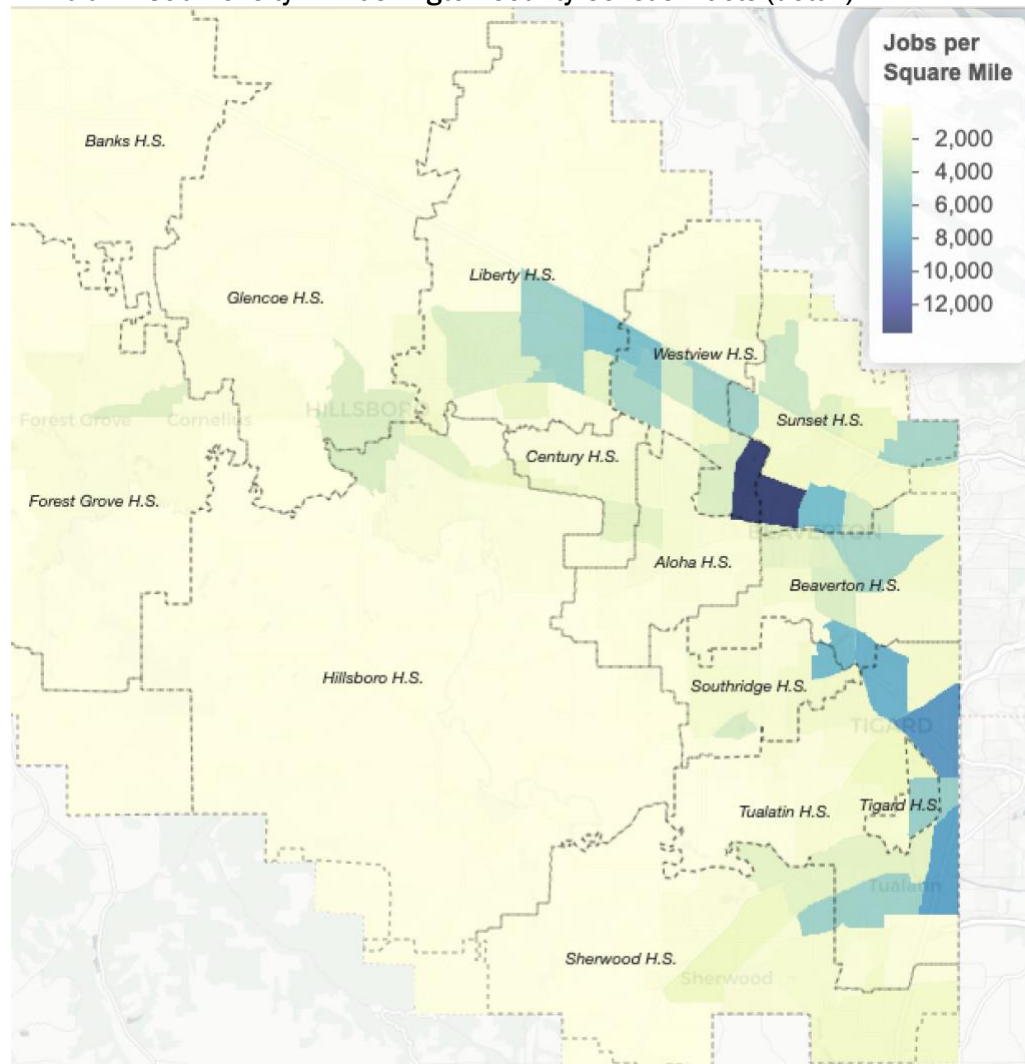
¹⁵ U.S. Census Bureau; American Community Survey (ACS), Five-Year Public Use Microdata Sample (PUMS), 2017-2021; accessed via API (20 February 2023).

Task 2.1 Job Cluster Analysis

We used data from the 2021 Quarterly Census of Employment and Wages (QCEW) to identify clusters of employment in Washington County. These data can identify areas where demand for childcare might be higher than expected based only on residential population counts. As such, the information will also inform the Task 5 gap analysis.

Exhibit 11 shows employment per square mile by Census tract, for all industries. The highest concentrations of jobs are near urban centers, for example, Orenco, downtown Beaverton, the Tigard-Metzger area, and eastern Tualatin.

Exhibit 11. Job Density in Washington County Census Tracts (detail)

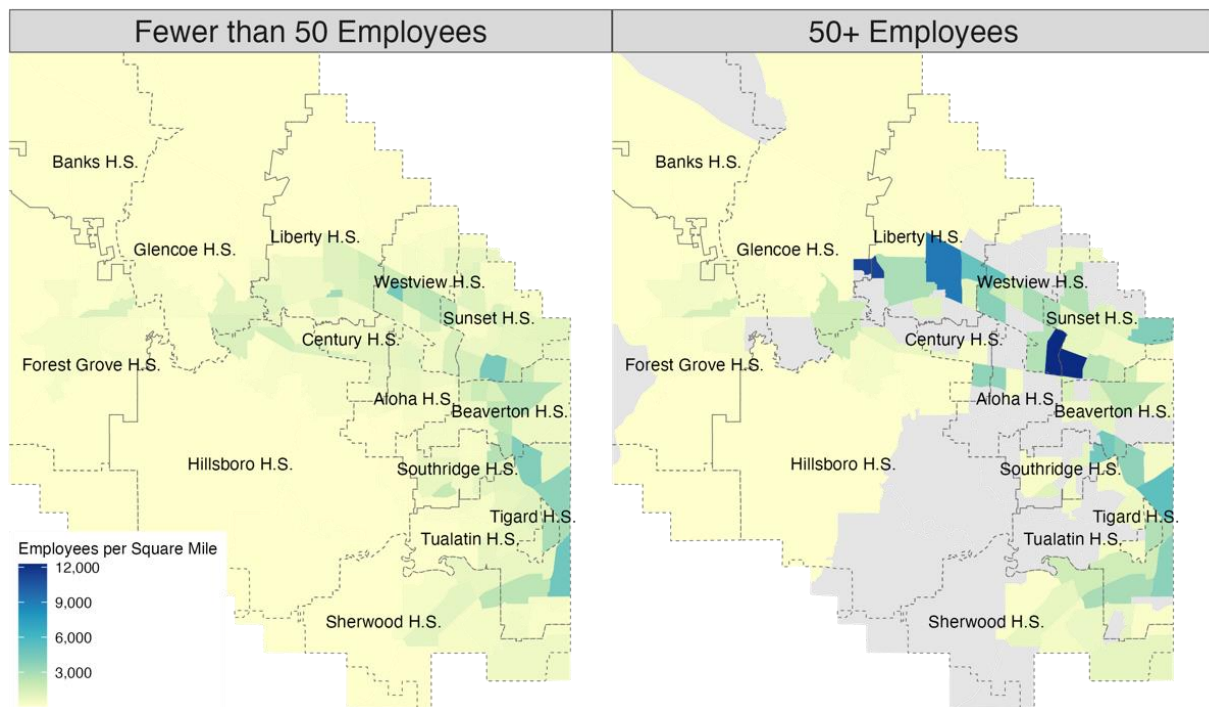


Source: QCEW (2021).¹⁶ Note: Includes all industries. Some businesses were removed from the analysis to comply with QCEW's data reporting rules.

¹⁶ Oregon Employment Department. Data from the Quarterly Census of Employment and Wages, Washington County, Oregon. (2021).

Exhibit 12 shows the concentration of employees by business size.¹⁷ We grouped businesses of a similar size together and calculated the total number of employees in each size category in each Census tract. Smaller businesses (those employing fewer than 50 people) are more concentrated along Washington County’s eastern border near Portland and along US-26. Employment in large businesses (those employing more than 50 people) is more common in north Hillsboro, northwest Beaverton, and West Haven-Sylvan. Areas of the county with higher employment density suggest potential need for childcare for the children of parents or guardians who prefer to use childcare near their place of employment. However, larger employers may be more likely to have company-operated childcare; areas with these types of employers may not need as much public investment in childcare as do areas with fewer large employers.

Exhibit 12. Employment Density by Size of Business, Washington County Census Tracts (detail)



Source: QCEW (2021).¹⁸ Note: Some businesses were removed from the analysis to comply with QCEW’s data reporting rules.

Exhibit 13 shows employment density by industry for six aggregate industries: construction and manufacturing; health care and social assistance; professional services; recreation, accommodation, and food services; trade, transportation/warehousing, and utilities; and all other industries. Examining employment by industry can help identify potential need for childcare with specific characteristics, as employer needs for labor and worker characteristics vary across industries.

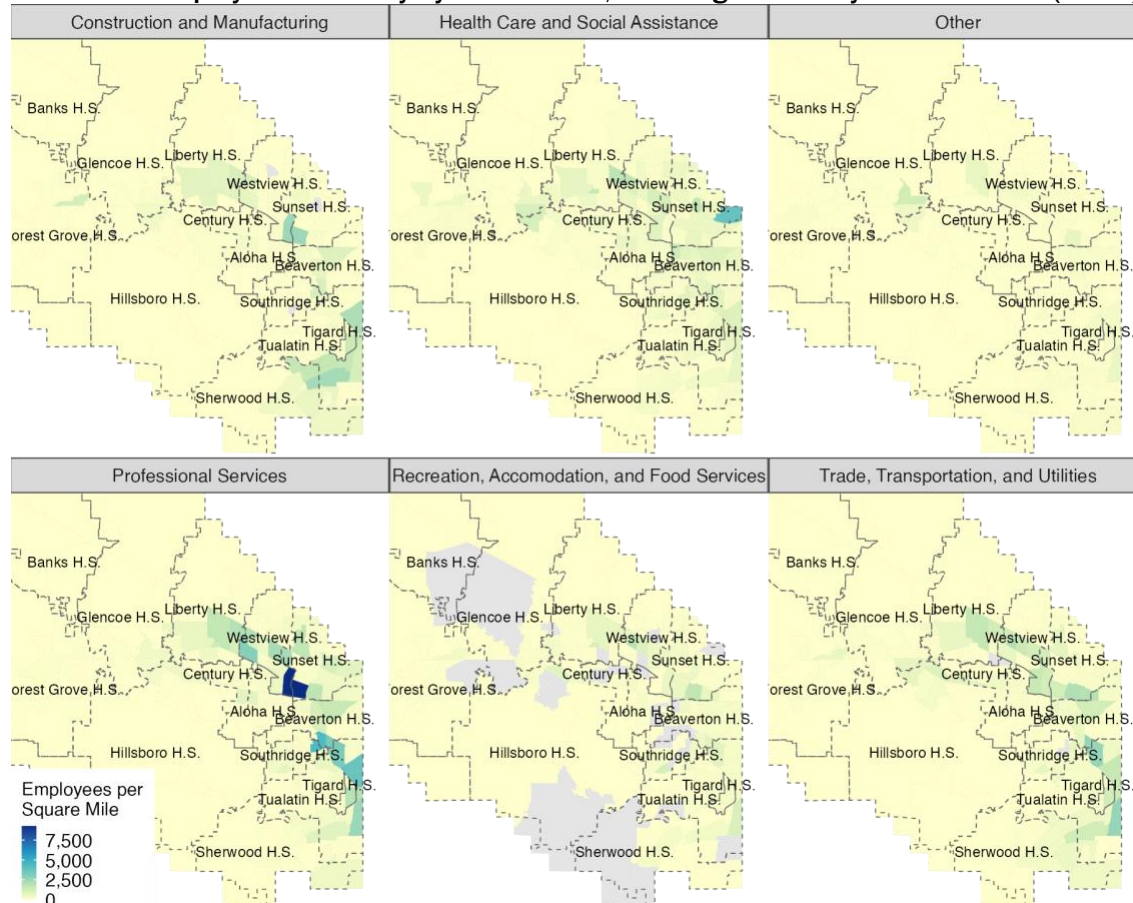
¹⁷ The size categories and industry aggregates were chosen in part to allow a reasonable amount of detail in the maps while complying with OED confidentiality requirements. The gap analysis may incorporate refinements to the categories.

¹⁸ Oregon Employment Department. Data from the Quarterly Census of Employment and Wages, Washington County, Oregon. (2021).

Construction and manufacturing employ a sizable share of the Washington County workforce and are concentrated in northern Hillsboro and Tualatin, areas where the industries employ about 3,500 workers per square mile. Healthcare and social assistance are highly concentrated in the West Haven-Sylvan area, with about 2,500 workers per square mile. Professional services businesses also employ a large share of the county workforce, and these jobs are most concentrated in urban centers, where they employ up to 9,250 workers per square mile. Recreation, accommodation, and food services businesses are evenly spread across the county and employ fewer than 1,500 people per square mile.

The maps in Exhibit 13 show a potential need for childcare in the darker areas, though the type of childcare needed may vary based on industry-specific attributes. For example, those employed in professional services industries are more likely to need full-day weekday care (e.g., a provider open Monday-Friday from 7:30 am to 6:00 pm), whereas those employed by the construction, health care, or food service industries may need childcare at different hours or days of the week depending on work shifts.

Exhibit 13. Employment Density by NAICS Code, Washington County Census Tracts (detail)



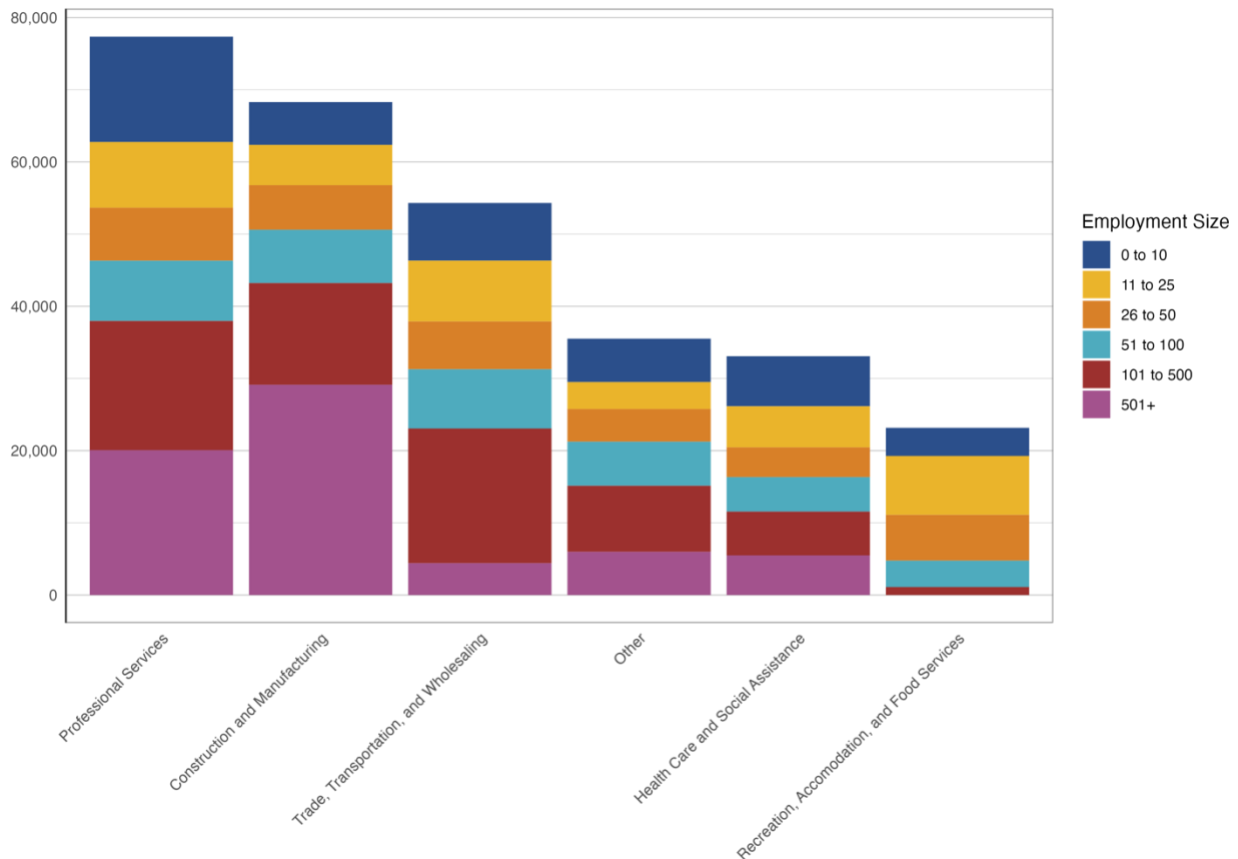
Source: QCEW (2021).¹⁹ Note: Some businesses were removed to comply with QCEW's data reporting rules.

¹⁹ Oregon Employment Department. Data from the Quarterly Census of Employment and Wages, Washington County, Oregon. (2021).

Exhibit 14 shows the breakdown of employment by NAICS code and business size. Across all business sizes, professional services industries employ the most people in Washington County followed by the construction and manufacturing industries and the trade, transportation/warehousing, and utilities industries.

Construction and manufacturing tend to employ people in large businesses of 500+ employees while recreation, accommodation, and food services consists of more numerous, smaller businesses. Businesses with large employee bases such as those in professional services and construction and manufacturing may have a more-concentrated need for childcare, but this need may be more likely to be met by employers.

Exhibit 14. Employment by NAICS Code and Business Size, Washington County



Source: QCEW (2021)²⁰

Conclusion

The data and analyses summarized in this memo will form the foundation for the gap analysis (Task 5), together with the findings of Tasks 3 and 4. Task 5 will involve a comparison of

²⁰ Oregon Employment Department. Data from the Quarterly Census of Employment and Wages, Washington County, Oregon. (2021).

current capacity and staffing levels with estimated infrastructure (facilities) and workforce needs associated with expanded childcare for young children in Washington County.