



June 2024

Sherwood West UGB Assessment

Oregon Metro

Prepared for: Oregon Metro

ECONorthwest

222 SW Columbia Street • Suite 1600 • Portland, OR 97201 • 503-222-6060



Acknowledgments

ECONorthwest prepared this report with support from the guidance and input of several partners, including members, staff, and leadership of the **Metro**. Most notably we are appreciative of the involvement and input of **David Tetrick** and **Ted Reid**. Other firms, agencies, and staff contributed to other research that this report relied upon, specifically **Mackenzie Engineering**. This work was financially supported by **Metro**.

That assistance notwithstanding, ECONorthwest is responsible for the content of this report. The staff at ECONorthwest prepared this report based on their general knowledge of the economics of recreation, amenities, and regional economies. ECONorthwest staff contributing to this study included **Chris Blakney** and **Katherine Buck**. ECONorthwest also relied on information derived from government agencies, private statistical services, the reports of others, interviews of individuals, or other sources believed to be reliable. ECONorthwest has not independently verified the accuracy of all such information and makes no representation regarding its accuracy or completeness. Any statements nonfactual in nature constitute the authors' current opinions, which may change as more information becomes available.

For more information about this report please contact:

Chris Blakney

blakney@econw.com

ECONorthwest

503-222-6060



Table of Contents

- 1. Sherwood West Concept Plan 2
- 2. Regional Industrial Market Supply 3
- 3. Regional Land Supply for Industrial Uses 20
- 4. Employment Trends 25
- 5. Sherwood West Site Competitiveness 30
- 6. Key Findings and Conclusions 42

Executive Summary

Project background and understanding

The City of Sherwood has submitted an expansion of the Portland Metro urban growth boundary (UGB) for Sherwood West, which would include annexing 1,291 acres from the Urban Reserve area west of Sherwood. The Sherwood West Concept Plan includes land for housing, schools and civic facilities, park space, and 265 net acres for employment uses that would support about 4,500 new jobs. There could be an economic benefit to including additional large industrial sites in the UGB. ECONorthwest explored regional and local data trends to assess whether an increase in employment land in Sherwood West would support economic growth for the Metro region.

Market supply as a tool to grow economic benefits for the Metro region

A diverse regional market supply of sites is essential to maintaining an equilibrium in market pricing and to supporting a broad range of industries. Therefore, the first component of the analysis is to understand the regional market supply of industrial and employment sites and to assess if the portfolio of sites has the characteristics necessary to attract the range of industries that are growing in the region. The analysis determined that there is a very low supply of larger industrial sites.

Site competitiveness to retain economic benefits in the Metro region

The second component of the analysis is to assess whether the land in the Sherwood West North District Mixed Employment Area (MEA) has characteristics that can better accommodate the growing industries than other parcels in Sherwood or the Metro region, which will support regional economic and business growth. Scoring higher than other regional land, the land within the MEA has characteristics that would appeal to industrial development, including 40-to-50-acre parcels, minimal site aggregation, slopes under 5 percent, and access to the highway. There have already been regional shifts with industrial companies locating in Sherwood and developers building new industrial space in Sherwood.

Findings

Based on the assessment of the market supply and the evaluation of the MEA, there are low vacancy rates in existing industrial buildings in the region and a lack of suitable land to support industrial uses, while there is a growing demand for industrial space in the region. Sherwood West would be well suited to capture the new and expanding demand for industrial space.



1. Sherwood West Concept Plan

The Sherwood West Concept Plan

The Metro Council reviews the regional 20-year land supply urban growth boundary (UGB) every six years and is currently reviewing the UGB in 2024. The City of Sherwood has requested a UGB expansion to include all or part of Sherwood West in 2024.

The Sherwood West Concept Plan, which was last updated March 2024, designates 265 net acres for employment uses across commercial (seven acres), mixed-use (25 acres), hospitality (63 acres), schools (40 acres), and mixed employment (130 acres), which is projected to create about 4,500 new jobs. The North District of Sherwood West—located south of Scholls-Sherwood Road, north of Chicken Creek, and west of Elwert Road— has the Mixed Employment Area (MEA), which would be the employment center for Sherwood West because it would contain 53 percent of the jobs and 49 percent of the employment acres proposed in the Sherwood West Concept Plan. Based on the Concept Plan, there could be about 18 jobs/ net acre for a total of 2,398 jobs in the MEA. Land in the northeast of this district is mostly flat, has large parcels, and has easy transportation to SW Roy Rogers Road, which is why the plan designated this area to support industry and employment.

The MEA is envisioned to include space for commercial, light industrial, and flex uses. The office space would be a minor component of the development program and would likely support mixed employment, campus, and/or mixed-use developments. The office space would likely be no more than 20,000 square feet with surface parking, and target tenants would be tech, medical, and service-oriented office space, or a “hub and spoke” or satellite office. Most of the employment uses for the MEA would be for light industrial and flex uses. The plan defines flex space as “a building that provides for a combination of uses, typically including a mix of warehouse, light industrial, office, and/or retail space.” The MEA has an employment focus, but there would also be a mix of housing north of Chicken Creek and a 13-acre community park.

The approach to the Sherwood West Concept Plan is to create a vision that can be implemented over time, as it is expected that development will happen incrementally. The goal would be to create a zoning system that works both in the short term and long term, and regulations should be designed to be flexible and adaptable to changing conditions. Development is anticipated to take five or six years for development to start occurring in Sherwood West after the site is brought into the UGB, and a full build-out of the region would take several decades.¹

¹ Sherwood West Concept Plan. March 5, 2024.



2. Regional Industrial Market Supply

To support economic and business growth in the Metro region, it is important to have the supply of sites to foster business growth and expansion. A regional market supply of sites can maintain an equilibrium in market pricing and help to buildout a portfolio of sites with characteristics that attract a broad range of growing industries. The North District Mixed Employment Area (MEA) could expand the supply of suitable sites to support industry growth. The review of industrial space also includes the square footage and trends of flex space in the region.

Metro region industrial square footage

Within the Metro region, industrial buildings were analyzed for the following cities: Forest Grove, Cornelius, Hillsboro, Beaverton, Tigard, King City, Durham, Tualatin, Sherwood, Wilsonville, Rivergrove, Lake Oswego, Portland, Milwaukie, West Linn, Gladstone, Oregon City, Johnson City, Happy Valley, Maywood Park, Gresham, Fairview, Troutdale. The cities of Rivergrove, Johnson City, King City, and Maywood did not have any existing industrial buildings. There are 4,806 industrial buildings in the Metro region and almost two-thirds of the buildings are in the City of Portland. Sherwood currently has 88 industrial buildings and two percent of the industrial buildings in the Metro region (Exhibit 1).



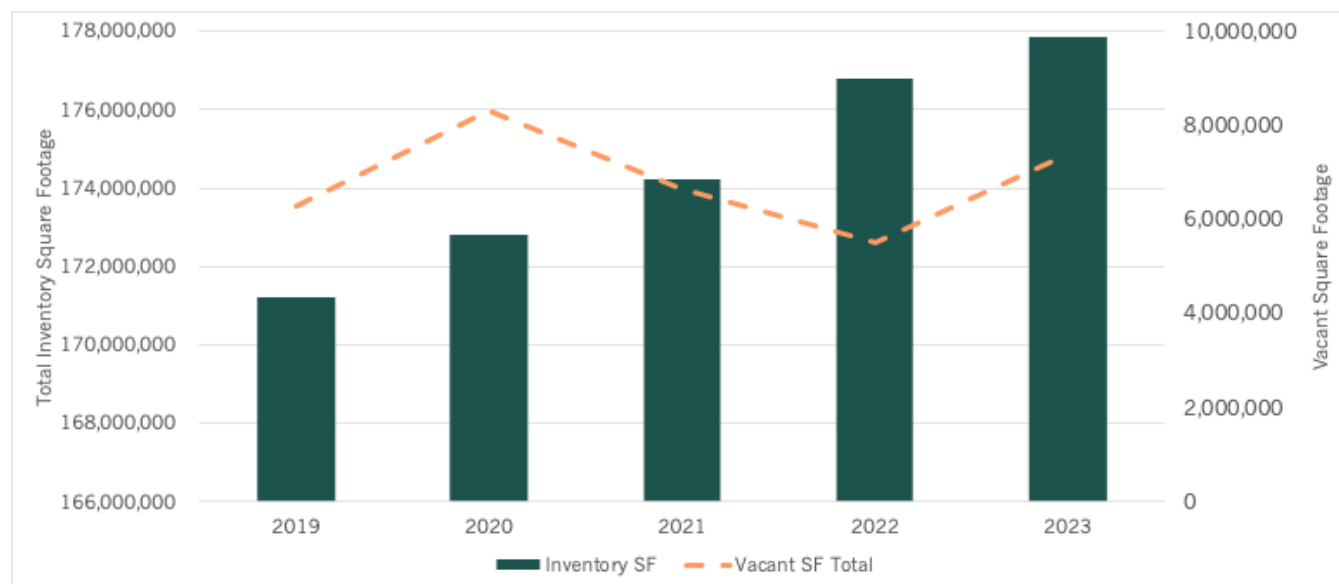
Exhibit 1. Number of Industrial Buildings in the Metro Region by City, 2024

City	Number of Industrial Buildings	Percent of Regional Industrial Buildings
Portland	3,153	65.6%
Hillsboro	318	6.6%
Tualatin	317	6.6%
Beaverton	148	3.1%
Milwaukie	118	2.5%
Wilsonville	107	2.2%
Gresham	102	2.1%
Oregon City	90	1.9%
Tigard	90	1.9%
Sherwood	88	1.8%
Troutdale	77	1.6%
Forest Grove	61	1.3%
Lake Oswego	54	1.1%
Cornelius	32	0.7%
Fairview	23	0.5%
Gladstone	11	0.2%
West Linn	8	0.2%
Happy Valley	7	0.1%
Durham	2	0.0%
Metro Region Total	4,806	100%

Source: CoStar

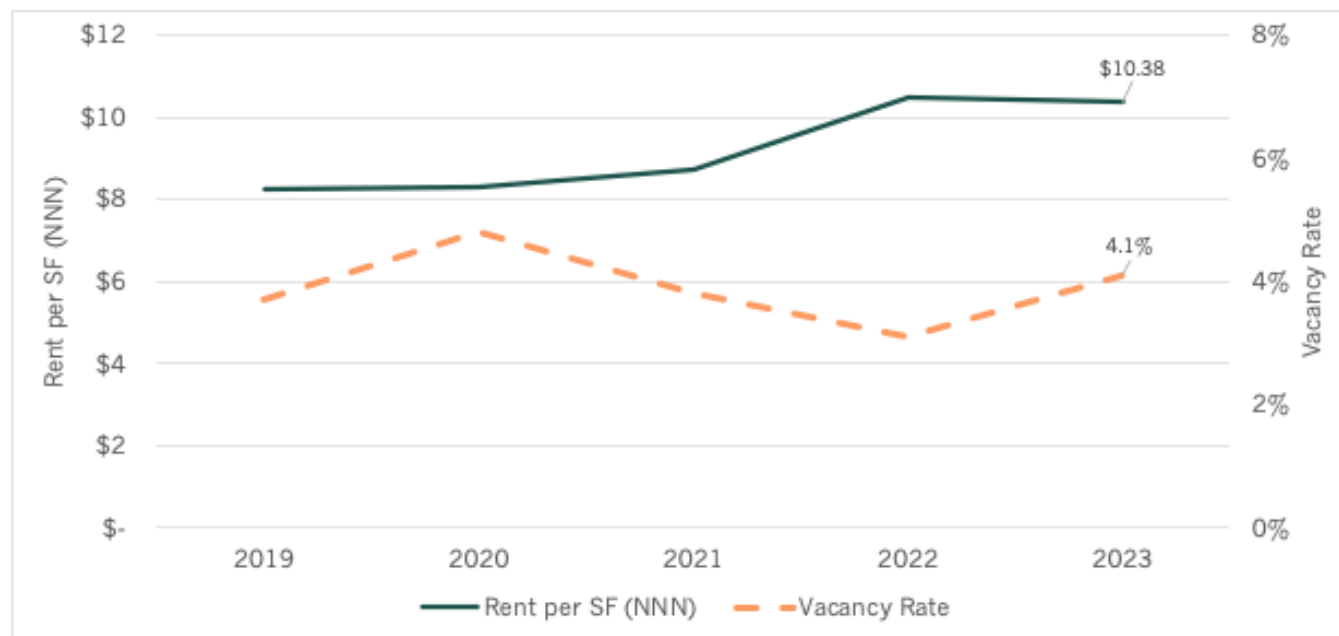
There has been a four percent increase in the amount of industrial square footage in the region with a total of about 178 million square feet of industrial space in 2023. During this time, the amount of vacant space peaked in 2020 and decreased over time until 2023 (Exhibit 2).



Exhibit 2. Total Industrial Space and Vacant Industrial Space in Metro Region, 2019-2023

Source: CoStar

The Metro region vacancy rate for industrial space has remained consistently under 5 percent since 2019 and was 4.1 percent for 2023. During this time, industrial rents have steadily increased from \$8.24 per square foot in 2019 to \$10.38 per square foot in 2023 (Exhibit 3).

Exhibit 3. Industrial Rent and Vacancy in Portland Metro Region, 2019-2023

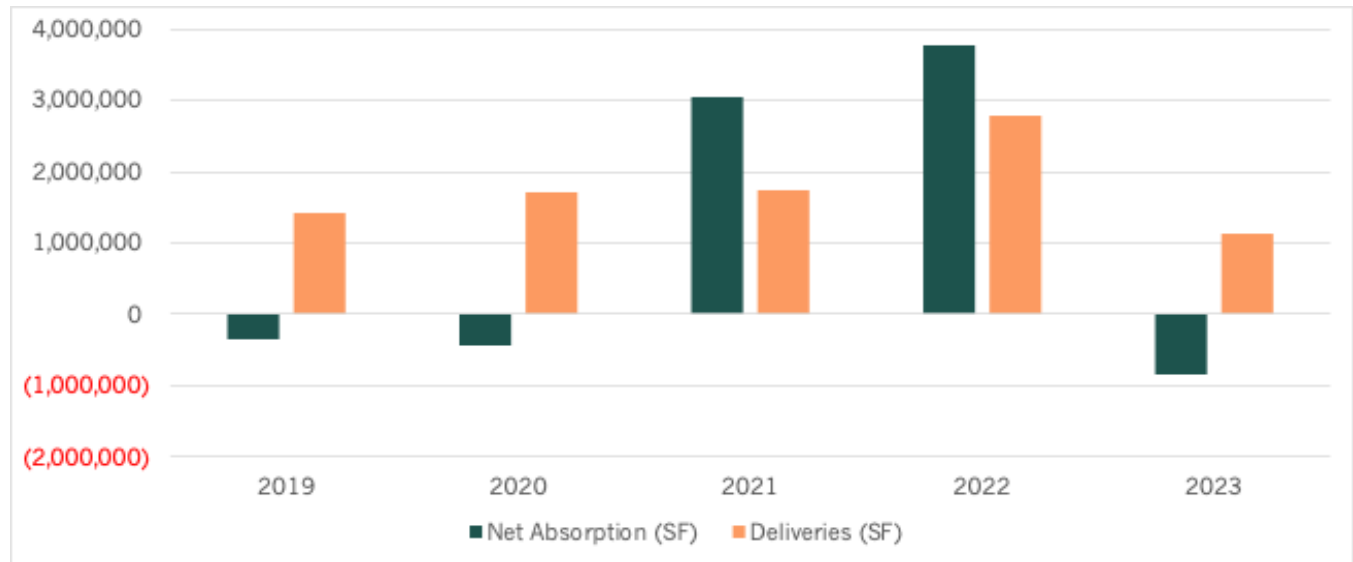
Source: CoStar

Since 2019, almost nine million square feet of industrial space has been developed in the Metro region across 84 buildings. In 2022, there was the largest share of industrial deliveries (2.8 million square feet). Net absorption for the Metro region—which is measured by the total square feet occupied minus the total space vacated—has fluctuated between



being negative and positive. However, the negative absorption has been less than 500,000 square feet in 2019 and 2020, and less than one million in 2023, which could represent 1 or 2 leases ending. In 2021 and 2022, net absorption was over three million square feet per year, which indicates that three million more industrial square footage was being leased per year than becoming vacant, even as 4.5 million square feet was developed in 2021 and 2022 (Exhibit 4).

Exhibit 4. Industrial Absorption and Deliveries in the Metro Region, 2019-2023



Source: CoStar

When looking specifically at industrial buildings that are 100,000 square feet or larger, there is a much smaller share of these buildings in the Metro Region. Of the 4,806 industrial buildings in the region, only 8 percent of buildings (391) are 100,000 square feet or more. Over half of the larger industrial buildings are in Portland, and Sherwood has 3 percent (11 buildings) that are 100,000 square feet or larger (Exhibit 5).



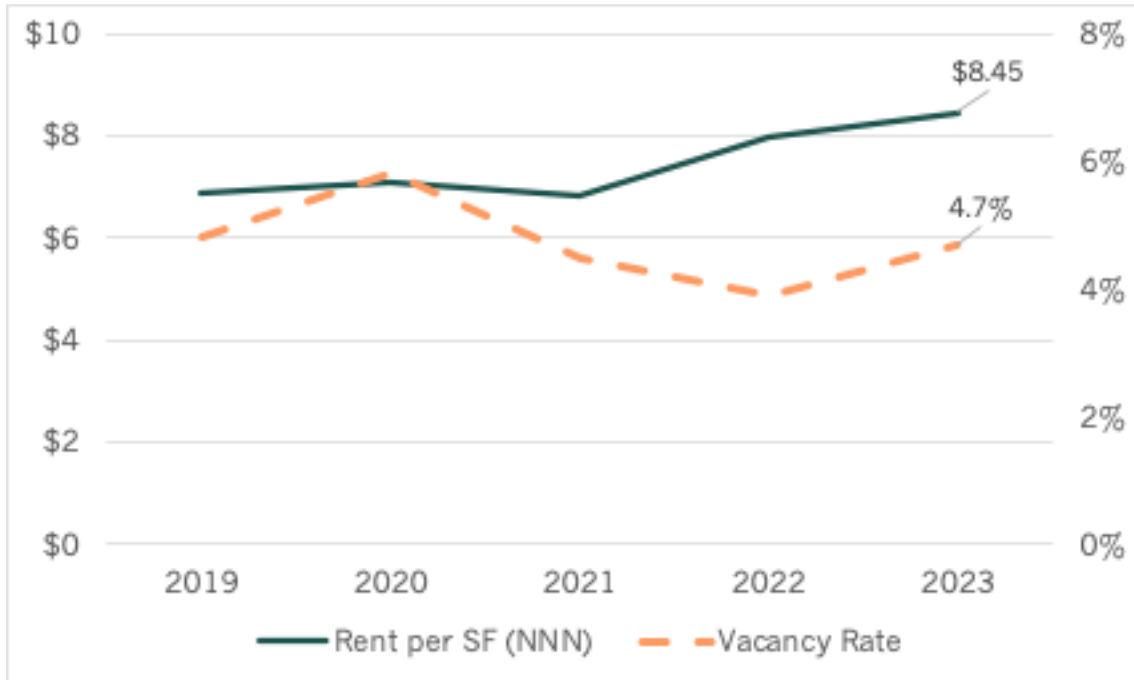
Exhibit 5. Number of Large Industrial Buildings in the Metro Region by City, 2024

City	Number of Industrial Buildings ≥ 100,000 SF	Percent of Regional Large Industrial Buildings
Portland	215	55%
Hillsboro	43	11%
Tualatin	28	7%
Milwaukie	23	6%
Wilsonville	19	5%
Beaverton	17	4%
Sherwood	11	3%
Gresham	10	3%
Fairview	7	2%
Tigard	6	2%
Forest Grove	4	1%
Troutdale	4	1%
Cornelius	2	1%
Lake Oswego	2	1%
Metro Region Total	391	100%

Source: CoStar

The vacancy rate for industrial buildings in the Metro region that are greater than 100,000 square feet has remained under 5 percent since 2021. Since 2019, the average triple net rent for larger industrial buildings have increase by 23 percent (\$1.58 per square foot) and were \$8.45 per square foot in 2023 (Exhibit 6). While the average rent for larger buildings is less than the average rent for all buildings, this is likely due to economies of scale of leasing a larger building with more square footage.

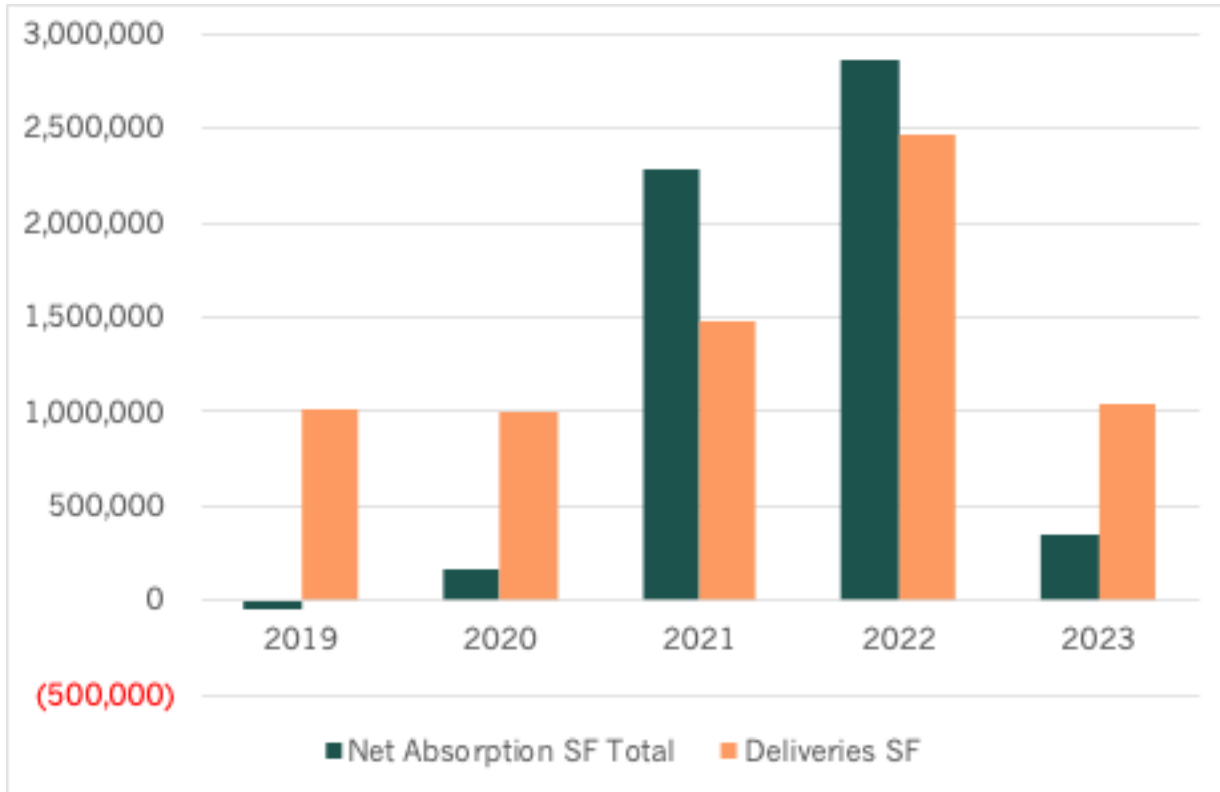


Exhibit 6. Industrial Rent and Vacancy Rates for Large Buildings in the Metro Region, 2019-2023

Source: CoStar

Between 2019 and 2023, 7 million square feet of industrial buildings (sized 100,000 square feet or larger) were developed in the region across 33 buildings. This indicates that 39 percent of the industrial buildings built between 2019 and 2023 equal or are greater to 100,000 square feet, which shows the trend towards new industrial companies needing larger spaces. Absorption for larger buildings was negative in 2019, and positive between 2020 and 2023 even while absorption for all buildings was negative, showing the importance of larger industrial product for the region.

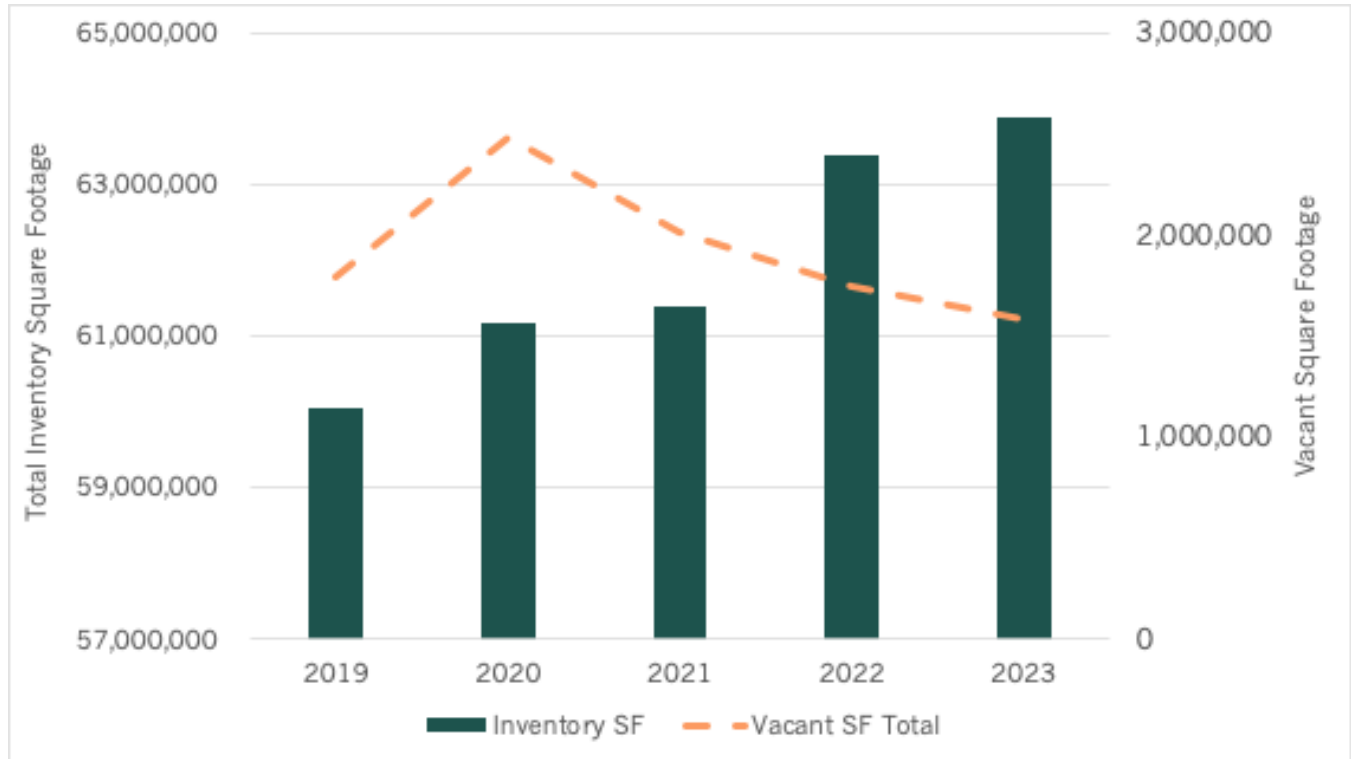


Exhibit 7. Large Building Industrial Absorption and Deliveries in Metro Region, 2019-2023

Source: CoStar

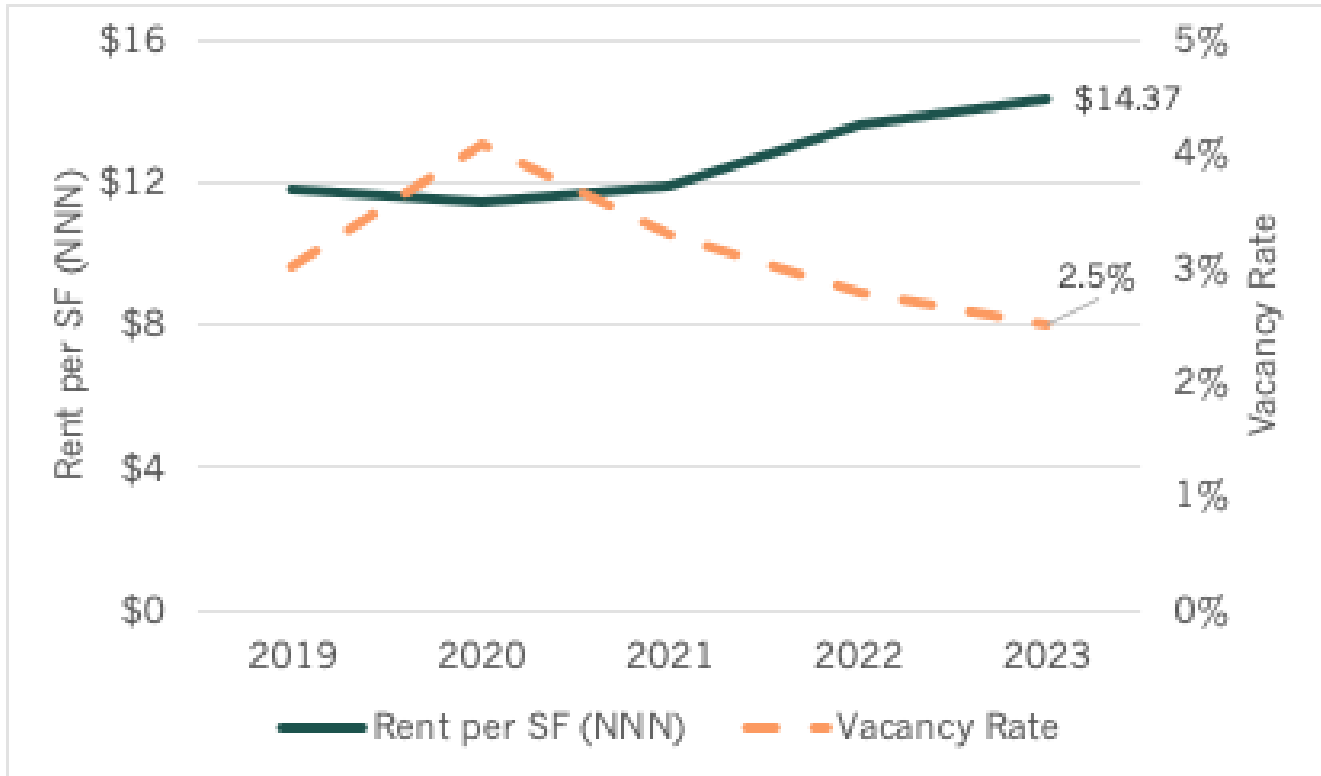
Low vacancy for existing industrial space in Washington County

In 2023, Washington County had almost 64 million square feet of industrial space, a 6 percent increase (3.8 million square feet) of total industrial supply since 2019. The amount of vacant square footage of industrial space has peaked in 2020 at just over 2.48 million square feet (Exhibit 8).

Exhibit 8. Total Industrial Space and Vacant Industrial Space in Washington County, 2019-2023

Source: CoStar

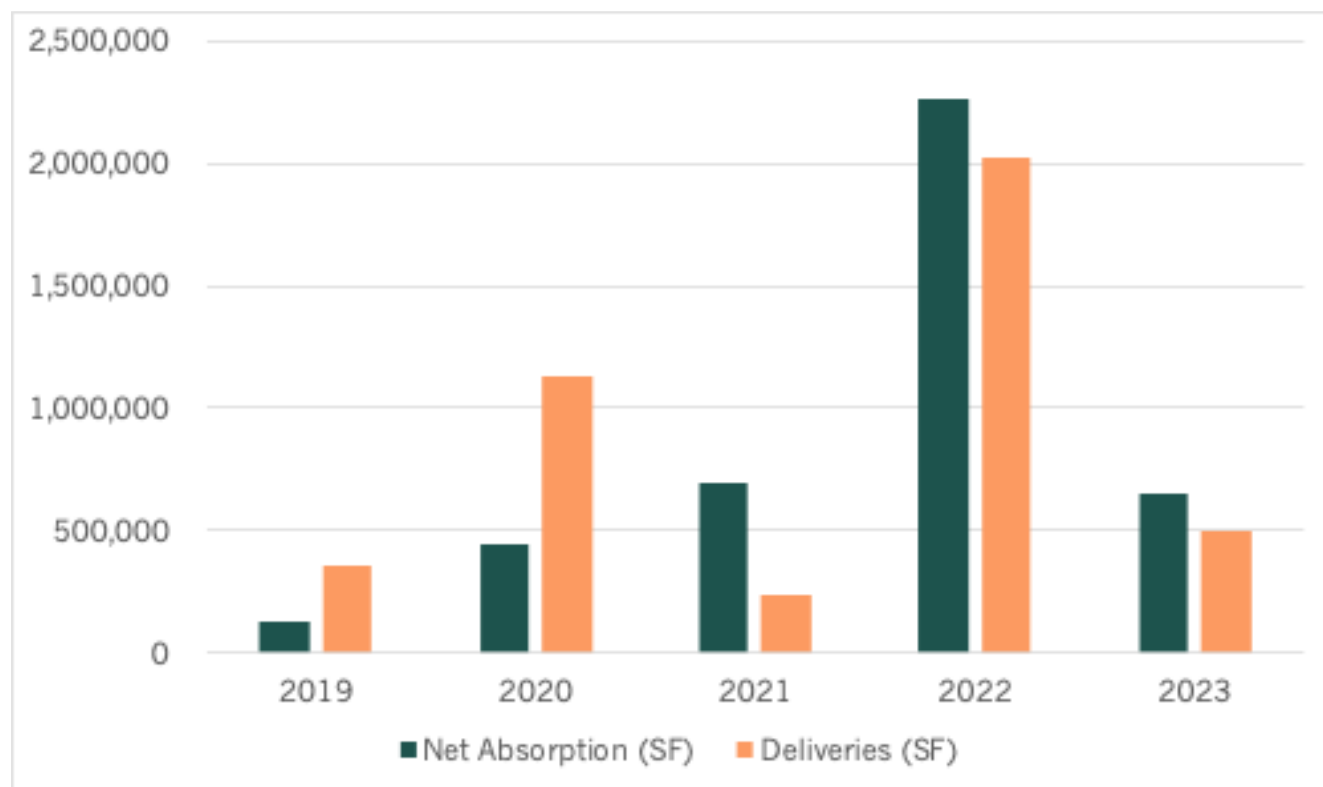
In Washington County, the triple net rent per square foot (a lease agreement in which the tenant is responsible for all expenses) has steadily increased over the last five years while vacancy rates have remained below 5 percent during this time frame, indicating a strong industrial market in the county. Between 2019 and 2023 rents increased by 21 percent (\$2.54) per square foot. During the same timeframe, the vacancy rate peaked at 4.1 percent in 2020 and dropped to 2.5 percent for 2023 (Exhibit 9).

Exhibit 9. Industrial Rent and Vacancy in Washington County, 2019-2023

Source: CoStar

Since 2019, there has been over 4.4 million square feet of new industrial and flex space delivered in Washington County across 43 industrial and flex buildings. Net absorption—which is measured by total square feet occupied minus the total space vacated—was positive between 2019 and 2023 and indicates that more industrial square footage was being leased than becoming vacant even as new industrial developments were built (Exhibit 10). The cool down in the market with space absorption and deliveries is likely a reflection of national development trends.



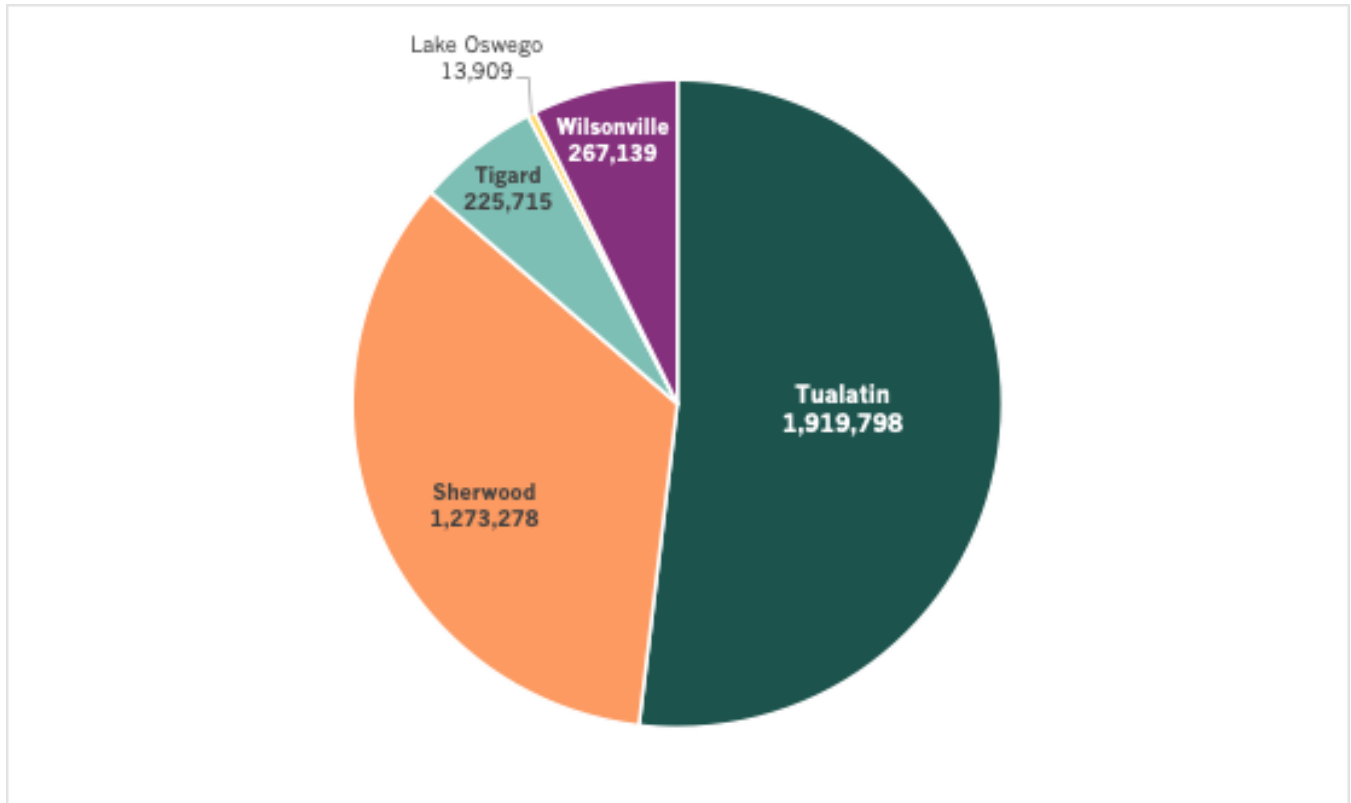
Exhibit 10. Industrial & Flex Absorption and Deliveries in Washington County, 2019-2023

Source: CoStar

Industrial and flex building characteristics in the South Metro Region

Within the South Metro Region, including Sherwood, Tualatin, Tigard, Wilsonville, and Lake Oswego, there is just under 3.7 million square feet of industrial and flex space. About 52 percent of the industrial and flex space is in Tualatin, followed by 34 percent of the space in Sherwood. The remaining industrial and flex square footage in the South Metro Region is in Wilsonville (7 percent), Tigard (6 percent), and Lake Oswego (0.4 percent) (Exhibit 11).

Exhibit 11. Total Industrial & Flex Square Footage in South Metro Region, 2024 YTD

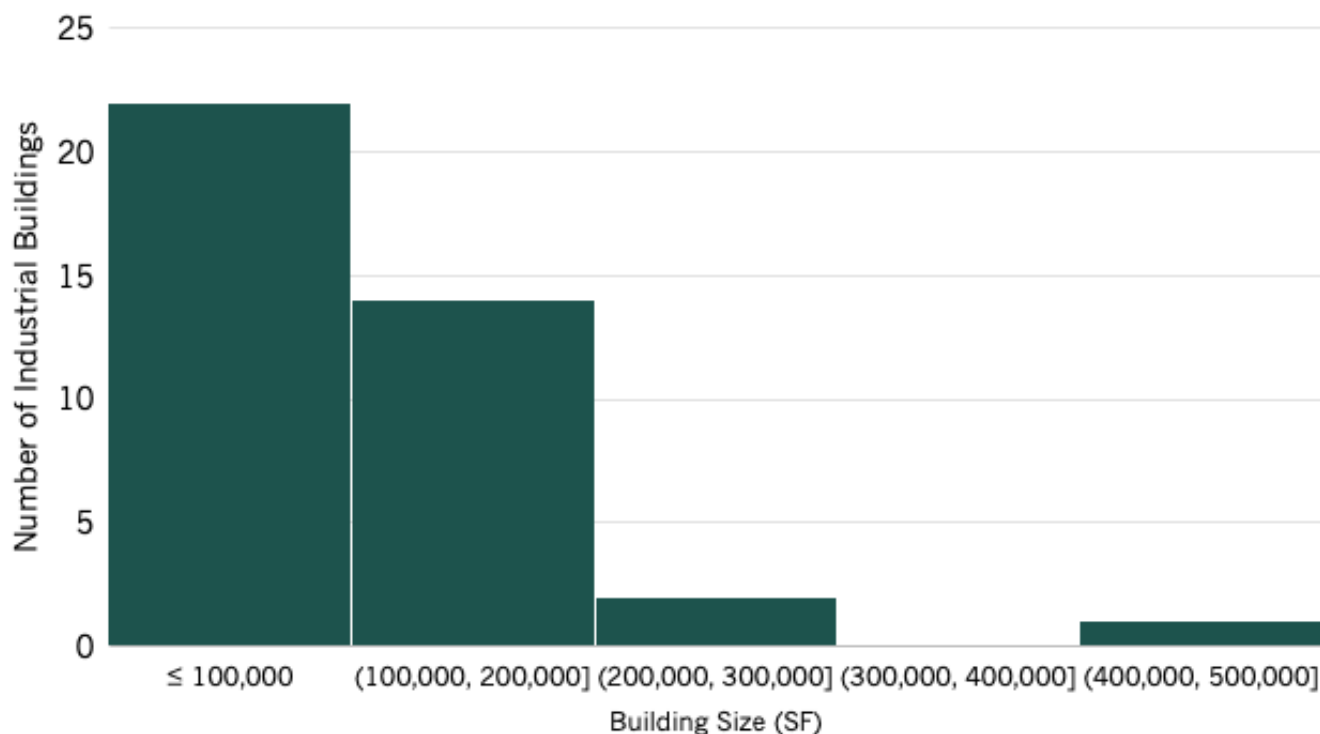


Source: CoStar

Size of industrial product in the South Metro Region

In the past five years, the typical size of industrial buildings constructed in the South Metro Region has been under 100,000 square feet (22 buildings). Fourteen buildings were between 100,000-200,000 square feet, and only three developments in the past five years have exceeded 200,000 square feet (Exhibit 12).



Exhibit 12. Size of Industrial Buildings Built in the South Metro Region, 2019-2024

Source: CoStar

Type of industrial product built since 2019

Within the industrial product type, CoStar delineates the properties into a secondary type based on their use, size, and amenities to industrial users. CoStar utilizes the following definitions for the secondary types of industrial space:

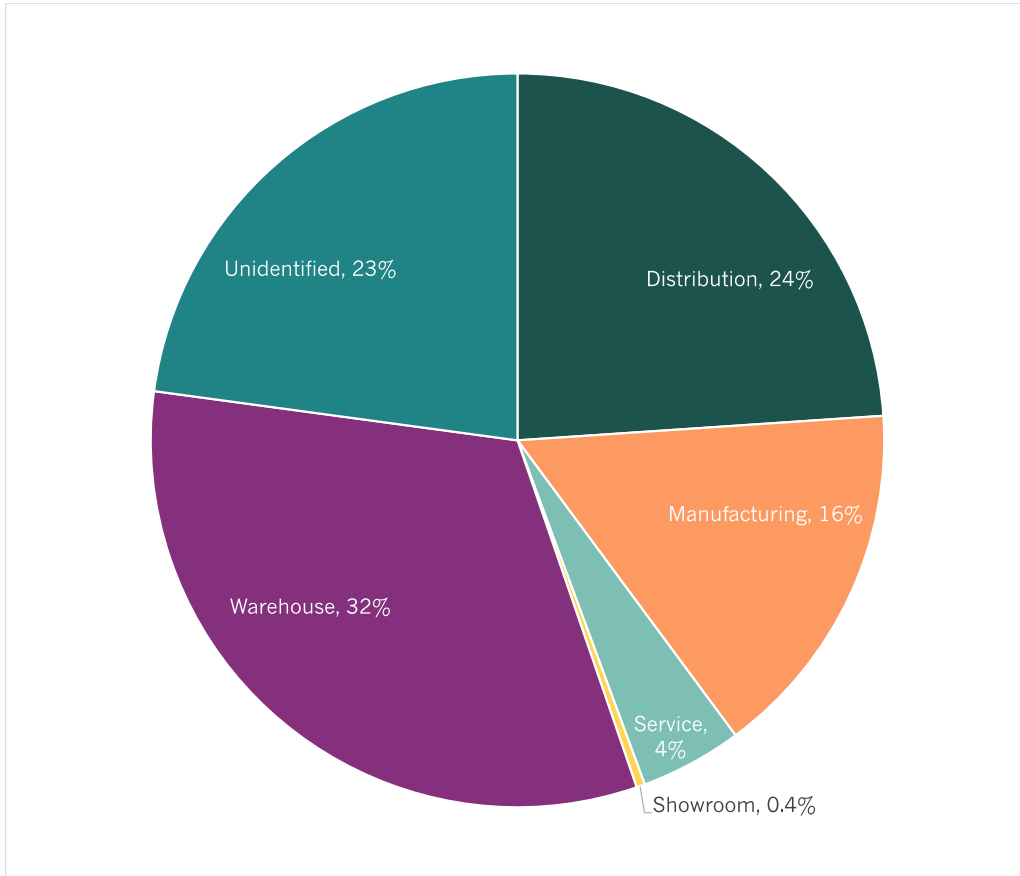
- ◆ Distribution–Spaces used for warehousing and distribution of inventory, that are typically 200,000 square feet or more, have clear heights of 28 feet, are less than 5 percent office space, and have site coverage that can be up to 40 percent.
- ◆ Warehouse–Buildings that are 25,000 square feet or greater, are up to 20 percent office area, have clear heights of 22 feet or greater, and have site coverage up to 50 percent.
- ◆ Manufacturing–Buildings that are typically 300,000 square feet or greater with an office area up to 50 percent.
- ◆ Service–Buildings designated for vehicle repair.
- ◆ Showroom–Buildings that displays merchandise and can range from 25,000 square feet to 150,000 square feet with office areas up to 30 percent.²

In the South Metro Region, 56 percent of the industrial space built since 2019 and proposed through 2026 is distribution and warehouse space. About 23 percent of the space

² CoStar Glossary

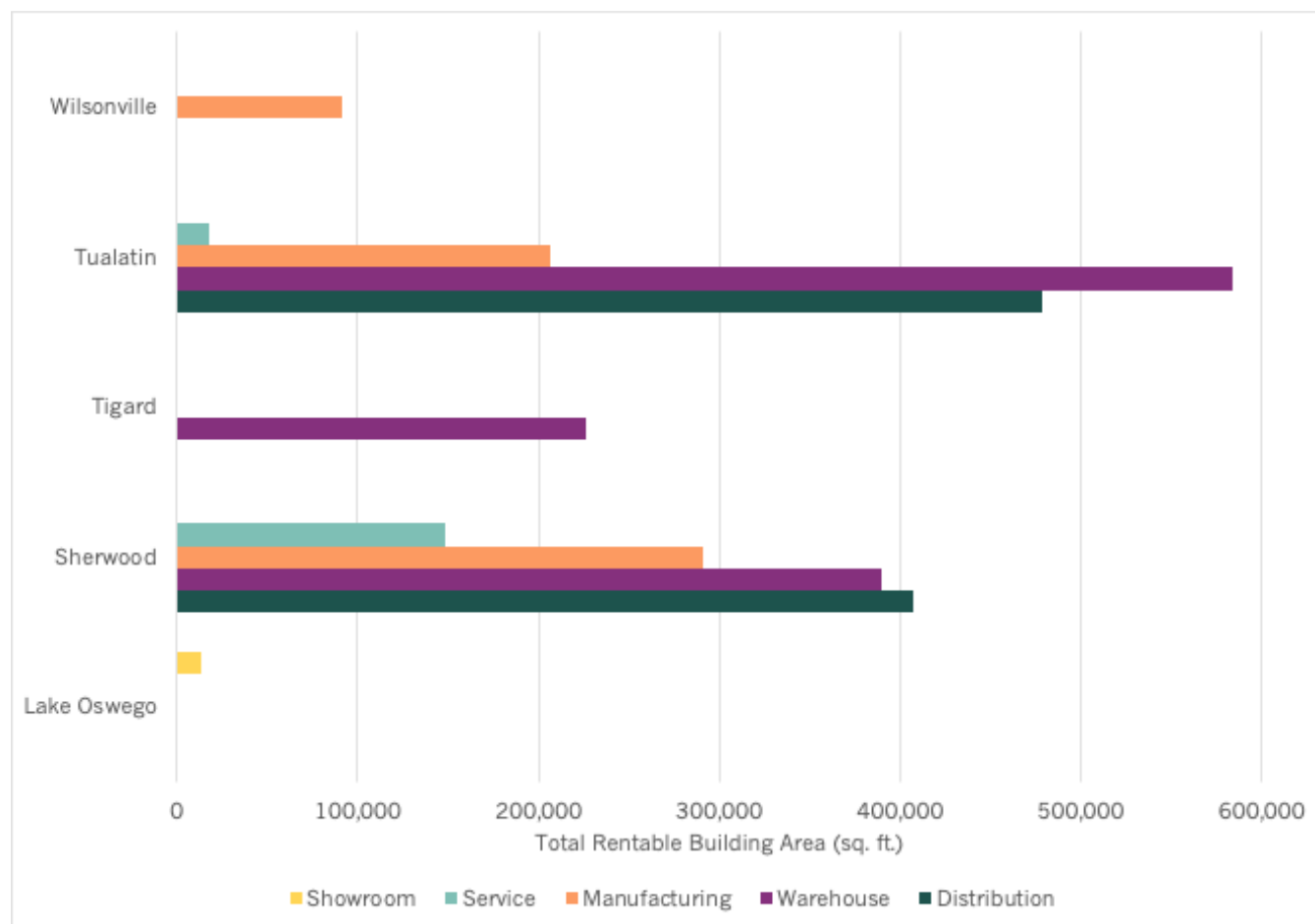
was not identified by a secondary type and 16 percent of the space supports manufacturing (Exhibit 13).

Exhibit 13. Secondary Industrial Space Built in Region, 2019-2026



Source: CoStar

Since 2019, warehouse space (followed by distribution space) was the most common type of industrial space built in this region. Within their city limits, Tualatin and Sherwood have distribution, warehouse, manufacturing, and service industrial space built since 2019 within their city limits. Sherwood had over 291,000 square feet of manufacturing space built since 2019 and proposed through 2026, which is more manufacturing square footage than the other cities during this time frame (Exhibit 14).

Exhibit 14. Secondary Industrial Space Built in Region, 2019-2026

Source: CoStar

Across the South Metro Region, there are eight industrial properties that are identified as manufacturing. These properties are in Sherwood, Tualatin, and Wilsonville; Sherwood has the highest rentable building area (RBA) in square footage and the most acres of land devoted to manufacturing (Exhibit 15). Sherwood has been attracting manufacturing to its city.

Exhibit 15. Size of Manufacturing Properties Built or Proposed in South Metro Region, 2019-2026

Location	No of Buildings	Total RBA	Average RBA per Building	Total Land Area (AC)	Average Building Lot Size (AC)	Minimum Lot Size (AC)	Maximum Lot Size (AC)
Sherwood	3	291,141	97,047	62	21	1	30
Tualatin	4	206,375	51,594	17	4	2	5
Wilsonville	1	91,773	91,773	6	6	6	6
All Locations	8	589,289	73,661	85	11	1	30

Source: CoStar

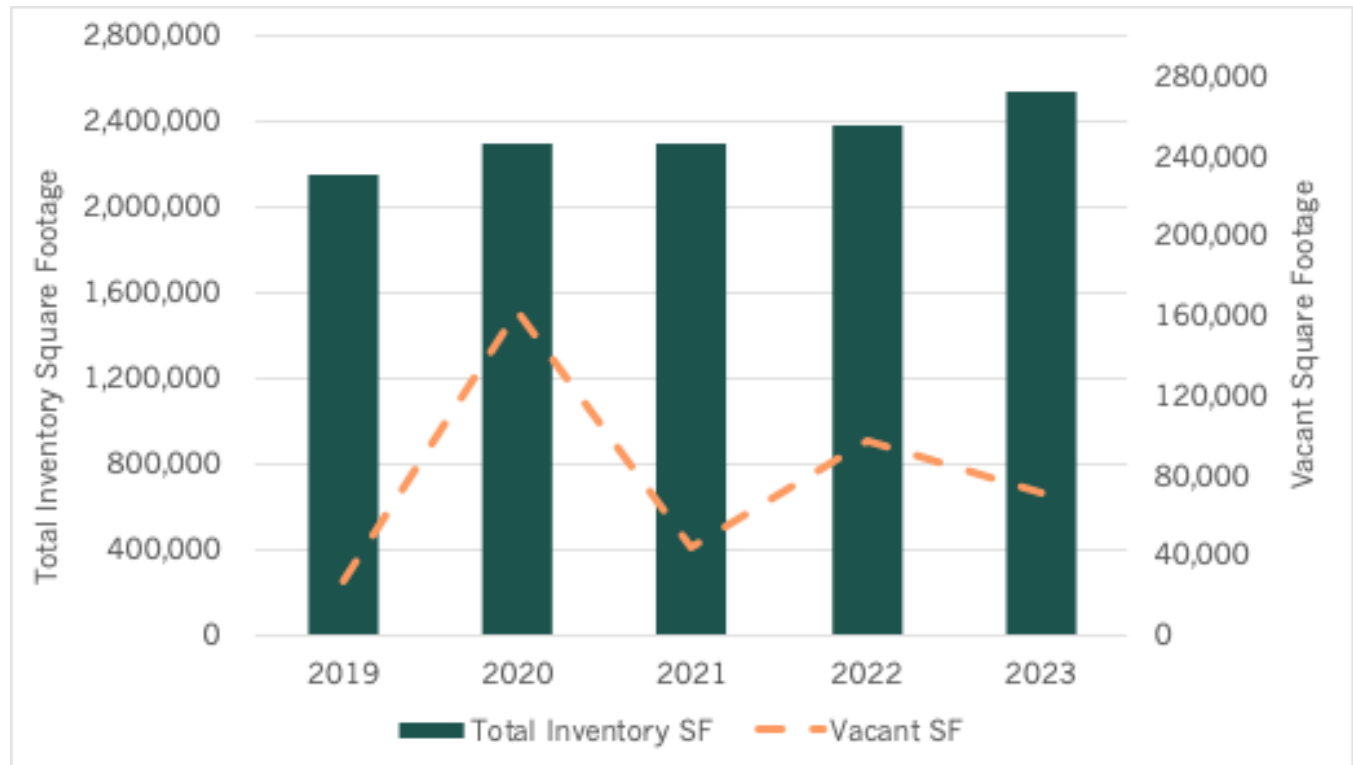
Sherwood Industrial Supply

Since 2019, the City of Sherwood has seen an 18 percent increase in the amount of industrial and flex space within the city limits, a gain of 393,200 square feet. The amount



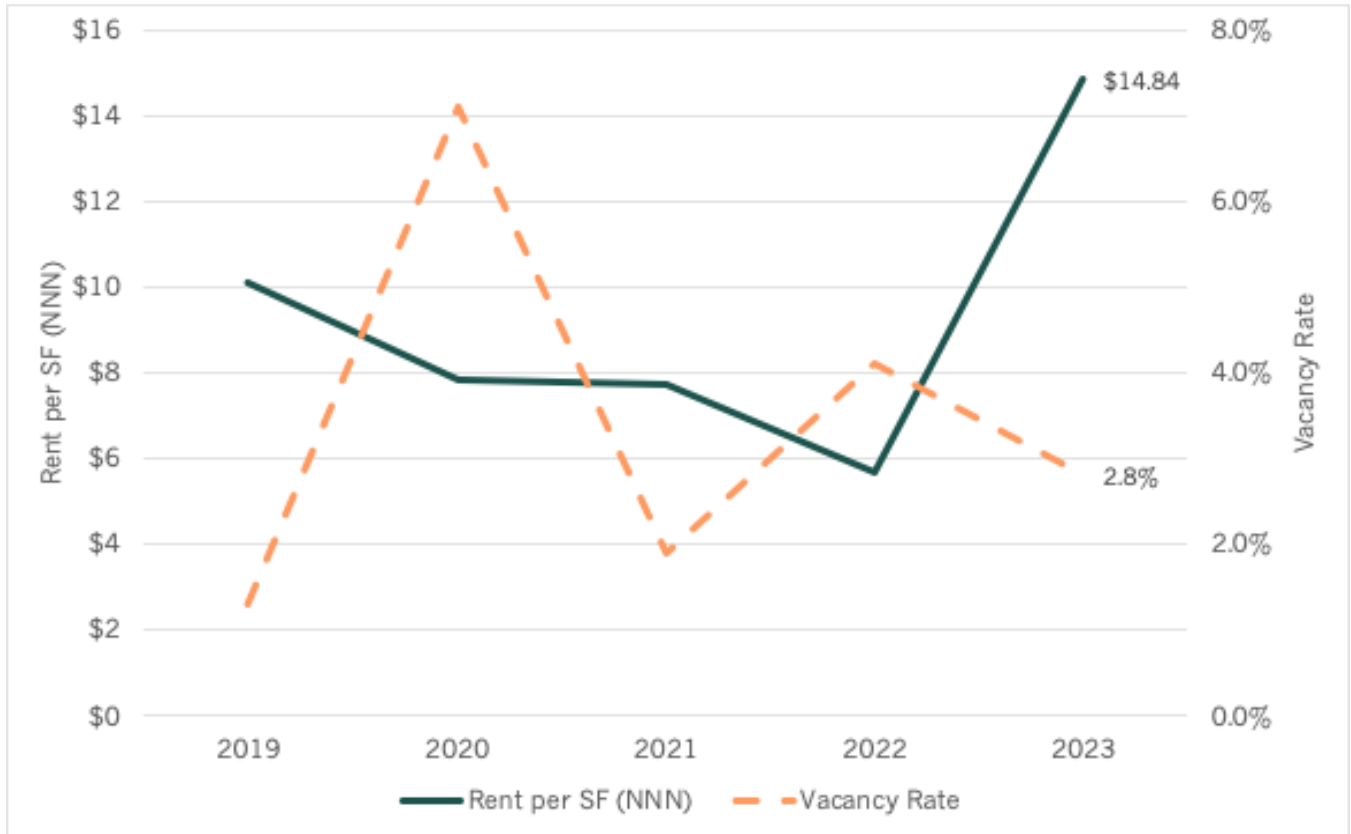
of vacant square footage peaked in 2020 at about 162,000 square feet and has since declined even as the new space is introduced to the market (Exhibit 16).

Exhibit 16. Total Industrial Space and Vacant Industrial Space in Sherwood, 2019-2023



Source: CoStar

The triple net industrial and flex rents in Sherwood steadily declined between 2019 and 2022, but they drastically increased by 47 percent (by \$4.75 per square foot) between 2019 and 2023. The current triple net lease rates are \$14.84 per square feet. During this timeframe, the industrial and flex industrial vacancy rate peaked in 2020 at 7.1 percent but remained under 5 percent between 2021 and 2023. For 2023, the vacancy rate is 2.8 percent (Exhibit 17). The increasing rents and stabilized vacancy under 5 percent indicate a strong industrial market in Sherwood and could attract new industrial development.

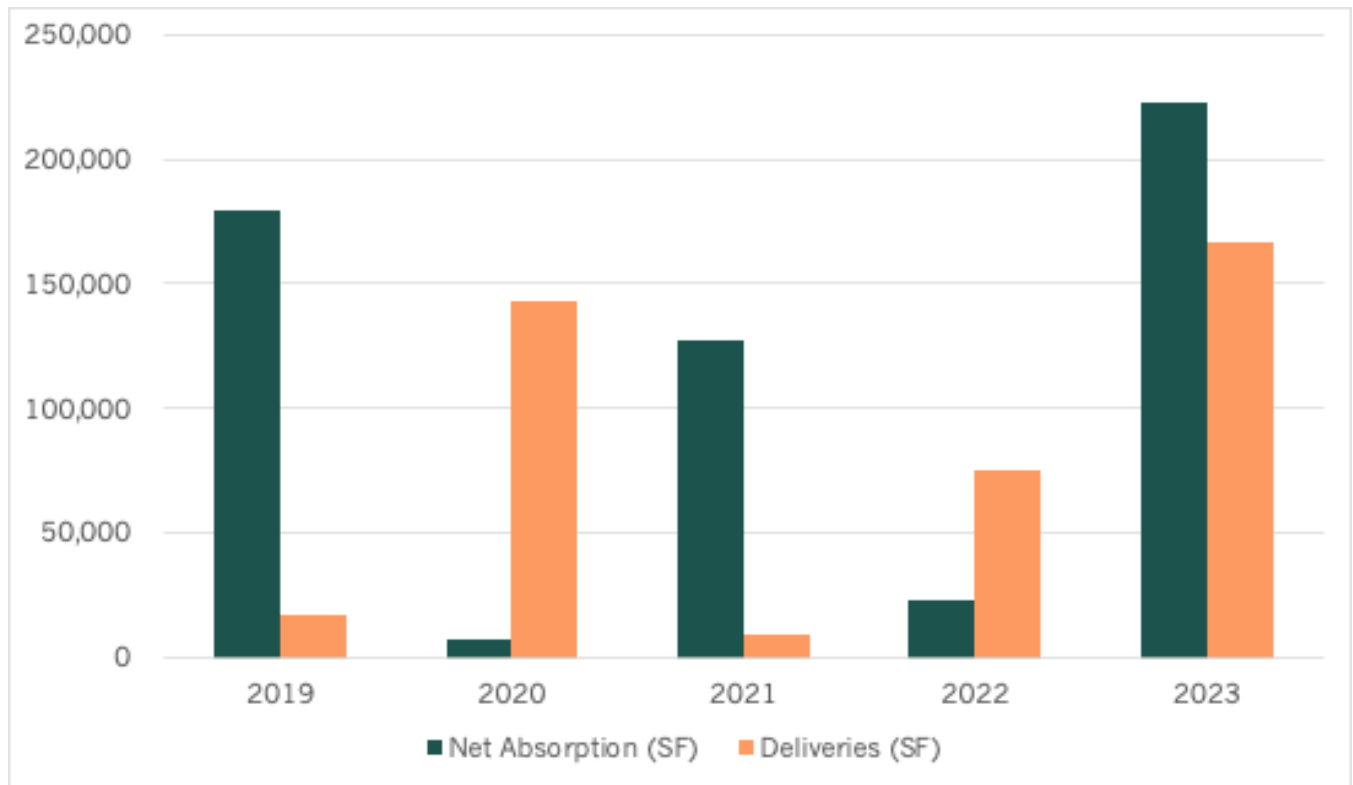
Exhibit 17. Industrial & Flex Rents and Vacancy in Sherwood, 2019-2023

Source: CoStar

Over the past five years, there have been seven new industrial and flex buildings delivered to the Sherwood market, adding 410,000 square feet of new industrial space between 2019 through 2023. Companies are leasing this new space as the net absorption remained positive between 2019 and 2023 (Exhibit 18).



Exhibit 18. Industrial & Flex Absorption and Deliveries in Sherwood, 2019-2023

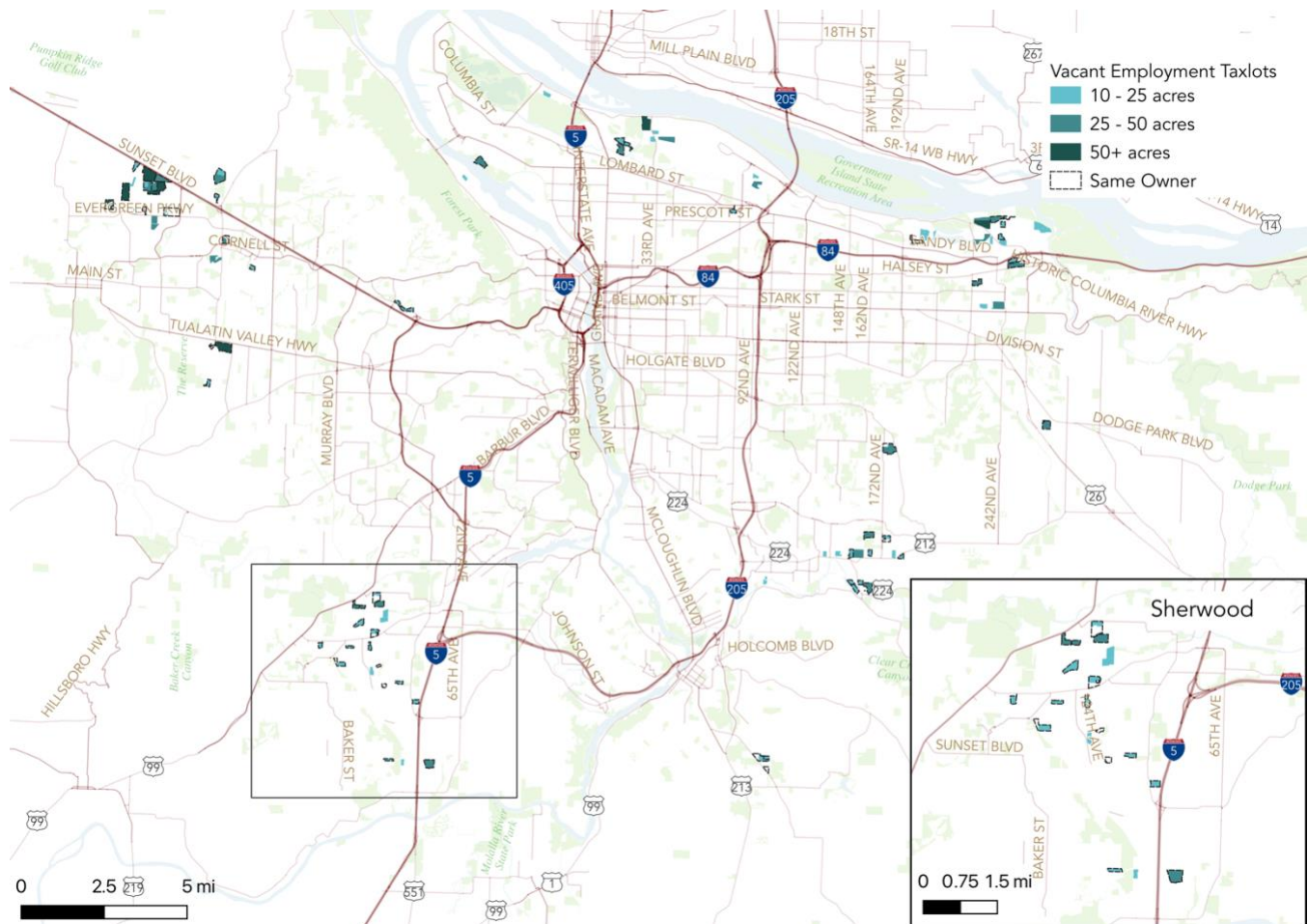


Source: CoStar

3. Regional Land Supply for Industrial Uses

When looking at land that could be suitable for industrial uses in the greater Metro region, Mackenzie created a Large Lot Inventory (LLI) to support the Buildable Lands Inventory (BLI) in 2018. The LLI identified employment capacity from vacant land and potential redevelopment. When looking at the Metro region, there are some scattered vacant taxlots that can accommodate new employment uses. The map below shows there are 104 vacant sites that are larger than 10 acres and are zoned for commercial, industrial, or mixed-use (Exhibit 19). However, ten acres may be too small for some of the industrial users when looking for land and may require assemblage of parcels, and parcels with the dashed box indicate the same owner which could facilitate assembling parcels.

Exhibit 19. Vacant Employment Taxlots Larger than 10 Acres in the Metro Region, 2018

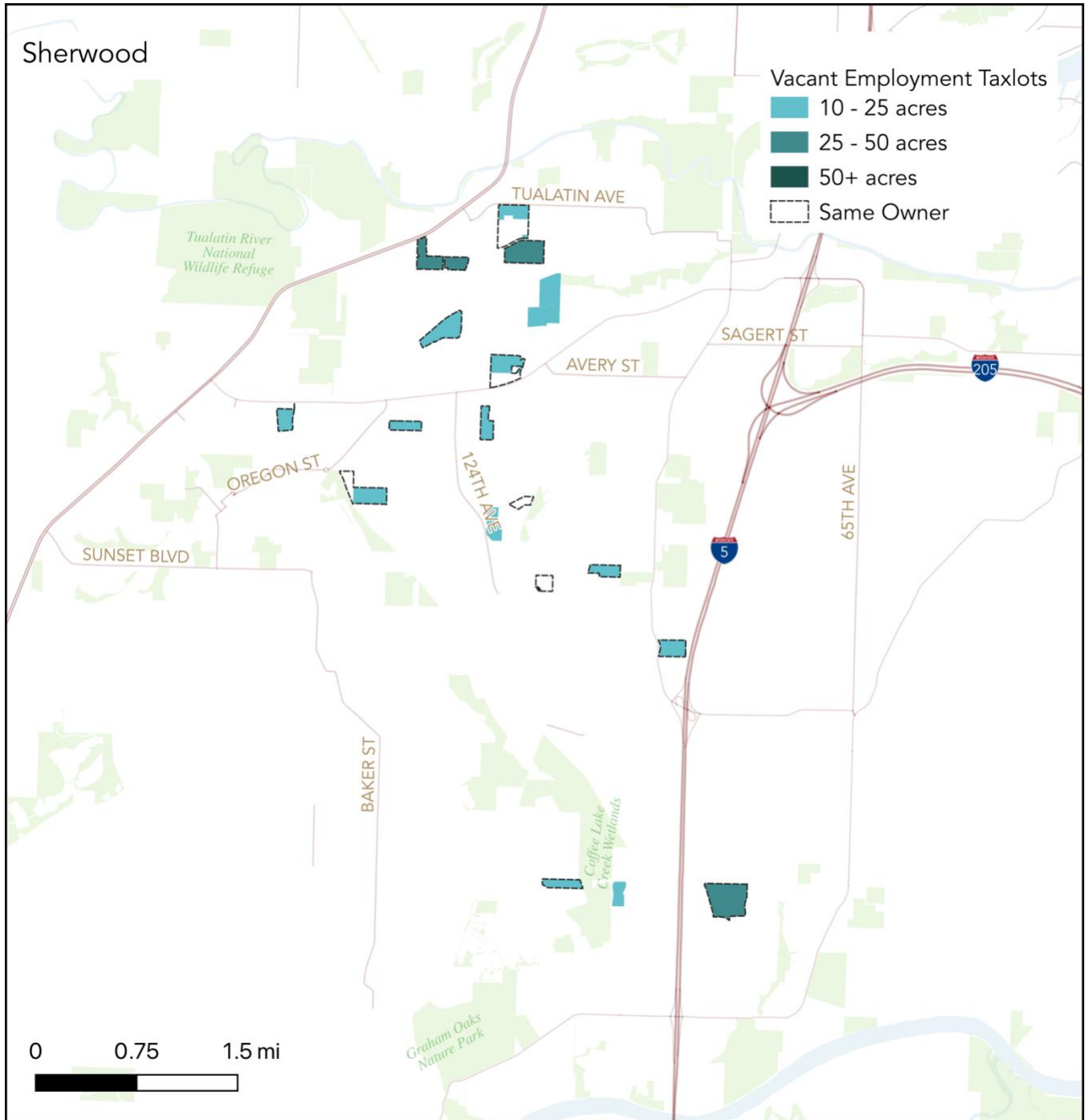


Source: Mackenzie (2018), ECONorthwest (2024)

Parcel size in Sherwood

When looking at existing vacant taxlots to serve employment uses that were identified in the BLI, there are some taxlots between 10 and 49 acres, however there are no taxlots that are 50 acres or greater. Only three of the taxlots are greater than 25 acres (Exhibit 20).

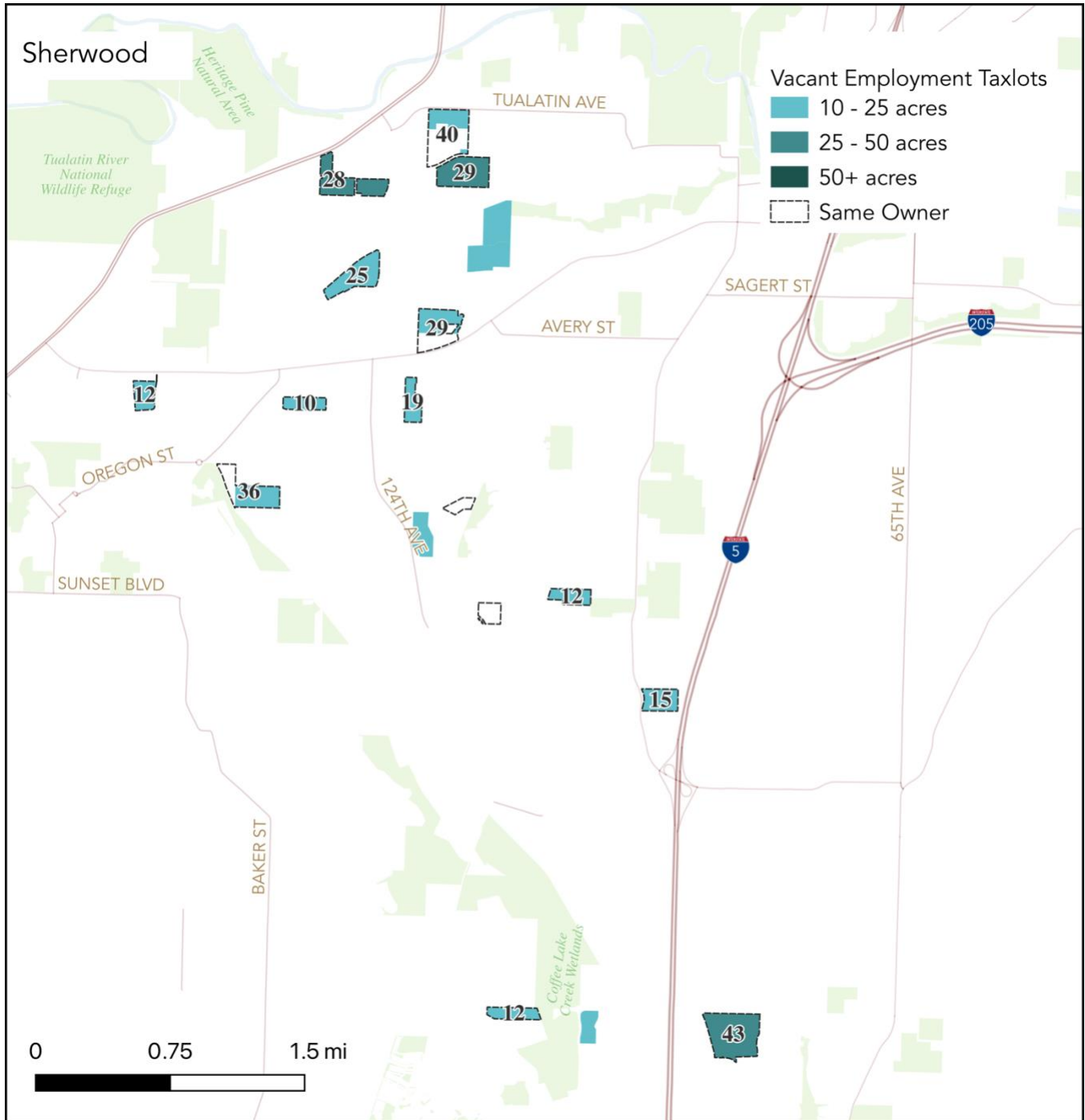


Exhibit 20. Vacant Employment Taxlots in Sherwood by Size, 2018

Source: EConorthwest (2024)

While many of the existing sites would be too small to support many industrial users, it is possible that some of the sites could be assembled to create larger lots. Land assemblage is easier when the lots have the same ownership. When reviewing whether any of the sites could be assembled with adjacent sites with the same owner, there are a few opportunities to assemble sites into a larger parcel. However, none of the assembled parcels are greater than 50 acres (Exhibit 21).

Exhibit 21. Vacant Employment Taxlots in Sherwood by Site Aggregation, 2018



Source: EConorthwest (2024)

Parcel slope constraints of regional land

When looking at the regional land and its ability to support industrial uses, the slope of the site has an impact of the suitability to support employment uses. The BLI removes sites that have slopes over 25 percent and for this site characteristics analysis, areas with slopes over 7 percent are identified.

- Unconstrained: 10 percent or less of the tax lot has steep slopes
- Partially Constrained: 10.01 percent to 50 percent of the tax lot has steep slopes
- Constrained: 50 to 89.99 percent of the lot has steep slopes
- Heavily Constrained: Greater than 90 percent of the site has steep slopes

Of the BLI sites, about 55 percent of the sites and 44 percent of the acres, fall into the unconstrained slope category, which would be the most feasible sites to develop for industrial uses. About one quarter of the parcels (24 percent) are partially constrained sites that could support some industrial uses. Twenty-one percent of the parcels are constrained or heavily constrained with over half of the lot having a steep slope; these parcels are not suitable for supporting industrial uses (Exhibit 22).

Exhibit 22. BLI Taxlots by Slope Site Constraints, 2018

Market Subarea	Unconstrained		Partially Constrained		Constrained		Heavily Constrained		Total	
	Parcels	Acres	Parcels	Acres	Parcels	Acres	Parcels	Acres	Parcels	Acres
Central	346	10	49	3	52	2	33	2	480	16
Commercial	92	5	13	1	14	0	15	1	134	8
Industrial	254	4	36	2	38	2	18	1	346	9
East Multnomah	335	481	180	706	94	290	37	30	646	1,507
Commercial	163	88	37	54	23	62	21	4	244	207
Industrial	170	349	131	593	61	224	12	25	374	1,192
Large Lot Industrial	2	44	12	58	10	5	4	1	28	108
Inner Clackamas	71	4	30	69	17	4	9	1	127	79
Commercial	44	1	3	-	6	1	3	-	56	2
Industrial	27	3	27	69	11	4	6	1	71	77
Inner I-5	13	2	3	0	1	0	6	0	23	3
Commercial	12	1	3	0	1	0	5	0	21	1
Industrial	1	1	-	-	-	-	1	-	2	1
Inner North & East	637	389	241	605	124	73	132	22	1,134	1,089
Commercial	146	7	26	6	17	2	31	1	220	15
Industrial	485	314	208	518	106	70	100	20	899	922
Large Lot Industrial	6	69	7	81	1	1	1	2	15	153
Inner Westside	295	52	196	65	104	24	70	8	665	148
Commercial	267	39	161	40	84	6	66	4	578	89
Industrial	28	13	35	25	20	18	4	4	87	59
Outer Clackamas	179	232	133	252	80	157	60	15	452	655
Commercial	87	16	57	18	39	10	50	6	233	49
Industrial	92	216	76	234	36	117	10	9	214	577
Large Lot Industrial	-	-	-	-	5	30	-	-	5	30
Outer I-5	180	351	180	504	95	273	40	20	495	1,148
Commercial	71	9	48	13	20	18	17	3	156	43
Industrial	84	245	115	437	62	178	19	11	280	871
Large Lot Industrial	25	97	17	54	13	76	4	6	59	234
Outer Westside	644	1,318	158	504	44	48	8	0	854	1,871
Commercial	428	57	68	29	20	14	5	0	521	100
Industrial	197	825	85	350	23	34	3	0	308	1,210
Large Lot Industrial	19	436	5	125	1	0	-	-	25	561
Grand Total	2,700	2,840	1,170	2,706	611	870	395	99	4,876	6,515
	55%	44%	24%	42%	13%	13%	8%	2%	100%	100%

Source: Metro, ECOnorthwest



4. Employment Trends

To understand future demand for space to support employment growth, an analysis of the Quarterly Census of Employment and Wages (QCEW) was conducted for Washington, Clackamas, and Yamhill Counties. The data is analyzed by industries identified by the North American Industry Classification System (NAICS), which federal agencies use as the standard to collect and analyze the business economy.

The analysis includes the employment growth trends between 2017 and 2022 for all sectors and the growth trends for the NAICS codes of sectors that utilize industrial land. Since most of the employment land in the Sherwood West Concept Plan is part of the MEA, which identifies primarily serving flex and light industrial uses, it is important to understand the employment trends for the industrial space users. The typical NAICS codes and industries that utilize industrial space include:

- ◆ 22 Utilities: This sector has businesses that provide: electrical power, natural gas, steam supply, water supply, and sewage treatment and disposal.
- ◆ 23 Construction: This sector includes construction of buildings or engineering projects.
- ◆ 31–33 Manufacturing: This sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.
- ◆ 42 Wholesale Trade: This sector includes establishments that participate in wholesaling merchandise (typically without transformation) and rendering services incidental to the sale of merchandise. The merchandise includes the outputs of agriculture, mining, and manufacturing, and it can include information industries, such as publishing.
- ◆ 48–49 Transportation and Warehousing: This sector includes industries that provide transportation for passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation, including transport by air, rail, water, road, and pipeline.³

Regional employment growth between 2017 and 2022

Between 2017 and 2022, there has been fluctuations in regional employment by industry with an overall net loss of 2 percent of employees (1,829) for an annual average growth rate (AAGR) of -0.4 percent. The construction industry had the highest AAGR of any industry at 3.4 percent, with a total increase in employment of 18 percent (1,620) between 2017 and 2022. The natural resources sector lost 40 percent of its employees (62) and had the lowest AAGR of -9.7 percent. This region is seeing strength in the industrial sectors and a decline in the service sectors.

³ North American Industry Classification System. US Census Bureau. <https://www.census.gov/naics/?99967>

When looking at the employment trends for industrial space users, including construction, manufacturing, transportation, warehousing, utilities, and wholesale trade, they all had a positive AAGR, indicating an increase in employees over the past five years. These industries had a 9 percent increase in employment between 2017 and 2022, which shows a positive trajectory for employment in industries that utilize industrial space (Exhibit 23), and the proposed plan for the MEA is to support industrial uses. Within the industrial space users, there is an interest in increasing the number of manufacturing jobs as these jobs typically offer higher wages than other industrial space users.

Exhibit 23. Regional Employment Growth by Industry, 2017-2022

Sector	Number of Employees						Change 2017-2022		
	2017	2018	2019	2020	2021	2022	Number	Percent	AAGR
Construction	8,987	9,378	10,020	9,303	9,485	10,607	1,620	18%	3.4%
Education & Health	12,276	12,081	12,463	12,179	12,448	12,620	344	3%	0.6%
Financial Activities	6,420	6,407	6,367	6,358	5,567	5,031	-1,389	-22%	-4.8%
Information	1,609	1,632	1,780	1,702	1,896	1,758	149	9%	1.8%
Leisure & Hospitality	9,207	9,578	9,665	7,365	7,787	8,407	-800	-9%	-1.8%
Manufacturing	15,623	16,429	16,209	15,353	15,624	16,464	841	5%	1.1%
Natural Resources	155	95	103	94	109	93	-62	-40%	-9.7%
Other Services	3,091	3,246	3,414	2,739	2,734	2,702	-389	-13%	-2.7%
Professional & Business	20,508	18,705	18,057	16,863	17,569	18,572	-1,936	-9%	-2.0%
Public Administration	1,613	1,589	1,600	1,607	1,546	1,576	-37	-2%	-0.5%
Retail Trade	13,761	13,869	13,267	12,337	12,917	12,892	-869	-6%	-1.3%
Transportation, Warehousing, Utilities	3,254	3,232	3,244	3,478	3,702	3,707	453	14%	2.6%
Wholesale Trade	8,417	7,983	8,258	8,452	8,291	8,663	246	3%	0.6%
Total	104,921	104,224	104,447	97,830	99,675	103,092	-1,829	-2%	-0.4%

Source: QCEW

Sherwood employment growth between 2017 and 2022

Between 2017 and 2022, there was an 18 percent increase in employees (1,104) in the City of Sherwood across all sectors. The construction sector saw the largest increase in employment (460) and had an AAGR of 13 percent. Eleven sectors saw net gains in employment. Only two sectors lost a small share of jobs; the financial activities sector lost 64 jobs and had an AAGR of -7 percent, while the leisure and the hospitality sector lost 7 jobs and had an AAGR of -0.1 percent (Exhibit 24). The industrial uses remained strong in Sherwood, while the services sectors had small employment losses.

Exhibit 24. Sherwood Employment Growth by Sector, 2017-2022

Sector	Year						Change 2017-2022		
	2017	2018	2019	2020	2021	2022	Number	Percent	AAGR
Construction	539	615	672	719	781	999	460	85%	13.1%
Education & Health	1,100	1,074	1,110	1,127	1,208	1,218	118	11%	2.1%
Financial Activities	210	193	189	145	145	146	-64	-30%	-7.0%
Information	36	44	42	25	51	53	17	47%	8.0%
Leisure & Hospitality	1,066	1,111	1,147	921	962	1,059	-7	-1%	-0.1%
Manufacturing	691	773	780	734	752	782	91	13%	2.5%
Natural Resources	7	2	4	8	12	12	5	71%	11.4%
Other Services	303	345	395	309	332	336	33	11%	2.1%
Professional & Business	475	506	507	522	537	586	111	23%	4.3%
Public Administration	141	138	145	149	149	155	14	10%	1.9%
Retail Trade	1,074	1,105	1,108	1,207	1,279	1,216	142	13%	2.5%
Transportation, Warehousing, Utilities	222	234	245	220	225	307	85	38%	6.7%
Wholesale Trade	312	319	351	365	423	411	99	32%	5.7%
Total	6,176	6,459	6,695	6,451	6,856	7,280	1,104	18%	3.3%



Source: QCEW

When looking at the sectors that use industrial and flex space, these sectors all had net gains in employment between 2017 and 2022 with a cumulative increase of 525 new jobs and an AAGR of 6 percent. Manufacturing had a 13 percent increase in jobs between 2017 and 2022 in Sherwood (Exhibit 25). These sectors all had double-digit gains in employment, indicating strong job growth.

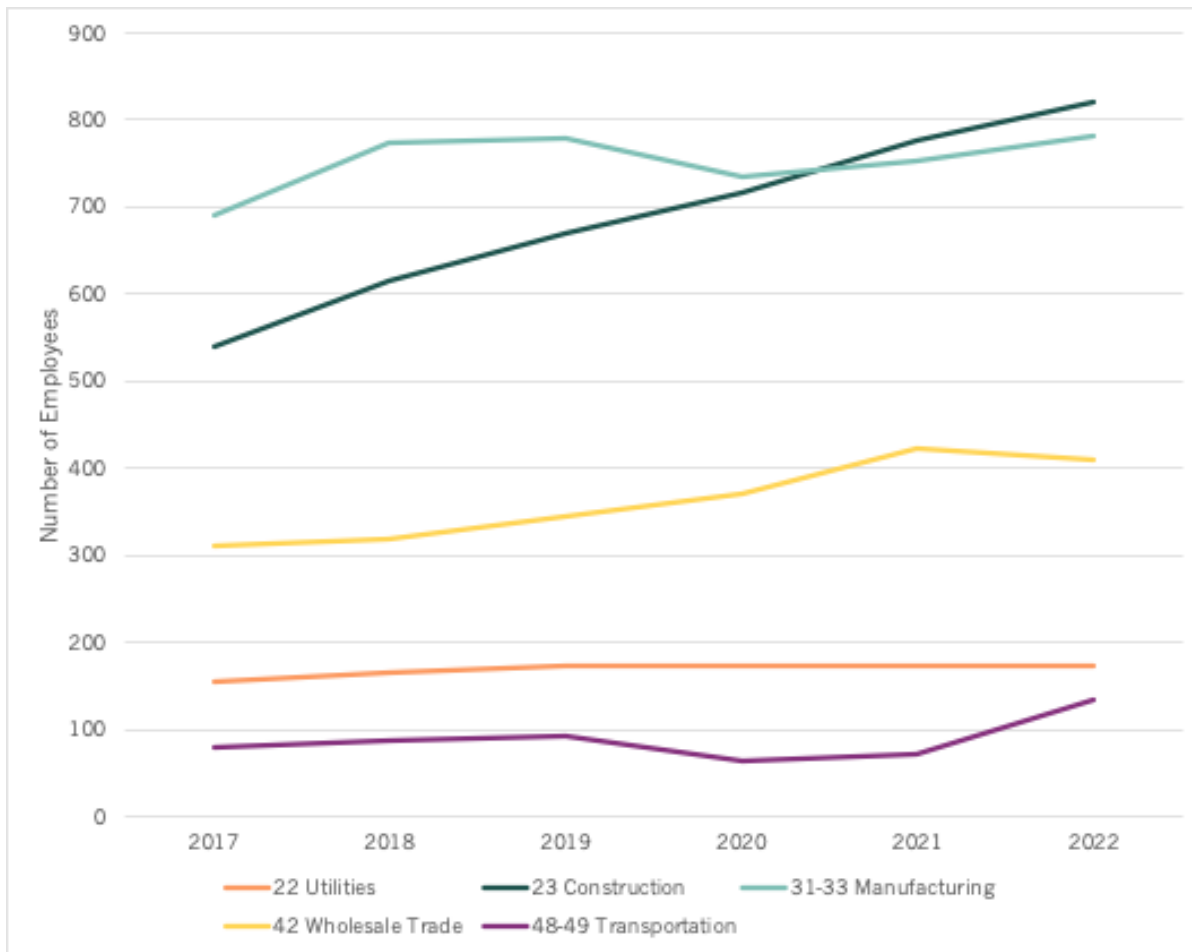
Exhibit 25. Sherwood Employment Growth by Industrial Space Users, 2017-2022

Sector	Number of Employees						Change 2017-2022		
	2017	2018	2019	2020	2021	2022	Number	Percent	AAGR
Construction	539	614	670	716	777	821	282	52%	8.8%
Manufacturing	691	773	780	734	752	782	91	13%	2.5%
Transportation, Warehousing, Utilities	80	87	92	63	71	133	53	66%	10.7%
Wholesale Trade	312	319	344	372	423	411	99	32%	5.7%
Total	1,622	1,793	1,886	1,885	2,023	2,147	525	32%	5.8%

Source: QCEW

Since 2017, the construction sector has seen a steady positive increase in the number of employees. Manufacturing, wholesale trade, and transportation have had minor fluctuations in the number of employees, but all three sectors have seen a net gain in employment over 2017 (Exhibit 26). There are higher numbers of employment in manufacturing and construction than other industrial uses in Sherwood.



Exhibit 26. Sherwood Job Growth in Industrial Sectors, 2017-2022

Source: QCEW

If Sherwood West moves ahead as planned, then the build out of the plan will support construction jobs that have annual wage of \$79,200 per year, which is higher than the average wage for 2022 across all sectors, (\$63,100). Assuming the Sherwood West site is built out with industrial uses that support manufacturing, the site could provide jobs that pay an average annual salary of \$77,900.

Size of industrial employers

When looking at the size and number of firms in Sherwood between 2017 and 2022, the highest growth rate was in firms with fewer than 49 employees. Firms in Sherwood that employ between 10 and 19 employees had the highest annual average growth rate (AAGR) at 17 percent. Firms with 20 to 49 employees had an AAGR of 10 percent (Exhibit 27).

Exhibit 27. Firm Size in Sherwood, 2017-2022

Firm Size by Number of Employees	2017	2018	2019	2020	2021	2022	AAGR
1 to 4	22	24	22	36	30	28	5%
5 to 9	52	38	41	40	64	54	1%
10 to 19	32	75	93	76	80	71	17%
20 to 49	118	145	158	137	212	187	10%
50 to 99	113	120	121	115	57	121	1%
100 to 249	354	119	345	330	309	321	-2%
250 to 499		252					

Source: QCEW

Employment density

The number of employees that work on a parcel of land depends on the industry. Within the manufacturing industry (NAICS 31-33), there is an average of 19 employees per acre of land.⁴ If the buildout of the 130 acres of the MEA occurred as planned, this could bring about 2,444 jobs to the region. Additionally, based on the Concept Plan, there could be about 18 jobs/ net acre for a total of 2,398 jobs in the MEA. With a full build out, the MEA could support around 2,400 manufacturing jobs which would pay an annual salary of \$79,200.

⁴ https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/26252/CRohan_ExitProj_Final.pdf?sequence=1&isAllowed=y



5. Sherwood West Site Competitiveness

The North District Mixed Employment Area (MEA) of the Sherwood West Concept Plan has site characteristics that make the land better suited to accommodate the industries that are growing and expanding in the Portland Metro region. Also, there could also be existing aging industrial and employment centers in the Portland Metro region that do not appeal to the current users or that are more expensive so they do not appeal to many industries.

Site characteristics

The MEA is expected to primarily support light industrial/flex uses while providing a smaller share of space for commercial uses. These types of companies have specific needs when looking at properties. The industrial/flex use needs criteria are derived from Mackenzie's Infrastructure Finance Authority Industrial Development Competitiveness Matrix that the company prepared for the State of Oregon in 2015⁵ (Exhibit 28).

Exhibit 28. Evaluation of the Site Characteristics of the MEA

SITE CHARACTERISTIC	INDUSTRIAL/ FLEX USE NEEDS	MEA EVALUATION	SCORE
Site Size	<ul style="list-style-type: none"> Industrial/flex uses look for large parcels for their operations, which may include the need for the storage/yard space and for truck staging. 	<ul style="list-style-type: none"> The parcel sizes are primarily greater than 10 acres, with 50-acre parcels as well, so the North District parcels could appeal to a wide range of industrial/flex uses (Exhibit 29). 	
Ownership	<ul style="list-style-type: none"> Industrial/flex uses prefer large parcels, rather than needing to assemble many smaller parcels to reach the ideal size. 	<ul style="list-style-type: none"> The parcels are managed by larger ownership, which would require less parcel assemblage and appeal to industrial/flex developers. 	
Competitive Slope	<ul style="list-style-type: none"> Most industrial/flex uses need parcels with slopes under 5% to successfully run their operations. 	<ul style="list-style-type: none"> The MEA sites have slopes less than 3-5%, so these sites would appeal to industrial/flex uses. 	
Utilities/ Infrastructure	<ul style="list-style-type: none"> Industrial and flex requirements for water, sewer, natural gas, electricity, and telecommunications vary by type of industrial use 	<ul style="list-style-type: none"> New infrastructure will be placed as part of the Sherwood West Concept Plan so adequate infrastructure could be included in the North District that meets the requirements of the targeted industries. 	

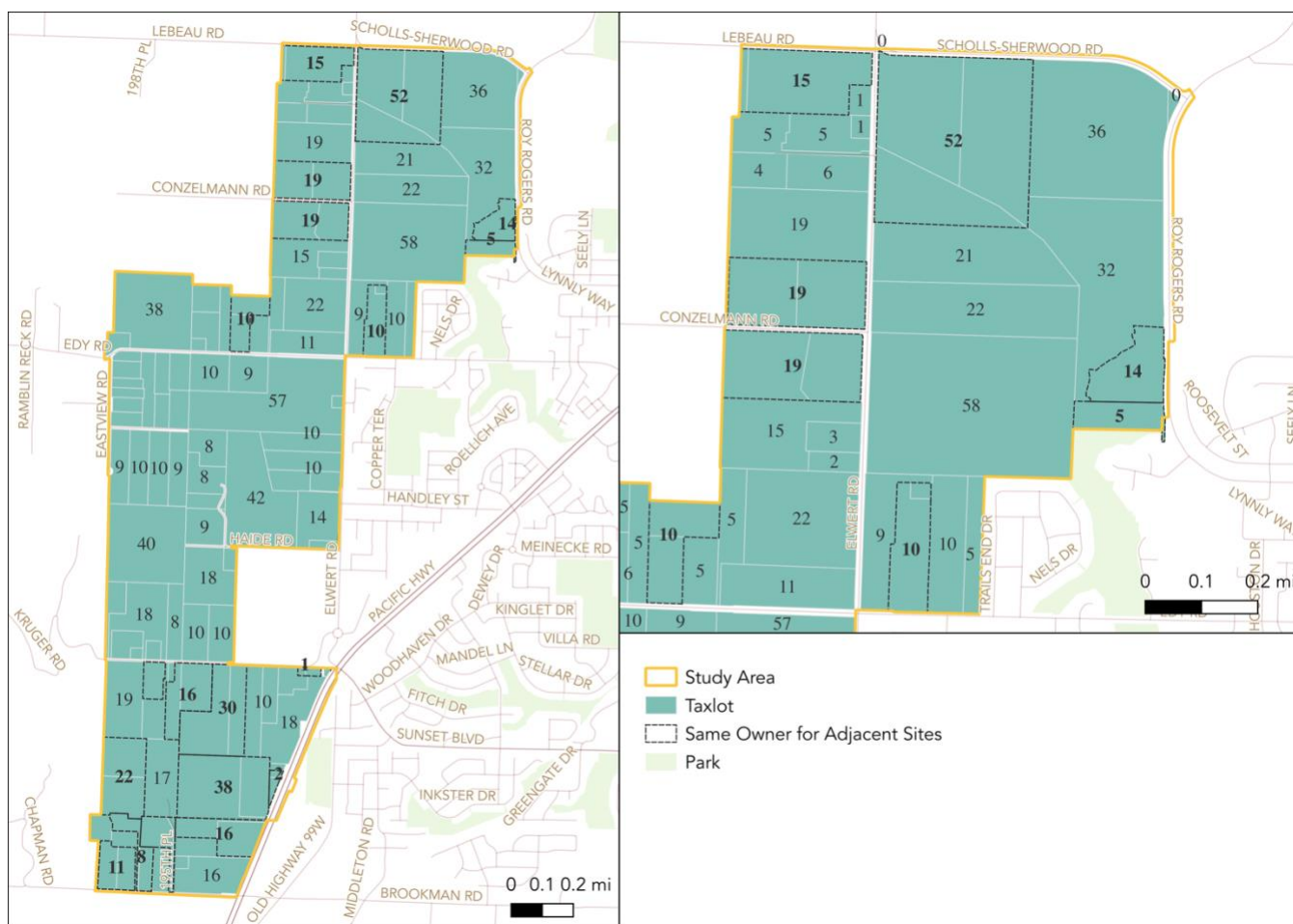
⁵ Mackenzie. Infrastructure Finance Authority Industrial Development Competitiveness Matrix. State of Oregon (2015).

	but typically have very high utility demands.	<ul style="list-style-type: none"> Sherwood West has been included in the current Water System Master Plan (2015). Sherwood West was neither included in the Sanitary Sewer Master Plan (2016) nor the Stormwater Master Plan (2016). 	
Environmental Considerations	<ul style="list-style-type: none"> Environmental considerations, including wetlands, Habitat Conservation Areas, and floodplains, determine where space can be developed. 	<ul style="list-style-type: none"> The North District is an "Upland Class A Habitat," so it must meet baseline requirements set forth in Metro Title 13 to protect, conserve, and restore the wildlife habitat resources. 	

Source: Mackenzie (2015); EConorthwest

The parcel map of Sherwood West shows relatively large parcels over 10 acres. Some of the parcels have the same owner, which would facilitate the assembly of parcels to create large sites (Exhibit 29).

Exhibit 29. Parcel Size in Sherwood West and the MEA



Source: RLIS Taxlot Data, EConorthwest, 2024

There are site selection criteria regarding the proximate uses and access that industrial and flex users like to see that make a site more competitive for new development. The MEA scores high against the criteria in three categories and scores medium against the criteria in two categories (Exhibit 30).

Exhibit 30. Evaluation of the Site Proximities of the MEA

SITE CHARACTERISTIC	INDUSTRIAL/ FLEX USE NEEDS	MEA EVALUATION	SCORE
Transportation Access to Interstate or Principal Arterial	<ul style="list-style-type: none"> Industrial/flex users like convenient transportation access to major interstates or principal arteries, and actual distances vary by industry. Heavy industrial/manufacturing and high-tech/clean-tech manufacturing prefer to be within 10 miles of the interstate. Value-added manufacturing and light manufacturing can be within 20 or 30 miles of the interstate. 	<ul style="list-style-type: none"> The North District is not adjacent to I-5 but can access I-5 by SW Roy Rogers Road (about 7 miles). The site is 2 miles from Highway 99W and about 9 miles from the intersection of 99W and I-5. The Concept Plan proposes adding a street to connect SW Elwert Road to SW Roy Rogers Road, which would run south of SW Scholls-Sherwood Road. The plan identifies SW Elwert Road as an "Employment Area Parkway" in the North District, including truck-turning considerations and fewer curb cuts. The County is planning to expand SW Roy Rogers Road into a five-lane roadway that will have two travel lanes in each direction and a center turn lane between Sherwood and Highway 99W. 	
Proximity to Regional Infrastructure Rail/Port/Airport	<ul style="list-style-type: none"> Industrial and flex uses prefer to locate in reasonable proximity to the railroads, ports, and airports to move their goods for distribution. 	<ul style="list-style-type: none"> The MEA is ~26 miles from Portland International Airport and ~27 miles from the Port of Portland. The site is convenient to the rail lines in the Metro region. 	
Proximity to Labor Force	<ul style="list-style-type: none"> Industrial and flex uses like to locate in proximity to their labor force. Some industries require labor with specialized skills, training, or education. Research & Development uses like to locate in proximity to higher education facilities. 	<ul style="list-style-type: none"> The Concept Plan is planning for thousands of housing units, including multifamily, middle housing, medium-density, and low-density neighborhoods, near the MEA. It is unclear whether the new residents would have the relevant skills needed for jobs in the MEA. 	



Surrounding Uses	<ul style="list-style-type: none"> Industrial and flex uses like to locate away from residential areas, and these uses can be sensitive to the externalities of the surrounding land uses. 	<ul style="list-style-type: none"> The MEA does not have residential uses nearby, except some planned multifamily, middle housing, and medium-density residential uses on the south end. There is minimal development to the north, east, and west of the MEA, so there may be minimal externalities from neighboring uses. There is also a park buffer between the MEA and the Far West District of the Concept Plan. 	
Proximity to Goods	<ul style="list-style-type: none"> For value-added manufacturing, businesses like to be close to the raw materials. 	<ul style="list-style-type: none"> The MEA is in close proximity to the wine region and agricultural land. 	

Source: Mackenzie (2015); ECONorthwest

Site Competitiveness for the Semiconductor Industry

The semiconductor industry provides a key opportunity for the state to promote advanced manufacturing, enhance their traded sector, and support a good jobs pipeline. Since Congress passed the \$52 billion CHIPS Act in July 2022, there has been a renewed focus on promoting the national semiconductor industry through manufacturing and research and design. The initiative provides \$40 billion in grants for semiconducting manufacturing and \$10 billion for investments in research over five years. The Metro Region already has a strong cluster for semiconductors in Hillsboro with Intel's Gordon Moore Park at Ronler Acres Research Campus, which creates 1,000 patents a year. This existing strength in semiconductor manufacturing can position the region to capture other semiconductor activities, and semiconductors are half of the state's annual exports. The semiconductor boom in the 1990s was precipitated by the state having 2000 acres of industrial land, which led to billions of dollars of investment and doubling the industrial employee count.

To prepare for the next influx of semiconductor activity, the region will need to have a supply of industrial land to support business growth and expansion. The Semiconductor Task Force's Industrial Lands Subcommittee found that the key site characteristics that the semiconductor prefers is a location near other semiconductor businesses and labor, parcels of at least 25 acres, and sites that have infrastructure in place to support development that can begin within 6 months to three years. The subcommittee identified a lack of land that met these criteria.

The national focus around semiconductors and regional semiconductor momentum around Hillsboro positions the Metro Region to capture a larger share of semiconductor activities. The Semiconductor Task Force acknowledged losing a major semiconductor investment opportunity because the state did not have a parcel at the needed size with proximity to the labor force and supply chain. In May 2024, Business Oregon was working with Project



Fabrik to identify a location for a semiconductor manufacturing plant that needed between 120 and 140 acres for the semiconductor plant. The project would have included a 1.6 million square foot industrial building and would have created between 400 and 600 jobs. The business could not find the right parcel to locate their semiconductor plan.

The importance of having vacant industrial land, and large parcels are extremely important to supporting the regional semiconductor industry to support economic growth for the region and state. The growth of the semiconductor cluster in Oregon is a priority of the State, and the MEA would be competitive in attracting semiconductor companies. In understanding the site's competitiveness for semiconductors, the Industrial Lands Subcommittee found the following key characteristics for the semiconductor industry. The MEA scores well for large parcels, but scores moderately for clustering and site readiness as the site will take years to build out the infrastructure to support industrial uses (Exhibit 31).

Exhibit 31. Evaluation of the Semiconductor Characteristics of the MEA

SITE CHARACTERISTIC	SEMICONDUCTOR NEEDS	MEA EVALUATION	SCORE
Clustering	<ul style="list-style-type: none"> ◆ The semiconductor industry likes to cluster near talent, other companies in the supply chain. ◆ The semiconductor industry likes to cluster near public and private utilities. ◆ This leads to a cluster of semiconductor industries in one area. 	<ul style="list-style-type: none"> ◆ There is a current cluster of semiconductor activities in Hillsboro. ◆ There has already been momentum of semiconductor companies "moving south" of Hillsboro. Lam Research currently operates factories in both Sherwood and Tualatin. 	
Large parcels	<ul style="list-style-type: none"> ◆ This industry likes to identify parcels that are 25+ acres. 	<ul style="list-style-type: none"> ◆ The MEA has large parcels with the same ownership and could fill the gap for providing large parcels in the Metro Region that could support semiconductor businesses. 	
Site Readiness	<ul style="list-style-type: none"> ◆ Companies like properties that are Tier 1 or "development ready", which indicates that they have infrastructure in place and development can begin within six months. ◆ Tier 2 properties may require significant permitting and infrastructure improvements and could 	<ul style="list-style-type: none"> ◆ The infrastructure build out of the MEA still needs to happen and will take a few years to build out. ◆ Although the MEA may not support semiconductor industries looking to locate in the next few years, having this site ready could support the project pipeline for the future. 	

	be developed within three years.		
--	----------------------------------	--	--

Source: Semiconductor Task Force (2022); EConorthwest (2024)

The MEA could support the semiconductor industry as these businesses look for new locations and could provide expansion opportunities for the semiconductor industry. Currently, this industry is clustered in Hillsboro, but the Sherwood West site is still proximate to the cluster. The current vacancy rate for industrial properties in Hillsboro is 1.4 percent, lower than the region's vacancy rate (4.1 percent), and industrial space costs \$12.70 per square foot which is greater than the average rent for the region (\$10.38 per square foot)⁶. The Hillsboro area has low availability of space and buildings rent for higher costs, which could keep out some semiconductor businesses that may be looking for an alternate regional market. There has also been some semiconductor activity south of Hillsboro, including LAM Research in Sherwood and Tualatin. Assuming the semiconductor build out happens for the MEA, these industries could bring jobs that pay an average of \$110,000 per year, supporting good jobs for the community.

Site Competitiveness for Key Industries of Growth

The Sherwood West Concept Plan forecasts additional employment land and prioritizes job growth and expansion of the City's tax base, as directed by the Sherwood City Council. A better future jobs-to-housing ratio in the future will provide Sherwood residents the opportunity to work in the city, rather than having to commute elsewhere for work. The City's current jobs-to-housing ratio is 0.9, so there are nine jobs for every 10 households in the city there are 9 jobs. The Concept Plan also states that 92 percent of Sherwood residents work outside of the city limits.

The plan determined that the City may be able to attract tech clusters, as Sherwood is located between existing tech clusters in Wilsonville and the Sunset Corridor. Advanced manufacturing firms are also of interest to the City, and there has been momentum on this front; since 2021, Sherwood has attracted advanced manufacturing companies including Lam Research, NSI Manufacturing, and Olympus Controls.

As part of the 2021 Sherwood Economic Opportunities Analysis (EOA), the City identified the following sectors that are expected to drive economic growth in the current and subsequent cycles based on the economic landscape in Sherwood and Washington County:

- ◆ Manufacturing
 - ◆ Technology and Advanced Manufacturing
 - ◆ Machinery Manufacturing
 - ◆ Clean Tech
- ◆ Professional and Business Services

⁶ CoStar (2024)

- ◆ Software and Media
- ◆ Clean Tech
- ◆ Athletics and Outdoors
- ◆ Other Services
- ◆ Wholesale
- ◆ Services for Visitors
- ◆ Services for Residents
 - ◆ Medical Services
 - ◆ Legal Services
 - ◆ Financial Services
 - ◆ Retail
 - ◆ Personal Services
 - ◆ Restaurants⁷

The MEA would be competitive in attracting these uses as they do not require being directly adjacent to the highway, like distribution and warehousing would be. Additionally, these sectors do not have as many community externalities, such as noise, truck traffic, and air pollution, so they would fit well into the Sherwood West Concept Plan which also has residential uses and park land in the North District.

Industrial clustering

Many industrial sectors, including semiconductors, like to cluster or locate near other similar businesses to be near the supply chain and the labor force. When looking where large industrial buildings (100,000 square feet or greater) are locating, Sherwood had the second highest percentage increase in new large industrial buildings after Cornelius that had a modest increase from 1 to 2 industrial buildings (Exhibit 32). This could demonstrate that there is a growing cluster of large industrial buildings in Sherwood, which would likely attract other industrial users to locate near the cluster as well.

⁷ <https://www.sherwoodoregon.gov/planning/page/2023-economic-opportunities-analysis-update>

Exhibit 32. Count of industrial buildings 100,000+ square feet by city, 2010-2024 YTD

City	2019	2020	2021	2022	2023	2024 YTD
Beaverton	17	17	17	17	17	17
Cornelius	1	1	1	1	1	2
Fairview	6	6	7	7	7	7
Forest Grove	4	4	4	4	4	4
Gresham	9	9	9	10	10	10
Hillsboro	37	38	39	43	43	43
Milwaukie	23	23	23	23	23	23
Portland City	202	205	209	211	213	214
Troutdale	4	4	4	4	4	4
Lake Oswego	2	2	2	2	2	2
Sherwood	6	7	7	7	8	11
Tigard	6	6	6	6	6	6
Tualatin	23	23	23	27	28	28
Wilsonville	18	18	18	19	19	19
TOTAL	358	363	369	381	385	390

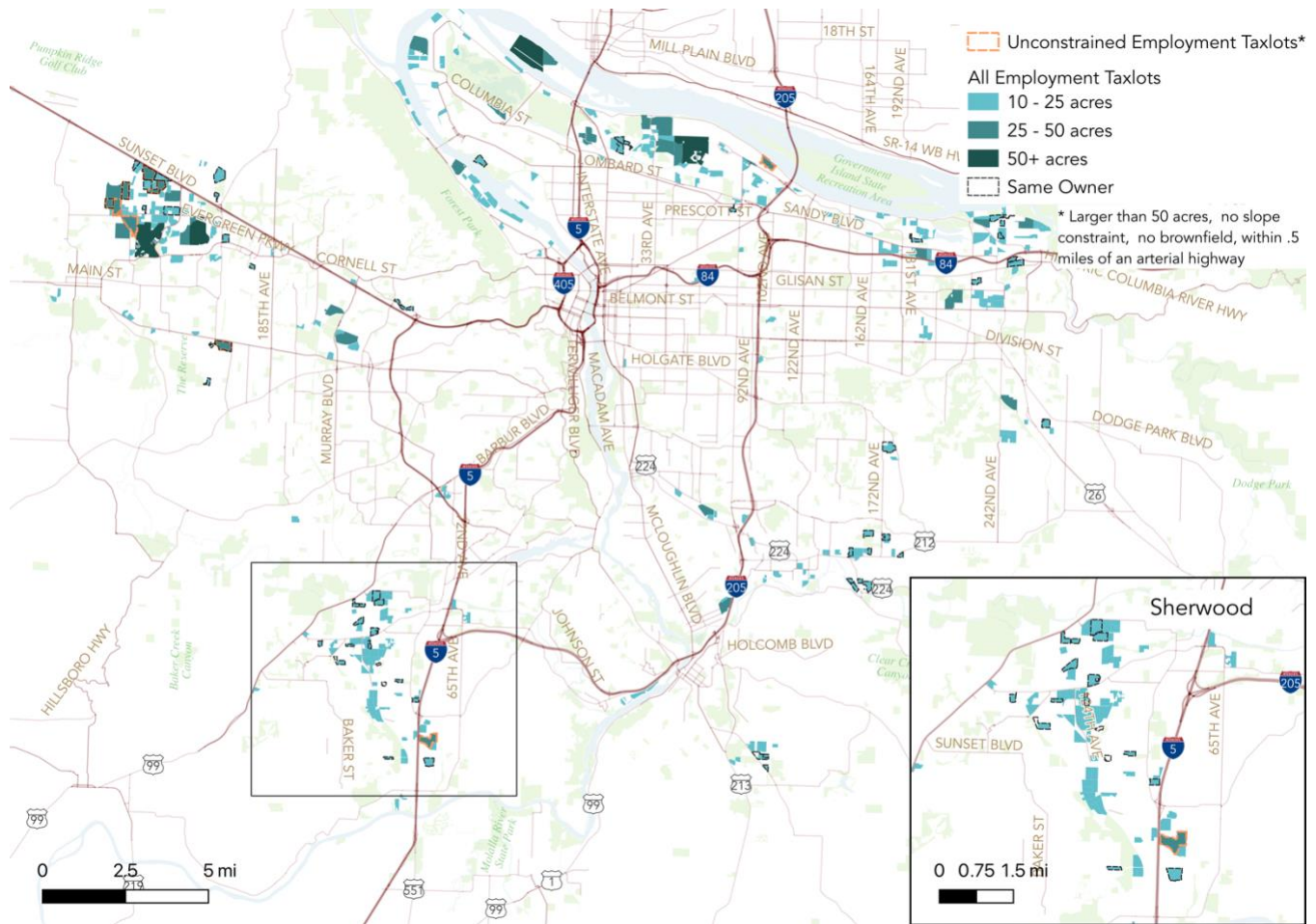
Source: CoStar

Site evaluation of regional land

The BLI identifies vacant employment parcels, which are parcels that are vacant, larger than 10 acres, and have a current zoning of commercial, industrial, or mixed use, and the Metro region currently has 104 parcels that meet these criteria. However, not all of the 104 parcels are suitable to support industrial employment, as identified by the site characteristics included in Exhibit 28 and Exhibit 30. To assess the feasibility of industrial development on the vacant employment parcels identified in the BLI, parcels were filtered out to leave behind only the unconstrained parcels that were larger than 50 acres, had no slope constraint (slope >7 percent), were not brownfields, and were within 0.5 miles of an arterial. Only eight parcels in the Metro region met these additional criteria to be considered as unconstrained parcels (Exhibit 33). The eight remaining unconstrained parcels do not provide much opportunity for economic and business growth in the region.



Exhibit 33. Unconstrained Parcels for Industrial Development in the Metro Region, 2018



Source: Mackenzie (2018), EConorthwest (2024)

On the 2024 Large Lot Inventory, only 10 lots are 50 acres or greater. Two of the 10 sites have use restrictions on them for marine industrial and airport uses, indicating that only 8 large sites remain for all users. When looking at the large lot inventory between 2017 and 2024, 15 sites have been developed during this time frame. Four of the developed sites were parcels larger than 50 acres and two of these sites were over 70 acres.

Site readiness

In order to understand the site readiness of the MEA, the Concept Plan reviewed the utilities and infrastructure needs required for development to occur in Sherwood West. In the North District, transportation projects are forecasted to be the most expensive infrastructure projects, including the improvement of Elwert Road and Scholls-Sherwood Road. Extending water and storm improvements along Elwert Road in the North District will also be crucial for supporting development.

The concept plan reviewed and provided the following analysis of opportunities and constraints for utilities regarding the MEA:

- ♦ **Water:** The 2015 Water System Master Plan considered all areas within Sherwood city limits, UGB, and Sherwood West. Initial anticipated growth in Sherwood West will be served by extending the existing 380 and 455 Zone distribution mains. The North District will be served by an extension of a looped 12-inch system. There is a Preliminary Infrastructure Funding Strategy with cost estimates for extending infrastructure to the North District, and it notes that the water and transportation projects have the highest projected costs for the North District.
- ♦ **Sanitary Sewer:** Sherwood West was not considered as part of the 2016 Sanitary Sewer Master Plan. Within Sherwood West, development north of Haide Road is expected to be served by the proposed Chicken Creek Pump Station and Force Main. As part of the Roy Rogers Road widening project in 2025, part of the Chicken Creek Force Main will be installed. It is expected that all of the required sewer upgrades for Sherwood West will be completed by 2028-2029, which would coincide with the completion of Comprehensive Planning of the area.
- ♦ **Stormwater:** The 2016 Stormwater Master Plan did not include Sherwood West. Sherwood West is primarily served by the Chicken Creek Drainage Basin that flows north and northeast along Chicken Creek. The Environmental Protection Agency (EPA) has designated the vicinity of Cheick Creek as a riparian corridor, upland wildlife habitat, and aquatic impact area because the creek is a habitat for an anadromous fish that is listed as threatened. There is no stormwater infrastructure planned for Sherwood West, except for the Sherwood High School site, and the area will utilize natural streams, channels, and roadside ditches. The City would prefer the use of regional stormwater facilities to service Sherwood West.

Cost of services

For the MEA to reach its full development capacity, there will need to be a significant investment in infrastructure. Mackenzie completed a North District Concept Plan Refinement and conducted a high-level cost estimate for the North District. The total estimated cost of infrastructure needs for the North District is about \$103,990,000 for development of the entire district (Exhibit 34).

Exhibit 34. High-Level Infrastructure Cost Estimate for the North District, 2024

CATEGORY	ESTIMATED COST (2024 \$)	KEY PROJECTS
Public Water	♦ \$10,745,000	♦ Approximately 11,400 LF of water line installation is necessary to support a water line loop through the North District.
Public Sanitary Sewer	♦ \$18,162,500	♦ Pump station, force main, and 15-inch sewer line. ♦ Additional improvements will be needed with adjacent site development.



Public Storm Drain	♦ \$10,932,500	♦ Storm improvements are likely to be needed alongside initial site development and roadway construction.
Public Roadways	♦ \$64,150,000	♦ SW Elwert Road/SW Scholls-Sherwood Road intersection improvements. ♦ Widening of SW Elwert Road, including bike and pedestrian amenities. ♦ Designate roadway connections west of SW Elwert Road. ♦ Designate new Collector roads running east/west in TSP update. ♦ Improve the SW Elwert Road intersections with SW Scholls-Sherwood Road, Conzelmann Road, and East-West Collector with an intersection with signalization or roundabout.

Source: Mackenzie Engineering, 2024

Company relocations in the region

Sherwood has experienced new industrial park development since 2020, and these new larger spaces have attracted regional companies to relocate and expand or consolidate their operations in the city. Many of the projects were fully leased before opening. Some of the industrial developments, and the tenants they attracted, include:

- ♦ **Cipole Industrial Park:** 240,000 SF of new speculative industrial park space in three buildings and the project was fully leased prior to completion.
 - ♦ **Lam Research:** A leader in semiconductor processes that produces essential products needed by leading chip makers. They leased approximately 45,000 SF in 2021 and created 300 jobs. The company wanted to be close to their base of operations in the Portland Metro region and had difficulties locating larger space in the region.
- ♦ **Tualatin-Sherwood Corporate Park (TSCP):** Three speculative industrial buildings consisting of approximately 478,000 SF in the Tonquin Employment Area (TEA). The project was fully leased prior to completion. Current tenants include:
 - ♦ **NSI Manufacturing/Nuance Systems:** The company relocated from approximately 13,000 SF in Tigard to 62,000 SF in the TSCP in 2023 to consolidate their footprint and expand their operations.
 - ♦ **DWFritz Precision Automation.** The company creates automation solutions for manufacturing industries and they moved from Wilsonville to an 80,000 SF space in the TSCP.
 - ♦ **Lam Research:** In 2023-2024, the company leased an additional 271,000 SF in the TSCP to consolidate their logistics operations from various constrained sites in the region.



- ◆ **Sherwood Commerce Center (SCC).** Phase I consists of 445,000 SF across 3 multi-tenant buildings in Sherwood's TEA. The developer will be submitting their plans for Phase II for an additional 464,000 SF within 3 new speculative multitenant buildings, and there are plans for a Phase III with an additional 85,800 SF of spec space. Once completed, SCC will provide around 1 million SF of industrial space, which can serve about 30 companies.
 - ◆ **Olympus Controls:** This is a robotics/automation engineering company that is currently relocating from a small building in Tualatin to a new 70,000-SF-space in the SCC, allowing the firm to double its employee count.
 - ◆ **Gaylord Marine:** This company designs and produces hoods/ventilator control systems for the US Navy and relocated from a home business to a small manufacturing space in Sherwood and is now leasing a larger space in the Sherwood Commerce Center to accommodate their business expansion.
- ◆ **Rock Creek Corporate Center.** A new industrial park in the Tonquin Employment Area that will be 400,000+ SF and is expected to start construction in May 2024.

There have also been companies that own their buildings and have been expanding in Sherwood, including:

- ◆ **Treske Precision:** A precision machining company which is completing a new 35,000 SF addition to their existing building.
- ◆ **AFP Systems.** This company designs, fabricates and installs fire protection systems and recently acquired a 9-acre site in Sherwood, which allows them to expand from a small site in Tualatin.

There have also been regional shifts in where industrial businesses are locating in the Metro region, and manufacturing companies have relocated to Sherwood for larger footprints that allow them to consolidate their operations and expand their businesses.

- ◆ **PPM Technologies:** The company produces equipment needed by the food industry, including Quaker Oats and Frito-Lay. They recently expanded their operations into Sherwood from Newberg because they were space constrained, and they are currently working on their second expansion in Sherwood.
- ◆ **Greenridge Solar.** This company is moving to Sherwood from a very constrained space in Tualatin.

Sherwood has already been successful in capturing new industrial and manufacturing job growth in the region, and new industrial parks have leased well. These moves could indicate a clustering of industrial development and manufacturing happening in the Sherwood market.



6. Key Findings and Conclusions

Based on the data analysis, there are some key findings to determine whether Sherwood West would support the regional economy.

Regional industrial market supply

- ◆ **Industrial vacancy and absorption in the Metro region.** The 2023 vacancy rate for industrial space in the Metro region is 4.1 percent. For industrial buildings over 100,000 square feet, the vacancy rate has remained under 5 percent since 2021 and was 4.7 percent in 2023. Between 2019 and 2023, rents increased for all industrial buildings and for larger industrial buildings. Since 2019, almost 9 million square feet of industrial space has been developed and about 39 percent of this space is in buildings over 100,000 square feet. As new space has entered the market, the net absorption for larger industrial buildings has remained positive.
- ◆ **Industrial vacancy and absorption in Washington County.** There are extremely low industrial vacancy rates in Washington County. In 2023, Washington County had almost 64 million square feet of industrial space and just under 1.6 million square feet of vacant industrial space, for a current vacancy rate of 2.5 percent. The vacancy rate has remained under five percent since 2019. Even as new industrial product comes to market, the buildings are leasing. Between 2019 and 2023 net absorption in Washington County was positive, indicating that more industrial square footage was being leased than becoming vacant.
- ◆ **Industrial space in the South Metro Region.** There is 3.7 million square feet of industrial and flex space in Sherwood, Tualatin, Tigard, Wilsonville, and Lake Oswego. Tualatin has over half of this space (52 percent) and Sherwood has 34 percent of this space. Industrial and flex space in the South Metro Region has the following characteristics:
 - Under 180,000 square feet
 - Over 50 percent are multitenant buildings
 - 56 percent of the industrial and flex space is for distribution and warehouse, and 16 percent is for manufacturing space.
- ◆ **Manufacturing space in the South Metro Region.** Sherwood captured 49 percent of new manufacturing space built in the South Metro region, a greater share than any other city in the region. The average rentable building area for a manufacturing building in Sherwood is about 97,000 square feet on an average lot size of 21 acres, greater than the average industrial building and lot size in the region.
- ◆ **Industrial space in Sherwood.** Within Sherwood, the supply of industrial and flex space increased by 18 percent between 2019 and 2024 YTD. Even as new product comes to market, the industrial vacancy rate is low, remaining under 5 percent since 2021.



During this timeframe, triple net rents per square foot have increased by 47 percent, indicating a strong industrial market in Sherwood. Even as new industrial space is delivered, net absorption of new space was positive between 2019 and 2023, indicating the companies are leasing new industrial space.

Regional Land for Industrial Uses

- ◆ **Regional large parcels.** As part of the Large Lot Inventory of the BLI, there are 104 vacant sites that are larger than 10 acres and are zoned for commercial, industrial, or mixed-use, although sites 10-49 acres may not be sufficient for some of the industrial users.
- ◆ **Regional parcel slopes.** Of the 4,876 parcels included in the BLI sites, about 55 percent of the sites have minimal constraints from steep slopes on the lot and would be especially feasible to support industrial uses. However, 13 percent of the parcels are constrained by steep slopes covering between 51-89 percent of the lot and 8 percent of the parcels have steep slopes over 90 percent of the lot; some of these parcels may not be suitable for supporting industrial uses and feasibility and it would likely depend on the size of the parcel and location of the slopes.
- ◆ **Sherwood parcel sizes.** The BLI identifies only three parcels that are greater than 25 acres in Sherwood BLI. There are no parcels 50 acres or greater, and even with assemblage of parcels that have the same ownership, a 50-acre parcel cannot be assembled.

Employment trends

- ◆ **Employment growth in the region.** The Quarterly Census of Employment and Wages (QCEW) data for Washington, Clackamas, and Yamhill Counties between 2017 and 2022 shows a loss of 1,829 employees, for an annual average growth rate of -0.4 percent. However, of the industries that use industrial space, there has been a regional AAGR of 1.7 percent and a net gain of 9 percent of employees (3,160).
- ◆ **Employment growth in Sherwood.** Within the City of Sherwood, there has been an 18 percent increase in employees between 2016 and 2022 (1,104), for an AAGR of 3.3 percent. Of sectors that uses industrial spaces, there was an AAGR of 5.8 percent with a total increase of 32 percent of employees (525).
- ◆ **Manufacturing job growth.** Manufacturing had an AAGR of 1.1 percent in the region and 2.5 percent in Sherwood between 2017 and 2022. Sherwood is capturing manufacturing jobs which will provide an economic benefit to the region as the average annual wage of a manufacturing job was \$77,900, higher than the average wage for 2022 across all sectors (\$63,100).

MEA competitiveness for new industrial uses

- ◆ **Industrial site criteria.** Based on Mackenzie's site criteria for industrial use, the MEA scores:



- **High:** Site Size, Ownership, and Competitive Slope
- **Medium:** Utilities/infrastructure, Environmental considerations
- ◆ **Industrial proximity criteria.** Based on the proximity considerations for industrial use, the MEA scores:
 - **High:** Proximity to Regional Infrastructure Rail/Port/ Airport, Surrounding Uses, Proximity to Goods
 - **Medium:** Transportation Access to Interstate or Principal Arterial, Proximity to Labor Force
- ◆ **Semiconductors.** The semiconductor industry likes to locate in proximity to other semiconductor businesses and their employees and needs sites of 25+ acres, so the MEA could provide this critical land. While there is an existing semiconductor cluster in Hillsboro, the 2023 vacancy rate for industrial properties was 1.4 percent and average triple net rents were \$12.70 per square foot, which could be barriers for new semiconductor businesses wanting to locate in the region. If the MEA does support semiconductor uses, then these businesses will add new jobs to the region that pay an average of \$110,000 per year.
- ◆ **2021 EOA identified sectors.** The 2021 Sherwood Economic Opportunities Analysis includes advanced manufacturing goals. The MEA would be competitive in attracting these uses as they do not require being directly adjacent to the highway like distribution and warehousing would be. Additionally, these sectors do not have as many community externalities, such as noise, truck traffic, and air pollution, so they would fit well into the Sherwood West Concept Plan which also has residential uses and park land in the North District.
- ◆ **Sherwood's capture of regional industrial business shifts.** Sherwood has captured industrial shifts from users in the region who are looking for more space to consolidate or expand their operations. Since 2020, the Cipole Industrial Park, Tualatin-Sherwood Corporate Park (TSCP), and Sherwood Commerce Center (SCC) opened in Sherwood, bringing brand new industrial space to the market. Since opening, there have been 6 companies who previously operated in the region that have relocated to these buildings to expand or consolidate their operations.
- ◆ **Site evaluation of BLI land.** Of the 104 vacant parcels over 10 acres included in the BLI, many of the parcels have further constraints for industrial employment uses. When filtering out parcels with a slope greater than 7 percent and parcels under 50 acres, there are eight parcels in the region.

Conclusions

- ◆ **Market Supply:** There is a lack of industrial space:
 - ◆ Over the past 5 years, industrial vacancy rates for Sherwood, Washington County, and the Metro region have been below 5 percent. Even though new



industrial buildings have been developed during this time, net absorption has remained positive indicating that the supply of buildings is leasing.

- ◆ Very low industrial vacancy rates in the region could be a barrier to attracting new companies or supporting company expansion.
 - ◆ There is a small share of vacant land in the region that would be suitable for industrial uses, indicating a developer would have to assemble parcels which could be a barrier to new development.
 - ◆ Job growth in the region has been in the industrial sectors. Between 2017 and 2022, there has been a net loss of employees across all sectors in the Washington-Clackamas-Yamhill region; however, the sectors that use industrial space have had positive gains in employment.
- ◆ **Site Competitiveness** – Sherwood West would be well suited to capture the new and expanding demand for industrial space.
- ◆ The MEA would be competitive for new industrial development because of its favorable parcel size, ownership, and low slopes; however, access to I-5 may be a concern for some users. There are few parcels in the BLI that have as many favorable conditions, which could hinder businesses from locating in the region.
 - ◆ Sherwood has seen growth in the amount of industrial and flex space since 2019. It has seen the largest amount of manufacturing space in the South Metro region. Even as new space comes to market, the product is being leased and vacancy rates remain low. The MEA provides opportunities to attract the semiconductor industry.
 - ◆ There may be an insufficient supply of larger industrial sites to support goals for growing the semiconductor industry, however the MEA provides an opportunity to add to the supply of land suitable. If the site is successful in attracting semiconductor uses, then these businesses will add new jobs to the region that pay an average of \$110,000 per year. The MEA could provide an alternate location with large parcels outside of Hillsboro.
 - ◆ Sherwood has also captured industrial shifts from users in the region who are looking for more space to consolidate or expand their operations. The space in Sherwood allows them to stay in the Metro region. Industrial users, including manufacturing, have been locating in Sherwood. Sherwood is capturing excess capacity in the region that this site could accommodate.
 - ◆ The typical in-demand size for industrial space would be around 50 acres, so these properties are not likely to appeal to new industrial users without lot assemblage, which brings its own set of challenges by trying to get neighboring landowners to sell their land.

