

Countywide Study of Industrial Lands

Comprehensive Code Docket Item CPA-8

Prepared for:

Thurston County

Community Planning & Economic Development

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*The material and data in this report were prepared
under the supervision and direction of the undersigned.*

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Abbreviations and Acronyms

Comp Plan	Thurston County Comprehensive Plan
County	Thurston County
EPA	U.S. Environmental Protection Agency
I-5	Interstate 5
HCP	Habitat Conservation Plan
LI	Light Industrial (Thurston County zoning district)
MFA	Maul Foster & Alongi, Inc.
NAICS	North American Industry Classification System
OFM	Office of Financial Management
PI	Planned Industrial Park (Thurston County zoning district)
RRI	Rural Resource Industrial (Thurston County zoning district)
RCW	Revised Code of Washington
SMP	Shoreline Master Program
TCCO	Thurston County Code of Ordinances
UGA	Urban Growth Area

Summary

This *Countywide Study of Industrial Lands* (Industrial Lands Assessment) is a comprehensive review of all industrial lands within Thurston County. The purpose of the study is to determine whether an adequate supply of industrial lands exists to accommodate forecasted demand based on employment growth scenarios. The study will cover economic trends, review existing industrial building and land supply, and address various employment growth scenarios. The study will identify potential areas for rezoning and changes to the possible infrastructure investments and regulatory provisions.

Economic Trends

The working age population (between 25 and 54 years old) in Thurston County is forecast to grow at a rate of 1.3 percent by 2030. An increase in the working age population indicates increased demand for employment space in the county. Currently manufacturing and transportation and warehousing jobs combined make up 5.2 percent of all jobs in the county, with an annual combined growth rate of 2.8 percent since 2010.

Existing Building and Land Supply

Since the year 2000, all areas of Thurston County—the UGA and unincorporated and incorporated areas—have seen leaps in industrial building construction. Since 2018, the county has seen just over 6.4 million square feet constructed, with large distribution centers of 100,000 square feet or more comprising 88 percent of the square footage. Accordingly, developable land has also been absorbed at a similarly accelerated rate. Since 2019, the county has seen 5.8 million industrial building square feet constructed on 361 acres of industrially zoned land. During this period, an average of 72 acres per year were built on and removed from the developable land inventory.

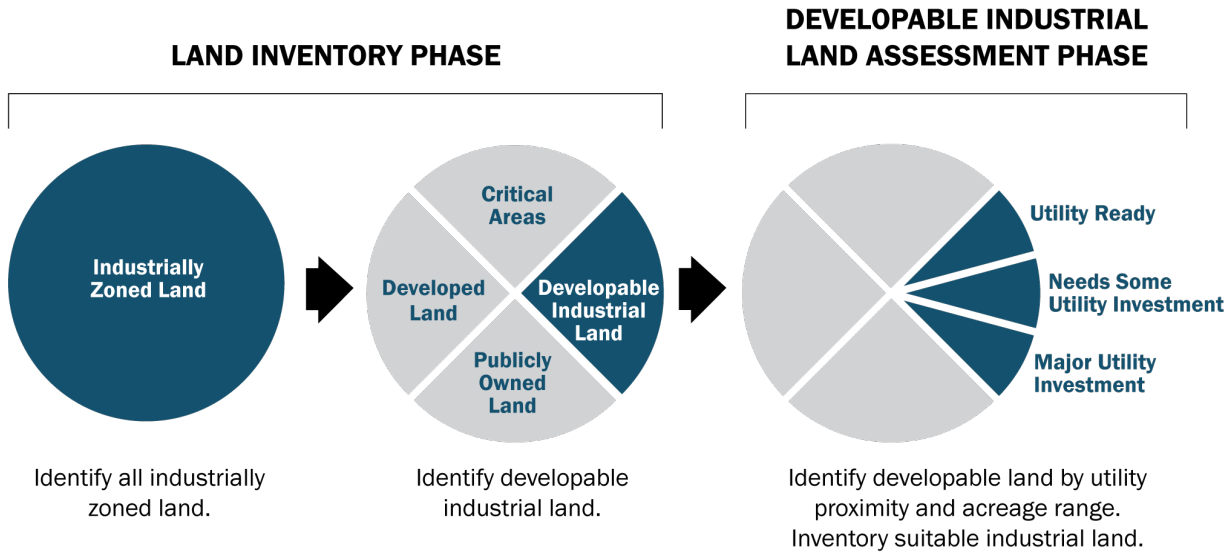
Employment Growth Scenarios

The study modeled four employment growth scenarios, with different mixes of growth rate assumptions in the manufacturing and transportation and warehousing industries, to arrive at forecasts of industrial job growth. These job growth projections informed industrial building square footage needs and related industrial land acreage. Estimates for manufacturing job growth ranged from a low of 0.9 to 1.36 percent annual growth and for transportation and warehousing job growth ranged from 2.3 to 5.54 percent annual growth between 2022 and 2045. Growth in the middle ranges translates to a demand for an additional 17 million square feet to 24 million square feet of industrial space between 2022 and 2045. The industrial land needed to support this development ranges from approximately 1,300 acres to 1,875 acres.

Industrial Land Inventory

The study includes an inventory of all industrially zoned land in Thurston County using progressive analyses to arrive at an inventory of developable industrial land in three categories: utility ready, needs some utility investment, needs major utility investment (Figure ES).

Figure ES. Land Inventory Methodology



This analysis found that the countywide industrially zoned land inventory totals approximately 2,159 usable acres of industrially zoned land with 633 acres located in a UGA or in unincorporated Thurston County. Approximately 1,525 acres, or 71 percent, of this inventory is in incorporated areas of the county. The remaining 634 acres, 29 percent, of the total industrial land inventory is in a UGA or unincorporated Thurston County.

Forecasted Industrial Land Needs

After deducting industrial building square footage and associated land that was built in 2023 and industrially zoned land with planned developments, this study finds that between 973 acres and 1,537 acres are needed to support the remaining anticipated employment growth in the manufacturing and transportation and warehousing sectors through 2045. Countywide, a total of approximately 1,150 acres are utility ready with proximity to water, sewer, and power or need some level of investment to bring water, sewer, or power to the parcel. Focusing on land in the jurisdiction of Thurston County, there are 575 acres of developable industrial land (30 percent of the countywide total). A total of 156 acres includes 130 acres that are fully served with utilities and 26 acres in need of water, power, or sewer utilities. This land is all within a UGA. While the study finds that there is sufficient developable industrial land to support project employment growth, it is important for that overall industrial land inventory in the County is greater than the anticipated demand so that there is choice in the land supply for a range of industrial land users.

Two key observations with industrially zoned parcels in a UGA or unincorporated Thurston County are:

- Countywide there is a lack of large-acreage sites and there are no industrially zoned parcels more than 40 developable acres.
- Providing access to public utilities in areas where utility service is absent will be a financial hurdle for most industrial users and public support in these infrastructure investments will help spur industrial development.

The study notes that Thurston County policies, plans, programs, and regulations also require consideration in the siting of industrial lands. The county's zoning governs land use, parking requirements, and building heights. Land that is proximal to an airport is subject to certain limitations. The county's Critical Areas Ordinance protects natural resources from development and safeguards development from hazardous areas; the comprehensive plan includes policies and objectives with regard to development; the county Habitat Conservation Plan covers all the unincorporated areas of Thurston County and the UGAs of Olympia, Lacey, and Tumwater, which are under County permit jurisdiction; and the Shoreline Master Program includes requirements for development on the shoreline of a water body.

Key Recommendations

- **Maintain and enhance the industrial land inventory** developed for this study to identify and support the development of a wide range of building types to meet growing and mature industrial businesses in industrial zones within the County's jurisdiction by:
 - Prioritizing and highlighting utility-ready parcels and strategically investing in those that are close to utility ready.
 - Tracking development on industrially zoned land and corresponding job growth annually.
- **Advance Thurston County Comprehensive Plan policies ED-1A.8 and A.11 and actively support business retention and recruitment** by economic-development-driven organizations.
- **Expand the current 0.5-mile distance to** require warehouses exceeding 200,000 square feet to be **within 1 mile of a state or interstate highway**.
- To address public health and equity concerns, **prohibit large trucks from using non-truck routes**, and use the conditional use permit process to **attach additional restrictions on traffic**.
- **Add this policy to Comp Plan objective ED-1A:** Help expand new, and strengthen existing, economic development programs that locate and expand sustainable and environmentally sound business and industry, contribute to full utilization of the county's business and industrial land base, and strengthen and diversify the economic base.
- **Develop focused policies for the Tumwater UGA** that direct staff to explore funding and financing strategies for utility extension investment to areas lacking service.
- **Develop an equity-oriented economic development policy** to support entities that provide light industrial space for early-stage manufacturing companies and to support mission-driven non-profit stewardship, such as a public development authority.
- Collaborate with local governments and stakeholders to **develop a comprehensive growth plan that identifies suitable areas for UGA expansion** while considering environmental and community factors. Rezoning and/or UGA expansion could be considered.
- This study demonstrates that **additional land will likely be needed to support projected industrial development** based on employment projections. Other requirements outlined in the County's policies that will need to be met include access to municipal water, sewer, and transportation, and that the urbanization of the expansion area is compatible with the use of designated resource lands and with critical areas.
- As part of the County's Climate Element per House Bill 1181, **consider implementing the following policies and actions** related to industrial development:

- Provide renewable fuel facilities at loading docks.
- Provide a substantial number of parking stalls (e.g., 20 percent) with alternative fuel sources for employees and visitor vehicles.
- Require a substantial portion of onsite energy to be from renewable sources (e.g., 75 percent), and require that potential tenants provide the results of a renewable-fuels audit prior to occupancy.
- Encourage the use of building features that result in lower energy.
- Develop a policy to evaluate the equity impacts that proposed development may have on the surrounding community.
- Require facility-specific waste-reduction measures.
- **Invest in utility development in unincorporated areas with industrially zoned land outside of UGAs** to maximize the potential of industrially zoned land in unincorporated areas of the county.
 - Establish, in consultation with cities, a process for designating a bank of no more than two master planned locations for major industrial activity outside urban growth areas.
 - Explore funding and financing strategies for utility investment in a major industrial development area.
- **Implement policies that balance ecological function with usable industrial land expansion**, such as a wetland mitigation program and/or inset floodplain management.
 - Set measurable goals for yearly wetland mitigation land banking efforts (acreage) based on available resources and funding sources.
 - In areas impacted by floodplains and floodways, evaluate the effectiveness of inset floodplains to reduce floodplain-impacted land.
 - Explore policy development in the unincorporated land that is zoned for industrial development around the Maytown Road interchange.

1 Introduction

1.1 Background

There is unprecedented demand for industrial development throughout Thurston County (county). These development trends, together with significant public interest in the potential environmental, infrastructure, and land use impacts from the conversion of rural residential land to industrial, drive the need for this study of countywide industrial lands and industrial market trends. Because of this land availability concern, Thurston County (County) engaged Maul Foster & Alongi, Inc. (MFA), to discover how existing land supply, future demand, and trends in the industrial market will influence land absorption. The report also identifies potential land use and policy changes to illuminate where industrial development may occur, which regulations and policies may have to be modified, and whether strategic infrastructure investments would be necessary.

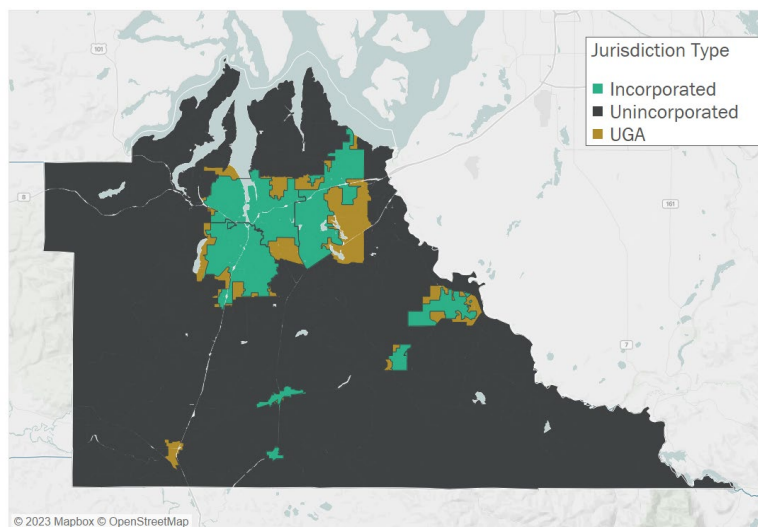
1.2 Purpose

The purpose of the study is to determine whether an adequate supply of industrial lands exists to accommodate future demand-based employment projections. The study covers a review of existing industrial land supply, economic trends, industrial land policy review, and how employment growth scenarios may influence industrial land use over the next 20 years. The growth scenarios will be accompanied by recommended changes to policies and regulatory requirements. Based on the assessment findings, potential areas for rezoning are identified and changes to the possible infrastructure investments and regulatory provisions recommended.

1.3 Area of Study

The area of study is the county; however, the focus of this report is on the inventory of unincorporated Thurston County industrial land located in and out of the county's urban growth areas (UGAs). This report also assesses industrial land trends in the cities and towns of the county including Olympia, Lacey, Tumwater, Tenino, Yelm, Rainier, and Bucoda. The map in Figure 1-1 depicts the area of study featuring the land that is within incorporated cities, in a UGA, and unincorporated land outside of a UGA.

Figure 1-1. Area of Study



2 Recommendations

Industrial lands are an essential part of the economic landscape of Thurston County, supporting employment and contributing to the overall fiscal health of the region. However, land is a finite resource. The projected growth of industrial employment in the county indicates a need for a diversity of available land to support a range of industrial uses.

This report reveals that between 973 acres and 1,537 acres are needed to support the remaining anticipated employment growth through 2045. Countywide, there is a total of approximately 1,903 developable acres of industrially zoned land. Of this total, 1,150 acres are utility-ready with water, sewer, and power nearby, while some need some level of investment to bring one utility (water, sewer, or power) to the parcel. Focusing on land that is in Thurston County's jurisdiction, there are 575 acres of developable industrial land or 30 percent of the countywide total. Only 156 acres are served with utilities of this, 130 acres are fully served, and 26 acres need either water, power, or sewer. This land is all within a UGA.

Based on the analysis in this report, proactive planning and monitoring is important to ensuring that the ongoing and projected demand is accommodated, while prioritizing environmental, equity, and community factors. This section outlines policies and regulatory recommendations that address the need for industrial land that provides employment, protects natural resources, and addresses equity and climate.

Industrial Lands Inventory Management

- Maintain and enhance the industrial land inventory developed for this study to identify and support the development of a wide range of building types to meet growing and mature industrial businesses in industrial zones within the County's jurisdiction by:
 - Prioritizing and highlighting identified parcels that are utility-ready for development and strategically invest in those that are close to utility ready.
 - Tracking development on industrially zoned land and corresponding job growth annually to help ensure there is a variety of industrial land to meet a range of needs, including large acreage land for distribution centers and medium to smaller lots to support light industrial and manufacturing developments.
 - Identifying potential new parcels through brownfield inventories and analysis. Thurston County can "create" new land by investing in brownfield cleanup and development.
- To improve exposure, advance Thurston County Comprehensive Plan (Comp Plan) policies ED-1A.8 and A.11, and maintain an industrial land inventory, the County should actively support business retention and recruitment activities undertaken by economic-development-driven organizations including, but not limited to, the Thurston Economic Development Council and the Port of Olympia (the Port).

Distribution Warehouse Uses

- Expand the current 0.5-mile distance to require warehouses exceeding 200,000 square feet to be within 1 mile of a state or interstate highway.

- To address public health and equity concerns in high-risk areas, prohibit large trucks from using non-truck routes, and use the conditional use permit process to attach additional restrictions on traffic.

Manufacturing Uses

- This study recommends adding this policy to Comp Plan objective ED-1A: Help expand new, and strengthen existing, economic development programs that locate and expand sustainable and environmentally sound business and industry, contribute to full utilization of the county's business and industrial land base, and strengthen and diversify the economic base.
- The Tumwater UGA has the most developable industrial land in the county. Given the area's access to highways, Tumwater would benefit from focused policies that direct staff to explore funding and financing strategies for utility extension investment to areas lacking service.
- Develop an equity-oriented economic development policy to support entities that provide light industrial space for early-stage manufacturing companies and to support mission-driven non-profit stewardship.
 - An industrial land steward in a defined geography can serve a multipronged role that includes engagement with landowners and developers, work—in close coordination with the County—on addressing infrastructure needs, and partnering with early-stage manufacturing companies and mission-driven organizations needing industrial space to help address their industrial space needs. An example of this could be the use of public development authorities. Public development authorities are public corporations, that assist in administering federal grants or local programs, enhance governmental efficiency and service provision, and/or improve a municipality's general living conditions. They are special purpose quasi-municipal corporations that are primarily authorized under the Revised Code of Washington (RCW) 35.21.730-.759. Public development authorities are mission focused and can be industrial land stewards that may also build, operate, and maintain industrial buildings in the spirit of economic development.

Urban Growth Area Expansion

- Collaborate with local governments and stakeholders to develop a comprehensive growth plan that identifies suitable areas for UGA expansion while considering environmental and community factors. Given the current mix of industrially zoned land in the County's jurisdiction, rezoning and/or UGA expansion could be considered. The Thurston Countywide Planning Policies (Thurston County 2015) outline conditions that need to be met for UGA expansion consideration. Areas of expansion need one of the two criteria:
 - There is insufficient land within the UGAs to permit urban growth that is forecast to occur in the succeeding 20 years.
 - An overriding public interest demonstrating a public benefit beyond the area proposed for inclusion would be served by moving the Urban Growth Boundary related to protecting public health, safety, and welfare; enabling more cost-effective, efficient provision of sewer or water and enabling the locally adopted comprehensive plans to more effectively meet the goals of the Washington State Growth Management Act.
- This study demonstrates that additional land will likely be needed to support projected industrial development based on employment projections. Other requirements outlined in the County's policies that will need to be met include access to municipal water, sewer, and transportation,

and that the urbanization of the expansion area is compatible with the use of designated resource lands and with critical areas.

Climate Related Policies

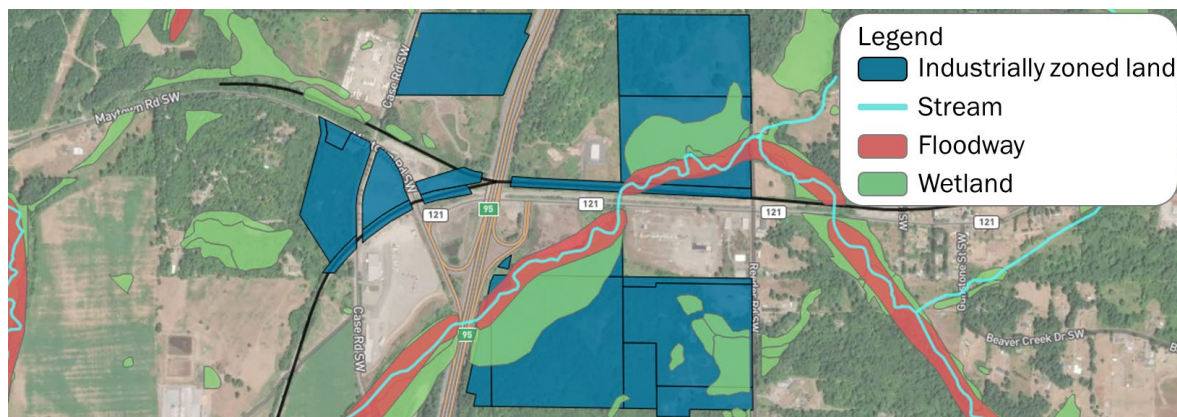
- The County will be developing its Climate Element per House Bill 1181. As part of element, the following policy recommendations should be considered under a goal related to industrial development:
 - Provide renewable fuel facilities at loading docks. This should be drafted broadly to include electric vehicles that are emerging, and hydrogen fueled trucks that will be prevalent as the technology matures.
 - Provide a substantial number of parking stalls (e.g., 20 percent) with alternative fuel sources for employees and visitor vehicles.
 - Require a substantial portion of onsite energy to be from renewable sources (e.g., 75 percent), and require that potential tenants provide the results of a renewable-fuels audit prior to occupancy.
 - Encourage the use of building features that result in lower energy use such as rooftop skylights for natural light, the use of LEDs, and light-colored roofing material to reduce heat absorption.
 - Develop a policy to evaluate the equity impacts that proposed development may have on the surrounding community.
 - Require facility-specific waste-reduction measures.

Unincorporated Areas with Industrially Zoned Land

- Unincorporated areas with industrially zoned land outside of UGAs are not served by municipal utilities. While industrial development can occur, the use of well water and septic fields limits the types of users that could use the property. For example, manufacturing businesses that employ more people than a septic field can support or have water requirements that exceed a well's capacity will likely result in the business looking elsewhere. There are additional regulatory processes for establishing industrial businesses in buildings served with well water and septic fields. To maximize the potential of industrially zoned land in unincorporated areas of the county, utility investment will be needed. Should industrial land become constrained countywide, these unincorporated areas may become more of a priority.
 - Major industrial development outside of a UGA may be supported through the Washington State Growth Management Act. Per RCW 36.70A.367 (Major industrial developments—Master planned locations), a county planning under RCW 36.70A.040 that meets the criteria may establish, in consultation with cities, a process for designating a bank of no more than two master planned locations for major industrial activity outside urban growth areas.
 - To make these areas more attractive to industrial uses, the County may explore funding and financing strategies for utility investment in a major industrial development area.
- Implement policies that balance ecological function with usable industrial land expansion, such as a wetland mitigation program and/or inset floodplain management.
 - Set measurable goals for yearly wetland mitigation land banking efforts (acreage) based on available resources and funding sources.

- In areas impacted by floodplains and floodways, evaluate the effectiveness of inset floodplains to reduce floodplain-impacted land.
- An example where this could be explored is the unincorporated land that is zoned for industrial development around the Maytown Road interchange. This is the only interchange in the county that is not within a city or a UGA. This area has rail access in addition to Interstate 5 (I-5) access and large tracts of Rural Resource Industrial industrially zoned land, but the gross acres are reduced by roughly 50 percent due to streams, floodways, and wetlands, illustrated in the Figure 2-1.

Figure 2-1. Unincorporated Area with Critical Areas Affecting Future Land Use



3 Employment Assessment

This section is a summary of the economic conditions influencing industrial development in the county, including demographics, employment, wages, and industrial real estate market characteristics.

3.1 Demographics

3.1.1 Population

A growing regional population is important to maintain a ready labor force. The county is home to 300,500 residents (OFM 2022). Between 2012 and 2022, the county population grew by 42,000 people. The annual rate of population growth in the county was slightly greater than the state's annual population growth rate, as shown in Table 3-1.

Table 3-1. Population Growth 2012–2022

Geography	2012 Population	2022 Population	Population Change	Annual Growth Rate (%)
Thurston County	258,500	300,500	42,000	1.5%
Washington State	6,835,200	7,864,400	1,029,200	1.4%

Source

OFM. 2022. *Postcensal Estimates of April 1 Population*. Washington State Office of Financial Management. Washington State Office of Financial Management. Last Modified June 28; Census. 2017–2021.

The twenty-year growth projections through 2040 (WSED 2022), estimate population growth in Thurston County to taper to an annual growth rate of 1.2 percent between 2020 and 2040 while the state's overall population annual growth rate growth is projected to increase. Table 3-2 shows the population growth projections for Thurston County and the state through 2040.

Table 3-2. Population Growth 2020–2040

Geography	2020 Population	2040 Population	Population Change	Annual Growth Rate (%)
Thurston County	294,793	371,542	76,749	1.2%
Washington State	7,706,310	9,248,473	1,542,163	0.9%

Sources

WSED. 2022. *Thurston County Profile 2022. Population by Age & Sex, Thurston County, 1980 - 2040*. Washington Employment Security Department. Washington State Employment Security Department.

3.1.2 Working Age Population

The peak working age population is defined as people between 25 and 54 years old (FRED 2023). Table 3-3 shows that the annual growth rate of the working age population in Thurston County is forecasted to outpace the state annual growth rate by 0.4 percent between 2020 and 2030. An increase in working age people indicates increased demand for employment space in the county.

Table 3-3. Working Age Population Projections, Thurston County and Washington State

	Thurston County		Washington State	
	2020	2030	2020	2030
0–24 Age Population	88,259	96,145	2,369,633	2,459,880
Population Growth	7,886		90,247	
Annual Growth Rate	0.9%		0.4%	
25–54 Age Population	115,776	131,517	3,105,406	3,385,982
Population Growth	15,741		280,576	
Annual Growth Rate	1.3%		0.9%	
55+ Age Population	90,297	108,302	2,231,271	2,656,902
Population Growth	18,005		425,631	
Annual Growth Rate	1.8%		1.8%	
Overall Population	294,793	333,783	7,706,310	8,502,764
Population Growth	39,900		796,454	
Annual Growth Rate	1.3%		1.0%	

Source

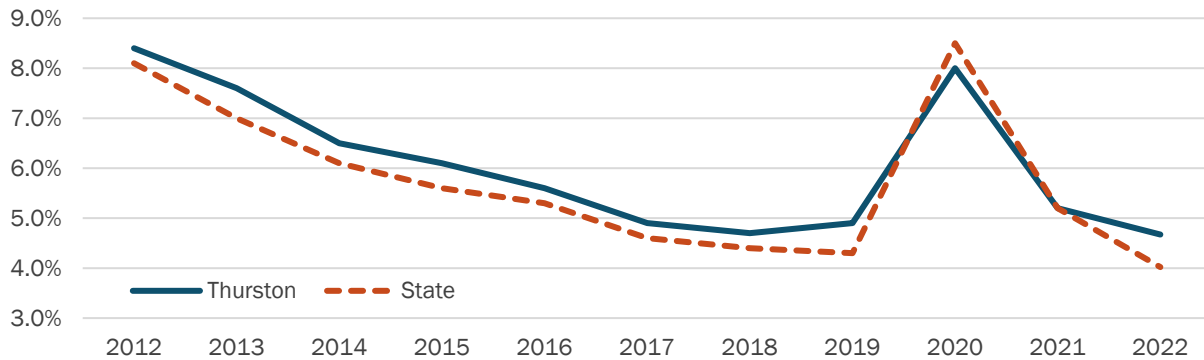
WESD. 2022. Thurston County Profile 2022. *Population by Age & Sex, Thurston County, 1980 - 2040* Washington Employment Security Department. Washington State Employment Security Department

3.2 Labor Force

A growing, skilled, and willing regional labor force is foundational to support businesses operating in a region and to attract new business. The labor force includes all people ages 16 and older who are classified as either employed or unemployed. Note that a focus of the previous section was the working age population, which is defined as the population between the ages of 25 and 54. It is this age cohort that will drive much of the employment in industrial activity in the county; however, understanding the labor force dynamics more broadly informs how employment growth may result in new industrial development.

3.2.1 Unemployment

The Thurston County unemployment rate is 4.7 percent, 0.7 percent higher than Washington state. This is the lowest the unemployment rate has been since 1990, indicating a constrained labor market (WSED 2022). The average unemployment rate between 2012 and 2022 in the county is 6.1 percent. This underscores the need to develop the growing labor force, encourage the working age population that is currently not in the labor force to reengage, and to attract labor from outside the county. Note that the unemployment rate spread between the county and state of Washington is currently 0.7 percent. This spread is 0.4 percent more than the historical average, suggesting job opportunities in the county are more limited than across the rest of the state on average. Figure 3-1 illustrates unemployment trends since 2012.

Figure 3-1. County Level Comparison of Unemployment (2012–2022)**Source**

WSED. 2022. Thurston County Profile 2022. *Labor Area Unemployment Statistics (LAUS)*. Washington Employment Security Department. Washington State Employment Security Department.

3.2.2 Labor Force Commuting Patterns

Commuting patterns for goods-producing industry¹ workers employed in Thurston County show that companies draw roughly half of these workers from within the county and half from beyond county borders (Table 3-4). A destination report from 2020 reveals that 48.5 percent of workers employed in the county live in a different county (US Census 2002–2020). Of the out-of-county workers employed in Thurston County, 11.3 percent commute from Pierce County and 7.4 percent commute from Lewis County. Just over half of the workers employed in the county (51.4 percent) also live in the county.

Table 3-4. Share of Workers Based on Resident Counties

County	Share of Workers
Thurston County, WA	51.4%
Pierce County, WA	11.3%
Lewis County, WA	7.4%
King County, WA	5.5%
Grays Harbor County, WA	4.7%

Source

Census 2002-2020

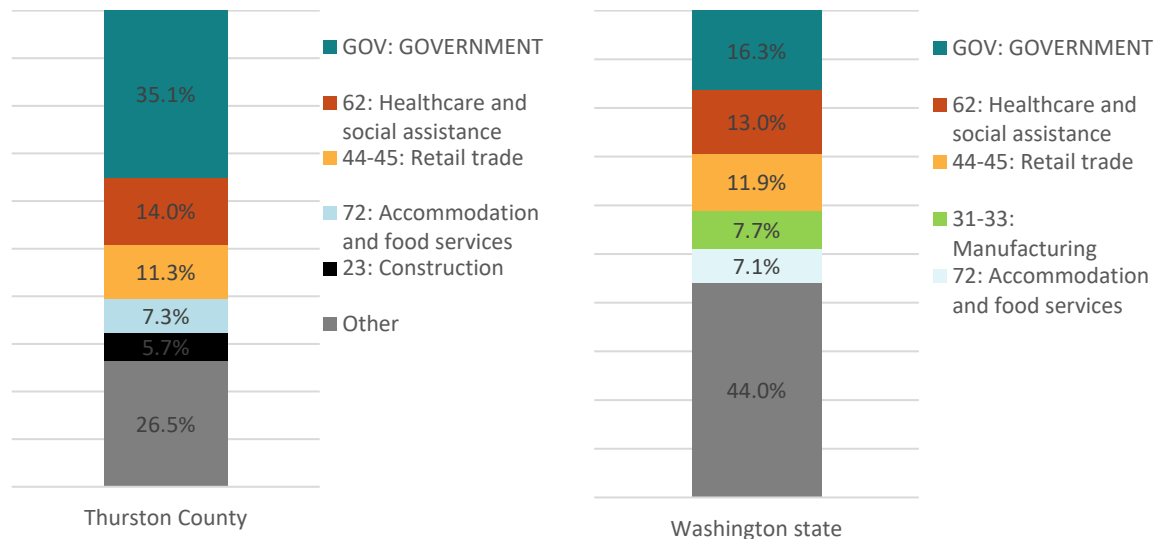
3.3 Employment by Industry

Thurston County had a total labor force of over 149,522 as of May 2022. Since 2012, the county's labor force has grown by 21.4 percent (WSED 2022). By comparison, the state's labor force grew by 15.7 percent during the same time. Government jobs are the largest source of employment in the county, accounting for 35.1 percent of employment. Neither manufacturing nor transportation and warehousing are among the top five job sectors in the county as of 2022. Together, these two job sectors comprise 5,326 jobs, or 4.7 percent of the 111,616 jobs in the county. For comparison, the

¹ Goods producing industries are a subset of the total employment count that includes the following industries: Agriculture, Forestry, Fishing and Hunting (NAICS code 11), Mining, Quarrying, and Oil and Gas Extraction (NAICS code 21), Construction (NAICS code 23), and Manufacturing (NAICS codes 31-33).

number of manufacturing and transportation and warehousing jobs statewide account for 10.9 percent of the state's total jobs. Figure 3-2 features the top five sectors for the county and state as of the first quarter of 2022.

Figure 3-2. Thurston County and Washington State Top Employment Sectors, 2022



Source

WSED. 2022. Covered employment classified by three-digit NAICS industry subsectors. Washington State Employment Security Department. Accessed February 10, 2023. <https://esd.wa.gov/labormarketinfo/covered-employment>

Table 3-5 illustrates employment trends from 2010 to 2022 in the manufacturing sector as classified by the North American Industry Classification System (NAICS). Manufacturing and transportation and warehousing accounted for a smaller percentage of total jobs in the county than in the state in both 2010 and 2022. Transportation and warehousing employment in the county nearly doubled in percent of total job share during this period.

Table 3-5. Manufacturing and Transportation and Warehousing Jobs

Area	2010 Jobs	Percent of Total Jobs	2022 Jobs	Percent of Total Jobs	2010-22 Percent Change
Manufacturing					
Thurston County	2,986	2.4%	3,325	2.7%	0.3%
Washington state	254,843	7.3%	265,923	7.6%	0.3%
Transportation and Warehousing					
Thurston County	1,642	1.3%	3,112	2.5%	1.2%
Washington state	78,681	2.3%	125,235	3.6%	1.3%

Source

WSED. 2022. Thurston County Profile 2022. *Percent of Employment by Industry*. Washington Employment Security Department. Washington State Employment Security Department.

3.4 Industrial Sector Employment

Employment in the industrial sector is growing in the county and across the state. Table 3-6 shows the industrial employment trends of Washington State, Thurston County, and Lewis and Pierce counties between 2010 and 2022. The county had the highest growth rate of manufacturing jobs between 2010 and 2022 among comparable counties and the state. Although the county had a relatively high industrial job growth rate, the actual number of employees gained is only a small fraction of the number of employees gained in Pierce County during the same time.

Table 3-6. Industrial Sector Employment Growth, 2010-2022

Area	Employment 2010	Employment 2022	Annual Growth (2010–2022)	Annual Growth Rate (2010–2022)
Manufacturing				
State Total	254,843	265,986	929	0.4%
Thurston County	2,986	3,325	28	0.9%
Pierce County	16,067	16,740	56	0.3%
Lewis County	2,772	3,017	20	0.7%
Transportation and Warehousing				
State Total	78,681	125,322	3,887	4.0%
Thurston County	1,642	3,112	123	5.5%
Pierce County	9,660	19,848	849	6.2%
Lewis County	1,028	1,270	20	1.8%
Total Industrial Jobs				
State Total	333,524	391,308	4,815	1.3%
Thurston County	4,628	6,437	151	2.8%
Pierce County	25,727	36,588	905	3.0%
Lewis County	3,800	4,287	41	1.0%

Source

WSED. 2022. Thurston County Profile 2022. *Percent of Employment by Industry*. Washington Employment Security Department. Washington State Employment Security Department.

The Thurston County *Economic Development Strategic Plan* has identified seven target industries: IT/technology, food production/agriculture, health care and life sciences, tourism, wood products, manufacturing, and government (Thurston County Economic Alliance 2017). Of those seven, three industries are manufacturing-related (manufacturing, wood products, and food processing).

A closer look at the industrial employment sectors (two-digit NAICS code 31-33 and NAICS code 48-49) in Table 3-7 shows an increase of the amount of manufacturing firms in the county but a decrease in the total amount of manufacturing jobs between 2017 and 2022. This trend indicates a growth in small manufacturing operations in the county. Food manufacturing (NAICS code 311) followed this trend and gained two firms but lost eight jobs. Inversely, wood products manufacturing (NAICS code 321), another target industry in the county, consolidated by three firms but gained over 37 jobs. The sharpest drop in job share was exhibited in the nonmetallic mineral product manufacturing industry (NAICS code 327), which lost 251 jobs and dropped from 17 percent to 10 percent of job share between 2017 and 2022. Other industries gained 394 jobs and the most job share between 2017 and 2022.

Warehousing gained in both firms and jobs between 2017 and 2022. Seven firms and 87 jobs in air transportation (NAICS code 481) were created in the county between 2017 and 2022. Warehousing and storage (NAICS code 493) gained three firms, 800 jobs, and 23 percent of job share during the same period. Transit and ground passenger transportation (NAICS code 485) lost four firms and over half their jobs between 2017 and 2022.

Table 3-7. Thurston County Industrial Employment Distribution 2017 and 2022

Three-Digit NAICS Code and Industry Description	2017			2022		
	Firms	Jobs	% of Jobs	Firms	Jobs	% of Jobs
Manufacturing Industry^a						
311: Food manufacturing	25	401	12%	27	393	12%
312: Beverage and tobacco product manufacturing	19	337	10%	17	394	12%
313: Textile mills	*	*	*	*	*	*
314: Textile product mills	3	6	0%	*	*	*
315: Apparel manufacturing	*	*	*	*	*	*
316: Leather and allied product manufacturing	*	*	*	*	*	*
321: Wood products manufacturing	13	133	4%	10	170	5%
322: Paper Manufacturing	5	233	7%	5	229	7%
323: Printing and related support activities	13	105	3%	16	108	3%
324: Petroleum and coal products manufacturing	*	*	*	*	*	*
325: Chemical manufacturing	6	172	5%	12	160	5%
326: Plastics and rubber products manufacturing	5	241	7%	7	194	6%
327: Nonmetallic mineral product manufacturing	6	570	17%	8	319	10%
331: Primary metal manufacturing	*	*	*	*	*	*
332: Fabricated metal product manufacturing	23	262	8%	23	237	7%
333: Machinery manufacturing	10	79	2%	11	110	3%
334: Computer and electronic product manufacturing	*	*	*	*	*	*
335: Electrical equipment and appliance manufacturing	4	13	0%	4	9	0%
336: Transportation equipment manufacturing	11	192	6%	*	*	*
337: Furniture and related product manufacturing	10	300	9%	14	283	9%
339: Miscellaneous manufacturing	28	310	9%	27	272	8%
Other industries ^b	9	53	2%	17	447	13%
Manufacturing Total	189	3,407		197	3,325	
Transportation and Warehousing^c						
481: Air transportation	*	*	0%	7	87	3%
484: Truck transportation	72	868	37%	85	849	27%
485: Transit and ground passenger transportation	18	674	29%	14	332	11%
487: Scenic and sightseeing transportation	*	*	0%	3	7	0%
488: Support activities for transportation	23	120	5%	42	274	9%
492: Couriers and messengers	19	311	13%	19	425	14%
493: Warehousing and storage	6	312	13%	9	1,122	36%
Other industries ^b	10	71	3%	3	14	0%
Transportation and Warehousing Total	147	2,356		181	3,110	

Three-Digit NAICS Code and Industry Description	2017			2022		
	Firms	Jobs	% of Jobs	Firms	Jobs	% of Jobs
Total	336	5,763		378	6,435	336

Notes

NAICS = North American Industry Classification System.

^a NAICS Code 31-33: Manufacturing.^b The Other industries row sums the industries that had less than three companies in 2020 and 2022. Because the number of firms was below this threshold, the jobs could not be reported at the NAICS level. These firms are noted with an asterisk, *.^c NAICS Code 48-49: Transportation and warehousing.**Source**

WESD. 2016-2022.

Washington State Employment Security Department/ Labor Market Economic Analysis, 2023.

3.5 Wages

Annual wages in Thurston County lagged those in Washington state overall by over \$20,000 in 2021 (Table 3-8). The wage gap between the county and the state is similar for the manufacturing and transportation and warehousing sectors. Statewide manufacturing wages were higher than overall wages in 2021. Transportation and warehousing wages were nearly \$8,000 less than overall county wages in 2015 and nearly \$10,000 less than overall county wages in 2021. County manufacturing wages were higher than overall wages in 2015. This trend was reversed by 2021 when manufacturing wages dropped below overall wages (WESD 2022).

Table 3-8. Thurston County and Washington State Industrial Sector Wages, 2016–2021

	2016	2021	2016–2021 Change
31-33 Manufacturing			
Thurston County	\$52,530	\$59,867	14.0%
Washington state	\$74,632	\$83,157	11.4%
48-49 Transportation and Warehousing			
Thurston County	\$39,915	\$52,795	32.3%
Washington state	\$56,178	\$69,538	23.8%
Blended Industrial			
Thurston County	\$47,809	\$62,165	30.0%
Washington state	\$59,090	\$82,513	39.6%

Source

WESD 2016-2022.

3.6 Employment and Supporting Land Need Forecast

Forecasted employment growth is an important data point for estimating the amount of industrial building space needed to support anticipated jobs and for related land needs for those buildings. Four employment growth scenarios were modeled. The scenarios are informed by Washington State's industry level employment forecasts that forecasts employment growth by industry through 2031. The scenarios modeled for this report project these forecasts through to 2045.

The two industries that drive industrial land use are transportation and warehousing (NAICS code 48-49) and manufacturing (NAICS code 31-33). The previous section found that rate of growth for transportation and warehousing industry jobs has outpaced manufacturing industry jobs. This trend is expected to continue; however, the modeled scenarios evaluate differing rates of growth for these two industries. The following bullets summarize the scenarios.

- **Mid Manufacturing/Mid Transportation and Warehousing:** Uses the annual growth rate between 2010 and the Washington State's projected 2031 employment estimate to forecast employment for the two industrial focused industries through 2045.
 - Manufacturing employment annual rate of growth: 1.09%
 - Transportation and warehousing employment annual rate of growth: 4.43%
- **Low Manufacturing /High Transportation and Warehousing:** Utilizes the same approach as the Min Manufacturing, Mid Transportation and Warehousing but uses the rates of growth observed between 2010 and 2022 for both industries.
 - Manufacturing employment annual rate of growth: 0.90%
 - Transportation and warehousing employment annual rate of growth: 5.47%
- **High Manufacturing /Low Transportation and Warehousing:** Utilizes the same approach as the Min Manufacturing, Mid Transportation and Warehousing but uses the state's rates of growth between 2026 and 2031 for both industries.
 - Manufacturing employment annual rate of growth: 1.15%
 - Transportation and warehousing employment annual rate of growth: 2.30%
- **Max Manufacturing /Max Transportation and Warehousing:** Increase the states' projected annual rate of growth used in the Mid Manufacturing, Mid Transportation and Warehousing scenario by 25 percent. This is a stress test scenario.
 - Manufacturing employment annual rate of growth: 1.36%
 - Transportation and warehousing employment annual rate of growth: 5.54%

For planning purposes, the Mid Manufacturing/Mid Transportation and Warehousing and Low Manufacturing/High Transportation and Warehousing scenarios can be used to inform future land needs. Table 3-9 summarizes this output. The charts in Figure 3-3 through Figure 3-8 feature the scenario impacts specific to the industrial and transportation and warehousing industry.

Table 3-9. Employment Projection Scenario Summary (2022–2045)

Scenario	Job Growth Estimate	Total Building Square Feet Estimate	Total Acres	Average Building Square Feet /Year	Average Acres/Year
High Manu/Low TW	1,653	6,705,536	523	291,545	23
Low Manu/High TW	5,336	24,312,288	1,876	1,057,056	82
Mid Manu/Mid TW	3,829	16,969,580	1,313	737,808	57
Max Manu/Max TW	5,947	26,769,373	2,068	1,163,886	90

Notes

Manu = Manufacturing.

TW = Transportation and Warehousing.

Tan shading in rows indicate scenarios used to inform future land needs.

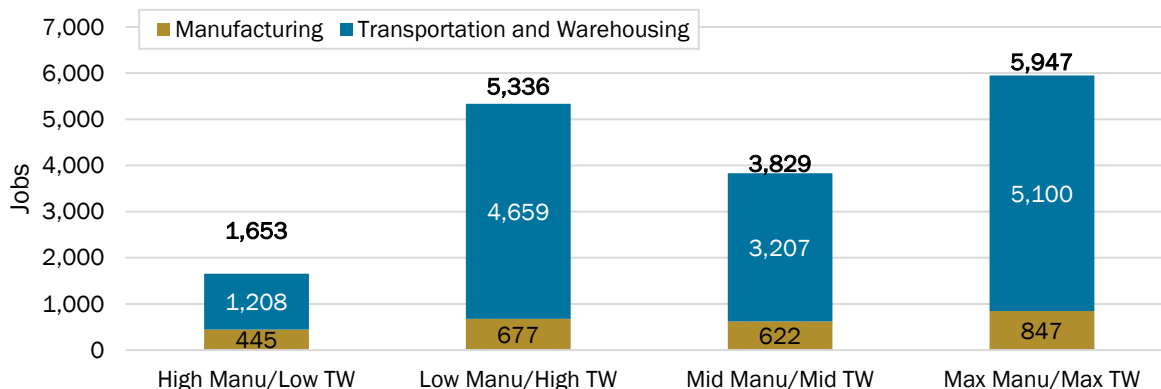
Building square feet are estimated by applying a square feet per employee factor to the job growth estimate. Appendix A provides support for the assumption that a distribution warehouse requires 5,0000 square feet of building space per employee and a manufacturing facility requires 1,500 square feet of building space per employee. The assumed floor area ratio, or FAR, is 0.25 for manufacturing and 0.30 for transportation and warehousing.

Sources

OFM, WESC, MFA

3.6.1 Job Growth

Figure 4-2 shows the total job growth estimated in the county between 2022 and 2045 under each of the four scenarios. For reference, Table 3-6 showed that in 2022 there were 3,325 manufacturing jobs and 3,110 transportation and warehousing jobs totaling 6,435 total industrial jobs in the county. Under the Mid Manufacturing/Mid Transportation and Warehousing scenario, industrial jobs would increase by 3,829 employees. This would result in industrial jobs accounting for about 5.6 percent of countywide jobs by 2045. This would be an increase from the industrial sector's 5.2 percent capture of total jobs in 2022.

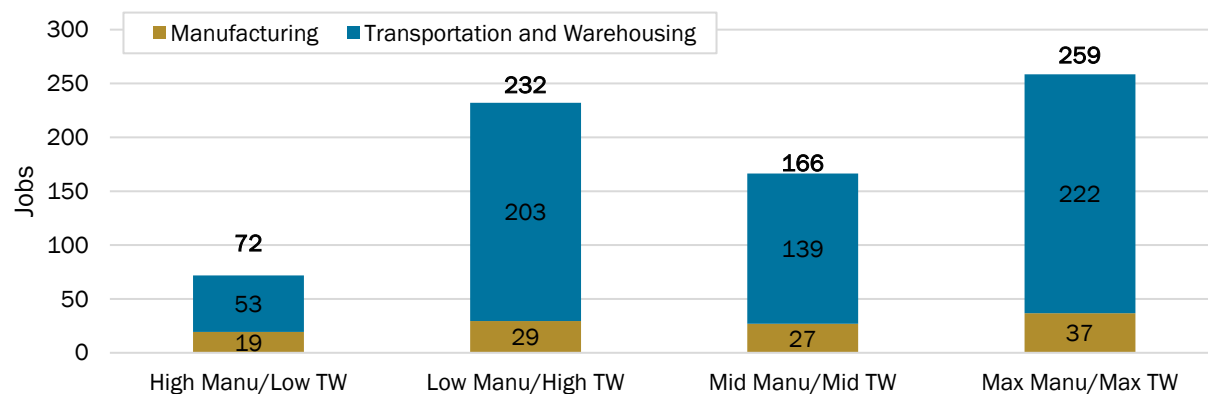
Figure 3-2. Job Growth, 2022–2045**Notes**

Manu = Manufacturing. TW = Transportation and Warehousing.

Sources

OFM, WESC, MFA

Figure 3-3 shows the annual job growth estimated in the county between 2022 and 2045 under each of the four scenarios. Between 2010 and 2022, the number of industrial jobs in the county increased by approximately 166 jobs per year in the Mid Manufacturing/Mid Transportation and Warehousing scenario.

Figure 3-3. Job Growth Per Year, 2022–2045**Notes**

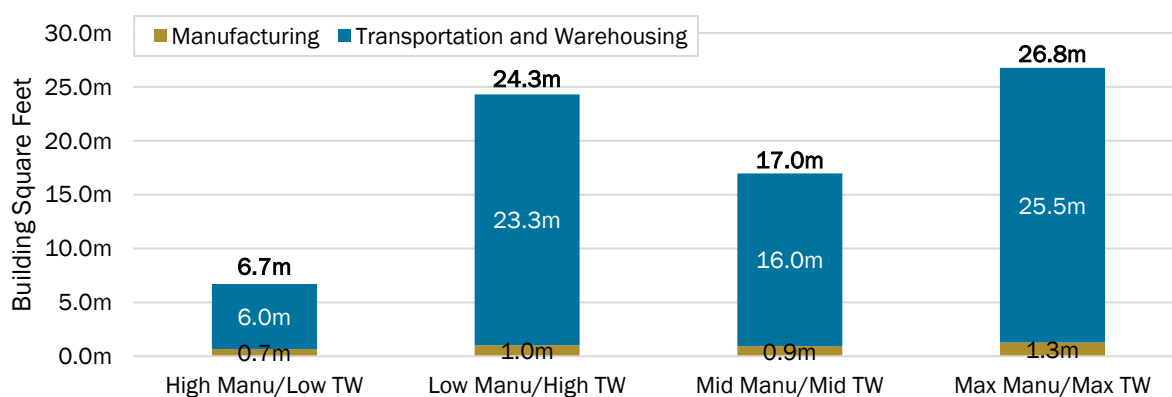
Manu = Manufacturing. TW = Transportation and Warehousing.

Sources

OFM, WESC, MFA

3.6.2 Building Square Footage Demand

Figure 3-4 shows the estimated number of acres absorbed between 2022 and 2045 under each of the four scenarios. Employment in transportation and warehousing is expected to grow the most between 2022 and 2045. Buildings to support this industry average about 5,000 square feet per employee (see Appendix A). Under the Mid Manufacturing/Mid Transportation and Warehousing employment growth scenario, the need for industrial space will be for an additional 17.0 million square feet through 2045. This would increase the supply of industrial buildings from 23.8 million square feet in 2022 to 40.8 million square feet by 2045 representing a 71 percent increase or a growth rate of 2.4 percent per year.

Figure 3-4. Total Demand in Building Square Feet, 2022–2045**Notes**

Manu = Manufacturing. TW = Transportation and Warehousing.

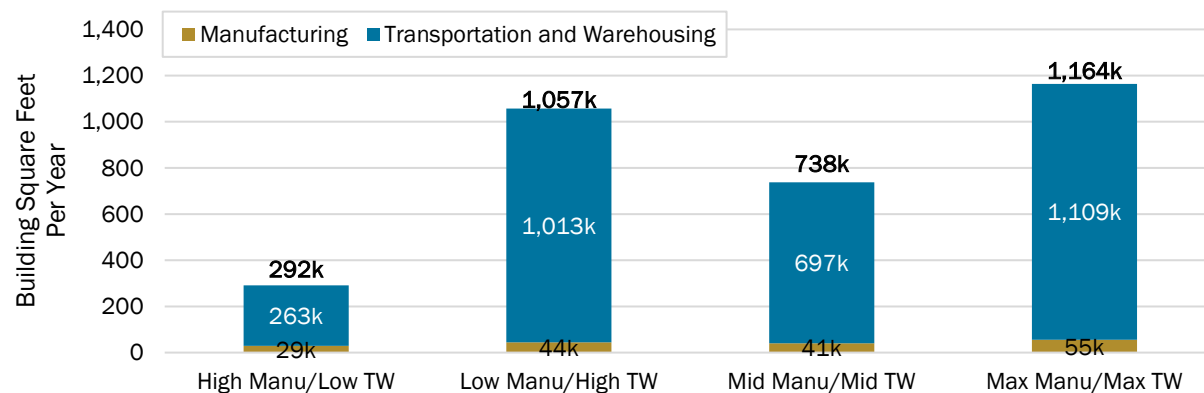
Sources

OFM, WESC, Data Axel, Commercial Buildings Energy Consumption Survey, MFA

Figure 3-5 shows the annual building square footage estimated to be built in the county between 2022 and 2045 under each of the four scenarios. The Mid Manufacturing/Mid Transportation and Warehousing scenario would result in an average of 738,000 square feet per year on average during

this period. This is slightly under the observed 10-year volume of building square footage constructed through 2022, which was at a pace of 765,000 square feet per year.

Figure 3-5. Total Demand in Building Square Feet per Year, 2022–2045



Notes

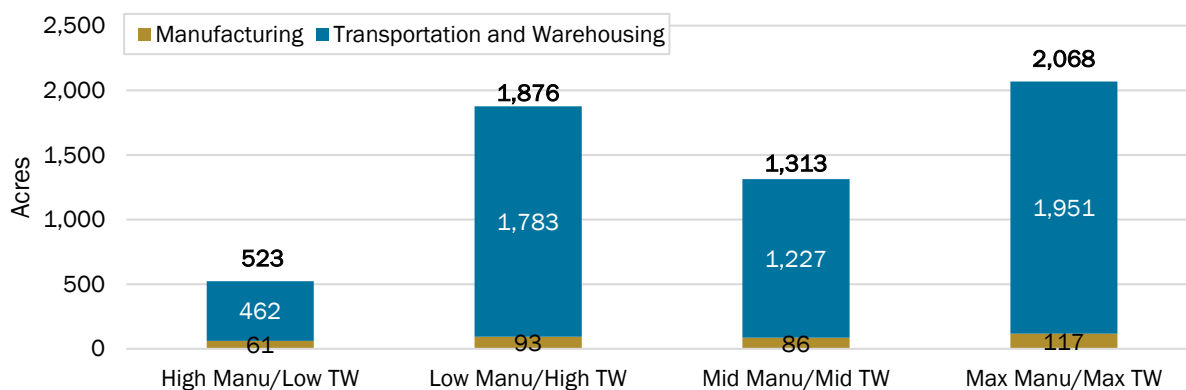
Manu = Manufacturing. TW = Transportation and Warehousing.

Sources

OFM, WESC, Data Axel, Commercial Buildings Energy Consumption Survey, MFA

3.6.3 Industrial Acres Needed

Figure 3-6 shows the estimated number of acres absorbed between 2022 and 2045 under each of the four scenarios. The estimated acres of industrial land needed to support the building square footage projection is based on a floor area ratio calculation (FAR). FAR is the total building square footage divided by the total land square footage. Based on observations of manufacturing buildings and distribution buildings, the average FAR for these two uses is 0.25 and 0.30, respectively. This means about 25 percent of the land area is the building footprint for manufacturing developments and 30 percent of the land area is the building footprint for distribution centers.

Figure 3-6. Estimated Total Acres Needed, 2022–2045**Notes**

Manu = Manufacturing. TW = Transportation and Warehousing.

Sources

OFM, WESC, Data Axel, Commercial Buildings Energy Consumption Survey, Thurston County Assessor, MFA

Up to 1,313 acres of land would be needed to support the roughly 17.0 million square feet of industrial building space needed to support the employment projections through 2045 under the Mid Manufacturing/Mid Transportation and Warehousing scenario. Under this scenario, approximately 57 acres per year would be developed to support this anticipated new building growth.

3.6.4 Employment and Land Need Forecast Summary

For reference, Table 3-10 shows the forecasted employment and supporting building and land needs for the Mid Manufacturing/Mid Transportation and Warehousing scenario compared to historical trends.

Table 3-10. Forecasted Needs Relative to Historical Trends

Scenario	Job Growth Estimate	Job Growth Estimate Per Year	Total Building Square Feet Estimate	Average Building Square Feet Per Year	Total Acres	Average Acres Per Year
2022 to 2045 Forecast						
High Manu/Low TW	1,653	72	6,705,536	291,545	523	23
Low Manu/High TW	5,336	232	24,312,288	1,057,056	1,876	82
Mid Manu/Mid TW	3,829	166	16,969,580	737,808	1,313	57
Max Manu/Max TW	5,947	259	26,769,373	1,163,886	2,068	90
Thurston County Trends						
20-year (2002–22)	2,043	102	10,296,951	514,848	997	50
10-year (2012–22)	1,588	159	7,651,066	765,107	611	61
5-year (2017–22)	675	135	6,674,429	1,334,886	501	100

Notes

Manu = Manufacturing. TW = Transportation and Warehousing.

Tan shading in rows indicate scenarios used to inform future land needs

Sources

OFM, WESC, Data Axel, Commercial Buildings Energy Consumption Survey, Thurston County Assessor, MFA

Countywide there are approximately 2,159 usable acres of industrially zoned land with 633 acres located in a UGA or in unincorporated Thurston County. Based on the employment projections between 2022 and 2045, approximately 1,300 acres will be needed to support the Mid Manufacturing/Mid Transportation and Warehousing scenario and 1,875 acres would be needed to support the Low Manufacturing/High Transportation and Warehousing scenario. The lower and upper bound land needs based on the modeled employment growth scenarios range from roughly 525 acres to just under 2,100 acres.

While *this suggests that there is enough industrially zoned land to support industrial development countywide through 2045 for all employment scenarios modeled*, there are other factors that influence a healthy industrial land inventory. Other factors—such as access to utilities, critical areas that were not excluded from the gross acres because of the opportunity to mitigate the condition (e.g., land in floodplains and in habitat conservation areas), and having a range of property sizes that pair with the diverse land needs of industrial users—need to be considered.

4 Built Industrial Space Overview

The following analysis provides observations of trends that help illustrate the rapid industrial growth in the past 20 years. Understanding these patterns will show the types of industrial buildings that comprise the county's industrial building inventory and highlight recent trends. This information is also used to check the projected building needs based on employment projections.

4.1 Jurisdiction Type Observations

Table 4-1 summarizes the square footage and building age for industrial buildings in the county. This shows that there are nearly 25 million square feet of industrial space with an average building size of nearly 20,000 square feet. The analysis that follows provides a summary of the available industrial building inventory in the county.

Table 4-1. Thurston County Industrial Building Inventory

Building Type Code	Building Type	Total Building Square Footage	Building Count	Average Building Square Footage
325	DISTRIB-WHSE	11,070,049	39	283,847
320	STORAGE-WHSE	10,092,051	962	10,491
305	INDUST-MFCTR	2,113,274	39	54,187
307	LT-IND-SHELL	828,633	190	4,361
345	LOFT	564,895	11	51,354
300	IND-BLDG-R/E	78,505	19	4,132
330	TRANSIT-WHSE	56,440	6	9,407
TOTAL		24,803,847	1,266	19,592

Note

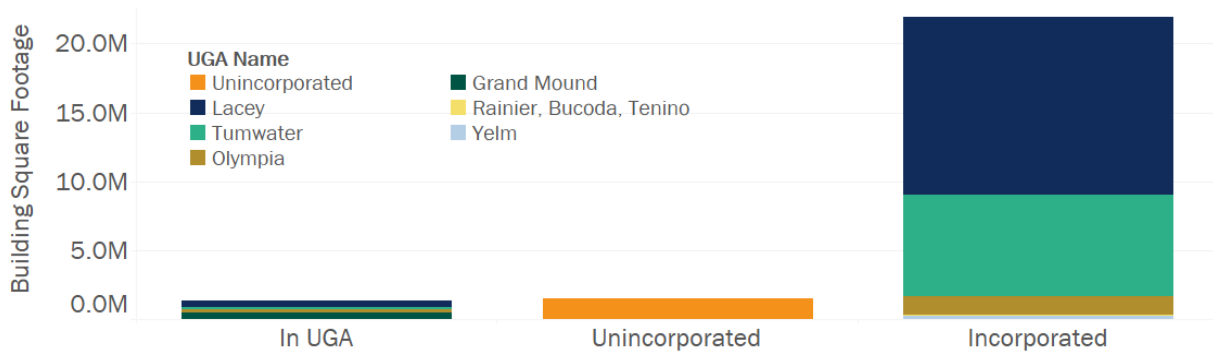
Table includes industrial building types that support manufacturing, warehousing, and distribution. There is an additional 4,978,340 square feet of building space for buildings classified as industrial but excluded based on their use description. The following building types are not included as part of the existing industrial building inventory: 335: MINI-WHSE, 340: ARMORY, 350: COM-GRGE-SVC, 355: COM-GRGE-STG, 358: AUTO-DEALERSHIP, 360: AUTO-SHWROOM, 361: MINI-LUB-GRG, 362: AUTOMTV-CNTR, 365: PARKG-STRUCT, 367: GRG-UNDERGND, 370: POST-OFFICE, 380: MAINT-HANGAR, 385: STRGE-HANGAR, 390: T-HANGAR.

Sources

Thurston County Assessor, MFA.

As shown in Table 4-1, there are nearly 25 million square feet of industrial space where manufacturing and/or warehousing and distribution activities may take place. Figure 4-1 shows that nearly 22 million square feet, or 88 percent of all the built industrial space, is currently in incorporated areas of the county.

Figure 4-1. Industrial Building Square Footage by Jurisdiction Type

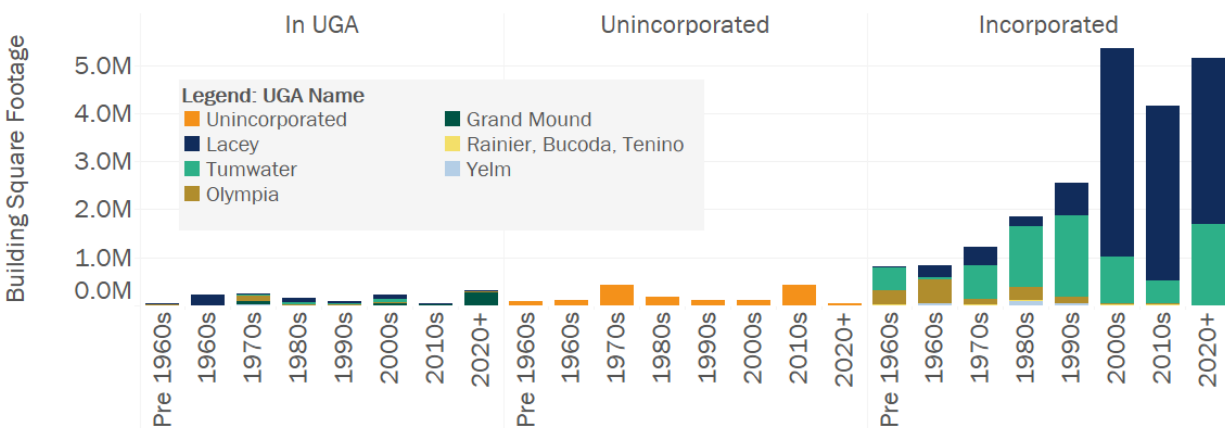


Source: Thurston County Assessor, MFA

Consistent with the observation from Figure 4-1 that industrial development has concentrated in incorporated areas of the county, construction of industrial buildings since 2000 has also been concentrated in these areas, as illustrated in Figure 4-2. A total of 15.8 million square feet have been developed in the county since 2000, and 14.7 million, or 93 percent, has been constructed in incorporated Thurston County. Each jurisdiction type is summarized below:

- **In UGA:** There is a total of 1.4 million square feet of industrial buildings in the UGAs. Nearly 600,000 square feet, or 43 percent, of this total has been built since the 2000s.
- **Unincorporated:** There is a total of 1.5 million square feet of industrial buildings in unincorporated Thurston County. Nearly 580,000 square feet, or 38 percent, of this total has been built since the 2000s.
- **Incorporated:** There is a total of 21.9 million square feet of industrial buildings in incorporated areas of the county. Nearly 14.7 million square feet, or 67 percent, of this total has been built since the 2000s.

Figure 4-2. Industrial Building Square Footage by Jurisdiction Type



Source: Thurston County Assessor, MFA

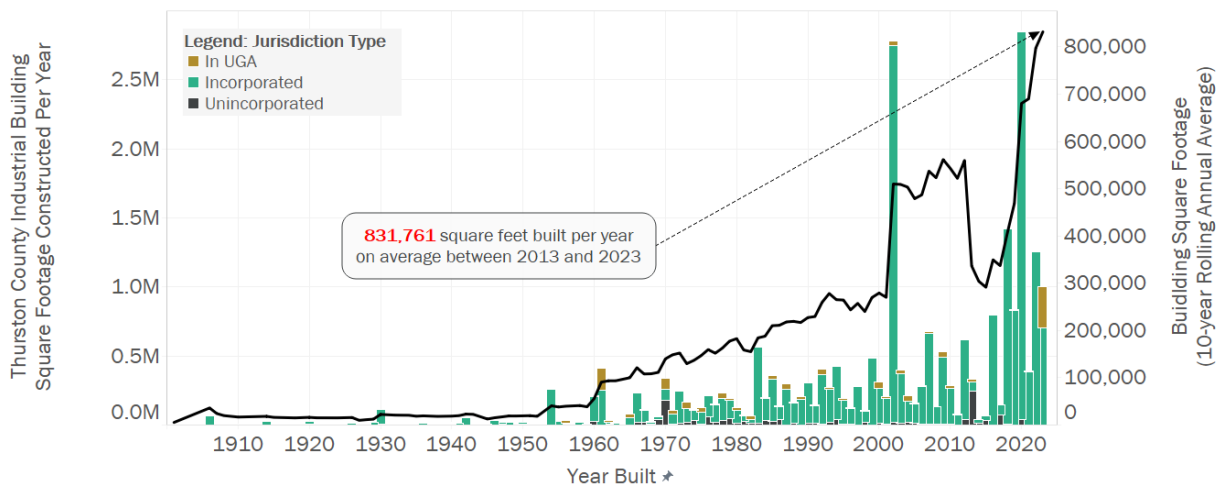
There has been steady new industrial construction since 2000 with several years of significant square footage delivery. In 2002 and 2020 more than two million square feet of distribution center

space was constructed, while in 2018 and 2022 more than one million square feet of distribution center space was constructed.

Figure 4-3 shows the annual square footage constructed each year with the bars while the trend line shows the rolling ten-year annual average of constructed square footage. The rolling average line shows steady growth until 2002 when the county had its first set of mega-distribution warehouses constructed. Between 2002 and 2017 there was more tempered growth until 2018 when the mega-distribution warehouses began to be constructed, culminating in 2020 when nearly 2.9 million square feet were constructed. The data points in the following bullets illustrate the increasing appetite for industrial building space in the county over the past 30 years.

- 30-year average annual delivery (1994 to 2023) = 581,900 square feet per year
- 20-year average annual delivery (2004 to 2023) = 606,310 square feet per year
- 10-year average annual delivery (2014 to 2023) = 882,035 square feet per year
- 5-year average annual delivery (2019 to 2023) = 1,268,800 square feet per year

Figure 4-3. Annual New Industrial Building Square Footage Construction Trends



Source: Thurston County Assessor, MFA

4.2 Industrial Building Size Range Observations

An astounding 38 percent, or just over 9.3 million square feet of industrial space, is concentrated in 13 warehouse and distribution buildings sized 250,000 square feet or more. Five of those buildings, totaling 3.8 million square feet or about 40 percent of that building size group, have been built since 2018. Looking at Figure 4-4, it becomes clear that there is a diversity of building sizes to support industrial activities:

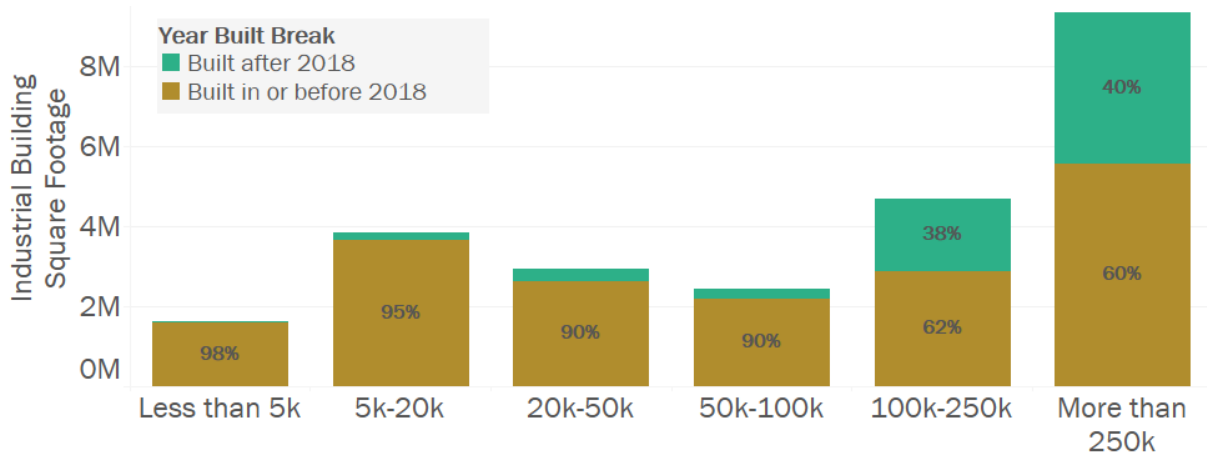
- Fifteen percent of the inventory is in buildings between 5,000 square feet and 20,000 square feet.
- Twelve percent is in buildings between 20,000 square feet and 50,000 square feet.

- Ten percent is in buildings between 50,000 square feet and 100,000 square feet.
- Nineteen percent is in buildings between 100,000 square feet and 250,000 square feet.

Since 2018, the county has seen just over 6.4 million square feet constructed, representing 26 percent of the overall industrial inventory. There have been 48 buildings totaling less than 100,000 square feet built, which totals 777,000 square feet, but this represents only 12 percent of the total square footage built during the past five years. Large warehouse and distribution centers total 88 percent of the building square footage built since 2018:

- A total of 11 buildings of between 100,00 square feet and 250,000 square feet (comprising 1.8 million square feet) have been constructed since 2019, comprising 28 percent of the overall total during this period.
- A total of five buildings larger than 250,000 square feet (comprising nearly 3.8 million square feet) have been constructed since 2019, comprising 59 percent of the overall total during this period.

Figure 4-4. Industrial Building Square Footage Range Trends



This analysis supports the *need for an industrial land inventory that can support a wide range of building types to meet growing and mature industrial businesses*. Typically, buildings under 100,000 square feet support light industrial and manufacturing businesses, whereas structures over 100,000 square feet support distribution and warehouse uses.

4.3 Land Absorption

Land absorption data points are useful for context when reviewing forward-looking land needs projections based on employment forecasts that were presented in Section 3.

Between 2003 and 2023, there has been an average of 50 acres of land per year removed from the developable industrial land inventory in the county. This includes nearly 11.3 million building square feet on 989 acres of land that are currently zoned to support industrial development.

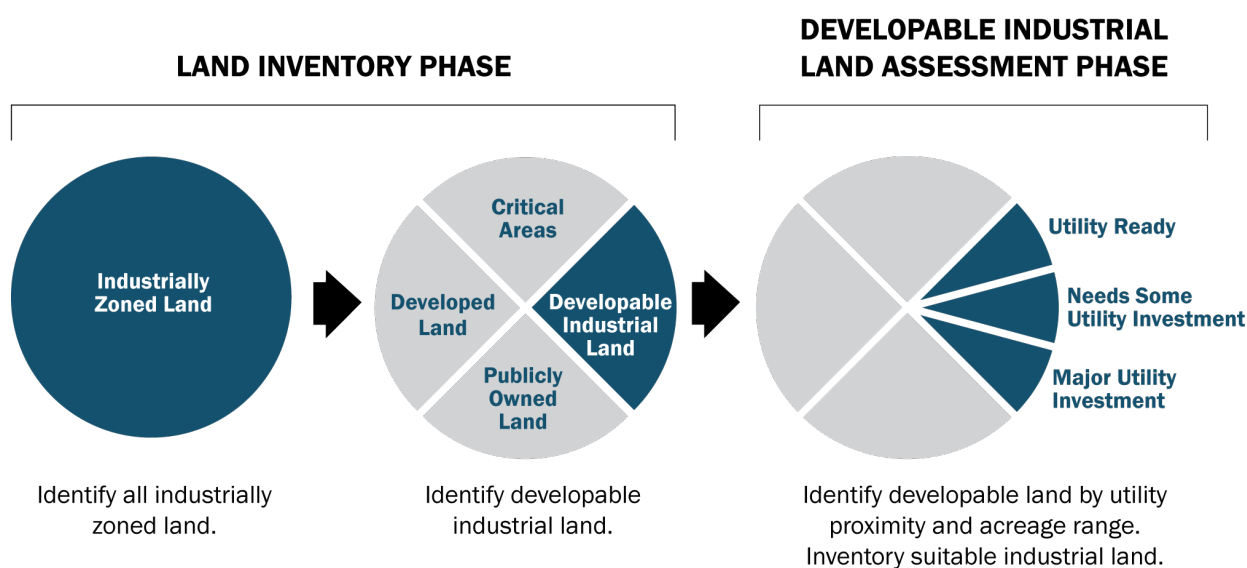
Since 2019, the county has seen 5.8 million industrial building square feet constructed on 361 acres of industrially zoned land. During this more compressed period, an average of 72 acres per year were built on and removed from the developable land inventory.

5 Land Inventory

5.1 Methodology

An understanding of the available industrial land inventory is required to test how future employment may influence industrial land use. This is done in two phases: the industrial land inventory phase, and the industrial land readiness assessment phase. A simplified graphic illustrating these two phases is depicted in Figure 5-1. The sections that follow will reveal how industrial land has been used in the county and what land is remaining for development.

Figure 5-1. Land Inventory Methodology



5.2 Industrial Land Inventory

The inventory of vacant or partially vacant land zoned for industrial use in the study area informs where and how much land is available for development. MFA analyzed Thurston County parcel and building data and paired them with the regulatory zoning designation for each city and the county. A table summarizing the zones by jurisdiction that permit industrial development is provided in Appendix B.

There are approximately 6,550 acres of land in the county that is zoned to support industrial development. This includes land in incorporated areas as well as county land in a UGA or outside a UGA in the unincorporated county. Table 5-1 shows the county's total volume of industrially zoned land by UGA. A map illustrating the property that is zoned to support industrial development in the county is in Appendix B.

Table 5-1. Industrially Zoned Land

UGA Name	In UGA	Unincorporated	Incorporated	Total
Tumwater	527	--	3,022	3,549
Grand Mound	328	--	--	328
Lacey	182	--	1,497	1,680
Yelm	94	--	162	256
Olympia	27	--	357	384
Tenino	--	--	9	9
Rainier	--	--	7	7
Bucoda	--	--	2	2
Outside UGA	--	337	--	337
Total	1,158	337	5,056	6,550

Note

UGA = urban growth area.

Sources

Thurston County Assessor, MFA

The values in Table 5-1 summarize the gross industrial acres in the county. The following subsections will show how and where the inventory is reduced when factoring in developed land, planned developments, and critical areas.

5.2.1 Developable Industrial Land Baseline

The first step to refine the industrial land inventory is to calculate how land is used. An approach commonly used by growth management planning jurisdictions is to use the utilization ratio, a metric that estimates how the buildings on a parcel provide utilization relative to the contributory value of land by dividing the assessed building value into the assessed land value. Land is considered developable if it is categorized as either vacant or underutilized. Using this metric, parcels are categorized in one of three ways as shown in Table 5-2.

Table 5-2. Utilization Categories

Utilization Category		Thresholds
Developable	Vacant	If the building value is less than \$10,000 OR total acres less than 0.055 acres
	Underutilized	If the utilization ratio is less than 1.0 AND the building value is greater than equal to \$10,000 AND total acres greater than or equal to 0.055 acres.
Developed	Developed	If the utilization ratio is greater than or equal to 1.0 AND the building value is greater than equal to \$10,000 AND total acres greater than or equal to 0.055 acres.

Notes

Utilization ratio = assessed building value / assessed land value.

Developable = Land categorized as either vacant or underutilized.

Source

Washington Department of Commerce (Commerce). 2012

Table 5-3 reveals that there are 4,417 acres out of the 6,550 total acres of industrially zoned land in the county identified as developable. Based on the utilization calculation using the County assessor values, 872 acres of developable land—or 20 percent of developable industrial land area in the county—is in a UGA, 234 acres—or five percent—is in the unincorporated areas of the county, and 3,311 acres—or 75 percent—are in incorporated Thurston County.

Table 5-3. Industrially Zoned Acres by Utilization Category

Utilization Category	In UGA	Unincorporated	Incorporated	Total
Developed	285	103	1,745	2,133
Underutilized	396	42	1,404	1,842
Vacant	476	192	1,907	2,575
Total	1,157	337	5,056	6,550
Developable Land	872	234	3,311	4,417

Notes

UGA = urban growth area.

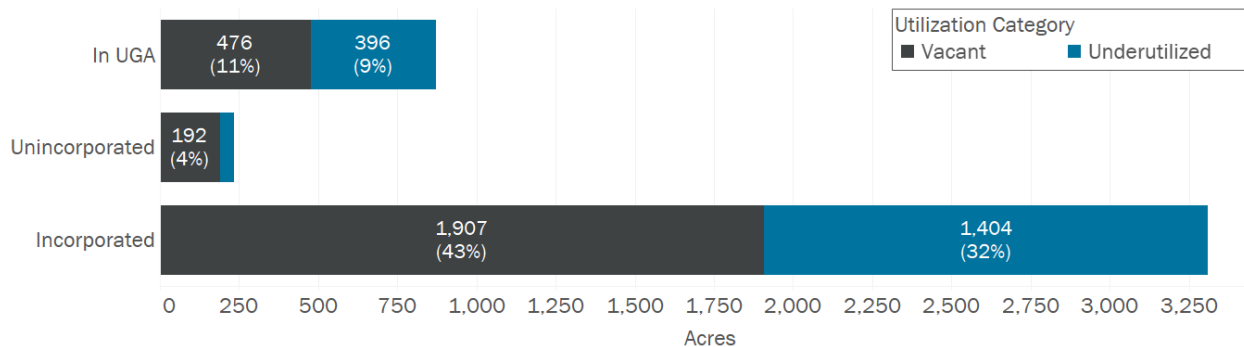
Developable land is defined as land that is categorized as vacant or underutilized.

Sources

Thurston County Assessor 2022, MFA

Figure 5-2 illustrates the distribution of this acreage by jurisdiction category and utilization category, focusing on vacant and underutilized land.

Figure 5-2. Industrially Zoned Land by Vacant and Underutilized Category



Note

UGA = urban growth area.

Sources

Thurston County Assessor 2022, MFA

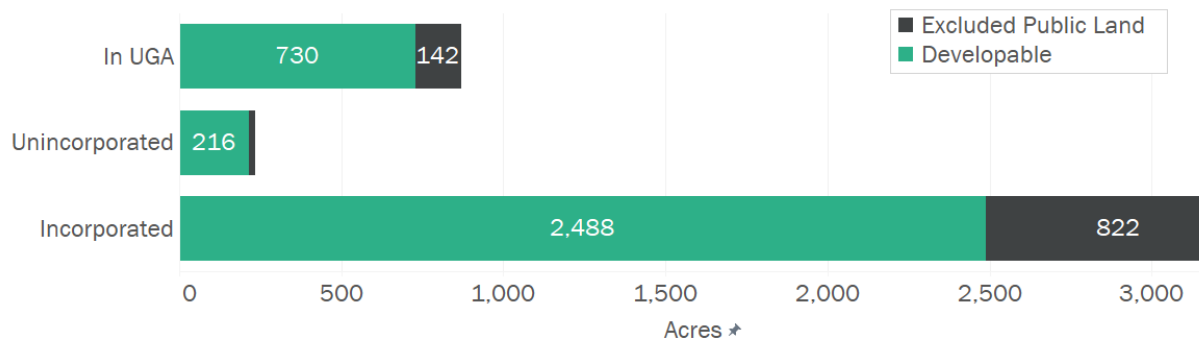
There are other factors that reduce the quantity of available industrial land. The next sections will reduce the industrial lands inventory based on public ownership, planned development, and critical areas.

5.2.2 Publicly Owned Land

Public lands on industrially zoned property have been excluded from the industrial land inventory based on consultation with the County. The following specific public owners of industrially zones land that are excluded include the cities of Lacey, Olympia, Tumwater, and Yelm, Thurston County, LOTT

Waster Water Alliance, federally owned land including by the USA-Bonneville Power Administration. Also excluded are portions of the Port's land portfolio and privately owned land that is directly impacted by the airport runway as identified by the *Olympia Regional Airport Master Plan Update* (Port of Olympia 2021). Figure 5-3 and Table 5-4 illustrate the distribution of acreage dedicated to essential facilities based on jurisdiction.

Figure 5-3. Industrially Zoned Acres Excluding Identified Public Lands



UGA = urban growth area.

Sources

Thurston County Assessor 2022, MFA

Table 5-4. Developable Industrially Zoned Acres Excluding Identified Public Lands

Utilization Category	In UGA	Unincorporated	Incorporated	Total
Underutilized	260	42	945	1,246
Vacant	470	174	1,544	2,187
Total	730	216	2,488	3,434

Note

UGA = urban growth area.

Sources

Thurston County Assessor 2022, Thurston County, Port of Olympia, MFA

For context, a total of 983 acres of land in the county are excluded from the inventory due to ownership type. For example, land owned by utilities purveyors is excluded as are city, county, and federally owned land where the likelihood for development of this land for industrial uses is understood to be low. Most of the excluded acreage, approximately 822 acres, is in the incorporated county and 142 acres are in UGAs. Eighteen acres of land is excluded due to publicly owned essential facilities in the unincorporated area of the county. A map illustrating the location of these lands is included in Appendix C.

5.2.3 Recently Development Land

A comprehensive survey of projects on land zoned to support industrial development was conducted. This included a visual scan of the industrial land with April 2023 aerial imagery, consultation with the County and local jurisdictions, and a third-party real estate data research. The purpose of this review is to identify land that was recently developed, but not yet captured by the County assessor and to identify projects with clearly defined, nonindustrial uses. This land is then excluded from the industrially zoned land baseline.

Jurisdictional Review

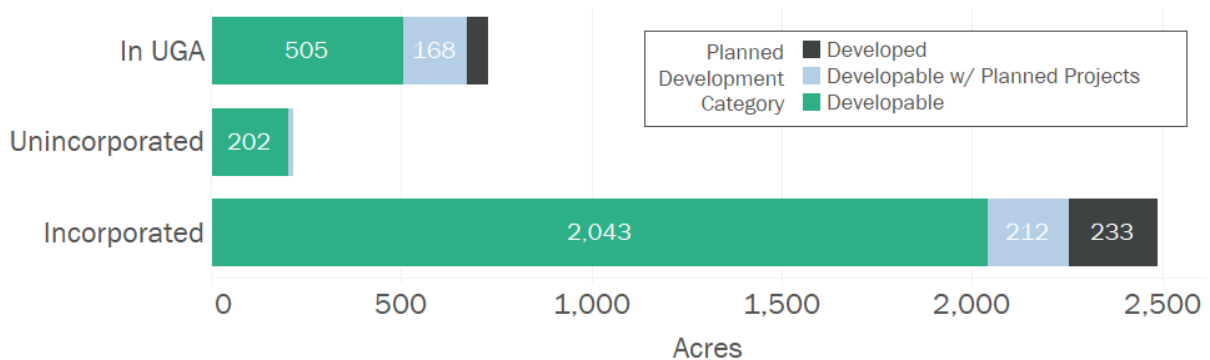
Information from each jurisdiction in the county was collected to identify projects on industrial land that had permit activity or were under construction. This survey identified parcels are grouped as follows:

- **Developed:** Parcels that have recently been developed based on a visual scan and permit data but have not been identified as improved by the assessor. Each development was also identified as built for industrial use or nonindustrial use.
- **Developable with Planned Development:** Parcels that have planned developments based on permit data or primary research. Each planned development was also identified as intended to be built for industrial use or nonindustrial use. Planned development is a broad term that captures the following types of projects:
 - Projects that have been introduced to the jurisdiction either at a documented pre-submission conference meeting or that have advanced further through the permitting process.
 - Projects that were sourced from third-party real estate data providers. These projects have not yet been introduced by a city, but the owner has identified the highest and best use, developed conceptual site plans, and marketed the opportunity.
- **Developable:** These are all other parcels in the county’s industrial land inventory that are vacant or underutilized.

For this phase of the inventory assessment, only parcels that have had development that has recently been completed or is under construction are removed from the inventory. A table and a corresponding map of planned developments are provided in Appendix D.

The chart in Figure 5-4 illustrates land that has been identified as industrially zoned and underutilized or vacant land and has been recently developed, has planned development, and is developable. The information is organized by jurisdictional area. The green portion of the bar chart represents land without any planned or in-progress development activity and the other bar segments represent parcel acres that have planned development or have recently been developed. This shows that there are 290 acres in the county that have recently been developed but were not captured in the assessor data. These parcels will be excluded from the industrial land inventory moving forward. Countywide, this leaves 3,144 acres of vacant or underutilized acres of industrial land that has no planned development or with planned development but no construction activity.

Figure 5-4. Summary of Planned Development on Vacant or Underutilized Industrial Land



Sources

Thurston County 2023, City of Lacey 2023, City of Olympia 2023, City of Tumwater 2023, MFA, CoStar 2023

Table 5-5 shows the acres of industrial land that are underutilized or vacant, excluding parcels with current development activity. There are 673 acres of land in the UGA, 216 acres of unincorporated land, and 2,255 acres of incorporated land that are vacant or underutilized and may be available for industrial development. Of the total, 13 percent, or 394 acres, have planned projects and, of those with planned development, 343 acres are intended for industrial development.

Table 5-5. Industrially Zoned Acres without Recently Developed Projects

Utilization Category	In UGA	Unincorporated	Incorporated	Total
Developable				
Underutilized	255	42	913	1,210
Vacant	250	160	1,130	1,540
Subtotal	505	202	2,043	2,750
Developable w/Planned Projects				
Underutilized	5		12	17
Vacant	163	14	200	377
Subtotal	168	14	212	394
Total	673	216	2,255	3,144

Note

UGA = urban growth area.

Sources

Thurston County Assessor 2022, Thurston County, Port of Olympia, MFA

Supplemental Planned Development Activity Research

In addition to surveying Thurston County jurisdictions for development activity, additional research was conducted on a scan of the remaining 3,144 acres of underutilized and vacant industrial land. The following summarizes the results of the additional research.

Land to be Excluded from Industrial Inventory

- **Nisqually Indian Tribe Lacey Project:** The Nisqually Indian Tribe controls a land portfolio in Lacey that includes 188 acres of industrially zoned land. The Nisqually Indian Tribe's portfolio fronts I-5 and is planned for a casino and mixed-use development (City of Lacey 2023). [These lands are excluded from the industrial land inventory because the stated future use will not be industrial.](#)
- **Port Peninsula:** The Port Peninsula parcel totals 216 acres, a portion of which is usable upland, and the remainder is submerged land in the Budd Inlet. This industrially zoned parcel is home to the Port's 66-acre terminal that has three deepwater berths with a total of 1,750 lineal feet; a mobile harbor crane; an on-dock, open beam warehouse; and on-dock rail service (Port of Olympia, 2023). The Port Peninsula land east of the terminal is undergoing a planning process that envisions the future use of this area to be a mixed-use waterfront destination (Port of Olympia 2023). [These lands are excluded from the industrial land inventory because the stated future use on some of the land will not be industrial and the remaining industrial-oriented upland is not expected to be redeveloped during the planning horizon.](#)
- **Washington State Military:** The Washington State Military Department recently constructed the Thurston County Readiness Center on approximately 47 acres of land near the I-5 Exit 99 interchange (Washington Military Department 2018). The property comprises two parcels; the

readiness center is located on the northern parcel. The Washington State Military Department confirmed that the undeveloped southern parcel will be retained. [These lands are excluded from the industrial land inventory due to the owner's stated long-term, nonindustrial use \(Iwaszuk 2023\).](#)

Noted Land not Excluded from Industrial Inventory

- **Extraction:** This includes parcels comprising 276 acres that are currently used for surface mining. Included in this set are active mines owned by Miles Sand and Gravel (76 acres in Lacey), Lakeside Industries (38 acres in Lacy and 48 acres in Grand Mound), and Black Lake Quarry (74 usable acres in Tumwater and 39 usable acres Grand Mound).

The Black Lake Quarry-owned property in Grand Mound has a single 12-acre parcel that is zoned for industrial development. An additional 66.6 acres of adjacent land owned by Black Lake Quarry is in unincorporated Thurston County and not zoned for industrial development. A request has been submitted to amend the UGA to include this land and to change land use from rural residential to light industrial. The County has not approved this request as of the date of this report's completion; therefore, the 12 acres of industrially zoned land remains in the inventory, but the non-industrially zoned land is not included. [The industrially zoned lands are not excluded from the industrial land inventory. These mines may be reclaimed and developed in the future.](#)

- **Port Aviation Related:** Land at the south and southwest end of the Olympia Regional Airport is owned by the Port (Port of Olympia 2021). According to the airport master plan, this property is intended to be developed for aviation-related industrial uses, by the Port or a private company should the Port choose to sell or lease its land. [These lands are not excluded from the industrial land inventory as industrial development may still occur on this property.](#)

Table 5-6 shows that, after excluding the land noted above, there are a total of 2,692 acres on vacant and underutilized industrially zoned land in the county.

Table 5-6. Balance of Industrially Zoned Acres after Final Scan

	In UGA	Unincorporated	Incorporated	Total
Excluded from Inventory	0	0	452	457
Remaining Land^a	673	216	1,803	2,692

Notes

UGA = urban growth area.

^a From total in Table 5-5.

Sources

Thurston County Assessor 2022, Thurston County, Port of Olympia, MFA

The graphics in Figure 5-5 and Figure 5-6 illustrate where in the county the 2,692 acres of vacant and underutilized industrially zoned land are located distributed by jurisdictional area. About 673 acres, or 25 percent, of the remaining developable land are within a UGA, and about 216 acres, or eight percent, are in the unincorporated part of the county. The remaining 1,803 acres, or 67 percent, are in incorporated areas.

Figure 5-5. Developable Parcels, Vacant Parcels

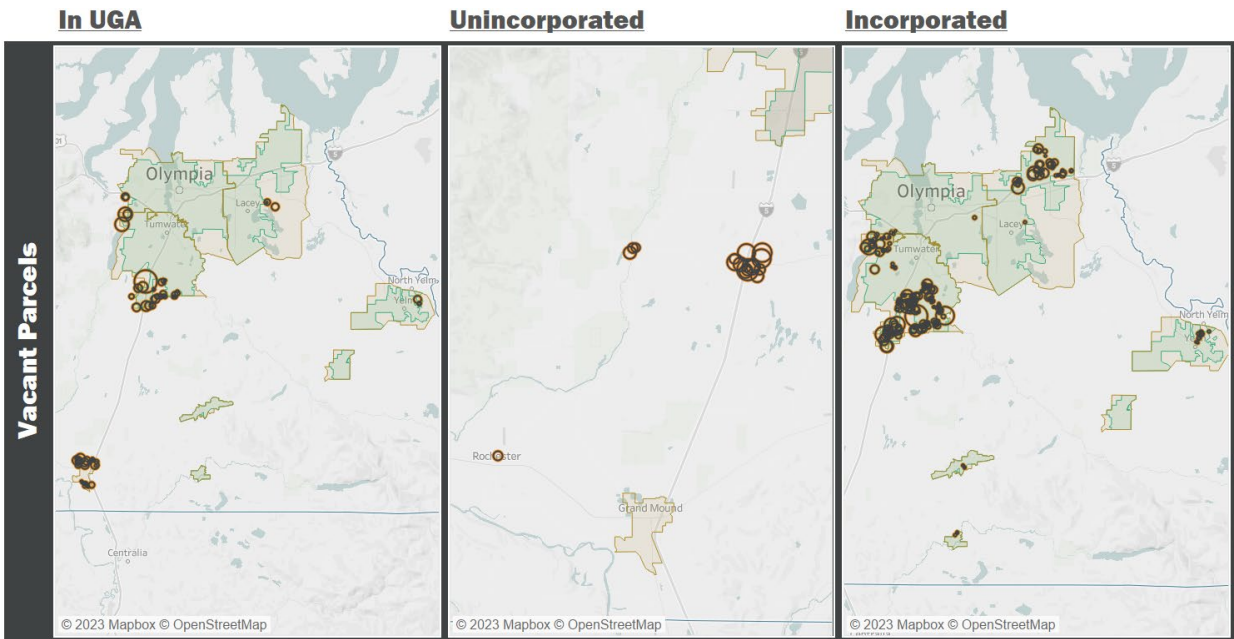
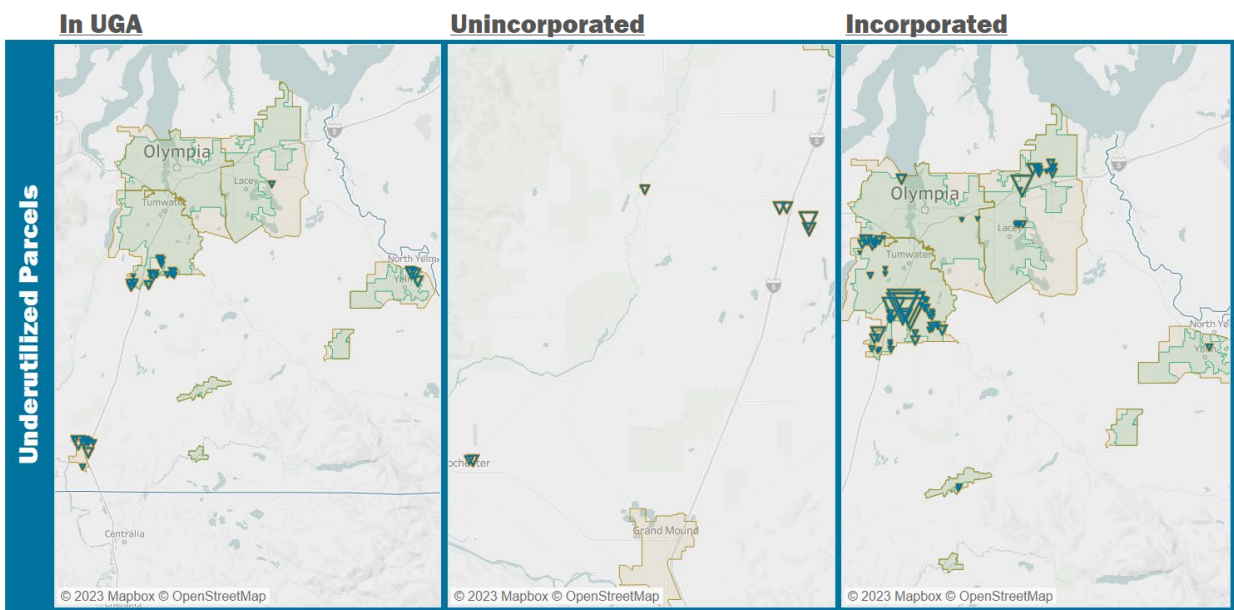


Figure 5-6. Developable Parcels, Underutilized Parcels



5.2.4 Critical Areas

The countywide industrial land inventory was further winnowed by deducting land that cannot likely be used due to the presence of critical areas. Natural influences that reduce usable acres include bodies of water, wetlands, and steep slopes that require setbacks and buffers as well as floodways

that preclude development to maintain ecological function.² A summary of the critical area factors used to reduce usable areas as well as the critical area factors that were identified as impeding development, but not necessarily reduce the usable acres, is provided in Appendix E.

Of the gross developable industrial land, or total land before considering undevelopable areas, there are approximately 533 acres that have critical area impacts. This represents a 17 percent countywide reduction of land relative to the 2,692-acre gross developable area. Approximately 147 acres in the UGA, or 22 percent of this area's total, and 108 acres, or 50 percent, in the unincorporated parts of the county, are impacted by critical areas. Table 5-7 summarizes the acres of land where building construction is unlikely due to the presence of critical areas.

Table 5-7. Acres Impacted Due to Critical Areas

Utilization Category	In UGA	Unincorporated	Incorporated	Total
Underutilized	57	26	107	188
Vacant	95	82	171	345
Total Acres Impacted	152	108	278	533
Percent Reduction from Gross Acres	22%	50%	12%	17%

Notes

UGA = urban growth area.

Percent Reduction from Gross Acres is the total from Table 2-5 divided by the total acres impacted in this table.

Sources

Thurston County, FEMA, WADNR, MFA

The main concentration of unincorporated industrial land is around the Maytown Road Southwest I-5 interchange. It is here where wetland, streams, and related buffers reduce the amount of usable industrially zoned land. The combined industrially zoned land under County jurisdiction totals 889 acres before considering critical areas. When removing the land in critical areas, the total usable land under County jurisdiction is reduced to 629 acres, a 29 percent reduction.

Table 5-8 shows the net remaining industrial land after reducing the potentially impacted critical areas from the gross acres of industrial land shown in Table 5-6. In total there are an estimated 2,159 net usable acres of industrial land remaining in the county. There is an estimated 521 acres of net developable industrial land in a UGA and 108 acres of net developable industrial land in the unincorporated part of the county, respectively.

Table 5-8. Developable Industrial Acres Excluding Net of Critical Areas

Utilization Category	In UGA	Unincorporated	Incorporated	Total
Underutilized	205	16	602	823
Vacant	321	92	923	1,336
Total Net Acres	521	108	1,525	2,159

Note

UGA = urban growth area.

Sources

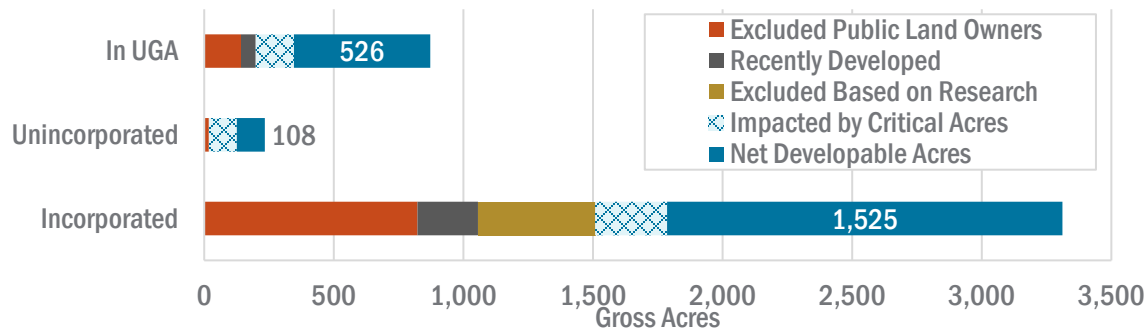
Thurston County, FEMA, WADNR, MFA

² Habitat areas for the Mazama pocket gopher, Oregon vesper sparrow, Taylor's checkerspot butterfly, and Oregon spotted frog from the *Thurston County Habitat Conservation Plan* are assessed in Section 7.

5.2.5 Developable Land Inventory

The total net acres of vacant and underutilized industrially zoned land in Thurston County is estimated to be 2,159 acres. This is illustrated in Figure 5-7.

Figure 5-7. Gross to Net Developable Industrial Acres Components

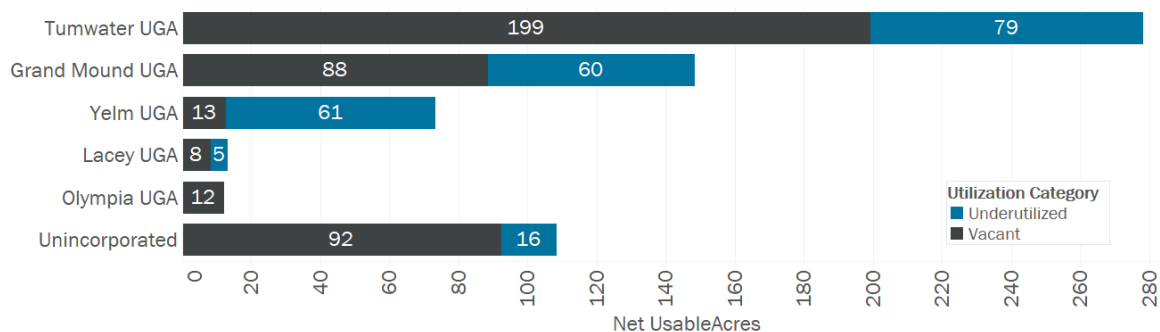


Sources

Thurston County, FEMA, WADNR, MFA

Together, land under the County's jurisdiction, the UGA, and the unincorporated land totals approximately 634 net usable acres of industrially zoned land. Figure 5-8 illustrates where the areas of net developable industrial land are concentrated, led by Tumwater, with 278 net acres, and followed by Grand Mound, with 148 net acres.

Figure 5-8. Gross to Net Developable Industrial Acres Components



Sources

Thurston County, FEMA, WADNR, MFA

5.2.6 Industrial Land Inventory Summary

Countywide there are approximately 2,159 acres of net developable land that are currently zoned to support industrial development. Approximately 1,525 acres, or 71 percent, of this inventory is in incorporated areas of the county. The remaining 634 acres, 29 percent, of the total industrial land inventory is in a UGA or unincorporated Thurston County. The quality of this inventory will be assessed further in Section 6 of this study for each UGA and the unincorporated part of the county. Section 4 provided an overview of industrial development trends in the county and Section 3 described employment-driven demand for future industrial land.

6 Reconciliation

The employment forecast estimates a need of approximately 1,300 acres to support about 17.0 million square feet of industrial building space to support job growth through 2045 under the Mid Manufacturing/Mid Transportation and Warehousing scenario. This translates to an average of 57 acres per year to support an average of about 738,000 industrial building square feet per year. The Low Manufacturing/High Transportation and Warehousing scenario is a more aggressive employment growth scenario with a projected need for about 1,876 total acres needed through 2045.

The employment growth scenarios and the associated output of jobs, building square footage, and land needed were modeled between year-end 2022 and 2045. A modification to the forecasted industrial acre need is made because there is expected to be 999,000 square feet of new industrial space on 83.4 usable acres in 2023. This results in a slightly modified target for acres needed to support growth between 2024 and 2045 as shown in Table 6-1.

Table 6-1. Modified Industrial Land Needs Target, 2024–2045

	Developable Acres Needed	Industrial Square Footage
Mid Manu/Mid TW Employment Growth Scenario		
2022 to 2045 Forecast	1,312.8	16,969,580
2023 Industrial Development Activity	(83.4)	(998,942)
Revised Targets; 2023 to 2045	1,229.4	15,970,638
Low Manu/High TW Employment Growth Scenario		
2022 to 2045 Forecast	1,876.0	24,312,288
2023 Industrial Development Activity	(83.4)	(998,942)
Revised Targets; 2023 to 2045	1,792.6	23,313,346

Notes

Manu = Manufacturing.

TW = Transportation and Warehousing.

2023 development activity is sourced from the Thurston County Assessor and visual observations of development activity using aerial imagery from May 2023.

This 2023 development activity acknowledgement does not change the amount of industrially zoned developable land countywide. This activity was accounted for when estimating the inventory of land. As a result of this, there are still 2,159 developable acres of industrially zoned land countywide.

The question this section addresses is whether there is sufficient suitable land to support the needed for the Mid Manufacturing/Mid Transportation and Warehousing growth scenario and the more aggressive Low Manufacturing/High Transportation and Warehousing growth scenario that may need approximately 1,230 acres to 1,793 acres, respectively, through 2045 to support the forecasted industrial employment.

6.1 Countywide Developable Industrial Land Assessment

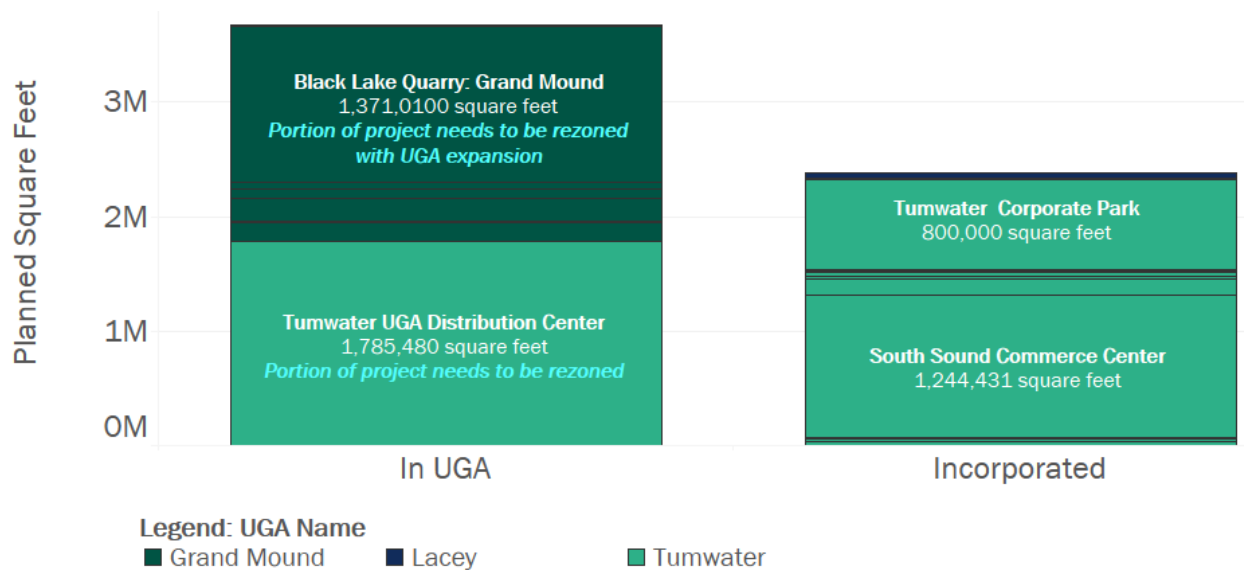
This estimated inventory of developable industrially zoned land does not include factors affecting development such as access to public infrastructure or critical areas (e.g., floodplains and protected

species habitat areas) that do not necessarily preclude development but make it more costly to improve. Land that has planned development, industrial or otherwise, is also considered because it has greater potential for near-term development. Because of this, it is important for the overall industrial land inventory to be greater than the anticipated demand so that there is elasticity.

6.1.1 Planned Developments

In Section 5.2.3, planned developments on industrially zoned land were introduced. The focus of that section was on the acreage those projects may occupy. The chart in Figure 6-1 shows the total potential square footage of industrial buildings that could be developed. While there is no certainty that these projects will be developed, the owners have identified the highest and best use for their land; therefore, most of this land will be removed from the inventory of developable industrial land.

Figure 6-1. Planned Industrial Development Building Square Footage



In total, there are approximately 6.1 million square feet planned. Two projects of note on this list require action by the County for the planned square footage to be developed.

- The Black Lake Quarry in Grand Mound could support up to nearly 1.4 million square feet; however, only 12 acres of the 78-acre project is in the UGA. The remaining land area associated with the Black Lake Quarry project is in unincorporated Thurston County and is not zoned for industrial use. For this project to be realized, the UGA would need to be expanded and the land rezoned.
- The other significant planned project is in the Tumwater UGA and could deliver 1.8 million square feet of distribution warehouse space. The industrially zoned parcels total roughly 90 acres, but approximately 51 are usable after accounting for wetlands. Associated with the project to the north are an additional 28 acres that would require rezoning from general commercial to industrial.

After excluding these two projects due to the additional regulatory hurdle presented with the UGA expansion and rezoning needed, the remaining planned industrial buildings could total 2.9 million

square feet on 224 developable acres. A map showing the locations of these projects is in Appendix D. Additionally, there are 32 acres of developable industrially zoned land that has planned developments on them that are not industrial in nature. *Deducting the combined 256 acres on which these projects are located results in the countywide industrially zoned land inventory being reduced to 1,903 acres.* The following bullets show where the remaining land is located:

- **In UGA:** 473 acres
- **Unincorporated:** 102 acres
- **Incorporated:** 1,327 acres

Working under the assumption that the planned developments deliver on the 2.9 million square feet of space at some point through 2045, this developed space would fulfill a portion of the projected industrial building square footage needs to accommodate industrial growth. Table 6-2 shows that, after accounting for this development, between 973 acres and 1,537 acres would be needed to support the remaining anticipated employment growth.

Table 6-2. Modified Industrial Land Needs after Assumed Planned Development

	Industrial Square Footage	Developable Acres Needed
Mid Manu/Mid TW Employment Growth Scenario		
Modified Forecasted Needs (Table 6-1)	15,970,638	1,230
Impacts from Assumed Planned Development	(2,901,661)	256
Updated Targets	13,068,977	973
Low Manu/High TW Employment Growth Scenario		
Modified Forecasted Needs (Table 6-1)	23,313,346	1,793
Impacts from Assumed Planned Development	(2,901,661)	256
Updated Targets	20,411,685	1,537

Notes

Manu = Manufacturing.

TW = Transportation and Warehousing.

6.1.2 Access to Utilities

This section focuses on the remaining 1,903 net developable acres of vacant or underutilized industrially zoned land and whether utilities are near (within 100 feet) each parcel to support industrial buildings. Of this total, 575 acres are in a UGA or unincorporated Thurston County. Each parcel in the developable land inventory is categorized as utility ready, needs one primary utility, and lacks at least two primary utilities. This categorization is based on whether sewer, water, and power are within 100 feet of the parcel. Land that is near these utilities will be more attractive because utility extension adds development costs and delays the point at which a building can be built and occupied. Table 6-3 shows the number of acres and individual parcels in each category. This reveals the following:

- **Utility ready:** 628 net developable acres (33 percent of the 1,903 total acres) are near all three of the primary utilities. Land in the UGAs total 130 acres while there are no acres in unincorporated areas.

- **Needs one primary utility:** 522 net developable acres (27 percent of the 1,903 total acres) are near to two of the three primary utilities. Land in the UGAs total 26 acres while there are no acres in unincorporated areas.
- **Lacks at least two primary utilities:** 753 net developable acres (40 percent of the 1,903 total acres) are near to only one or none of the three primary utilities. Land in the UGAs total 317 acres while there are 102 acres in unincorporated areas.

Utility-ready land in incorporated Thurston County accounts for 498 acres (79 percent) of the 628 total acres that are considered utility ready with access to the three primary utilities. The remaining 130 acres are in a UGA.

Table 6-3: Net Developable Industrial Acres by Utility Status

Utility Status Category	In UGA	Unincorporated	Incorporated	Total
Utility ready	130 acres	0 acres	498 acres	628 acres
Needs one primary utility	26 acres	0 acres	496 acres	522 acres
Lacks at least two primary utilities	317 acres	102 acres	333 acres	753 acres
Total	473 acres	102 acres	1,327 acres	1,903 acres

Notes

UGA = urban growth boundary.

Sources

Thurston County, Puget Sound Energy, MFA

Another important observation from Table 5-8 is that all the 102 acres of industrially zoned land in the unincorporated area and 328 acres in the UGA lack at least two of the primary utilities.

*Between 973 acres and 1,537 acres are needed to support the remaining anticipated employment growth (see Table 6-2). Countywide, there are 1,150 acres that are utility ready or need some level of investment to bring water, sewer, or power to the parcel and **only 156 acres are in a UGA.** Investment in utilities is needed for the developable industrial land inventory to support projected growth.*

Development on Land Lacking Public Utilities

Industrial users in a UGA or in unincorporated Thurston County may choose to develop property to support their use without access to public utilities. Doing so can limit industrial users that need certain levels of water, sewer, or wastewater service. In general, development in UGAs is required to connect to public utilities; however, there are exceptions. For example, significant industrial users³ that handle regulated materials may need to acquire a state wastewater discharge permit from the Washington State Department of Ecology. Significant industrial users not required to obtain a state wastewater discharge permit shall enter into an agreement with the Thurston County Department of Public Works, which stipulates the requirements including, but not limited to, sewage monitoring,

³ Significant industrial user means a premises as defined in 40 Code of Federal Regulations or a premises that has a reasonable potential, in the opinion of the Thurston County Department of Public Works, to adversely affect the publicly owned treatment works treatment plant (through inhibition, pass-through of pollutants, sludge contamination, or endangerment of Publicly Owned Treatment Works workers).

surcharges, and installation of flow meters. The user is responsible for all costs to establish and execute the agreement, including the department's staff time, and shall reimburse the department for costs to establish the agreement in a timely manner. Another example is sewer service in the Grand Mound sewerage service area. All new commercial or industrial development in this service area, including any expansion of existing occupied structures, needs to be connected as a condition of development approval (TMC 15.09.120).

Industrial users in a UGA or in unincorporated Thurston County without access to existing water utilities may develop on well or group water systems. Either system will require water rights from the State Department of Ecology based upon the estimated water usage at the site. According to Thurston County staff, water rights are a barrier to most nonresidential developments and are challenging to acquire for industrial users.

Group water systems can be built to serve industrial users and are classified as Group A or Group B based upon the estimated number of staff served at the site. Group A water systems are classified as a community system with 15 or more connections or that serve greater than 25 or more people per day for 60 days or more per year. Applications are reviewed by the state. Group B water systems are classified as a community system with 3 to 14 connections and less than 25 people per day or that serve 25 or more people per day for fewer than 60 days per year and applications are reviewed by the County. Water use for industrial purposes must be detailed in a well site review, which will determine whether use will be permitted. Heavy industrial water users are unlikely to be approved in a well site review.

6.1.3 Parcel Size

Parcel size matters for industrial users as is noted in Section 5.2. In general, warehouse and distribution buildings need a minimum of ten acres, with at least 20 being more ideal for the type of mega-distribution warehouses that have been developed more recently in the county. Manufacturing users need a wide range of building sizes and therefore a land base that has larger and smaller parcels is beneficial to support those projects. One- or two-acre properties may be suitable for light industrial buildings that support manufacturing business needing no more than a 20,000 square foot building. For larger manufacturing users or builders of multi-tenant light industrial buildings will need two to ten acres.

An analysis of the land by acreage groups was conducted to further characterize the remaining 1,903 acres of industrially zoned land, 575 acres of which are in a UGA or unincorporated Thurston County. The following bullets highlight key observations from Figure -2:

- **Parcels 40 acres or more:** These parcels are ideal for mega-distribution warehouses and multiphase institutional industrial parks.
 - There are no parcels with 40 or more developable acres in a UGA or the unincorporated areas of the county.
 - In the incorporated areas of the county there are just over 260 acres of land that is utility ready and 58 acres that need one of water, sewer, or power delivered to the parcel. There are about 252 acres of utility-ready land that is 40 acres or more in incorporated areas of the county. All the utility ready land in Tumwater, is owned by the Port and is around the airport. The 58-acre parcel is in Lacey and is the Miles Sand and Gravel property. This is an active surface mine with near-term redevelopment unlikely.

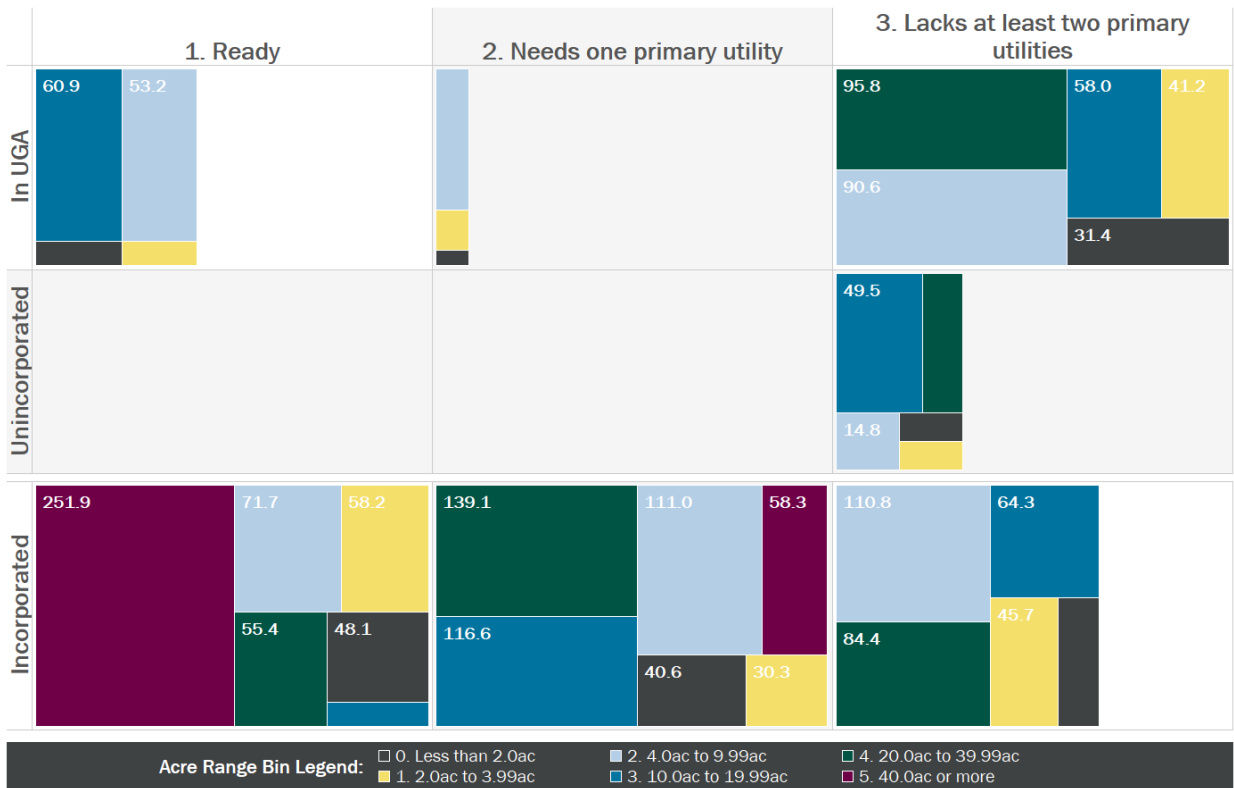
- **Parcels between 20 acres and 39.99 acres:** These parcels can support large distribution warehouses and large-scale manufacturing operations.
 - There are a total of 96 acres of land in the Tumwater UGA; however, these three parcels lack access to utilities.
 - The Tumwater UGA distribution center property has approximately 1.7 million square feet of industrial planned. This property was not excluded because a rezone of adjacent general commercial zoned property is needed to realize the plan. The project is well located along the I-5 corridor near the 93rd Avenue Southwest interchange.
 - The Black Lake Quarry is another parcel in the northwest part of the Tumwater UGA. While the Tumwater UGA distribution center parcel has near-term development potential despite its lack of utilities, the Black Lake Quarry site in the Tumwater UGA also has immense industrial development potential but would require utility extension and would require reclaiming the mining land.
 - The third parcel that meets this size criteria is vacant land owned by Manke Timber in the northwest part of the Tumwater UGA. It is not served by utilities and lacks access to a road. To be activated, this site would likely need to be paired with the property located to the east. This land is also of suitable size but is currently being operated for concrete recycling.
 - There is one industrially zoned property in unincorporated Thurston County that totals 23 usable acres near the Maytown Road interchange. This property does not have utility access and a small part of it is noted as having less preferred gopher soils but is otherwise unencumbered. For it to be used to its fullest potential, the property to the south (also owned by the same party) could be paired with it. This property has wetlands and a stream impacting its developable area.
- **Parcels under 20 acres:** There are 456 acres out of the 575 acres in a UGA or unincorporated Thurston County that are under 20 acres. Within this set, 130 acres are utility ready, 25 need just one of water, power, or sewer utilities, and 300 acres lack access to utilities.
 - The Black Lake Quarry Grand Mound Project: This project is on 78 acres and, if developed, would have capacity for about 1.4 million square feet of industrial space. Only 12 acres are in the Ground Mound UGA. This land is zoned to support industrial development. The remaining acreage would require the UGA to be expanded and land to be rezoned.
 - The areas in the Grand Mound UGA, Maytown Road I-5 interchange, and the 93rd Avenue I-5 interchange in the Tumwater UGA all have parcels of size sufficient to support industrial development. Unless assembled, these parcels will not support large-scale distribution centers, but they are serviceable for smaller-scale distribution centers and manufacturers. The sites larger than two acres that have access to most utilities are well positioned for development. The challenges with these sites are access to utilities and site grading.

The primary observations for this analysis include the following:

- Countywide there are a lack of large-acreage sites. There are none in a UGA or unincorporated area of Thurston County and the sites in incorporated areas have challenges around existing uses (mining) or potential stipulations (airport-related uses on some Port land near the airport).
- Providing access to public utilities will be a financial hurdle most industrial users and developers cannot overcome.

Figure 6-2 illustrates the net developable useable industrial acreage in the county organized by acre bins. Maps summarizing these data by acreage bin and proximity to utilities are provided in Appendix F.

Figure 6-2. Map of Net Developable Industrial Acres by Utility Status and Jurisdiction Area



Sources
Thurston County, Puget Sound Energy, MFA

7 Current Regulatory and Policy Review

Current policy and municipal code regulations lay the foundation for future industrial development. This section summarizes how the Thurston County Code of Ordinances (TCCO), and the County's 2020 *Comprehensive Plan* influence industrial development. A more detailed compilation of the reviewed policies is in Appendix G.

7.1 Thurston County Code of Ordinances

7.1.1 Zoning (TCCO Title 20)

Thurston County Zoning has three zoning designations for industrial use including Light Industrial (LI), Planned Industrial Park (PI), and Rural Resource Industrial (RRI). Industrial use is permitted outright in LI and PI designations and permitted conditionally in the RRI designation.

7.1.1.1 Light Industrial

The purpose and intent of the light industrial district is to provide areas where industrial activities and uses involving the processing, fabrication, and storage of products may be located. The district also allows such commercial uses that serve primarily the industrial district. The standards in this chapter are intended to protect the light industrial area from uses that may interfere with efficient industrial operations, while at the same time protecting adjacent areas from adverse industrial impacts.

7.1.1.2 Planned Industrial

The purpose and function of the planned industrial district is to provide for industrial development under controls to protect the nearby uses of land, to stabilize property values primarily in those areas not suitable for the light industrial zoning designation, and to encourage comprehensive planning of the entire industrial site within a park-like environment. Certain special uses, such as public correctional facilities, are also considered compatible uses within this district, subject to approval of a special use permit. The district is characterized as being on or near a major arterial highway or other transportation facilities, and close to developing cities, developing community centers, or relatively intense residential development.

7.1.1.3 Rural Resource Industrial

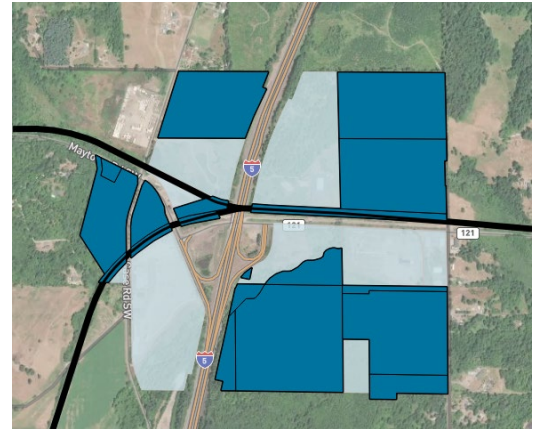
The purpose and intent of the rural resource industrial district is to provide areas where industrial activities and uses that are dependent upon agriculture, forest practices, and minerals may be located. The district also allows uses that involve the processing, fabrication, wholesaling, and storage of products associated with natural resource uses. Controls to provide freedom from nuisance-creating features such as noise, dirt, odor, vibration, and air and water pollution, are established together with adequate traffic circulation, buffers and landscaping requirements, to establish compatibility with surrounding rural development and offer protection from industrial blight and impacts.

The RRI zone conditionally permits manufacturing and warehousing and distribution. These uses are allowed if the property meets the following locational and performance criteria:

- Located within one-half mile of an I-5 interchange.
- Vehicular access is from a county arterial or collector road or state highway.
- Proposed use will not require urban services or facilities.
- Rail access is available to the site.

These conditions limit the area in which RRI-zoned land can support more intensive industrial uses to the Maytown Interchange as shown in Figure 7-1. This has 208 total acres zoned RRI, but, after excluding land impacted by critical areas and a planned development, the developable land totals 97 acres in this area.

Figure 7-1. Maytown Interchange



7.1.1.4 Other Standards

Parking Requirements: The table in TCCO Title 20.44.030 indicates that warehouse and wholesale uses require one parking stall per 2,000 square feet of building space and manufacturing uses require one stall per 1,500 square feet of building space. A ten percent variance in the calculated number of stalls is permitted without administrative review. For requests over ten percent, applicants may request an administrative modification to increase or decrease the number of parking spaces. Modifications greater than 40 percent may only be granted by the hearing examiner and only pursuant to the criteria of the fire code (TCCO Chapter 14.32).

Building Height: Building height for structures in the LI zone may not exceed 65 feet. The height limits in the PI zone are more flexible. In this zone, height limits will be imposed “if necessary to prevent detrimental effects upon the surrounding properties.” The building height limit in the RRI zone is 40 feet.

7.1.2 Airport Hazard Overlay (TCCO Title 20.30D)

The Thurston County Airport Hazard (AH) Overlay was created to identify the areas of the unincorporated rural county most impacted by the Olympia Regional Airport. The intent of this overlay is to protect the viability of the Olympia Regional Airport by encouraging compatible land uses and densities, and reducing hazards that may endanger those who live within the overlay zone. The AH overlay zone district comprises five compatible use zones: Zone 1: Runway Protection Zone; Zone 2: Inner Approach/Departure Zone; Zone 3: Inner Turning Zone; Zone 4: Outer Approach/Departure Zone; Zone 5: Sideline Zone.

Uses that are prohibited in the AH overlay zone are those that “Create lighting that diminishes the ability of pilots to distinguish between airport lights and nonairport lights; Create electrical interference with navigational signals or radio communication between the airport and aircraft; Create dust, smoke or other emissions that result in impairment of visibility for pilots.”

Nonresidential uses are limited in the number of occupants that may be present in the building at one time by the intensity standards detailed in TCCO 20.30D.080.2. This section states that the

most stringent zone, Zone 1, may have no more than 20 people per acre in a building at one time while the most relaxed zone, Zone 5, may have up to 150 people per acre at one time.

7.1.3 Critical Areas (TCCO Title 24)

The Thurston County Critical Areas Ordinance⁴ was established to protect new developments from natural hazards and to protect critical natural resources from development impacts. Industrial development in County-designated critical areas will be subject to Critical Areas permit review. Critical area review permit applicants must demonstrate that the proposed development will adhere to the general requirements set in Chapter 24.01.035 and mitigation sequencing set in Chapter 24.01.037 of the TCCO.

7.1.4 Impact Fees (TCCO Title 25)

TCCO Title 25 establishes impact fees on new developments to account for additional demand and need for public facilities. Collected fees are used for improvements to parks, schools, and transportation. Impact fees for industrial developments are limited to only transportation fees. See the 2022 transportation impact fee rate schedule for industrial land uses in Table 9 in Appendix F. For reference, Thurston County's 2022 rates are slightly lower than the average impact fees in Pierce County⁵ (Pierce County 2023).

7.2 Comprehensive Plan

The land use, transportation, and economic development chapters of the 2020 Thurston County *Comprehensive Plan* list the goals, objectives, and policies that will guide the City's efforts in realizing the community's vision of industrial development. The Comprehensive Plan offers **goals**, or broad statements of purpose, **objectives** that represent initial actions to effect implementation, and **policies** that provide specific direction to staff. Table 7-1 captures the goals, objectives, and policies from the chapters that are most relevant to industrial development.

Table 7-1. Thurston County Comprehensive Plan Assessment Summary

Goal	Relevant Policy/Objective
Land Use Chapter	
Goal LU-1: To provide for low intensity and natural resource sensitive rural development.	<ul style="list-style-type: none"> Policy LU-1A.7: Isolated commercial and industrial businesses in the rural area, [...] should be allowed to expand or change use provided the expansion or conversion does not constitute new urban development in the rural area, [...] Policy LU-1A.8: New industrial uses in rural areas [...] should generally be those appropriate to the lower densities and land uses of rural areas

⁴ Available at <https://www.thurstoncountywa.gov/critical-area-ordinance>. Accessed November 29, 2023.

⁵ Impact fees differ based on Pierce County area. The impact fee values for all Pierce County areas were averaged for comparison.

Goal	Relevant Policy/Objective
Goal LU-2: To designate Urban Growth Areas that cumulatively provide area and densities sufficient to permit the urban growth that is projected to occur in the county over the succeeding 20 years	<p><i>Objective LU-2C:</i> Accommodating Projected Growth - Concentrate medium and higher-intensity [...] industrial development in urban growth areas in a way that ensures livability and preservation of environmental quality, open space retention, varied and affordable housing, and high quality urban services at the least cost.</p> <ul style="list-style-type: none"> ▪ Policy LU-2C.8: Industrial and commercial development of all types may occur in urban growth areas, particularly the larger and more intensive types of development which require higher levels of public services and facilities. [...]
Transportation Chapter	
Goal T-5: Create and preserve a transportation system that supports and promotes economic vitality.	<p><i>Objective T-5A:</i> Ensure freight mobility and access within the region.</p> <ul style="list-style-type: none"> ▪ Policy T-5A.1: Support freight access to and from highways and other major freight corridors, and between the region's intermodal facilities and industrial areas. ▪ Policy T-5A.2: Support efforts to increase the amount of freight that is moved by rail to enhance efficiency, productivity, safety, and mobility on the region's roadways.
Goal T-8: Support appropriate marine infrastructure to meet the needs of residents and businesses in the region.	<p><i>Objective T-8A:</i> Encourage sufficient marine capacity to accommodate existing and future demand.</p> <ul style="list-style-type: none"> ▪ Policy T-8A.1: Support a marine terminal for water-borne freight movement.
Economic Development Chapter	
Goal ED-1: Support sustainable business and industrial development which strengthens and diversifies the economic base, creates jobs, and maintains high quality of life and environment.	<p><i>Objective ED-1A:</i> Help expand new, and strengthen existing, Economic Development Programs that locate and expand sustainable and environmentally sound business and industry; contribute to full utilization of the county's business and industrial land base, and strengthen and diversify the economic base.</p> <ul style="list-style-type: none"> ▪ Policy ED-1A.8: The county should continue supporting targeted industry development initiatives to enhance our existing employer base, reduce supply chain gaps and maximize the return on economic development efforts. ▪ Policy ED-1A.11: The county should support efforts to diversify Thurston County's economy through the encouragement of more manufacturing-based industries and enhancement of other target industry clusters including: information-technology, healthcare, tourism, food production-manufacturing and wood products-forestry. <p><i>Objective ED-1B:</i> Land use permits and procedures should expand existing businesses, establish new businesses which diversify the economy, and support home occupations and small-scale home-based industries.</p> <ul style="list-style-type: none"> ▪ Policy ED-1B.6: The county should explore land use options that allow for research and development, light manufacturing and office functions in a single location.

Goal	Relevant Policy/Objective
Goal ED-1 (cont.): Support sustainable business and industrial development which strengthens and diversifies the economic base, creates jobs, and maintains high quality of life and environment.	<p>Objective ED-1D: Commercial and industrial land should be designated in adequate amounts and appropriate locations to meet current and future needs, maintain a quality environment, and provide economic opportunity to rural residents while preserving character in the rural area.</p> <ul style="list-style-type: none"> Policy ED-1D.4: The county should evaluate industrial land use designations made through Joint Plans to assure that adequate supplies of industrial lands are available for both short- and long-term use and that this plan's revised guidelines for locating industrial lands are met. Policy ED-1D.5: The county should ensure that industrial areas are large enough to accommodate a number of industrial uses in clusters so that the area may be developed in a coordinated fashion and be provided with a variety of parcel sizes. Policy ED-1D.6: The county should ensure that industrial and commercial areas are able to be served by required utilities, transportation, and other services at a level appropriate to the uses within the industrial/commercial area. Policy ED-1D.8: The county should ensure that commercial and industrial areas are located where there is a low risk of potential adverse impacts to environmental quality. [...] Policy ED-1D.10: The county should promote the strategy that priority business activities should be commercial, tourism and industrial uses in urban growth areas.

7.3 Habitat Conservation Plan

The 2022 *Thurston County Habitat Conservation Plan (HCP)*⁶ was developed by the County to replace the need to obtain separate federal and local permits or secure land to meet mitigation requirements. It created a new process that simplifies regulations for economic development while protecting listed and rare species. The HCP permit jurisdiction covers all the unincorporated areas of Thurston County, and the UGAs of Olympia, Lacey, and Tumwater which are under County permit jurisdiction (Table 7-2). It does not include the cities of Lacey, Olympia, Tumwater, Tenino, Yelm or Bucoda. The HCP applies mitigation fees in species areas and habitats based on the size and relative impact of the project.

The purpose of the HCP is to provide regulatory certainty, permitting efficiency, and local control over processes. Applicants can apply for year-round permits from the County, reducing the long and often costly burden of needing to obtain additional federal permits. The HCP provides a legal path to development in compliance with the Endangered Species Act.

Table 7-2. Activities, Areas, and Species Covered in the HCP

Covered Species	Coverage Area	Covered Activities
<ul style="list-style-type: none"> Mazama pocket gopher Olympia pocket gopher Tenino pocket gopher Yelm pocket gopher Oregon spotted frog 	<ul style="list-style-type: none"> Unincorporated areas of Thurston County. Generally rural areas, and the urban growth areas of Olympia, Lacey, and Tumwater. 	<ul style="list-style-type: none"> Most ground-disturbing activities including industrial development.

⁶ Available at <https://www.thurstoncountywa.gov/departments/community-planning-and-economic-development/community-planning/hot-topics/habitat-conservation-plan-hcp-home>. Accessed November 29, 2023.

Covered Species	Coverage Area	Covered Activities
<ul style="list-style-type: none"> Taylor's checkerspot butterfly Oregon vesper sparrow (USFWS may list under the ESA). 	<ul style="list-style-type: none"> Not covered: the cities of Lacey, Olympia, Tumwater, Tenino, Yelm, or Bucoda 	

Notes

ESA = Endangered Species Act.

USFWS = U.S. Fish and Wildlife Service.

7.3.1 Applicability

Projects should be designed using the best management practices outlined in the HCP and should work to avoid protected habitats. If the habitat cannot be avoided, mitigation fees will be measured by size and anticipated impact. The impact can be calculated using the mitigation fee calculator, found on the County website.⁷

7.3.2 Development Impact

Any proposed building on mapped Mazama pocket gopher soils with suitable habitat (i.e., open, nonforested sites for which new ground disturbance is proposed) require mitigation under the HCP unless building is proposed within the footprint of existing structures or existing impervious surfaces, or the project meets 4(d) exemptions. Higher fees are paid for sites with known (mapped) gopher occupancy, or which are adjacent to known gopher locations. For sites with unknown gopher occupancy, mitigation fees are higher for projects that take place on more preferred gopher soils and lower on less preferred gopher soils (these soils can be viewed in Thurston County GeoData Center layers). More preferred soils are those soils in which gophers have been detected most frequently.

7.4 Shoreline Master Program

The 1990 Shoreline Master Program (SMP) for the county constitutes shoreline management for the Thurston Region and establishes shoreline development policies, regulations, and zoning.⁸ Section 8 of the SMP defines policies, regulations, and permitted uses related to industrial development in shoreline environments.

⁷ The mitigation estimate form under Builders & Permit Applicants will estimate the mitigation fees. Available at <https://www.thurstoncountywa.gov/departments/community-planning-and-economic-development/community-planning/hot-topics/habitat-conservation-plan-hcp-home>. Accessed November 30, 2023.

⁸ Zones are referred to as environments in the SMP.

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Appendix A

Building Square Feet per Employee



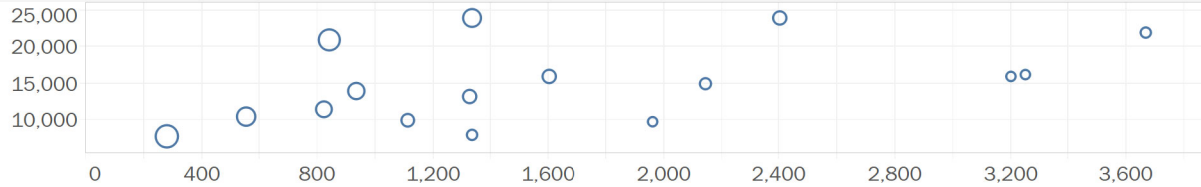
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Square Feet Per Employee Analysis: Distribution/Warehousing

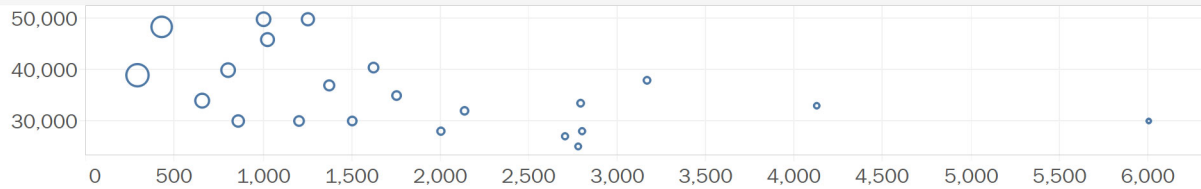
	Median Sq Ft per Worker	Median Sq Ft	Median Nbr of Workers	Count
Overall	3,600	200,000	40	255
5k to 25k	2,155	13,625	6	24
25k to 50k	1,750	33,500	20	25
50k to 100k	2,708	76,000	28	32
100k to 200k	3,740	140,000	45	50
200k to 1m	4,687	340,000	76	118
Over 1m	4,813	1,750,000	550	6

	Average Sq Ft per Worker	Average Sq Ft	Average Nbr of Workers	Count
Overall	4,939	467,760	161	25
100k to 200k	4,836	145,500	56	8
200k to 1m	5,366	462,000	126	15
Over 1m	2,146	1,800,000	850	2

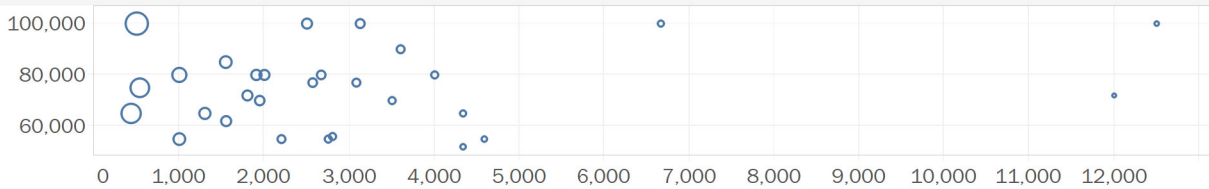
Between 5,000 and 25,000 Square Feet



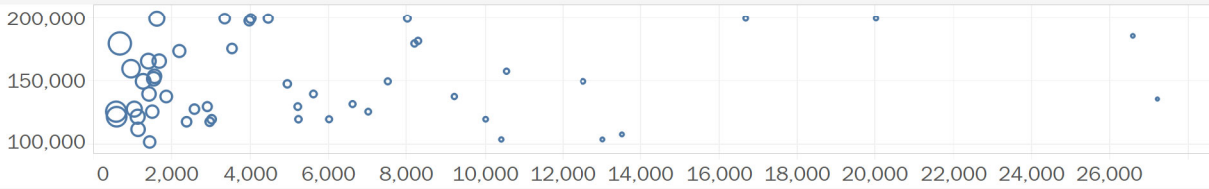
Between 25,000 and 50,000 Square Feet



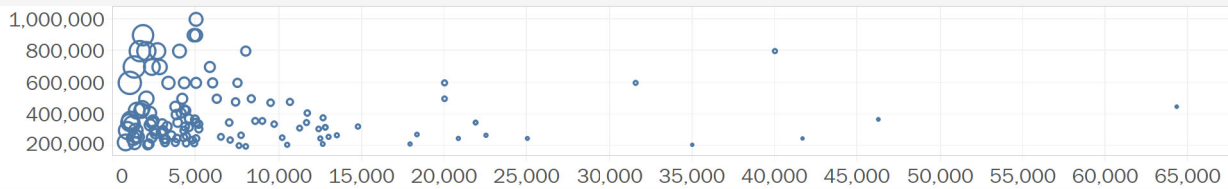
Between 50,000 and 100,000 Square Feet



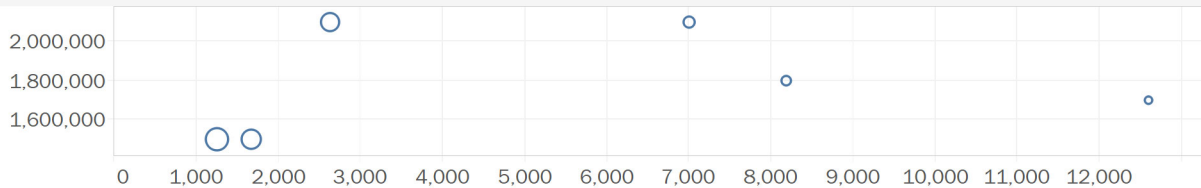
Between 100,000 and 200,000 Square Feet



Between 200,000 and 1,000,000 Square Feet



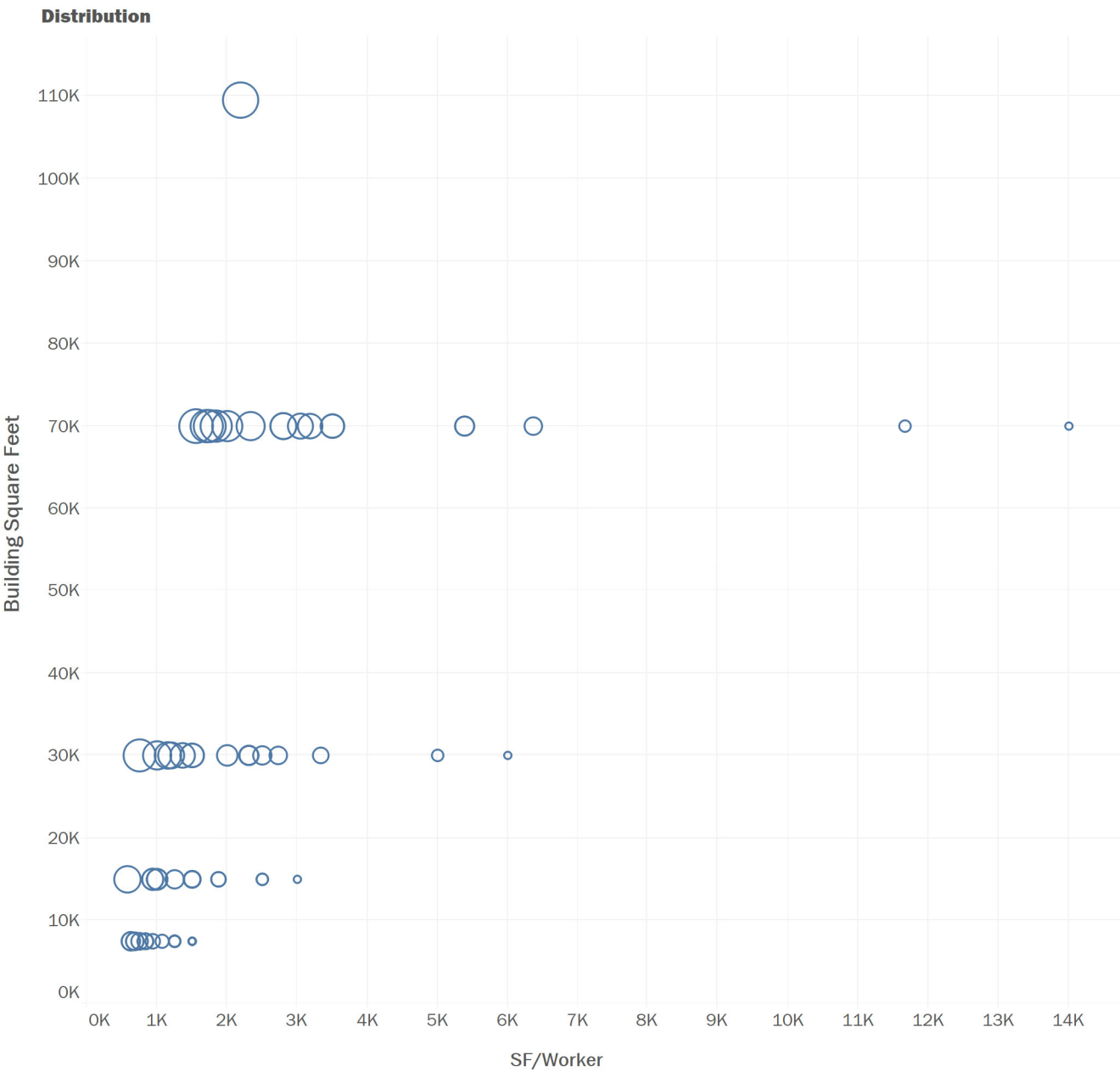
Over 1,00,000 Square Feet



SF/Worker

Square Feet Per Employee Analysis: Manufacturing

	Median SqFt/Worker	Median SqFt	Median Employees	Count
Grand Total	1,500	15,000	13	102
5,000 - 9,999	1,161	7,500	7	29
10,000 - 19,999	1,500	15,000	10	20
20,000 - 39,999	2,308	30,000	13	18
40,000 - 99,999	3,043	70,000	23	17
100,000+	2,190	109,501	60	18



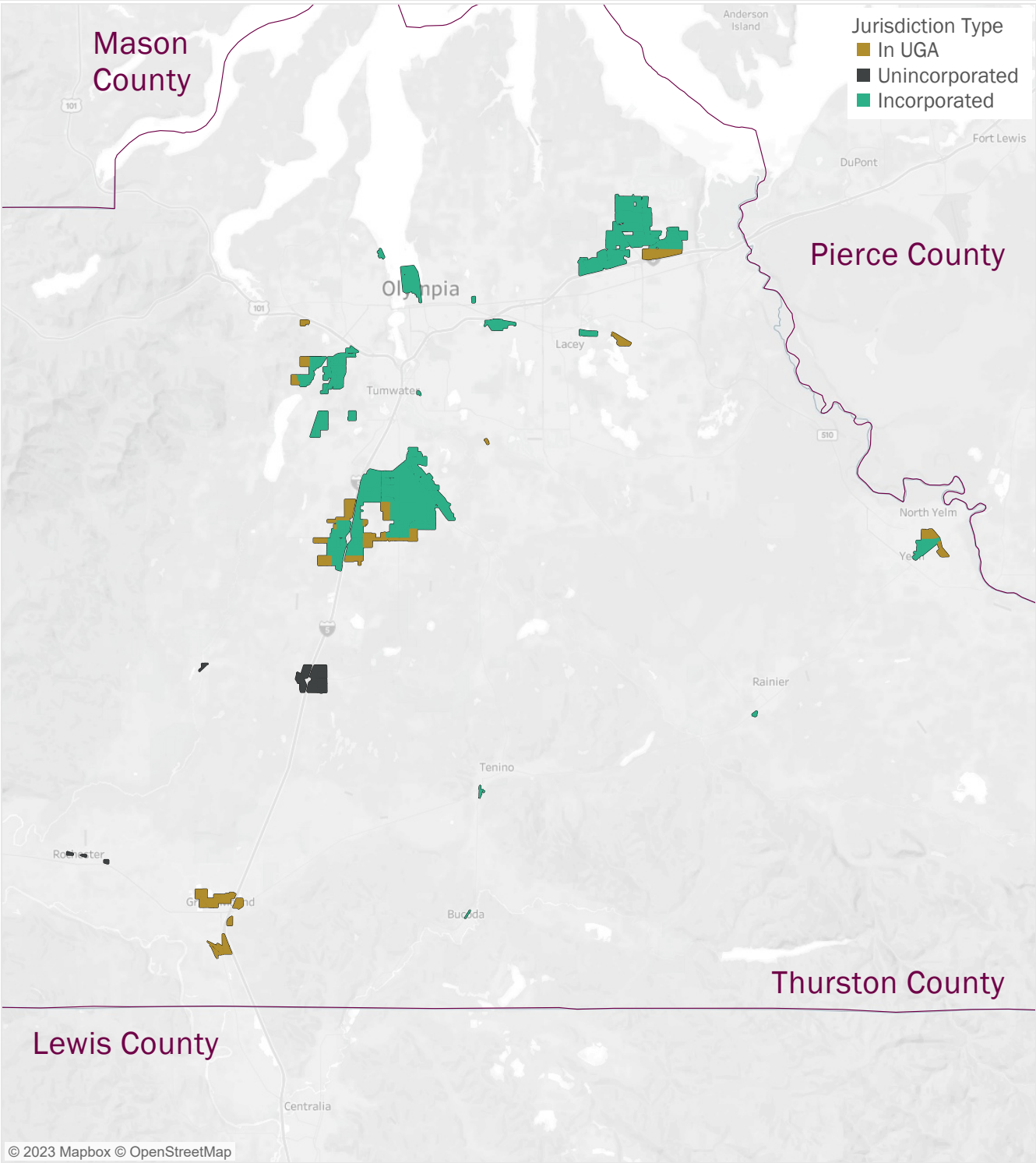
Appendix B

Countywide Industrial Zoning Table



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Industrially Zoned Acres by Jurisdiction



UGA Name	In UGA	Unincorporated	Incorporated	Total
Tumwater	527		3,022	3,549
Grand Mound	327			327
Lacey	182		1,497	1,679
Yelm	94		162	256
Olympia	27		357	384
Unincorporated		337		337
Tenino			9	9
Rainier			7	7
Bucoda			2	2
Total	1,158	337	5,056	6,550

Summary of Industrially Zoned Land in Thurston County

Jurisdiction Type	Jurisdiction	Zone Code	Zoning Description	UGA Name	Acres
In UGA	Thurston County	HI	HEAVY INDUSTRIAL	Tumwater	27
		LI	LIGHT INDUSTRIAL	Grand Mound	103
				Lacey	182
				Tumwater	418
				Yelm	94
		LI2	LIGHT INDUSTRIAL	Tumwater	81
		LI-C	LIGHT INDUSTRIAL COMMERCIAL	Olympia	27
		PID	PLANNED INDUSTRIAL PARK	Grand Mound	225
Unincorporated	Thurston County	RRI	RURAL RESOURCE INDUSTRIAL	Unincorporated	337
Incorporated	Bucoda	IND	INDUSTRIAL	Bucoda	2
	Lacey	HPBDBC	HAWKS PRAIRIE BUSINESS DISTRICT-BUSINESS/COMMERCIAL	Lacey	363
		LI	LIGHT INDUSTRIAL	Lacey	894
		LI-C	LIGHT INDUSTRIAL COMMERCIAL	Lacey	241
	Olympia	I	INDUSTRIAL	Olympia	231
		LI	LIGHT INDUSTRIAL	Olympia	126
	Rainier	IND	INDUSTRIAL	Rainier	7
	Tenino	I	INDUSTRIAL	Tenino	9
	Tumwater	ARI	AIRPORT RELATED INDUSTRY	Tumwater	871
		ARI2	AIRPORT RELATED INDUSTRY	Tumwater	513
		HI	HEAVY INDUSTRIAL	Tumwater	75
		LI	LIGHT INDUSTRIAL	Tumwater	1,557
		LI2	LIGHT INDUSTRIAL	Tumwater	180
	Yelm	I	INDUSTRIAL	Yelm	162
Total					6,550

Notes

Based on a survey of jurisdictional zoning codes and the Thurston County zoning map. As of May 2023..

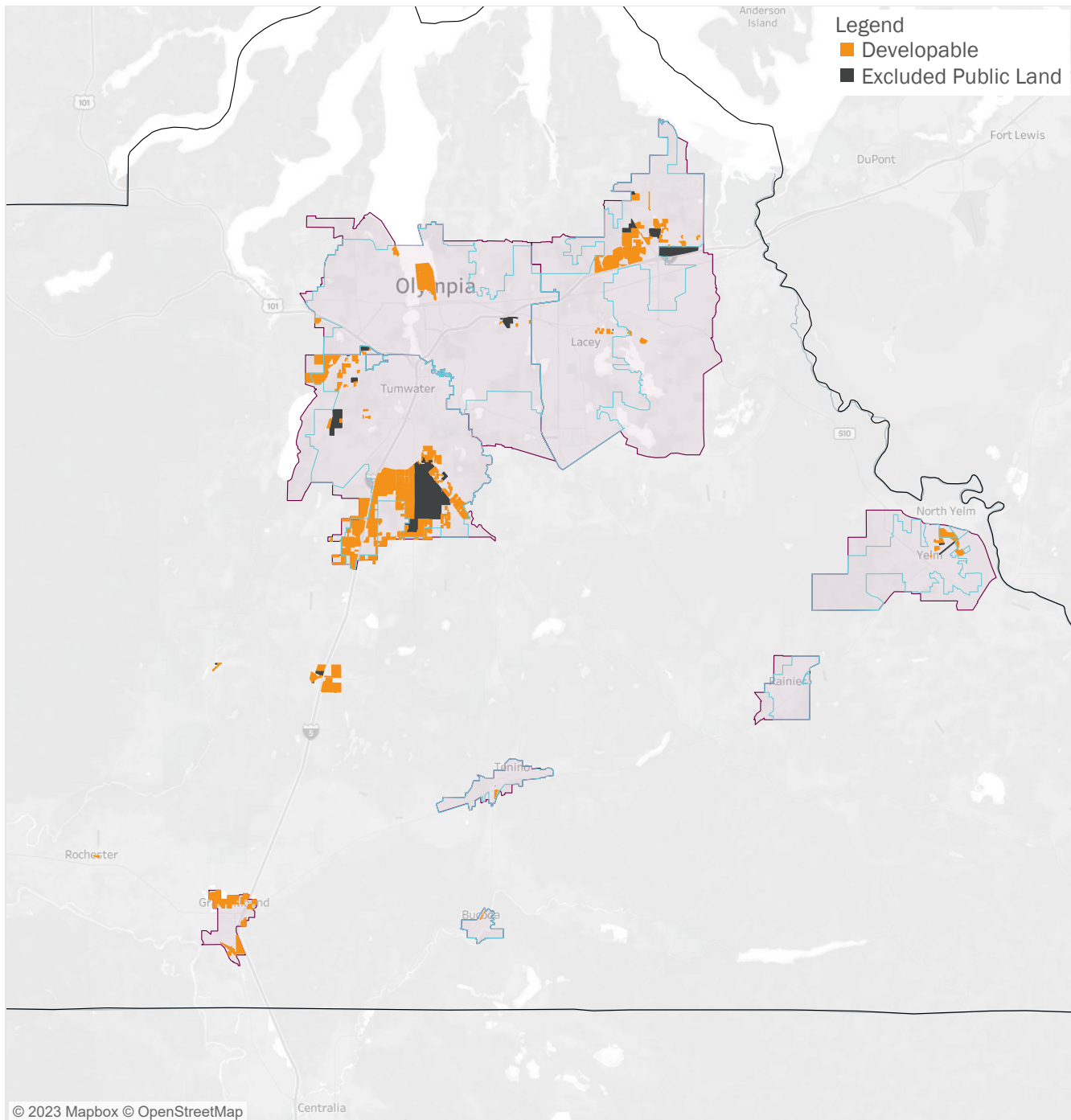
Appendix C

Public Ownership Parcels



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Public Ownership Parcels Excluded



		In UGA	Unincorporated	Incorporated	Total
Excluded Public Land	Underutilized	136		460	595
	Vacant	6	17	363	387
	<i>Subtotal</i>	142	17	822	982
Developable	Underutilized	260	42	944	1,246
	Vacant	470	174	1,544	2,187
	<i>Subtotal</i>	730	216	2,488	3,434
Total		872	233	3,311	4,416

Note: Public ownership excluded from this set includes the following owners: Cities of Lacey, Olympia, Tumwater, and Yelm. Thurston County. LOTT Wastewater Alliance, and the USA-Bonneville Power Administration. Also excluded are portions of the Port of Olympia's land portfolio around the airport runway.

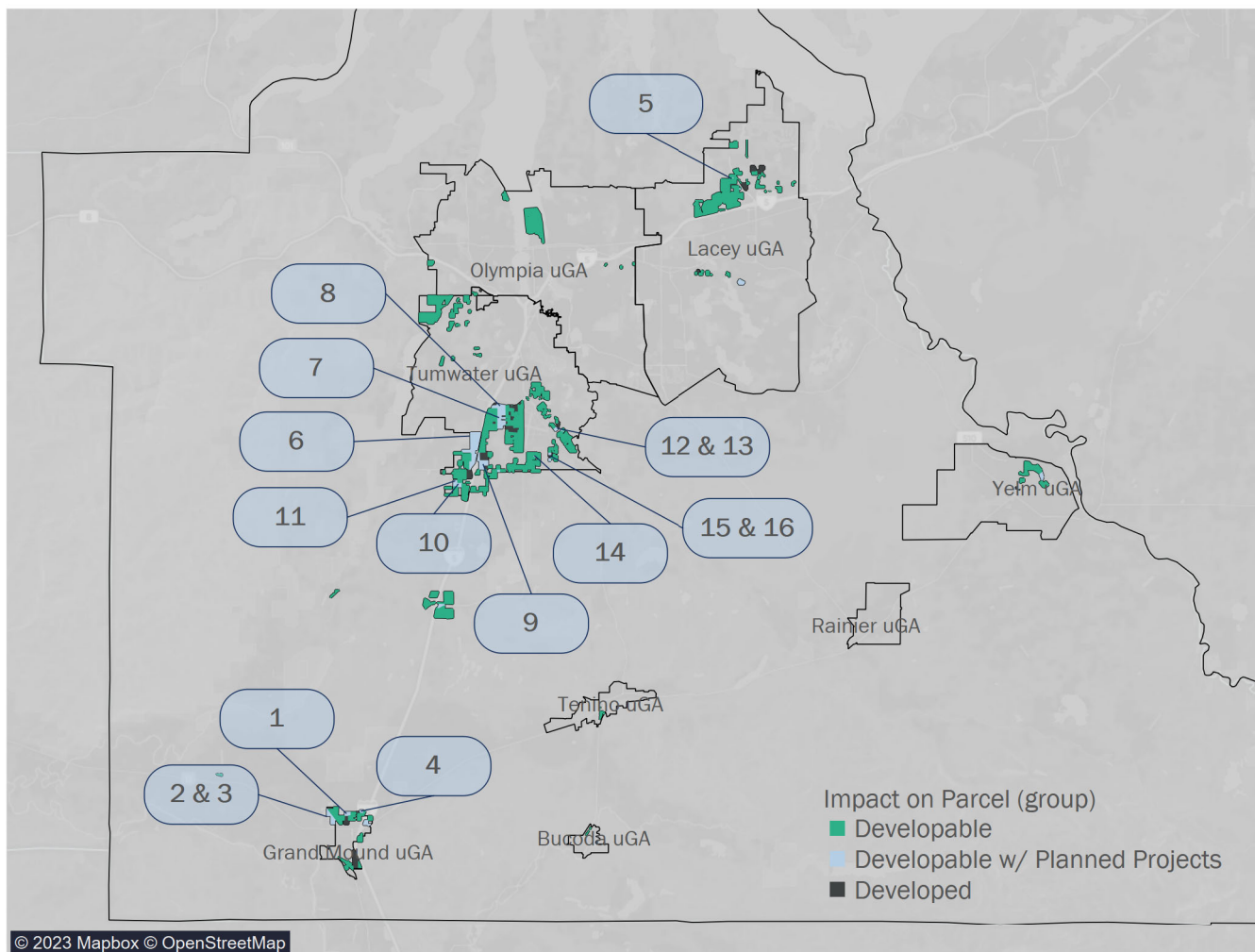
Appendix D

Proposed Industrial Developments



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Planned Development on Industrial Land



UGA Name	Jurisdiction Type	Map ID	Project Short Name	Acres	Planned Building Square Feet
Grand Mound	In UGA	1	Grand Mound Distribution Center	10	196,750
		2	Black Lake Quarry: Grand Mound	12*	1,371,040
		3	Sargent Road Industrial	16	248,001
		4	Cannabis Production/Processing	9	77,604
Lacey	Incorporated	5	Evelyn Lane Light Industrial	3	37,950
Tumwater	In UGA	6	Tumwater UGA Distribution Development	75	1,785,480
	Incorporated	7	South Sound Commerce Center	71	1,244,431
		8	Secretary of State Library Archives	23	145,000
		9	Tumwater Corporate Park	36	800,000
		10	I-5 Bloomberg	15	
		11	Dairy Fresh Farms	5	24,375
		12	Roof Doctor	5	7,200
		13	Warehouse 40	2	28,750
		14	Tilley Court Business Suites	2	25,000
		15	TCP Flex Select	2	29,200
		16	Winemaker Depot	3	37,400

* The Black Lake Quarry: Grand Mound project totals approximately 78-acres. The 12-acres listed in this table are the only part of this project that is in the Grand Mound UGA and zoned to support industrial development. For this project to be developed, the remaining acreage would need to be incorporated into the Grand Mound UGA and the land rezoned.

Appendix E

Critical Area Factors



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Critical Area Overlay Assumptions

Critical Area Overlay	Buffer Code Requirement	Assumed Buffer for GIS Analysis	GIS Data Source	Development Impact	Notes
Critical Area Overlay Impact: Area Reduction					
Wetlands	Various depending on habitat and water quality ratings	200 feet	Thurston County GIS "Wetlands" layer	Industrial use prohibited for portion of property within overlay	200 feet is a reasonable average of potential buffers; not overly conservative nor optimistic.
Fish and Wildlife Habitat	Stream buffer called "riparian habitat area" is various depending on stream/species type and stream width	150 feet	Thurston County GIS "Steams" and WADNR "Fish Distribution" layers	Industrial use prohibited for portion of property within overlay	150 feet is a reasonable average of potential buffers; not overly conservative nor optimistic. Important upland habitats and species are identified on a case-by-case basis
Geologic Hazard Areas	50 feet from toe of slope; possibly less with specific slope ratios.	50 feet	WA DNR landslide database	Flagged but industrial use not necessarily prohibited	Toe-side of landslide is not necessarily depicted in WA DNR layer. An all-sides buffer of 50 feet is used for simplicity.
Frequently Flooded Areas	N/A	N/A	FEMA floodway Channel migration zone (if available from county)	Industrial use prohibited for portion of property within overlay	
Critical Area Overlay Impact: No Area Reduction, Development Obstacle					
Critical Aquifer Recharge Area	N/A	N/A	Thurston County GIS "Critical Aquifer Recharge Areas USDA" layer (CARA SOIL Class 1 only) WA GIS Data Portal "Wellhead Protection Areas (1 year)" layer	Industrial use prohibited may be for portion of property within overlay	Class 1 areas prohibits specific industrial uses producing 220 lbs/month of hazardous waste (https://library.municode.com/wa/thurston_county/codes/code_of_ordinance?s?nodetd=TIT24CRAR_CH24.10CRAQR_EAR_24.10.020STREPRUS)
Frequently Flooded Areas	N/A		FEMA 100-year floodplain (aka Special Flood Hazard Area)	Flagged but industrial use not necessarily prohibited	
Seismic Hazards	N/A	N/A	WADNR "Liquefaction" layer (moderate to high susceptibility)	No expressed prohibition of industrial development.	We could look for GIS data if this flagging is needed by the client.

Critical Area Overlay	Buffer Code Requirement	Assumed Buffer for GIS Analysis	GIS Data Source	Development Impact	Notes
Volcanic Hazards	N/A	N/A	WADNR "Volcanic Hazards" layer	No expressed prohibition of industrial development.	We could look for GIS data if this flagging is needed by the client.
Critical Habitat Areas	N/A	N/A	Mazama Pocket Gopher Service Area	No expressed prohibition of industrial development.	Not publicly available. Acquired from Thurston County on 10/18/2023.
			Mazama Pocket Gopher Areas		
			Oregon Vesper Sparrow Areas		
			Oregon Spotted Frog Areas		
			Critical Species Screen		
			Taylor's Checkerspot Butterfly Areas		
			Mazama Pocket Gopher Soils (USDA)		

Appendix F

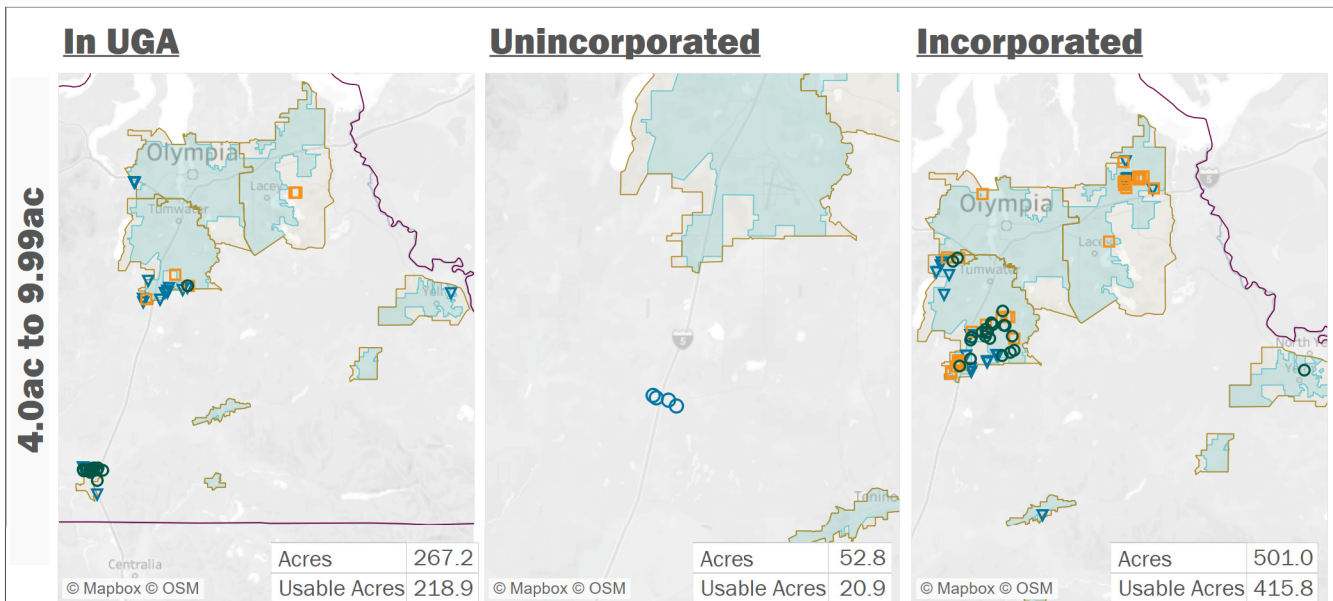
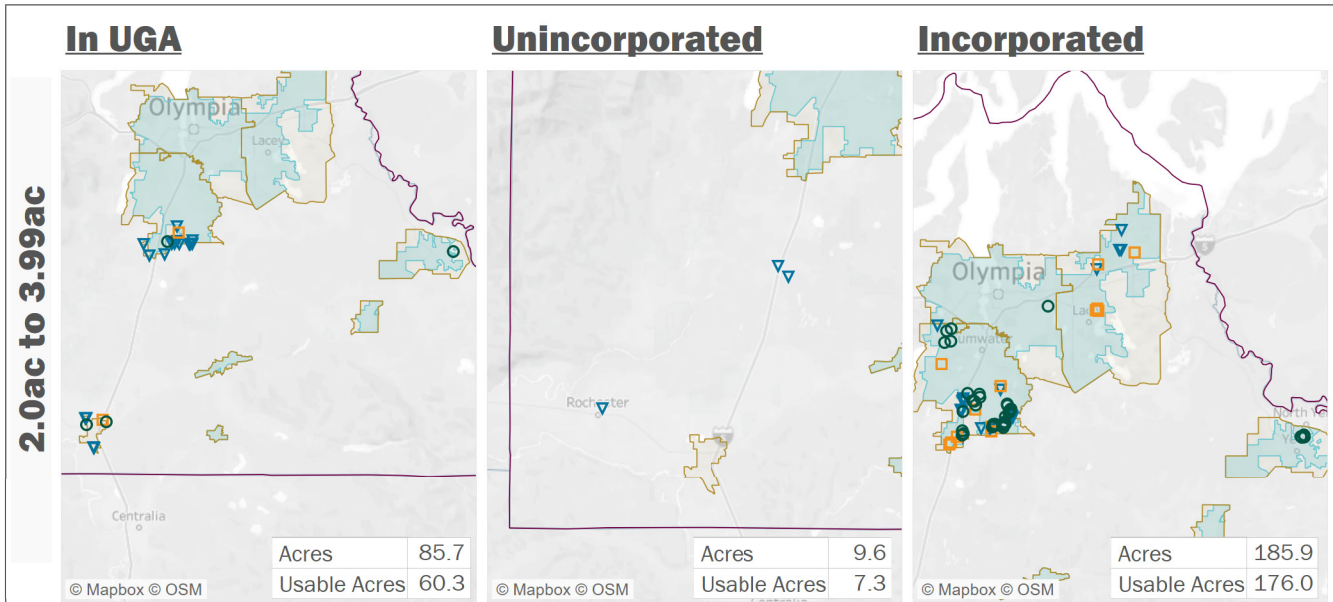
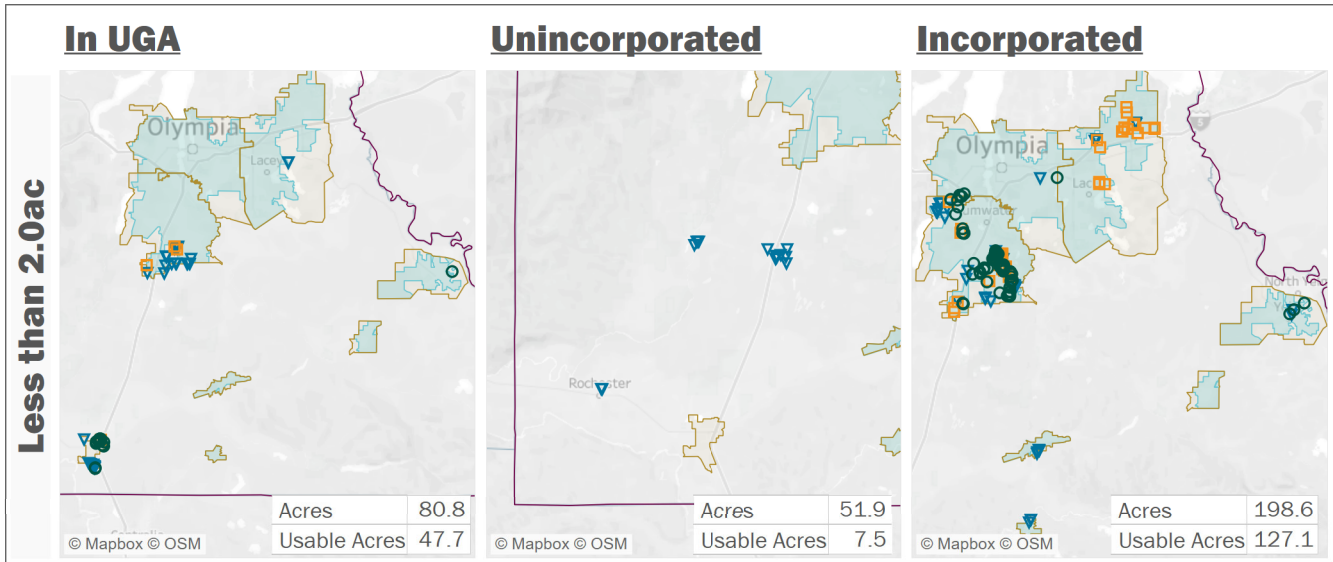
Useable Industrial Acreage Maps



MAUL
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Developable Parcels (Net Acreage) by Developable Acreage Bin and Utility Availability

Utility Access Legend
 ○ 1. Ready
 □ 2. Needs one primary utility
 ▼ 3. Lacks at least two primary utilities

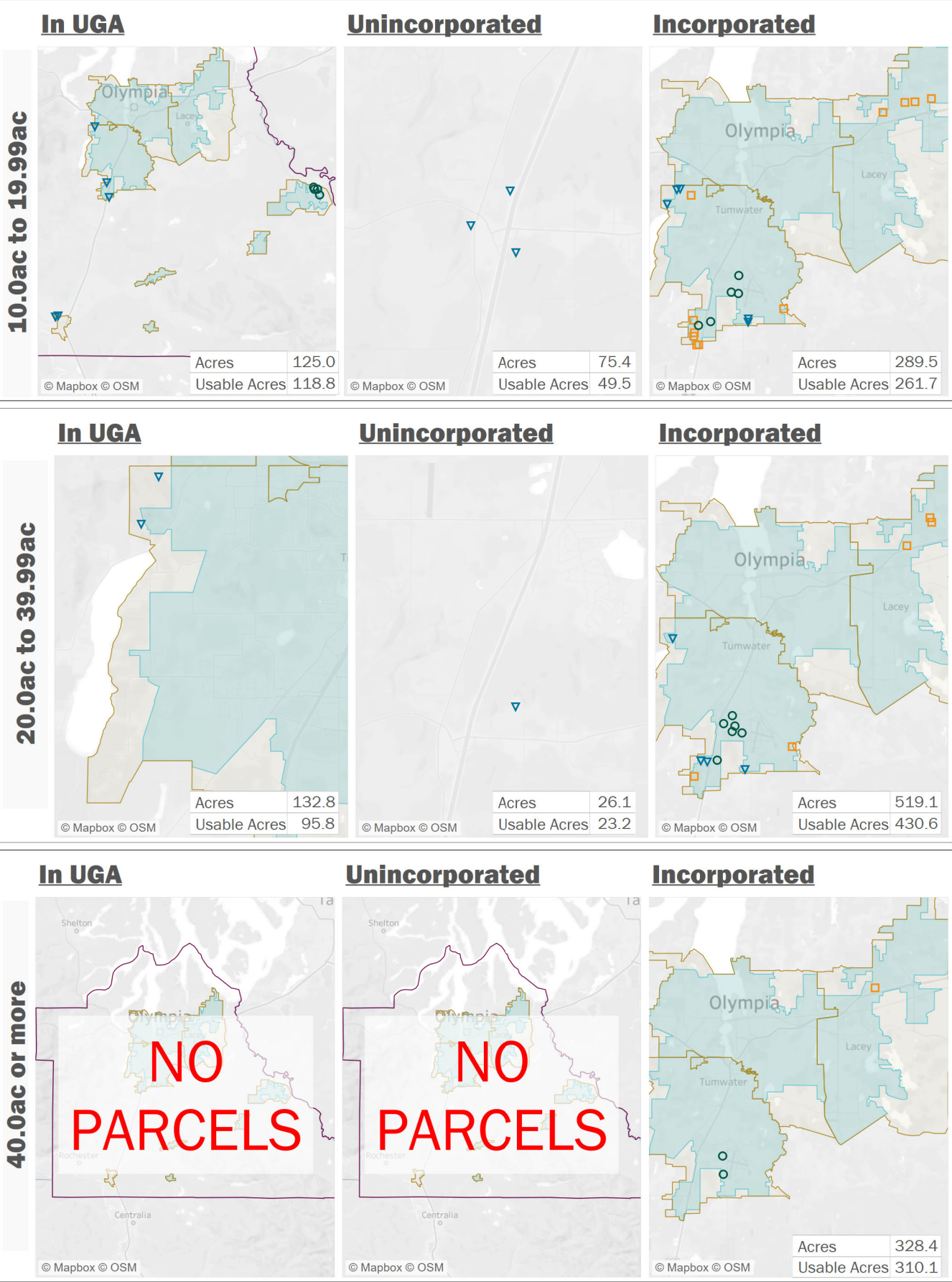


Developable Parcels (Net Acreage) by Developable Acreage Bin and Utility Availability

- Utility Access Legend
1. Ready

2. Needs one primary utility

3. Lacks at least two primary utilities



Appendix G

Regulatory and Policy Review



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Current Regulatory and Policy Review

Current policy and municipal code regulations lay the foundation for future industrial development. This section summarizes how the Thurston County Code of Ordinances (TCCO), and the County's 2020 Comprehensive Plan influence industrial development.

Thurston County Code of Ordinances

Shoreline Master Plan (TCCO Title 19)

Policies and regulations for development along the county's shorelines is set in the 1990¹ Shoreline Master Program (SMP) for the Thurston Region (see section below). Chapter 19.04.010 and 19.08.10 of the TCCO describe the application process for shoreline substantial development permits, conditional use permits, and variance permits.

Zoning (TCCO Title 20)

Thurston County Zoning has three zoning designations for industrial use including Light Industrial (LI), Planned Industrial Park (PI), and Rural Resource Residential (RRI). Industrial use is permitted outright in LI and PI designations and permitted conditionally in the RRI designation.

Light Industrial (LI)

The purpose and intent of the light industrial district is to provide areas where industrial activities and uses involving the processing, fabrication and storage of products may be located. The district also allows such commercial uses that serve primarily the industrial district. The standards in this chapter are intended to protect the light industrial area from uses which may interfere with efficient industrial operations, while at the same time protecting adjacent areas from adverse industrial impacts.

Table 1. Permitted Uses in LI Zone

Use Category	Use Descriptions
Retail	Parcel delivery, ambulance service, truck and heavy equipment repair, commercial services (bank, restaurant, bar, service stations)
Research Services	Research and development laboratory, commercial testing laboratory
Manufacturing	Sheet metal, food, cosmetics, ceramics, medical equipment, printing, boat building
Processing and Storage	Fibers, warehouses, cold storage, processing, equipment/materials storage, brewery, transportation terminals
Aggregate Products	Manufacturing of stone, marble, brick, clay, and concrete products
Other	Wholesale businesses, welding shop, dwelling for property caretaker, administrative and educational services, veterinary clinics

Note

In the event a use is proposed which is not listed in the title as permitted, the director shall determine whether the use should be treated as one of the listed uses.

Source

Thurston County Code of Ordinances Chapter 20.28.020

¹ The County is currently in the process of updating the existing SMP.

Industrial related uses that may be conditionally allowed in the LI zone include petroleum products processing/storage, plastics, paints, commercial chemical manufacturing, sawmill, and slaughterhouses.

Table 2. Development Standards in LI Zone

Standard Category	Standard	Standard Category	Standard
Minimum lot area	20,000 sq ft	Maximum building height	65 ft
Minimum lot width	100 ft	Minimum street setback	10 feet
Minimum lot depth	None	Minimum side setback	10 feet
Maximum lot coverage	85%	Minimum rear setback	25 feet
Landscaping	All areas shown on the site plan not devoted to development (i.e., building, driveways, parking, etc.) are to be appropriately landscaped, and may include retention of suitable natural growth. Total area landscaped is to be no less than ten percent of the total developed area. A minimum ten-foot wide landscape strip shall be provided adjacent to all street frontages.		

Note

sq ft= square feet

Source

Thurston County Code of Ordinances Chapter 20.28.040

Planned Industrial Park (PI)

The purpose and function of the planned industrial district is to provide for industrial development under controls to protect the nearby uses of land, to stabilize property values primarily in those areas not suitable for the light industrial zoning designation, and to encourage comprehensive planning of the entire industrial site within a park-like environment. Certain special uses, such as public correctional facilities, are also considered compatible uses within this district, subject to approval of a special use permit. The district is characterized as being on or near a major arterial highway or other transportation facilities, and close to developing cities, developing community centers or relatively intense residential development.

Table 3. Permitted Uses in PI Zone

Use Category	Use Descriptions
Permitted Uses	
Retail	Parcel delivery, ambulance service, truck and heavy equipment repair, commercial services (bank, restaurant, bar, service stations)
Research Services	Research and development laboratory, commercial testing laboratory
Manufacturing	Sheet metal, food, cosmetics, ceramics, medical equipment, printing, boat building
Processing and Storage	Fibers, warehouses, cold storage, processing, equipment/materials storage, brewery, transportation terminals
Other	Wholesale businesses, welding shop, dwelling for property caretaker, administrative and educational services

Note

In the event a use is proposed which is not listed in the title as permitted, the director shall determine whether the use should be treated as one of the listed uses.

Source

Thurston County Code of Ordinances Chapter 20.27

Table 4. Development Standards in PI Zone

Standard Category	Standard	Standard Category	Standard
Minimum lot area	20,000 sq ft	Maximum building height	Imposed as necessary
Minimum lot width	100 ft	Minimum street setback	10 feet
Minimum lot depth	None	Minimum side setback	10 feet
Maximum lot coverage	85%	Minimum rear setback	25 feet
Landscaping	All areas shown on the site plan not devoted to development (i.e., building, driveways, parking, etc.) are to be appropriately landscaped, and may include retention of suitable natural growth. Total area landscaped is to be no less than ten percent of the total developed area. A minimum ten-foot wide landscape strip shall be provided adjacent to all street frontages.		

Note

sq ft= square feet

* 20ft if on arterial

Source

Thurston County Code of Ordinances Chapter 20.27.040

Rural Resource Industrial (RRI)

The purpose and intent of the rural resource industrial district is to provide areas where industrial activities and uses that are dependent upon agriculture, forest practices and minerals may be located. The district also allows such uses that involve the processing, fabrication, wholesaling and storage of products associated with natural resource uses. Controls to provide freedom from nuisance-creating features such as noise, dirt, odor, vibration, air and water pollution, are established together with adequate traffic circulation, buffers and landscaping requirements, to establish compatibility with surrounding rural development and offer protection from industrial blight and impacts.

Table 5. Permitted Uses in RRI Zone

Use Category	Use Descriptions
Permitted Uses*	
Manufacturing	Sheet metal, compounding or treatment of articles or merchandise from previously prepared materials such as but not limited to, electronic components, precision instruments, cable or transmission lines, boat building
Processing and Storage	Storage buildings, warehouses, wholesaling and distribution facilities, equipment/materials storage,
Aggregate Products	Manufacturing of stone, marble, brick, clay, and concrete products
Other	Wholesale businesses, welding shop, dwelling for property caretaker, administrative and educational services, veterinary clinics

Note

Permitted retail, agricultural, forestry, and mineral uses are not displayed in the table.

In the event a use is proposed which is not listed in the title as permitted, the director shall determine whether the use should be treated as one of the listed uses.

* Allowed if meets the following locational and performance criteria: Located within one-half mile of an Interstate 5 interchange; Vehicular access is from a county arterial or collector road or state highway; Proposed use will not require urban services or facilities; and rail access is available to the site.

Source

Thurston County Code of Ordinances

Table 6. Development Standards in RRI Zone

Standard Category	Standard	Standard Category	Standard
Minimum lot area	20,000 sq ft	Maximum building height	40 ft
Minimum lot width	100 ft	Minimum street setback	10 feet
Minimum lot depth	None	Minimum side setback	10 feet
Maximum lot coverage	60%	Minimum rear setback	25 feet
Landscaping	All areas shown on the site plan not devoted to development (i.e., building, driveways, parking, etc.) are to be appropriately landscaped, and may include retention of suitable natural growth. Total area landscaped is to be no less than ten percent of the total developed area. A minimum ten-foot wide landscape strip shall be provided adjacent to all street frontages. A minimum twenty-five-foot landscaped buffer shall be provided adjacent to all residential uses or residential zoned properties.		

Note

sq ft= square feet
 * 20ft if ion arterial

Source

Thurston County Code of Ordinances

Off-street parking—Required spaces

The number of required off-street parking spaces shall be determined in accordance with the table in TCCO 20.44.030. Applicants may request an administrative modification to increase or decrease the number of parking spaces otherwise required by this chapter. No modification is required to increase or decrease the number of required spaces by up to ten percent. Modifications greater than forty percent may only be granted by the hearing examiner and only pursuant to the criteria of TCC Chapter 14.32.

The following lists the parking requirements for industrial uses.

- Warehouse and wholesale: 1 stall per 2,000 square feet
- Manufacturing: 1 stall per 1,500 square feet

Airport Hazard Overlay (TCCO Title 20.30D)

The Thurston County Airport Hazard Overlay (AH) was created to identify the areas of unincorporated rural county which are most impacted by the Olympia Airport. The intent of this overlay is to protect the viability of the Olympia Regional Airport by encouraging compatible land uses and densities, and reducing hazards that may endanger those who live within the overlay zone. The airport overlay zone district is comprised of five compatible use zones: Zone 1: Runway Protection Zone; Zone 2: Inner Approach/Departure Zone; Zone 3: Inner Turning Zone; Zone 4: Outer Approach/Departure Zone; Zone 5: Sideline Zone.

Table 7. Prohibited Uses in Overlay Zone

Zone	Prohibited Uses
All Zones (1 – 5)	Uses that: Create lighting that diminishes the ability of pilots to distinguish between airport lights and nonairport lights; Create electrical interference with navigational signals or radio communication between the airport and aircraft; Create dust, smoke or other emissions that result in impairment of visibility for pilots.

Zone	Prohibited Uses
Zone 1	Residential dwellings; Stormwater wet ponds; Active recreational facilities; Schools, preschool/child care facilities, child day care centers, churches, hospitals, senior housing facilities, rest homes and group foster homes;
Zone 2	Multifamily dwellings; Active recreational facilities; Schools, preschool/child care facilities, child day care centers, churches, hospitals, senior housing facilities, rest homes and group foster homes;
Zone 3	Multifamily dwellings; Active recreational facilities; Schools, preschool/child care facilities; child day care centers; churches, hospitals, senior housing facilities, rest homes and group foster homes;
Zone 4	Multifamily dwellings; Schools, preschool/child care facilities; child day care centers; churches, hospitals, senior housing facilities, rest homes and group foster homes;
Zone 5	Multifamily dwellings; Schools, preschool/child care facilities; child day care centers; churches, hospitals, senior housing facilities, rest homes and group foster homes;

Development Standards

Development standards are imposed within the overlay zone in addition to the development standards of the underlying zoning district.

Table 8. Non-Residential Development Standards

Standard Category	Standard
All nonresidential developments and uses shall meet the following intensity standards; provided, however, that these standards do not apply to preexisting uses as described in TCC 20.30D.060(2). The building code as adopted by Thurston County shall be used for determining the building occupant load factor. For developments proposing two or more uses, the calculation must incorporate the occupant load factor and acreage for the entire development. For developments involving land or buildings split by a compatible use zone boundary, only that portion of the land or building(s) located within the compatible use zone shall be subject to the standards below.	
Zone 1	20 people per acre maximum
Zone 2	60 people per acre maximum
Zone 3	125 people per acre maximum
Zone 4	135 people per acre maximum
Zone 5	150 people per acre maximum
Intensity Bonus	Land development proposals located in compatible use zones 2, 3, 4, or 5 that exceed the intensity standards set forth in subsections (2)(b) through (e) of this section may be considered for approval through the special use permit process.

Source

Thurston County Code of Ordinances

Critical Areas (TCCO Title 24)

The Thurston County Critical Areas Ordinance was established to protect new developments from natural hazards and to protect critical natural resources from development impacts. Industrial development in county designated critical areas will be subject to Critical Areas permit review. Critical area review permit applicants must demonstrate that the proposed development will adhere to the general requirements set in chapter 24.01.035 and mitigation sequencing set in chapter 24.01.037 of the TCCO.

Impact Fees (TCCO Title 25)

TCCO Title 25 establishes impact fees on new developments to account for additional demand and need for public facilities. Collected fees are used for improvements to parks, schools, and transportation. Impact fees for industrial developments are limited to only transportation fees. See the 2022 transportation impact fee rate schedule for industrial land uses in table 7 below. These rates are slightly lower than the following average impact fees² in Pierce County (Pierce County 2023):

- Industrial/Manufacturing: \$2.67 sf/GFA
- Warehousing: \$2.89 square foot (sf)/gross floor area (GFA)

Table 9. 2022 Transportation Impact Fee Rate Schedule

Land Use	ITE Land Use Code	Unit of Measure	Northwest Region	West Region	South+ South UGA Region	East+ East UGA Region	North Region	Central UGAs	Average
Cost Per Trip End			\$3,150	\$2,200	\$4,950	\$2,775	\$2,200	\$3,125	\$3,067
Light Industry/ Manufacturing	110, 140	sf/GFA	\$2.66	\$1.86	\$4.19	\$2.35	\$2.59	\$2.64	\$2.59
Heavy Industry	120	sf/GFA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Industrial Park	130	sf/GFA	\$1.69	\$1.18	\$2.66	\$1.49	\$1.65	\$1.68	\$1.65
Mini-Warehouse/ Storage	151	sf/GFA	\$0.72	\$0.50	\$1.13	\$0.63	\$0.70	\$0.71	\$0.70
Warehousing	150	sf/GFA	\$0.80	\$0.56	\$1.26	\$0.71	\$0.78	\$0.80	\$0.78

Source

Thurston County Code of Ordinances

Note

sf=square feet/GFA=gross floor area ITE=Institute of Transportation Engineers

The math for calculating impacts fees is the building square footage times the impact fee rate depending which region the project is located in. A 500,000 square foot distribution center in the South+South UGA Region (e.g. Grand Mound) could total \$630,000 (500,000 square feet times \$1.26 of gross floor area).

Comprehensive Plan

The land use, transportation, and economic development chapters of the 2020 Thurston County Comprehensive Plan list the goals, objectives, and policies that will guide the City's efforts in realizing the community's vision of industrial development. The Comprehensive Plan offers the following guiding criteria:

- **Goals** are broad statements of purpose.
- **Objectives** represent initial actions to effect implementation.
- **Policies** provide specific direction to City staff.

² Impact fees differ based on Pierce County area. The impact fee values for all Pierce County areas were averaged for comparison.

The following captures verbatim the goals, objectives, and policies from the chapters that are relevant to industrial development.

Land Use Chapter

Goal LU-1: To provide for low intensity and natural resource sensitive rural development.

Objective LU-1A: Rural Land Use and Activities - County development requirements and programs provide for a balance between human uses and the natural environment in rural and resource areas, the conservation of rural resources, and for low levels of demand for public services and facilities.

Policy LU-1A.7: Isolated commercial and industrial businesses in the rural area, legally established on or before July 1, 1990, that may not be principally designed to serve the existing or projected rural population and nonresidential uses, but do provide job opportunities for rural residents, should be allowed to expand or change use provided the expansion or conversion does not constitute new urban development in the rural area, is contained on the same lot as the existing use, is visually compatible with the surrounding rural area, and detrimental impacts to adjacent properties will not be increased or intensified.

Policy LU-1A.8: New industrial uses in rural areas (other than small scale home-based industries) should generally be those appropriate to the lower densities and land uses of rural areas, such as:

- Industries related to and dependent on natural resources of agriculture, aquaculture, timber, and minerals and
- Industries that are functionally and visually compatible with the character of the rural area and dependent upon a rural setting

Goal LU-2: To designate Urban Growth Areas that cumulatively provide area and densities sufficient to permit the urban growth that is projected to occur in the county over the succeeding 20 years

Objective LU-2A: Designating Urban Growth Areas - Include in urban growth areas territory that is located outside of a city or town only if such territory is already characterized by urban growth or is adjacent to territory already characterized by urban growth.

Policy LU-2A.14: In order to protect the supply of adequate water to rural area residents and natural resource industries, the County should consider mitigation methods for rural area water supplies that are purchased or transferred from the rural area for use in a city or urban growth area.

Objective LU-2C: Accommodating Projected Growth - Concentrate medium and higher-intensity residential, commercial and industrial development in urban growth areas in a way that ensures livability and preservation of environmental quality, open space retention, varied and affordable housing, and high quality urban services at the least cost.

Policy LU-2C.7: Mining, forestry, farming, and related natural resource industries may occur in urban growth areas, but in the long-term can expect to be replaced by more intensive urban land uses and activities.

Policy LU-2C.8: Industrial and commercial development of all types may occur in urban growth areas, particularly the larger and more intensive types of development which require higher levels of public services and facilities. Within the urban growth areas around the incorporated

towns, the industrial and larger commercial development should take place inside the towns themselves in order to support their roles as the economic centers of their areas.

Transportation Chapter

Goal T-5: Create and preserve a transportation system that supports and promotes economic vitality.

Objective T-5A: Ensure freight mobility and access within the region.

Policy T-5A.1: Support freight access to and from highways and other major freight corridors, and between the region's intermodal facilities and industrial areas.

Policy T-5A.2: Support efforts to increase the amount of freight that is moved by rail to enhance efficiency, productivity, safety, and mobility on the region's roadways.

Policy T-5A.3: Explore strategies to reduce conflict and optimize safety for all transportation system users where industrial/commercial land uses are in highly urbanized areas.

Policy T-5A.4: Promote policies and design standards that enable delivery trucks to access businesses while minimizing impacts on the transportation system.

Policy T-5A.5: When creating new roadways or upgrading existing ones, design roadways to reduce weather-induced weight restrictions on streets, roads, and bridges that are important freight routes.

Goal T-8: Support appropriate marine infrastructure to meet the needs of residents and businesses in the region.

Objective T-8A: Encourage sufficient marine capacity to accommodate existing and future demand.

Policy T-8A.1: Support a marine terminal for water-borne freight movement.

Economic Development Chapter

Goal ED-1: Support sustainable business and industrial development which strengthens and diversifies the economic base, creates jobs, and maintains high quality of life and environment.

Objective ED-1A: Help expand new, and strengthen existing, Economic Development Programs that locate and expand sustainable and environmentally sound business and industry; contribute to full utilization of the county's business and industrial land base, and strengthen and diversify the economic base.

ED-1A.1: The county should support economic development efforts that identify the types of jobs, industries, and businesses to be targeted for focused attention to maximize the return on economic development efforts.

ED-1A.2: The county should ensure adequate amounts of properly zoned and located land required by those businesses and industries identified for targeted attention (in Policy 1 above) in economic development plans adopted by the county.

ED-1A.3: The county should partner with county wide economic development partners, including the EDC, Thurston Chamber and Port of Olympia, to develop and implement targeted economic development initiatives in rural portions of the county.

ED-1A.4: The county should support efforts to form and operate a federally-recognized Economic Development District, of which it would constitute one component of a multi-county entity qualified to receive federal aid, grants and other technical assistance.

ED-1A.7: The county should support efforts to form and operate a federally-recognized Economic Development District, of which it would constitute one component of a multi-county entity qualified to receive federal aid, grants and other technical assistance.

ED-1A.8: The county should continue supporting targeted industry development initiatives to enhance our existing employer base, reduce supply chain gaps and maximize the return on economic development efforts.

ED-1A.11: The county should support efforts to diversify Thurston County's economy through the encouragement of more manufacturing-based industries and enhancement of other target industry clusters including: information-technology, healthcare, tourism, food production-manufacturing and wood products-forestry.

Objective ED-1B: Land use permits and procedures should expand existing businesses, establish new businesses which diversify the economy, and support home occupations and small-scale home-based industries.

ED-1B.1: The county should allow limited changes or expansions to nonconforming businesses in the rural area provided (a) any detrimental impacts to adjacent properties will not be increased or intensified; (b) changes or expansions comply with performance standards; (c) changes do not result in a formerly small operation dominating the vicinity; and (d) any expansion or change of use is in keeping with the rural character.

ED-1B.5: The county should provide some zones that allow both manufacturing and retail in order to permit manufacturers to engage in limited retailing of their products within industrially zoned areas.

ED-1B.6: The county should explore land use options that allow for research and development, light manufacturing and office functions in a single location.

Objective ED-1C: Utility planning should be done by identifying the funding for, and locations of, new utilities and upgrades which serve commercially and industrially zoned areas.

ED-1C.1: The county should continue to work jointly with the appropriate jurisdictions and private sector to annually develop capital facility plans and funding strategies for utilities, transportation, and other services to serve industrial and commercial areas.

ED-1C.2: The county should work with other appropriate jurisdictions to determine the feasibility of shared public capital facilities and shared funding of those facilities, especially as they benefit economic development efforts. ED-1D.3: The county should designate industrial areas in sufficient quantity and quality to meet current and future needs.

Objective ED-1D: Commercial and industrial land should be designated in adequate amounts and appropriate locations to meet current and future needs, maintain a quality environment, and provide economic opportunity to rural residents while preserving character in the rural area.

ED-1D.4: The county should evaluate industrial land use designations made through Joint Plans to assure that adequate supplies of industrial lands are available for both short- and long-term use and that this plan's revised guidelines for locating industrial lands are met.

ED-1D.5: The county should ensure that industrial areas are large enough to accommodate a number of industrial uses in clusters so that the area may be developed in a coordinated fashion and be provided with a variety of parcel sizes.

ED-1D.6: The county should ensure that industrial and commercial areas are able to be served by required utilities, transportation, and other services at a level appropriate to the uses within the industrial/commercial area.

ED-1D.8: The county should ensure that commercial and industrial areas are located where there is a low risk of potential adverse impacts to environmental quality. For example, commercial and industrial areas should be sited where aquifer protection can be assured. Also, the county should analyze the lands designated for commercial and industrial uses to determine which, if any, pose hazards to aquifers such that aquifer protection is jeopardized.

ED-1D.10: The county should promote the strategy that priority business activities should be commercial, tourism and industrial uses in urban growth areas.

Objective ED-1F: Development standards for industrial and commercial areas and activities should be provided to promote optimal working environments, worker health and safety, and compatibility with adjoining areas while ensuring sustainable and environmentally sound developments.

ED-1F.4: The county should periodically review and update Zoning Ordinance standards for industrial and commercial areas to be consistent with Comprehensive Plan policies.

Health Chapter

Goal H-1: Improve and protect air quality to reduce air based health hazards.

Objective H-1A: The County should attain a high level of air quality to ensure a reduction in adverse health impacts.

H-1A.1.: The County should continue to work to meet federal and state air quality requirements.

Goal H-3: Protect and preserve water quality and drinking water supplies.

Objective H-3A: Water supplies should be protected with regulations and monitored for quality.

H-3.A.5. The County should explore conditioning the approval of land use and development permits so they do not adversely affect ground and surface water quality. Proposals should be evaluated for physical, biological and chemical impacts, including pesticides, toxic materials and chemicals of emerging concern.

H-3A.6. The County should work to keep current on the risks to ground and surface water resources posed by human activities and update its rules and policies to manage these risks to protect public health and the environment. Rules and policies should be developed with special attention to Chapter 9 (Environment, Recreation, and Open Space) to ensure environmental policies are in sync.

Habitat Conservation Plan

The 2022 Habitat Conservation Plan (HCP) was developed by the County to replace the need to obtain separate federal and local permits, or secure land to meet mitigation requirements. It created a new process that works to simplify regulations for economic development while protecting listed and rare species. The HCP permit jurisdiction covers all the unincorporated areas of Thurston County, and the Urban Growth Areas of Olympia, Lacey & Tumwater which are under County permit jurisdiction. It does not include the cities of Lacey, Olympia or Tumwater, Tenino, Yelm or Bucoda. The HCP applies mitigation fees in species areas and habitats based off of the size and relative impact of the project.

The purpose of the HCP is to provide regulatory certainty, permitting efficiency, and local control over processes. Applicants are able to apply for year-round permits from the county, reducing the long and often costly burden of needing to obtain additional federal permits. The HCP provides a legal path to developing in compliance with the Endangered Species Act.

Policies

Table 11. Covered Activities, Areas, and Species

Species	Coverage Area	Covered Activities
<ul style="list-style-type: none"> • Mazama pocket gopher • Olympia pocket gopher • Tenino pocket gopher • Yelm pocket gopher • Oregon spotted frog • Taylors checkerspot butterfly • Oregon vesper sparrow (USFWS may list under the ESA). 	<ul style="list-style-type: none"> • Unincorporated areas of Thurston County. • Generally rural areas, and the Urban Growth Areas of Olympia, • Not covered: the cities of Lacey, Olympia or Tumwater, Tenino, Yelm or Bucoda 	<ul style="list-style-type: none"> • Most ground disturbing activities including industrial development.

Applicability

Projects should be designed using the best management practices outlined in the HCP and should work to avoid projected habitats. If the habitat cannot be avoided, mitigation fees will be measured by size and anticipated impact. The impact can be calculated using the mitigation fee calculator.

Development Impact

Any proposed building on mapped Mazama pocket gopher soils with suitable habitat (i.e. open, non-forested sites for which new ground disturbance is proposed) require mitigation under the Habitat Conservation Plan unless building is proposed within the footprint of existing structures or existing impervious surfaces, or the project meets 4(d) exemptions. Higher fees are paid for sites with known (mapped) gopher occupancy, or which are adjacent to known gopher locations. For sites with unknown gopher occupancy, mitigation fees are higher for projects which take place on more preferred gopher soils and lower on less preferred gopher soils (these soils can be viewed in Thurston County Geodata layers). 'More preferred' soils are those soils in which gophers have been detected most frequently.

Shoreline Master Program

The 1990 Shoreline Master Program for the Thurston Region constitutes shoreline management for the Thurston Region and establishes shoreline development policies, regulations and zoning³. Section 8 of the SMP defines policies, regulations, and permitted uses related to industrial

³ Zones are referred to as "environments" in the SMP.

development in shoreline environments. The following captures verbatim the policies and regulations from the industrial development (Chapter 8) chapter.

Policies

1. Future marine water-dependent or water-related industrial use should be located in shoreline areas already devoted to or zoned for industrial use. Where industry is now located in shoreline areas that are more suited to other uses, it is the policy of this Master Program to minimize expansion of such industry unless the property is already zoned for industrial use by the local jurisdiction.
2. Priority for industrial development along fresh water shorelines should be given to industrial uses in the following order of priority:
 - a. Water-dependent uses;
 - b. Water-related uses; and
 - c. Other industrial uses.

The lower-priority uses should be allowed if the higher-priority uses cannot be reasonably expected in the future, or if lower-priority uses will be of public benefit by increasing public use, enjoyment or access to the shoreline.

3. The cooperative use of docking, parking, cargo handling and storage facilities should be strongly encouraged in waterfront industrial areas.
4. New facilities should not substantially increase levels of air, noise, or water pollution.
5. Open-pile or floating construction is favored in the expansion of facilities into water areas.
6. The length and width of industrial docks and piers should be the minimum necessary.
7. Buildings should only be allowed over-the-water if an urban waterfront plan addressing the relevant issues is approved.
8. Construction of over-the-water buildings should consider impacts on marine habitat.
9. Over-the-water buildings should only be allowed on marine waters characterized by urban development.

General Regulations

1. The project application shall incorporate the following:
 - a. Evidence of water dependency.
 - b. Cooperative use of service facilities by multiple concerns where possible.
 - c. Information on transportation and utility service corridors, traffic circulation, access to facility and effect of the proposed project on transportation and circulation in the vicinity.

- d. Analysis of the impact upon and alteration to natural landform patterns.
 - e. Methods for treatment and control of waste disposal including any storm or sanitary sewer outfalls proposed.
 - f. Analysis of the impact upon ground water, hydrology, drainage patterns and soil erosion.
 - g. Analysis of air quality and noise level impacts.
2. Issuance of a permit for the development, expansion or alteration of an industrial area shall be contingent upon the existence of emergency capabilities for controlling and eliminating potential water pollution impacts resulting from spills, leaks or operational failures.
3. Water storage and handling of logs is subject to the following standards:
- a. Permits shall contain provisions for the clean up of log dumping and rafting areas, and disposal of wastes.
 - b. Bark and wood debris controls, together with collection and disposal facilities, must be employed at log dumps, raft building areas, and mill handling areas.
 - c. Logs shall not be dumped, stored or rafted where grounding will occur except in the Urban Environment of Budd Inlet.
 - d. Permits for free-fall dumping of logs are not allowed unless the applicant can demonstrate said procedures will not produce more adverse impacts than the easy let-down method. The use of log bundling and other devices should be encouraged.
4. Dry land storage of logs is subject to the following standards:
- a. Unpaved storage areas underlain by permeable soils shall have at least a four (4) foot separation between ground surface and the winter water table.
 - b. Dikes, drains, vegetative buffer strips or other means shall be used to ensure that surface runoff is collected and discharged in a manner least detrimental to water quality from the storage area. It shall be demonstrated that state water quality standards or criteria will not be violated by such runoff discharge under any conditions of flow in nearby water courses. If such demonstration is not possible, runoff shall be treated to meet state and federal standards.
5. Over-the-water buildings are allowed only on marine shorelines.
6. Water-dependent uses will only be allowed over-the-water after an urban waterfront plan is approved by the affected jurisdiction responsible for Shoreline Conditional Use Permits. This plan must include consideration of the following :
- a. Adequate provision for water-dependent and water-related uses.
 - b. View preservation, public access, traffic impacts, parking, and other upland site development requirements.

- c. Potential impacts to habitat posed by over-the-water construction.
- 7. All stair towers meeting one of the following conditions must be designed by a licensed civil engineer:
 - a. The location proposed is mapped as "unstable or "Intermediate Stability" in the Washington Coastal Zone Atlas prepared by the state Department of Ecology.
 - b. All stair towers 24 feet in height or taller.
 - c. Other instances where the building official determines that site conditions dictate the preparation of plans by a licensed civil engineer.
- 8. Stair towers shall be designed to minimize obstructing the views enjoyed by adjoining residences.

Environmental Designations and Regulations

The SMP establishes three shoreline environments: the urban environment, suburban, rural and conservancy environment, and the natural and natural-aquatic environment. Industrial development is permitted in the Urban Environment, but prohibited in both the Suburban, rural and conservancy environment, and natural and natural-aquatic environments. The following are allowed uses in the urban environment:

- Water-dependent and water-related port and industrial uses on marine waters.
- Expansion of existing industrial uses provided it does not adversely affect the flood carrying capacity of the floodplain.
- Construction of replicas of and/or architectural interpretations of historical buildings originally located over water.
- Water related and other industrial uses on fresh water, provided a water-dependent use cannot be reasonably expected.
- Water-dependent over-the-water buildings may be allowed by Conditional Use Permit.