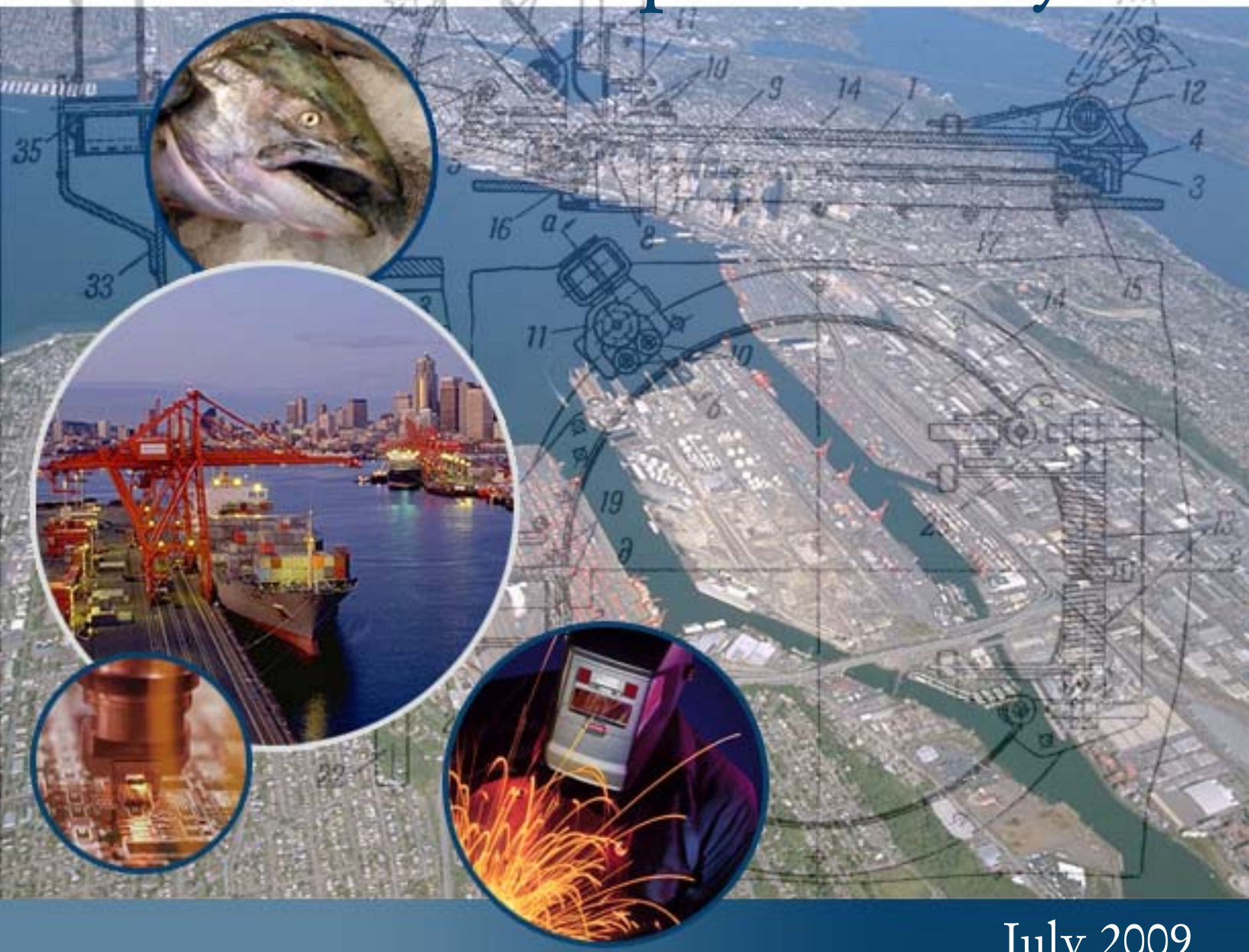
City of Seattle
Office of Economic Development

Basic Industries Economic Impact Analysis



July 2009

community attributes

community attributes

Community Attributes tells data-rich stories about communities that are important to decision-makers.

Project Manager: Chris Mefford, President

Lead Analyst: Michael Forsyth

Additional Analysis: Mike Babb
Dawn Couch
Tyler Schrag
Rob Shwed

EXECUTIVE SUMMARY

The City of Seattle Office of Economic Development and the Department of Planning and Development seek to implement and refine strategies and programs that support the growth of Seattle's "Basic Industries." Seattle's Basic Industries, include industrial and maritime businesses that lead exports from the region and serve the region with supplies and industrial service. These industries offer job growth potential; provide accessible, family wage jobs; fit with Seattle's comparative advantages; and contribute significantly to the City's tax base.

This report addresses the economic impact of Seattle's Basic Industries, focusing on key trends and assets in the Puget Sound region, Seattle and its two industrial centers, the Duwamish Manufacturing Industrial Center (Duwamish MIC) and the Ballard-Interbay North-end Manufacturing Industrial Center (BINMIC). The report provides an information foundation for long-term strategic planning and near-term actions.

Key Findings

Interviews with more than 50 of Seattle's industrial leaders and quantitative analysis of key trends and metrics emphasized the resilience and diversity of Seattle's Basic Industries. Seattle industrial businesses are innovative and highly-skilled; and constantly adapting to meet the demands of an ever evolving global economy.

The key findings of the report summarized below present significant historical trends and future challenges and opportunities identified by Seattle's Basic Industry leaders.

- **Basic Industry employment has experienced both growth and decline from 1995 to 2008**. From 1995 to 2000, Basic Industry increased by more than 9,000 jobs, a 10% increase during those five years[1]. After peaking in 2000, Basic Industry employment declined five consecutive years, losing 21,000 jobs, representing 20% of the employment base. Employment in Basic Industry sectors has been on the rise, adding 8,300 new jobs from 2005 to 2008, outpacing total citywide employment growth in the last three years.

[1] Employment figures in this report are "covered" employment estimates based on the Washington State Employment Security Department's (ESD) Quarterly Census of Employment and Wages (QCEW) series. This series consists of employment for those firms, organizations and individuals whose employees are covered by the Washington Unemployment Insurance Act. Covered employment excludes self-employed workers, proprietors, CEOs, etc., and other non-insured workers. Typically, covered employment has represented 85-90% of total employment. The employment data represents the number of jobs during March of the given year. All data was provided by Puget Sound Regional Council. Employment estimates for the City of Seattle are aggregate values from the PSRC database, with slight adjustments to match ESD totals. Employment estimates for Seattle's Manufacturing Industrial Centers represent all jobs geo-coded to a specific address in MICs.

- **Industrial jobs in Puget Sound region grew faster than nation in recent years**. From 2005 – 2008, Basic Industry employment in the Seattle-Tacoma-Bellevue MSA grew by 9%, and more than 10% percent in the City of Seattle, compared to a net decline of 0.6% nationwide.

- **Diversification and innovation are driving growth in Seattle's industrial community.** Basic Industry business owners plan to pursue growth by expanding into new markets (47%), developing new products (42%) and offering new specialized services (30%). Large and small business owners alike are capturing new market demand by integrating flexibility and innovation within current manufacturing and transportation processes.

- **Desirable location and logistics are Seattle's primary industrial assets.** Over half of interview respondents emphasized that proximity to regional, national and international clients is the primary competitive advantage of being located in the Seattle. Half of interview respondents also cited port, highway and rail infrastructure as critical industrial assets that support superior logistics and shipping in Seattle's MICs.

- **Industrial jobs offer competitive wages, however cost of living is a challenge for the industrial workforce**. In the City of Seattle, Basic Industry jobs pay an average of approximately $54,000 compared to an average city wage of $52,800. However, wage rates vary significantly by occupation. Business owners cite the high cost of living and the challenge of paying workers a "living wage" as major limitations to future industrial growth in Seattle.

- **Industrial talent needed.** Industrial business owners cited the need for talented workers as the number one factor limiting growth in Seattle's Basic Industries (53%). When discussing the outlook of the Basic Industries, several business owners state that an aging workforce is rapidly approaching retirement and that there are fewer young professionals pursuing blue collar jobs to fill this void.

- **Industrial and non-industrial growth in BINMIC and Duwamish MICs.** The BINMIC and Duwamish MICs have experienced employment growth since 1995, with conditions favorable to both Basic and Non-Basic Industry sectors. The Duwamish MIC grew by 12,600 jobs from 1995 to 2008, a 25% net increase. During that time, the Duwamish MIC added 4,100 Basic Industry jobs and 8,500 Non-Basic Industry jobs. Employment remained stable in the BINMIC since 1995; however Basic Industry jobs decreased while Non-basic Industry jobs increased.

- **Market forces and land demand challenges industrial growth in MICs.** Approximately one third of total business owners interviewed, and 60% of those that recently expanded or moved, identified the availability

and price of industrial real estate as the primary impediments to business expansion in Seattle.

- **Policy recommendations to support the industrial growth.** Business owners offered several policy recommendations to support the growth and retention of industrial businesses and jobs in Seattle. The top three recommendations include: improve transportation infrastructure and traffic management; streamline permitting, review, regulation and taxes; and; offer workforce training, education and placement.

Summary of Basic Industry Economic Impacts, 2001 & 2008

City of Seattle	2001	2008	Change	% Change
Jobs				
Basic Industry	98,780	90,440	(8,340)	-8%
Const. and Res.	21,680	25,170	3,490	16%
Manufacturing	35,040	31,150	(3,890)	-11%
WTU	42,060	34,120	(7,940)	-19%
Non-Basic Industry	405,490	406,150	660	0%
Total	504,270	496,590	(7,680)	-2%
Workplaces				
Basic Industry	4,227	4,349	122	3%
Percent of total	19%	18%	-1%	
Gross Business Revenue (bil. 2008$)*				
Basic Industry	$ 14.5	$ 18.2	$ 3.7	26%
Percent of total	31%	30%	-1%	
Taxable Retail Sales (bil. 2008$)				
Basic Industry	$ 5.2	$ 6.1	$ 1.0	19%
Percent of total	32%	36%	4%	
B&O Tax Revenues (mil. 2008$)*				
Basic Industry	$ 35.2	$ 37.8	$ 6.6	12%
Percent of total	41%	38%	-3%	
Sales Tax Revenues (mil. 2008$)				
Basic Industry	$ 44.0	$ 52.3	$ 8.3	19%
Percent of total	32%	36%	4%	
Average Wage (2008$)				
Basic Industry Statewide	$ 49,100	$ 52,700	$ 3,600	7%
Statewide average	$ 44,100	$ 46,600	$ 2,500	6%

Seattle MICs	2001	2008	Change	% Change
Duwamish MIC				
Jobs	62,640	65,330	2,690	4%
Basic Industry	39,820	38,460	(1,360)	-3%
Non-Basic Industry	22,820	26,870	4,050	18%
Workplaces	1,826	1,890	64	4%
BINMIC				
Jobs	15,020	14,520	(500)	-3%
Basic Industry	9,290	8,010	(1,280)	-14%
Non-Basic Industry	5,730	6,510	780	14%
Workplaces	624	654	30	5%

Sources: Community Attributes, Washington State Employment Security Department Quarterly Census of Employment and Wages, Puget Sound Regional Council (PSRC), Washington State Department of Revenue, City of Seattle Department of Executive Administration.

*Gross Business Revenues and B&O Tax are projected for 2008. Tax exemptions and income reporting prevent direct comparisons of business revenue and B&O tax reciepts.

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1. INTRODUCTION

1.1 Basic Industries Overview

Background and Purpose of this Study

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Definition and Economic Development Significance

Economic development theory and Seattle history both offer grounds for appreciation of Seattle's Basic Industries. Economic development theories include a focus on export industries as a key means of growing local and regional economies. Industries that sell goods and services to customers from other parts of the world bring new money into the region. This "new money" works its way into local businesses and households and their spending patterns, creating indirect impacts on the local economy.

Seattle's economic history reflects the significance of its Basic Industries. Current economic strengths and the history of commerce in Seattle include trade and export of fish, trees and airplanes, followed more recently by software and technology. Many of Seattle's most successful companies today reflect a strong connection to these origin industries.

From a City policy perspective, Basic Industries require a common understanding of benefits, needs and economic pressures. Many Basic Industries companies require special land use planning to ensure that adjacent and surrounding land uses are compatible with industrial operations. Noise, smells and heavy equipment often create concerns for safety and well-being that the City must manage through its policies. Ever-growing non-industrial uses adjacent to industrial lands create economic pressures as a variety of uses increasingly covet land occupied by Basic Industries.

Moreover, many industrial uses offer well paying jobs that are accessible to people without advanced education and training. Perceptions that these "family-wage jobs" have not been as common in emerging services sectors heighten the significance of Basic Industries within local economies.

This report defines Basic Industries in two ways. The first is similar to export base theory, focusing on businesses citywide that manufacture and support trade. The analysis relies on the North American Industrial Classification System (NAICS) to identify Basic Industry companies citywide. This includes those companies in Construction and Resources (NAICS codes 11, 21 and 23), Manufacturing (NAICS 31 to 33), and Wholesale Trade, Transportation and Utilities (NAICS 22, 42, 48 to 49).

The North American Industrial Classification System replaced the Standard Industrial Classification System (SIC) in 2002. Industry definitions and numbering systems changed to reflect changes in economic activity that had evolved since conception of the SICs.

Grouping Basic Industries by economic codes changed significantly as a result of this change. Most notably, Communications were de-coupled from Wholesale, Transportation and Utilities. OED's predecessor Basic Industries study include Communications jobs in its definition of Basic Industries. This report does not. The impact on this change is described in detail in a subsequent section on Measures & Impacts.

The second part of the definition includes all businesses and industries located in Seattle's manufacturing and industrial centers (MICs). Seattle has two MICs, the Duwamish MIC and the BINMIC shown in **Exhibit 1**.

Exhibit 1
Seattle's MICs

Source: City of Seattle, 2008.

1.2 Methods

The analysis relies on custom data analysis, interpretation of secondary data sources and perspectives and insights from over 50 interviews conducted specifically for this study.

Secondary data reported and the sources of information area as follows:

- Information on firms, jobs and wages within Basic Industry subsectors from Washington State Employment Security Department (ESD)'s Quarterly Census of Employment and Wage data (QCEW data), including summaries from the State and regional analysis conducted specifically for this study by and managed by Puget Sound Regional Council (PSRC).

- Emerging industry trends, competitive assets and key challenges detailed by interviews with the heads of Seattle's leading Basic Industry firms.

- Business revenues and tax data from state and city finance departments.

- Spatial analysis of the BINMIC and Duwamish MIC land uses, building s.f., property values, and other metrics using King County assessor's information, OED industrial lands walking census and field work.

- Real estate market data summaries from local real estate research providers for Seattle, Seattle's industrial neighborhoods and competing regional locations.

- Economic impact analysis as well as supply-demand network linkages within the Washington State economy using the Washington State Input/Output model.

Employment Data

The source of employment data in this report is from the Washington State Employment Security Department, Quarterly Census of Employment and Wage data (QCEW data). Local and regional data summaries of QCEW data has been provided for Seattle and Seattle's MICS by the Puget Sound Regional Council (PSRC), which manages local and regional QCEW data requests.

QCEQ employment data for Seattle and Seattle's MICs represent a measure of "covered employment." Covered employment consists of employment for those firms, organizations and individuals whose employees are covered by the Washington Unemployment Insurance Act. Covered employment excludes self-employed workers, proprietors, CEOs, etc., and other non-insured workers. Typically, covered employment has represented 85-90% of total employment. The employment data represents the number of jobs during March of the given year. Note that this includes part-time and temporary employment, and if a worker holds more than one job, each job would appear in the database.

PSRC adjusts QCEW covered estimates to capture jobs that are located elsewhere (i.e. a traveling salesman) but are technically still employed by local businesses. These adjustment factors are represented in "Citywide Covered Employment Estimates" found on the PSRC website. This analysis includes such adjustment factors for citywide jobs but does not for Manufacturing Industrial Centers due to limitations in geographic area.

Correlation to OED's 2004 report

Due to changes in economic classification of industry sectors, the number of jobs and firms as well as revenue and tax receipts reported here for Basic Industries in 1995, 2000 and 2001 jobs differs from those reported in the 2004 OED report on Basic Industries. The most significant explanation for this is a change in how the US Census classifies the Communications sector. Communications was previously grouped with Wholesale, Transportation & Utilities jobs under the Standard Industrial Classification (SIC) economic codes (no longer in use by most data agencies). Under the updated North American Industrial Classification System codes (NAICS), Communications are now included in the Information sector. The Information sector is not included in our definition of Basic Industries.

1.3 Organization of Report

The following sections of this report are organized as follows:

- **Measures and Impacts.** This section provides quantitative analysis of key economic and market trends at regional, citywide and MIC geographies. Measures and impacts including firms, employment, wages, business revenues, tax contributions, land use and real estate indicators.

- **Land Use.** Spatial analysis of Basic Industries' use of industrial land, real estate market conditions in Seattle's MICs.

- **Interviews and Stakeholder Perspectives.** Key findings from over 50 interviews conducted with Basic Industry business owners and representatives are presented. Topics such as opportunities for growth, key challenges, competitive advantages, and real estate conditions as well as recommendations for City actions and business assistance resources are discussed.

- **Business Profiles.** Detailed findings by specific subsectors of Seattle's Basic Industries are presented. Economic impacts, supply and demand networks as well as industry specific interview findings are presented.

- **Summary and Conclusion.** The report concludes with a synthesis of key findings and topics and presents business owner recommendations for City action.

2. MEASURES AND IMPACTS

Section 2.0 quantifies key measures of Basic Industry activity in Seattle, Seattle's MICs as well as the greater Puget Sound region. Findings are generally grouped by major sectors of the Basic Industry economy, which include companies in Construction and Resources (NAICS codes 11, 21 and 23), Manufacturing (NAICS 31 to 33), and Wholesale Trade, Transportation and Utilities (NAICS 22, 42, 48 to 49). These sectors are summed to provide total measures for Basic Industries. Estimates are also made when possible for Non-Basic Industry sectors and at the citywide level. This allows for readers to analyze Basic Industry trends within the context of Seattle's economy as a whole.

This section is organized as follows:

- **Firms.** Basic Industry firms in Seattle and Seattle MICs for years 1995 – 2008. Trends in Basic and Non-Basic Industry firms are compared.

- **Employment.** Basic Industry employment trends in Seattle and Seattle MICs for years 1995, 2000 – 2008. Regional employment trends from 1970 to 2008 add context to analysis of recent citywide trends. Emerging employment trends in the Seattle MSA are compared to other metropolitan regions and the nation. Citywide and MIC employment trends for Basic and Non-Basic Industry sectors are also compared.

- **Wages, Occupations and Workforce.** Citywide and State wages for Basic and Non-Basic Industries are compared. Occupational wage rates examine pay for various Basic Industry professions in the Seattle region. Other workforce characteristics such as age and business owner perspectives are explored.

- **Business Revenues.** Trends in gross business income and taxable retail sales for Basic Industry sectors from 2000 – 2007. Basic and Non-Basic Industry revenues and sales are compared within the context of citywide trends.

- **Municipal Tax Receipts.** Basic Industry contributions to Seattle's bottom line are quantified. Sales tax, B&O tax and utility tax reciepts are measured for Basic Industry sectors. Basic and Non-Basic Industry tax revenues are compared within the context of citywide trends.

- **Economic Forecasts.** Regional forecasts for Basic Industry employment are used to inform Citywide forecasts of manufacturing, construction and transportation employment to 2019.

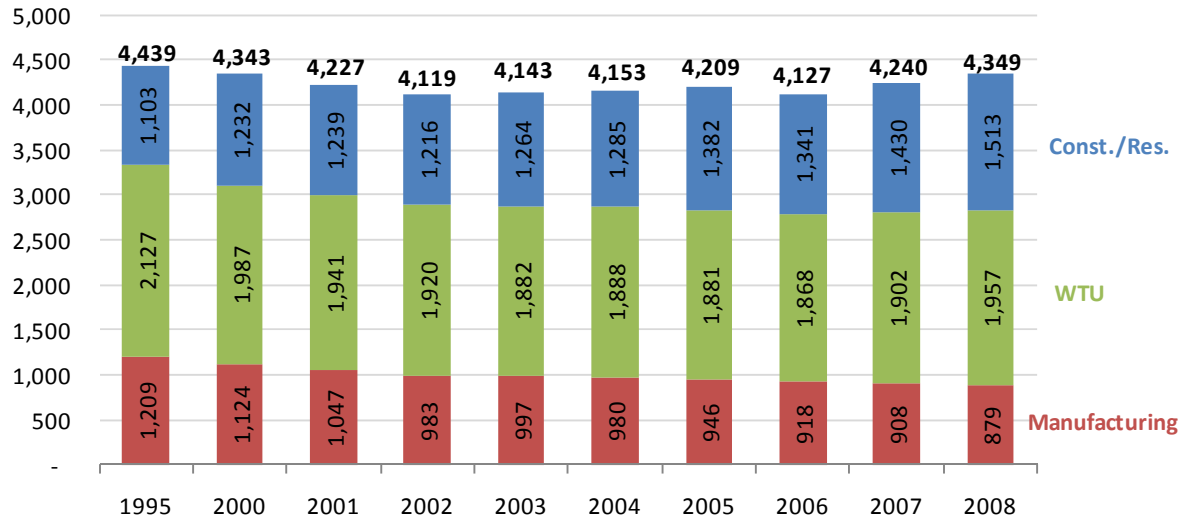
2.1 Firms

Citywide

Basic Industry workplaces in the City of Seattle remained relatively stable from 1995 to 2008 (**Exhibit 2**). In 1995, 4,439 firms composed Basic Industries. In 2000, the number of firms declined by 2% (cumulatively) to 4,343, dropping to a recent low of 4,119 in 2002. Since 2002, the total count of firms has risen to 4,349 in 2008.

Manufacturing firms decreased steadily during this period from 1,209 in 1995 to 1,124 in 2000, to 879 in 2008 (73% of the total manufacturing firms in 1995). Wholesale, Trade and Utilities (WTU) workplaces have also decreased. Seattle WTU firms declined from 2,127 in 1995 to 1,957 in 2008; a decrease of 8% or 170 workplaces. Construction and Resources workplaces increased during this same period. In 2008, there were 1,513 Construction and Resources workplaces, up 37% from 1,103 in 1995.

Exhibit 2
City of Seattle Basic Industry Workplaces, 1995, 2000 – 2008



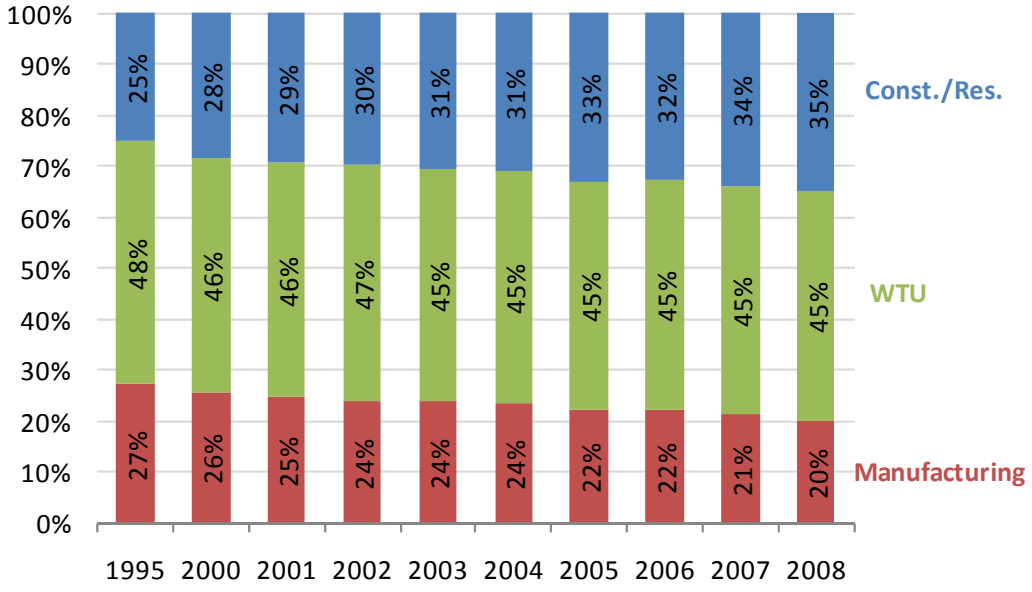
Source: Puget Sound Regional Council, Washington State Employment Security Department, 2008.

In 1995, Seattle was home to approximately 20,340 total firms citywide. Basic Industry workplaces accounted for 22% of all workplaces at that time. Since 1995, the percentage share of workplaces in Seattle accounted for by Basic Industries has decreased each year to a low of 18% in 2008.

From 1995 to 2000, Seattle added over 1,660 firms while Basic Industries lost nearly 100. From 2000 to 2002, Seattle experienced a net decline of 400 firms citywide. Basic Industries accounted for 40% (116 decreases in Basic Industry firms) of the total decrease in firms in 2001 and 100% of (108 of 105 net decrease workplaces in Seattle firms) in 2002. Since 2002, both Basic and Non-Basic Industry firms have grown. From 2003 to 2008, Seattle has added a net of 2,077 new firms. Basic Industries accounted for 206 new firms or 10% of the total increase in new workplaces.

Exhibit 3 below shows that the composition of Basic Industry firms in Seattle has changed from 1995 to 2008. Manufacturing firms accounted for 27% (1,209) of Basic Industry workplaces in 1995 and has decreased consistently every year to 20% in 2008. The WTU sector accounted for 48% of Basic Industry firms in 1995 and has decreased to 45% in 2008. The Construction and Resources sector gained an increasingly larger share of Basic Industry workplaces since 1995, accounting for 25% of Basic Industry workplaces in 1995 and nearly 35% in 2008, a 10% increase.

Exhibit 3
Distribution of Sectors within Seattle's Basic Industries, 1995, 2000 - 2008



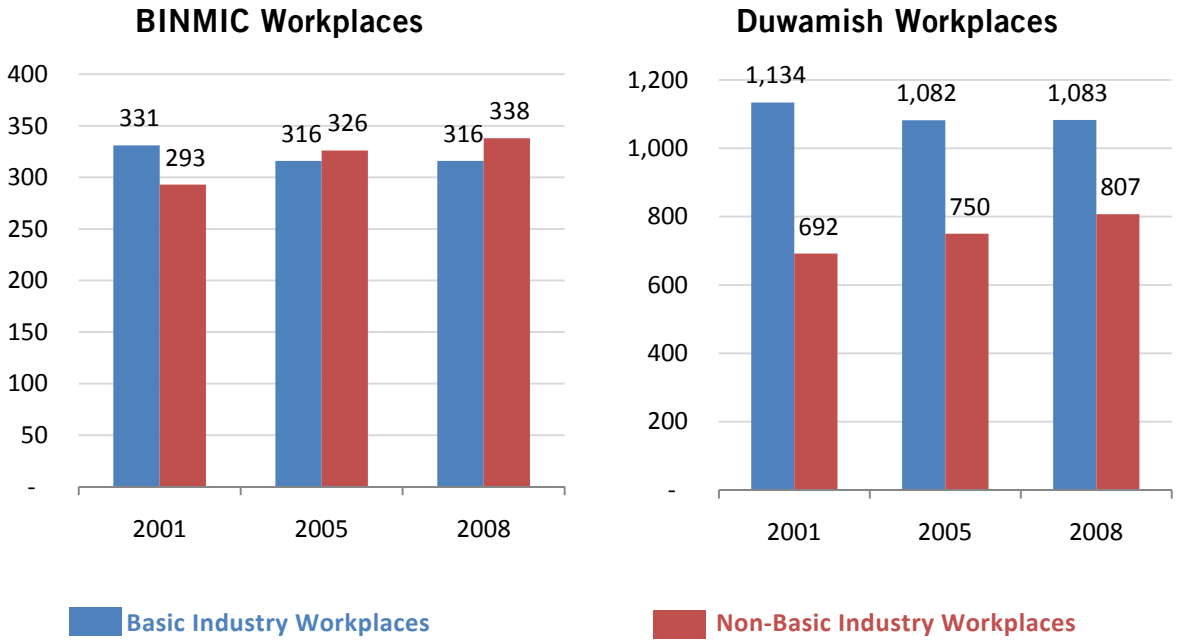
Source: Puget Sound Regional Council, Washington State Employment Security Department, 2008.

Manufacturing Industrial Centers

In 2008, Seattle Manufacturing Industrial Centers were home to approximately 2,544 workplaces and approximately 10% of all firms within the City. Nearly 1,400 Basic Industry workplaces are located in the Duwamish MIC and BINMIC combined, which accounts for approximately 32% of all Basic Industry workplaces in Seattle. Since 2000, the number of workplaces in MICs has remained stable, increasing slightly from 2,493 workplaces to 2,544 in 2008.

While the total number of workplaces has remained stable as a whole in MICs, the type of workplaces has changed, shown in **Exhibit 4**. Non-basic industry workplaces increased in MICs while Basic Industry workplaces decreased in each MIC. Basic Industry workplaces in the BINMIC declined from 331 (53%) to 316 (48%) from 2001 to 2008. In the Duwamish MIC, Basic Industry workplaces decreased from 1,134 in 2001 (62%) to 1,083 (57%) in 2007.

Exhibit 4
Comparison of Workplace Trends in Seattle MICs, Selected Years



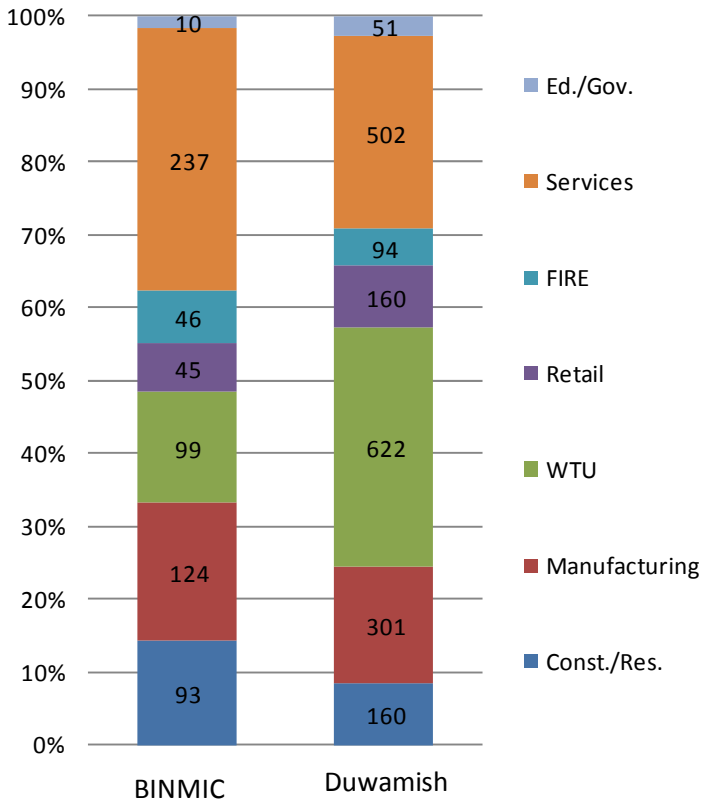
Source: Puget Sound Regional Council, Washington State Employment Security Department, 2008.

In 2008, Basic Industry workplaces represented 48% of the 654 workplaces in BINMIC (**Exhibit 5**) and 58% percent of 1,890 total firms in the Duwamish.

BINMIC Basic Industry workplaces are evenly distributed with the construction & resources, WTU and manufacturing sectors, all accounting for approximately one third of the industrial firms. In the Duwamish, Basic Industry workplaces are dominated by the WTU sector, accounting for 60% of all Basic Industry workplaces. Manufacturing accounts for 30% of Basic Industry workplaces while construction and resources accounts for 13%.

In both MICs, service firms account for a large percentage of the total workplaces; 36% in the BINMIC and 27% in the Duwamish respectively. The number of service workplaces increased from 2001 to 2008 by 32 in the BINMIC and 80 in the Duwamish MIC. During this time, retail uses have remained stable in the BINMIC and Duwamish (net loss of 1).

Exhibit 5
Composition of Workplaces in Seattle MICs, 2008



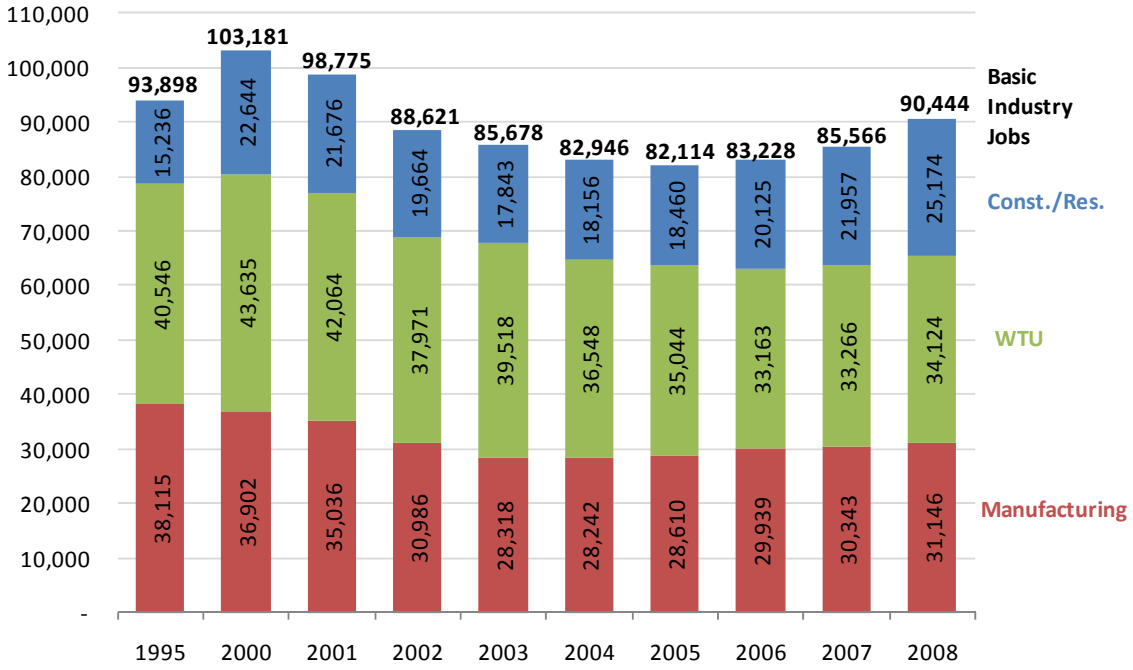
Source: Puget Sound Regional Council,
Washington State Employment Security Department, 2008.

2.2 Jobs

Citywide Basic Industry Jobs

Exhibit 6 demonstrates Basic Industry employment cycles. The City of Seattle had 9,000 more Basic Industry jobs in 2000 than in 1995 (a 10% increase). Jobs declined steadily from 2000 to 2005, and grew steadily from 2005 to 2008. After peaking in 2000, Basic Industry employment declined five consecutive years, losing 21,000 jobs and just over 20% of the workforce from 2000 - 2005. Since 2005, employment in Basic Industry sectors has been on the rise, adding 8,330 new jobs from 2005 to 2008. Seattle had 3,454 fewer Basic Industries jobs in 2008 than in 1995, an overall decrease of 4%.

Exhibit 6
City of Seattle Basic Industry Employment, 1995, 2000 – 2008



Source: Puget Sound Regional Council, Washington State Employment Security Department, 2008.

Citywide manufacturing jobs decreased steadily from 1995 to 2004, losing nearly 9,900 jobs, a 26% decrease. Since 2004, manufacturing employment has increased each year, adding a total of 2,900 jobs by 2008.

Wholesale, Trade and Utilities (WTU) jobs decreased by nearly 7,300 jobs from 1995 to 2006; a 17% decrease citywide. After seven years of job loss, WTU employment increased by a net total of 960 jobs in 2007 and 2008.

Construction and resources jobs experienced both growth and decline from 1995 to 2008. The construction and resource sector added 7,400 jobs from 1995 to 2000, but subsequently lost 4,800 jobs by 2003. Since 2003, the construction and

resources sector has grown steadily, adding 7,330 jobs by 2008; a 41% increase. From 2007 to 2008 alone, the construction sector added over 3,200 jobs.

In 1995, Basic Industries accounted for 22% (94,000 jobs) of the 426,000 jobs in Seattle. Since 1995, the percentage share of Seattle jobs accounted for by Basic Industries has decreased to 18% in 2008.

Exhibit 7 below shows that from 1995 to 2000, Seattle added a total of 85,000 jobs, with Basic Industries accounting for 10% (9,000 jobs) of total employment growth. From 2000 to 2004, Seattle experienced a net decline of nearly 50,000 jobs citywide. During this time, Basic Industries lost a total of 20,000 jobs while Non-Basic Industries lost nearly 30,000 jobs. In 2004, Basic Industries lost 800 jobs while Non-Basic Industries accounted for all of Seattle's employment growth adding 4,400 jobs.

Since 2005, Basic Industries have played a leading role in creating new jobs in Seattle. From 2005 to 2008, Basic Industries added 8,330 jobs, accounting for nearly 27% of total citywide job growth. Over this three year period, Basic Industry employment increased by a net total of 10%, outpacing non-basic industry job growth in all three years.

Exhibit 7
Basic and Non-Basic Industry Employment Trends, City of Seattle, 1995 - 2008

Absolute Employment				Change in Employment						
	Basic	Non-Basic	Total		Basic Industry		Non-Basic Industry		Total Seattle	
Year	Industry	Industry	Seattle	Year	Change	% Change	Change	% Change	Change	% Change
1995	93,898	332,514	426,412	**1995-2000**	9,283	10%	75,202	23%	84,484	20%
2000	103,181	407,716	510,896	**2000-2001**	(4,405)	-4%	(2,225)	-1%	(6,631)	-1%
2001	98,775	405,490	504,266	**2001-2002**	(10,155)	-10%	(19,421)	-5%	(29,576)	-6%
2002	88,621	386,069	474,690	**2002-2003**	(2,942)	-3%	(4,177)	-1%	(7,119)	-1%
2003	85,678	381,892	467,571	**2003-2004**	(2,732)	-3%	(2,701)	-1%	(5,433)	-1%
2004	82,946	379,191	462,137	**2004-2005**	(833)	-1%	4,384	1%	3,551	1%
2005	82,114	383,575	465,689	**2005-2006**	1,114	1%	3,896	1%	5,009	1%
2006	83,228	387,471	470,698	**2006-2007**	2,338	3%	5,718	1%	8,057	2%
2007	85,566	393,189	478,755	**2007-2008**	4,878	6%	12,952	3%	17,830	4%
2008	90,444	406,141	496,585	**1995-2008**	(3,454)	-4%	73,627	22%	70,173	16%

Source: Puget Sound Regional Council, Washington Employment Security Department, 2008.

CORRELATION TO 2004 BASIC INDUSTRIES STUDY AND FORMER DEFINITION OF BASIC INDUSTRIES

Exhibit 8 provides a reconciliation of the 2001 Basic Industries jobs under SIC definitions versus NAICS definitions. The primary difference between the Basic Industries definition under the Standard Industrial SIC was the inclusion of the "communications" sector in the Wholesale, Transportation and Utilities (WTU under NAICS, formerly WTCU under SIC) sector. Comparing NAICS definitions to SIC definitions shows 17,114 jobs included in WTCU (SIC sector) that are not included in the WTU NAICS-based sector. Of those jobs 9,091 can be found in Communications in the NAICS definition (now included in the Information sector). The remaining 8,023 jobs have been reclassified to sub-sectors elsewhere.

Exhibit 8
Comparison of 2001 SIC-Based Employment Estimates to 2001 NAICS-Based Employment Estimates

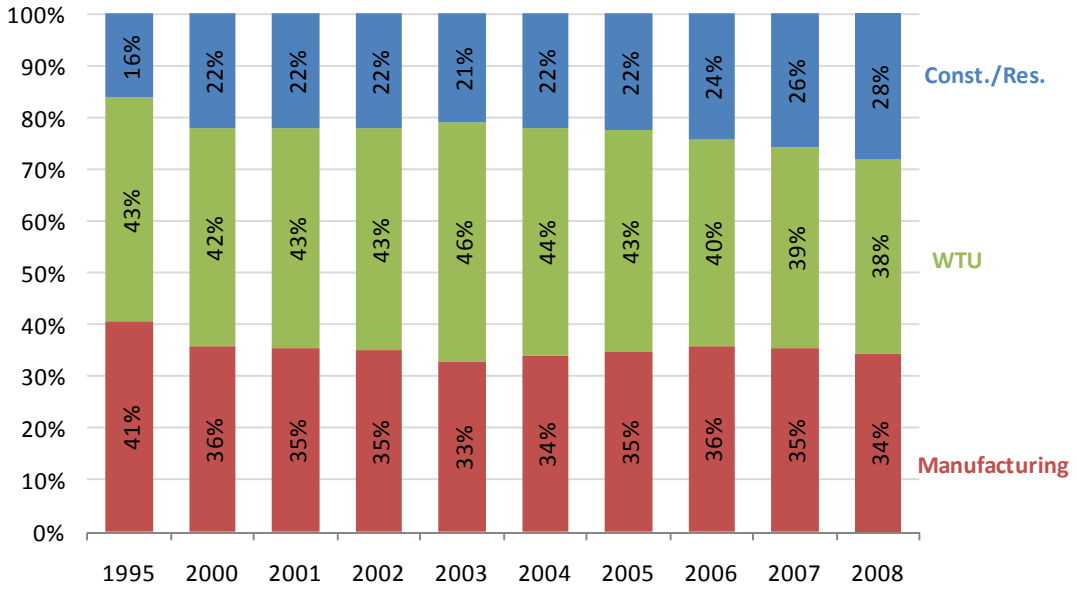
SIC Sectors	SIC Jobs	NAICS Sectors	NAICS Jobs
Construction & Resources	23,301	Construction & Resources	21,676
Wholesale, Transportation, Communication & Utilities	59,178	Wholesale, Transportation & Utilities	42,064
Manufacturing	38,949	Manufacturing	35,036
All Basic Industries (former definition)	111,428	All Basic Industries (current definition)	98,775

Printing and Publishing sector is one example of how the definition of Basic Industries has changed in Seattle. A portion of Printing and Publishing was reclassified from manufacturing to information under the conversion from SIC to NAICS (and was previously considered a Basic Industry subcluster in the City's 2001 study). Newspaper publishing, Seattle's largest printing and publishing employment sector besides software, has placed greater emphasis on internet publishing in recent years, lessening their relevance as a provider of industrial jobs. Four of the top five newspapers in Seattle currently use printing facilities outside of the City.

For these reasons Printing and Publishing, as originally defined, is not considered a Basic Industry in this study. "Printing and related support activities" (NAICS 323) represents a subsector of Printing and Publishing that was not reclassified to Information under the conversion from SIC to NAICS. Printing activities is classified as a manufacturing sector and is included in the definition of Basic Industries.

Exhibit 9 shows that the composition of Basic Industry employment in Seattle has changed from 1995 to 2008. Manufacturing firms accounted for 41% of Basic Industry jobs in 1995, decreased to a low of 33% in 2003 and has climbed to account for 34% of Basic Industry jobs in 2008. The WTU sector accounted for 43% of Basic Industry jobs in 1995 and has decreased steadily to 38% in 2008. The Construction and Resources sector has gained an increasingly larger share of Basic Industry jobs since 1995, growing from 16% of all Basic Industry jobs in 1995 to 28% in 2008, a 12% increase in employment share.

Exhibit 9
City of Seattle Distribution of Basic Industry Jobs, 1995-2008



Source: PSRC, Community Attributes, Washington State ESD QCEW March, 2008

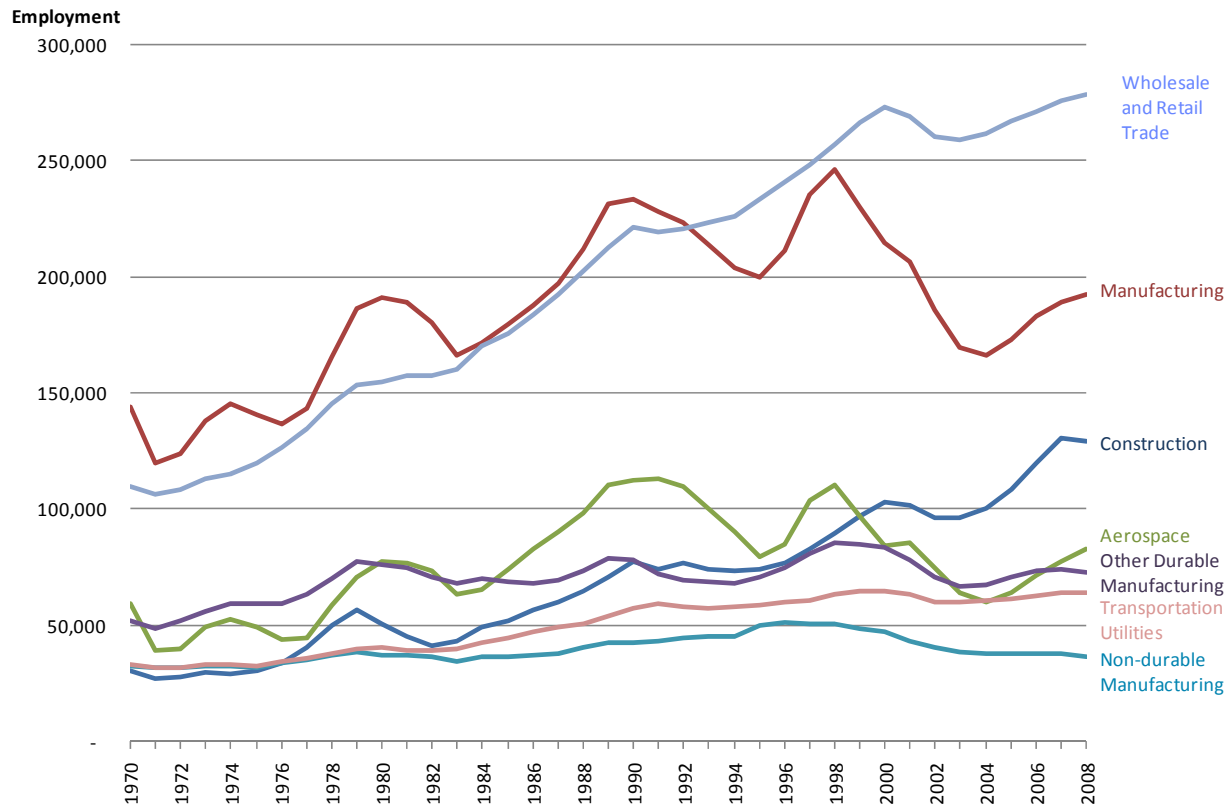
Central Puget Sound Region Trends

Employment trends in Seattle's Basic Industry sector generally mimic trends of the greater Puget Sound region. **Exhibit 10** shows that Basic Industry sectors have grown overall since 1970, often experiencing employment losses and gains along the way.

Regional manufacturing employment has experienced the most extreme employment fluctuations, closely related to employment trends in the aerospace industry (manufacturing shown as a total in red, and aerospace, other durable and non-durable manufacturing separately). Regional manufacturing employment peaked in the late 1990's, at 246,450 jobs, and subsequently experienced a decline of over 80,000 jobs, a loss of nearly one third of the manufacturing workforce. From 2004 to 2008, regional manufacturing employment rebounded, adding over 26,700 manufacturing jobs regionally, a 16% increase.

Regional employment in the construction has steadily grown by 4.2% per year since 1970, to an all time high of over 129,000 in 2008. Transportation and utilities has also grown steadily in the Puget Sound Region, increasing by 94% overall, with annual average growth rate of 1.81% since 1970.

Exhibit 10
Puget Sound Basic Industry Employment, 1970-2008



Source: Puget Sound Economic Forecaster, September 2008 History and Ten Year-Forecast.

National Trends

When asked to identify challenges that would limit future Basic Industry growth, 40% of business owners mentioned declining national economic conditions. While Seattle's Basic Industry business owners were acutely aware of the struggles experienced by Basic Industries across the nation in recent times, most local business owners said they have not felt the full effects of the national economic downturn yet.

Basic Industry business owners and industry leaders point to the health of the overall regional economy as a key driver behind recent and future Basic Industry success. **Exhibit 11** shows that from 2005 to 2008, the Seattle-Tacoma-Bellevue MSA added nearly 125,500 new jobs, increasing the regional employment base by

over 9%, outpacing the nation and other major metropolitan regions including Los Angeles, Denver, Portland, San Francisco and Phoenix.

During this time, the Seattle region emerged as a national leader in Basic Industry growth. Since 2005, Basic Industry employment in the Seattle-Tacoma-Bellevue MSA has grown by nearly 9% from 2005 - 2008 compared to a net decline of 0.6% nationwide. During this time, Basic Industry employment has grown more rapidly in Seattle than the Portland region (3.5%) and the Denver region (2.1%) while other western metropolitan regions have experienced job losses.

Exhibit 11
Metropolitan Comparison of Basic Industry Employment Trends, 2005 - 2008

	Basic Industry		Total Private Employment	
Metropolitan Statistical Area	**% Change**	**Total Change**	**% Change**	**Total Change**
Seattle-Tacoma-Bellevue, WA	8.8%	51,870	9.1%	125,460
Portland-Vancouver-Beaverton, OR-WA	3.5%	13,340	2.9%	47,740
Denver-Aurora, CO	2.1%	8,460	5.3%	54,590
Phoenix-Mesa-Scottsdale, AZ	0.3%	1,800	5.0%	77,880
San Francisco-Oakland-Fremont, CA	-0.8%	(4,910)	2.3%	38,900
Los Angeles-Long Beach-Santa Ana, CA	-1.1%	(21,130)	0.9%	44,910
San Diego-Carlsbad-San Marcos, CA	-2.9%	(12,130)	1.2%	12,700
Nation	-0.6%	(267,556)	2.8%	3,137,556

Source: Bureau of Labor Statistics, Community Attributes[2]

From 2005 to 2008, manufacturing employment in the Seattle MSA grew by 11%, compared to a 5% decrease nationwide. Virtually all major MSAs on the Pacific Coast have experienced a decline in manufacturing employment in the past three years, while the nation as a whole has lost nearly 700,000 manufacturing jobs. Meanwhile, manufacturing jobs in the City of Seattle grew by 9% from 2005 to 2008.

Construction employment in the Seattle MSA has grown by nearly 20% from 2005 to 2008 compared to a national decline of -1.4%. During this time, construction employment in the Seattle MSA outpaced regional metros including San Francisco and Portland while other regions including Phoenix, San Diego and Los Angeles have experienced declines. From 2005 to 2008, Construction jobs in the City of Seattle increased by nearly 40%[3].

Over the past three years the WTU sector increased in the Seattle MSA by 4% and 1.4% nationally, but has declined in the City of Seattle by 2.6%.

[2] MSAs vary by area therefore total employment change must be analyzed accordingly. Basic Industry employment is non-seasonally adjusted and presented as an annual average. Total employment is private employment only. 2008 employment represents an average of January through October 2008 monthly employment.

[3] Does not include resources employment. Construction employment figures for Seattle only include jobs permanently located in Seattle.

Employment in Manufacturing Industrial Centers (MIC).

The Duwamish MIC and BINMIC are home to half of Seattle's industrial employment and 16% of total City employment in 2008[4].

Seattle's MICs employee six out of every ten citywide manufacturing jobs, over half of wholesale trade and transportation jobs, and one third of construction and resource jobs. Since 2000, the share of citywide Basic Industry employment has increased in MICs by over 7%.

Exhibit 12 shows covered employment trends in the BINMIC and Duwamish MICs from 1995 to 2007. Employment in the BINMIC has experienced both growth and decline from 1995 to 2007. Overall, the BINMIC has added a net 900 jobs; a 7% increase. Employment in the Duwamish MIC has grown by nearly 12,600 jobs from 1995 to 2008, a net change of 24%.

Exhibit 12
PSRC Change in Covered Employment by Manufacturing Industrial Center (MIC), 1995, 2000 - 2008

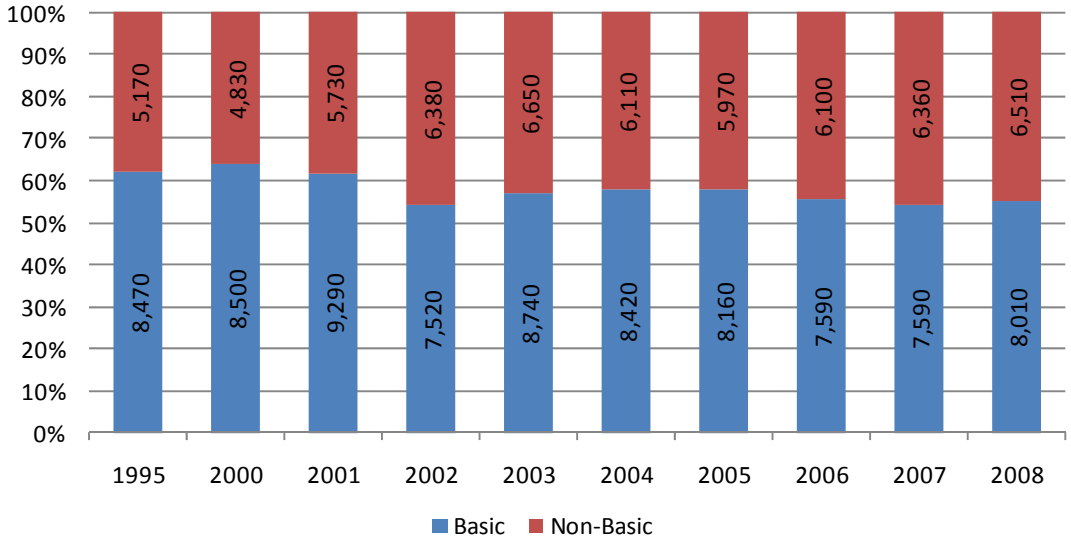
	BINMIC			Duwamish MIC		
	Covered Jobs	Total Change	% Change	Covered Jobs	Total Change	% Change
1995	13,640			52,720		
2000	13,330	(310)	-2.3%	53,840	1,120	2.1%
2001	15,020	1,690	12.7%	62,640	8,800	16.3%
2002	13,900	(1,120)	-7.5%	57,370	(5,270)	-8.4%
2003	15,390	1,490	10.7%	58,470	1,100	1.9%
2004	14,530	(860)	-5.6%	60,490	2,020	3.5%
2005	14,130	(400)	-2.8%	61,040	550	0.9%
2006	13,690	(440)	-3.1%	60,970	(70)	-0.1%
2007	13,950	260	1.9%	63,670	2,700	4.4%
2008	14,520	570	4.1%	65,330	1,660	2.6%
Change 95-08:		880	6.5%		12,610	23.9%

Source: Puget Sound Regional Council, Community Attributes

Exhibits 13 and **14** show Basic Industry and Non-Basic Industry employment distribution in the BINMIC and Duwamish from 1995 to 2008.

[4] Manufacturing Industrial Center (MIC) covered employment estimates include only those jobs geo-coded to a business address located in an MIC, while citywide covered employment estimates are adjusted to account for people employed by Seattle businesses that work in alternative or multiple locations and do not have a geo-coded place of employment.

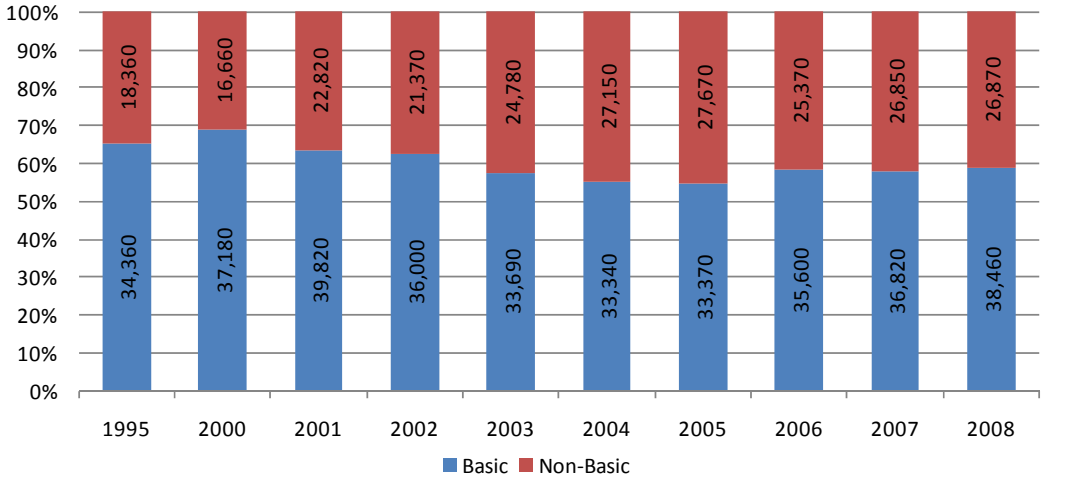
Exhibit 13
BINMIC Covered Employment and Distribution, 1995, 2000 - 2008



Source: Puget Sound Regional Council, Community Attributes

Basic Industry jobs have decreased while Non-Basic Industry jobs have increased in the BINMIC (**Exhibit 13**). Since 1995, the BINMIC experienced a loss of Basic Industry nearly 500 jobs, 5% of the BINMIC Basic Industry employment base, while non-basic industry jobs increased by nearly 26% (1,300 jobs). Employment diversification trends are consistent with changes in workplaces in the BINMIC.

Exhibit 14
Duwamish MIC Covered Employment and Distribution, 1995, 2000 - 2008



Source: Puget Sound Regional Council, Community Attributes

Exhibit 14 shows that Basic and Non-Basic Industry jobs have grown in the Duwamish MIC since 1995, however Basic Industry jobs account for a smaller

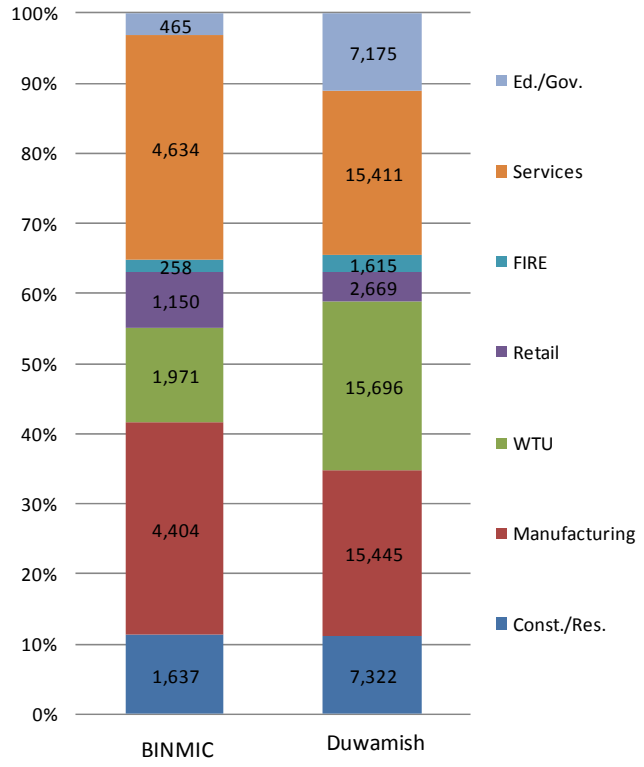
share of the Duwamish employment base in 2008 (58%) than they did in 1995 (65%).

Basic Industry employment increased in the Duwamish MIC by nearly 4,100 jobs from 1995 to 2008. Similar to citywide Basic Industry employment trends, the Duwamish MIC experience job growth from 1995 to 2000, a decline from 2000 to 2004 and has experienced job growth in recent years. From 2005 to 2008, Basic Industry job growth in the Duwamish increased by 15% (5,100 jobs).

Non-Basic Industry job growth has also found favorable growth conditions in the Duwamish MIC. From 1995 to 2008, the Duwamish has added a net total of 8,500 Non-Basic Industry jobs, accounting for over 70% of the net change in Duwamish job growth. From 2005 to 2008 however, Non-Basic Industry jobs declined in the Duwamish by 800 jobs.

Exhibit 15 shows the make-up of the employment base in the BINMIC and Duwamish MIC in 2008. **Exhibit 16** provides detailed employment data for the BINMIC and Duwamish for the selected years of 2001, 2005, 2007 and 2008.

Exhibit 15
Composition of Employment in Seattle MICs, 2008



Source: Puget Sound Regional Council, Community Attributes.

Basic Industries account for 55% of all jobs in the BINMIC and 59% in the Duwamish MIC.[5] The construction and resource sector accounts for approximately 10 percent of the employment base in both MICs.

Manufacturing accounts for 30% of the employment base in the BINMIC and 24% in the Duwamish. From 2001 to 2008, manufacturing employment decreased in the BINMIC by 17% (900) and has remained stable in the Duwamish.

WTU is the largest employment sector in the Duwamish, accounting for nearly one quarter of the Duwamish job base compared to 14% of the BINMIC's job base. WTU employment decreased in the Duwamish by 17% and -3,200 jobs from 2001 to 2007 with jobs loss split evenly between the wholesale and transportation sector.

Non-basic industry employment accounts for 45% of the job base in the BINMIC and 41% in the Duwamish. The services sector is the largest employment sector in the BINMIC accounting for 32% of all jobs in 2008. Since 2001, the service sector has added 1,100 jobs in the BINMIC, a 30% increase. The services sector accounts for 24% of total employment in the Duwamish MIC. Other notable non-industry employment sectors include the retail sector which accounts for 8% of the jobs in the BINMIC and only 4% in the Duwamish. Since 2001, retail jobs have declined by one third in the Duwamish a loss of over 1,250 jobs. Government and education sectors have added over 1,400 jobs in the Duwamish from 2001 to 2008 due to the recent siting of prominent public facilities. Many of these government jobs are industrial in nature.

Exhibit 16
Covered Employment Estimates in Seattle MICs, Selected Years[6]

	BINMIC				Duwamish			
NAICS Description	2001	2005	2007	2008	2001	2005	2007	2008
Const./Res.	1,884	1,845	1,331	1,637	5,499	4,262	6,283	7,322
Manufacturing	5,316	4,376	4,264	4,404	15,401	14,198	15,147	15,445
WTU	2,012	1,932	1,907	1,971	18,867	14,844	15,341	15,696
Retail	1,048	1,026	1,155	1,150	3,914	3,067	2,627	2,669
FIRE	298	356	226	258	1,819	1,235	1,550	1,615
Services	3,538	4,123	4,463	4,634	11,347	10,196	10,870	15,411
Ed./Gov.	273	344	344	465	5,738	6,938	5,493	7,175
Basic	9,290	8,157	7,586	8,012	39,821	33,370	36,822	38,463
Non-Basic	5,726	5,974	6,357	6,507	22,818	27,669	26,848	26,870
Total Employment	15,016	14,131	13,943	14,519	62,639	61,039	63,670	65,333

Source: Puget Sound Regional Council, Community Attributes.

[5] Due to data suppression, the percentage composition shown in the graph differs slightly from actual percentage composition calculated using raw data.
[6] Data for employment sectors is subject to suppression, most notably the services sector. Basic and Non-Basic totals captures all covered employment including all sector employment.

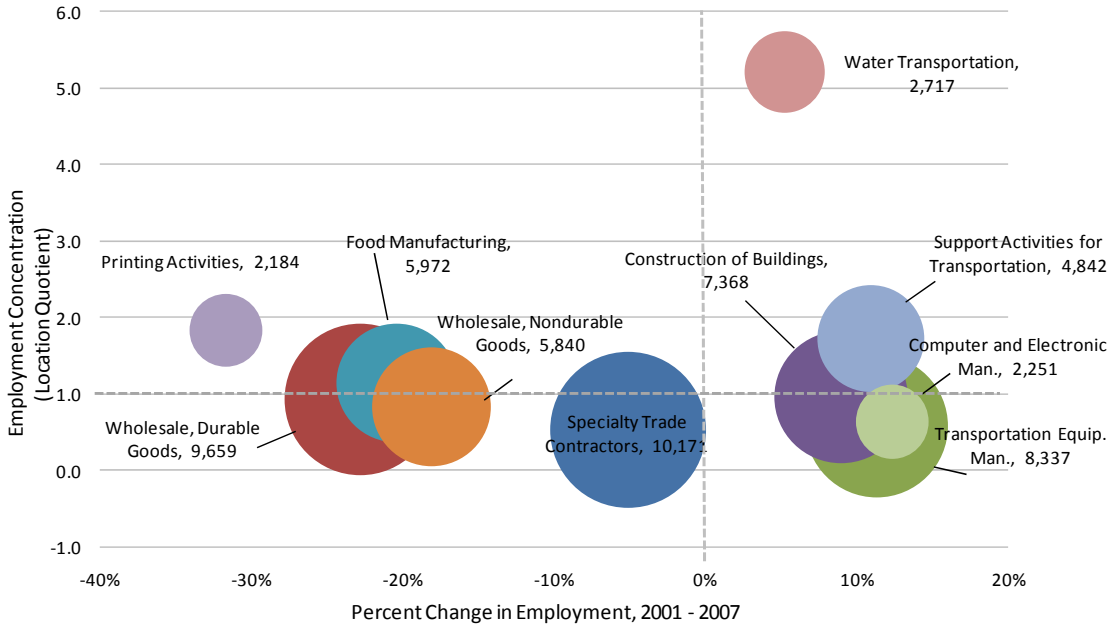
Basic Industry Employment Sectors

Seattle's largest Basic Industry employers have experienced both growth and decline in recent years. **Exhibit 17** shows growth trends in Seattle's ten largest Basic Industry employment sectors defined by 3-digit NAICS codes. Employment change from 2001 to 2007 is shown along the horizontal axis; the location quotient is shown on the vertical axis. A location quotient greater than one demonstrates that an industry is more concentrated in Seattle than in Washington State. Bubble size represents 2007 employment.

Basic Industry growth has been led by support activities for transportation (+478 jobs, 11%), transportation equipment manufacturing which includes aerospace and ship building sectors (+849 jobs, 11%), computer and electronic manufacturing (+248 jobs, 12%), water transportation (+135 jobs, 5%) and construction of buildings (+608 jobs, 9%). Water transportation (5.2) and transportation support activities (1.7) have a location quotient greater than one.

Five of the top ten Basic Industry employment sectors experienced job loss from 2001 - 2007 including specialty contractors (-544 jobs, -5%), wholesale durable (-2,850 jobs, -23%) and nondurable (-1,287 jobs, -18%) goods, food manufacturing (-1,525 jobs, -20%) and printing activities (-1,011 jobs, -32%). Printing activities (1.8) and food manufacturing (1.1) have location quotients greater than one.

Exhibit 17
Trends in Top Ten Basic Industry Employment Sectors, City of Seattle



Source: PSRC, Community Attributes

Detailed Employment Estimates Available in the Technical Appendix

More detailed information on employment in Seattle's Basic Industry sectors can be found in **Appendix C** of this document. **Appendix C** provides detailed exhibits of Basic Industry employment trends from 2000 to 2007 by 3-digit NAICs code.

2.3 Wages, Occupations and Workforce

Seattle's Basic Industries offer family-wage job opportunities to local and regional residents. Policy makers frequently point to the competitive wages paid by Basic Industry employment sectors as an important reason for preserving industrial lands and jobs in the City.

This section of the report analyzes wage data for employment sectors as well as specific Basic Industry occupations. Employment sector wage data includes a roll up of salaries paid to all occupations within the sector, which includes a full range of professions ranging from chief executives to production workers. Occupational data provides wage data specific to Basic Industry professions such as managers, engineers and a wide range of production workers such as welders and machinists. Basic Industry business owner's emphasis that occupational wages provide the most telling information about wages paid to the majority of Basic Industry employees.

Basic Industry Sector Average Wages

Exhibit 18 provides a snapshot of Basic Industry wages in the City of Seattle and Washington State compared to other major economic sectors in 2006; the most recent year for which local wage data is available. In the City of Seattle, Basic Industry jobs as a whole pay an average of approximately $54,000 compared to an average city wage of $52,800. Basic Industry wages are typically higher in Seattle than those earned across Washington State as a whole.

Seattle's WTU (Wholesale, Transportation and Utilities) sector pays the most of any Basic Industry sector at $61,000 per year, over $9,000 more than the state average for that sector. The Construction and Resource sector in Seattle maintains an average wage of $60,500 per year, compared to $37,000 at the state level. Manufacturing pays the lowest average wage of major Basic Industry sectors at $53,000 annually, lower than the state average of just over $58,000.

Exhibit 18
Comparison of Average Wages in the City of Seattle and Washington State by Industry Sector, 2006

	City of Seattle	Washington State
Const./Res.	$60,500	$37,200
Manufacturing	$52,900	$58,200
WTU	$61,000	$51,900
Retail	$38,900	$28,200
FIRE	$80,700	$56,400
Services	$49,900	$40,200
Basic Industries	$53,900	$49,000
Non-Basic Industries	$52,500	$39,300
Total Average	$52,800	$42,500

Source: PSRC, Washington State Employment Security Department, Community Attributes

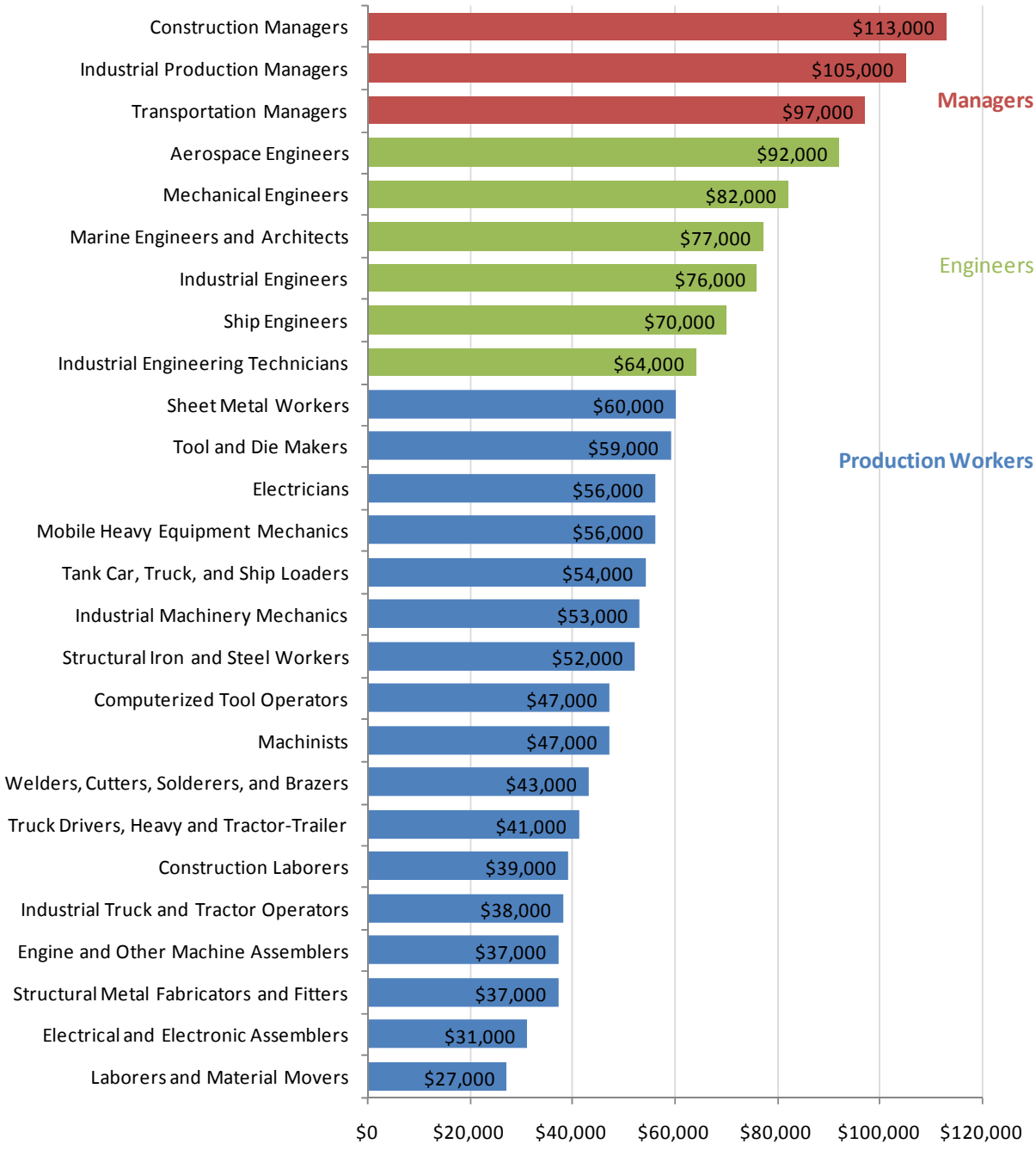
While Basic Industry jobs do provide higher than average wages in Seattle, not all jobs are created equal. **Exhibit 19** shows wages for selected Basic Industry occupations in the Seattle-Tacoma-Everett MSA in March of 2008.[7] Basic Industries offer a diverse range of employment opportunities that span from white-collar to blue-collar professions, with different requirements for educational expertise and work experience.

White-collar Basic Industry jobs including management and engineering occupations garner wages well above Seattle and statewide averages. Industrial managers make between $55 and $46 dollars per hour, or an annual wage of approximately $113,000 to $98,000 per year in the Seattle MSA. Engineers and engineer technicians with aerospace, mechanical, marine and industrial specialties make an average of $45 to $30 per hour, or an annual average wage $92,000 to $64,000 per year.

Production occupations, which represent the bulk of the Basic Industry workforce, receive competitive wages that may be above or below City and state averages. Professions such as sheet metal workers, tool makers, electricians, and industrial mechanics make above or near average wages ranging from $29 to $25 per hour or $60,000 to $53,000 per year. Other essential blue collar occupations typically earn below average wages in the Seattle region ranging from $52,000 to $27,000 year. Such occupations include computerized tool operators, machinists, welders, truck operators, metal fabricators and material movers.

[7] Occupational wage rates are expressed in hourly rates. Average wage rates are chosen for analysis. Annual occupational wage estimates assume 40 hour work weeks and 52 weeks per year. MSA occupational wage data is the smallest geography for which data exists.

Exhibit 19
Average Basic Industry Occupational Wage Rates for the Seattle-Bellevue-Everett-Tacoma MSA, Selected Occupations, 2008



Source: Washington State Employment Security Department, 2008.

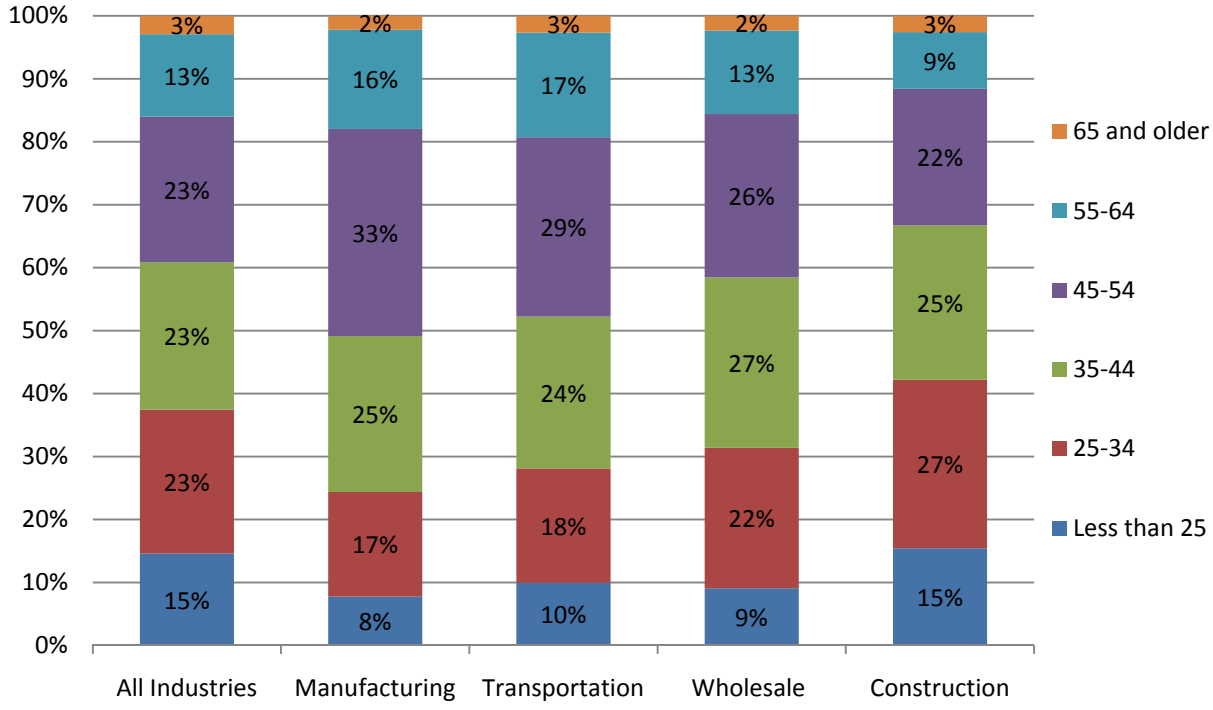
Business Owner Perspectives on the Basic Industry Workforce

Industrial business owners interviewed cited the need for talented workers as the number one factor limiting growth in Seattle's Basic Industries (53% of business owners). Basic trade skills such as welding, machine operation, and transportation as well as work ethic are in high demand, as contractors, and regional companies compete for talent in a dwindling regional labor pool.

Business owners emphasize that there are fewer young professionals pursuing blue collar jobs today than in the past. Educational deficiencies in trade skills, mathematics, and attitude within local K-12 public schools and community colleges are commonly referenced causes for a lack of new Basic Industry talent.

When discussing the outlook of the Basic Industries, several business owners stated that an aging workforce, ranging from production workers to top level executives, will play a key role in determining the future of their company. **Exhibit 20** shows that Basic Industries typically employ an older than average workforce. This trend is especially true in manufacturing and transportation sectors.

Exhibit 20
Regional Workforce by Age, Seattle-Tacoma-Bellevue MSA, 2007 Q4



Source: US Census Quarterly Workforce Indicators, Community Attributes

Approximately half of the region's manufacturing and transportation workforce is over the age of 45, compared to 40% across all industries. One third of all regional manufacturing workers are between the ages of 45 and 55.

There are much fewer younger workers in Basic Industry sectors compared to the regional economy as a whole. Workers less than 35 years of age account for 23% of the manufacturing workforce, 28% of transportation workforce and 31% of the wholesale sector, compared to a sector wide average of nearly 40%. The construction sector, on the other hand, employs a younger than average workforce. Over 40% of the construction workforce is under the age of 35.

2.4 Business Revenues

This section presents trends in estimated gross revenues and taxable retail sales produced by Basic Industry sectors. Gross business revenues for Seattle's Basic Industries are estimated using a ratio of gross business income to taxable income for statewide Basic Industry sectors, using data from the Washington State Department of Revenue. This ratio is then multiplied by the taxable income of Seattle Basic Industry sectors, provided by the City's Department of Executive Administration, to estimate local gross business revenues.

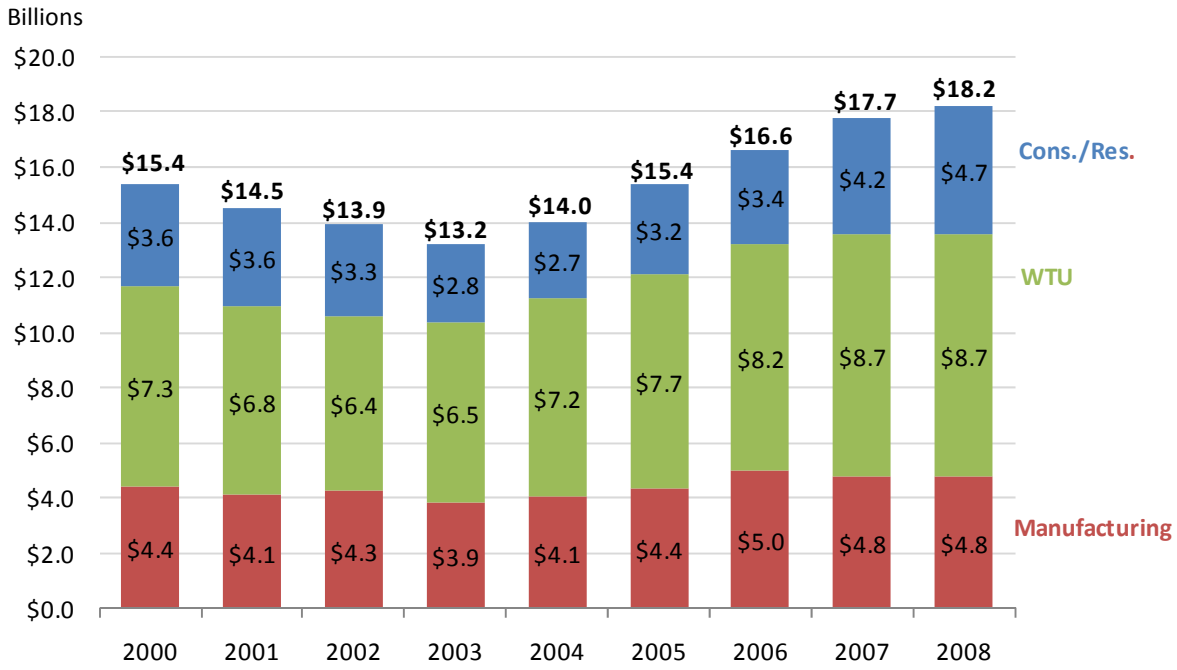
Taxable retail sales provide an additional indicator of Basic Industry economic performance, and highlights productivity of the construction sector. All estimates of gross business revenues and taxable retail sales have been adjusted for inflation and expressed in 2008 dollars.

Gross Business Revenues

In 2008, Basic Industries produced an estimated $18.2 billion dollars in gross business revenues, which accounts for nearly 30% of gross revenue generated by all business located in the City of Seattle. From 2000 to 2008, local Basic Industries produced a net increase in revenues of over 19% or $2.9 billion, after accounting for inflation. During this same time local Non-Basic Industries produced a net gain in revenues of 25% or $8.1 billion, after inflation. While Basic Industry revenues increased by a net of 19% from 2000 to 2007, its share of total revenues produced in the Seattle economy fell by 1%.

All major Basic Industry have experienced revenue growth from 2004 to 2008 after experiencing declines from 2000 to 2003 (**Exhibit 21**). From 2000 to 2003, annual Basic Industry revenues declined as a whole from $15.4 billion in 2000 to $13.2 billion in 2003, a 14% net decrease. During this time, Construction and Resources experienced the greatest decline in revenues, a net of $824 million (23%), while manufacturing revenues fell by $550 million (12%) and WTU revenues by $760 million (10%).

Exhibit 21
Gross Estimated Revenues by Basic Industry Sector, City of Seattle, 2000 – 2007 (Billions, Adjusted to 2008$)[8]



Source: Washington State Department of Revenue, City of Seattle Department of Executive Administration, Community Attributes, Adjusted to 2008 dollars using the Implicit Price Deflator for GDP

Basic Industry revenues have risen significantly since 2003, growing by a total of $5 billion between 2003 and 2008; a 38% net increase after accounting for inflation. The WTU sector experienced the greatest gains in total revenue in recent years, growing from $6.5 billion in 2003 to $8.7 billion in 2007; a net $2.2 billion increase (34%). The construction and resource sector experienced the largest margin in revenue growth, increasing revenues from $2.8 billion in 2003 to $4.7 billion in 2008; a net increase of 66% or $1.9 billion. Manufacturing revenues increased by 24% from 2003 to 2008, however revenues declined slightly in 2007 and 2008.

[8] 2008 revenues are forecasted by applying employment growth rates for industry sectors to 2007 industry revenue estimates. Revenues are assumed to grow proportionally with jobs.

CORRELATION TO 2004 BASIC INDUSTRIES STUDY AND FORMER ESTIMATES OF BUSINESS REVENUES

Business revenues estimates in **Exhibit 21** differ from revenues estimates from the 2004 OED Basic Industries report. The 2004 report estimated total Basic Industries revenues for 2001 to be $28.5 billion for the City of Seattle, compared to $14.5 billion shown in **Exhibit 21**, a difference of $14 billion. The following four factors account for the difference between the two reports' estimates, referred to as the delta:

- A change in methodology accounts for $5.2 billion of the $14 billion delta (38% of the delta) between the two reports. This report uses actual data on taxable business revenues for businesses with an address in the City of Seattle. These data were provided by the City of Seattle Department of Executive Administration. The 2004 study, allocated statewide gross revenues based on the portion of statewide Basic Industry employment located in Seattle. Statewide revenue data includes revenues earned by businesses located within and outside of Washington State. Therefore, the prior study estimated revenues earned from all industrial economic activity within the City, for both local firms and firms located outside of Seattle.

- Removal of the Communications sector from the Basic Industries definition, explaining $4.3 billion or 31% of the delta between the two reports.

- Adjustment for inflation to 2008 dollars explains $3 billion (25% of the total delta)

- Updates and changes to 2001 state gross business income estimates (from the State Department of Revenue) account for $926 million or 7% of the delta.

Taxable Retail Sales

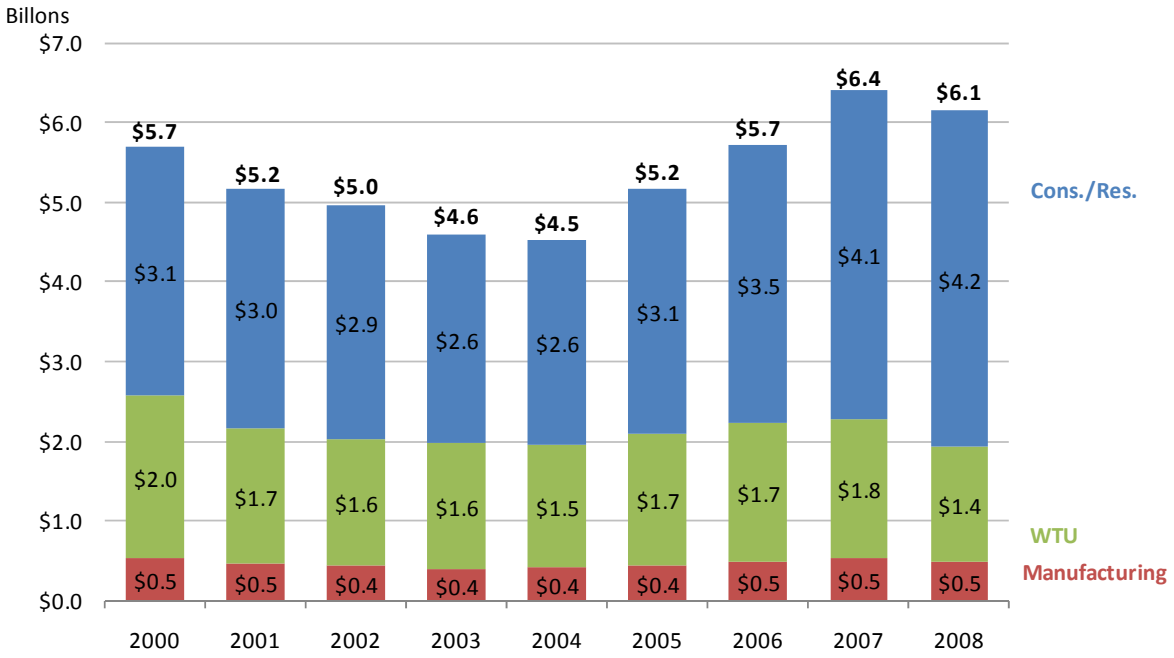
Basic Industries produced over $6.1 billion in taxable retail sales in 2008, accounting for over 35% of Seattle's $17.1 billion taxable retail sales (E**xhibit 22)**. Retail sales fell in 2008, after three years of growth, marking the first signs of an emerging economic recession.

The vast majority of taxable retail sales are produced by the Construction sector. From 2000 to 2004, the Construction sector experienced a net decline of nearly $540 million in taxable sales on new development, falling from $3.1 billion in 2000 to $2.6 billion in 2004, a net loss of 17%. Since reaching a low in 2004, taxable retail sales produced by the construction sector have rapidly increased from $2.6 billion to $4.2 billion in 2007, a net change of 64% or $1.6 billion.

In 2008, construction sales accounted for nearly 25% of all taxable sales in Seattle. From 2004 to 2008, the construction sector accounted for nearly 80% of growth in taxable retail sales produced locally, or $1.6 billion of the $2 billion net increase in taxable retail sales produced locally.

The WTU sector experienced both sales growth and decline between 2000 and 2008, with retail sales falling from nearly $2 billion 2000 to $1.48 billion in 2004, and then increasing to $1.7 billion in 2007. In 2008, WTU retail sales declined by 17% to $1.4 billion. Manufacturing retail sales decreased from $514 million in 2000 to a low of $382 million in 2003. Retail sales produced by the manufacturing sector climbed steadily to a high of $518 million in 2007 before declining to $480 million in 2008.

Exhibit 22
Taxable Retail Sales by Basic Industry Sector, City of Seattle, 2000 – 2008
(Billions, Adjusted to 2008$)



Source: Washington State Department of Revenue, Community Attributes, Adjusted to 2008 dollars using the Implicit Price Deflator

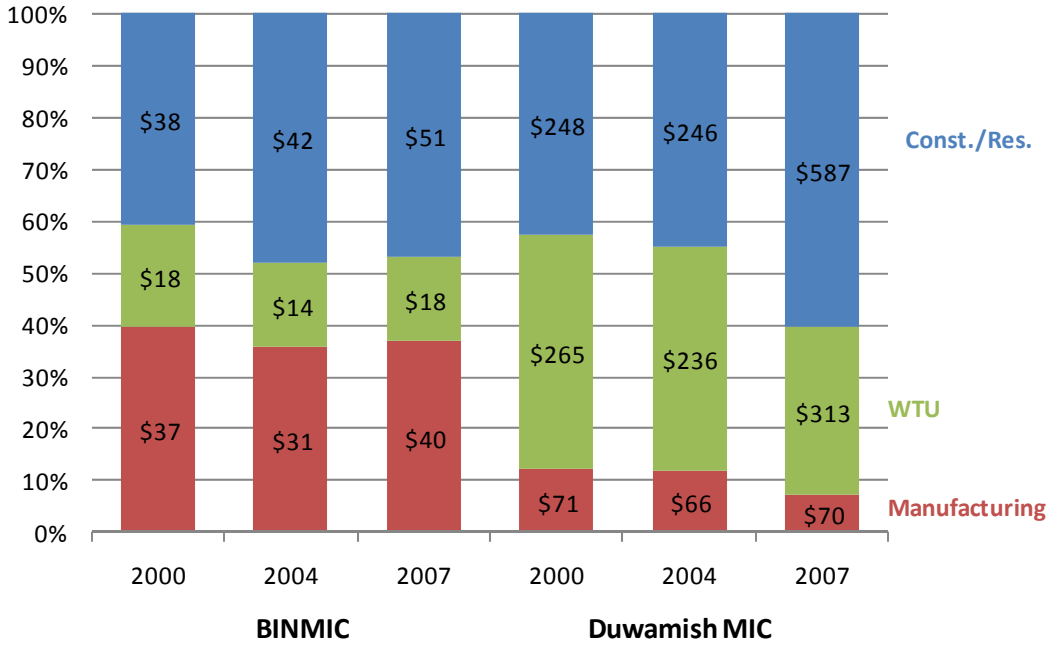
Taxable Retail Sales in the MICs

Sales in the MICs have grown since the turn of the century. From 2000 to 2007, retail sales in MICs grew by a combined net total of $381.7 million; a cumulative increase of 60% over a seven year period. During this time, taxable retail sales grew in the BINMIC by a net of 17% ($15.7 million) and the Duwamish MIC grew by a total of 67% ($381.7 million). In 2007, the MICs produced an estimated $1.06 billion in taxable retail sales, accounting for over 20% of all Basic Industry taxable retail sales and 6% of the city total.

Exhibit 23 shows the makeup of retail sales in the BINMIC and Duwamish MICs for the time periods of 2000, 2004 and 2007. The BINMIC produced $39 million in taxable manufacturing sales in 2007 and approximately $50 million in construction sales. Each of these sectors account for approximately 40% of Basic Industry taxable sales produced in the BINMIC. WTU and construction sales

account for approximately 90% of total Basic Industry retail sales produced in the Duwamish in 2007.

Exhibit 23
Composition of Basic Industry Retail Sales in the BINMIC and Duwamish MIC, 2000, 2004 & 2007, (Adjusted to 2008$, Millions)



Source: Washington State Department of Revenue, Community Attributes, Adjusted to 2008 dollars using the Implicit Price Deflator for GDP

2.5 Municipal Tax Receipts

Basic Industries contribute significantly to the City of Seattle's tax base. There are three primary types of tax revenues collected from Basic Industry economic activity which include sales taxes, B&O taxes, and utility taxes. There are also a number of additional taxes collected from Basic Industries which include property tax, square footage tax[9], license fees, building permit fees, inheritance taxes (commonly referred to as the death tax), vehicle registration fees and other regulatory fees. For the intents of this analysis, only sales tax, B&O tax, and utility taxes are analyzed.

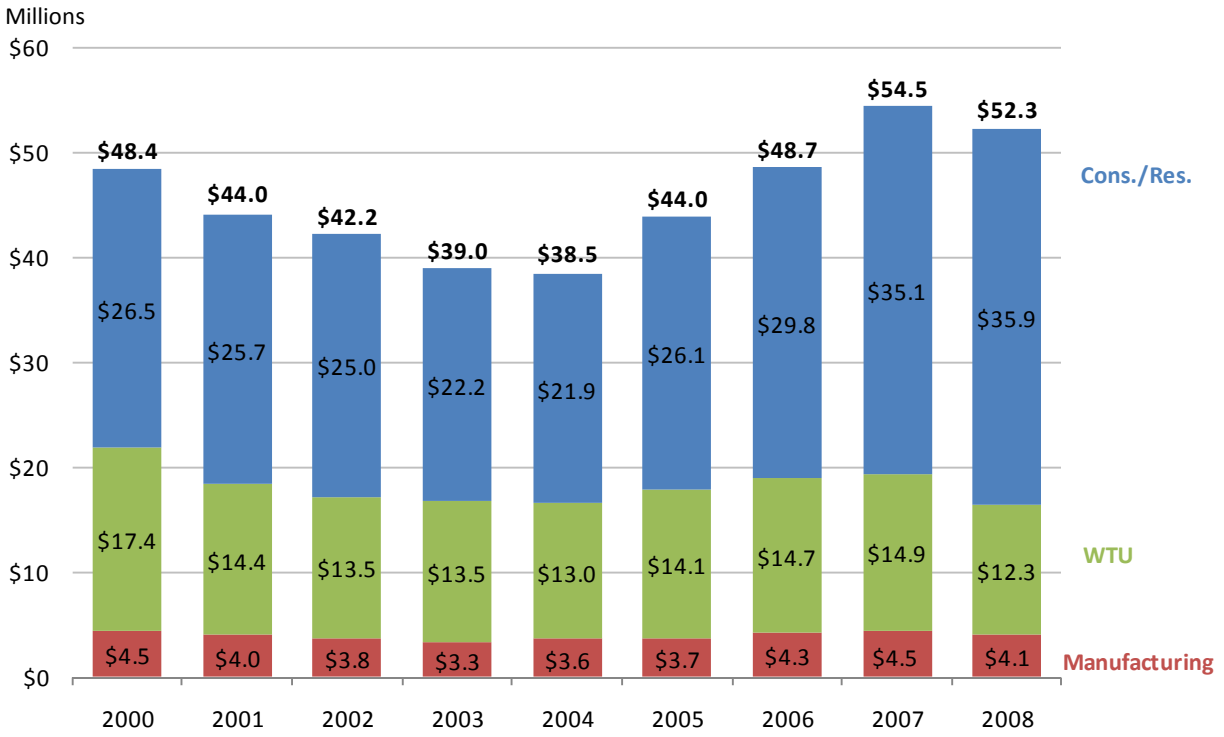
Sales Tax

The 2008 sales tax rate in Seattle is 8.9% on taxable Basic Industry sales, of which the City receives 0.85%. Some Basic Industry sales are exempt from sales tax, including sales of manufacturing machinery and equipment, freight and delivery costs for Washington manufacturers for out-of-state shipments, goods sold and delivered to customers outside of state or international boundaries, and sales to US government.

Exhibit 24 shows Basic Industry sales tax receipts in the City of Seattle from 2000 to 2008. All dollar figures are adjusted for inflation and shown in 2008 dollars. Basic Industry sales tax receipts fell from $48.4 million in 2000 to a low of $38.5 million in 2004. From 2004 to 2007, Basic Industry sale tax receipts increased from $38.5 million to $54.5 million, an increase of nearly $16 million or 42%. In 2008, sales tax receipts fell to $52.3 million, a decline of 4%. (Note that the 2001 sales tax revenue shown differ's from OED's 2001 report, due to re-classification of companies and economic codes, as described in other revenue sections, as well.)

[9] The square foot tax became effective January 1, 2008. The square footage tax is a business tax on businesses located in Seattle and is calculated based on the square footage of the building used for certain economic activities. Different economic activities are subject to different rates. Passage of state law RCW 35.102.130 changed the way cities can impose B&O tax and also created a "destination-based" sales tax which shifted sales tax revenue to where a product or service is received (not where it is produced). As a result, the City of Seattle enacted the square footage tax to counteract anticipated losses of tax revenue. There are several square foot tax exemptions and technicalities which are beyond the scope of this report. For more information see: http://www.seattle.gov/rca/taxes/SquareFootageTax.htm

Exhibits 24
City of Seattle Basic Industry Sales Tax Receipts, 2000 - 2008
(Adjusted to 2008$, Millions)



Source: Washington State Department of Revenue, Community Attributes, Adjusted to 2008 dollars using the Implicit Price Deflator for GDP

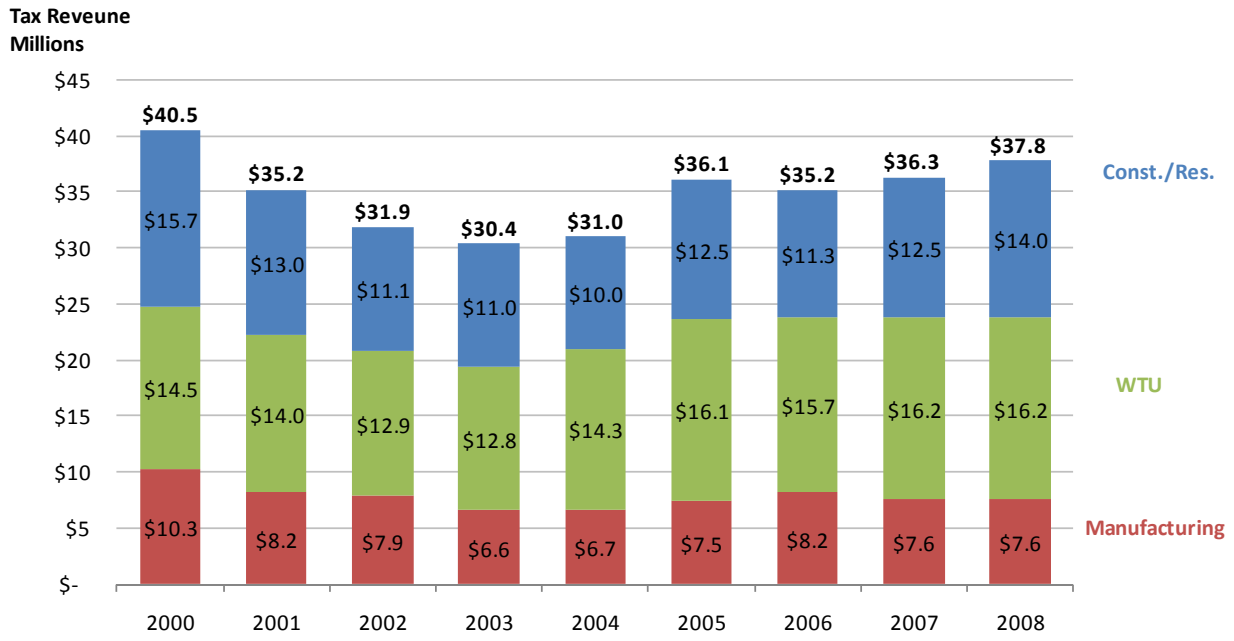
In 2008, Basic Industry retail sale tax receipts accounted for approximately 36% of all sales tax receipts collected in Seattle. In 2008, the Construction and Resource sector alone accounted for 25% of citywide sales tax revenues up from a low of 17% in 2004. Approximately 8% of sales tax receipts come from the WTU sector while a relatively small portion Seattle's sales tax revenue come from manufacturing (3%).

From 2004 to 2008, construction-based sales taxes grew by a net change of nearly $14 million, which accounted for nearly 80% of the $18 million increase in sales tax receipts experienced Citywide. During this time, Construction sales tax grew at a compounded annual rate of 13% compared to 1% annual growth for Non-Basic Industries and 3% growth Citywide.

B&O Taxes

In 2008, local Basic Industry companies produced approximately $37.8 million in B&O tax revenue, accounting for 38% of the $99 million in B&O tax receipts produced by local businesses (**Exhibit 25**). The WTU sector contributed the most tax revenue of any Basic Industry sector ($16.2 million, 43%), followed by Construction and Resources ($14 million, 37%) and Manufacturing ($7.6 million, 20%).

Exhibits 25
City of Seattle Basic Industry B&O Taxes Paid, 2000 - 2008
(Adjusted to 2008$, Millions)



Source: City of Seattle Department of Executive Administration, Community Attributes, Adjusted to 2008 dollars using the Implicit Price Deflator for GDP.

B&O taxes are collected on all taxable revenues generated in the city, both by firms located within Seattle and firms located outside of Seattle doing business within the city. This study analyzes B&O tax receipts for businesses with a Seattle address only.[10]

[10] This study uses data on B&O receipts provided by the City of Seattle Department of Executive Administration (DEA). Data is presented "as is" and is adjusted only to account for inflation. City officials note that this estimates are "subjective" and that these estimates do not account for taxes refunded or transferred from a particular obligation.

As noted earlier, these tax receipt estimates exclude B&O tax receipts contributed by businesses located outside of Seattle. The 2009 City of Seattle proposed budget cited total B&O taxes of $164 million in 2008. DEA estimates that approximately $99 million is produced by businesses with a Seattle address. Local Basic Industries revenues account for approximately 23% of total B&O tax proceeds. Total Basic Industry activity (from both local businesses firms located

Trends in B&O tax receipts generally follow local business revenues trends. However, variations in tax exemptions and income reporting lead to slight differences in trends between tax receipts and taxable revenues.

From 2000 to 2003, annual Basic Industry B&O tax receipts declined from $40.5 million in 2000 to $30.4 million in 2003, a 25% net decrease. During this time, Construction and Resource tax receipts declined by a net of $4.7 million (30%) from $15.6 million in 2000 to $11 million in 2003. Manufacturing receipts fell 36% from $10.3 million to $6.6 million while WTU declined by 12% and $1.7 million.

Since 2003, local Basic Industry B&O tax receipts have increased from a total of $30.4 million to nearly $38 million in 2008; a $7.4 million or 24% net increase. B&O tax receipts received from construction and resources and WTU sectors increased by 27% from 2003 to 2008 while manufacturing tax receipts increased by 14%.

outside of Seattle doing business within the city) could contribute an estimated $62.4 million in B&O tax receipts, accounting for 38% of total tax receipts received citywide.

Note that estimates of Basic Industry B&O tax receipts included in this report differ from the 2004 Basic Industries Economic Impact Study due to changes in industry classification (inclusion of communications sector in Basic Industries definition in 2001, excluded in this study) as well as data collection methodology. Refer to page 29, "Correlation to 2004 Basic Industries Study and Former Estimates of Business Revenues" for further information.

Utility Tax

Basic Industries are major generators of utility taxes, specifically electricity taxes. **Exhibit 26** shows that in 2007, the City of Seattle received nearly $4.8 million dollars in electricity tax revenue from Basic Industries[11]. Basic Industries accounted for approximately 30% of total electricity tax receipts received by commercial uses in the City in 2007. The biggest electricity users and tax contributors are the manufacturing sector ($2.7 million) and the transportation, communications and utilities sector ($1.5 million). Both industry sectors however use less than the finance, insurance and real estate sector and services.

Exhibit 26
Electricity Taxes Paid in the City of Seattle by Industry Sector, 2007

SIC*	SIC Description	Premises	Utility Taxes Paid
1-9	Agriculture, Forestry, and Fishing	36	$5,956
10-14	Mining	5	$2,839
15-17	Construction	799	$243,071
20-39	Manufacturing	502	$2,752,090
40-49	Transportation, Communications, Electric, Gas, and Sanitary Services	1,160	$1,533,389
50-51	Wholesale Trade	277	$239,430
52-59	Retail Trade	2,962	$1,379,769
60-67	Finance, Insurance and Real Estate	9,545	$3,714,515
70-89	Services	3,092	$3,581,147
91-99	Public Administration	319	$369,722
	Unassigned SIC code**	11,434	$3,358,999
Basic Industry		2,779	$4,776,775
Non-Basic Industry		15,918	$9,045,153
Total City of Seattle		30,131	$17,180,927

Source: Seattle City Light, Community Attributes.

[11] *City Light only maintains utility tax data by SIC code. Basic Industry subtotals include SIC codes 1-49. The communications sector is included in Basic Industry subtotals but is not in other analyses using NAICS codes. ** Unassigned SIC codes represent unclassified commercial properties. All numbers exclude residential properties. Estimates of tax electricity tax revenues were calculated at 6% of total billings. Note that electricity estimates provided by City Light are significantly less than those included in the 2004 Basic Industries Economic Impact Analysis as well as those specified in the City of Seattle Annual Budget.

Seattle's MICs also represent a significant source of electricity usage and utility tax revenue. **Exhibit 27** shows total electricity taxes paid in the BINMIC and Duwamish MIC by industry sector. In total, MICs account for 65% of all electricity tax receipts produced by Basic Industries and 26% of total electricity tax revenue in the City of Seattle.

Exhibit 27
Estimated Electricity Taxes Paid by Manufacturing Industrial Center, 2007

		Ballard Manufacturing		Duwamish Manufacturing	
SIC*	**SIC Description**	Premises	Taxes Paid	Premises	Taxes Paid
1-9	Agriculture, Forestry, and Fishing	2	$705	2	$200
10-14	Mining	1	$1,931	2	$778
15-17	Construction	37	$10,769	80	$27,387
20-39	Manufacturing	39	$86,382	222	$2,355,646
40-49	Transportation, Communications, Electric, Gas, and Sanitary Services	88	$182,640	299	$428,428
50-51	Wholesale Trade	21	$18,205	138	$193,354
52-59	Retail Trade	63	$26,726	148	$57,544
60-67	Finance, Insurance and Real Estate	187	$122,777	267	$191,857
70-89	Services	30	$9,022	168	$107,598
91-99	Public Administration	1	$1,928	48	$84,358
	Unassigned SIC code**	318	$179,564	855	$348,084
Basic Industry		167	$282,426	605	$2,812,439
Non-Basic Industry		281	$160,453	631	$441,356
Total City of Seattle		787	$640,649	2,229	$3,795,233

Source: Seattle City Light, Community Attributes.

2.6 Employment Forecasts

General, worldwide economic conditions have changed dramatically since March of 2008, the most recent time for which local employment data are available. Jobs losses experienced in basic and non-industries across the county along with a national financial crisis present many unanswered questions regarding the future for Seattle's Basic Industries. This section of the report analyzes published employment projections to estimate on Basic Industry employment trends through 2019. Basic Industry employment projections for Seattle and Seattle's MICs are estimated using Conway Pederson employment projections published in the *The Puget Sound Economic Forecaster* as well as Puget Sound Regional Council small area forecasts.

Analysis of regional econometric forecasts (PSRC, Conway & Pedersen) can provide a strong indicator of the future of Seattle's industrial jobs. Analyzing Seattle's employment trends relative to regional forecasts produce scenarios of future employment in Seattle's Basic Industries. Moreover, employment forecast scenarios provide important context for dialogues regarding land required to accommodate future employment.

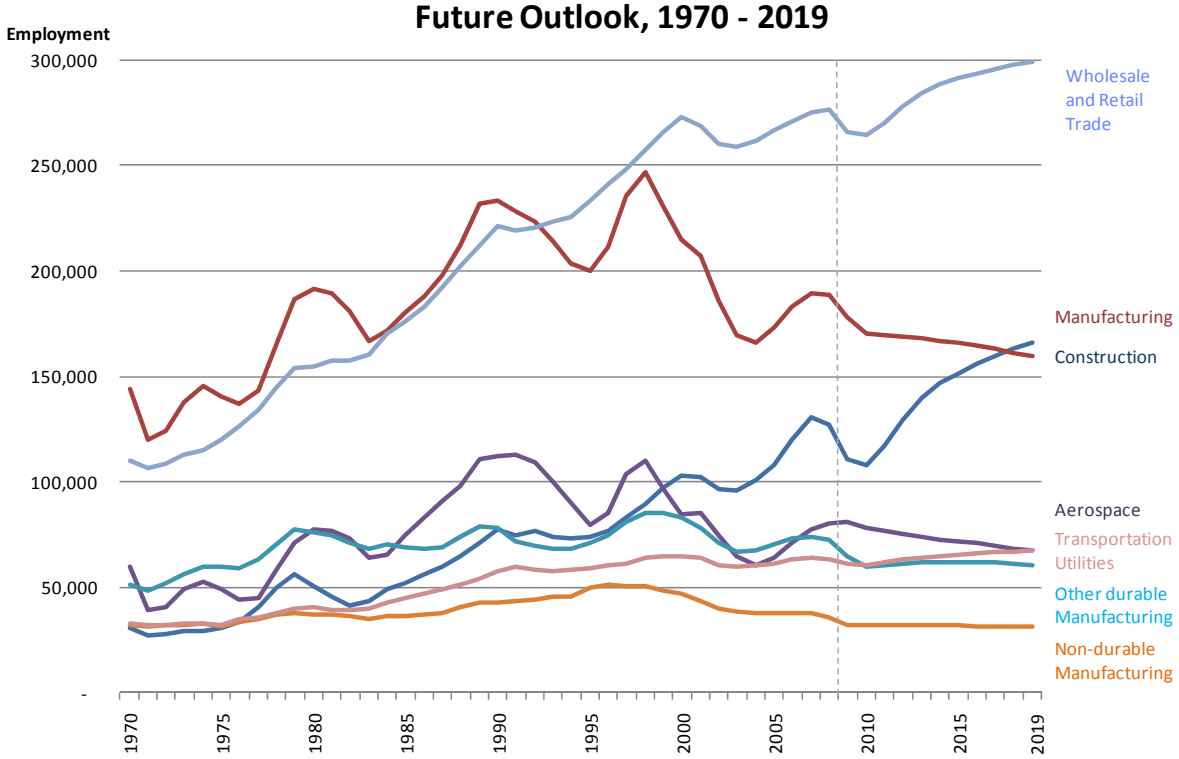
Conway Pedersen Economic Forecaster

Exhibit 28 presents historical Basic Industry employment trends in the Puget Sound economy and projections to 2019 by Conway and Pedersen published in the *Puget Sound Economic Forecaster*. All sectors of the regional Basic Industry economy are estimated to decline from 2008 to 2009 with Construction (-13%) and aerospace (-11%) experiencing the largest declines.

Growth in Basic Industries will primarily be experienced in the construction and transportation and utilities sector. Conway and Pedersen anticipate the construction sector to continue historical growth after a depression from 2008 and 2010, adding an estimated 58,000 jobs regionally from 2010 to 2019. From 2008 to 2019, transportation and utilities is estimated to add nearly 4,000 jobs to the Puget Sound economy.

Conway and Pedersen estimate that manufacturing will lose 29,500 jobs from 2008 to 2019, of which 12,800 are anticipated to be lost in the aerospace sector (accounting for nearly 40% of the loss), 12,000 in other durable goods and 4,500 in non-durable manufacturing goods.

Exhibit 28
Puget Sound Regional Basic Industry Employment Historical and Future Outlook, 1970 - 2019



Source: Conway & Pedersen, *The Puget Sound Economic Forecaster*, June 2009, Annual Forecast Table.

Puget Sound Regional Council Small Area Forecasts

Puget Sound Regional Council also provides forecasts on regional employment growth as well as employment projections at more detailed geographies called Forecast Analysis Zones (FAZ). PSRC forecasts employment by SIC code and only provides projections for manufacturing and WTCU (wholesale, transportation, communications and utilities) sectors, therefore predictions on total Basic Industry employment cannot be made from this source. Also note that FAZ boundaries do not match up with city boundaries.[12]

PSRC from that manufacturing employment in the four-county Puget Sound region will drop from 240,068 jobs in 2000 to 213,934 jobs in 2020. Manufacturing employment in the Seattle area is also predicted to decrease from nearly 40,000 in 2000 to fewer than 32,000 in 2020. **Exhibit 29** shows that during this twenty year span, manufacturing employment will increase by 800 in Duwamish (primarily north of Boeing field) and in portions of West Duwamish.

[12] Notes on PSRC forecast methodology can be found at http://www.psrc.org/data/forecasts/index.htm

BINMIC south is estimated to lose nearly 900 jobs and BINMIC north nearly 1,150 from 2000 to 2020.

PSRC predicts that regional WTCU employment will increase from 215,000 in 2000 to nearly 258,000 in 2020. Growth attributable to Basic Industry sectors such as wholesale, transportation, communications and utilities cannot be discerned. WTCU employment in the Seattle area is also predicted to increase from nearly 68,000 in 2000 to 74,000 in 2020. **Exhibit 30** shows that, WTCU employment will increase by nearly 2,500 in Duwamish east north and decrease by over 800 in West Duwamish. BINMIC south is expected to remain stable while BINMIC north is estimated to gain 740 WTCU jobs from 2000 to 2020.

Exhibit 29
Projected Manufacturing Employment Change by PSRC Forecast Analysis Zone, 2000 – 2020

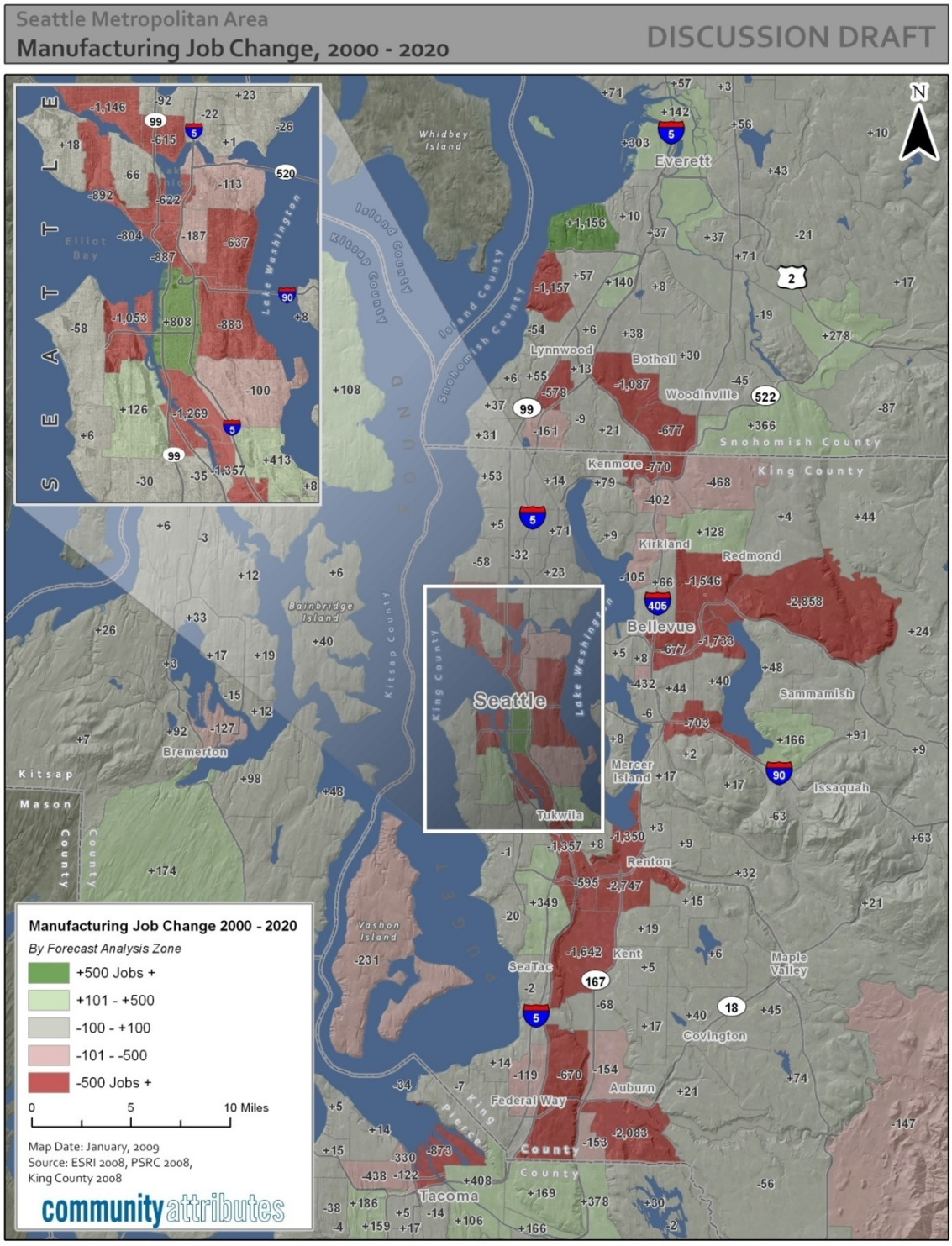
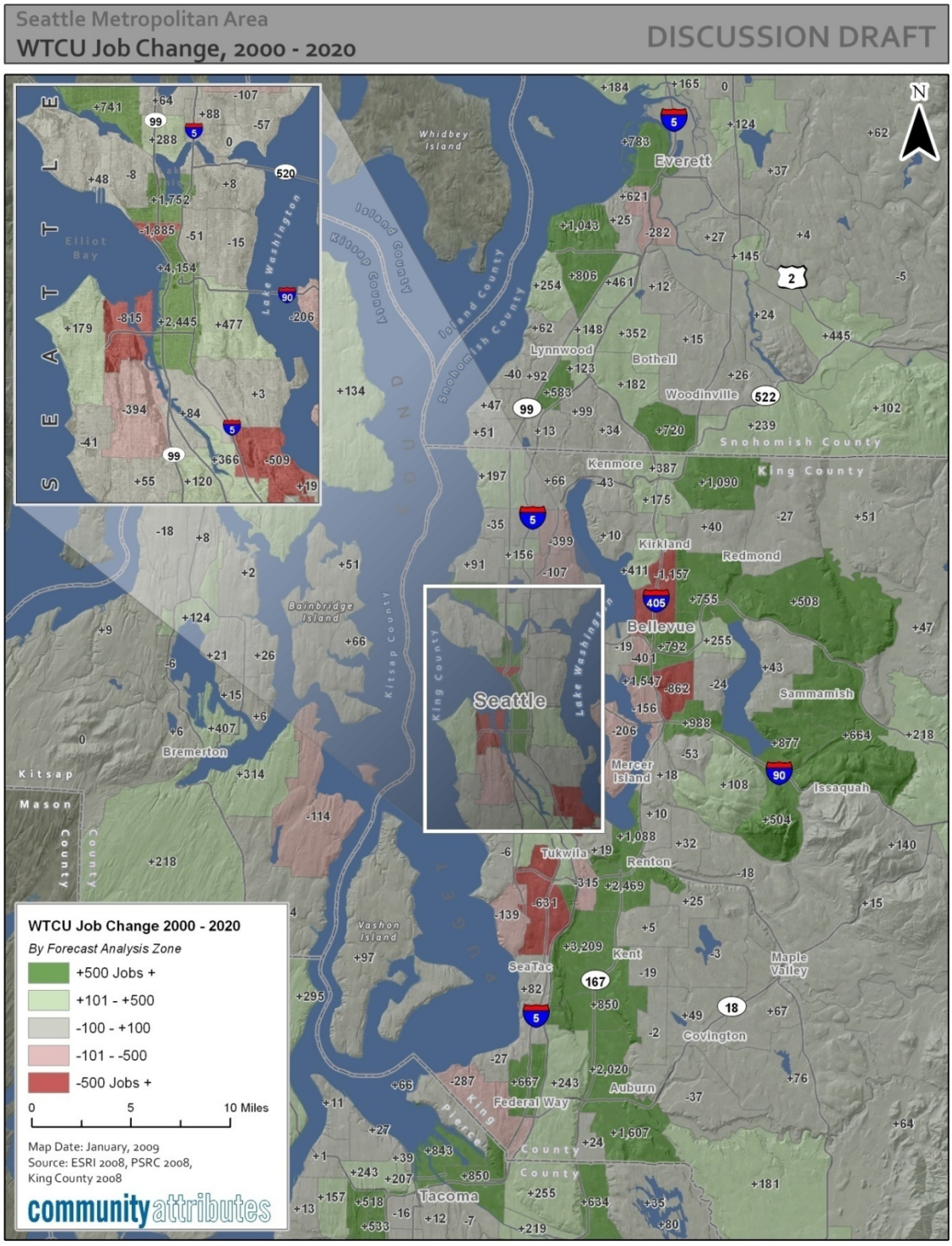


Exhibit 30
Projected WTCU Employment Change by PSRC Forecast Analysis Zone, 2000 – 2020



Seattle Employment Projections

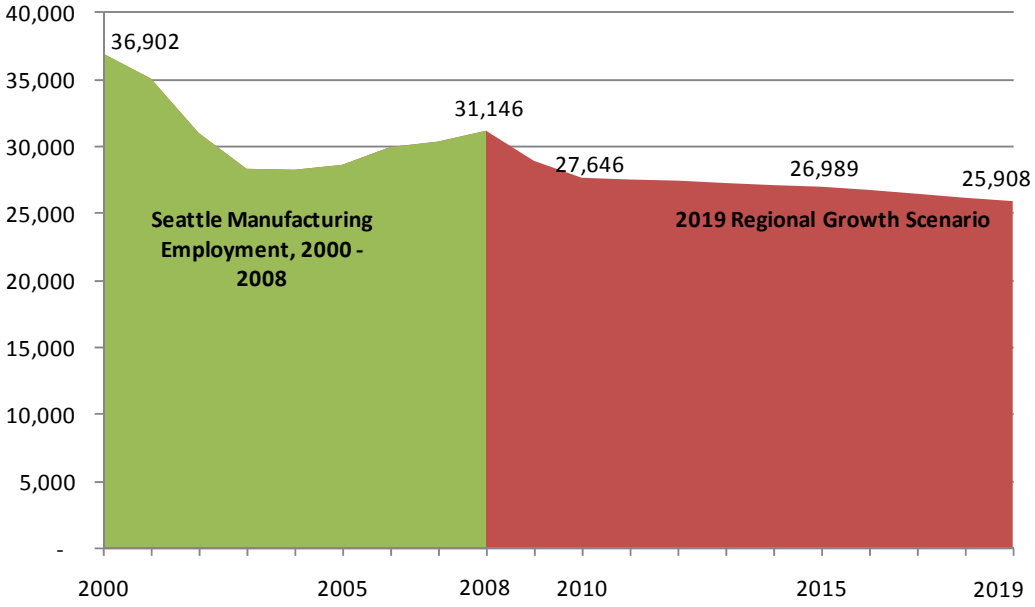
What do regional employment predictions mean for the future for Seattle's Basic Industry sector? The following exhibits show employment forecasts for Basic Industry sectors in the City of Seattle from 2008 to 2019 informed by Conway & Pedersen employment forecasts.

The application of Conway & Pedersen employment projections published in the Economic Forecaster assumes that Basic Industry employment in the City of Seattle and its two MICs will grow at the same pace as the Puget Sound region as a whole. Growth rates are applied to base 2007 employment in Seattle, BINIMIC and Duwamish MIC to project future growth. This simplistic method provides an understandable scenario that captures the best thinking of regional economic trends and what the regional trends might mean for City employment. The projections should be taken as "ball-park" projections, and not precise forecasts for Seattle's industrial areas.

Manufacturing

Exhibit 31 shows that manufacturing in the City of Seattle has declined from 2000 to 2008 by over 5,700 jobs. Manufacturing growth is expected to peak in 2008, and begin to decline consistently each year until 2019. If Seattle continues to grow as the region, by 2019 the local manufacturing sector is estimated to employ approximately 25,900 jobs, a loss of 5,200 manufacturing jobs from the 2008 base year.

Exhibit 31
Seattle Manufacturing Employment Projections, 2000 – 2019



Source: Community Attributes, PSRC, Conway & Pederson Economic Forecaster

Exhibit 32 below shows forecasted manufacturing jobs and jobs change from 2008 base employment in the City of Seattle, BINMIC and Duwamish MIC. By 2019, the BINMIC is expected to lose nearly 700 manufacturing jobs while the Duwamish over 2,400 if MIC manufacturing employment trends are consistent with the region.

Exhibit 32
Manufacturing Job Forecast, City of Seattle and MICs, Select Years 2008 – 2019

	City of Seattle		BINMIC		Duwamish MIC	
Year	Estimated Jobs	Change from 2008 Baseline	Estimated Jobs	Change from 2008 Baseline	Estimated Jobs	Change from 2008 Baseline
2008	31,146	-	4,404	-	15,445	-
2009	28,910	(2,236)	4,147	(257)	14,543	(902)
2010	27,646	(3,500)	3,966	(438)	13,907	(1,538)
2012	27,435	(3,711)	3,935	(469)	13,801	(1,644)
2015	26,989	(4,157)	3,871	(533)	13,577	(1,868)
2017	26,461	(4,685)	3,796	(608)	13,311	(2,134)
2019	25,908	(5,238)	3,716	(688)	13,033	(2,412)

Source: Community Attributes, PSRC, Conway & Pederson Economic Forecaster

Transportation and Utilities

Unlike manufacturing, transportation and utility employment is forecasted to remain stable in the Puget Sound region. **Exhibit 33** shows potential local job growth in transportation, if the City of Seattle and MICs are to maintain their current share of regional employment. Transportation employment is expected to decline from 2009 to 2012 citywide, with small loses experienced in local MICs. After 2012, local transportation jobs are expected to increase, with the potential of adding over 730 jobs citywide by 2019. The Duwamish MIC and BINMIC combined are estimated to gain approximately 470 new jobs by 2019.

Exhibit 33
Transportation and Utilities Job Forecast, City of Seattle and MICs, Select Years 2008 – 2019

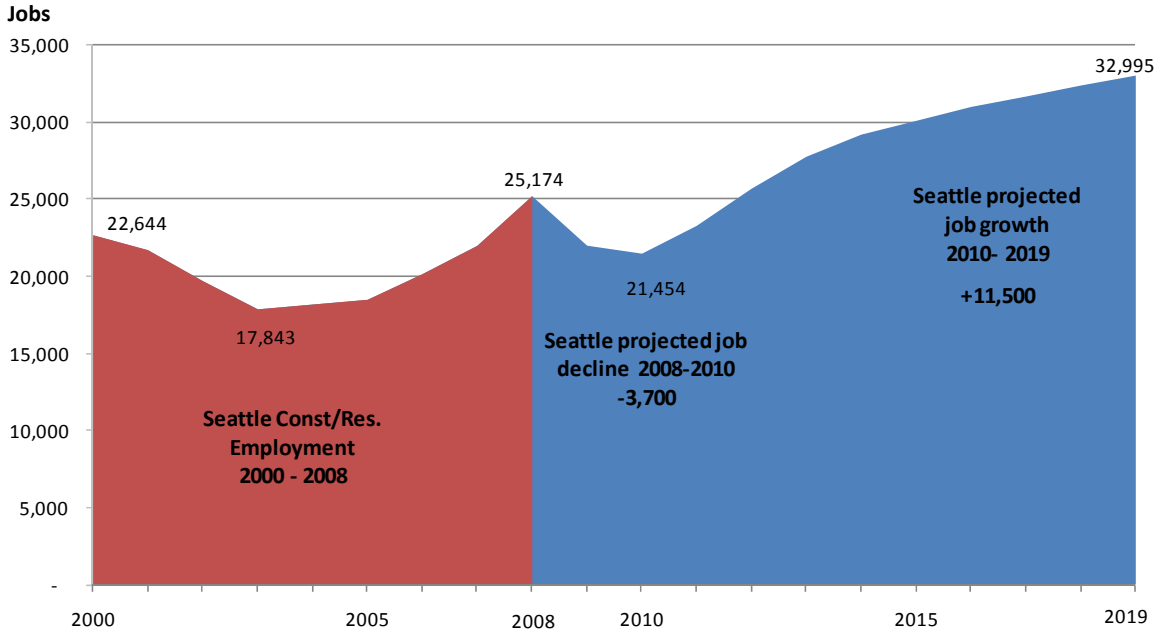
	City of Seattle		BINMIC		Duwamish MIC	
Year	Estimated Jobs	Change from 2007 Baseline	Estimated Jobs	Change from 2007 Baseline	Estimated Jobs	Change from 2007 Baseline
2008	15,469	-	942	-	6,707	-
2009	15,351	(118)	903	(39)	6,429	(278)
2010	14,714	(755)	900	(42)	6,407	(300)
2012	14,971	(498)	935	(6)	6,662	(45)
2015	15,689	220	972	31	6,926	219
2017	16,006	537	988	47	7,039	331
2019	16,200	731	1,000	58	7,122	414

Source: Community Attributes, PSRC, Conway & Pederson Economic Forecaster

Construction and Resources

After significant job losses from 2000 to 2003 and a subsequent rebound from 2003 to 2008, Seattle construction jobs are estimated to decline from 2008 to 2010 based on regional construction forecasts **(Exhibit 34).** The construction and resource sector is estimated to shed nearly 3,700 jobs over a two year span from 2008 to 2010, and rebound the next nine years adding 11,500 jobs if local growth keeps pace with the rest of the region.

Exhibit 34
City of Seattle Construction and Resource Employment Projections, 2000 - 2019



Source: Community Attributes, Conway & Pederson Economic Forecaster

3. INDUSTRIAL LAND USE

Section 2.0 provided detailed analysis of Basic Industry economic activity, grouped and analyzed according to the type of economic activity the firm engages in. These economic codes do not, however, indicate how companies use the land they occupy. Economic codes are not land use codes, in other words. This section provides detailed analysis on land use in Seattle's industrial areas and how Basic Industries participate in using industrial lands. See **Appendix D** for additional data tables and maps for Seattle's MICs.

This section is organized as follows:

- **Land Use Policies.** A brief overview of current industrial land policy.
- **Occupied Land and Built Space.** Measures and summaries of how industrial land is developed, with detailed summaries of land use in Seattle's two manufacturing industrial centers.
- **Redevelopment Potential.** An assessment of land capacity to accommodate additional Basic Industry Jobs.
- **Land Values and Ownership.** An overview of the economic value of industrial land and implications of ownership in the City.
- **Real Estate Market Trends.** Trends and current conditions from a real estate perspective on industrial land in the City.

3.1 Land Use Policies

Land use has long been a topic of debate for Seattle's industrial community. Current land use policies, zoning regulations, and capital improvement strategies aim to address a complex set of market conditions experienced by constantly evolving industrial land owners and businesses.

King County Countywide Planning Policies established Manufacturing Industrial Center (MIC) status for the BINMIC and Duwamish MIC. MIC status provides a strong policy foundation to promote the preservation of industrial lands and activities and discourage non-compatible uses. The City of Seattle has also established a holistic set of land use, transportation, and economic development policies that aim to preserve and support the industrial activities in MICs and industrial zoned lands, with the primary goal of supporting economic growth and retention of family wage jobs. Policies are set forth in the City's Comprehensive Plan, as well as two Neighborhood plans established specifically to guide policy decisions in the BINIMC and Duwamish MIC.

The City has established four zoning districts to implement planning policies which include General Industrial 1 (IG1) and General Industrial 2 (IG2) Industrial Bugger (IB) and Industrial Commercial (IC). IG1 and IG2 encompass

the vast majority of industrial land in Seattle and virtually all land in the BINMIC and Duwamish MIC. **Exhibit 35** below shows industrial land by zoning district.

Exhibit 35
City of Seattle Industrial Land by Zoning District

Zoning District	Parcels	Acres	% Area
IG2	2,482	721,782	52%
IG1	917	645,663	46%
IC	377	18,637	1%
IB	387	6,213	0%
IDM	116	2,829	0%
IDR	35	531	0%
TOTAL	4,314	1,395,654	100%

Source: City of Seattle DPD, Community Attributes

Changes to industrial zoning in IG1 and IG2 aimed at better preserving industrial lands have been the subject of recent debate. In 2007, The City of Seattle passed Ordinance 122601 to reduce the size limits for certain non-industrial uses in industrial zones.

The new ordinance was enacted to better support the City's comprehensive planning policies " to preserve industrial land for industrial uses…" and limit the development of new retail and office uses within Manufacturing Industrial Centers which restrict the ability of industrial businesses to locate, remain or expand within Seattle.

Exhibit 36 presents square footage limits for new office and retail uses imposed by Ordinance 122601 compared to industrial zoning regulations prior to 2007. Industrial 1 (IG1) and industrial 2 (IG2) zones compose the vast majority of land area, are the target of industrial preservation measures. Also, and perhaps more importantly, are changes to allowable Floor-Area Ratio (FAR). FAR limits the footprint of new buildings, and when combined with total square footage requirements, limit the size of new development. The allowable FAR is 2.5 in IG1, IG2 and IB zones.

Exhibit 36
Zoning Regulations for New Non-Industrial Development in Seattle MICs

	Non-industrial square footage limits imposed under previous zoning				Non-industrial square footage limits under Downzoning (Ord. 122601)			
Zoning Use and District	IG1	IG2	IB	IC	IG1	IG2	IB	IC
Office	50,000	100,000	100,000	No limit	10,000	25,000	100,000	No Limit
Retail Sales	30,000	75,000	75,000	75,000	10,000	25,000	75,000	75,000
Service	30,000	75,000	75,000	75,000	10,000	25,000	75,000	75,000

Source: City of Seattle, Community Attributes

Industrial business and land owners expressed both support and opposition for recent down zoning actions. When explicitly mentioning the down zoning

initiative, three respondents supported down zoning initiatives while five opposed recent zoning changes. Proponents cited improved stability in Seattle's economy, added certainty of business operations and lease rates, and improved effectiveness in preserving industrial in MICs from retail and residential conversions. Opponents stated that new FAR and square footage restrictions limit expansion and feasibility of developing property at the highest and best use, decrease property values, and that zoning changes have confused interpretation and complicated permitting. Opponents call for a more market-oriented approach and long-term perspective.

Other potential industrial policy and zoning changes on the horizon aim to improve the definition of industrial areas, exploring new definitions for what constitutes a manufacturing, research and development (R&D) and accessory uses. Use and size limits do not apply to accessory uses and therefore pose a threat to integrity of regulations.

New zoning tools are also being explored from other metro areas, including transfer of development rights programs that use market mechanisms to purchase development rights of industrial lands and transfer those rights to increase density in other more desirable areas for development, thus preserving current industrial buildings and lands in perpetuity.

3.2 Occupied Land and Built Space

Analysis of data and research conducted by the City's Department of Planning and Development (DPD) reveals a broad mix of uses on industrial land, citywide (**Exhibit 37**). DPD found that the majority of land uses in industrial areas are industrial (73%), on a total of 5,631 acres of land. Of those industrial uses, marine terminals account for approximately 28% (1,140 acres), warehouses 20% (854 acres), heavy and general industrial uses together approximately 17% (701 acres), and air terminals 14% (639 acres). Vacant industrial land accounted for approximately 9%, with other uses making up the remainder.

Exhibit 37
Land Uses by Land Area and Building Size,
Seattle Industrial Areas, Citywide, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Warehouse	389	640	11.7%	15,995,671	24.2%	0.6	41,120
Manufacturing/Processing	334	506	9.3%	11,276,026	17.0%	0.5	33,761
Office	202	233	4.3%	10,068,613	15.2%	1.0	49,845
Heavy Sales/Service	317	306	5.6%	6,685,587	10.1%	0.5	21,090
Transportation	332	2,027	37.2%	5,458,057	8.2%	0.1	16,440
Retail/Service	456	237	4.3%	4,634,556	7.0%	0.4	10,164
Marine	139	383	7.0%	2,156,993	3.3%	0.1	15,518
Research and Development	20	26	0.5%	2,144,891	3.2%	1.9	107,245
Entertainment	19	51	0.9%	2,106,543	3.2%	0.9	110,871
Parking	177	120	2.2%	1,825,318	2.8%	0.3	10,313
Vacant	302	192	3.5%	1,940,819	2.9%	0.2	6,427
Public Facilities/Utilities	79	154	2.8%	1,498,379	2.3%	0.2	18,967
Residential	223	37	0.7%	442,440	0.7%	0.3	1,984
Institutions	24	32	0.6%	325,426	0.5%	0.2	13,559
Outdoor Storage	173	107	2.0%	53,254	0.1%	0.0	308
Open Space	25	114	2.1%	400	0.0%	0.0	16
Right of Way	216	105	1.9%	-	0.0%	-	-
TOTAL ALL USES	**3,460**	**5,450**	**100.0%**	**66,199,500**	**100.0%**	**0.3**	**19,133**

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

In 2008, there were 90,400 Basic Industry jobs citywide, 18% of all jobs Seattle. We do not know with certainty whether all of those jobs, or what percentage of those jobs, occupy the 5,450 acres of industrial land in Seattle.

Transportation uses occupy 37% of industrial land in Seattle; the most of any land use. When combined with warehousing and manufacturing uses, these industrial land uses occupy 60% of industrially zoned land in Seattle.

In terms of building area, warehouses composed the greatest use of building space, at 16 million SF, representing 25% of all built space on industrial lands. Manufacturing and processing buildings account for 11.3 million s.f. (17% industrial lands), and office uses account for 10.1 million s.f. (15% industrial lands). Altogether these top 3 uses account for nearly 60% of total industrial building space. Entertainment and R&D uses occupy the largest buildings on average, at more than 100,000 sf.

R&D properties are the most intensively developed industrial properties, with average floor area ratios (FAR) of 2.0. Transportation, marine uses and outdoor storage have the lowest FARs at 0.1 or below.

The diversity in existing building stock supports a wide range of industrial functions in Seattle. **Exhibit 38** demonstrates that buildings less than 15,000 square feet account for nearly 60% of the building stock in Seattle, providing a strong infrastructure to support small industrial business expansions and changing business needs. Larger buildings, greater than 60,000 square feet, account for approximately 10% of the existing building stock in Seattle's MIC's. Functionality of existing building stock coupled with limited industrial redevelopment feasibility creates both pros and cons for Seattle's industrial community. While several small industrial spaces can support industrial business incubation, innovation and flexibility, the capacity to expand business operations is highly limited, fostering relocation to other industrial areas within the Puget Sound region that offer lower rental rates, land and building costs.

Exhibit 38
Building Stock in Seattle MICs by Size Classification, 2008

Building SF	Number of Buildings	% of Building Stock
Less than 5,000	1,988	58%
5,000 - 15,000	637	18%
15,000 - 30,000	379	11%
30,000 - 60,000	235	7%
60,000 - 80,000	51	1%
More than 80,000	160	5%
Total Number of Buildings	**3,450**	**100%**

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

BINMIC

The BINMIC encompasses over 800 acres, of which 70% (580 acres) is actively used for industry (**Exhibit 39**). Approximately 24% of land is occupied by non-industrial uses.

Transportation (primarily rail) accounts for 207 acres and 25% of all BINMIC land, the most of any use. Marine (190 acres, 23%) and warehousing (86 acres, 11%) are the other primary industrial uses. Major non-industrial uses include retail and service (55 acres, 7%) and office (40 acres, 5%). Approximately 54 acres or 6.5% of land in BINMIC is vacant

Building space in the BINMIC is more evenly distributed between industrial and non-industrial uses. There is a total of 6.3 million square feet of industrial building space (57% of total s.f.) and 4.7 million non-industrial building space (43% of total s.f.). Warehousing (2 million s.f., 18%), office (1.7 million s.f., 16%), research and development (1.5 million s.f., 14%) and marine (1.3 million s.f., 12%) account for the majority of building space in the BINMIC. Approximately 29,000 sf or 3% of the total building stock is estimated to be vacant. Research and Development is the most intensely developed at an FAR of 1.9, while other industrial FARs range from 0.1 to 1.0.

Exhibit 39
Land and Building Area in the BINMIC, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Warehouse	108	86	10.5%	2,026,515	18.2%	0.5	18,764
Marine	76	189	23.0%	1,303,097	11.7%	0.2	17,146
Manufacturing/Processing	73	46	5.6%	1,190,456	10.7%	0.6	16,308
Transportation	49	207	25.2%	890,384	8.0%	0.1	18,171
Heavy Sales/Service	45	20	2.5%	666,423	6.0%	0.8	14,809
Public Facilities/Utilities	9	24	2.9%	235,674	2.1%	0.2	26,186
Outdoor Storage	46	9	1.1%	25,682	0.2%	0.1	558
Non-Industrial							
Office	63	40	4.8%	1,724,587	15.5%	1.0	27,374
Research and Development	6	18	2.2%	1,520,554	13.7%	1.9	253,426
Retail/Service	125	55	6.7%	1,021,595	9.2%	0.4	8,173
Vacant	62	54	6.6%	290,994	2.6%	0.1	4,693
Institutions	10	5	0.6%	115,350	1.0%	0.5	11,535
Residential	62	7	0.9%	75,849	0.7%	0.2	1,223
Parking	31	18	2.1%	22,736	0.2%	0.0	733
Entertainment	2	0	0.0%	-	0.0%	-	-
Right of Way	46	38	4.7%	-	0.0%	-	-
Open Space	4	6	0.7%	-	0.0%	-	-
Other	-	-	0.0%	-	0.0%		
TOTAL ALL USES	**817**	**821**	**100.0%**	**11,109,896**	**100.0%**	**0.3**	**13,598**
Industrial	406	581	70.7%	6,338,231	57.1%	0.3	15,611
Non-Industrial	411	240	29.3%	4,771,665	42.9%	0.5	11,610

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

Nearly 75% of all parcels in the BINMIC (553 of 771 parcels; ROW and unlisted uses excluded) are less than 0.5 acres (**Exhibit 40**). Lot sizes between one half and one acre account for 12% of BINMIC parcels, lots between one and five acres 13% of parcels and lots greater than five acres less than 4% of total parcels.

Exhibit 40
BINMIC Parcel Size by Land Use Classification, 2008[13]

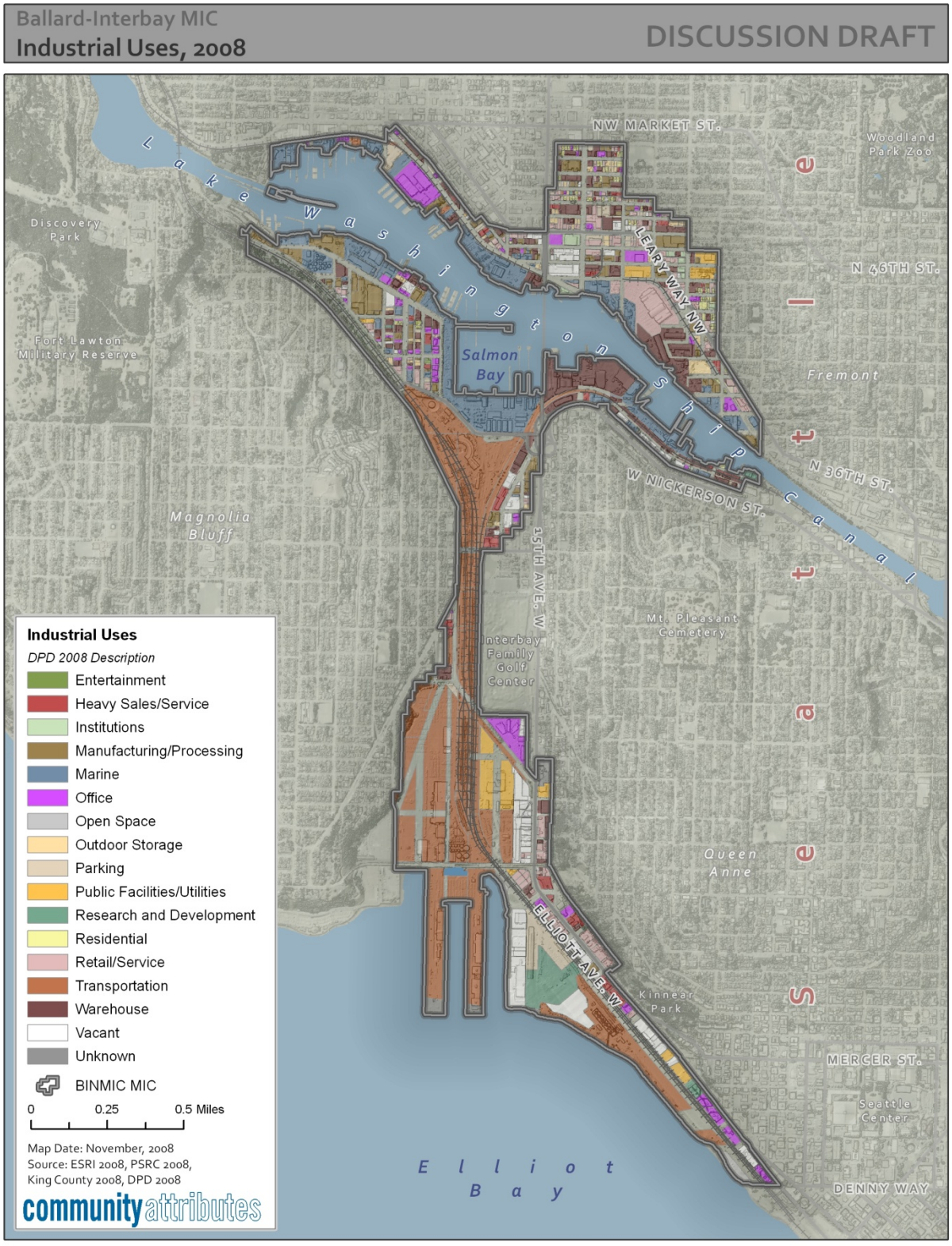
Use Classification	Less than 0.5 acres	Between 0.5 and 1 acre	Between 1 and 5 acres	Greater than 5 acres	Total Parcels
Industrial					
Heavy Sales/Service	36	1	8	-	45
Manufacturing/Processing	51	11	9	2	73
Marine	36	14	18	8	76
Outdoor Storage	45	-	1	-	46
Public Facilities/Utilities	3	-	5	1	9
Transportation	23	3	13	10	49
Warehouse	75	15	16	2	108
Non-Industrial					
Entertainment	2	-	-	-	2
Institutions	8	-	2	-	10
Office	47	5	9	2	63
Research and Development	2	1	2	1	6
Residential	62	-	-	-	62
Retail/Service	95	23	6	1	125
Open Space	2	1	1	-	4
Parking	26	3	1	1	31
Vacant	40	12	7	3	62
TOTAL ALL USES	**553**	**89**	**98**	**31**	**771**
Industrial	269	44	70	23	406
Non-Industrial	284	45	28	8	365

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

Exhibit 41 below shows a map of land uses in the BINMIC. The most prominent use is transportation which consists mostly of railways in Interbay. Marine and warehouse uses dominate the waterfront in Salmon Bay and along the Washington Lake Ship Canal. A diverse range of uses, both industrial and non-industrial, exist in BINMIC north, northeast and southwest of the Ballard Bridge. These areas maintain high densities with many small parcels.

[13] Right of Way parcels excluded from analysis, therefore total parcel counts in exhibits 39 and 40 do not match.

Exhibit 41
BINMIC Land Uses, 2008



BINMIC North

Exhibit 42 below shows the distribution of land uses in the BINMIC North. BINMIC North is approximately 522 acres, of which industrial uses comprise over 75% of land area. Marine uses occupy the most acreage of any land use, encompassing nearly 200 acres (36%). Warehouse, marine and manufacturing uses occupy nearly 4.3 million square feet of building space or 80% of total building space in BINMIC North. Retail and Office uses account for a combined 22% of total building space in the BINMIC the most of any non-industrial uses. Industrial uses are less intensely developed (0.3 FAR) than non-industrial uses (0.4). Industrial FARs range from 0.1 for transportation to 0.6 for heavy sales service and manufacturing.

Exhibit 42
Land and Building Area in North BINMIC, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Warehouse	100	79	15.1%	1,834,973	26.6%	0.5	18,350
Marine	76	189	36.2%	1,303,097	18.9%	0.2	17,146
Manufacturing/Processing	71	45	8.6%	1,162,284	16.9%	0.6	16,370
Heavy Sales/Service	36	14	2.8%	381,388	5.5%	0.6	10,594
Transportation	14	55	10.5%	176,968	2.6%	0.1	12,641
Public Facilities/Utilities	5	6	1.2%	80,638	1.2%	0.3	16,128
Outdoor Storage	46	9	1.7%	25,682	0.4%	0.1	558
Non-Industrial							
Retail/Service	96	38	7.3%	753,131	10.9%	0.5	7,845
Office	53	25	4.7%	727,468	10.6%	0.7	13,726
Vacant	38	13	2.6%	180,295	2.6%	0.3	4,745
Institutions	10	5	0.9%	115,350	1.7%	0.5	11,535
Residential	62	7	1.4%	75,849	1.1%	0.2	1,223
Research and Development	3	1	0.2%	52,292	0.8%	1.0	17,431
Parking	29	8	1.4%	22,736	0.3%	0.1	784
Entertainment	2	0	0.1%	-	0.0%	-	-
Right of Way	31	28	5.3%	-	0.0%	-	-
Open Space	2	0	0.0%	-	0.0%	-	-
Other			0.0%				
TOTAL ALL USES	**674**	**522**	**100.0%**	**6,892,151**	**100.0%**	**0.3**	**10,226**
Industrial	348	397	76.1%	4,965,030	72.0%	0.3	14,267
Non-Industrial	326	125	23.9%	1,927,121	28.0%	0.4	5,911

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

BINMIC South

Exhibit 43 below shows the distribution of land uses in the BINMIC South. BINMIC South is approximately 300 acres in size. Industrial uses comprise 60% of land area (184 acres) while approximately 14% of land is vacant (41 acres).

Industrial use parcels in BINMIC South are less intensively developed than BINMIC North. Industrial parcels are largely transportation-related, with very low FAR ratios indicating little building development. Transportation uses (mostly rail) account for 152 acres or nearly 50% of land in BINMIC South but only 17% of building space. Research and Development occupy 1.5 million square footage of building space (35%); the most of any land use in the BINMIC South. Nearly 25% of building space is in Office. An estimated 110,000 square feet of building space is currently vacant.

Exhibit 43
Land and Building Area in South BINMIC, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Transportation	35	152	50.8%	713,416	16.9%	0.1	20,383
Heavy Sales/Service	9	6	1.9%	285,035	6.8%	1.1	31,671
Warehouse	8	8	2.6%	191,542	4.5%	0.6	23,943
Public Facilities/Utilities	4	18	5.9%	155,036	3.7%	0.2	38,759
Manufacturing/Processing	2	1	0.3%	28,172	0.7%	0.8	14,086
Marine	-	-	0.0%	-	0.0%	-	-
Outdoor Storage	-	-	0.0%	-	0.0%	-	-
Non-Industrial							
Research and Development	3	17	5.6%	1,468,262	34.8%	2.0	489,421
Office	10	15	5.0%	997,119	23.6%	1.5	99,712
Retail/Service	29	17	5.6%	268,464	6.4%	0.4	9,257
Vacant	24	41	13.6%	110,699	2.6%	0.1	4,612
Entertainment	-	-	0.0%	-	0.0%	-	-
Institutions	-	-	0.0%	-	0.0%	-	-
Residential	-	-	0.0%	-	0.0%	-	-
Right of Way	15	11	3.6%	-	0.0%	-	-
Open Space	2	5	1.8%	-	0.0%	-	-
Parking	2	10	3.3%	-	0.0%	-	-
Other	-	-	0.0%	-	0.0%		
TOTAL ALL USES	**143**	**300**	**100.0%**	**4,217,745**	**100.0%**	**0.3**	**29,495**
Industrial	58	184	61.4%	1,373,201	32.6%	0.2	23,676
Non-Industrial	85	116	38.6%	2,844,544	67.4%	0.6	33,465

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

Duwamish MIC

The Duwamish MIC encompasses over 4,200 acres. Industrial uses occupy nearly 80% (3,370 acres) of Duwamish land area (**Exhibit 44**).

There are over 1,800 acres used for transportation functions, accounting for nearly 45% of all land in the Duwamish. Warehouse (540 acres, 13%) and manufacturing (450 acres, 11%) are the other primary industrial uses.

There is a total of 47 million square feet of building space, of which approximately 74% is occupied by industrial users. Warehouse (13.4 million s.f., 28%), manufacturing (9.6 million s.f., 20%), heavy sales and service (5.7 million s.f., 12%) and office (5.4 million s.f., 11%) account for the largest users of Duwamish building space. Approximately 2% of the total building stock is assumed to be vacant.

Exhibit 44
Land and Building Area in Duwamish MIC, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Warehouse	253	539	12.6%	13,387,902	28.2%	0.6	52,917
Manufacturing/Processing	212	448	10.5%	9,685,496	20.4%	0.5	45,686
Heavy Sales/Service	251	279	6.5%	5,749,619	12.1%	0.5	22,907
Transportation	274	1,807	42.4%	4,539,643	9.6%	0.1	16,568
Public Facilities/Utilities	61	121	2.8%	1,186,706	2.5%	0.2	19,454
Marine	26	83	1.9%	594,359	1.3%	0.2	22,860
Outdoor Storage	114	95	2.2%	20,030	0.0%	0.0	176
Non-Industrial							
Office	78	152	3.6%	5,408,167	11.4%	0.8	69,335
Retail/Service	227	151	3.5%	2,577,899	5.4%	0.4	11,356
Parking	110	92	2.2%	1,799,062	3.8%	0.5	16,355
Entertainment	13	18	0.4%	1,227,136	2.6%	1.6	94,395
Vacant	209	281	6.6%	884,166	1.9%	0.1	4,230
Residential	131	20	0.5%	236,811	0.5%	0.3	1,808
Institutions	9	24	0.6%	130,333	0.3%	0.1	14,481
Other	1	2	0.1%	44,476	0.1%		
Research and Development	3	2	0.0%	39,066	0.1%	0.5	13,022
Right of Way	153	62	1.4%	-	0.0%	-	-
Open Space	19	91	2.1%	-	0.0%	-	-
TOTAL ALL USES	**2,144**	**4,264**	**100.0%**	**47,510,871**	**100.0%**	**0.3**	**22,160**
Industrial	1,191	3,370	79.0%	35,163,755	74.0%	0.2	29,525
Non-Industrial	953	894	21.0%	12,347,116	26.0%	0.3	12,956

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

Approximately half of all parcels in the Duwamish (975 of 1990 parcels; ROW and unlisted uses excluded) are less than 0.5 acres (**Exhibit 45**). Lot sizes between one half and one acre account for 20% of Duwamish parcels, lots between one and five acres 24% of parcels and lots greater than five acres less than 8% of total parcels.

Exhibit 45
Duwamish Parcel Size by DPD Land Use Classifications, 2008[14]

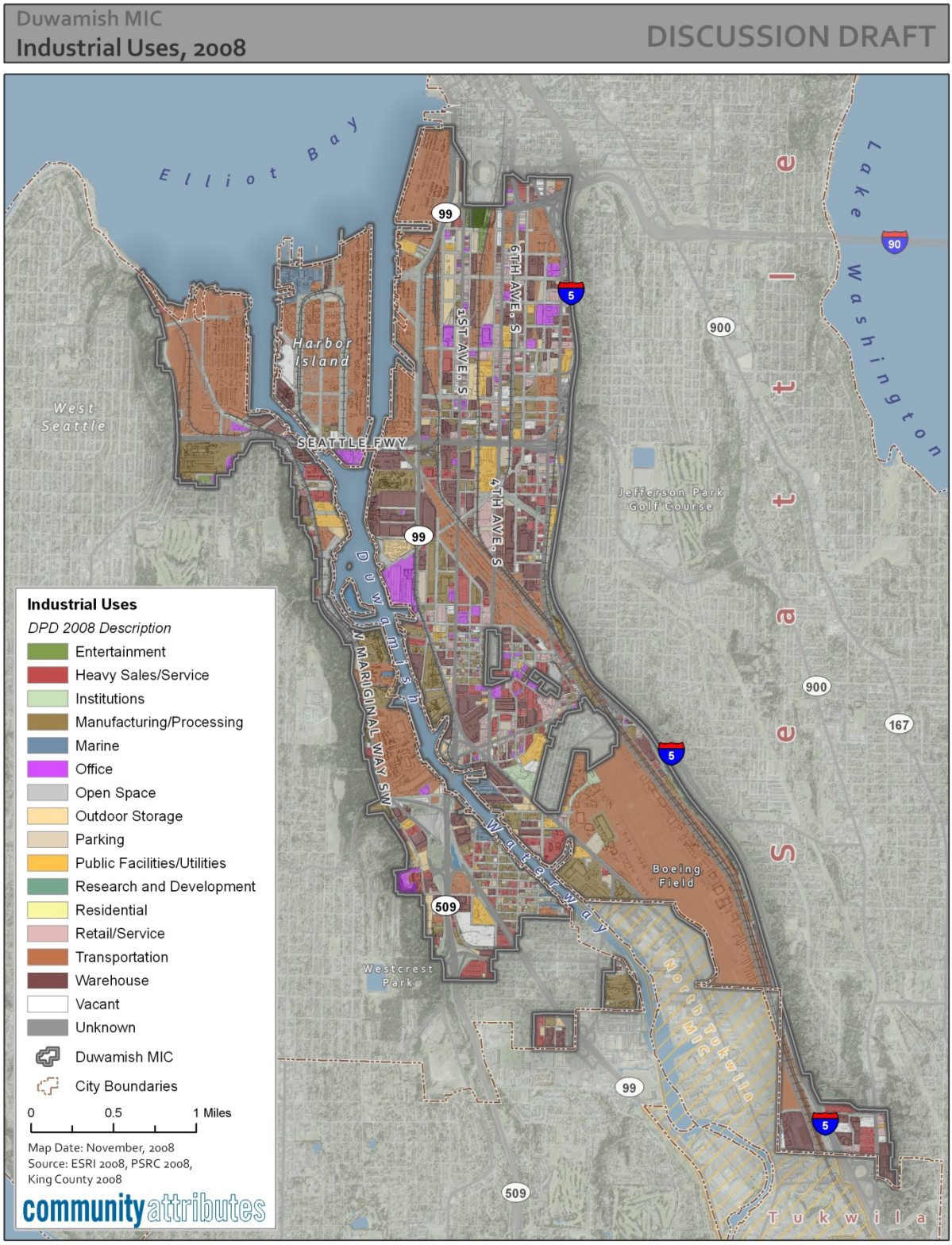
Use Classification	Less than 0.5 acres	Between 0.5 and 1 acre	Between 1 and 5 acres	Greater than 5 acres	Total Parcels
Industrial					
Heavy Sales/Service	124	55	64	8	251
Manufacturing/Processing	79	61	55	17	212
Marine	6	5	11	4	26
Outdoor Storage	72	21	18	3	114
Public Facilities/Utilities	28	10	14	9	61
Transportation	90	41	83	60	274
Warehouse	62	61	106	24	253
Non-Industrial					
Entertainment	11	-	1	1	13
Institutions	3	-	3	3	9
Office	33	23	16	6	78
Research and Development	1	2	-	-	3
Residential	128	2	1	-	131
Retail/Service	134	62	30	1	227
Open Space	10	2	2	5	19
Parking	67	15	27	1	110
Vacant	127	34	37	11	209
TOTAL ALL USES	**975**	**394**	**468**	**153**	**1,990**
Industrial	461	254	351	125	1,191
Non-Industrial	514	140	117	28	799

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

Exhibit 46 below shows a map of land uses in the Duwamish MIC. Northeast Duwamish, commonly referred to as SODO, shows a diverse range of industrial and non-industrial uses. Southeast Duwamish MIC shows clusters of warehousing and manufacturing uses around the Duwamish River and rail lines while Boeing Field forms the southern boundary. Port land comprises the majority of property in Duwamish West and Harbor Island, showing a strong emphasis on transportation. South Park, the southernmost industrial neighborhood in southwest Duwamish, shows high density clusters of manufacturing uses and heavy sales and services.

[14] Right of way excluded from parcel count, therefore total parcel counts in Exhibit 45 and 44 do not match.

Exhibit 46
Duwamish MIC Land Uses, 2008



SODO (East and North Duwamish) Subarea

Diverse land use patterns have emerged in the SODO (East and North) area. The SODO neighborhood is north of the Seattle freeway, west of Interstate 5 and east of the Duwamish waterway. Nearly 75% of SODO's land area is occupied by industrial uses. Over 40% (335 acres) of SODO land area is currently used for transportation and an additional 12.5% (100 acres) for warehousing uses.

While SODO's landscape is predominantly industrial in nature, the building stock accommodates a diverse range of industrial and non-industrial uses. Office uses fill over 20% of the building space (3.1 million s.f.), the most of any land use. Warehousing also occupies approximately 20% of the building space in SODO. Non-industrial uses are much more intensely developed in SODO, with FARs averaging 0.9 while industrial FARs range from 0.8 to 0.1.

Several major public facilities were constructed in SODO over the past two decades, impacting industrial lands and activities. Development of two professional sports stadiums occupy 43 acres of land within and adjacent to northern SODO. Location of these venues has resulted in higher demand for non-industrial uses and has greatly impacted traffic patterns. Additionally, new public transportation facilities for Sound Transit, Amtrak, and King County Metro also occupy significant land area.

Exhibit 47
Land and Building Area in SODO, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Warehouse	69	101	12.9%	2,897,771	19.4%	0.7	41,997
Manufacturing/Processing	45	48	6.1%	1,459,954	9.8%	0.7	32,443
Heavy Sales/Service	50	33	4.2%	1,102,134	7.4%	0.8	22,043
Transportation	72	334	42.6%	1,078,383	7.2%	0.1	14,978
Public Facilities/Utilities	19	33	4.2%	413,100	2.8%	0.3	21,742
Marine	-	-	0.0%	-	0.0%	-	-
Outdoor Storage	23	30	3.8%	-	0.0%	-	-
Non-Industrial							
Office	30	41	5.2%	3,137,820	21.0%	1.8	104,594
Parking	50	47	6.0%	1,799,062	12.1%	0.9	35,981
Retail/Service	96	56	7.2%	1,152,936	7.7%	0.5	12,010
Entertainment	10	15	1.9%	1,150,747	7.7%	1.7	115,075
Vacant	47	34	4.3%	588,576	3.9%	0.4	12,523
Residential	1	1	0.1%	130,624	0.9%	2.7	130,624
Institutions	1	1	0.1%	15,080	0.1%	0.3	15,080
Research and Development	-	-	0.0%	-	0.0%	-	#DIV/0!
Right of Way	36	10	1.3%	-	0.0%	-	-
Open Space	-	-	0.0%	-	0.0%	-	-
Other	-	-	0.0%	-	0.0%	-	-
TOTAL ALL USES	**549**	**784**	**100.0%**	**14,926,187**	**100.0%**	**0.4**	**27,188**
Industrial	278	578	73.8%	6,951,342	46.6%	0.3	25,005
Non-Industrial	271	206	26.2%	7,974,845	53.4%	0.9	29,427

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

South of Spokane (Duwamish South and East) Subarea

The southeastern portion of the Duwamish, commonly referred to as "South of Spokane Street," is dominated by transportation, warehousing and manufacturing uses and is anchored by Boeing Field on the south. Within the southeastern portion of the Duwamish MIC, the Georgetown industrial neighborhood demonstrates a rich mix of land uses including manufacturing and processing, office, heavy sales and service, warehousing and some retail and service uses.

Over 80% of the nearly 2,000 acres in southeast Duwamish are occupied by industrial uses (**Exhibit 48**). Transportation uses account for 40% (800 acres) of land, warehousing an additional 18% (350 acres) and manufacturing 12% (230 acres).

Warehousing occupies 35% of the building space (8.2 million s.f.), the most of any use. Manufacturing (24%) and heavy sales and services (15%) are also significant tenants of southeast Duwamish building space. Industrial FARs.

Exhibit 48
Land and Building Area in Duwamish East and South, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Warehouse	132	347	17.7%	8,206,294	35.0%	0.5	62,169
Manufacturing/Processing	95	228	11.6%	5,646,144	24.1%	0.6	59,433
Heavy Sales/Service	118	158	8.1%	3,464,359	14.8%	0.5	29,359
Transportation	79	807	41.2%	1,925,157	8.2%	0.1	24,369
Public Facilities/Utilities	19	55	2.8%	668,202	2.8%	0.3	35,169
Marine	6	15	0.7%	64,252	0.3%	0.1	10,709
Outdoor Storage	28	29	1.5%	15,230	0.1%	0.0	544
Non-Industrial							
Office	36	60	3.0%	1,565,873	6.7%	0.6	43,496
Retail/Service	119	88	4.5%	1,380,451	5.9%	0.4	11,600
Vacant	70	59	3.0%	244,936	1.0%	0.1	3,499
Institutions	5	23	1.2%	115,253	0.5%	0.1	23,051
Residential	57	9	0.4%	70,655	0.3%	0.2	1,240
Other	1	2	0.1%	44,476	0.2%	0.5	44,476
Research and Development	2	1	0.1%	28,766	0.1%	0.5	14,383
Entertainment	2	0	0.0%	7,626	0.0%	1.0	3,813
Right of Way	83	34	1.7%	-	0.0%	-	-
Open Space	3	15	0.7%	-	0.0%	-	-
Parking	38	30	1.5%	-	0.0%	-	-
TOTAL ALL USES	**893**	**1,958**	**100.0%**	**23,447,674**	**100.0%**	**0.3**	**26,257**
Industrial	477	1,638	83.6%	19,989,638	85.3%	0.3	41,907
Non-Industrial	416	320	16.4%	3,458,036	14.7%	0.2	8,313

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

Duwamish West Subarea

The Duwamish West subarea, which includes Harbor Island, is bounded on the west by Marginal Way and the east by the Duwamish waterway. **Exhibit 49** below shows the land use mix in the Duwamish West subarea.

Transportation uses occupy half of western Duwamish land area, which are primarily dedicated to Port activity. An estimated 13% of land area is assumed vacant.

Manufacturing, transportation and warehousing are the three largest occupiers of building space, representing nearly 75% of all building stock in Duwamish West. Office uses occupy 12% of building space.

Duwamish west is the least intensely developed industrial neighborhood in Seattle MICs, with FAR averaging 0.1 for both industrial and non-industrial uses.

Exhibit 49
Land and Building Area in Duwamish West, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Warehouse	21	49	3.9%	1,540,318	25.5%	0.7	73,348
Transportation	116	649	51.1%	1,462,083	24.2%	0.1	12,604
Manufacturing/Processing	21	113	8.8%	1,407,984	23.3%	0.3	67,047
Marine	12	57	4.5%	450,029	7.5%	0.2	37,502
Heavy Sales/Service	32	38	3.0%	337,872	5.6%	0.2	10,559
Public Facilities/Utilities	11	21	1.7%	45,640	0.8%	0.0	4,149
Outdoor Storage	30	23	1.8%	4,800	0.1%	0.0	160
Non-Industrial							
Office	9	51	4.0%	702,336	11.6%	0.3	78,037
Entertainment	1	2	0.2%	68,763	1.1%	0.7	68,763
Vacant	71	163	12.8%	14,295	0.2%	0.0	201
Retail/Service	4	4	0.3%	3,972	0.1%	0.0	993
Institutions	3	0	0.0%	-	0.0%	-	-
Research and Development	-	-	0.0%	-	0.0%	-	-
Residential	14	2	0.2%	-	0.0%	-	-
Right of Way	31	13	1.0%	-	0.0%	-	-
Open Space	13	75	5.9%	-	0.0%	-	-
Parking	11	12	0.9%	-	0.0%	-	-
Other			0.0%	-	0.0%	-	-
TOTAL ALL USES	**400**	**1,272**	**100.0%**	**6,038,092**	**100%**	**0.1**	**15,095**
Industrial	243	950	74.7%	5,248,726	86.9%	0.1	21,600
Non-Industrial	157	322	25.3%	789,366	13.1%	0.1	5,028

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

South Park Subarea

The South Park area is the smallest of all Duwamish subareas at 250 acres; only 6% of the Duwamish land area. While smaller in size, the South Park industrial area maintains one of the highest concentrations of manufacturing and processing uses, and maintains a diverse mix of warehouse and heavy sales. **Exhibit 50** below shows the land use mix in the Duwamish South Park subarea.

Manufacturing, heavy sales and services and warehousing occupy a combined total of 60% of land area and nearly 90% of building space in South Park. In total industrial uses occupy 96% of building space in South Park, the highest percentage of any industrial neighborhood. FARs average 0.3 for industrial uses and building sizes average 15,000 square feet.

Exhibit 50
Land and Building Area in South Park, by Land Use, 2008

		Land Area		Building Area			
Use Classification	Number of Parcels	Total Land Area (ac.)	% of Total Land Area	Total Building Area (s.f.)	% of Total Building Area	Average FAR	Average Bldg Size (sf)
Industrial							
Manufacturing/Processing	51	59	23.7%	1,171,414	37.8%	0.5	22,969
Heavy Sales/Service	51	50	19.9%	845,254	27.3%	0.4	16,574
Warehouse	31	42	16.8%	743,519	24.0%	0.4	23,984
Marine	8	11	4.4%	80,078	2.6%	0.2	10,010
Transportation	7	17	6.8%	74,020	2.4%	0.1	10,574
Public Facilities/Utilities	12	12	4.9%	59,764	1.9%	0.1	4,980
Outdoor Storage	33	12	4.9%	-	0.0%	-	-
Non-Industrial							
Retail/Service	8	3	1.1%	40,540	1.3%	0.3	5,068
Vacant	21	26	10.3%	36,359	1.2%	0.0	1,731
Residential	59	8	3.3%	35,532	1.1%	0.1	602
Research and Development	1	0	0.2%	10,300	0.3%	0.5	10,300
Office	3	0	0.1%	2,138	0.1%	0.2	713
Entertainment	-	-	0.0%	-	-	-	-
Institutions	-	-	0.0%	-	-	-	-
Right of Way	3	4	1.7%	-	0.0%	-	-
Open Space	3	1	0.6%	-	0.0%	-	-
Parking	11	3	1.2%	-	0.0%	-	-
Other	-	-	0.0%	-	0.0%	-	-
TOTAL ALL USES	**302**	**251**	**100.0%**	**3,098,918**	**100.0%**	**0.3**	**10,261**
Industrial	193	204	81.4%	2,974,049	96.0%	0.3	15,410
Non-Industrial	109	47	18.6%	124,869	4.0%	0.1	1,146

Source: City of Seattle DPD, King County Assessor's Office, Community Attributes

3.3 Redevelopment Potential

Analyzing redevelopment potential in Seattle's MICs provides an important indicator of local Basic Industry growth potential and associated market impacts. The purpose of this analysis is twofold. First, redevelopment capacity in Seattle's MICs is measured to assess the capacity of MICs to accommodate new jobs and new industrial developments. Second, this analysis explores redevelopment capacity from a market perspective, aiming to better understand why industrial lands have been frequently converted to non-industrial uses.

Redevelopment potential is measured by the ratio of building improvement value to land value. This analysis defines three measures of redevelopment potential defined as follows:

- **Likely to redevelop**. Building improvement values are less than 80% of the land value, suggesting that an alternative or more densely developed uses may increase property value.

- **Possible to redevelop**. Building values that are between 80% and 125% of land value.

- **Unlikely to redevelop**. Building values that are at least 125% of land values, suggesting that current uses provide adequate property value.

It should be noted that the ratio of building improvement value to land value by no means identifies parcels that are slated for redevelopment. This analysis does not demonstrate that land in the BINMIC or Duwamish MICs will be redeveloped or should be redeveloped. This analysis simply aims to show lands that may support the economic conditions necessary to support higher job densities and new development.

Redevelopment Potential in the BINMIC

Exhibit 51 below shows the relative likelihood of parcels in BINMIC to be redeveloped, based on common ratios of improvement value to land value. This indicator suggests the majority (just over 80%) of all parcels in BINMIC are likely to face redevelopment pressure in coming years.

An estimated 85% of all industrial parcels have land values that are greater than current building values suggesting that higher density development, increasing lot coverage or alternative uses may be feasible in the future. An additional 7% of industrial parcels are possible to redevelop. Redevelopment potential is also high for non-industrial lands. A total of 76% of all non-industrial parcels are likely to face redevelopment pressure and another 8% of parcels may possibly redevelop.

Exhibit 51
BINMIC: Likelihood of Redevelopment, by DPD Land Use Classification, 2008

	Total	Likely to Redevelop		Possible to Redevelop		Unlikely to Redevelop	
Land Use	**Parcels**	Parcels	% Total	Parcels	% Total	Parcels	% Total
Industrial							
Warehouse	104	86	83%	5	5%	13	13%
Manufacturing/Processing	73	59	81%	10	14%	4	5%
Transportation	49	48	98%	0	0%	1	2%
Marine	45	36	80%	7	16%	2	4%
Outdoor Storage	45	44	98%	0	0%	1	2%
Heavy Sales/Service	43	34	79%	3	7%	6	14%
Public Facilities/Utilities	9	7	78%	1	11%	1	11%
Non-Industrial							
Retail/Service	122	100	82%	9	7%	13	11%
Residential	62	39	63%	12	19%	10	16%
Office	61	32	52%	9	15%	20	33%
Vacant	60	56	93%	2	3%	2	3%
Parking	31	30	97%	0	0%	1	3%
Institutions	10	7	70%	2	20%	1	10%
Research and Development	6	1	17%	1	17%	4	67%
Open Space	4	4	100%	0	0%	0	0%
Entertainment	2	2	100%	0	0%	0	0%
Total Parcels	726	585	81%	61	8%	79	11%
Industrial	368	314	85%	26	7%	28	8%
Non-Industrial	358	271	76%	35	10%	51	14%

Source: Community Attributes, King County Assessor's Office, City of Seattle DPD

Redevelopment Potential in the Duwamish MIC

Exhibit 52 below indicates that approximately 60% of all parcels in Duwamish MIC are likely to face redevelopment pressure in coming years.

An estimated 630 industrial parcels (55% of industrial parcels) have building values less than or equal to 80% of land value, indicating redevelopment potential. An additional 120 industrial parcels (11%) are possible to redevelop. Nearly 60% of non-industrial parcels in the Duwamish will likely face redevelopment pressures.

Parcels that are unlikely to redevelop are much more concentrated in the Duwamish than the BINMIC. Approximately 34% of industrial parcels have building values in access of 1.25 times land value, compared less than 30 parcels (8%) in the BINMIC.

Exhibit 52
Duwamish Redevelopment Potential

	Total	Likely to Redevelop		Possible to Redevelop		Unlikely to Redevelop	
Land Use	**Parcels**	Parcels	% Total	Parcels	% Total	Parcels	% Total
Industrial							
Transportation	258	247	96%	5	2%	6	2%
Warehouse	250	73	29%	41	16%	136	54%
Heavy Sales/Service	243	94	39%	40	16%	108	44%
Manufacturing/Processing	206	59	29%	25	12%	122	59%
Outdoor Storage	110	110	100%	0	0%	0	0%
Public Facilities/Utilities	58	35	60%	9	16%	14	24%
Marine	15	11	73%	1	7%	3	20%
Non-Industrial							
Retail/Service	220	94	43%	38	17%	88	40%
Vacant	175	133	76%	11	6%	31	18%
Residential	111	61	55%	28	25%	22	20%
Parking	108	105	97%	0	0%	3	3%
Office	77	12	16%	6	8%	59	77%
Open Space	16	16	100%	0	0%	0	0%
Entertainment	13	8	62%	1	8%	4	31%
Institutions	9	7	78%	2	22%	0	0%
Research and Development	3	0	0%	1	33%	2	67%
Total Parcels	1872	1065	57%	208	11%	598	32%
Industrial	1140	629	55%	121	11%	389	34%
Non-Industrial	732	436	60%	87	12%	209	29%

Source: Community Attributes, King County Assessor's Office, City of Seattle DPD

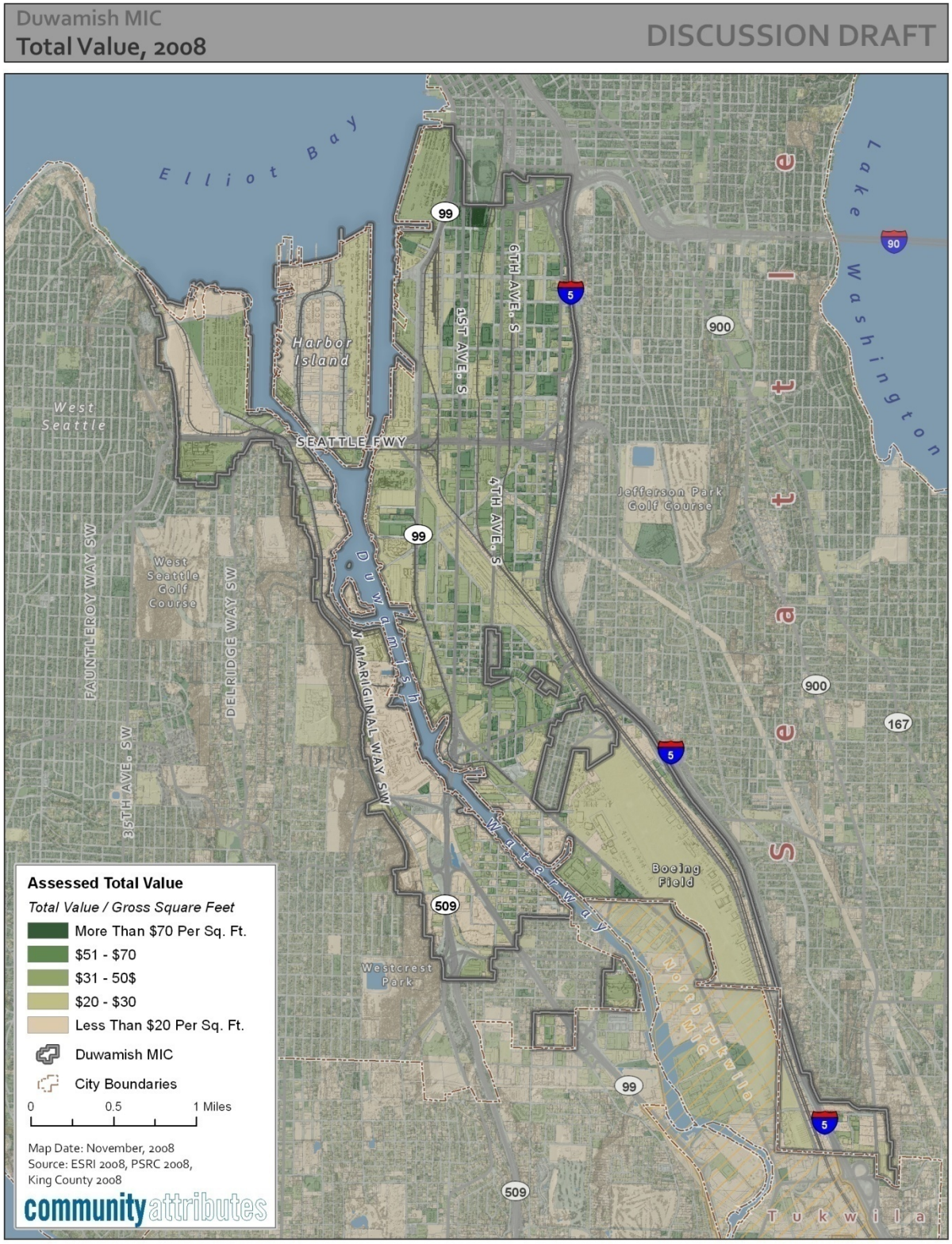
3.4 Assessed Values and Ownership

Assessed value is an important market indicator that impacts future considerations for industrial property and business owners, as well as future market conditions. Total assessed values were derived from parcel level data from the King County Assessor's Office. Assessed value aims to replicate the true market value of land and building improvements.

Exhibits 53 and 54 show total assessed value, normalized by square footage of parcel area in the BINMIC and Duwamish MIC.

Exhibit 53: BINMIC Total Assessed Value per SF, 2008

Exhibit 54: Duwamish Total Assessed Value per Square Foot, 2008



Value by Use and MIC Subarea

The values of industrial lands vary greatly by use and by area. **Exhibit 55** below shows total assessed property values normalized by square footage of lot for land uses in each MIC subareas. Across all MIC subareas, non-industrial property values ($70/s.f.) are approximately two times greater than industrial uses ($33/s.f.).

In the BINMIC, property values are generally the highest, averaging $87 per sf in BINMIC South and $72 in BINMIC north. Industrial property values in the BINMIC, ranging between $47 and $51 per square foot are the highest of all industrial neighborhoods in Seattle.

In the Duwamish, the SODO area (Duwamish East and North) maintains the highest property values for both industrial ($44/sf) and non-industrial uses ($130/sf). Industrial property values in Duwamish East and South, South Park and West Duwamish range between $21 and $33 per square foot while non-industrial values range between $14 and $71 per square foot.

Exhibit 55
Total Assessed Value per Square Foot in Seattle Industrial Neighborhoods, by DPD Land Use Classification, 2008

	BINMIC		Duwamish MIC				
Land Use	BINMIC North	BINMIC South	SODO	Duwamish Southeast	South Park	Duwamish West	Land Uses in all MICs
Industrial							
Heavy Sales/Service	$ 82	$ 67	$ 87	$ 62	$ 29	$ 31	$ 60
Manufacturing/Processing	$ 69	$ 25	$ 76	$ 57	$ 43	$ 31	$ 59
Marine	$ 59	$ -	$ -	$ 26	$ 20	$ 20	$ 50
Outdoor Storage	$ 52	$ -	$ 27	$ 19	$ 15	$ 14	$ 28
Public Facilities/Utilities	$ 72	$ 138	$ 55	$ 41	$ 22	$ 27	$ 47
Transportation	$ 34	$ 46	$ 31	$ 20	$ 18	$ 15	$ 24
Warehouse	$ 75	$ 91	$ 65	$ 57	$ 34	$ 41	$ 61
Non-Industrial							
Entertainment	$ 62	$ -	$ 160	$ 117	$ -	$ 127	$ 139
Institutions	$ 79	$ -	$ 47	$ 30	$ -	$ 13	$ 54
Office	$ 115	$ 274	$ 168	$ 85	$ 32	$ 47	$ 124
Open Space	$ 53	$ 45	$ -	$ 20	$ 17	$ 13	$ 22
Parking	$ 54	$ 50	$ 59	$ 22	$ 14	$ 12	$ 41
Research and Development	$ 122	$ 731	$ -	$ 65	$ 44	$ -	$ 304
Residential	$ 84	$ -	$ 129	$ 49	$ 37	$ 29	$ 57
Retail/Service	$ 75	$ 62	$ 69	$ 64	$ 28	$ 26	$ 67
Vacant	$ 62	$ 53	$ 61	$ 34	$ 21	$ 21	$ 43
Total All Uses	$ 72	$ 87	$ 66	$ 47	$ 30	$ 21	$ 53
Industrial	$ 47	$ 51	$ 44	$ 31	$ 26	$ 21	$ 33
Non-Industrial	$ 71	$ 154	$ 129	$ 39	$ 14	$ 20	$ 71

Source: Community Attributes, King County Assessor's Office, City of Seattle DPD

Property Ownership

Property ownership is an important facet of future industrial land uses decisions and development trends. The following exhibits explore ownership of the top ten largest land holdings in the BINMIC and Duwamish MIC, drawing from public records from the King County Assessor's Office. For the intents of this analysis, the "taxpayer" field was used to specify ownership of industrial lands.

Exhibit 56 below shows the top ten land holdings in the BINMIC. The largest land area is owned by the Port of Seattle (166 acres, 17 parcels) accounting for 25% of the 672 acres in the BINMIC. BNSF Railroad company owns the most parcels (46) of an single land owner, valued at a total of $276 million. Immunex Corporation owns eight parcels and 40 acres accounting for the largest single source of property value in the BINMIC at over $300 million.

Exhibit 56
Top Ten Largest BINMIC Land Owners, Ranked by Land Area, 2008

Rank	Largest BINMIC MIC Land Owners	Parcels	Acres	Total Assessed Value
1.	Port Of Seattle	17	166	$ 210,769,800
2.	BNSF	46	122	$ 276,266,800
3.	Trident Seafoods Corp	2	79	$ 87,639,000
4.	Immunex Corporation	8	40	$ 305,022,300
6.	Fred Meyer Stores Inc	1	13	$ 27,506,500
7.	State Of Washington	4	11	$ 34,974,900
8.	Ballard Mill Prop	1	11	$ 15,295,000
9.	Stimson C D Company	3	11	$ 28,748,000
10.	Strong, Peter and Leslie	1	10	$ 5,451,000

Exhibit 57 below shows the top ten land holdings in the Duwamish MIC, ranked by total area. The largest land area is owned by the Port of Seattle at 796 acres valued at nearly $900 million. Six of the top ten land owners in the Duwamish are public or quasi-public agencies including the Port of Seattle, King County, City of Seattle, Seattle City Light department and Seattle Parks Department. Of the top ten land holders, these agencies own a combined 1,461 acres or nearly 40% of the total Duwamish land area (3,800 acres).

Exhibit 57
Top Ten Largest Duwamish MIC Land Owners, Ranked by Land Area, 2008

Rank	Largest Duwamish MIC Land Owners	Parcels	Acres	Total Assessed Value
1.	Port of Seattle	106	796	$ 897,525,200
2.	King County	52	513	$ 656,844,900
3.	BNSF	98	194	$ 191,990,100
4.	Union Pacific Railroad Co	86	157	$ 134,644,500
5.	Boeing Company The	12	88	$ 184,361,100
6.	City of Seattle	17	47	$ 83,242,000
7.	Nucor Steel Seattle Inc	2	44	$ 63,724,900
8.	Seattle City Light	14	40	$ 51,622,000
9.	United States	3	39	$ 57,727,300
10.	City of Seattle Parks Dept	42	28	$ 53,380,700

3.5 Real Estate Market Trends

This section of the report analyzes key market variables affecting industrial real estate in Seattle. Quarterly market research publications published by Colliers International provide data on key market indicators such as vacancy rates, absorption, rents and sales prices which are used to analyze market trends over time and for specific subareas in Seattle and surrounding communities.

During interviews with Basic Industry stakeholders, interview participants spoke to a diverse range of real estate conditions, unique to industrial neighborhoods within Seattle's MICs. Real estate data is aggregated at both the City level and the most detailed geographic areas possible, to better represent these experiences.

Subareas defined by Colliers International include:

South of Spokane Street. This area is representative of SODO or Duwamish East South as specified throughout this report. The area is bounded by South Spokane Street to the north, south by Boeing Access Road, and bordered by I-5 to Hwy 520 to the east and the Duwamish River to the west.

North of Spokane Street. This area is representative of Duwamish East North subarea or SODO district (South of Downtown) as specified in other analyses used throughout this report. This area includes industrial buildings north of South Spokane Street and South Jackson Street and is bounded by I-5 to the east and the Duwamish river to the west.

North Seattle. This area represents the BINMIC and includes industrial buildings north of South Jackson Street up to NE 145th and is bordered by 1_5 to Hwy 520 on the east and Puget Sound to the west.

West of the Duwamish River. This area represents Duwamish west and includes industrial buildings west of the Duwamish and is bounded by the southern and westerly limits of the City.

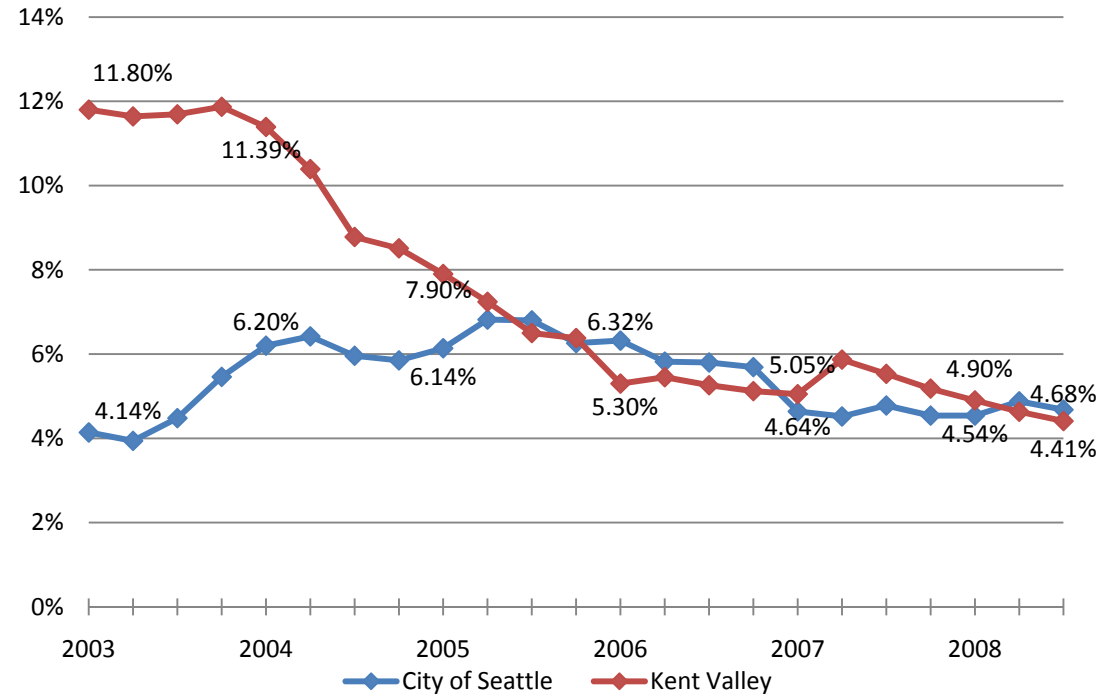
East Hill. This area is not included within MIC boundaries and includes industrial buildings along Martin Luther King Way on the east side of I-5 over 10,000 square feet.

Basic Industry business and property owners also frequently compared industrial real estate conditions in Seattle to nearby locations in Kent Valley. The industrial real estate market in Kent Valley, and specific communities within the Kent Valley including Kent, Auburn, Tukwila, SeaTac and Renton, are also analyzed to provide greater context to local real estate trends.

Vacancy Rates

Exhibit 58 demonstrates that industrial properties remain in high demand in the Seattle area demonstrated by very low vacancy rates of 4.7% in Seattle and 4.4% in Kent Valley in quarter three of 2008. Vacancy rates have remained relatively stable the City of Seattle since 2003, ranging from a low of 4.14% in quarter one of 2003 to a high of 6.82% in the quarter two of 2005. Vacancy rates in Kent Valley have shown a consistent decline since 2003, falling from a high of 11.87% to an all time low of 4.41% in 2008.

Exhibit 58
Industrial Vacancy Rates in the City of Seattle and Kent Valley, 2003-2008



Industrial Vacancy Rates in the City of Seattle and Kent Valley, 2003-2008

	City of Seattle				Kent Valley			
Year	1st Qrt	2nd Qrt	3rd Qrt	4th Qrt	1st Qrt	2nd Qrt	3rd Qrt	4th Qrt
2003	4.14%	3.94%	4.48%	5.46%	11.80%	11.64%	11.69%	11.87%
2004	6.20%	6.42%	5.96%	5.85%	11.39%	10.39%	8.78%	8.51%
2005	6.14%	6.82%	6.80%	6.26%	7.90%	7.24%	6.50%	6.38%
2006	6.32%	5.82%	5.80%	5.69%	5.30%	5.45%	5.26%	5.12%
2007	4.64%	4.52%	4.78%	4.54%	5.05%	5.87%	5.53%	5.18%
2008	4.54%	4.88%	4.68%		4.90%	4.63%	4.41%	

Source: Colliers International, *Seattle and Kent Valley Industrial Statisical Research Report* ; Community Attributes (2008, Q3)

Exhibit 59 below provides a more detailed look at vacancy rates in industrial neighborhoods within the City of Seattle.[15]

Vacancy rates for industrial subareas emphasize high demand for industrial lands throughout the city. Vacancy rates for the highly demanded SODO district (North of Spokane Street) have historically been less than 5% and reached a low of 2% in 2007. Vacancy rates are generally the highest south of Spokane street in the east and south Duwamish MIC, ranging from a high of over 9% in 2005 to 6.25% in 2008. Vacancy rates have continued to fall in north Seattle and west of the Duwamish subareas.

Exhibit 59
Vacancy Rates for Seattle Industrial Properties by Subarea, 2003 - 2008

	2003	2004	2005	2006	2007	2008
South of Spokane	5.52%	8.59%	9.19%	7.10%	6.89%	6.25%
North Seattle	8.26%	6.39%	4.76%	5.25%	4.22%	5.61%
North of Spokane	3.53%	4.27%	4.38%	5.08%	2.88%	3.09%
West of Duwamish	5.52%	4.04%	4.82%	4.20%	2.04%	1.50%
East Hill	0.64%	1.67%	6.95%	6.14%	4.36%	4.49%
Seattle Total	5.46%	5.85%	6.26%	5.69%	4.54%	4.68%

Source: Colliers International, *Seattle and Kent Valley Industrial Statisical Research Report* ; Community Attributes (2008, Q3)

Exhibit 60 below provides a recent snap shot of vacant properties by building type in Seattle's industrial areas compared to other regional industrial centers in Kent Valley, showing vacancy rates and square footage of vacant space available in the third quarter of 2008. Manufacturing space is in high demand across the region demonstrated by low vacancy rates for all industrial building types. The highest vacancy rates (between 6.5% - 5%) are found in Renton, north Seattle, along Martin Luther King Way on East Hill Seattle and in Tukwila. Very low manufacturing vacancy rates exist in the Duwamish MIC, with the highest vacancy occurring in the SODO area (3.7%).

Distribution vacancy rates range between 2.5% (west Duwamish) and 7.3% (South of Spokane/ Duwamish east south). Kent and Auburn both maintain low distributing vacancy rates between 4% and 5% percent with ample distribution space still available. Colliers estimates that there is an estimated 28.5 million square feet of distribution space in Seattle and over 49.8 million SF in Kent Valley in quarter three 2008.

Business Park vacancy is mostly available in Kent Valley. There is currently eight times as much vacant business park space in Kent Valley (800,000 s.f.) than in the City of Seattle (100,000 s.f.). Colliers cites that Seattle has over 2.4 million square

[15] Vacancy rates for 2003 through 2007 are specified for quarter four statistics, 2008 vacancy rates are quarter three.

feet of business park space in the city, which is in very high demand across the city, with the highest vacancy south of Spokane street.

Demand for High Tech and R&D industrial space is higher in Seattle (5.17% vacancy) than in Kent Valley (12.5% vacancy). Colliers estimates that there is approximately 6.5 million SF of industrial space suited for this use in Seattle, compared to 4.6 million in Kent Valley.

Exhibit 60
Vacant Industrial Space by Building Classification, City of Seattle and Kent Valley Submarkets, 2008 Quarter Three

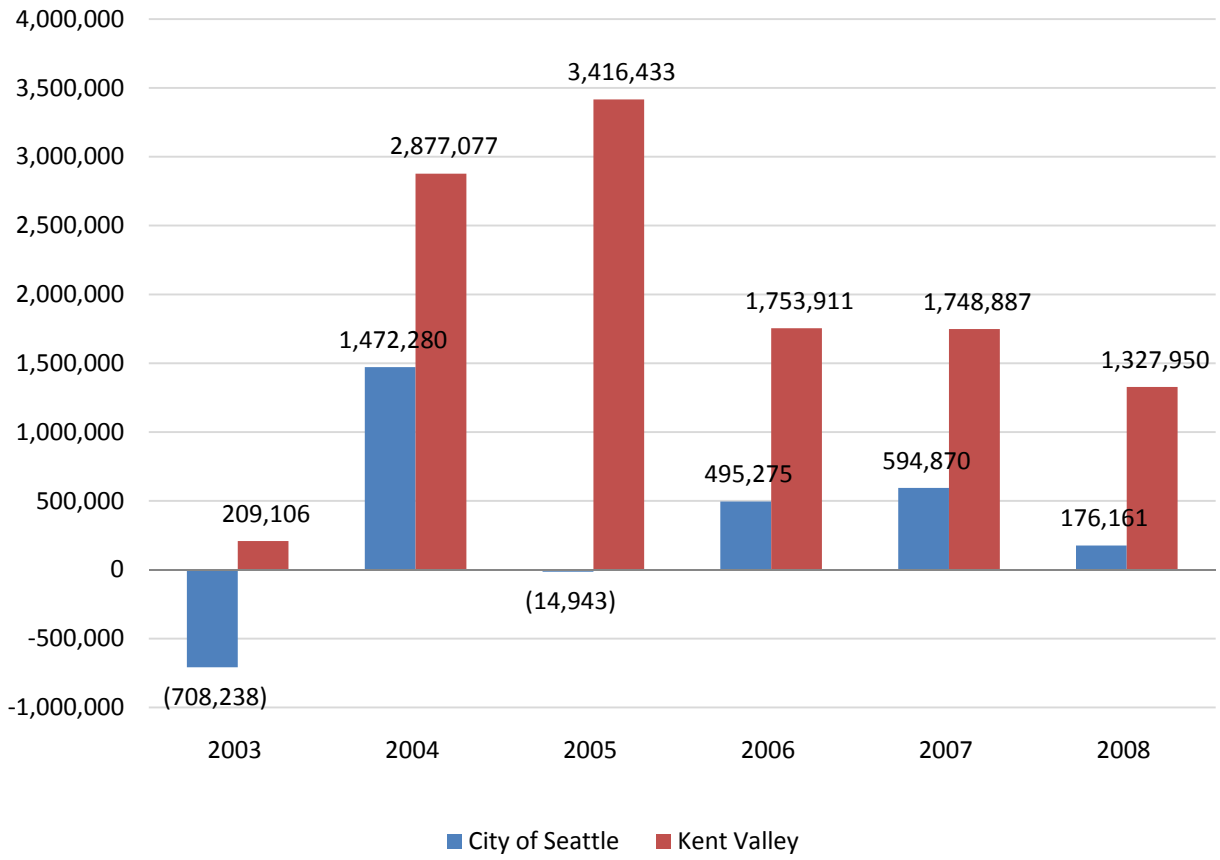
Submarket	Manufacturing		Distribution		Business Park		High-Tech/R&D		TOTAL	
	SF	Vacancy	SF	Vacancy	SF	Vacancy	SF	Vacancy	SF	Vacancy
South of Spokane	55,000	1.57%	970,559	7.26%	92,524	10.90%	-	0.00%	1,118,083	6.25%
North Seattle	270,335	5.29%	271,970	4.97%	8,140	2.19%	279,342	7.30%	829,787	5.61%
North of Spokane	112,718	3.68%	179,898	3.02%	-	0.00%	29,416	2.38%	322,032	3.09%
West of Duwamish	22,742	0.70%	76,868	2.47%	3,772	0.40%	11,309	2.95%	114,691	1.50%
East Hill	142,890	5.81%	24,864	4.10%	-	0.00%	16,992	1.86%	184,746	4.49%
Seattle	**603,685**	**3.47%**	**1,524,159**	**5.34%**	**104,436**	**4.28%**	**337,059**	**5.17%**	**2,569,339**	**4.68%**
Kent	196,611	1.86%	1,191,763	4.96%	395,385	6.16%	159,552	8.56%	1,943,308	4.54%
Auburn	130,408	1.84%	508,523	3.69%	58,023	2.57%	92,451	25.53%	789,405	3.36%
Renton	143,307	6.17%	50,360	0.94%	46,580	4.35%	-	0.00%	240,247	2.70%
Tukwila	99,698	5.08%	30,503	0.65%	166,569	5.01%	314,006	14.53%	610,776	5.03%
Seatac	-	0.00%	286,813	14.04%	134,839	10.94%	9,300	9.30%	430,952	11.66%
Kent Valley	**570,024**	**2.56%**	**2,067,962**	**4.15%**	**801,393**	**5.60%**	**575,309**	**12.51%**	**4,014,688**	**4.41%**

Source: Colliers International, *Seattle and Kent Valley Industrial Statisical Research Report* ; Community Attributes (2008, Q3)

Industrial Absorption

Exhibit 61 shows a comparison of industrial real estate absorption in the City of Seattle and Kent Valley from 2003 to 2008. Relatively consistent vacancy rates in the City of Seattle coupled with comparatively low absorption figures demonstrate a high demand for existing industrial building space within the City's MICs. Kent Valley has experienced a steady increase in industrial activity from 2004 to 2008 with over 11 million square feet of industrial space absorbed and a vacancy rate that has declined by 7.4% from 2003 to the third quarter of 2008.

Exhibit 61
Industrial Absorption in the City of Seattle and Kent Valley, 2003-2008



	City of Seattle					Kent Valley				
Year	1st Qrt	2nd Qrt	3rd Qrt	4th Qrt	Total	1st Qrt	2nd Qrt	3rd Qrt	4th Qrt	Total
2003	(15,159)	107,498	(274,531)	(526,046)	(708,238)	184,879	405,800	(505,676)	124,103	209,106
2004	(222,963)	1,203,243	411,199	80,801	1,472,280	449,966	499,568	1,256,563	670,980	2,877,077
2005	(151,037)	(93,021)	8,911	220,204	(14,943)	698,440	1,702,069	645,388	370,536	3,416,433
2006	(38,237)	310,177	176,163	47,172	495,275	886,449	461,765	233,586	172,111	1,753,911
2007	515,956	52,782	(101,217)	127,349	594,870	691,308	138,183	528,478	390,918	1,748,887
2008	4,107	64,604	107,450		176,161	516,590	378,301	433,059		1,327,950

Source: Colliers International, *Seattle and Kent Valley Industrial Statisical Research Report* ; Community Attributes (2008, Q3)

Exhibit 62 shows industrial absorption by market subarea in Seattle. Absorption in these subareas often show cycles of negative absorption (increased vacancy) and positive absorption (vacant buildings filled) which demonstrates a time lag in filling industrial space. Most areas have seen positive absorption over the past two to three years.

Exhibit 62
Absorption by MIC subarea, 2003 - 2008

	2003	2004	2005	2006	2007	2008
South of Spokane	(490,173)	6,307	(94,727)	368,466	1,839	114,852
North Seattle	(307,690)	335,336	98,927	(39,723)	136,674	35,956
North of Spokane	(12,135)	988,850	70,815	(22,015)	229,451	(10,951)
West of Duwamish	30,605	143,641	(95,380)	157,084	165,403	41,933
East Hill	(20,853)	(1,854)	89,332	31,463	594,870	(5,629)
Seattle Total	(800,246)	1,472,280	68,967	495,275	1,128,237	176,161

Source: Colliers International, *Seattle and Kent Valley Industrial Statisical Research Report* ; Community Attributes (2008, Q3)

Industrial Rents

Local Basic Industry business owners expressed a common distain over high and rising lease rates of industrial property. Availability and cost of industrial buildings and land ranked as the number one impediment to expanding business operations in Seattle and was cited by nearly 60% of industrial stakeholders interviewed.

Exhibit 63 shows that from 2006 to 2008 lease rates for industrial shells in the City of Seattle have increased. Current average asking lease rates for high-end industrial shell properties in quarter three of 2008 range from a high of $1.20/SF for 15,000 and 30,000 SF buildings to a low of $0.65/SF for buildings larger than 80,000 SF. Lease rates for low-end industrial properties range from a high of $0.55 for industrial buildings under 5,000 SF to $0.45 for properties 15,000 SF and greater.

Average lease prices have increased from 2006 to 2008 for nearly all property classifications and sizes. Lease rates for high end industrial shells have risen by as little as 4% for buildings under 5,000 sf to over 80% for buildings 30,000 to 60,000 sf. Lease rates for low end industrial shells range from a decrease by 10% for buildings greater than 80,000 sf to an increase of 43% for buildings between 5,000 and 15,000 sf.

Exhibit 63
Average Asking Lease Rates for Industrial Shell by Building Quality and Size, 2006 – 2008

Low Average Asking Net Lease Rates for Industrial Shell in the City of Seattle

Vacant SF Size Range	Q3, 2006	Q3, 2007	Q3, 2008	Change	% Change
Up to 5,000	$0.40	$0.41	$0.55	$0.15	38%
5,001 - 15,000	$0.35	$0.45	$0.50	$0.15	43%
15,001 - 30,000	$0.39	$0.35	$0.45	$0.06	15%
30,001 - 60,000	$0.34	$0.35	$0.45	$0.11	32%
60,001 - 80,000	$0.39	$0.60	$0.45	$0.06	15%
Greater than 80,0001	$0.50	$0.55	$0.45	-$0.05	-10%

High Average Asking Net Lease Rates for Industrial Shell in the City of Seattle

Vacant SF Size Range	Q3, 2006	Q3, 2007	Q3, 2008	Change	% Change
Up to 5,000	$0.75	$0.78	$0.78	$0.03	4%
5,001 - 15,000	$0.88	$1.00	$1.00	$0.12	14%
15,001 - 30,000	$0.75	$1.20	$1.20	$0.45	60%
30,001 - 60,000	$0.55	$1.00	$1.00	$0.45	82%
60,001 - 80,000	$0.55	$0.66	$0.66	$0.11	20%
Greater than 80,0001	$0.55	$0.65	$0.65	$0.10	18%

Industrial business owners also stated that their competitors enjoy a significant advantage in lower operating expenses attributable to lower land and rental costs. Business owners (44%) cited cheaper land and rental costs as the number one advantage of being located outside Seattle. Nearly 30% of interview respondents also stated that the price of industrial space is cost prohibitive, therefore excluding any feasible economic consideration of expanding in Seattle. The economic advantages of industrial real estate in the surrounding Kent Valley is a frequently cited reason for industrial businesses relocating to suburban location.

Exhibit 64 show that current rental prices are generally lower in Kent Valley, compared to Seattle industrial submarkets but not in all cases. In Seattle the average industrial price per square foot of industrial real estate is $0.71 which equals the high end in Kent Valley. Average low-end shell rates in Kent Valley (typically between $0.34 to $0.44) are typically much lower than those found in Seattle ($0.56 0 $0.83). Average sales prices are typically much higher in Seattle with the exception of Auburn.

Exhibit 64
Comparison of Regional Industrial Shell Lease Rates, 2008 Q3

City of Seattle			Kent Valley		
Submarket	Avg Monthly Shell Rate	Avg Sale $/SF	Submarket	Range of Monthly Shell Rates	Avg Sale $/SF
South of Spokane	$0.65	$414.36	Kent	$0.34-$0.70	$53.90
North Seattle	$0.83	$148.25	Auburn	$0.38-$0.66	$191.76
North of Spokane	$0.75	$114.69	Renton	$0.44-$0.71	$79.72
West of Duwamish	$0.56	$65.58	Tukwila	$0.42-$0.70	NA
East Hill	$0.73	NA	Seatac	$0.72-$1.25	NA
Total	$0.71	$102.59	**Total**	0.43-0.71	$102.85

Source: Colliers International, *Seattle and Kent Valley Industrial Statisical Research Report* ; Community Attributes (2008, Q3)

Industrial business owners stated that the existing industrial building stock in Seattle's MICs is out-dated and quickly becoming functionally obsolete. Owners frequently cited challenges of on-site mobility, truck access, parking, age, and a dysfunctional building layout as major challenges to day to day operations. Several business owners stated that their buildings were "outdated" for "today's industrial needs." Business owners that recently moved, expressed difficulty in finding a building that could meet there needs or one that didn't require significant investment. Others state that new buildings with larger footprints and cheaper rents along with ample development potential (vacant land) are tempting Seattle's existing industrial business to move to neighboring suburban locations.

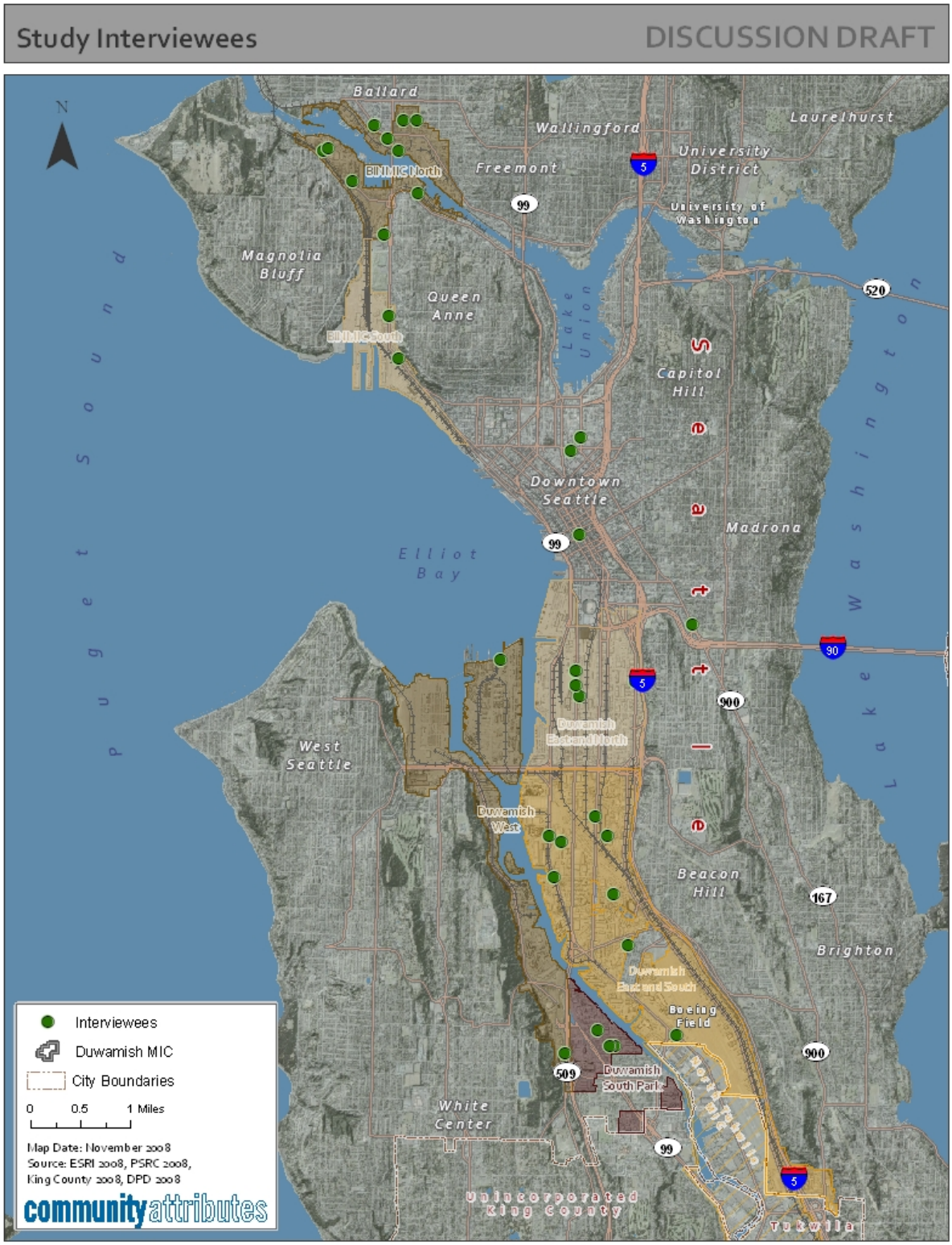
4. STAKEHOLDER PERSPECTIVES

More than fifty leading representatives from Seattle's Basic Industry community were interviewed for this study and asked about the current and future outlook of industrial business in Seattle. The responses of interview participants discuss opportunities for growth, major challenges, Seattle's competitive advantages and key assets, local land use and transportation issues, along with recommendations for city policy.

Interview findings aim to inform the presentation of employment and occupation projections as well as commentary on the industrial development potential and future plans for key industrial assets.

The expertise and opinions expressed by Seattle's Basic Industry demonstrate great unity as well as great diversity. While there were several common themes discovered throughout the interview process, each business owner maintains a unique perspective that is founded on years of experience and expertise. For the intent of this report, interview responses have been summarized. No single response is attributed to a single interview participant. Where applicable, interview responses may be summarized for a specific industry sector or to a specific industrial neighborhood. **Appendix A** provides a list all interview participants **Exhibit 65** below shows a map of interview participants by industry type.

Exhibit 65
Location of Basic Industry Interviewees, by Industrial Type



4.1 Opportunities for Growth

- **Diversification and innovation are driving growth in Seattle's industrial community.** Respondents plan to pursue growth by expanding into new markets (47%), developing new products (42%) and offering new specialized services (30%). Large and small business owners alike are capturing new market demand by integrating flexibility and innovation within current manufacturing and transportation processes.

- **Manufacturing demand growing abroad and still strong in the US.** Approximately 15% of business owners expect to expand international business operations. In the case of international business ventures, interview respondents state that the weak dollar has lead to increased international sales and demand for high quality US made products.

  Many local manufacturing businesses, especially those focused on producing capital goods (rather than consumer goods), have sustained or increased growth by addressing the changing needs and strategies in US manufacturing sectors. Flexibility and diversity of manufacturing capabilities have helped local businesses adapt and thrive despite unstable macro-economic conditions.

- **Regional growth benefits local Basic Industries.** Nearly 20% of respondents cited that the growth of their business was tied to the growth of the region as a whole. Many business owners emphasize the importance of the overall economy to the welfare of Basic Industries. Increasing population also translates to higher depend for services and products that trickle down to benefit virtually all Basic Industry sectors.

- **The greening of Basic Industries.** Basic Industry business owners are taking advantage of opportunities to foster a greater degree of sustainability within day to day operations while boosting their bottom lines. Nearly 30% of Basic Industry businesses owners have reduced or reused their waste products and 25% have integrated energy efficient technologies and renewable energies into operations.

4.2 Seattle's Competitive Advantages

- **Superior location and logistics.** Over half of interview respondents emphasized that proximity to clients is the primary competitive advantage of being located in the Seattle. Half of interview respondents also cited port, highway and rail infrastructure as critical industrial assets that support superior logistics and shipping in Seattle's MICs.

  Local businesses, especially those that own property, emphasis the benefits of being located close to clients and transportation infrastructure outweigh the cost savings associated with suburban locations.

- **Industrial interdependence and synergy.** 20% of industrial business owners pointed to local cooperation, specialization, and quality as primary factors contributing to the vibrancy of Seattle's Basic Industry core as a whole. Interview respondents express a common sense of desire and responsibility to "buy local," stating that local products and services are superior. Many small business in Seattle's MICs maintain a niche market, and in some cases subcontract work to each other. Several business owners stated their competitors are also clients.

  Some business owners, from various sectors, small and large businesses alike, expressed the great importance of examining the inter-connectedness of Basic Industries businesses. Interview participants state that as some small support businesses move out of the city, large companies will be forced to leave as well and vice versa.

- **Quality of life.** The majority of interview respondents cited quality of life as the number one best thing about doing business in Seattle. Local heritage and family ties maintain strong connections to the longevity of Seattle's industrial community.

4.3 Major Challenges

- **Talent wanted.** Industrial business owners cited the need for talented workers as the number one factor limiting growth in Seattle's Basic Industries (53%). Basic trade skills such as welding, machine operation, and transportation as well as work ethic are in high demand, as contractors, and regional companies compete for talent in a dwindling local labor pool.

  Business owners emphasize that there are fewer young professionals pursuing blue collar jobs. Educational deficiencies in trade skills, mathematics, and attitude within local K-12 public schools and community colleges are commonly referenced causes for a deficient Basic Industry talent pool.

  When discussing the outlook of the Basic Industries, several business owners state that an aging workforce, ranging from production workers to top level executives, will play a key role in determine the future of their company.

- **Global and national economics.** Fundamental changes in economy, different needs of manufacturing and transportation are forcing Seattle's businesses to adapt and business owners cite that Seattle is meeting the challenge.

  Some business owners stated that the economic recession is forcing manufacturing industries to "constantly reinvent themselves" to remain competitive in the national and global economy, pointing out that

flexibility in manufacturing capabilities and products are key. Others state that the Seattle location provides a competitive advantage in a globalizing economy. Proximity to Alaska and California, along with a growing Seattle metro region, is keeping transportation costs low and demand for local services high.

- **The cost of business in Seattle.** Respondents cited the cost of business, including timely permitting processes and regulations (43%) as well as taxes and fees (33%) as major challenges to growth and day-to-day business operations. In the vast majority of these cases, the value of time and effort rather than direct costs of business permits and fees were cited.

- **Cost of living limiting the labor pool.** 11% of business owners stated that the high cost of living limited their ability to pay employees a "living wage." Long commutes and a lack of affordable housing are common issues for many Basic Industry employees that live in locations outside Seattle proper.

- **Traffic and real estate remain long-term challenges to the industrial community.** Over one quarter of the interview respondents mentioned traffic or transportation related restraints or the price and availability of land and buildings as primary impediments to future growth.

4.4 Land Use, Market Forces and Relocations in MICs

- **Seattle's Basic Industries are on the move.** Fourteen businesses or nearly one third of businesses interviewed have moved within the past five years. Of those fourteen businesses that recently relocated, three moved to BINMIC north, one to BINMIC south, four to Duwamish east north, four to Duwamish east south respectively and one to Duwamish South Park and one outside MIC boundaries.

- **Seattle's Basic Industries are planning for future expansion.** Six businesses interviewed have recently expanded on or offsite within the last five years. An additional 16 businesses are planning on future expansion. Of those 16 businesses, ten expect to grow in Seattle, two will keep current facilities in Seattle and expand outside the City and four businesses have yet to determine the locations of future expansion. Three companies interviewed plan to leave Seattle in the near future.

- **Benefits of location and existing workforce are keeping Basic Industries in Seattle**. Businesses owners that recently moved or expanded cited proximity to clients (10/16) and retaining their existing workforce (9/16) as the top reasons for staying in Seattle. Logistics (8/16), identity (3/16) and the diversity of Seattle's business community (3/16) were other reasons for choosing Seattle over alternative locations.

- **Availability and price of real estate limit Basic Industry growth in MICs.** Over half of industrial business owners stated that the availability and price of industrial real estate are the primary impediments to business expansion in Seattle. Of those that moved, 8 of 14 said space was inadequate. Those that plan to expand have a more positive outlook on the availability of space, with 7 of 10 stating that there is adequate space to expand. However, all respondents stated that paying for real estate costs would be challenging.

  In all, one third of interview respondents state that industrial space in Seattle is inadequate for expansion or is decreasing due to non-industrial encroachment. Interview participants that identified limited availability of industrial space are concentrated in Duwamish East-South and the BINMIC. Several respondents however stated that land owned by the Port was adequate to accommodate significant industrial growth.

4.5 Implications of City Policy and Recommendations from the Business Community

- **Improve transportation infrastructure and traffic management.** Industrial representatives ranked transportation as the highest priority for city actions to support industrial growth (45%) and stated that traffic was one of the worst things about doing business in Seattle. Several business owners stated that they were willing but hesitant to invest in their current locations because they did not know how city planning and development policies would affect their business in the future.

  Transportation issues, especially those relating to site access, the viaduct and pedestrian mobility are a major concern for business owners. MIC business owners seemed to be indifferent regarding options for redeveloping the viaduct as long as current transportation capacity and flow are maintained.

- **Streamlined permitting, review, regulation and taxes.** Interview respondents ranked permitting and review processes along with taxes as the second highest focus area for city industrial initiatives (both at 38%). Respondents cited timely permitting processes, difficult zoning code interpretation, poor customer service, and complex tax filing as major shortcomings of business regulations. Using an industrial liaison to manage the permitting processes and industrial-government relations was identified as the number one business assistance resource recommended by the business community.

- **Workforce training, education and placement.** It is clear that there is an unmet need for Basic Industry workforce training in Seattle. Approximately one quarter of industrial business owners suggested that the City can better support Basic Industries by partnering with trade

schools, community colleges and public schools to implement and improve training and placement programs for new employees.

Respondents that discussed current workforce training and placement programs in Seattle cited inadequacies given the demand for new workers and breadth of skills needed to be taught. In these cases, respondents state that public-private partnerships have not been as effective as they can be. Interview respondents suggest that trade education can be more productive if integrated within educational curriculum starting in elementary and middle school.

4.6 Outlook on Seattle's Industrial Assets

The Port of Seattle and the Alaskan Way Viaduct are two critical assets that impact the everyday business and livelihood of industrial businesses in Seattle. Key analysis and a summary of interview responses regarding existing and future challenges and opportunities with the Port and viaduct are explored here.

Port of Seattle

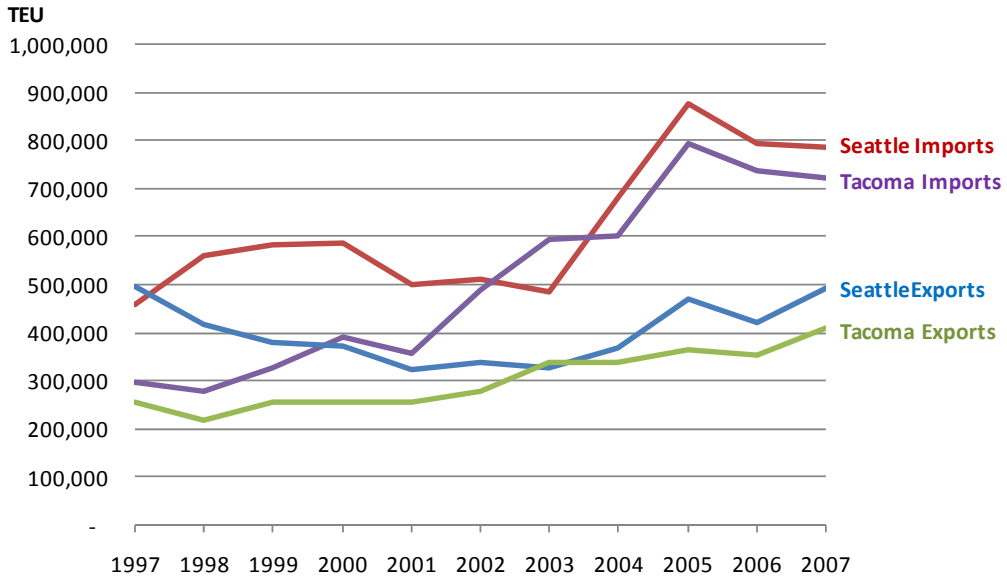
The Port of Seattle is one of the nation's largest ports, ranking ninth in the United States with over 1.27 million US Waterborne Foreign Containers traded and 10.4 million metric tons shipped and received in 2007. In 2007, Port of Seattle managed the total vessel trade of $39.5 billion US dollars, the eleventh most of any domestic port.

In 2007, the Port exported 5.56 million metric tons of goods accounting for $9.2 billion and imported nearly 4.9 million metric tons and $30.3 billion dollars. Top exporting commodities include machinery ($1.35 billion), miscellaneous grain, seed and fruit ($961 million), cereals ($620 million), and fish and seafood ($466 million). Other notable durable export goods include electrical machinery ($259.5 million) aluminum ($164.75 million) aerospace ($138.57 million) and iron and steel ($114.95).

During the ten year span from 1997 to 2007, Port of Seattle increased total metric tons of goods by 30.6%, with imports accounting approximately 80 percent of the total growth. Top importing commodities in 2007 include machinery ($4.47 billion), toys and sports equipment ($4.58 billion), electrical machinery ($3.78 billion), vehicles ($2.05 billion) and knit apparel ($1.97 billion).

The Port of Seattle is one of the region's top economic engines. The 2005 economic impact analysis commissioned by the Port of Seattle, estimates the Seaport creates $2.5 billion in business revenue and more than $210 million in state and local taxes. The SeaTac Airport generates $9.7 billion in direct business revenue on site and produces more than $415 million in state and local tax revenue. Port tenants and customers generate 36,853 jobs annually.

Exhibit 66
Comparison of Port Activity by TEU Containers, Port of Seattle and Port of Tacoma, 1997-2007



Source: Port Import Export Reporting Service, 2008.

While Seattle has long been Washington's biggest port, the Port of Tacoma has grown rapidly since 1997, shown in **Exhibit 66**. Tacoma imports have increased by 144% over this ten year span compared to a 71% increase in the Port of Seattle. Tacoma exports have risen by 60% during this ten year span. Since reaching a recent low in exporting activity in 2001, Seattle exports have risen by 51%.

Experts in the maritime and marine cargo industries highlight key challenges and opportunities for the Port of Seattle. Interview respondents state that the ability of the Port to remain competitive in the long run will be determined by its capacity to support new and larger cargo ships or attract smaller vessels that are bumped out of Los Angeles and Long Beach ports to make room for larger freights. Water depth and crane capacity are two critical infrastructure needs necessary to accommodate new cargo ships. Environmental issues related to dredging as well as more stringent regulatory climate are other key challenges for the Port.

From a global perspective, the Port faces other key challenges and opportunities. Freight shipping from Asia to the east coast of the United States, has traditionally gone through major shipping routes on the west coast including Seattle, however some interview participants mentioned expanded shipping options through the Panama canal and the Caribbean combined with rail transportation pose a future threat to Seattle's geographic advantage. Conversely, interview participants pointed to the opening of the Northwest Passage through the north pole, due to global warming, as creating a tremendous opportunity for Seattle shipping.

Seattle's strategic location would be a stopping point for en-route ships from Asia to elsewhere. Some interview participants also suggest that Seattle is well positioned to benefit from energy exploration in Alaska and the Bering Sea.

Maritime experts suggest that a regional approach to investing in port infrastructure along with streamlining regulatory guidelines will be critical to maintaining the strategic advantages that the Puget Sound region. Port officials also emphasized that the City of Seattle can support the Port by preserving industrial lands and uses that surround Port property.

Alaskan Way Viaduct

The industrial business community ranked transportation and traffic management as the number one action the City of Seattle should undertake to promote growth and stability in the Basic Industry economy. Nearly all of the 20 participants that advocated for transportation improvements had something to say about the Alaskan Way Viaduct.

Seattle's industrial community has debated future options for the viaduct (SR-99) for several years. Business owners in the MICs stated that the viaduct played a critical role in transporting goods, services and employees to and from their business. Some business owners stated that they were unlikely to invest further in Seattle, until issues with the viaduct became clearer. Others stated that construction phases of the project would have significant impact on business operations. Business owners in SODO especially, emphasized that construction on the viaduct would bring traffic through their area, disrupting day-to-day business operations. Others emphasized the impacts to receive and distribute goods.

Respondents that mentioned the viaduct, were generally indifferent on proposed options for the reconstruction of the viaduct, but rather emphasized the importance of the viaduct maintaining the current traffic capacity.

5. SECTOR PROFILES

5.1 Profiles Overview

Business and market profiles provide a more detailed analysis of key trends, opportunities and challenges associated within Seattle's Basic Industry core. Market profiles present key issues discovered through industry interviews and case study analysis of Seattle businesses and industry sectors. Business and market profiles are presented for the following sectors:

- Construction
- Transportation Freight, Distribution and Logistics
- Food and Beverage Manufacturing and Wholesale
- Aerospace
- Computer and Electronic Manufacturing
- Industrial Machine and Metal Manufacturing and Wholesale
- Ship and Boat Building

Business sectors of interest were identified using five criteria which include:

- 2007 total employment
- 2007 total workplaces
- 2001- 2007 fastest growing employment
- 2001-2007 total employment change
- Similarity to the 2004 Basic Industry Economic Impact Analysis

A summary table showing sectors ranked by the criteria above is included in **Appendix C-1.** Top ranking sectors were then grouped based on business similarities, interdependences and stakeholder interviews with the goal of creating tangible, identifiable and distinct economic markets representative of Seattle's Basic Industry community. The result is a re-grouping of the NAICS-based sectors, one that illustrates the industrial activity in Seattle.

Methods used for Measuring Economic Impacts and Links among Seattle's Basic Industries

Each Basic Industry sector profile is organized the same way, and presents the same measures of economic impact. Economic Impact metrics include:

- **Economic impact and supply and demand networks**. These metrics are quantified using the Washington State Department of Revenue Input-Output (IO) Table and Impact Worksheets. The (IO) table provides a detailed "snap shot" of economic activity taking place in Washington State in 2002. By accounting for the flows of goods and services between each sector, the IO Table can be used to identify inter-linkages within the economy and can also demonstrate how the changes in one industry impact the rest of the economy.

The economic impact for each Basic Industry sector is illustrated using the "simple impact analysis" integrated within the IO table. In economic impact exhibits, row one of each economic impact analysis graphic shows a hypothetical increase in output for each Basic Industry market. Row two demonstrates how the change in output within the given market changes output in large cross-sections of the economy, while row three provides a more detailed look at specific sectors. Often times, an increase in economic output "adds value" to the sector in which growth is experienced. Row four demonstrates the total change in economic output, employment and labor income for the entire economy that can be attributed to the change in output for a given Basic Industry market.

To identify economic linkages, supply and demand networks are shown for each Basic Industry market. Supply networks represent "inter-industry purchases" of raw goods and services which are then transformed into products which are sold to other industries through "inter-industry sales" shown in demand networks.

- **Jobs.** Sub-sector **j**obs for the City of Seattle are analyzed for two points in time: 2001 and 2007. Covered employment data was provided by PSRC but was not adjusted to capture jobs that are located elsewhere (i.e. a traveling salesman) but are technically still employed by local businesses.

- **Wages.** Sub-sector wages are presented for Washington State for 2001 and 2007. Statewide wages are a more reliable indicator for specific subsectors defined at the three or four digit NAICS codes.

- **Revenues.** Subsector revenues produced in the City of Seattle are estimated for 2001 and 2007. Gross business revenues for Seattle's Basic Industries are estimated using a ratio of gross business income divided by taxable income for statewide Basic Industry NAICS sectors using data provided by the Washington State Department of Revenue. This ratio is then multiplied by the taxable income of Seattle NAICS sectors to estimate local gross business revenues. Detailed B&O taxable income data from the City of Seattle Department of Executive Administration enabled revenue estimates for local businesses. Data used to estimate gross business revenues was limited to three digit NAICs codes. For subsectors that are defined by four digit NAICS codes, gross revenues estimated for the associated three digit sector and then allocated to four digit sectors in proportion to sector employment.

- **Opportunities and Challenges and Proposed City Actions.** Sector specific interview findings are presented along with recommendations from the business community for citywide actions to support their respective industries.

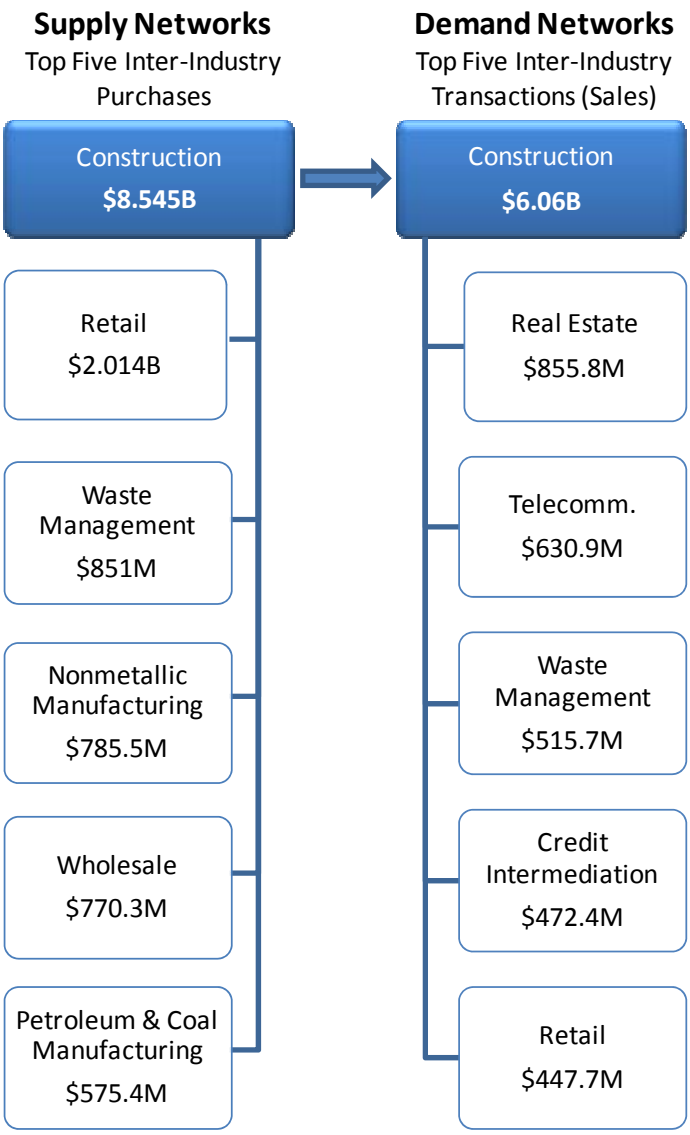
5.2 Construction

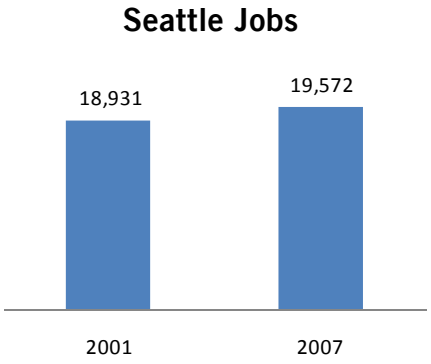
Overview. The construction sector plays a leading role in Seattle's economy. From 2001 to 2007, the construction sector created 640 new jobs in Seattle, increasing local employment from nearly 19,000 in 2001 to 19,600 in 2007. The construction sector accounts for 4% of citywide employment and 24% of local Basic Industry employment. Statewide construction wages are up from $44,400 in 2001 to $46,700 in 2007. Local construction revenues have also been on the rise, increasing by a net of $500 million or 15% from 2001 to 2007.

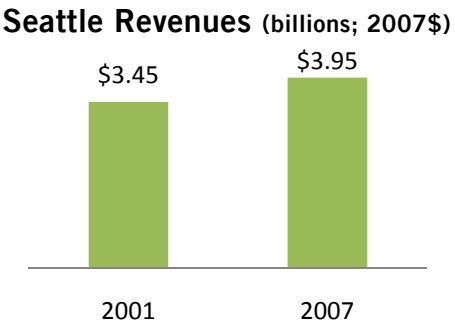
Exhibit 67 demonstrates the economic impact of the construction sector. For every one million dollars the construction sector produces, it creates 12 jobs and a total of $1.91 million in (direct, indirect and induced output) the state economy, impacting sectors such as manufacturing and services significantly. Additionally, for each direct construction job created, 2.3 total jobs are created in the economy, or conversely 2.3 jobs are lost for each construction job lost.

The supply and demand network diagram (next page, bottom left) shows top consumers of construction products are real estate and credit intermediation agencies, along with retail and telecomm sectors. These sectors are experiencing economic challenges that will likely slow demand for construction services. Basic Industries also play an important role in supplying the construction sector. Waste management as well as manufacturers of non-metallic, wood, furniture, fabricated metals, and machinery are all among the top twenty suppliers of the construction sector in Washington State. Several interview respondents cited long-time working relationships with the construction sector.

Exhibit 67. Economic Impact of Construction







Core Activities (NAICS)	Represented Seattle Companies
• Construction of Buildings (236) • Heavy and Civil Engineering Construction (237) • Specialty Trade Contractors (238)	• Lease, Crutcher, Lewis Builders • Atlas Construction

Opportunities and Challenges

After two to three years of booming business, construction stakeholders anticipate a sharp economic downturn that will reduce profits and employment significantly over the next two to three years. Dwindling investor confidence, changing lending practices and greater risk are making it harder for construction companies to sustain business during the national mortgage and credit crisis. Local stakeholders point to the resilience of Seattle's economy, citing a growing green building movement, along with project potential in health, educational and research sectors as key opportunities for near term growth.

Proposed City Actions

- Many interview participants stated (most of which were not involved in the construction sector), that continued pursuit of regional growth will benefit the construction sector and all others sectors of the economy. Development projects in education, medical, bio-tech, high tech sectors offer promising near-term potential in an otherwise bleak economic outlook.
- Business owners encourage the City of Seattle to continually strive for global and national leadership in the green building movement. Retrofitting of existing buildings to improve energy and economic performance, pursuit of green construction standards for new development as well financial and regulatory incentives were recommended.
- Basic Industry business owners encourage the City to implement higher density development in the downtown. The alleviation of height restrictions in the downtown has been positively received by those in the Construction and Basic Industry sectors alike.
- Interview participants in several Basic Industry sectors stated that investment in transportation infrastructure will translate into demand for new construction jobs as well as local construction and industrial support services and materials.
- Interview participants suggest that the City should pursue public-private partnership to absorb some of the risk of development projects. Establishment of a business roundtable construction taskforce is one suggestion to initiate public-private construction partnerships while sales tax exemptions were one incentive suggested to improve project finances.

5.3 Freight, Distribution, and Logistics

Overview

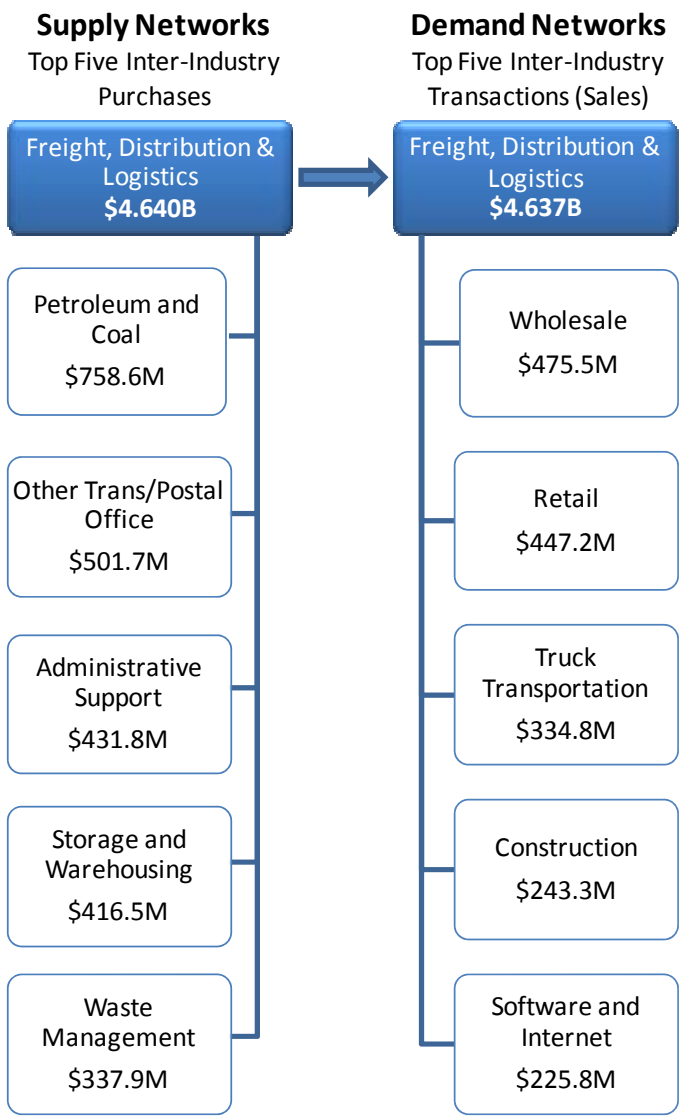
The freight, distribution and logistics sector is one of Seattle's most competitive and historically significant Basic Industry sectors. As a whole, jobs in Seattle's transportation sector have declined from 17,380 in 2001 to fewer than 13,400 in 2007, a decrease of nearly 4,000 or 25%. In 2007, the transportation sector accounted for 3% of citywide jobs and 16% of Basic Industry jobs. From 2001 to 2007, transportation job losses were experienced in truck (-689; -50%), and transit and ground (1,300; 43%) transportation as well as couriers and messengers (3,300, 60%) while sectors such as water transportation (135, 5%), warehousing (700, 40%) and support activities (475, 20%) added jobs. During this time transportation wages increased $43,900 to $45,200. Local revenues are estimated to have grown significantly from $680 million in 2001 to $1.33 billion in 2007.

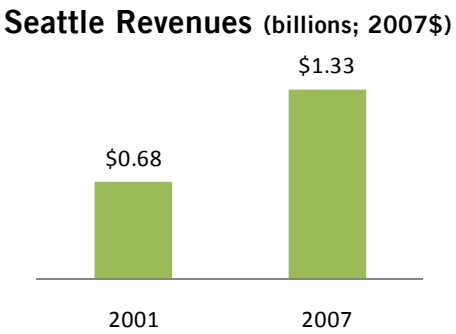
Exhibit 68 shows the economic impacts of the freight, distribution and logistics industry. A one million dollar increase in economic output (distributed proportionally amongst sectors based on proportion of employment) creates 16 jobs and results in $2.2 million in statewide economic output, creating an additional $437,000 in services output and $216,000 in FIRE industries such as credit and insurance. Creation of new transportation jobs also have a multiplier effect. For each new job in water transportation or other transportation over 3.5 jobs are created elsewhere in the state economy, nearly 3 for each air transportation jobs and 2.3 for transportation support activities.

Supply and demand networks show a far reaching demand for transportation services, with wholesale, retail, construction and Internet and software companies all amongst the top five customers of the transportation sector.

Exhibit 68. Economic Impact of Freight, Distribution and Logistics

Economic Impact Metrics: Freight, Distribution and Logistics





Core Activities (NAICS)	Represented Seattle Companies
• Air Transportation (481) • Rail Transportation (482) • Water Transportation (483) • Truck Transportation (484) • Transit and Ground Passenger Transport (485) • Support Activities for Transportation (488) • Warehousing and Storage (493) • Couriers and Messengers (492)	• Crowley Marine Services Inc. • Expeditors International Washington Inc. • Nelson Trucking • Port of Seattle

Opportunities and Challenges

Growth in the transportation sector is attributable to tremendous infrastructure assets including the seaport and airport as well as a strategic location connecting to major economic hubs in Alaska, California, China and Russia. Proximity to clients and superior freight and logistics ranked number one and two as Seattle's competitive industrial advantages. Seattle is largely considered to be the headquarters for the Alaska fishing industry and is quickly emerging as a leader in Alaskan energy exploration including natural gas pipeline development and both on and offshore oil drilling. Transportation and traffic management was the number one recommendation for city action to support the industrial community. Future decisions regarding the Port and Viaduct have the potential to significantly improve or harm long-term productivity of the transportation sector and Basic Industries as a whole.

Proposed City Actions from the Business Community

- **Retain travel capacity of viaduct.** Work with federal, state, and county governments to ensure viaduct investments maintain or increase traffic flows and allow for efficient access to the Port and Harbor Island. Port improvements can also be made simultaneously.

- **Support Port competitiveness by preserving industrial land and businesses in MICs.** Industrial land preservation initiatives surrounding Port property is critical to the viability of Port operations. Industrial clientele of the Port is often supported by businesses located throughout the MICs and vice versa.

- **Small scale traffic management investments can go a long way.** Business owners state that improvements in vehicular circular are needed throughout the MICs. Roads are in very poor condition in many areas. Parking regulations are needed to allow on-street loading, while discouraging illegal parking for retail or other uses. All prospective transportation improvements should involve surrounding industrial businesses.

- **Partner with county, state and federal agencies to provide a streamlined regulatory environment.** Regulatory fragmentation on issues such as air quality, transportation taxes and vehicle registration fees increase costs and time burdens.

5.4 Food and Beverage Manufacturing and Wholesale

Overview

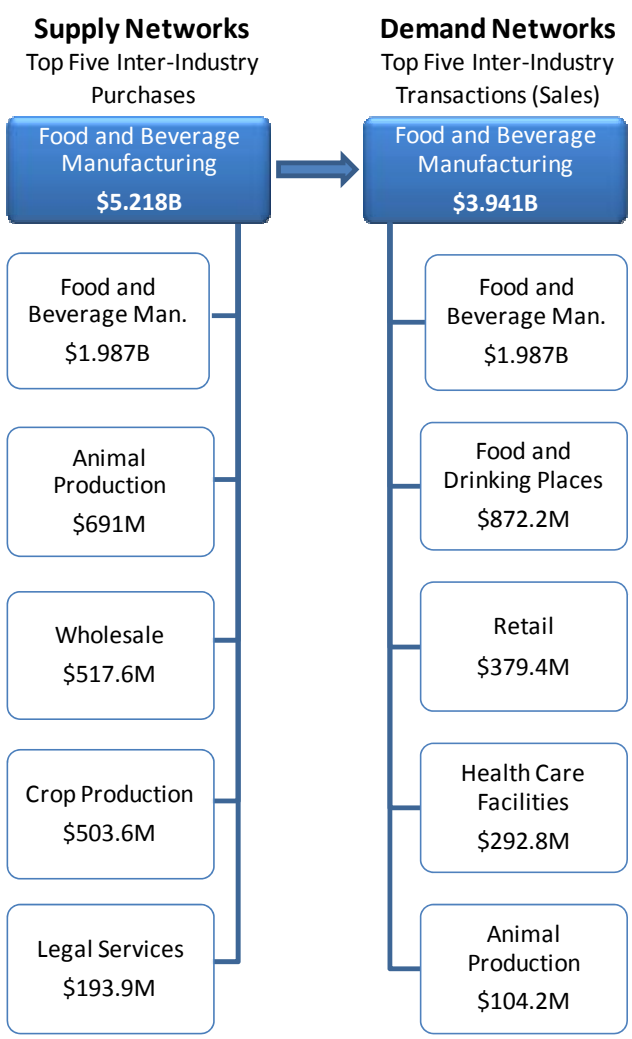
The food and beverage manufacturing and wholesale sector are supported by a wide diversity of business functions lead by the seafood and fishing sector. This subsector of the Basic Industry economy employed over 10,500 people in 2007, down from over 12,700 in 2001. Food manufacturing lost an estimated 1,500 jobs from 2001 to 2007, while food wholesale lost 500 local jobs. The local fishing industry gained nearly 200 jobs. Wages increased from $39,600 in 2001 to nearly $43,000 in 2007. Local revenues are estimated to have increased significantly during this time, from $1.72 billion in 2001 to over $3 billion in 2007.

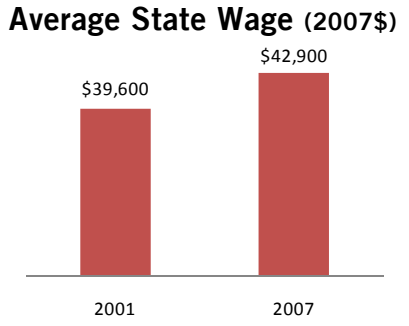
Exhibit 69 shows the economic impacts of the food production industry. A one million dollar increase in economic output (distributed proportionally amongst sectors based on proportion of employment) creates nearly 12 jobs and results in a total of over $2 million dollars to the rest of the economy. Food manufacturing has the 8th highest job multiplier effect in Washington State, creating four jobs total in the economy for each job created in the food manufacturing sector.

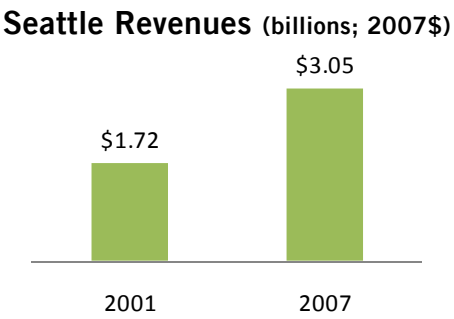
Supply and demand networks (shown on next page) shows that the food and beverage manufacturing is both the top supplier and consumer of its own industry, as many raw products are used to create retail ready products. The wholesale sector, which is the third highest supplier and ninth highest consumer, of food manufacturing goods and services serves as a critical link that enables this food production relationship.

Exhibit 69. Economic Impact of Food and Beverage Manufacturing

Economic Impact: Food and Beverage Manufacturing and Wholesale







Core Activities (NAICS)	Represented Seattle Companies
• Food Manufacturing (311) • Seafood Processing (3117) • Beverage and Tobacco Manufacturing (312) • Food Wholesale (4244) • Beverage Wholesale (4248) • Fishing, Hunting and Trapping (114)	• Unified Grocers • Cannon Fish • Ocean Beauty Seafood • Macrina Bakery • Grand Central Bakery • Darigold • Espresso Supply • Uwajimaya

Opportunities and Challenges

Issues impacting the seafood industry range from health of the Alaskan salmon fishery to local waterfront access. Affordable housing and paying laborers a living wage was cited as a major challenge for local food manufacturing companies. In both food manufacturing and wholesale sectors, innovations in cold storage facilities are saving electricity and reducing utility charges, while information technologies have greatly improved management of inventory and distribution. Local wholesale representatives state that around the region and nation wholesalers are moving towards consolidation to cut costs and remain competitive. Stakeholders cite that the economic downturn has greatly impacted their end consumers, including retailers and private households, which have slowed food production and wholesale operations.

Proposed City Actions from the Business Community

- **Focus on affordable housing and public transportation as one component of industrial job preservation.** Cost of living and availability of housing, requires the food manufacturing and wholesale workforce to live outside of Seattle. Business owners suggest that workforce housing initiatives and improved public transportation is critical to retaining their local workforce and reducing costs commutes.
- **Serve as a liaison with local companies and national and regional regulatory agencies.** National and state regulatory agencies located in Seattle are cited as a disadvantage of doing business locally. Business owners suggest that the City could provide assistance in representing local concerns and advocating for improved efficiency of the permitting process. The regional FDA department as well as the Washington State Food Industry were cited.
- **Offer tax incentives and streamline tax requirements.** Business owners recommend tax incentives to mitigate the cost of high priced processing and wholesale space as a key strategy for retaining businesses. Others suggested that aggregating taxes or streamlining tax filing requirements will ease a significant and costly administrative burden. Bag tax, new sales tax requirements, awning taxes and B&O taxes were mentioned specifically.
- **Improve electricity infrastructure.** Food manufacturers and wholesalers suggest connecting City Light with local Basic Industry businesses to retrofit electrical systems in inefficient manufacturing, wholesale and storage space. Establishing priority for restoring electricity at food storage facilities during power outages was also cited.

5.5 Aerospace

Overview

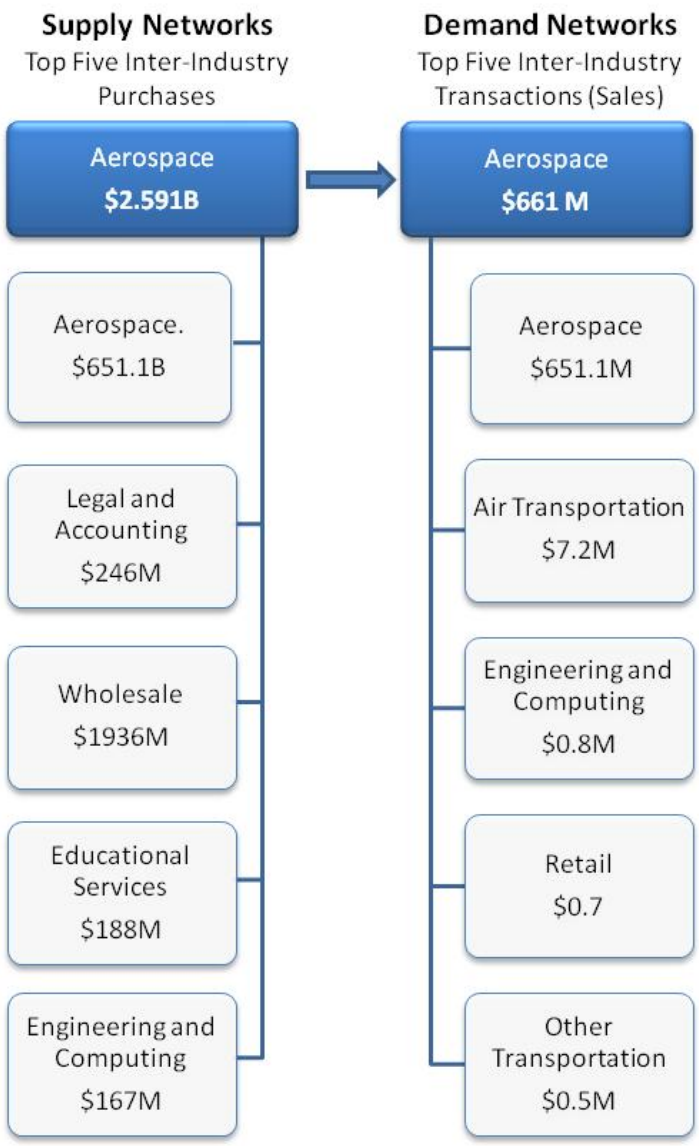
There are 50 aerospace workplaces in Seattle, including Boeing and other smaller manufacturers and suppliers. Aerospace employment is up in Seattle, rising from nearly 6,200 in 2001 to over 6,700 in 2007. In 2007, aerospace accounted for 1.5% of citywide jobs and 8% of Basic Industry jobs. Statewide aerospace wages have also increased from 2001 to 2007, from $75,000 to $86,800. Local revenues are estimated to have declined from 2001 to 2007 from $760 million to $460 million. Declines in local aerospace revenues may be attributable to allocation of local revenues to regional locations or tax incentives that reduced taxable income from which revenues were calculated[16].

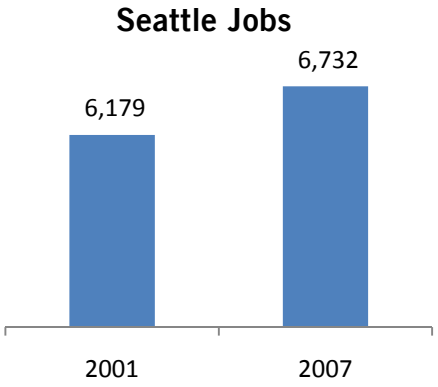
Exhibit 70 below shows that a one million dollar increase in economic output creates 4.5 jobs and a total of $1.37 million in the state economy. For every direct job created in the aerospace industry a total 2.8 jobs are created in the economy.

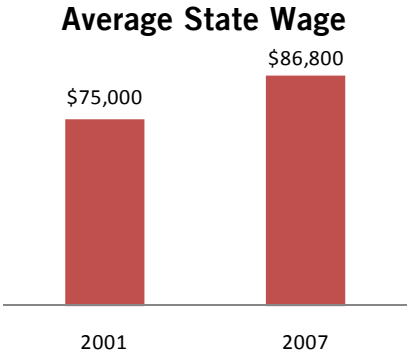
The supply and demand network shows that in 2002, the aerospace sector bought $2.6 billion in goods from within Washington State, with 25% coming from the aerospace sector itself with diverse basic and non-basic sectors accounting for the rest of local aerospace purchases. Approximately $22.23 billion is supplied by other US locations and $4.7 billion internationally. Inter-industry purchases, 98% of which was consumed by the sector itself represented less than 2% of total output. Foreign exports represented 60% and federal government purchases represented 14% of aerospace output in 2002.

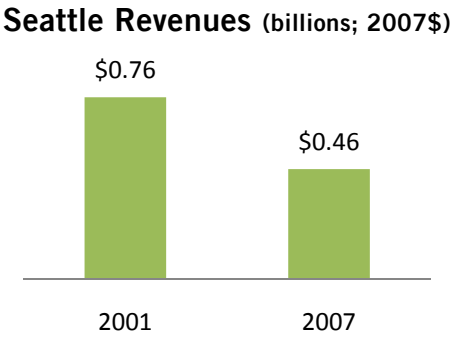
Exhibit 70. Economic Impact of Aerospace

[16] Data used to estimate gross business revenues was limited to three digit NAICs codes. Business income for NAICS sector 336 was allocated to aerospace based on the percentage share of employment in this sector.









Core Activities (NAICS)	Represented Seattle Companies (MIC)
• Aerospace products and parts	• Boeing • Andrew's Space • Korry Electronics

Opportunities and Challenges

Many recent changes have impacted the aerospace industry within Seattle and the Puget Sound Region. Boeing corporate headquarters left Seattle in 2002 for Chicago, while low-cost, non-unionized locations in the southern United States have been aggressively pursuing Boeing contracts and relocations. In January 2009, Boeing announced that it would lay off 4,500 employees from its Commercial Airplanes business unit, mostly from the Washington State workforce.

Boeing continues to diversify business operations in commercial and defense aerospace products and research and is increasing its global presence. In recent years, international contracts have accounted for the majority of Boeing's business, while international competition has also increased. Boeing and local aerospace suppliers are striving for greater efficiency and reduction of costs.

Other local aerospace firms are also facing challenges and new opportunities. For example, Korry Electronics, one of Seattle's largest aerospace suppliers, has recently announced that it will relocate in 2010-2011from its current location near south Lake Union to Everett's South Paine Field, where a cluster of aerospace firms are located.

Proposed City Actions from the Business Community

- **Affordable operating space that accommodates modern manufacturing needs is a must.** Aerospace stakeholders state that real estate availability and affordability is highly limited in Seattle. Large, single story building footprints are often desired but not economically feasible in Seattle. Working with the Port of Seattle to retain vacant land in the BINMIC south for industrial uses is desired by aerospace and other basic industry stakeholders. Stakeholders also suggest incentives that reduce building rents and land costs in exchange for long-term lease agreements are one way to make Seattle a more competitive location for aerospace.

- **Offer tax incentives to reduce the cost of business**. Stakeholders suggest that tax incentives such as a reduction in B&O taxes will help make the cost of doing business in Seattle more in line with other affordable regional destinations.

- **Linking high-tech research companies with the aerospace sector.** Aerospace leaders point to Seattle's capacity to innovate combined with a rich talent pool and the ability to develop high-tech solutions as key assets that support the competitiveness of large and small aerospace businesses alike.

5.6 Computer and Electronic Manufacturing and Wholesale

Overview

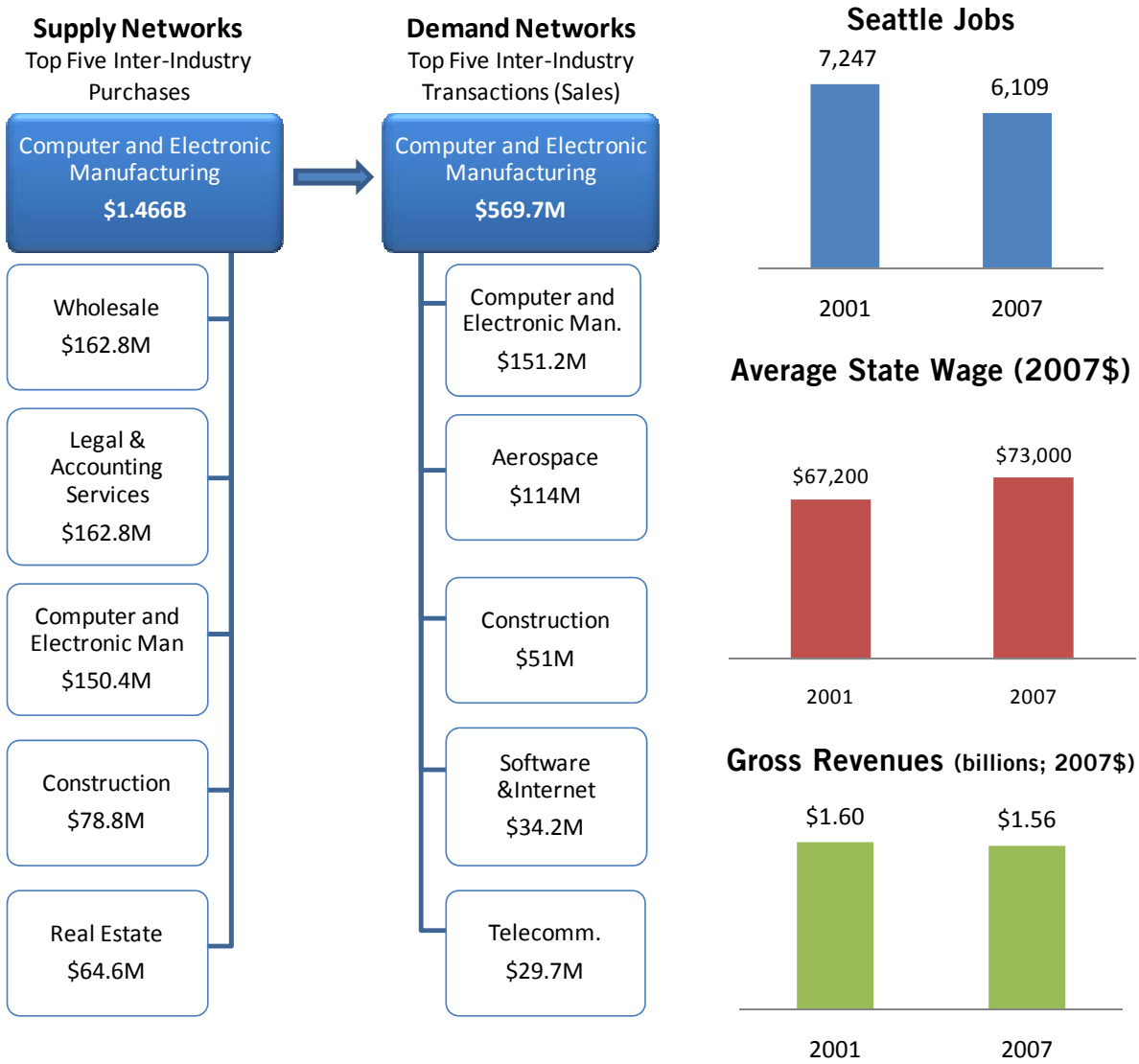
The computer and electronic manufacturing and wholesale sector is one of the most diverse areas of Seattle's Basic Industry economy. Overall, Seattle is home to 288 workplaces and 6,100 jobs in this sector, which includes manufacturing companies developing computers, communications equipment, navigational and measuring components, lighting, electrical equipment, and medical supplies along with a wholesale companies that sell these products. From 2001 to 2007, computer and electronic manufacturing increased by nearly 15 percent, making it one of the fastest growing sectors in the City during this time. Computer and electronic wholesale however has declined by over 1,130 jobs (32 percent decrease) from 2001 to 2007.

Exhibit 71 shows that a one million dollar increase in economic output creates 14 jobs and results in a total of $2.2 million dollars economic output, creating a value-added of $436,000 in services output as well as $242,000 in WTU industries. For each new direct job created in this sector a total of 2.75 to 2.5 are created elsewhere in the economy.

Supply and demand networks show strong connections between the computer and electronic manufacturing sector and other Basic Industry sectors. Computer and electronics manufacturing, aerospace and construction sectors, are the top three consumers of manufactured computer and electronic goods and services.

Exhibit 71. Economic Impact of Computer and Electronic Manufacturing

Economic Impact Metrics: Computer and Electronic Component Manufacturing and Wholesale



Core Activities (NAICS)	Represented Seattle Companies (MIC)
• Computer and electronic products manufacturing (334) • Electrical equipment, appliances and component manufacturing (335) • Medical equipment and supplies manufacturing (3391) • Computer and medical wholesale (4234) • Electrical wholesale (4236)	• Wesco • 3R Technology

Opportunities and Challenges

There are a diverse range of issues at play that impact this industry sector. The electrical sector is meeting new demands for sustainable energy systems and has thrived off of recent construction activity. Communications and computer technologies have been key ingredients in the success and diversification of local Basic Industry businesses and the broader economy as well. The manufacturing of medical devices is an emerging industry that leverages growth in manufacturing, health, and R&D sectors. Local technology recycling facilities have also found a competitive niche in Seattle that offer sustainable refurbishment and recycling services. Attracting and retaining talent, sustaining competitive wages, and encouraging technology transfer between industries and research institutions are key themes for future growth of this industry.

Proposed City Actions from the Business Community

- **Continue to support Seattle's image as a place for innovation**. Many Basic Industry stakeholders, especially those that worked closely with the computer and electronic manufacturing sectors, said that Seattle's image as a high-tech hot spot plays a major role in attracting talent to this sector. Stakeholders encouraged City leadership to continue marketing Seattle's innovative image.

- **Incentives for new technology.** Many Basic Industry business owners expressed a desire to obtain or integrate new information technologies and automated technologies into local business operations. Business owners suggest offering state and local incentives to help reduce the cost of business operations; such practices would benefit Basic Industry sectors as well as the computer and electronic manufacturing sector.

- **Support development of R&D facilities with industrial focus and compatibility.** Basic Industry stakeholders often stated that the definition of "manufacturing" is rapidly evolving. Property owners and business leaders suggest that R&D facilities with a high-tech manufacturing focus may offer great potential for supporting economically feasible, higher density development in industrial areas.

- **Update the City's energy infrastructure and support sustainable energy policy.** Some stakeholders that have moved or expanded have been restricted by inadequate energy infrastructure. Others have partnered with City Light to modernize existing infrastructure and operations leading to major cost savings. Business owners suggest that investing in new energy infrastructure while supporting energy efficiency in new development will greatly support Basic Industry growth and operations.

5.7 Ship and Boat Building

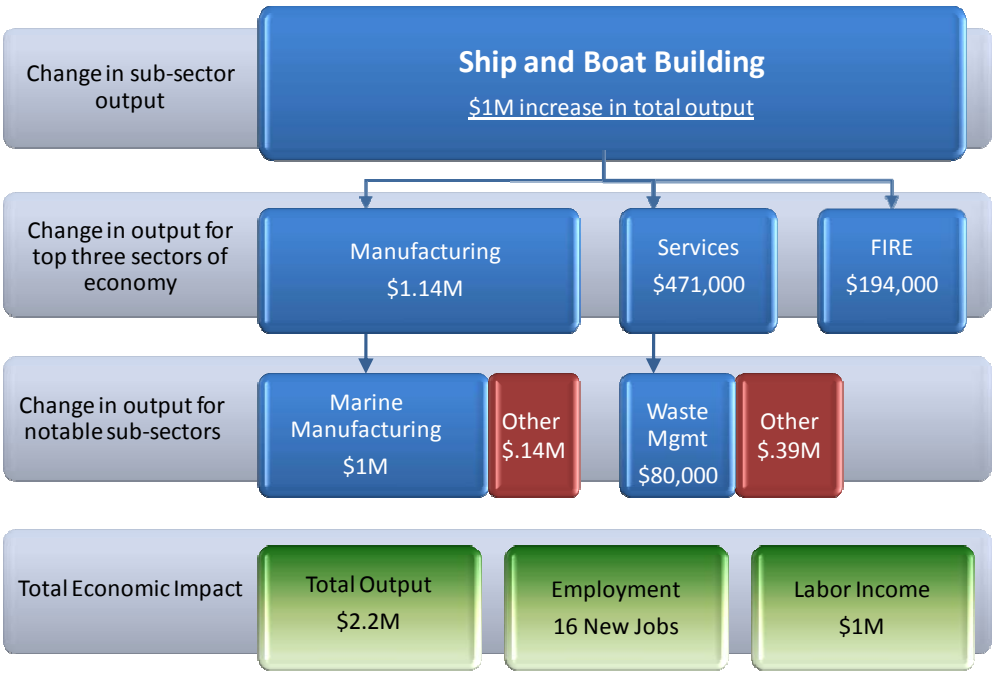
Overview

Ship and boat building is one of Seattle's most historically significant and recognized Basic Industry sectors. There are over 20 ship and boat building workplaces in Seattle, including many highly specialized manufacturers and maintenance firms. Ship building jobs have increased in Seattle, rising from nearly 1,225 in 2001 to 1,417 in 2007. Statewide ship buildings wages have also increased from $38,800 in 2001 to $45,000 in 2007. Local revenues are estimated to have declined slightly from 2001 to 2007 from $150 million to $130 million[17].

Exhibit 72 below shows that a one million dollar increase in output creates 16 new jobs and a total of $2.2 million in the state economy, one of the largest economic impacts of any Basic Industry, particularly in terms of employment.

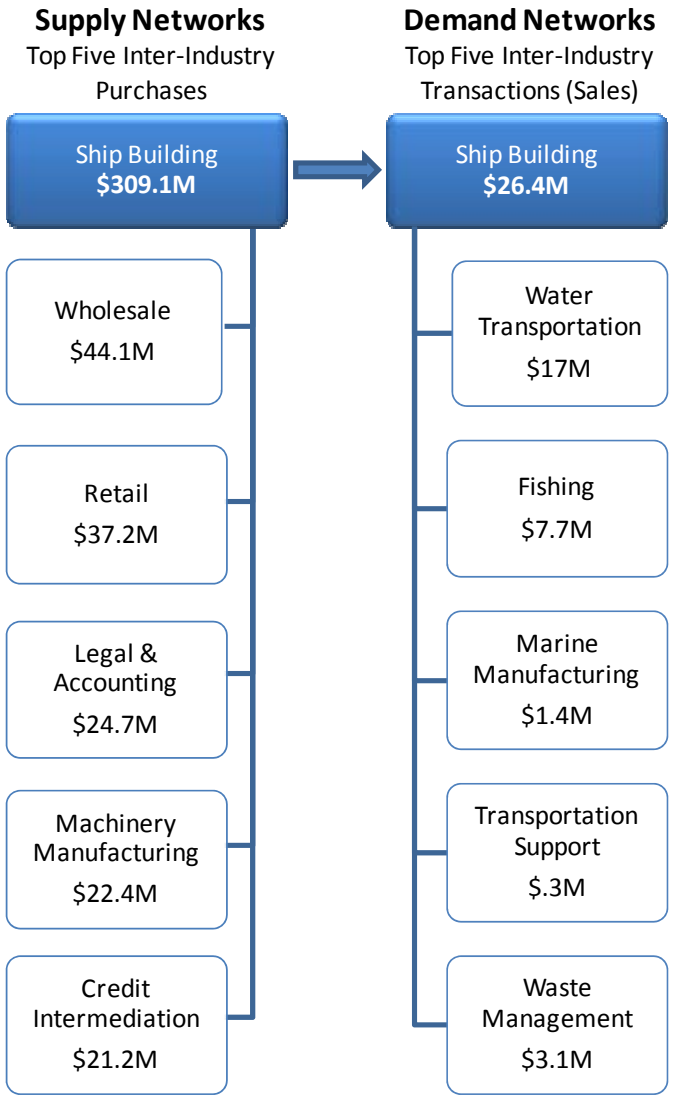
In terms of in-state supply and demand networks, the ship building sector relies heavily on the Non-Basic Industry sector for many services and Basic Industry sectors for many raw materials and parts. Inter-industry sales are consumed almost entirely by Basic Industry sectors such as water transportation and fishing. Of the $1.8 billion in economic output created by ship building in Washington State, 70% is consumed by the federal government.

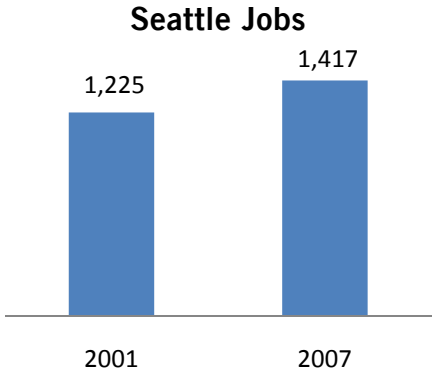
Exhibit 72. Economic Impact of Ship and Boat Building

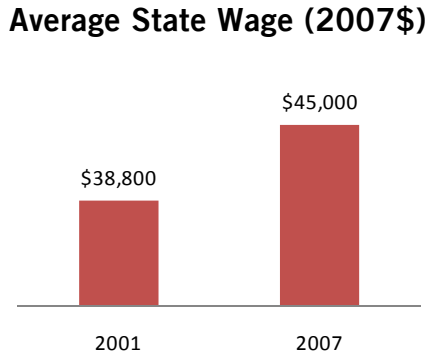


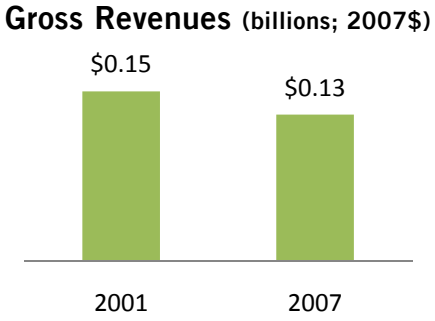
[17]Data used to estimate gross business revenues was limited to three digit NAICs codes. Business income for NAICS sector 336 was allocated to ship and boat building based on the percentage share of employment in this sector. NAICS 336 business income was estimated to decline from 2001 to 2007.

Economic Impact Metrics: Ship and Boat Building









Core Activities (NAICS)	Represented Seattle Companies (MIC)
• Ships and Boat Building (3366)	• Todd's Pacific Shipyard • LeClerq • Port of Seattle

Opportunities and Challenges

Stakeholders in the ship building industry cite the sector's diversity and synergy as its primary strengths. While no single ship building sector is a national leader, (such as the navy in San Diego) all are strong, and many small and large companies subcontract with each other. As a result, customers find a more competitive environment than other areas in the Pacific Northwest, including Alaska. The Alaska fishing industry, Washington ferries, Navy, US Coast Guard and the National Oceanic and Atmospheric Administration all come to Seattle for highly skilled ship building and refurbishment expertise.

Industry leaders are proud to point out that Seattle is, and in the north pacific in particular, *the* hub through which and from which all things flow to Alaska. Stakeholders cite tremendous potential for Seattle's maritime industry to take advantage of energy exploration and increased fishing, tourism and international shipping activity in the arctic.

With growing demand for ship building services, the availability of labor is a limiting factor. Transportation and affordable housing issues impede the efficiency of everyday businesses as more workers are required to live farther away and travel farther distances to work.

Proposed City Actions from the Business Community

- **Work with marine land owners to modernize infrastructure; streamline permitting.** Many ship building companies and waterfront land owners strive to be leaders in environmentally-responsible business practices. Stakeholders suggest that the state and local regulations and permitting processes limit rather than support needed land and infrastructure improvements. Representatives suggest creating a single point of contact for marine issues, streamlined permitting in public utility departments and assistance with shoreline regulatory requirements.

- **Invest in intermodal transportation.** Stakeholders state that transportation is the "Achilles heel" of Seattle. Rail, the viaduct and rapid movement of goods and cargo all limit the competitiveness of Seattle's port and industrial lands. While stakeholders realize there is no magic bullet, they cite case examples in California ports as successful strategies for investing in infrastructure to grow industry activities.

- **Preserve industrial lands in MICs.** Port and marine stakeholders suggest that city efforts to preserve industrial lands in MICs will in turn support continued industrial activity at the Port. Industrial laborers, machine repair, material suppliers that support the local ship building industry all require a critical mass of local industrial activity.

5.8 Industrial Machine and Metal Manufacturing and Wholesale

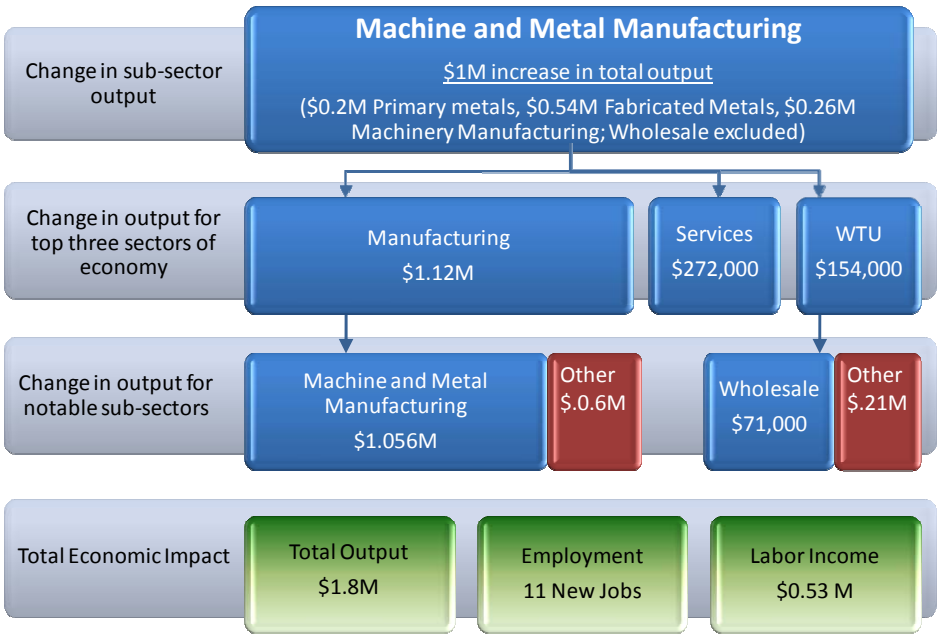
Overview

Industrial machine and metal manufacturing and wholesale supports the fabric of Seattle's Basic Industry core. In 2007, primary metal manufacturing, metal fabrication and machine manufacturing, accounted for five percent of total Basic Industries jobs in Seattle. From 2001 to 2007, jobs decreased by 744 (11%) from 6,562 to 5,818 while workplaces decreased by 47 from 339 to 292. The majority of job loss was experienced in the machinery manufacturing (687, 42%), while most other sectors remained relatively stable. Employment and workplaces however may not be the most important measure of growth in this sector. Wages in Washington State increased from $45,700 in 2001 to $48,500 in 2007. Gross revenues in Seattle are estimated to have increased from 2001 to 2007, from $1.5 billion to $2.2 billion, an increase of $72 million or nearly 50%.

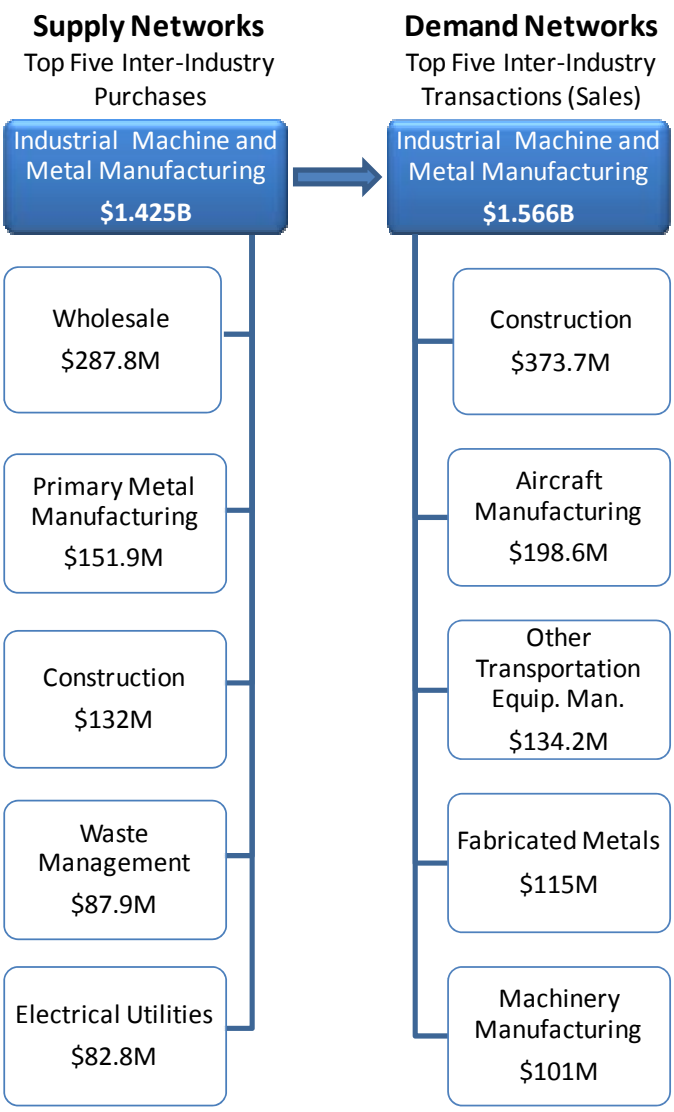
Exhibit 73 shows that a one million dollar increase in economic output in the machine and metal manufacturing sector (wholesale is not included) creates 11 jobs and results in a total of $1.8 million dollars economic output, creating a value-added of $272,000 in services output as well as $154,000 in WTU industries. For each new direct job created in this sector a total of 2.75 to 2 jobs are created in the economy.

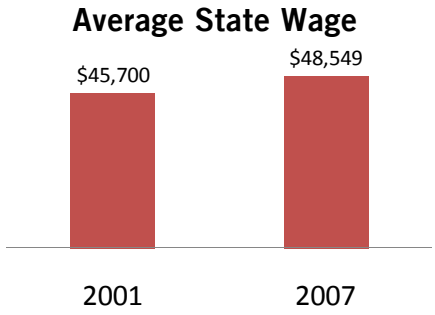
Supply and demand networks show vital linkages between Basic Industry sectors and the machine and metal manufacturing sector, as all top five suppliers and consumers are considered Basic Industries. Construction is one of the most important clients of this sector, as metal fabricators commonly recycle and refurbish waste construction materials into new products.

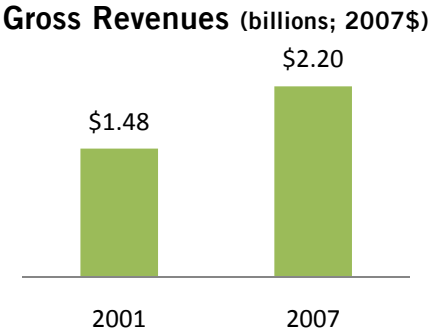
Exhibit 73. Economic Impact of Industrial Machine and Metal Manufacturing



Economic Impact Metrics: Industrial machine and metal manufacturing and wholesale







Core Activities (NAICS)	Represented Seattle Companies
• Primary Metal Manufacturing (331) • Fabricated Metal Product Manufacturing (332) • Machinery Manufacturing (333) • Industrial supplies and wholesale	• Ballard Brass and Aluminum • B&G Machine Inc. • Bloch Steel Industries • Independent Metals Co. • The Gear Works • Mobile Equipment Systems • Standard Steel Fabricating Co. • Seidelhuber Ironworks • Millwork Supply Company

Opportunities and Challenges

Small, well-established machine and metal shops in Seattle's MICs are highly specialized and highly skilled and often operate in a niche market. Business owners described a "synergy" that exists within the machine and metal manufacturer sector, citing that in some cases businesses subcontract work, and that competitors are also clients.

Interdependence within the machine and metal manufacturing and its critical support role in the entire Seattle economy is demonstrated in supply and distribution networks, which also maintains important sustainability implications. Metal fabricators up-cycle waste metals from the construction, machine and primary metal industries to provide new steel products, making it one of the "greenest" sectors in the city.

A diverse range of skills and capabilities has also fostered adaptation. Many business owners cite growth opportunities by expanding into new markets such as renewable energy and transportation as well integrating new technologies to improve efficiency and capabilities.

Proposed City Actions from the Business Community

Partner with local community colleges, K-12 public schools, and trade schools to provide workforce training and business assistance. The vast majority of metal and machine manufacturing business owners cited the availability of quality workers as a major factor that limits growth potential. Business owners suggest that education should focus both on trade skills such as welding, geometry, machine operation, among others as well as basic inter-personal skills. Partnerships between the business community, education community and city were encouraged.

Open up the bidding process and buy local. Several business owners, and especially those within the machine and metal fabrication sector, expressed a desire to participate in the city bidding process, but were unsure how to become involved. Other's suggested that buying "local" goods and services is one way to support local economic opportunities while improving industrial-government relations.

Provide regulatory assistance. Many industrial machine and metal manufacturer are highly impacted by regulations. Complying with diverse and complicated regulations creates a large administrative burden. Business owners suggested streamlining taxes and the permitting process as top city actions to encourage growth.

6. SYNTHESIS AND CONCLUSION

Basic Industries have and will continue to play a leading role in the economic prosperity of Seattle. In 2008, Basic Industries accounted for approximately 20% of Seattle's employment base and provide over 90,000 jobs with competitive wages citywide. In 2008, local Basic Industries produced an estimated $18.2 billion in gross business revenue and provided approximately $90 million in sales and B&O tax to support Seattle's bottom line.

Despite adversity and the challenges of an ever changing economy, Seattle's Basic Industries have grown. From 2005 to 2008, the City of Seattle alone has added over 8,000 Basic Industry jobs including over 6,000 jobs in the construction and resource sector and 2,500 manufacturing jobs.

What makes Seattle's Basic Industries so resilient and competitive?

- **Seattle is the heart of a growing and prosperous region.** From 2005 to 2008, Basic Industry employment in the Seattle-Tacoma-Bellevue MSA has grown by nearly 9% and 10% in the City of Seattle.

  Twenty percent of Basic Industry business owners stated that the economic health of the region is directly tied to the well-being of their business. They speak to the vital inter-relationships between Basic Industry sectors and between Basic Industries and the rest of the economy. Industry leaders state that "what happens in the region usually happens in Seattle first." They describe Seattle's Manufacturing Industrial Centers as incubators for new businesses, ideas and growth that spills over to the benefit the region.

- **Seattle's Basic Industries are innovative, diverse and capable of meeting the challenges of a new, global economy.** Industrial business owners are pursuing growth by expanding into new markets (47%), developing new products (42%) and offering new specialized services (30%).

  Business owners stated that Basic Industries are "constantly reinventing themselves" to remain competitive in the national and global economy and that Seattle's Basic Industries are meeting the challenge.

  Large and small business owners alike are capturing new market demand by integrating flexibility and innovation within current manufacturing and transportation processes. 40% of businesses are using technology to diversify products and services while 20% are leveraging new information technologies to better manage inventory and meet the needs of product-to-production transportation.

- **Location, location, location.** Over half of Basic Industry interview respondents emphasized that proximity to regional, national and

international clients is the primary competitive advantage of being located in the Seattle.

Half of interview respondents also cited port, highway and rail infrastructure as critical industrial assets that support superior business logistics and shipping in Seattle's MICs. Whether it is a strategic location for fishing in Alaska, international sea trade with Asia, or efficient highway access that reduces regional travel time, Seattle's MICs have the right mix of assets to support long-term industrial vibrancy.

- **Synergy and interdependence play a vital role in the long-term economic prosperity for Seattle's Basic Industries.** Basic Industry business owners cited many long-time working relationships that have helped industry thrive in Seattle. Economic impact analysis and supply chain networks demonstrate a tremendous value associated with these inter-industry relations. Stakeholders suggest that a holistic outlook and strategy for maintaining economic activity for both small and large businesses, basic and non-Basic Industries alike, is required to maintain Seattle's delicate and highly productive economic balance.

While, Basic Industry business owners are optimistic about their future in Seattle, they emphasize that past challenges will likely continue in the future.

Basic Industries have experienced cyclical employment gains and declines locally and throughout the region since 1970. After peaking in 2000, Basic Industry employment in Seattle declined five consecutive years, losing 21,000 jobs and just over 20% of the workforce. Historical trends across the region show that Basic Industries have typically experienced both growth and decline each decade.

Economic forecasts anticipate near-term jobs losses in the Basic Industry sector. Regional estimates predict a 17% decrease in manufacturing jobs in the next ten years in the Puget Sound region, with potentially 5,200 jobs lost in the City of Seattle. Estimates also predict that the mortgage and lending crisis will take its toll on construction employment in the region. Forecasts estimate up to 3,700 jobs could be lost locally from 2008 to 2010, before the construction market recovers upon which significant employment construction employment growth is expected.

With looming economic challenges on the horizon, Basic Industry business owners offered their keen insights on the challenges and solutions needed to sustain Basic Industry jobs and businesses in the City of Seattle.

What challenges must be addressed to support Basic Industries in the future?

- **"Talent" is the number one factor that limits Basic Industry growth.** 55% of business owners cited that a lack of new, talented labors with basic trade skills, education and work ethic will limit the future growth of their business. With half of regional manufacturing and transportation

workforce over the age of 45, new workers will be needed to fill new positions created from retirement.

Industry stakeholders stated that fewer high school and college graduates are pursuing a blue collar careers and suggest a holistic strategy for growing industrial talent in Seattle is needed. Industrial leaders stated that strengthening partnerships between the City, local school districts, higher education institutions and the business community can steer young students towards well-paying and rewarding industrial careers.

Many businesses owners struggle to pay employees a "living wage" and suggest that the cost of living in Seattle limits the local labor pool. Business owners suggest that affordable housing initiatives and public transportation improvements can go a long way in supporting Basic Industry employment growth.

- **Invest in industrial assets.** Improving transportation infrastructure and traffic conditions was the number one recommendation for City actions to support the Basic Industry business community. Stakeholders suggest that a range of transportation decisions as small as painting crosswalks to replacing the viaduct greatly impact their business. A greater degree of involvement in all aspects of the decision making process and considering the impacts of transportation decisions on industrial mobility are two primary requests from the business community.

- **Market forces and land demand continue to challenge industrial growth in MICs.** Over half of all business owners interviewed, and sixty percent of those that recently expanded or moved, identified the availability and price of industrial real estate as the primary impediments to business expansion in Seattle. When asked about the competitive advantages of other regional locations, business owners (45%) cited lower costs of businesses including land and rental costs as the top advantage.

  Many business owners (20%) pointed to encroaching non-industrial uses and conversions of industrial land as a primary impediment to everyday business and a primary cause of rising land and lease prices.

  The City of Seattle has launched a major initiative to preserve industrial lands for industrial use in its Manufacturing Industrial Centers. The down-zoning initiative which limits the size of new non-industrial development has received both praise and opposition from Seattle's Basic Industry community. Business owners recommend that industrial zoning should better address specific neighborhood needs and market conditions.

- **Support Basic Industries by reducing the cost of doing business in Seattle.** Basic Industry business owners allocate significant time and resources to addressing regulatory needs permitting and tax filing requirements. Business owners emphasized that the administrative burden

rather than the direct costs of taxes and regulations were the primary impediment to business operations.

Owners offered many suggestions. Offering and improving upon industrial liaison services to manage permitting processes and industrial relations was the number one requested business assistance resource.

Business owners also ranked "bureaucracy" as the number one worst thing about doing business in Seattle. Stakeholders suggest that streamlining permitting and regulations and improving timeliness and effectiveness of customer service can go a long way in improving industrial relations while saving businesses money.

In conclusion, Basic Industries have always played a defining role in Seattle's economic prosperity, and will continue to in the future. The future of Basic Industries in Seattle is laden with tremendous opportunities and challenges that are as diverse as the firms themselves. Seattle's industrial diversity supports resilience, synergy and the capacity to build just about anything at anytime, which is what makes Seattle's Basic Industries competitive and strong even in times of economic hardship.

With this industrial diversity comes the great challenge of preserving it. No single industry sector bears the burden of carrying the employment load in Seattle and no single industry is a national or global front-runner. Together, Seattle's Basic Industries are strong, creating an industrial community that is greater than the sum of its parts.

Industrial leaders emphasized that City leadership can help Basic Industries thrive in Seattle by embracing a holistic mindset and adopting a diverse set of strategies in concert with the business community. They emphasized that there are no "one size fits all" solutions. While public leadership maintains little control over the inevitable challenges of the economic market, industrial leaders pointed out that are opportunities to increase the competitiveness of Seattle's Basic Industries, and like always, a strong work ethic and dedication will determine success.

APPENDIX A: BASIC INDUSTRIES STAKEHOLDER INTERVIEWS

Community Attributes would like to thank all of the industrial leaders that contributed to this study with their time and insights in our interviews.

Basic Industry Economic Impact Analysis Interviews Completed

	Company Name	Interviewee
1.	3R Technology	Glen Gaidos
2.	Alpha Cine	Don Jensen
3.	Atlas Construction Specialties	Jenny Wistrom
4.	B&G Machine	Johnny Bianchi
5.	Ballard Brass and Aluminum	Steve Marrell
6.	Bloch Steel Industries	Joel Richards
7.	Boeing	Richard White
8.	Cannon Fish	Pete Cannon
9.	Capital Industries	Ron Taylor
10.	Cascade Natural Gas Corporation	Mike Gardner
11.	City Ice	Kim Suelzle
12.	CleanScapes	Chris Martin
13.	Crowley Marine Services Inc.	Chris Peterson
14.	Darigold	John Underwood
15.	Ellstrom Manufacturing	Sven Ellstrom
16.	Espresso Supply	Laura Sommers
17.	Expeditors International	Pete Rose
18.	GM Nameplate Inc.	Don Root
19.	Grand Central Bakery	Gillian Allen-White
20.	Hatch and Kirk	Mike Korotkin
21.	Independent Metals	Jay Sternoff and Mick O'Farrell
22.	Khan Machine Tool	Khan Khan
23.	Kruger and Son Marine Propeller	Doug Kruger
24.	Lease Crutcher Lewis	Gary Smith
25.	LeClerq Marine Construction	Sam LeClerq
26.	LeDuc Packaging	Randy LeDuc
27.	Macrina Bakery	Matt Galvin
28.	Manson Construction	Pat McGarry
29.	Manufacturing Industrial Council	Dave Gering
30.	McNamara Signs	Heather
31.	Metropolitan Contracting	Joe Peterson
32.	Millwork Supply Company	John Cochrane
33.	Mobile Equipment Systems	Tom Drechsel
34.	Nelson Trucking	Peter Whitehead
35.	Northwest Awning & Fabric	Mike Dever
36.	Pacific Investments Company	Robb Stack

37.	Paper Zone	Jim Nystrom
38.	Port of Seattle, Real Estate Division	Mark Griffin
39.	Port of Seattle, Real Estate Division	Phil Lutes
40.	Seattle Maritime Academy	Carl Ellis, Director
41.	Seidelhuber Ironworks	Terry Seaman
42.	SODO Business Association	Mike Perringer
43.	Standard Steel Fabrication	Jim Duthie
44.	The Gear Works	Sterling Ramberg
45.	Todd's Pacific Shipyards	John Lockwood and Paul Torry
46.	Unified Grocers	Bob Hutchins
47.	Uwajimaya	Alan Kurimura
48.	Washington Lift Truck	Jeff Darling
49.	Wesco Distributing Inc.	Tom Aitchison
50.	Anonymous	Anonymous
51.	Anonymous	Anonymous

APPENDIX B: INTERVIEW QUESTIONNAIRE

Brief Description of Business:

Business Profile information	
Contact Name	
Date Interviewed	
Company Name	
Address: (city, primary location)	
Number of employees	
Owner/renter	
S.F. of building and land occupied by your business	
Other company locations	
Age of company	
Time at this address	
Time in Seattle	
Gross Revenues	
If no, then: small or large ($5 M or more):	

Industry Questionnaire

1) What are the top three opportunities for growth in your business over the next ten years?

2) What are the top three challenges for growth over the next ten years?

3) Where are your major competitors located – regionally, nationally or internationally?
    a. Does being located in Seattle give you any advantages over your competitors?
    b. Does being located outside of Seattle give your competitors any advantages over you?

4) Describe recent innovations in your business that has improved productivity.
    a. How has your business taken advantage of clean or "green" technologies?

5) Can you please describe your supply chain?
    a. Where are your biggest customers and suppliers located?
    b. How do you expect your supply chain and distribution networks to change over the next 5-10 years?

6) Are you planning on expanding your business over the next 10 years?
    a. If yes, will you expand in Seattle and why?
    b. If yes, what are the factors that may impede your growth?
    c. If unsure, what criteria would you weigh in deciding whether or not to expand?

7) Is there adequate space to meet the demand for new industrial uses or expansions in your area?

8) What are the top three actions the city should undertake to encourage growth within your industry?

9) Describe three business assistance resources that would be helpful in addressing key challenges with your business.

10) What is the best and worst thing about doing business in Seattle?

APPENDIX C: BASIC INDUSTRY SUBSECTOR EMPLOYMENT

Seven subsectors of the Basic Industry economy or economic clusters were identified for detailed analysis. Subsectors include:

- Construction
- Transportation Freight, Distribution and Logistics
- Food and Beverage Manufacturing and Wholesale
- Aerospace
- Computer and Electronic Manufacturing
- Industrial Machine and Metal Manufacturing and Wholesale
- Ship and Boat Building

Business sectors of interest were identified using five criteria which include:

- 2007 total employment
- 2007 total workplaces
- 2001- 2007 fastest growing employment
- 2001-2007 total employment change
- Similarity to the 2004 Basic Industry Economic Impact Analysis

Top ranking sectors were then grouped based on business similarities, interdependences and stakeholder interviews with the goal of creating tangible, identifiable and distinct economic markets representative of Seattle's Basic Industry community. **Exhibit C-1** below shows the above criteria for three-digit NAICS codes. The follow exhibits show citywide employment trends from 2000 – 2007 for each three-digit NAICS sector.

Exhibit C-1. Screening Criteria Used to Identify Sub-Sectors of Interest for Business and Market Profiles

NAICS	Description	Top Employers 2007	Total Employment 2007	Total Workplaces 2007	Fastest Growing Employment, 2001 - 2007	Largest Absolute Employment Change	Included in Market Profiles
238	Specialty Trade Contractors	1	10,171	637	Job Loss	15	Yes
423	Merchant Wholesalers, Durable Goods	2	9,659	649	Job Loss	2	Partially
336	Transportation Equipment Manufacturing	3	8,337	79	9	7	Yes
236	Construction of Buildings	4	7,368	618	11	11	Yes
311	Food Manufacturing	5	5,972	154	Job Loss	3	Yes
424	Merchant Wholesalers, Nondurable Goods	6	5,840	389	Job Loss	5	Partially
488	Support Activities for Transportation	7	4,842	142	10	16	Yes
483	Water Transportation	8	2,717	32	12	25	Yes
334	Computer and Electronic Product Manufacturing	9	2,251	45	8	20	Yes
323	Printing and Related Support Activities	10	2,184	120	Job Loss	6	No
492	Couriers and Messengers	11	2,166	34	Job Loss	1	Yes
237	Heavy and Civil Engineering Construction	12	2,033	100	5	13	Yes
332	Fabricated Metal Product Manufacturing	13	1,969	94	Job Loss	30	Yes
485	Transit and Ground Passenger Transport	14	1,681	26	Job Loss	4	Yes
425	Wholesale Electronic Markets and Agents and Brokers	15	1,667	514	3	12	Yes
327	Nonmetallic Mineral Product Manufacturing	16	1,613	46	13	32	No
339	Miscellaneous Manufacturing	17	1,427	88	Job Loss	28	No
493	Warehousing and Storage	18	1,266	34	1	8	Yes
114	Fishing, Hunting and Trapping	19	1,081	59	6	21	Yes
325	Chemical Manufacturing	20	1,081	22	Job Loss	14	No
333	Machinery Manufacturing	21	942	36	Job Loss	10	Yes
315	Apparel Manufacturing	22	893	32	Job Loss	22	No
331	Primary Metal Manufacturing	23	719	13	Job Loss	27	Yes
484	Truck Transportation	24	716	48	Job Loss	9	Yes
487	Scenic and Sightseeing Transportation	25	629	10	2	18	No
337	Furniture and Related Product Manufacturing	26	556	51	Job Loss	26	No
314	Textile Product Mills	27	520	42	Job Loss	23	No
312	Beverage and Tobacco Product Manufacturing	28	440	10	Job Loss	19	Yes
335	Electrical Equipment and Component Manufacturing	29	381	22	7	31	Yes
322	Paper Manufacturing	30	226	8	Job Loss	34	No
321	Wood Product Manufacturing	31	204	18	Job Loss	24	No
326	Plastics and Rubber Products Manufacturing	32	191	11	Job Loss	17	No
481	Air Transportation	33	188	20	Job Loss	36	Yes
324	Petroleum and Coal Products Manufacturing	34	111	7	4	35	No
113	Forestry and Logging	35	66	6	Job Loss	37	No
212	Mining (except Oil and Gas)	36	57	3	NA	NA	No
313	Textile Mills	37	29	4	Job Loss	29	No
316	Leather and Allied Product Manufacturing	38	20	6	Job Loss	33	No
111	Crop Production	NA	*	2	NA	NA	No
112	Animal Production	NA	*	1	NA	NA	No
115	Support Activities for Agriculture and Forestry	NA	*	2	NA	NA	No
213	Oil and Gas	NA	*	2	NA	NA	No
221	Utilities	NA	*	2	NA	NA	No
482	Rail Transportation	NA	*	2	NA	NA	No
491	Postal Delivery Services	NA	-	-	NA	NA	No

The following exhibits presents customized Basic Industry covered employment data for the City of Seattle, 2000 – 2007 by three digit NAICS code. Employment data is provided by the Puget Sound Regional Council. All employment figures from 2001 and 2000 have been converted from SIC code to NAICS code by PSRC.

Exhibit C-2. Seattle Agriculture Covered Employment, 2000 - 2007

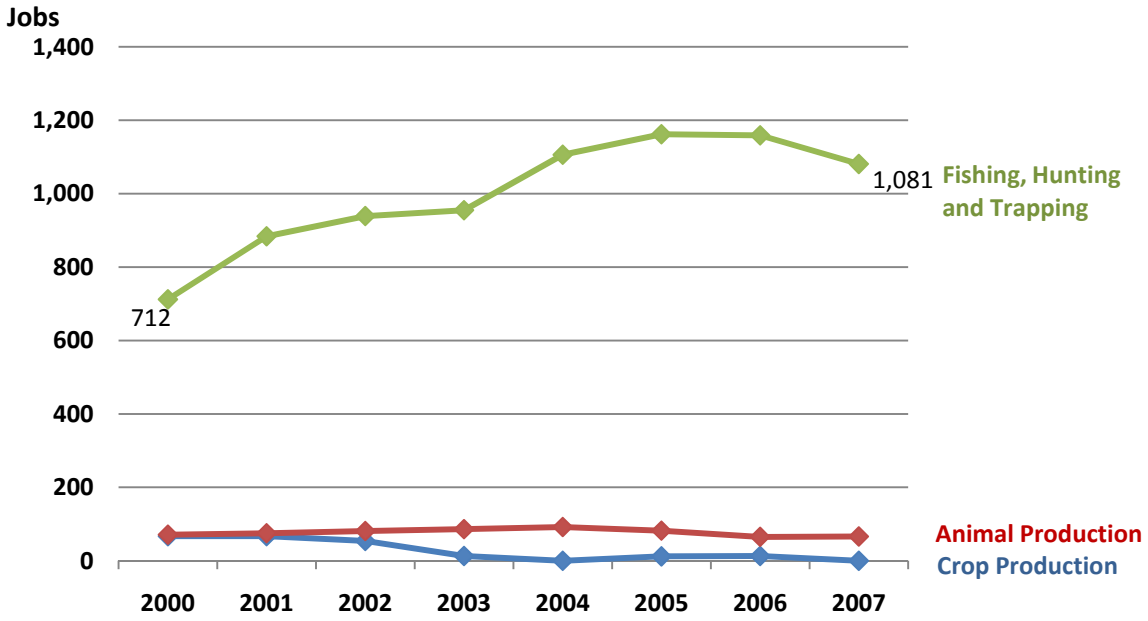


Exhibit C-2 above demonstrates that employment in the fishing industry increased steadily from 2000 to 2006, before declining in 2007. Interview respondents cite higher transportation costs as one of the primary factors for reducing production, which may be the primary cause for a decrease in employment.

Exhibit C-3. Seattle Construction Covered Employment, 2000 – 2007

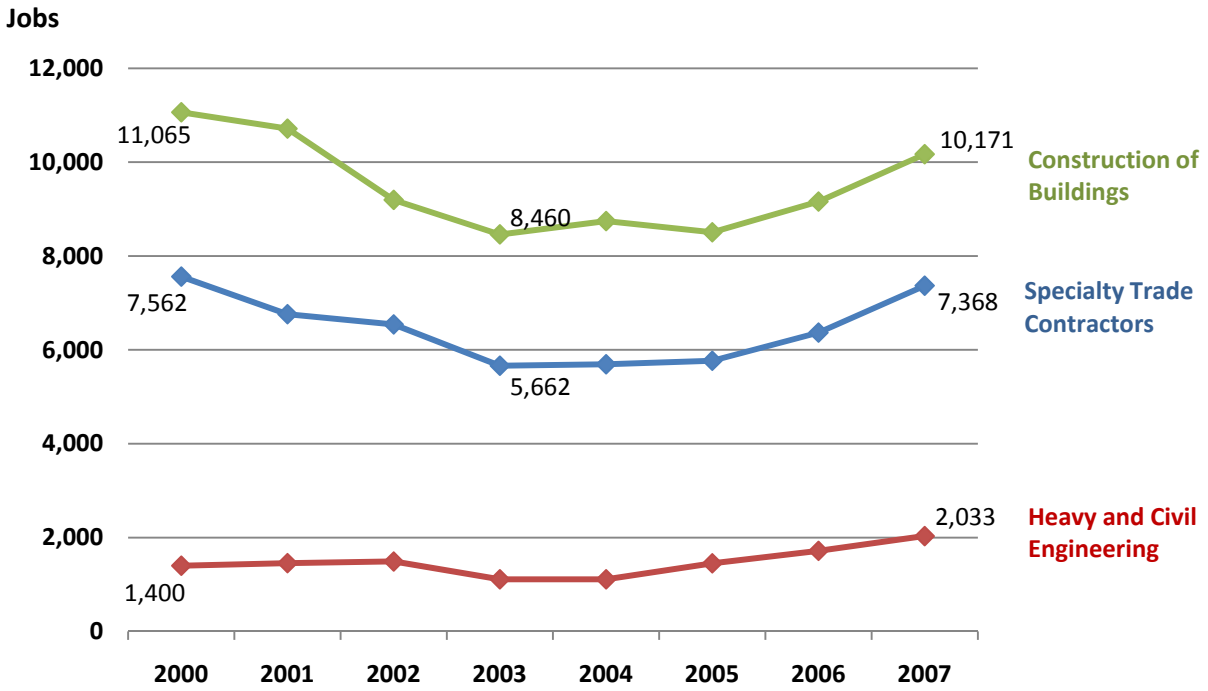


Exhibit C-3 shows that building construction and specialty trade contractor employment decreased by 24% and 25% from 2000 to 2003. However both sectors appear to have recovered from the economic recession in the beginning of the decade. From 2003 to 2007, building construction employment increased by 20% while contracting employment grew by 30%. The heavy and civil engineering sector has experienced stable employment growth, increasing by 45% from 2000 to 2007. Several interview respondents within the basic industry sector cite the importance of a healthy and growing downtown. The alleviation of height restrictions and increased demand for green building techniques are driving growth factors in construction and supporting industry. Increased traffic and a growing demand for infrastructure improvements will likely sustain employment growth in the construction engineering sector.

Exhibit C-4. Seattle Food and Textile Manufacturing
Covered Employment, 2000 – 2007

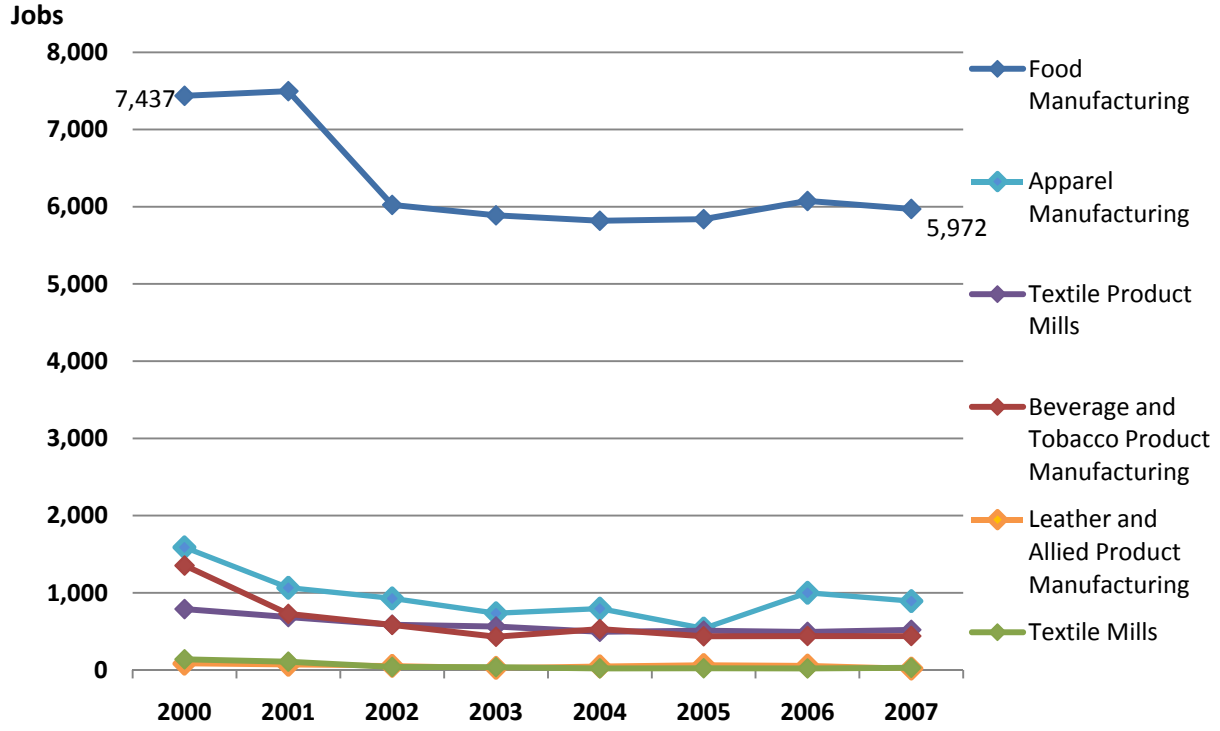


Exhibit C-4 demonstrates that employment in the food manufacturing sector experienced a 20% decline in employment from 2000 to 2007, a loss of 1,465 jobs. Most other food manufacturing and textile sectors experienced an employment decline in the beginning of the decade and are now stabilizing. The apparel manufacturing sector experienced job increases from 2005 to 2007 despite consistent losses since 2000.

Exhibit C-5. Seattle Other Non-Durable Manufacturing
Covered Employment, 2000 – 2007

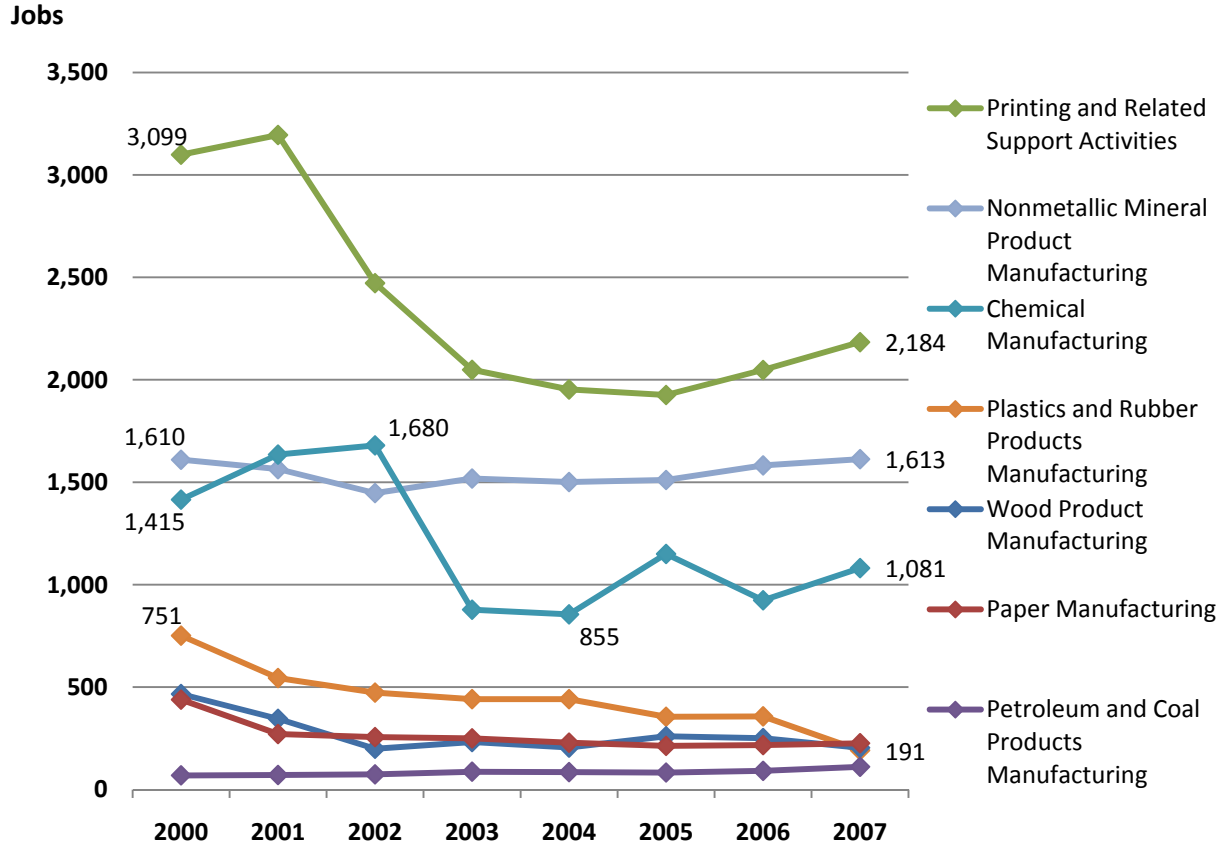


Exhibit C-5 reveals that from 2000 to 2007, Seattle's manufacturing sectors focused primarily on creating non-durable manufacturing goods for inter-industry consumption experienced significant and sometimes erratic employment trends. The most significant declines occurred in the printing sector (915 jobs, 30% reduction of employment) and plastic and rubber products sector (560 jobs, 75% reduction of employment). Seattle's chemical manufacturing sector lost nearly half of its employed workforce from 2002 to 2004, a total of 825 jobs. While these subsectors employee a relatively small percentage of the Basic Industry workforce, they serve as a vital support structure for interconnected local businesses.

Exhibit C-6. Seattle Durable Manufacturing Covered Employment, 2000 – 2007

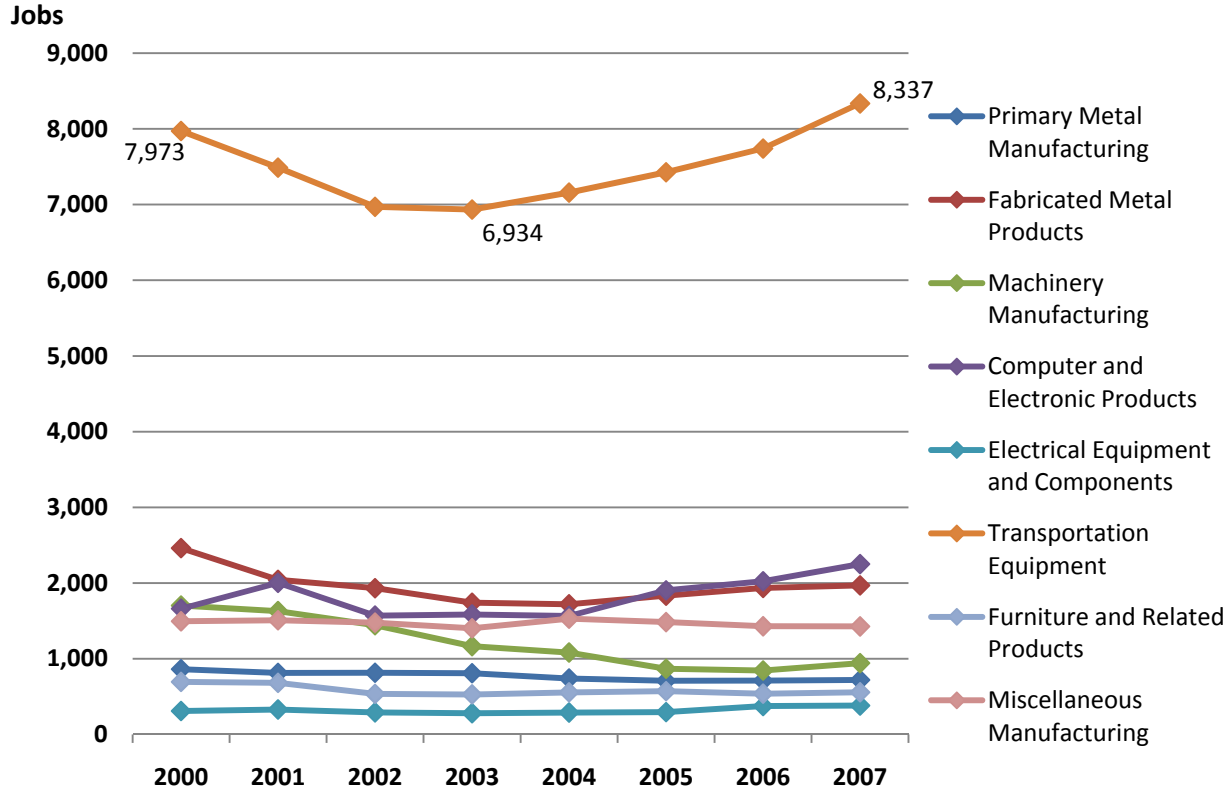


Exhibit C-6 shows that jobs in transportation equipment manufacturing grew continually after a loss of over 1,000 jobs from 2000 to 2003. Since 2003, employment in the transportation equipment sector has increased by over 1,400 new jobs, an average of 350 new jobs per year. Computer and electronic manufacturing has added 590 new employees over the past seven years.

Exhibit C-7. Seattle Wholesale Trade Covered Employment, 2000 – 2007

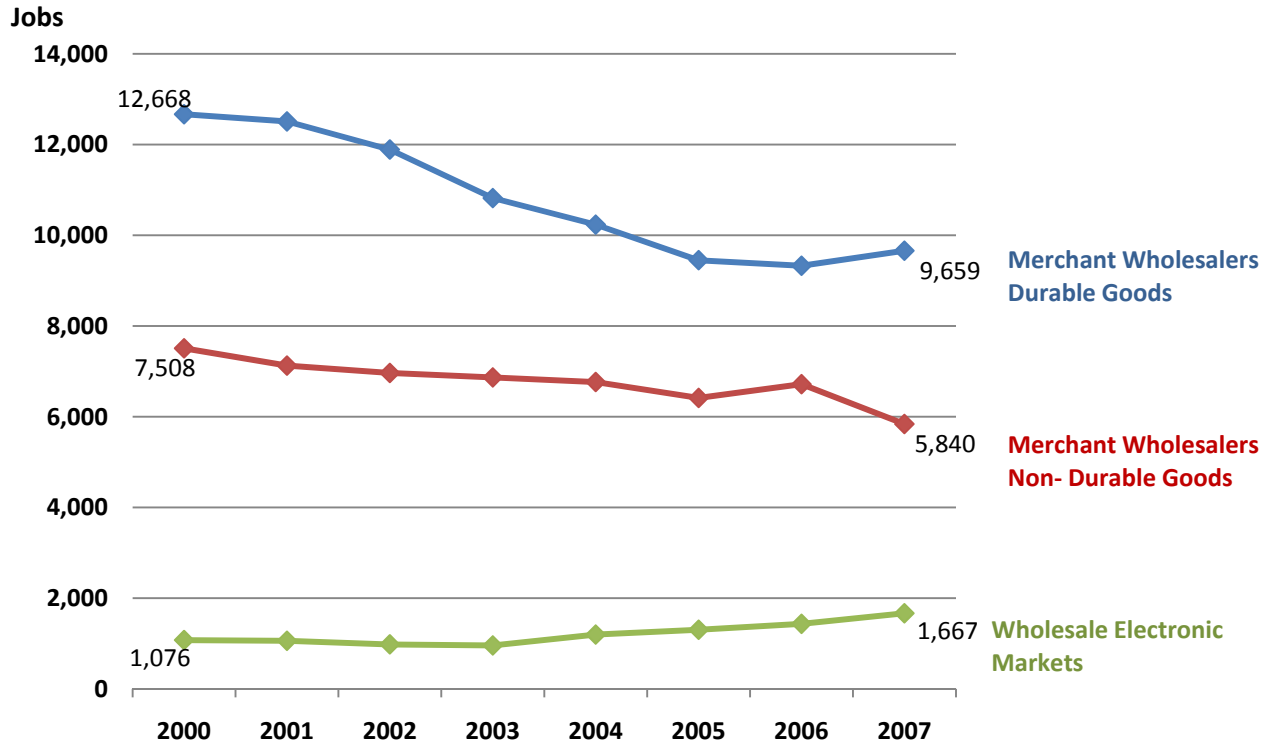


Exhibit C-7 emphasizes that wholesale trade is a significant component of Seattle's Basic Industry employment base. The merchant wholesale durable goods sector lost an average of 429 employees per year from 2000 to 2007 while non-durable goods sector lost an average of 238 employees per year. Employment in wholesale of electronic markets has increased by nearly 55% from 2000 to 2007.

Exhibit C-8. Seattle Transportation Covered Employment, 2000 – 2007

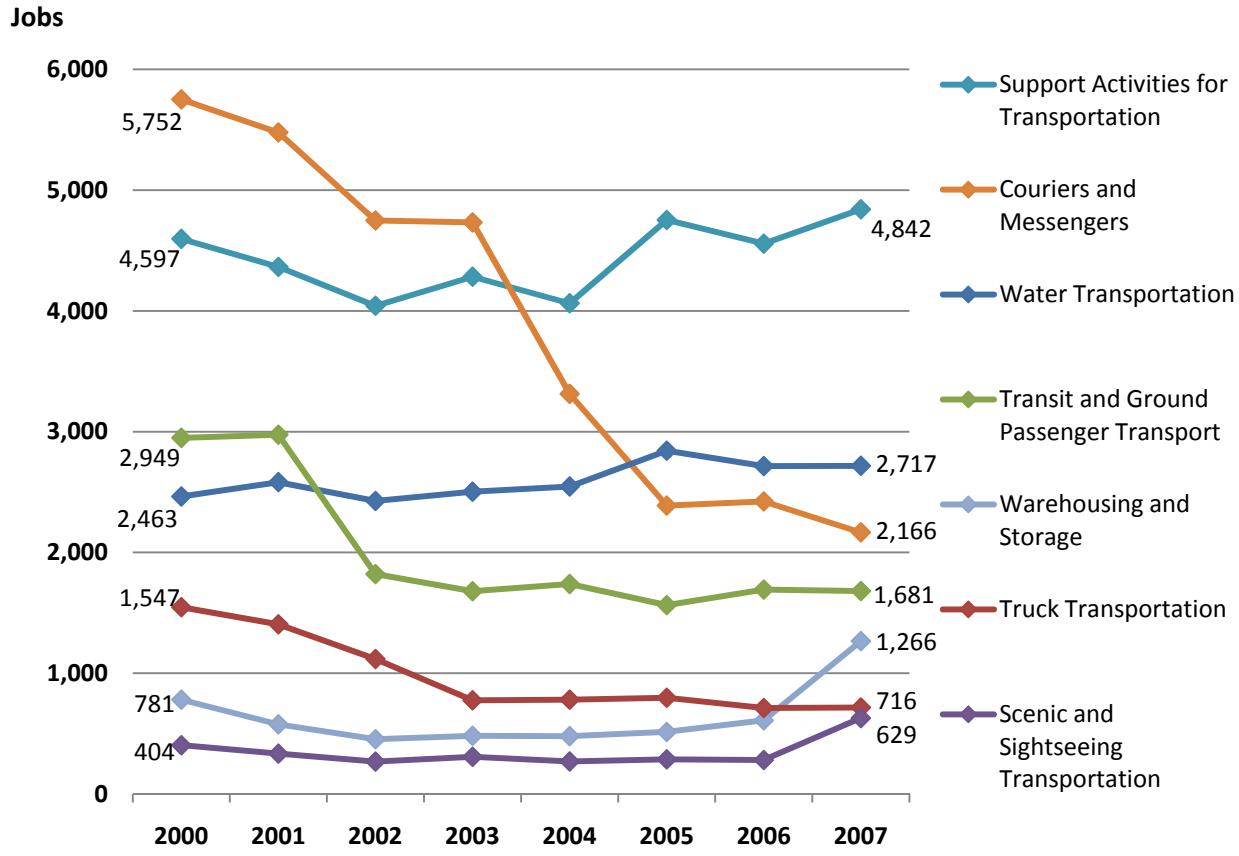


Exhibit C-8 shows that the makeup of Seattle's transportation industry has changed significantly since 2000. Couriers and messengers, once the largest transportation employment sector, lost 3,586 jobs from 2000 - 2007. Transit and ground passenger transport has stabilized after losing over 1,000 jobs in 2001. Employment in warehousing, storage, support activities and water transportation are all on the rise due to increased port activity and traffic.