



# Employment Analysis

November 2017

# Employment and Industrial Land Analysis

Understanding jobs based on industrial lands is important for policy makers to assess the economic benefits that come from lands zoned for industrial use.

**Other metrics** are equally if not more important in measuring the economic value of industrial lands; these include:

- The characteristics of these jobs, such as whether high skill positions are not easy to replace or found elsewhere in the labor market.
- Business revenues.
- Infrastructure and production assets on industrial lands.
- Tax revenues generated through activities on industrial lands, including direct business revenues (e.g. B&O, sales tax) and retail sales tax revenues supported through worker income expenditures across the region.

This snapshot of employment provides an indicator of demand, but does not fully characterize demand for industrial lands. Real estate market data demonstrating prices and land available for sale or rent provides the best indicator of demand for land.

Factors that are changing the way jobs reflect demand for land include the following, some of which are off-setting and even within each category are off-setting considerations.

- **Land as a production input.** The demand, both in type and character, is evolving over time, even for industrial activities. One trend observed in Germany and elsewhere is the emergence of "Manufacturing 4.0," involving types of production that are cleaner and rely on additive manufacturing. Cleaner processes may have less of the

negative externalities commonly associated with industrial activities, e.g. noise.

- **Robotics and automation**, yielding higher productivity but also lower employment demand per unit of output on industrial land.
- **Density of jobs** on industrial parcels, and the types of jobs.

## Industrial codes are not land use codes

- Industrial codes refer to the type of economic activity, but the extent to which industrial land is a requirement will vary within any given industry.
- Industrial NAICS can have a commercial land use. For example, even within manufacturing there are space needs for administrative work and other non-industrial activities.
- Similarly, retail NAICS can have an industrial use.

## Next steps

- We will apply revised land use data labels (industrial versus non-industrial) to PSRC geocoded jobs by parcel. This will allow us to tabulate jobs across each MIC based on actual land use, and not by NAICS.
- After completion of the land use parcel review, CAI will submit this list of parcels to the PSRC for aggregations.
- Jobs by land use classification will provide an informative and alternative approach to assessing the economic value of industrial lands, given that there exist parcels coded as industrial but are primarily used for non-industrial activities.



# Methodology – Industrial Activity Definition

## List of industry sectors and NAICS codes included in industrial activities definition

To be consistent with PSRC’s 2015 Industrial Lands Analysis report, this study uses similar definitions for industrial activities. The following changes have been made to the original definitions:

- Because of data suppression issues, what was previously a separate category called Utilities was included under the Administrative, support and waste management grouping. Similarly, Health Care and Social Assistance was grouped with the Other Services category.
- A new classification was added to cover commercial fishing.
- 511210 Software publishers was excluded from the Information category.

CAI Category	NAICS Code	Industry Code Description	CAI Category	NAICS Code	Industry Code Description	
Construction	236	Construction of Buildings		511110	Newspaper publishers	
	237	Heavy and Civil Engineering Construction		511120	Periodical publishers	
	238	Specialty Trade Contractors		511130	Book publishers	
Manufacturing	311	Food	Information	511140	Directory and mailing list publishers	
	312	Beverage and Tobacco Product		511191	Greeting card publishers	
	313	Textile Mills		511199	All other publishers	
	314	Textile Product Mills		51211	Motion Picture and Video Production	
	315	Apparel		515	Broadcasting	
	316	Leather and Allied Product	517	Telecommunications		
	321	Wood Product	Real Estate and Rental and Leasing	53113	Mini Warehouse and Self-Storage	
	322	Paper		53212	Truck Rental and Leasing	
	323	Printing and Related Support	Professional, Scientific and Technical	5324	Machinery/Equipment Rental and Leasing	
	324	Petroleum and Coal Products		54138	Testing Laboratories	
	325	Chemical	Administrative, support, waste management & utilities	54185	Display Advertising	
	326	Plastics and Rubber Products		221	Utilities	
	327	Nonmetallic Mineral Product		561612	Security Guards and Patrol	
	331	Primary Metal		56162	Security Systems	
	332	Fabricated Metal Product		56171	Extermination and Pest Control	
	333	Machinery		56172	Janitorial	
	334	Computer and Electronics		56173	Landscaping	
	335	Electrical Equipment, Appliance, and Component		56174	Carpet and Upholstery Cleaning	
	336	Transportation Equipment		56179	Other Services to Buildings and Dwellings	
	337	Furniture and Related Product		56191	Packaging and Labeling	
339	Miscellaneous	562		Waste Management and Remediation		
Wholesale Trade	423	Merchant Wholesalers (Durable)		Accommodation and Food Services	72232	Caterers
	424	Merchant Wholesalers (Non-durable)			72233	Mobile Food Services
Retail Trade	425	Electronic Markets, Agents and Brokers	Other Services	62191	Ambulance Services	
	4542	Vending Machine Operators		621991	Blood and Organ Banks	
Transportation and Warehousing	454311	Heating Oil Dealers		62421	Community Food Services	
	481	Air Transportation		8113	Commercial and Ind. Equip Repair	
	482	Rail Transportation		811412	Appliance Repair and Maintenance	
	483	Water Transportation		81233	Linen and Uniform Supply	
	484	Truck Transportation		812332	Industrial Launderers	
	485	Transit and Ground Passenger Transportation	Fishing	1141	Fishing	
	486	Pipeline Transportation				
	487	Scenic and Sightseeing Transportation				
		488	Support Activities for Transportation			
		491	Postal Service			
	492	Couriers and Messengers				
	493	Warehousing and Storage				

Source: Industrial Lands Analysis for the Central Puget Sound Region, Appendix B (March 2015)

Employment data used in this study was provided by the Puget Sound Regional Council (PSRC). The estimates were obtained for both covered and total employment at the level of industry sectors included in the industrial activities definition for each MIC and the city. However, there were two important departures from the PSRC employment estimates, discussed below.

## Fishing Jobs Estimates

The estimates for fishing jobs provided by PSRC were considered to be low, based on the significant role of self-employed workers in this fishing sector (including sole proprietors and partnerships). The fishing industry in general tends to be disproportionately comprised of self-employed workers relative to other sectors of the economy. This became further the case when in 2013 Washington state exempted most fishing crew wages from unemployment tax regardless of where the vessel operates. Under the law, employers who operate boats with 10 or fewer workers who are paid wages as a share of the value of the vessel's catch are not required to report these employees for taxation purposes.

CAI estimated that in 2015, the proportion of self-employed fishing jobs in Washington was 75% of total employment, i.e. 5,000 out of the 6,670 statewide jobs in fishing were among the self-employed or the ratio of total-to-covered jobs was 4:1. As most of the statewide fishing jobs are concentrated in the Puget Sound region, this ratio was considered relevant to the geography of this study and was applied to adjust the PSRC covered employment estimates for fishing at the MICs and city level. For example, the PSRC covered employment estimate for the city was around 550 jobs and it was assumed this does not include self-employment. Using the statewide ratio of total-to-covered jobs of 4:1, we estimated that there are just over 2,100 fishing jobs in Seattle.

The data used for the CAI estimates is derived from two sources: the Quarterly Census of Employment and Wages (QCEW) and Nonemployer Statistics (NES) published by the Census Bureau. QCEW data is reported at the county level and represents employment by employer location. NES data is used to estimate the total number of self-employed workers in the industry.

## Information Sector Jobs Estimates

The PSRC estimates for the Information sector were adjusted to exclude software publishing jobs, which are included within the broader industry code for publishing and printing (NAICS 511). The following methodology was applied:

- At the MIC level we estimated the number of jobs in each MIC for NAICS 5112 using employment data from Hoovers and subtracted from the total PSRC jobs estimates for the Information sector; for BINMIC, the main employer in the software publishing industry is Big Fish Games while for Duwamish there were several smaller employers such as Ixio Corporation, Industrial Generosity, Inc. and Graymatter Software.
- At the city level we estimated the proportion of jobs that are not software publisher jobs from total jobs for the Information sector for King County in 2015 and applied that proportion to the total PSRC jobs estimated for the Information sector for the same year. The data used to calculate this proportion was from the Bureau of Labor Statistics and is reported at the county level.



In addition to total job estimates from PSRC broken down by industrial and non-industrial activities and type of employment (covered and self-employed), our analysis also includes:

- **Industrial job estimates by educational requirements and median wage levels** - for this part of the analysis we use educational requirements and wage level data by detailed occupation from the Bureau of Labor Statistics. This data provides a median wage value and information on typical education needed for entry for each 6-digit SOC occupation. Because this data is at the occupational level, we need to convert the PSRC industrial employment estimates to occupational employment estimates. We use the industry occupation matrix provided by the Employment Security Department which indicates the distribution of industry employment between occupations to generate industrial occupational employment estimates. This analysis is performed for each of the three geographies in this study.
- **Industrial Job Estimates by Occupation, major groups (2-digit SOC)** – this is a summary of occupational employment estimates for industrial jobs at the 2-digit SOC level in each MIC and citywide and is done following the conversion of industrial employment estimates to occupational employment estimates.
- **Industrial Job Estimates for Leading Occupations, detailed groups (6-digit SOC)** – this is a summary of industrial occupations with the most number of jobs in each MIC and citywide.

# Employment Analysis – Seattle-Tacoma-Bellevue (MSA)

## Industrial Job Estimates by Educational Requirements and Median Wage Levels Seattle-Tacoma-Bellevue (MSA) 2015

	Less than \$25,000	\$25,000 to \$50,000	\$50,000 to \$75,000	More than \$75,000	Data not available	Total
High school diploma or equivalent	7,142	141,622	104,668	10,782	1,924	266,139
No formal educational credential	105,229	117,113	4,440	-	43	226,824
Bachelor's degree	-	1,390	34,020	71,085	8,040	114,535
Postsecondary nondegree award	-	16,684	5,689	1,768	3,507	27,648
Associate's degree	274	853	5,498	2,933	1,227	10,786
Some college, no degree	-	7,434	1,507	-	612	9,553
Master's degree	-	139	271	215	-	625
Doctoral or professional degree	-	-	32	219	38	290
<b>Total</b>	<b>112,645</b>	<b>285,236</b>	<b>156,125</b>	<b>87,002</b>	<b>15,390</b>	<b>656,399</b>

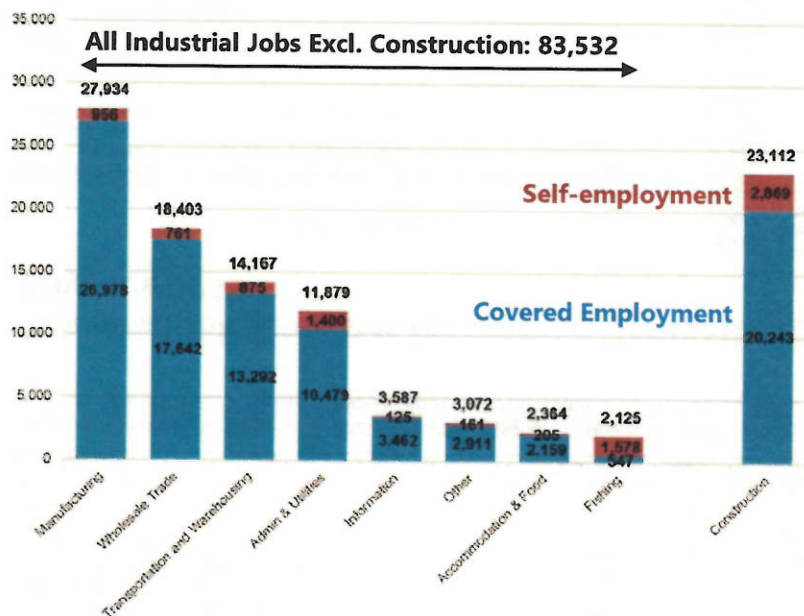
Source: Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

## Non-Industrial Job Estimates by Educational Requirements and Median Wage Levels Seattle-Tacoma-Bellevue (MSA) 2015

	Less than \$25,000	\$25,000 to \$50,000	\$50,000 to \$75,000	More than \$75,000	Data not available	Total
Bachelor's degree	290	17,220	130,820	206,825	4,250	359,405
High school diploma or equivalent	15,988	215,278	61,052	11,088	216	303,621
No formal educational credential	88,361	131,947	3,010	-	827	224,146
Postsecondary nondegree award	-	48,276	11,571	6,192	33	66,072
Doctoral or professional degree	-	190	13,298	22,071	6,362	41,920
Some college, no degree	-	28,476	8,893	-	978	38,347
Associate's degree	46	9,587	12,502	9,207	13	31,354
Master's degree	-	6,061	9,749	12,145	-	27,955
<b>Total</b>	<b>104,685</b>	<b>457,034</b>	<b>250,895</b>	<b>267,528</b>	<b>12,680</b>	<b>1,092,821</b>

Source: Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

## Industrial Job Estimates by Industrial Sector Citywide 2015



Source: Puget Sound Regional Council 2016, Community Attributes 2016  
 Note: Other is an aggregation of the following categories: Other Services, Real Estate and Rental and Leasing, Professional, Scientific and Technical, Fishing and Retail Trade

## Total Job Estimates Citywide 2015

	Covered Employment Excl. Construction	Self-employed Excl. Construction	All Jobs Excl. Construction	Covered Employment	Self-employed	All Jobs
Industrial	77,470	6,061	83,532	97,713	8,930	106,644
Non-Industrial	454,278	42,484	496,762	454,278	42,484	496,762
<b>TOTAL</b>	<b>531,748</b>	<b>48,545</b>	<b>580,293</b>	<b>551,991</b>	<b>51,414</b>	<b>603,405</b>

## Industrial Job Estimates by Educational Requirements and Median Wage Levels Citywide 2015

	Less than \$25,000	\$25,000 to \$50,000	\$50,000 to \$75,000	More than \$75,000	Data not available	Total
High school diploma or equivalent	854	24,278	21,562	2,408	1,274	50,376
No formal educational credential	3,972	19,668	1,000	-	2,146	26,787
Bachelor's degree	-	262	6,033	13,389	1,681	21,365
Postsecondary nondegree or Associate's degree	48	2,891	1,399	782	1,037	6,157
Some college, no degree	-	1,339	334	-	139	1,813
Master's degree or higher	-	15	54	58	20	146
<b>Total</b>	<b>4,875</b>	<b>48,454</b>	<b>30,383</b>	<b>16,636</b>	<b>6,297</b>	<b>106,644</b>

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

- In 2015, total industrial employment in Seattle was 106,644 jobs (including both covered and self-employed workers) which represents 18% of total Citywide employment. Approximately 50% of these jobs are located in the BINMIC and Duwamish MIC. The majority of the non-MIC industrial jobs are concentrated in four industries: construction, manufacturing, wholesale trade and administrative, support, waste management & utilities.
- Of the total number of industrial jobs in the City, 8% represent self-employed workers.
- Manufacturing jobs constituted the largest share of industrial jobs in 2015 (26%), followed by Construction (22%).
- Over 67% of industrial jobs in Seattle require a high school diploma or equivalent or no formal education credential.



# Employment Analysis – Citywide

## Industrial Job Estimates by Occupation, major groups (2-digit SOC) Citywide 2015

SOC Description	2-digit SOC	Industrial Jobs	% of Total Industrial Jobs	% of Total Occupational Employment (Seattle-Tacoma-Bellevue)
Construction and Extraction Occupations	47	16,380	15.4%	10.8%
Transportation and Material Moving Occupations	53	15,005	14.1%	6.1%
Office and Administrative Support Occupations	43	13,441	12.6%	2.7%
Production Occupations	51	12,484	11.7%	6.3%
Sales and Related Occupations	41	7,757	7.3%	2.2%
Business and Financial Operations Occupations	13	6,270	5.9%	2.5%
Building and Grounds Cleaning and Maintenance Occupations	37	5,600	5.3%	6.3%
Management Occupations	11	5,533	5.2%	2.9%
Installation, Maintenance, and Repair Occupations	49	4,717	4.4%	3.7%
Architecture and Engineering Occupations	17	4,672	4.4%	4.4%
Computer and Mathematical Occupations	15	4,214	4.0%	1.7%
Protective Service Occupations	33	3,013	2.8%	4.3%
Food Preparation and Serving Related Occupations	35	2,461	2.3%	0.8%
Farming, Fishing, and Forestry Occupations	45	2,388	2.2%	49.6%
Arts, Design, Entertainment, Sports, and Media Occupations	27	1,409	1.3%	2.3%
Personal Care and Service Occupations	39	472	0.4%	0.4%
Healthcare Practitioners and Technical Occupations	29	332	0.3%	0.2%
Life, Physical, and Social Science Occupations	19	208	0.2%	0.5%
Community and Social Service Occupations	21	161	0.2%	0.3%
Legal Occupations	23	58	0.1%	0.2%
Education, Training, and Library Occupations	25	41	0.0%	0.0%
Healthcare Support Occupations	31	29	0.0%	0.0%
<b>Total Industrial</b>		<b>106,644</b>	<b>100%</b>	

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

- The Construction and Extraction occupation category was well represented Citywide with more than 16,000 jobs in 2015.
- In 2015, there were around 4,937 Sales Representatives, Wholesale and Manufacturing in Seattle as estimated by PSRC – the largest industrial occupation in the region. These sales representatives had a median wage of \$63,660 and required a high school diploma or equivalent.

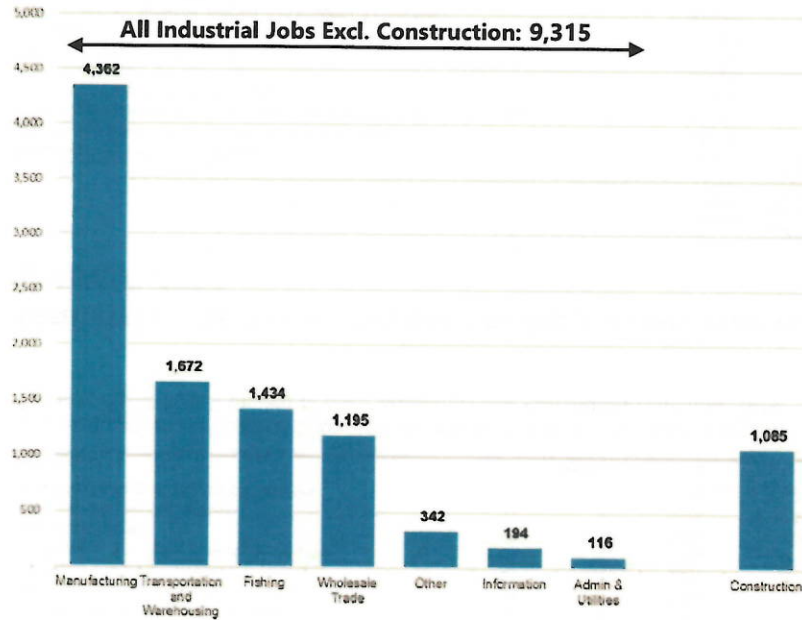
## Industrial Job Estimates for Leading Occupations, detailed groups (6-digit SOC) Citywide 2015

SOC Description	6-digit SOC	% of Total Industrial Jobs	Jobs	Median Wage	Educational Requirement
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	41-4012	4.6%	4,937	63,660	High school diploma or equivalent
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	3.7%	3,987	29,570	No formal educational credential
Carpenters	47-2031	3.2%	3,422	53,290	High school diploma or equivalent
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	37-2011	2.5%	2,687	30,440	No formal educational credential
Security Guards	33-9032	2.5%	2,644	30,340	High school diploma or equivalent
Heavy and Tractor-Trailer Truck Drivers	53-3032	2.3%	2,471	44,620	Postsecondary nondegree award
Construction Laborers	47-2061	2.2%	2,326	43,220	No formal educational credential
Fishers and Related Fishing Workers	45-3011	2.0%	2,128	Data not available	No formal educational credential
Customer Service Representatives	43-4051	1.9%	2,046	36,500	High school diploma or equivalent
General and Operations Managers	11-1021	1.6%	1,719	112,540	Bachelor's degree
Remaining 549 occupations		73%	78,278		
<b>Total</b>		<b>100%</b>	<b>106,644</b>		

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.



## Industrial Job Estimates by Industrial Sector BINMIC 2015



Source: Puget Sound Regional Council 2016, Community Attributes 2016  
 Note: Other is an aggregation of the following categories: Other Services, Real Estate and Rental and Leasing, Accommodation and Food Services and Professional, Scientific and Technical

## Total Job Estimates BINMIC 2015

	Covered Employment Excl. Construction	Self-employed Excl. Construction	All Jobs Excl. Construction	Covered Employment	Self-employed	All Jobs
Industrial	8,101	1,214	9,315	9,115	1,285	10,400
Non-Industrial	9,024	815	9,839	9,024	815	9,839
<b>TOTAL</b>	<b>17,125</b>	<b>2,029</b>	<b>19,154</b>	<b>18,139</b>	<b>2,100</b>	<b>20,239</b>

## Industrial Job Estimates by Educational Requirements and Median Wage Levels BINMIC 2015

	Less than \$25,000	\$25,000 to \$50,000	\$50,000 to \$75,000	More than \$75,000	Data not available	Total
High school diploma or equivalent	102	2,279	1,626	153	184	4,345
No formal educational credential	235	1,286	69	-	1,435	3,025
Bachelor's degree	-	24	559	1,416	240	2,239
Postsecondary nondegree or Associate's degree	3	270	113	94	152	631
Some college, no degree	-	104	28	-	9	141
Master's degree or higher	-	2	7	6	3	18
<b>Total</b>	<b>340</b>	<b>3,965</b>	<b>2,402</b>	<b>1,668</b>	<b>2,024</b>	<b>10,400</b>

Source: Puget Sound Regional Council 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

- The industrially zoned BINMIC is home to a diverse assortment of businesses, working waterfront, wharfs, shipyards and rail yards. BINMIC North is the home of the North Pacific fishing fleet while the south portion of the BINMIC is dominated by the presence of Seattle's Terminal 91 which supports a variety of industrial activities such as cargo handling, cold storage warehouses, seafood processing and distribution etc.
- Total industrial employment in the BINMIC (including both covered and self-employed workers) summed to 10,400 in 2015 and was just under 10% of Citywide industrial employment and more than half (51%) of total employment in the BINMIC area.
- Of the total number of industrial jobs in the BINMIC, 12% represent self-employed workers, with over 1,000 mainly working in the fishing industry.
- The BINMIC supports intense manufacturing uses. Manufacturing jobs constituted the largest share of industrial jobs in 2015 (42%), followed by Transport and Warehousing (16%).
- Most industrial jobs in the BINMIC require a high school diploma or no formal educational credential.

# Employment Analysis - BINMIC

## Industrial Job Estimates by Occupation, major groups (2-digit SOC) BINMIC 2015

SOC Description	2-digit SOC	Industrial Jobs	% of Total Industrial Jobs	% of Total Occupational Employment (Seattle-Tacoma-Bellevue)
Production Occupations	51	1,813	17.4%	0.9%
Transportation and Material Moving Occupations	53	1,507	14.5%	0.6%
Farming, Fishing, and Forestry Occupations	45	1,457	14.0%	30.3%
Office and Administrative Support Occupations	43	1,183	11.4%	0.2%
Construction and Extraction Occupations	47	787	7.6%	0.5%
Business and Financial Operations Occupations	13	644	6.2%	0.3%
Architecture and Engineering Occupations	17	584	5.6%	0.5%
Sales and Related Occupations	41	560	5.4%	0.2%
Management Occupations	11	485	4.7%	0.3%
Computer and Mathematical Occupations	15	476	4.6%	0.2%
Installation, Maintenance, and Repair Occupations	49	422	4.1%	0.3%
Arts, Design, Entertainment, Sports, and Media Occupations	27	108	1.0%	0.2%
Building and Grounds Cleaning and Maintenance Occupations	37	100	1.0%	0.1%
Food Preparation and Serving Related Occupations	35	71	0.7%	0.0%
Protective Service Occupations	33	55	0.5%	0.1%
Personal Care and Service Occupations	39	44	0.4%	0.0%
Healthcare Practitioners and Technical Occupations	29	37	0.4%	0.0%
Community and Social Service Occupations	21	26	0.3%	0.1%
Life, Physical, and Social Science Occupations	19	25	0.2%	0.1%
Legal Occupations	23	6	0.1%	0.0%
Healthcare Support Occupations	31	4	0.0%	0.0%
Education, Training, and Library Occupations	25	4	0.0%	0.0%
<b>Total Industrial</b>		<b>10,400</b>	<b>100%</b>	

- The three largest occupational groups by number of industrial jobs were production, transportation and material moving and farming, fishing and forestry occupations.
- In 2015, it was estimated there were around 1,434 Fishers and Related Fishing Workers in BINMIC – the largest industrial occupation in the region.

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

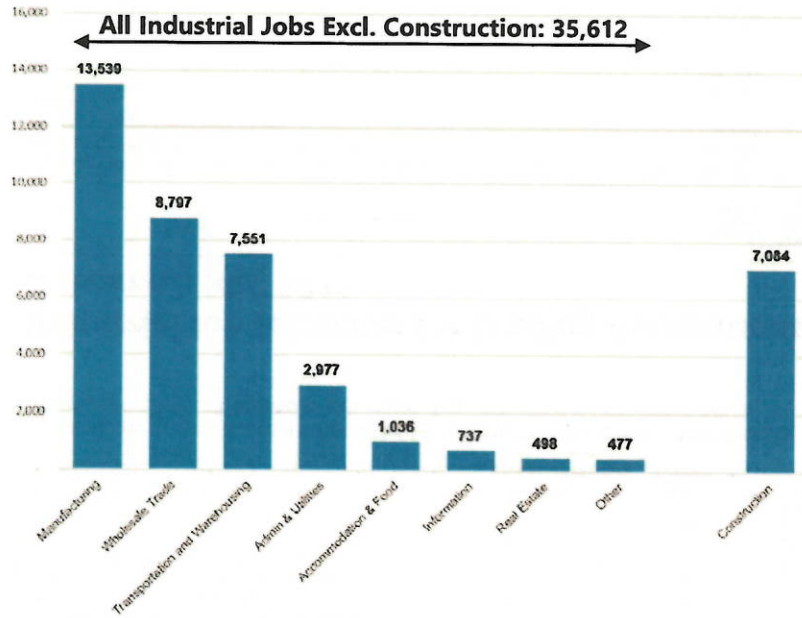
## Industrial Job Estimates for Leading Occupations, detailed groups (6-digit SOC) BINMIC 2015

SOC Description	6-digit SOC	% of Total Industrial Jobs	Jobs	Median Wage	Educational Requirement
Fishers and Related Fishing Workers	45-3011	13.8%	1,434	Data not available	No formal educational credential
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	3.6%	379	29,570	No formal educational credential
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	41-4012	3.5%	360	63,660	High school diploma or equivalent
Heavy and Tractor-Trailer Truck Drivers	53-3032	2.2%	234	44,620	Postsecondary nondegree award
Team Assemblers	51-2092	1.7%	180	33,570	High school diploma or equivalent
Customer Service Representatives	43-4051	1.6%	163	36,500	High school diploma or equivalent
Carpenters	47-2031	1.6%	163	53,290	High school diploma or equivalent
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	51-2011	1.4%	144	Data not available	High school diploma or equivalent
General and Operations Managers	11-1021	1.4%	144	112,540	Bachelor's degree
First-Line Supervisors of Production and Operating Workers	51-1011	1.3%	134	70,380	High school diploma or equivalent
Remaining 549 occupations		68%	7,064		
<b>Total</b>		<b>100%</b>	<b>10,400</b>		

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.



## Industrial Job Estimates by Industrial Sector Duwamish MIC 2015



Source: Puget Sound Regional Council 2016, Community Attributes 2016  
 Note: Other is an aggregation of the following categories: Other Services and Professional, Scientific and Technical

## Total Job Estimates Duwamish 2015

	Covered Employment Excl. Construction	Self-employed Excl. Construction	All Jobs Excl. Construction	Covered Employment	Self-employed	All Jobs
Industrial	34,941	671	35,612	41,844	852	42,696
Non-Industrial	23,930	1,221	25,151	23,930	1,221	25,151
<b>TOTAL</b>	<b>58,871</b>	<b>1,892</b>	<b>60,763</b>	<b>65,774</b>	<b>2,073</b>	<b>67,847</b>

## Industrial Job Estimates by Educational Requirements and Median Wage Levels Duwamish MIC 2015

	Less than \$25,000	\$25,000 to \$50,000	\$50,000 to \$75,000	More than \$75,000	Data not available	Total
High school diploma or equivalent	398	10,259	8,612	866	597	20,731
No formal educational credential	1,676	7,423	372	-	8	9,479
Bachelor's degree	-	56	2,379	5,743	784	8,962
Postsecondary nondegree or Associate's degree	10	1,346	486	387	510	2,739
Some college, no degree	-	532	141	-	58	732
Master's degree or higher	-	3	21	21	8	53
<b>Total</b>	<b>2,084</b>	<b>19,619</b>	<b>12,011</b>	<b>7,017</b>	<b>1,965</b>	<b>42,696</b>

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

- The Duwamish center functions as the city's principal industrial area and is the Port of Seattle's primary marine shipping area. In 2015 this area included more than 42,000 industrial jobs (including both covered and self-employed workers) within its boundaries, which represent 40% of Citywide industrial employment and approximately 63% of total employment in the Duwamish MIC area.
- Of the total number of industrial jobs in the Duwamish MIC only 2% or 850 jobs are self-employed workers.
- The Duwamish is a major logistics hub, with industrial activities primarily concentrated along the shoreline where port of Seattle cargo operations take place and in three major rail yards, King County's airport and at various sites that serve as locations of freight logistics companies. Jobs in the Duwamish are split mainly among manufacturing, wholesale trade, transportation and warehousing and construction. Manufacturing jobs constituted the largest share of industrial jobs in 2015 (32%).
- The Duwamish MIC is a significant source of jobs for people without a college degree. Over 70% of industrial jobs in the Duwamish MIC require a high school diploma or equivalent or no formal educational credential.

# Employment Analysis – Duwamish MIC

## Industrial Job Estimates by Occupation, major groups (2-digit SOC) Duwamish MIC 2015

SOC Description	2-digit SOC	Industrial Jobs	% of Total Industrial Jobs	% of Total Occupational Employment (Seattle-Tacoma-Bellevue)
Transportation and Material Moving Occupations	53	7,263	17.0%	2.9%
Production Occupations	51	5,873	13.8%	3.0%
Office and Administrative Support Occupations	43	5,854	13.7%	1.2%
Construction and Extraction Occupations	47	5,063	11.9%	3.3%
Sales and Related Occupations	41	3,452	8.1%	1.0%
Business and Financial Operations Occupations	13	2,636	6.2%	1.1%
Management Occupations	11	2,250	5.3%	1.2%
Architecture and Engineering Occupations	17	2,019	4.7%	1.9%
Installation, Maintenance, and Repair Occupations	49	1,989	4.7%	1.6%
Computer and Mathematical Occupations	15	1,852	4.3%	0.8%
Building and Grounds Cleaning and Maintenance Occupations	37	1,507	3.5%	1.7%
Food Preparation and Serving Related Occupations	35	1,095	2.6%	0.4%
Protective Service Occupations	33	802	1.9%	1.1%
Arts, Design, Entertainment, Sports, and Media Occupations	27	468	1.1%	0.8%
Personal Care and Service Occupations	39	171	0.4%	0.2%
Healthcare Practitioners and Technical Occupations	29	123	0.3%	0.1%
Farming, Fishing, and Forestry Occupations	45	109	0.3%	2.3%
Life, Physical, and Social Science Occupations	19	86	0.2%	0.2%
Community and Social Service Occupations	21	34	0.1%	0.1%
Legal Occupations	23	22	0.1%	0.1%
Education, Training, and Library Occupations	25	16	0.0%	0.0%
Healthcare Support Occupations	31	11	0.0%	0.0%
<b>Total Industrial</b>		<b>42,696</b>	<b>100%</b>	

- The Transportation and Material Moving occupation category was well represented in the Duwamish MIC with more than 7,000 jobs in 2015.
- In 2015, there were around 2,324 Sales Representatives (Wholesale and Manufacturing, Except Technical and Scientific Products) in the Duwamish MIC as estimated by PSRC – the largest industrial occupation in the region. These sales representatives had a median wage of \$63,660.

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.

## Industrial Job Estimates for Leading Occupations, detailed groups (6-digit SOC) Duwamish MIC 2015

SOC Description	6-digit SOC	% of Total Industrial Jobs	Jobs	Median Wage	Educational Requirement
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	41-4012	5.4%	2,324	63,660	High school diploma or equivalent
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	4.6%	1,948	29,570	No formal educational credential
Heavy and Tractor-Trailer Truck Drivers	53-3032	2.7%	1,172	44,620	Postsecondary nondegree award
Carpenters	47-2031	2.5%	1,055	53,290	High school diploma or equivalent
Customer Service Representatives	43-4051	2.1%	890	36,500	High school diploma or equivalent
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	37-2011	1.8%	764	30,440	No formal educational credential
General and Operations Managers	11-1021	1.7%	716	112,540	Bachelor's degree
Construction Laborers	47-2061	1.7%	708	43,220	No formal educational credential
Security Guards	33-9032	1.6%	692	30,340	High school diploma or equivalent
Light Truck or Delivery Services Drivers	53-3033	1.5%	640	34,820	High school diploma or equivalent
Remaining 549 occupations		74%	31,785		
<b>Total</b>		<b>100%</b>	<b>42,696</b>		

Source: Puget Sound Regional Council, 2016; Washington State Employment Security Department, 2016; U.S. Bureau of Labor Statistics, 2016; Community Attributes, 2016.