An Industrial Lands Analysis for the Central Puget Sound Region

Executive Summary

INTRODUCTION

The central Puget Sound region’s economy is growing and will continue to add jobs through 2040. Economic activity on industrial land is a significant contributor to the region’s prosperity and growth. PSRC forecasts suggest that industrial jobs on industrial lands will increase by almost 84,000 between 2012 and 2040.

This report provides an updated assessment of economic activity on industrial land in the central Puget Sound region, including analysis of industry forecasts and the region’s ability to accommodate economic growth on industrial lands. The report provides data and analysis intended to serve a broad range of land use and economic development planning needs and interests.

PROJECT APPROACH & METHODS

This report takes as its starting point that PSRC’s forecast employment will be accommodated within the region. Industrial businesses’ location choices reflect complex factors, including land price, rents and availability, proximity of resource inputs, distribution networks, anchors and assets, and markets. This analysis focuses on industrial-zoned or designated land within the region and how these areas could accommodate forecast growth.

The analysis segments industrial lands as follows:

- **Gross Industrial Supply Estimates.** An inventory of all industrial-zoned land in the region, spread across four counties, 82 cities and towns, plus military and tribal lands, and their diverse systems of zoning and land use designation to identify lands where industrial activities are permitted to occur and/or are encouraged.

- **Net Industrial Land Supply.** A subset of the gross industrial land supply representing lands available or potentially available to accommodate growth in industrial jobs, including vacant land and land available for infill and redevelopment. Net supply excludes lands that are not available or appropriate for future industrial development (rights-of-way, parks, protected open space,
protected resource lands, and certain public facilities such as airports).

The analysis then assesses, at the scale of individual subareas (defined as 13 geographically proximate industrial agglomerations of 1,000 or more acres, plus four remaining dispersed areas in each county), how forecast employment can be accommodated, and whether and how development patterns in each subarea might need to change to do so.

**Industrial Zoning**

Urban planning practices in the region will continue to have a profound influence on the location and function of industrial activity in the region. As such, this analysis also contemplates land use management and planning strategies necessary to successfully accommodate future growth in the industrial sector.

Cities across the region use the term ‘industrial’ to denote a set of uses that are land-intensive, often involving atypical patterns of noise, light, and hours of operation. Industrial uses span a wide range, from traditional core industrial uses such as manufacturing, transportation, warehousing, freight terminals, and railroad yards to related uses such as nurseries, repair services, and laboratories. These uses differ in many ways, including land utilization, employment patterns, locational preferences, and linkages to the regional economy.

Cities regulate industrial uses by listing permitted, prohibited or conditional uses, without specifically defining the overarching ‘industrial’ segment. The wide range of allowed uses, and the difficulty in striking the right balance for such an assortment of uses, has led to a system where zoning codes are viewed as too permissive by core industrial users.

Current zoning for industrial land conflates two ideas about land use. The first is the need to set aside land for employment-based uses that can operate only in certain specific locations. The second is the need to make space within cities for certain land-intensive uses, such as automotive repair and services. The latter may locate in industrial-zoned land mainly because the area allows outdoor storage and easy auto access close to employment centers. Another use, which is not traditionally considered a core industrial use but is increasingly found on industrial-zoned land, is research and development (R&D). R&D uses vary widely; in some instances they involve manufacturing or production, and in some cases they are indistinguishable from office uses. Regardless of their character, these uses are allowed in many industrial designations throughout the region.
TRENDS SHAPING INDUSTRIAL LAND USE IN THE CENTRAL PUGET SOUND REGION

Historic Global Manufacturing Trends

Historically, a massive shift in production away from the U.S. and to countries such as China affected the demand for land throughout the U.S., including the central Puget Sound region. More recently, outsourcing of manufacturing to Mexico, in addition to traditional outsourcing to Asia, continues regionally according to real estate professionals interviewed for this study.

Recent Resurgence of Manufacturing Jobs

Manufacturing employment, as a fraction of total employment, declined for the past half century in the U.S. In addition to offshoring, economists identified productivity gains, domestic labor costs and other factors as driving forces behind this contraction. In recent years, however, important changes have led to modest but noticeable shifts back toward domestic production, such as the following:

- Rising labor costs in China and lower energy costs in the U.S., narrowing some of the cost advantages of offshoring.
- Companies’ desire to be close to customers to respond quickly to shifts in demand.
- A political climate supportive of manufacturing employment.

Manufacturing industries, including computers and electronics, machinery, fabricated metals, electrical equipment, and plastics and rubber, are leading the on-shoring trend. Other sectors reviving domestic manufacturing include production of furniture, petroleum, chemicals, primary metals, and food and beverages.

Transformations in Manufacturing

The global manufacturing sector is expected to continue undergoing profound transformations. Trends underway in 2015 include the following:

- Large-scale manufacturing of complex and commodity products will continue, but a growing share of manufacturing will continue moving toward smaller-scale, specialized and/or local production.
- Increased automation and technology in manufacturing will change workforce requirements, both in skills demanded and the types and quantities of occupations.
- Manufacturing will continue to evolve from production alone to include design and production supporting services.
Technology will enable lower-impact and cleaner modern industrial processes – effectively reducing many traditional land use conflicts that have isolated industrial activity to industrial zones.

Closed-loop manufacturing, triple-net business models, and other sustainability practices will continue to gain traction and market share in the industrial sector.

Small-size, artisanal or “craft” production of small batches of specialized products, the so-called “Maker Movement,” will take place inside city limits where access to urban markets and industry peers is paramount.

U.S. competition for industrial users in the Puget Sound region include the Gulf region, South Carolina, and Colorado, as well as regional competition from Idaho and Oregon.

**Implications for Industrial-Zoned Lands**

Technology advances in industrial processes, controls, buildings, and equipment have resulted in decreased sound, odor, and vibration, allowing many modern industrial businesses to co-exist with minimal impacts to adjacent residential or commercial uses. Such modern industrial businesses may not need exclusively industrial-zoned land to operate. Industrial uses may, however, be unable to compete for the generally higher-priced land outside industrial-zoned lands.

Urban manufacturing, variously known as local production or artisanal manufacturing, is a growing component of industrial jobs. It is predominantly comprised of small and medium-sized enterprises and often combines small retail, design, or office spaces with production and distribution functions. These uses can also be part of mixed-use environments and do not need exclusively industrial-zoned land to operate. These types of uses, however, are presently a small component of industrial jobs.

Due to these trends, the extent to which industrial activities must concentrate on industrial-zoned land may decline. Current regulations in some cities across the region do not reflect this changing paradigm of industry and may constrain land choices.

As discussed above, non-industrial-zoned land can, and will continue to, absorb industrial jobs. Opportunities for mixing non-disturbing industrial uses with other land uses will increase as the nature of some industrial activities change. Nevertheless, some industrial activities in the region will continue to have impacts and low compatibility with other uses. It is important to protect industrial-zoned land for these heavy industrial activities, especially lands with unique assets and large infrastructure investments such as ports and intermodal freight nodes.
UNDERSTANDING THE REGION’S INDUSTRIAL LANDS

What is the distribution of industrial land?

The geography of gross supply of industrial land in the region is uneven. The region’s industrial-zoned lands fit into 13 geographic concentrations or subareas (See Exhibit E.1). An additional category, “dispersed,” includes industrial lands scattered across the region. These 13 subareas and scattered land in the “dispersed” category make up 100% of

Exhibit E.1. Industrial Subareas of the Central Puget Sound Region
industrially zoned land in the region. No geographically proximate concentration of industrial-zoned land greater than 1,000 acres exists outside of the 13 subareas and dispersed lands.

What is the supply of industrial land in the region?

The region contains 71,983 gross acres of industrial-zoned and designated lands spread across four counties, 65 jurisdictions, and military and tribal lands (see Exhibit E.2).

The region contains 28,615 acres’ net supply of industrial lands. This is a subset of gross supply and excludes land in existing rights-of-ways, parks, protected open space, protected resource lands (wetlands, floodways, etc.), and certain public facilities (including airports).

How has the quantity and distribution of industrial land in the region changed since 1998?

Since industrial lands in the region were last inventoried in 1998, gross industrial land supply has undergone erosion in some areas, with modest growth in others. Areas experiencing erosion of industrial land include Bel-Red, Everett’s Snohomish Riverfront Redevelopment area, Renton Landing, SODO’s Stadium District, Snohomish industrial between Everett, Mill Creek, and Lynnwood, and Auburn heavy commercial. Some jurisdictions that have added to the supply of industrial land include Arlington, Bremerton, Pierce County, and Tacoma, among others. Regional manufacturing/industrial centers (MICs) are doing a good job overall in protecting industrial land, and many MICs added industrial zoning within their boundaries.

The changes in supply also reflect methodological changes such as the inclusion of selected military areas as part of the region’s industrial land supply, including Puget Sound Naval Shipyard, Naval Station Everett, Bangor Trident Base, and the McChord and Gray Field areas of Joint Base Lewis-McChord.

What industrial specializations are occurring on major concentrations of industrial land in the region?

Aerospace manufacturing is concentrated largely in the Southwest Everett subarea and, to a smaller extent, in the Duwamish-North Tukwila subarea.

The principal industrial land agglomerations in the central Puget Sound region are the Duwamish-North Tukwila and Kent-Renton subareas. These subareas make up the non-aerospace industrial core of the region. The Duwamish-North Tukwila and the Tacoma-Puyallup subareas include the Port of Seattle's and Port of Tacoma’s primary marine shipping facilities. The Kent-Renton and Frederickson-Lakewood subareas specialize in transportation, distribution and logistics, warehousing and
manufacturing, while the Arlington-Marysville subarea specializes in distribution and logistics.

**Exhibit E.2. Gross Industrial Land Supply of the Central Puget Sound Region**

Three other industrial areas have specialized roles in the region. The I-405 Corridor is a high tech industrial corridor that includes traditional manufacturing and business parks with flex-tech land use. The Auburn-Sumner subarea provides distribution facilities for the region and beyond. The Interbay-Ship Canal subarea is a hub of maritime industry activities.
including commercial fishing fleet moorage, shipyards, and cold storage facilities.

**How much of the region’s industrial employment is on industrial land?**

Sixty percent of the region’s total industrial-related sector jobs are located in one of the 13 subareas or dispersed lands. Sectors with the highest share of employment on industrial-zoned land include Ship and Boat Building, Repair and Maintenance, and Refining Chemicals and Plastics. Sectors with a higher share of employment off industrial-zoned land include Building and Ground Services, Telecom, Broadcasting and Video Production, and Printing and Publishing.

The number of jobs on industrial lands totaled 473,700 in 2012, representing about 27.3% of all jobs across the central Puget Sound region. Between 2000 and 2012, employment on industrial lands has averaged 26.5% of total covered employment across the region.

Industrial jobs are defined in this study as occupations in the industrial activities shown in the graphic below.

**What are the region’s unique assets that could help retain and expand current industrial activity and attract new industrial users?**

Key assets of the region include the presence of deepwater ports, proximity to China and Pacific Rim trade hubs (a relatively large industrial sector within a growing regional economy), ease of transportation access due to road, rail, water and air interfaces, support infrastructure such as pipelines for petroleum products (including jet fuel delivery to Sea-Tac International Airport), and the presence of large industrial anchors such as aerospace, maritime and life sciences employers. Planning and
programming of freight transportation projects, such as Freight Mobility Strategic Investment Board (FMSIB) projects, that improves access and mobility needs for freight-dependent industrial areas is also a unique asset.

Other regional assets are access to a highly skilled workforce, the presence of workforce development programs, availability of relatively inexpensive electricity, and local industrial policies that prioritize protection or strengthening of industrial sectors.

Interviews with local industrial business owners revealed the following physical and regulatory factors that drive the selection process for potential locations for industrial purposes:

- Land available that is buffered from residential uses.
- Access to a skilled workforce.
- Ease of transportation.
- Pre-approved, pre-permitted land.
- A regulatory environment with certainty of regulations established, respected businesses who can vouch for the permitting process, similar businesses in the area, and support from the Department of Ecology.

What is the contribution of industrial land to the regional economy?

In 2012, total wages paid out by industrial activities on industrial lands summed to $24.4 billion. Overall, the annual earnings from industrial jobs on industrial lands averaged $80,000 in 2012. Wages associated with industrial jobs on industrial lands equaled 23.2% of all wages paid out across the region in 2012. By comparison, the average wage across the four-county central Puget Sound region in 2012 was $59,700. Retail Trade, one of the largest segments of the regional workforce, supported an average wage of $36,300, while Finance and Insurance paid an average wage of $86,900.

Estimated state tax revenues generated by industrial activities on industrial lands totaled over $2.25 billion in 2012.

**Forecast Growth**

PSRC’s forecasts show industrial jobs on industrial-zoned lands increasing from **305,100 in 2012 to 389,000 by 2040.** This represents an addition of 83,900 industrial jobs regionwide through 2040, which yields a compound...
annual growth rate (CAGR) of 0.9%. This is lower than the 1.3% CAGR for PSRC’s regional employment forecast across all sectors and land types.

Importantly, the proportion of industrial to non-industrial jobs is forecast to experience a pronounced change—total non-industrial jobs are projected to grow from 36% of total jobs on industrial lands in 2012 to 45% by 2040.

Variable growth among different industrial subsectors could usher in changes in the composition of employment on industrial lands. The Warehousing & Wholesale sector is projected to grow as a share of total industrial jobs on industrial lands (including public sector jobs) from 17% in 2012 to 21% in 2040, while the share of Manufacturing jobs is expected to decline (55% in 2012 to 46% in 2040). Other industrial activities—largely composed of Industrial Services—have the highest forecast growth rate and are projected to increase as a share of total industrial jobs from 8% to 13% by 2040.

**ABSORPTION OF FORECAST GROWTH**

**Does the central Puget Sound region have enough industrial land to satisfy demand through 2040?**

Subareas vary in their capacity to absorb employment growth anticipated to occur in each subarea. Mathematically, all subareas have the capacity to absorb growth, but considerations such as the desirability of existing vacant land and redevelopment ability will require strategies in some subareas to adapt to the demand for land in those areas. This analysis is based on current land use and other conditions. If the supply of industrial land changes, the findings will change. Demand findings for the subareas can be grouped into the following categories:

- **Strong demand/limited capacity.** For some subareas, strategies and planning will be required to accommodate industrial growth. These include the Interbay-Ship Canal, Duwamish-North Tukwila, Kent-Renton, and SeaTac-Des Moines subareas.
- **Strong demand/adequate capacity.** In some subareas, capacity appears adequate, but demand is strong enough to merit management strategies. These include the Frederickson-Lakewood, Southwest Everett and Tacoma-Puyallup subareas.
- **Adequate capacity.** Some subareas have adequate land capacity to accommodate growth forecasts. These include the I-405 Corridor, Arlington-Marysville, and North-Central Everett subareas, as well as the dispersed areas in all four counties.
- **Surplus capacity.** Some subareas have surplus land capacity beyond growth forecasts. These include the DuPont-Gray Field,
Puget Sound Industrial Center (PSIC)-Bremerton-Sinclair Inlet, and Auburn-Sumner subareas.

**STRATEGIC POLICY APPROACHES FOR INDUSTRIAL LANDS**

This report is intended to serve as a reference document for strategic conversation. Potential strategies are evident in the report’s findings. Strategies that would help strengthen the competitiveness of industrial lands for industrial users are listed below to provoke dialogue among local and regional planners and leaders. Continued collaboration could further develop these strategies into coordinated, actionable steps for jurisdictions and stakeholders.

1. **Ensure an adequate supply of land for industrial uses**

   The following policies and actions are examples of strategies that local jurisdictions should consider to protect existing land supply and, where necessary, to expand it.

   - Identify and protect priority users of industrial lands.
   - Limit non-industrial uses on industrial land and provide adequate non-industrial land for non-industrial uses off industrial land.
   - Increase the supply of land zoned to accommodate low-impact industrial uses.
   - Retain large parcels for large industrial needs.
   - Work with industrial businesses to improve space efficiency and land utilization.

2. **Simplify regulations to improve permitting efficiency**

   As industrial needs and external land use challenges evolve, new regulatory tools may help preserve industrial land for industrial uses and improve the effectiveness of existing industrial districts. Planned-action ordinances and special zoning districts streamline the permitting process and provide predictability for industrial users.

3. **Develop a strategic planning framework for industrial areas**

   Jurisdictions can develop industrial subarea plans and strategies to encourage growth, protection or conversion of industrial land. These plans and strategies may also include economic development incentives.

4. **Take advantage of Industrial Revenue Development Bonds**

   Industrial Revenue Development Bonds (IRDBs) are administered by the Washington Economic Development Finance Authority (WEDFA) and are used to provide low-interest, tax-free loans to industrial development
projects. These bonds could be used more widely to support industrial development.

5. Facilitate information sharing of best practices

PSRC can convene planners in the region to share information on best practices for industrial land use policy, permitting, freight mobility, brownfields cleanup, industrial economic development, and other industrial land and development topics.

6. Update regional designations

When next updating the regional MIC designation procedures, PSRC should consider changing the procedures to reflect that 1) the core industrial land designation protects industrial land more effectively than the industrial-commercial designation and 2) housing should not be allowed on core industrial land. In addition, PSRC should consider developing regional designation procedures and criteria for countywide MICs.

7. Continue to monitor supply and demand for industrial land

The region should continue to monitor and track the supply and demand for industrial land. In short intervals, PSRC could report on a small number of indicators. Examples of indicators that can be tracked in the short term include employment, wages, and land vacancy rates. In longer intervals, comprehensive analysis similar to this study could be repeated. An industrial lands data viewer could be developed to interactively display information in this analysis. In addition, PSRC can consider how the distinctions among industrial zoning and land use designations might be incorporated into PSRC’s Plan Review Program, particularly for MIC plans.

8. Align infrastructure planning with industrial land policy

Aligning and coordinating transportation and utility infrastructure planning and policies at the local, regional, and state levels are key to an effective strategy and successful funding. This is particularly important with regard to transportation, given the need to protect freight mobility. One transportation funding consideration could be to include among funding criteria the degree to which jurisdictions are affected by destination-based sales tax provisions.

9. Provide support for brownfields cleanups

Local jurisdictions can support brownfields cleanup and development by creating or updating inventories, prioritizing sites to be studied and remediated, and connecting landowners with technical assistance. As
described in Chapter 3, state and federal agencies provide technical assistance and funding to both local jurisdictions and private landowners.

10. Provide economic development support

Interviews and peer city analyses reveal the need for economic development strategies that go beyond land use regulation and support, and incorporate workforce development, marketing, and business retention services to help small industrial businesses. These strategies can foster entrepreneurship by providing advocacy, branding, marketing, training and other support.