



RETAINING & GROWING MIDDLE-WAGE JOBS IN SEATTLE'S BASIC INDUSTRIES:

Considerations for the City of Seattle & Other Localities

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TABLE OF CONTENTS

I. Executive Summary	3
II. Introduction	6
III. Research Scope & Methodology	8
IV. The Importance of Basic Industries to Seattle	9
V. Employment in Seattle’s Basic Industries	11
VI. Characteristics of Workers in Basic Industries	15
A Predominantly White Male Workforce	15
An Aging Workforce	20
A Workforce with Varying Educational Levels	21
VII. Middle-Wage Jobs in Seattle’s Basic Industries	18
VIII. Basic Industries Employment Projections	22
IX. Challenges & Opportunities in Retaining & Growing Basic Industries: Lessons from Seattle	24
PRESERVING INDUSTRIAL LANDS	24
Threats to Seattle’s Industrial Lands	25
History of Preserving Industrial Lands in Seattle	26
TRANSPORTATION & FREIGHT MOBILITY	33
Seattle’s Traffic Congestion	33
Strategies to Improve Seattle’s Transportation Systems for Industrial Businesses	34
WORKFORCE DEVELOPMENT	36
Strategies to Prepare Workers for Employment in Seattle’s Basic Industries	36
OTHER INDUSTRIAL BUSINESS ATTRACTION & RETENTION CHALLENGES & STRATEGIES	38
X. Retaining Basic Industries: Lessons from Other Cities	39
SAN FRANCISCO	40
CHICAGO	44
XI. Lessons Learned & Future Directions	48



I. EXECUTIVE SUMMARY

Unlike many American cities today, Seattle maintains a strong industrial base within its city limits. Seattle's basic industries, those sectors primarily engaged in industrial and maritime activities that involve leading exports from the region and providing the region with industrial services and supplies, were a driving force in Seattle's earliest days and are still a central component of the region's economic engine today. These sectors help provide the Seattle region with a diverse economy, which makes the region's economy stronger and more resilient, and provide tens of thousands of well-paying, accessible career opportunities.

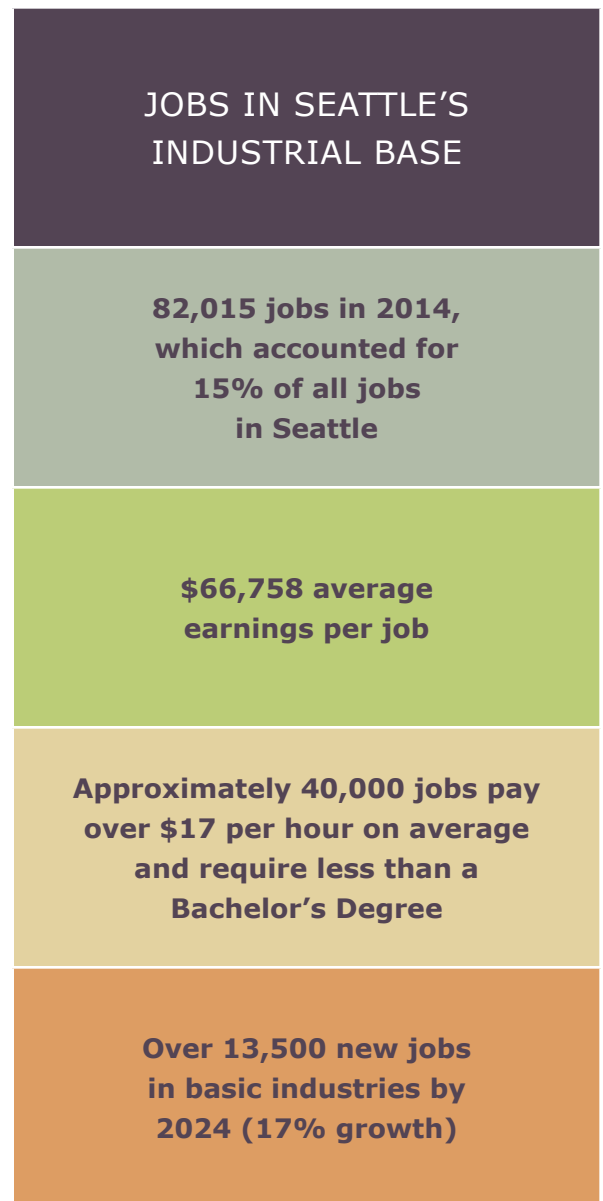
In 2014, Seattle's basic industries, which include the construction and resources, wholesale trade, transportation, utilities, and manufacturing industries, produced over 82,000 jobs, or 15 percent of the jobs in Seattle. Jobs in basic industries pay \$66,758 on average. Of these 80,000 jobs, almost half paid on average \$17.00 an hour or above and required less than a Bachelor's Degree.¹ Seattle's industrial base is, as a result, a large producer of middle-wage jobs for the region and an important part of maintaining a strong middle-class.

Over the last few decades, Seattle’s basic industries have faced many challenges. Businesses on industrial lands have experienced rising rents and pressures as residential and commercial developers and businesses have encroached on their properties and attempted to rezone industrial lands for other purposes. Transportation challenges and congestion in Seattle and the region have impacted the efficient movement of goods and products. Some businesses have found difficulty in finding skilled workers and some have experienced issues with the city’s policies and regulatory environment.

Recognizing the importance of Seattle’s basic industries to the economy and as an important source of good jobs, political, government, business and community leaders have been proactive in their efforts to retain Seattle’s basic industries. The pressures to rezone or repurpose industrial lands for residential and commercial pressures have been one of the biggest challenge industrial advocates have faced. In response to these challenges, industrial advocates and Seattle leaders were able to strengthen industrial land use protections in Seattle’s Comprehensive Plan and land use code. Seattle also established Manufacturing and Industrial Centers (MICs) that help preserve industrial lands for industrial uses.

The efforts of industrial stakeholders in Seattle have not led to a complete victory in retaining and growing the city’s industrial base. In fact, many significant challenges around land use, transportation, workforce development, and industry regulations remain, and some in the industrial business community remain dissatisfied with the City of Seattle’s policies. Seattle’s loss of industrial jobs, however, has subsided and basic industries are once again adding jobs to the economy, at least in part because of the priority advocates and some Seattle leaders have placed on supporting these sectors of the economy.

Cities such as Chicago, San Francisco, and many others have faced similar challenges to those of Seattle in maintaining an industrial base and industrial employment. The most enduring lesson from



the experiences of these cities is that maintaining a strong industrial base is an economic choice that cities and their leaders must make concerning what type of economy and jobs they want. Industrial retention, however, is also an ongoing challenge without a permanent solution. The pressures and challenges industrial businesses face evolve over time as economies, cities, and industries change. Thus, few easy solutions to retaining an industrial base exist and industrial retention strategies must adapt to new challenges as they occur.

Nonetheless, many important lessons from Seattle and other cities can be drawn that can inform the development of an industrial retention strategy.

These lessons include:

- **Industrial retention must be an ongoing and visible priority from the highest levels of local government.**
- **Retaining a strong industrial base requires a comprehensive plan that includes strategies around land use, workforce development, transportation, government regulations and more.**
- **Forums and relationships that promote regular dialogue between industrial businesses and local government are critical.**
- **Research into the challenges and opportunities of industrial businesses must be ongoing.**
- **A strong and diverse coalition that includes representatives of government, business, workers, and the community must be built and continuously expanded.**

Even with the aforementioned elements in place, industrial retention is not a certainty in any community. This research concludes with a cautionary note that the future retention of Seattle's industrial base is not guaranteed. Basic industries' share of employment has already dropped significantly in the last decade, and the number of basic industry jobs in Seattle's Manufacturing Industrial Centers is also down over the last decade. The recession was one factor driving these declines, but some other long-term trends are also worrisome. Between 1995 and 2004, manufacturing jobs declined by over 25 percent in Seattle.²

BUSINESSES IN SEATTLE'S INDUSTRIAL BASE

**Over 4,000
industrial establishments**

**Generated \$11.5 billion in
taxable income in 2012**

The erosion of an industrial base does not happen overnight, but tends to take place over several decades. In some cities, this slow erosion was ignored, not seen as a priority due to its slow pace, or generally accepted. Some cities recognized the decline, but failed in their attempts to maintain these sectors while others made the choice to prioritize other sectors of their economies. While Seattle's industrial base is fortunately on the uptick, city leaders, industrial stakeholders and advocates must not let their guard down.

Now is the time for Seattle to build on the industrial base's momentum. Global and domestic competition for these industries and jobs will grow in the years ahead, and the basic industries' workforce is aging. To provide a stronger workforce to industrial businesses, policymakers, funders, and workforce development programs should seek to align resources, find opportunities to support and expand apprenticeship programs, encourage the development of STEM skills and industrial career exploration in the K-12 system, and increase engagement between community colleges and industrial businesses. Larger investments in public transportation that help ease congestion, and help industrial workers get to their jobs, are needed, as is additional support for strategies such as Truck Spot Improvement Projects that help make small, but important improvements to freight mobility. Technical assistance to industrial businesses that helps them navigate the regulatory environment and access additional support as they launch and grow must continue to expand. Dialogue between the industrial business community and the City of Seattle should also deepen in the face of new challenges and opportunities.

Perhaps most of all, industrial retention will require a larger and broader coalition. Big land use fights will arrive at Seattle's doorstep once again. Industrial advocates in Seattle, whether they reside within public or private sector, must broaden their coalition and enhance their efforts to communicate the value and importance of industrial businesses and industrial jobs to the community not only in the years ahead, but in the decades to come if basic industries are to remain an important part of the economy.



II. INTRODUCTION

Today, Seattle is known around the world as a global hub for innovation and the knowledge-based economy. The Seattle region is the home of world-renowned companies such as Amazon, Costco, Microsoft and Starbucks. Since its founding, however, Seattle has also successfully supported and grown a strong industrial base.

In the mid- to late-1800s, lumber and coal were the city's leading industries. Fishing, shipping, shipbuilding and wholesale trade also contributed significantly to the economy at the turn of the 20th Century. At the beginning of the 1900s, Seattle's improved maritime infrastructure, its established shipping lanes, and the city's connections to transcontinental railroads cemented Seattle as a center for shipping and trade with the North Pacific and Asia. The discovery of gold in the Yukon Territory and Alaska around the same time made Seattle a primary outfitting point for prospectors. Seattle boomed with construction and immigrants from around the world arrived to work in the city's numerous industries. Seattle's shipyards flourished during World War I and World War II as the nation looked to Seattle to build many of its wartime ships. The arrival of Boeing and its first airplane factories also occurred prior to World War I as did the official establishment of the Port of Seattle.

Since the end of World War II, Seattle has grown other sectors of its diverse economy that includes highly successful information technology companies, allied health and biotechnology firms, arts and cultural institutions, and reputable colleges and universities. At Seattle's core, however, remains a strong industrial base.³

Today, Seattle's basic industries continue to contribute heavily to the city's and the region's economy. The Port of Seattle alone is a large contributor to the economy. Seattle's Seaport, one of the top-10 container ports in the U.S., provided nearly 22,000 direct jobs in 2007 to the region, with individuals in those jobs earning \$1.6 billion in wages and salaries.⁴ Seattle's Fisherman's Terminal, the freshwater home to the North Pacific Fishing Fleet, is the lynchpin of Seattle's successful seafood industry and it sustains a vibrant cluster of businesses focused on boat building, repair and maintenance. Emerging industries, such as distilleries and breweries and computer storage device manufacturers, and a recovering manufacturing and construction base, are also driving growth and job creation in Seattle's basic industries.

Businesses in the basic industries sector, including those in the construction, manufacturing, transportation and logistics, utilities, and wholesale trade industries constitute a large proportion of Seattle's jobs and a high percentage of the city's middle- and high-wage jobs. Many of these jobs are accessible to workers with an array of educational and skill levels. These industries and jobs are not only central to maintaining Seattle's global competitiveness and economic resiliency, but also to ensuring the city retains a strong middle class.

Seattle's basic industries have faced many challenges in recent years. As the city has grown, businesses on industrial lands have faced higher rent prices and increasing pressure to rezone some of the city's industrial areas for residential and commercial purposes. Traffic congestion has worsened and transportation systems have struggled to provide industrial businesses with the ability to transport and ship their goods efficiently. Some industrial businesses have also expressed concerns about the city's regulatory policies, such as the minimum wage increase and strict environmental

Defining Basic Industries

Seattle's basic industries are those sectors primarily engaged in industrial and maritime activities that involve leading exports from the region and providing the region with industrial services and supplies.

Basic industries are comprised of three primary sectors:

- **Construction & Resources**
- **Manufacturing**
- **Wholesale Trade, Transportation & Utilities**

regulations. And, finding and retaining skilled workers has become increasingly important among businesses operating in these sectors. Seattle has responded to these challenges with a variety of land use, transportation, regulatory, and workforce strategies that have helped the city retain these important sectors, which are now growing and adding jobs once again. Many challenges to the industrial base, however, remain.

Many regions and cities, including Seattle, are at a critical juncture for developing their economies. The return of manufacturing to the U.S., the continued development of new and emerging information technology and biotech sectors, an increasingly competitive global economy, and a widening income gap present many challenges and opportunities. The question facing Seattle and other cities is whether their economies should move forward with or without a strong industrial base. In this paper, Seattle Jobs Initiative argues that if Seattle is committed to maintaining a diverse economy and providing accessible, middle-wage jobs, then city leaders and stakeholders must make industrial retention and growth a priority. The research draws on the industrial retention experiences of Seattle and other cities in and offers lessons learned and future recommendations for strengthening these efforts.

The remainder of this report begins with a discussion of our research methodology and is then followed by a brief explanation of basic industries are important. The next sections of the report provide a detailed analysis of employment in basic industries in Seattle including an analysis of the middle wage jobs in these sectors and some discussion of the basic industries workforce. We then examine the issues affecting Seattle's ability to retain and attract industrial businesses. Land use, transportation and workforce development challenges are the primary focus. In the next section, the report looks at the industrial retention experiences and efforts in San Francisco and Chicago. We conclude the report with a discussion of what has been learned about industrial retention based on the experiences of Seattle, San Francisco and Chicago, and offer some discussion about the future of basic industries in Seattle.



III. RESEARCH SCOPE & METHODOLOGY

In this report, Seattle Jobs Initiative will explore the city’s basic industries including their contribution and importance to the local economy. As a workforce intermediary seeking to better connect low-income and low-skill individuals to living-wage jobs, SJI has focused its labor market research on identifying middle-wage jobs in the local economy. Training residents for these jobs provides an opportunity to meet the greatest skills shortage facing local employers while helping individuals advance into well-paying careers. The purpose of this report is to build on SJI’s research into middle-

wage jobs, particularly those in basic industries, and offer lessons learned to Seattle policymakers, as well as those in other regions, about Seattle's progress in retaining and attracting jobs in these sectors. The report will discuss the jobs these sectors provide with a particular focus on middle-wage jobs, the challenges industrial businesses face, and the policies and practices the city has used to support its industrial base. The report will also draw on the experiences and practices of other cities that have faced similar challenges in retaining their basic industries.⁵

SJI conducted an extensive literature and document review as part of this research. SJI reviewed a number of studies and government documents to research industrial employment and the history of industrial retention strategies in Seattle, Chicago and San Francisco. SJI also examined research about the impacts of economic diversity on a regional economy's health and stability.

The primary source of the quantitative data on Seattle employment provided in this report is Economic Modeling Specialists, International, which includes data on Covered Employment and Non-Covered Employment. SJI also draws on data from the Bureau of Labor & Statistics, the U.S. Census, and the Washington State Employment Security Department. Puget Sound Regional Council provided data on jobs and workplaces in the Manufacturing Industrial Centers (MICs). To better understand Seattle's strategy for retaining and growing its industrial base, SJI conducted interviews with a range of stakeholders including City of Seattle staff, business leaders, workforce development professionals, and other industrial advocates.

Defining Middle-Wage Jobs

SJI defines middle-wage jobs as occupations requiring some training or education beyond high school, but not necessarily a four-year degree, and paying a living wage. The above broad definition of a middle-wage job has been and continues to be the foundation of what SJI considers key opportunities for many low-income and low- to medium-skilled workers to find employment and a pathway to a living wage.

The wage portion of the definition has gone through some changes since its inception in SJI's original research. At that time, using data from 2004 with projections to 2014, the wage threshold for a middle-wage job was set at \$17/hour. On an annual basis, assuming full-time work throughout the year, this hourly wage is equivalent to annual earnings of \$35,360.

U.S. Census data estimated the average median household income for King County between 2008 and 2012 was \$71,175. A family with both workers employed in jobs at \$17/hour would have family earnings near median family income for King County.



IV. THE IMPORTANCE OF BASIC INDUSTRIES TO SEATTLE

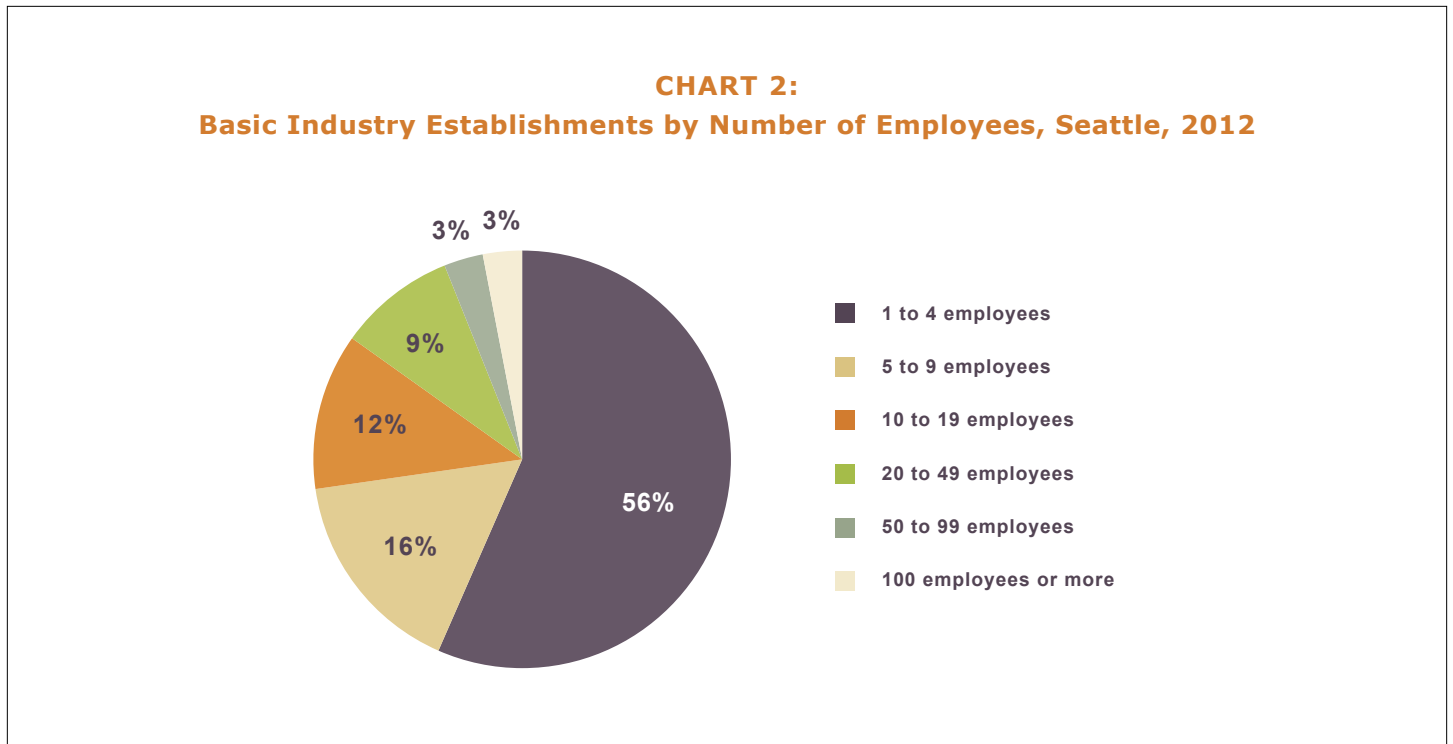
Seattle's basic industries businesses constitute a large part of the city's business establishments. In 2012, there were 4,303 basic industry establishments within Seattle city limits.⁶ **Chart 1** shows the total number of basic industry establishments in Seattle in 2012 and the number of firms by sector. Wholesale, Trade and Utilities (WTU) businesses made up the largest number of firms in basic industries. In sum, basic industry establishments accounted for a little more than 16 percent of all establishments in Seattle.

CHART 1:
Number of Basic Industry Establishments in Seattle, 2012



SOURCE: U.S. Census, 2012 County Business Patterns

Importantly, most of the establishments in basic industries are small, shown in **Chart 2**. Fifty-six percent of basic industry establishments employed between one and four people in 2012.



SOURCE: U.S. Census, 2012 County Business Patterns

Though many basic industry establishments are small, they generate significant revenues for the City of Seattle. Through sales taxes, business and occupation taxes (B&O taxes), utility taxes, and other taxes and fees including property taxes, building permit and licensing fees, these businesses play a substantial role in contributing to Seattle’s tax base. Manufacturing, construction and resources, and wholesale, transportation, and utilities businesses generated a combined \$11.5 billion in taxable business income in 2012, which accounted for 20 percent of the city’s taxable business income.⁷

Seattle’s basic industries also add diversity to the region’s economy. This diversity helps the region maintain a strong and stable economy, especially when other sectors or industries slow. Research has shown that more economic diversity leads to greater stability and less unemployment, though some growth may be sacrificed.⁸ One study published in the *Journal of Regional Science* found that metropolitan areas with more economic diversity experienced lower unemployment rates and less instability when compared to areas with less diversity.⁹ Similarly, research conducted by researchers at George Washington University and the University of Illinois into regions’ economic resilience found that regional economies in which economic activity is spread across different sectors are more likely to resist economic shocks or recover quickly from them. The study also found that regions with

more export industries are more resilient.¹⁰ This is especially important because the focus of most businesses in basic industries is on exports.

As noted in the introduction and explored in detail later in the report, Seattle's basic industries also provide a larger percentage of Seattle's middle-wage jobs, which likely help reduce income inequality. According to the Brookings Institute, Seattle has a relatively low rate of income inequality compared to the other 50 large cities in the U.S.¹¹ Seattle ranked 31st out of the 50 cities with the highest income inequality, attributed in part to households on the lower-end of the income spectrum still having relatively high incomes. Seattle also experienced the second lowest increase in income inequality out of the 50 cities between 2007 and 2012.¹² While many low-income families have fled Seattle for the surrounding suburbs and other factors are certainly at play, middle-wage jobs in basic industries are also likely part of the reason Seattle has been able to constrain income inequality.

In addition to providing necessary economic diversity, Seattle's industrial base is a key part of the city's character and cultural fabric. The close proximity of Seattle's industrial base to downtown is relatively unique among large, American cities. Boeing's airport, the Port of Seattle, Fisherman's Terminal, the hundreds of small and large manufacturing and maritime businesses housed throughout the city and the thousands of construction workers, truck drivers, boat captains, fishermen and other industrial workers are a visible and tangible part of Seattle's landscape. Though sometimes dirty and noisy, these industries tie Seattle to its historical roots and if they are lost, part of what has made Seattle so special for so long, including the people who work in these jobs, will be as well.



V. EMPLOYMENT IN SEATTLE’S BASIC INDUSTRIES

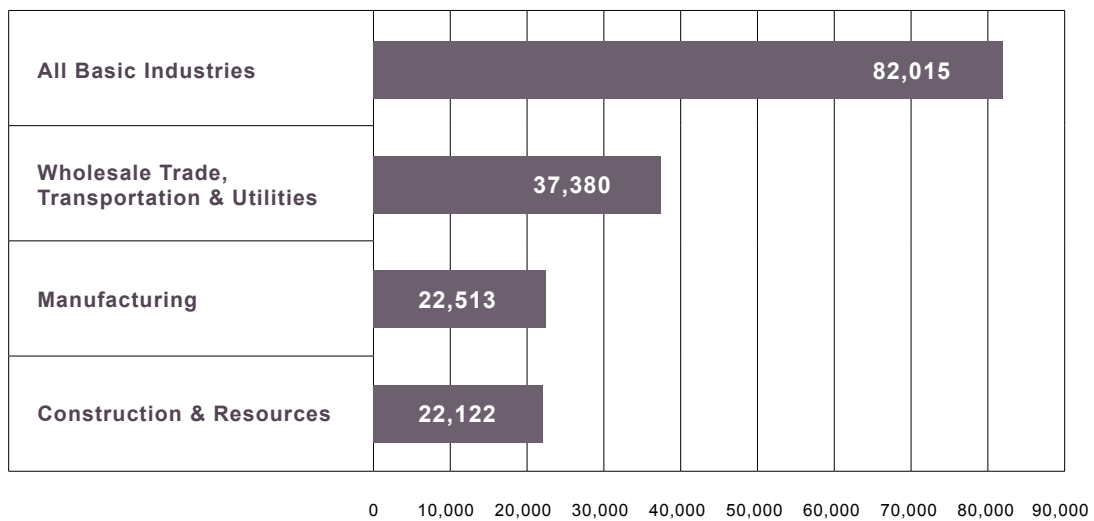
Businesses in Seattle’s basic industries engage in industrial and maritime activities that involve leading exports from the region and providing the region with industrial services and supplies. The primary focus of many businesses on exports makes basic industries a net importer of income to the region. In this report, SJI included the following sectors in its analysis of Seattle’s basic industries:

- **Construction and Resources** (NAICS Code 11, 21 and 23): The construction sector includes businesses primarily engaged in the construction of buildings or engineering projects such as roads and utility systems. Businesses engaged in preparing sites for new construction are also included in this sector. Other businesses in this sector include those engaged in agriculture, forestry, fishing, hunting and mining.
- **Manufacturing** (NAICS Code 31-33): Manufacturing businesses transform materials, substances, or components into new products. Manufacturing businesses often include plants, factories, or mills. Boat and ship builders and repairers are also included in this sector.

- Wholesale Trade, Transportation and Utilities** (NAICS Code 22, 42, 48 and 49): The wholesale trade sector includes businesses involved in wholesaling merchandise. The merchandise wholesaled in this sector may include the outputs of other sectors such as agriculture, mining, manufacturing, and certain information industries, such as publishing. The transportation sector includes sectors providing transportation of passengers and cargo, warehousing and storage of goods, and support activities related to modes of transportation. Transportation and warehousing businesses use transportation equipment and/or transportation related facilities as a productive asset. Water transportation is included in this sector. The utilities sector is also included in this grouping.

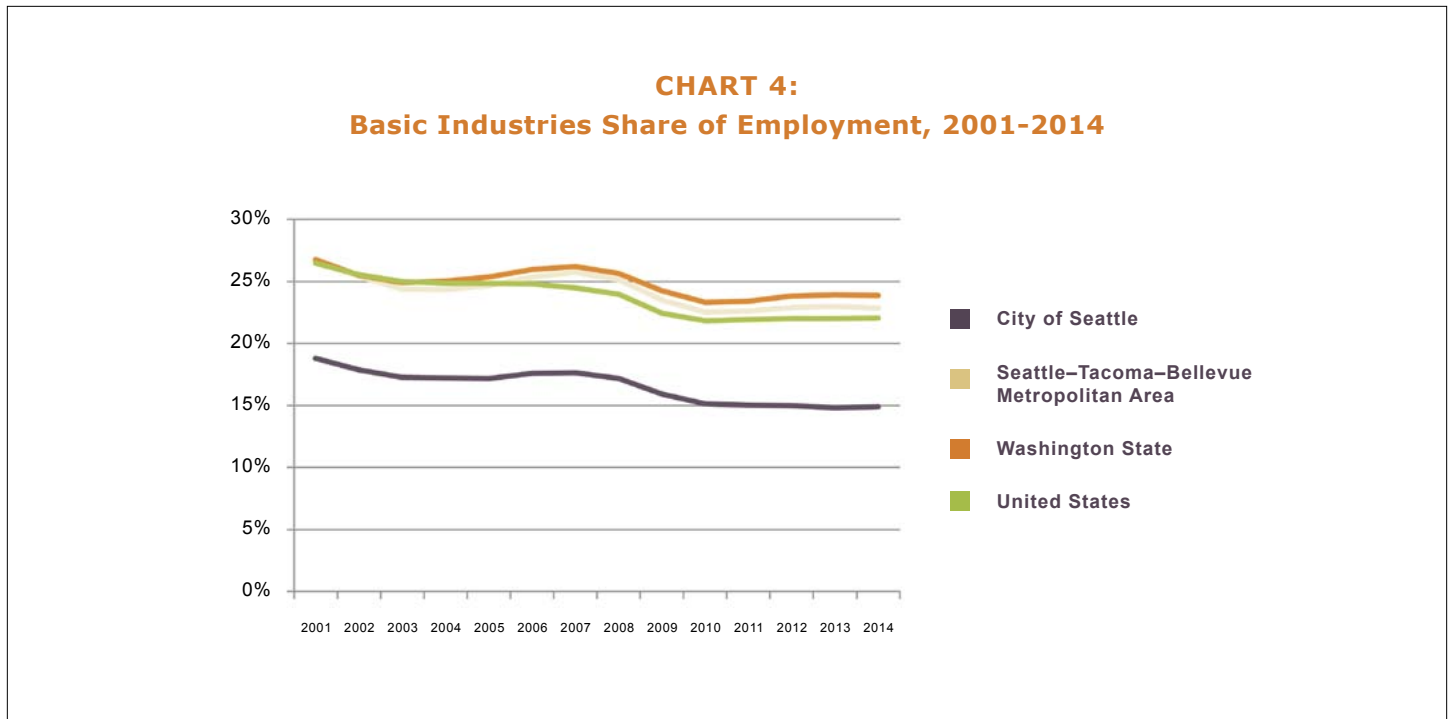
In 2014, Seattle’s basic industries produced 82,015 jobs in zip codes within Seattle’s city limits. **Chart 3** shows the number of jobs in the basic industries’ sectors in 2014. Of the sectors within Seattle’s basic industries, the wholesale, trade, transportation and utilities sectors employed the largest number of individuals in 2014 with over 37,000 workers employed in these industries.

**CHART 3:
Jobs in Seattle’s Basic Industries in 2014**



SOURCE: EMSI 2014.3 Class of Worker

As seen in **Chart 4**, Seattle, the Seattle metropolitan region, Washington State and nation have experienced a drop in basic industries' share of employment since 2001 and a precipitous drop during the recession, which hit construction and manufacturing industries particularly hard. In 2001, basic industries made up 18.8 percent of Seattle's total jobs. By 2014, basic industries accounted for just 14.9 percent of employment in the city. Seattle's basic industries make up a smaller percentage of employment than the region, state, and nation.



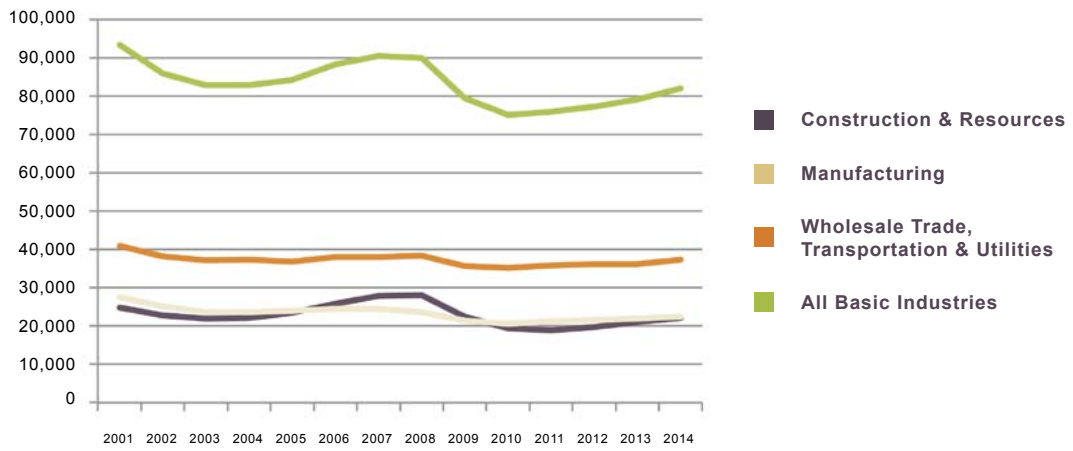
SOURCE: EMSI 2014.3 Class of Worker

Chart 5, on the following page, shows the number of jobs between 2001 and 2014 in basic industries and its subsectors in the City of Seattle. As seen in the chart, the construction and resources sector saw the sharpest increase in jobs in the first part of the decade, but then experienced the largest decline as the recession gripped the country. All subsectors of Seattle's basic industries are on the uptick as of 2014.

Each subsector in Seattle's basic industries has made up a decreasing share of the city's employment picture, as seen in **Chart 6**. The downward trend in these subsectors' share of employment has stabilized for the time being.

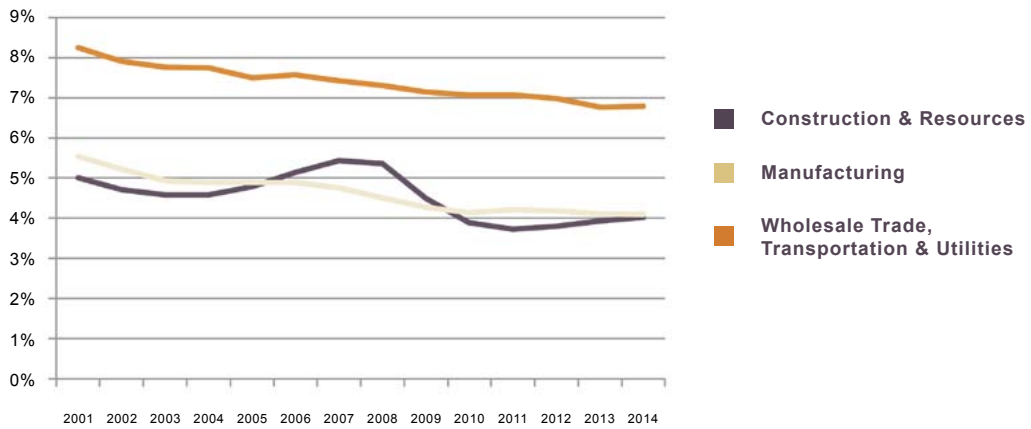
Basic industries include a diverse mix of job opportunities. **Table 1** shows the 20 occupations in basic industries that employed the most individuals in Seattle in 2014. Most jobs require minimal levels of education and include on-the-job training.

**CHART 5:
Jobs in Seattle's Basic Industries, 2001-2014**



SOURCE: EMSI 2014.3 Class of Worker

**CHART 6:
Basic Industries Share of Employment in Seattle, 2001-2014**



SOURCE: EMSI 2014.3 Class of Worker

TABLE 1. Top 20 Occupations by Size in Basic Industries in Seattle in 2014

OCCUPATION	NUMBER EMPLOYED IN BASIC INDUSTRIES IN 2014	MEDIAN HOURLY EARNINGS	TYPICAL ENTRY LEVEL EDUCATION	WORK EXPERIENCE REQUIRED	TYPICAL ON-THE-JOB TRAINING
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	4,756	\$32.30	High school diploma or equivalent	None	Moderate-term on-the-job training
Laborers & Freight, Stock & Material Movers, Hand	3,829	\$14.54	Less than high school	None	Short-term on-the-job training
Carpenters	2,849	\$26.40	High school diploma or equivalent	None	Apprenticeship
Electricians	2,478	\$35.05	High school diploma or equivalent	None	Apprenticeship
Heavy & Tractor-Trailer Truck Drivers	2,237	\$21.21	Postsecondary non-degree award	None	Short-term on-the-job training
Light Truck or Delivery Services Drivers	1,928	\$16.71	High school diploma or equivalent	None	Short-term on-the-job training
Construction Laborers	1,763	\$19.37	Less than high school	None	Short-term on-the-job training
General & Operations Managers	1,683	\$58.67	Bachelor's degree	Less than 5 years	None
First-Line Supervisors of Construction Trades & Extraction Workers	1,604	\$39.92	High school diploma or equivalent	5 years or more	None
Customer Service Representatives	1,563	\$18.15	High school diploma or equivalent	None	Short-term on-the-job training
Meat, Poultry & Fish Cutters & Trimmers	1,488	\$11.19	Less than high school	None	Short-term on-the-job training
Office Clerks, General	1,485	\$15.06	High school diploma or equivalent	None	Short-term on-the-job training
Bookkeeping, Accounting & Auditing Clerks	1,432	\$20.41	High school diploma or equivalent	None	Moderate-term on-the-job training
Plumbers, Pipefitters & Steamfitters	1,276	\$33.76	High school diploma or equivalent	None	Apprenticeship
Shipping, Receiving & Traffic Clerks	1,260	\$17.26	High school diploma or equivalent	None	Short-term on-the-job training
Industrial Truck & Tractor Operators	1,203	\$19.46	Less than high school	None	Short-term on-the-job training
Sailors & Marine Oilers	1,194	\$22.87	Less than high school	None	Moderate-term on-the-job training
Packers & Packagers, Hand	1,140	\$12.63	Less than high school	None	Short-term on-the-job training
First-Line Supervisors of Production & Operating Workers	1,137	\$32.69	Postsecondary non-degree award	Less than 5 years	None
Stock Clerks and Order Fillers	1,041	\$15.03	Less than high school	None	Short-term on-the-job training

SOURCE: EMSI 2014.3 Class of Worker



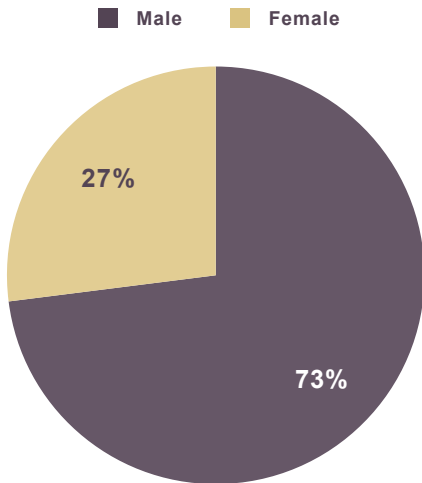
VI. CHARACTERISTICS OF WORKERS IN BASIC INDUSTRIES

A PREDOMINANTLY WHITE MALE WORKFORCE

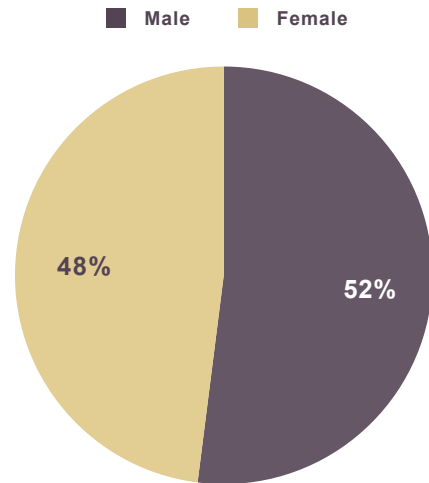
Workers in basic industries are predominantly male. **Chart 7** shows the percentage of workers in basic industries in the Seattle Metropolitan Statistical Area by gender in 2012, and **Chart 8** shows the gender of all workers within this geography. Slightly less than three-quarters of the workers in basic industries were male in 2012, compared to 52 percent of all workers.

Chart 9 depicts the percentage of workers by race in basic industries in the Seattle MSA in 2012. The vast majority of the basic industries' workforce is white. Over 80 percent of workers in basic industries were white in 2012, down from 90 percent in 1992. Over 78 percent of the entire workforce in Seattle's MSA in 2012, however, was also white. In addition, most of the workers in basic industries are non-Hispanic. In 2012, 6.8 percent of workers in the Seattle MSA's basic industries were Hispanic compared to 6.9 percent of the region's workforce overall.

**CHART 7:
Sex of Basic Industries Workers,
Seattle MSA, 2012**

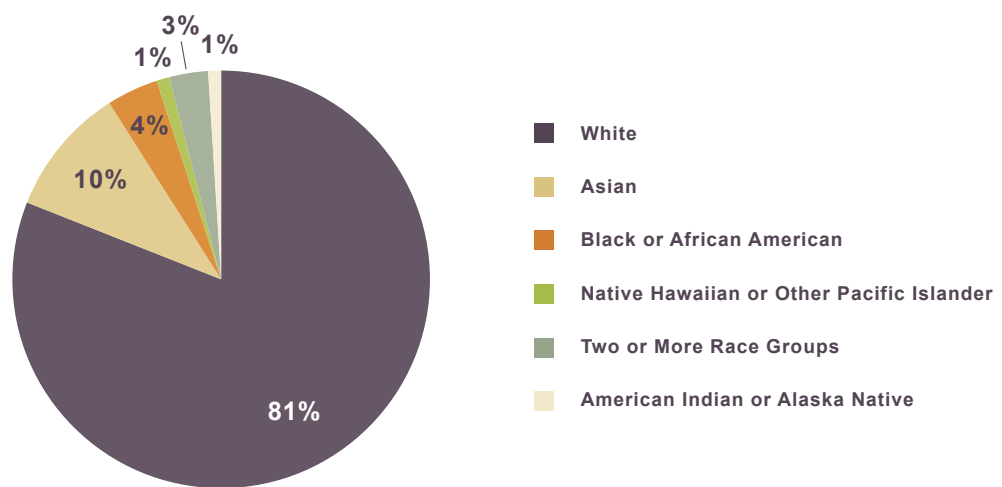


**CHART 8:
Sex of All Workers, Seattle MSA,
2012**



SOURCE: Quarterly Workforce Indicators – Employment by Sex

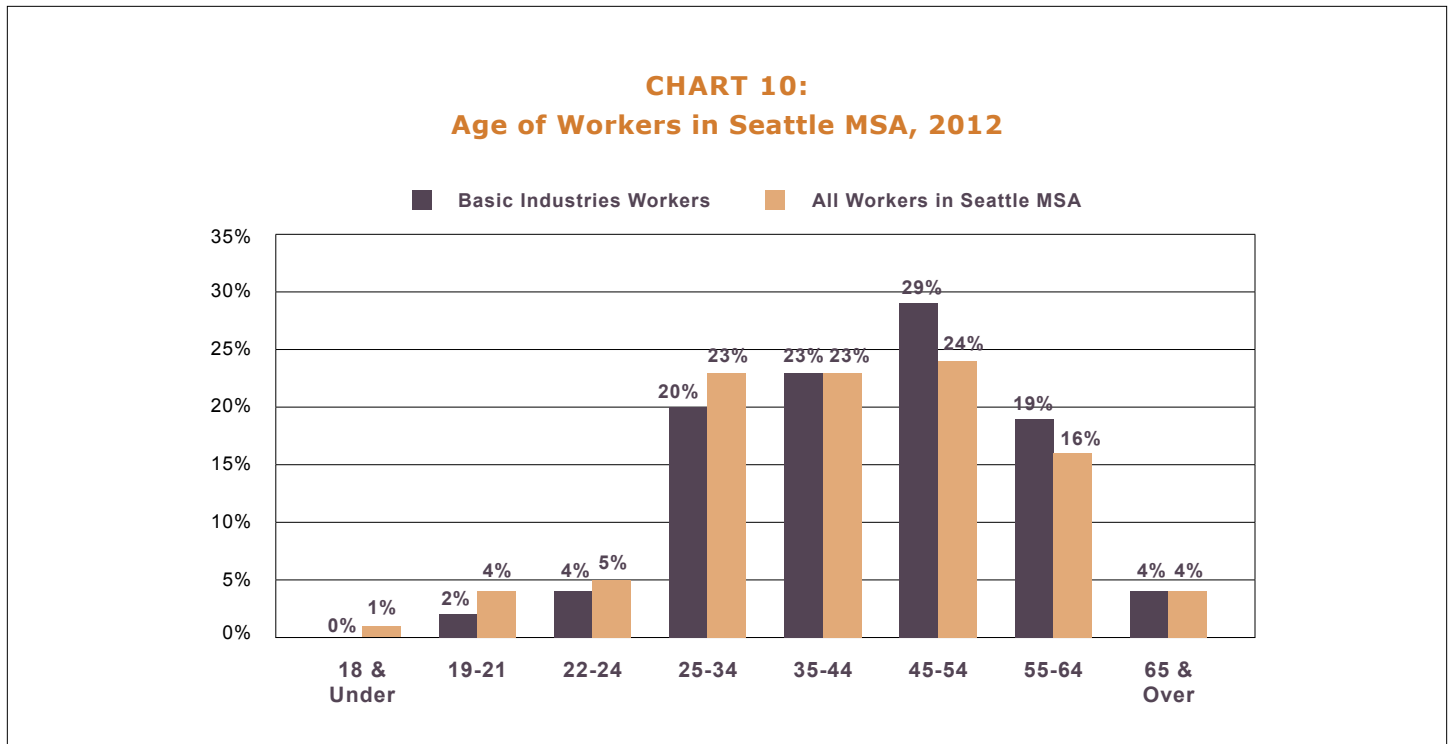
**CHART 9:
Race of Basic Industries' Workers, Seattle MSA, 2012**



SOURCE: Quarterly Workforce Indicators – Employment by Race

AN AGING WORKFORCE

Workers in basic industries in the Seattle region are also aging, and many of them are nearing retirement. As seen in **Chart 10**, over half of the workers in 2012 were over the age of 45, and nearly one in four were over the age of 55. Only six percent of workers were 24 years old or younger. Compared to the overall workforce of the region, the basic industries workforce is also older.

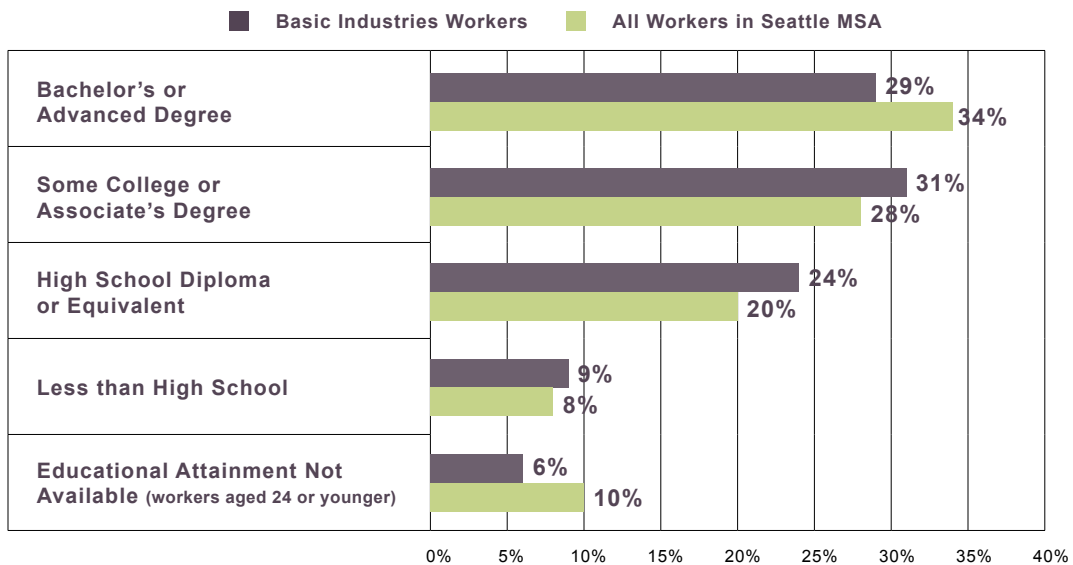


SOURCE: Quarterly Workforce Indicators – Employment by Age

A WORKFORCE WITH VARYING EDUCATIONAL LEVELS

The educational attainment of most the basic industries' workforce shows that workers with varying educational levels can access opportunities in these sectors, as displayed in **Chart 11**. Sixty-percent of the workforce has at least some post-secondary education, including over 30 percent who have an Associate's Degree or some college. One-third of workers, however, have a high school diploma or less. The overall workforce in Seattle's MSA is slightly more educated than those workers in basic industries.

CHART 11:
Educational Attainment of Workers in Seattle MSA, 2012



SOURCE: Quarterly Workforce Indicators – Employment by Educational Attainment



VII. MIDDLE-WAGE JOBS IN SEATTLE'S BASIC INDUSTRIES

In this section, we explore the middle-wage jobs Seattle's basic industries provide to the city. As a reminder, SJI defines a middle-wage job as paying \$17.00 an hour or higher on the median and typically requires some training or education beyond high school, but not a four-year degree. In 2014, Seattle's basic industries produced 60,606 jobs that paid more than \$17.00 per hour on average.¹³ Approximately 40,330 of these nearly 61,000 jobs required less than a Bachelor's Degree.¹⁴ As a result, nearly half of all jobs in basic industries are middle-wage jobs.

While basic industries produced 15 percent of all of Seattle's jobs in 2014, these sectors produced over 23 percent of Seattle's approximately 174,513 middle-wage jobs.¹⁵ Seattle's basic industries, as a result, play an essential role in providing good paying and accessible jobs for Seattle's workers, particularly for those with lower levels of skills and education.

Table 2 shows the top middle-wage jobs in Seattle's basic industries that require less than a high school diploma, but at least some on-the-job training.¹⁶

TABLE 2. Middle-Wage Jobs in Seattle’s Basic Industries Requiring Less than a High School Diploma and On-the-Job Training

JOB TITLE	NUMBER EMPLOYED IN BASIC INDUSTRIES IN 2014	MEDIAN HOURLY WAGE	GROWTH RATE 2014-2018	ON-THE-JOB TRAINING REQUIREMENTS
Construction Laborers	1,600	\$19.37	17%	Short-term
Sailors & Marine Oilers	1,465	\$22.87	8%	Moderate-term
Industrial Truck & Tractor Operators	1,033	\$19.46	(4%)	Short-term
Painters, Construction & Maintenance	729	\$18.92	15%	Moderate-term
Fishers & Related Fishing Workers	383	\$21.55	2%	Moderate-term
Drywall & Ceiling Tile Installers	270	\$23.31	14%	Moderate-term
Roofers	222	\$20.34	(6%)	Moderate-term
Cement Masons & Concrete Finishers	165	\$22.74	17%	Moderate-term
Tapers	152	\$23.44	8%	Moderate-term
Material Moving Workers, All Other	137	\$20.32	(4%)	Short-term
Tank Car, Truck & Ship Loaders	116	\$32.84	(6%)	Short-term
Parts Salespersons	107	\$19.93	(7%)	Moderate-term

SOURCE: EMSI 2014.3 Class of Worker

Table 3 shows the top middle-wage jobs in basic industries by employment for 2014 that require a high school education or equivalent. Three of the top ten occupations are in the construction trades. Carpenters, electricians, and plumbers, pipefitters and steamfitters paid above \$26.00 an hour on average. Notably, basic industries also employ large numbers of salespeople, customer service representatives, and administrative or office-type positions, which demonstrates the wide-variety of work basic industries includes.

TABLE 3. Middle-Wage Jobs in Seattle’s Basic Industries Requiring a High School Diploma or Equivalent

JOB TITLE	NUMBER EMPLOYED IN BASIC INDUSTRIES IN 2014	MEDIAN HOURLY WAGE	GROWTH RATE 2014-2018	ON-THE-JOB TRAINING REQUIREMENTS
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	4,870	\$32.30	4%	Moderate-term
Carpenters	2,728	\$26.40	15%	Apprenticeship
Electricians	1,981	\$35.05	6%	Apprenticeship
Customer Service Representatives	1,280	\$18.15	2%	Short-term
Bookkeeping, Accounting & Auditing Clerks	1,252	\$20.41	5%	Moderate-term
Plumbers, Pipefitters & Steamfitters	1,199	\$33.76	10%	Apprenticeship
Shipping, Receiving & Traffic Clerks	1,040	\$17.26	(1%)	Short-term
Secretaries & Administrative Assistants, Except Legal, Medical & Executive	911	\$19.69	11%	Short-term
Bus Drivers, Transit & Intercity	904	\$25.43	13%	Moderate-term
Inspectors, Testers, Sorters, Samplers & Weighers	667	\$28.82	(1%)	Moderate-term
Maintenance & Repair Workers, General	653	\$18.93	2%	Long-term

SOURCE: EMSI 2014.3 Class of Worker

Many occupations in construction and other basic industries require workers to complete apprenticeships, which include a mix of on-the-job and classroom training. These jobs allow workers to develop their skills on the jobsite. These trades, crafts and artisanal workers form a highly-valued part of the workforce and carry unique skills and knowledge with them as they move into other careers and jobs.

Table 4 shows the top occupations in basic industries in 2014 that require some college training or a post-secondary, non-degree award (e.g. a college certificate). Over 2,000 individuals were employed as truck drivers in 2014, the largest occupation in this category.

TABLE 4. Middle-Wage Jobs in Seattle’s Basic Industries Requiring Some College or a Post-Secondary, Non-Degree Award

JOB TITLE	NUMBER EMPLOYED IN BASIC INDUSTRIES IN 2014	MEDIAN HOURLY WAGE	GROWTH RATE 2014-2018	ON-THE-JOB TRAINING REQUIREMENTS
Heavy & Tractor-Trailer Truck Drivers	2,099	\$21.21	6%	Short-term
Heating, Air Conditioning & Refrigeration Mechanics & Installers	468	\$29.29	16%	Long-term
Computer User Support Specialists	259	\$27.69	2%	Moderate-term
Aircraft Mechanics & Service Technicians	211	\$33.05	(1%)	None
Computer, Automated Teller & Office Machine Repairers	176	\$19.80	(3%)	None
Telecommunications Equipment Installers & Repairers, Except Line Installers	123	\$30.83	9%	Moderate-term

SOURCE: EMSI 2014.3 Class of Worker

Most of the middle-wage jobs in basic industries as seen in the previous two charts require less than an Associate’s Degree, including many that do not require any college. **Table 5** below shows the top occupations in basic industries in 2014 that required an Associate’s Degree. Mechanical drafters and medical equipment repairers employed the most individuals in this category in 2014.

TABLE 5. Middle-Wage Jobs in Seattle’s Basic Industries Requiring an Associate’s Degree

JOB TITLE	NUMBER EMPLOYED IN BASIC INDUSTRIES IN 2014	MEDIAN HOURLY WAGE	GROWTH RATE 2014-2018	ON-THE-JOB TRAINING REQUIREMENTS
Mechanical Drafters	164	\$36.48	(10%)	None
Medical Equipment Repairers	125	\$24.57	3%	Moderate-term
Industrial Engineering Technicians	121	\$30.81	(5%)	None
Electrical & Electronics Engineering Technicians	82	\$28.80	(1%)	None
Computer Network Support Specialists	76	\$33.26	1%	None

SOURCE: EMSI 2014.3 Class of Worker



VIII. BASIC INDUSTRIES EMPLOYMENT PROJECTIONS

Table 6 shows the employment projections for basic industries and the economy overall. Current projections show Seattle’s basic industries continuing to grow and add jobs over the next decade. Overall, jobs in the industrial base are expected to grow by 17 percent and add over 13,550 jobs. The growth rate is roughly the same as the growth in Seattle’ economy overall and is nearly double that of the national projected growth for basic industries.

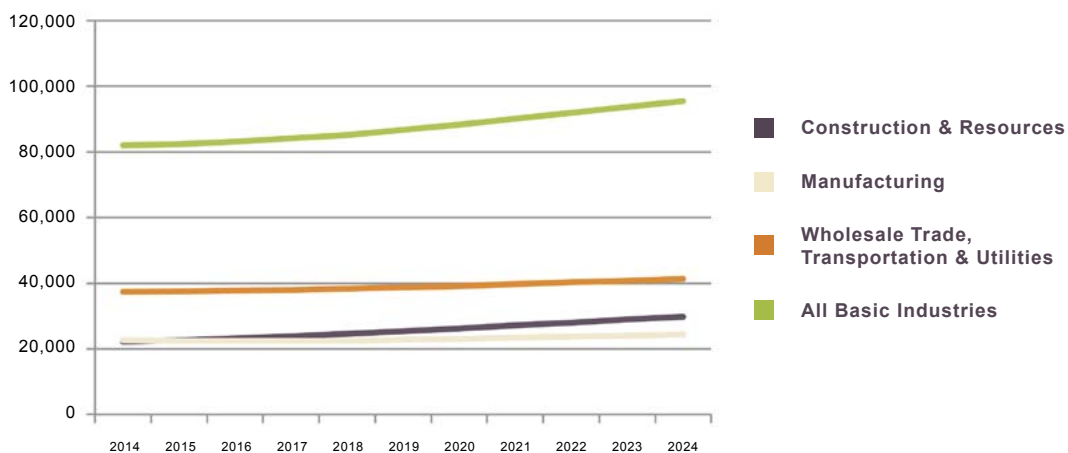
TABLE 6. Employment Projections 2014-2024

	BASIC INDUSTRIES EMPLOYMENT		ALL EMPLOYMENT (NOT INCLUDING SELF-EMPLOYMENT)	
	PERCENT CHANGE IN JOBS	NUMBER OF NEW JOBS	PERCENT CHANGE IN ALL JOBS	NUMBER OF ALL NEW JOBS
City of Seattle	17%	13,557	16%	86,322
Seattle-Tacoma-Bellevue, WA	16%	68,089	15%	287,130
Washington State	17%	130,389	14%	464,852
United States	9%	2,927,309	12%	17,641,381

SOURCE: EMSI 2014.3 Class of Worker

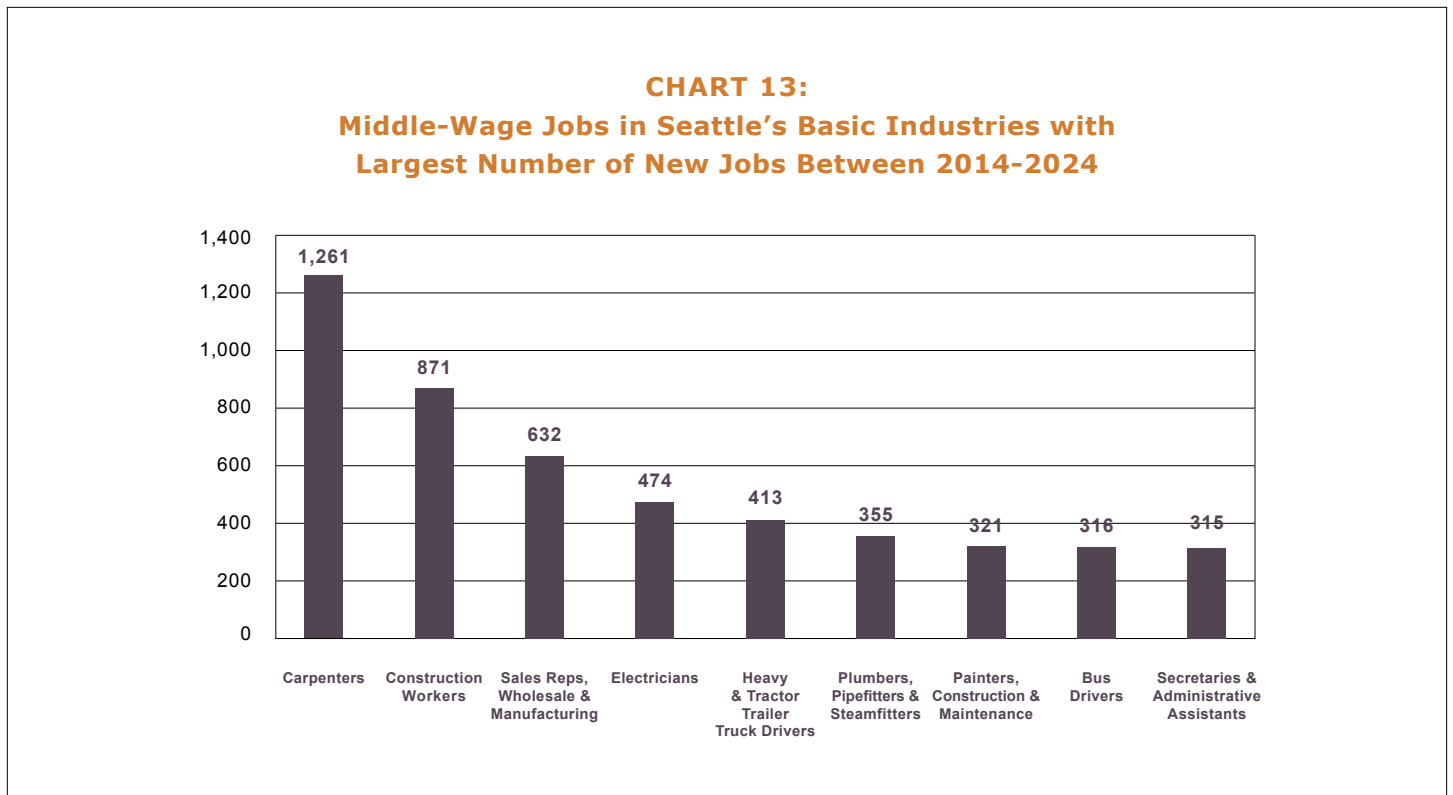
Chart 12 breaks down which sectors in Seattle’s basic industries will be adding jobs over the next decade. Construction and resources is projected to account for most of Seattle’s growth in its industrial base by adding over 7,700 jobs. WTU is projected to add nearly 4,000 jobs and manufacturing will add almost 2,000 jobs.

CHART 12:
Employment Projections for Seattle’s Basic Industries, 2014-2024



SOURCE: EMSI 2014.4 Class of Worker

Chart 13 shows the middle-wage jobs within Seattle’s basic industries that are projected to add the largest number of new jobs over the coming decade. Carpenters are projected to add the most middle-wage jobs, followed by construction laborers.



SOURCE: EMSI 2014.4 Class of Worker

The middle-wage jobs in Seattle’s basic industries play a strong role in providing economic opportunities to the region’s residents. Retaining and growing these industries and jobs is thus important to the region’s economic future. In the next section, we discuss the historical and ongoing challenges Seattle has faced in preserving its industrial base.



IX. CHALLENGES & OPPORTUNITIES IN RETAINING & GROWING BASIC INDUSTRIES: LESSONS FROM SEATTLE

Like many cities, Seattle's industrial base has faced numerous pressures over the last several decades. Land use, transportation, workforce development, and government regulations have posed, and continue to pose, a number of challenges to industrial businesses. Though Seattle's industrial base is growing once again, most of these challenges are ongoing and threaten to curtail that growth. Below, we provide some general discussion of these challenges and how industrial stakeholders and the City of Seattle have responded.

Preserving Industrial Lands

Industrial lands help businesses in basic industries avoid conflicts with other businesses and residences over issues of noise, light, odor and/or hours of operation. Many industrial businesses operate 24 hours a day, outside of the typical 9 to 5 work day. As more residential buildings such as condos and commercial businesses are located near or on converted industrial lands in neighborhoods

such as Georgetown, Ballard or SoDo, these conflicts can increase. In some instances, complaints from residences and commercial businesses about noise or odor may result in stricter regulations about when and how industrial businesses operate, which can negatively impact a business' operations and revenues.

Industrial lands also offer businesses in basic industries critical access to water and ship transport, railroads, parking and access for large trucks, and major highways. "Seattle's industrial areas are well-defined by topography and geography which partly explains why they are located where they are (flat land with access to port and other transportation facilities) and why they continue to function well in the land use patterns of the city (buffered from other uses)."¹⁷ In fact, such lands and infrastructure are one of the primary reasons businesses are located in Seattle.

"Seattle's deepwater port has direct access to rail and is within a mile of two key interstate highways. In addition, two airports serve the industrial area, one within the city limits serving cargo and charter flights, and the second several miles south (but easily accessible by Interstate 5 and State Route 509) is the region's main commercial passenger airport. Close proximity of all of these modes of transportation is a rare combination and not easily duplicated."¹⁸

The location of many industrial lands puts industrial businesses within easy reach of their customers and supply chain. Water-front industrial lands are especially critical to industrial businesses that are dependent on water access. Former Seattle City Council Member Peter Steinbrueck stated, "Unlike commercial and residential uses which can occur in a many other areas throughout the city and region, industrial uses are extremely limited geographically, and the land, deep harbor access, and logistical resources cannot be duplicated elsewhere."¹⁹ Some industrial businesses need to be located near railroads to operate and some need to be located near roads that can easily and efficiently accommodate large trucks.

The clustering of industrial businesses within one area can improve information sharing, communication, trade and collaboration among businesses as well. Across Seattle's industrial lands, you can find businesses that are very interconnected and dependent upon one another. Designated industrial lands such as the Manufacturing and Industrial Centers "have also served to condense industrial activities and strengthen relationships between industrial businesses."²⁰ The ship building and repair industry in Seattle illuminates this interconnectedness. In Ballard, there is a business that builds and installs marine and land refrigeration systems and a business that develops and sells refrigeration insulation products for these systems. There are businesses that produce marine engines and generators and businesses that build yachts that use these engines and generators.

This clustering benefits not only these businesses, but also customers. Seattle has a number of industries in which a cluster of suppliers and customers have created a web of relationships that benefit each other and, ultimately, consumers. Close proximity allows for a richer level of service and more immediate response to market needs. In addition, it reduces the amount of transportation needed, thereby limiting the amount of time, money, and resources spent on shipping.”²¹

For the reasons mentioned above, retaining and preserving industrial lands is critical to retaining basic industries and the good-paying, accessible jobs these businesses provide to Seattle residents. Industrial lands, however, have come under threat as Seattle has grown and developed its economy.

THREATS TO SEATTLE’S INDUSTRIAL LANDS

Between 1984 and 2007, industrial lands in Seattle shrank by 10 percent. Seattle experienced a reduction in industrial lands from 5,698 acres to 5,142 acres, a loss of more than 500 acres. In 1984, industrial zoned land accounted for 14 percent of the city’s land area, but just 12 percent in 2007. According to former Seattle City Councilman Steinbrueck, “Marine and industrial uses, once widely located throughout the city, are today concentrated in the Ballard Interbay area, SODO, Harbor Island and Duwamish River areas due to nonindustrial commercial and residential development pressures. Conversion to nonindustrial uses over time is irreversible, and permanently diminishes the extremely limited land supply in the region available for industrial uses.”²²

Rezoning industrial lands for other purposes not only changes the city’s landscape and economic mix, but can have real impacts on businesses and jobs. The construction of Safeco Field in South Seattle (SoDO) is estimated to have displaced over 30 businesses and nearly 800 high-wage industrial, manufacturing, and warehouse jobs in the Duwamish Manufacturing and Industrial Center.²³

Interviews and a survey of business leaders located on industrial lands in Seattle in the early 2000s, indicated businesses were concerned about land issues related to:

- **Rising costs of land and rents—Some business leaders interviewed lamented the rising costs of land, space and rent. Some worried about being priced out of the city.**
- **Loss of or encroachment on industrial zoned lands—Many business leaders expressed concern about industrial lands being rezoned or repurposed for other purposes such as office, retail or residential space.**
- **Limited opportunities for expansion—Rising rents and the shrinking availability of land caused concerns among business leaders who were planning on outgrowing their current**

space about their ability to stay in Seattle and grow their business.

- **Limited water-front access—Maritime industries, that rely heavily on access to the Puget Sound, noted concern about and the limited availability of water-front space for industrial purposes.²⁴**

Today, in 2014, many of these same dangers to industrial lands continue as competition for land and land speculation by developers in the city increases. Preserving industrial lands is an ongoing challenge, which can quickly surface and escalate. Proponents of industrial land and job preservation in Seattle have relied on a number of tools and strategies in their efforts.

HISTORY OF PRESERVING INDUSTRIAL LANDS IN SEATTLE

Efforts to protect Seattle’s industrial lands are constantly evolving as new threats and competing pressures for the lands emerge. The following entities, along with various political leaders and numerous other organizations, have played important roles in preserving industrial lands and advocating for industrial jobs:

- **Seattle Planning Commission—The Seattle Planning Commission is an independent body formed in the City Charter in 1962 that advises the Mayor, City Council, and City Departments on planning issues. The Commission includes 16 members, 14 of which are appointed by the Mayor and City Council.**
- **Manufacturing Industrial Council—The Manufacturing Industrial Council, founded in the 1990s by business volunteer members concerned about industrial lands, with initial support and funding from the Office of Economic Development, represents industrial firms and advocates for the city’s industrial jobs base.²⁵**
- **Department of Planning and Development, City of Seattle—DPD is involved in setting long-range development policies for Seattle neighborhoods and communities. DPD also enforces land use, housing and building maintenance codes. Importantly, DPD develops the city’s Land Use Code to regulate the use of land in the city.**
- **Office of Economic Development (OED), City of Seattle—OED was founded in 1993 to create stronger linkages between economic, workforce and community development.**

Proponents of industrial land preservation are continuously engaged in multiple efforts to educate policymakers, conduct research, engage stakeholders and business leaders, and make improvements

to existing land use and city development plans. Below, we provide some of the history of the land use debates in Seattle to offer lessons on what has worked and what challenges remain around retaining industrial lands.

THE 1990S

Many early debates and efforts around industrial land preservation began in the 1990s. At that time, many in the city, including Mayor Norm Rice, became concerned about Seattle's manufacturing base. "In the early 1990s, Seattle's manufacturing sector faced a number of challenges, including freight mobility, soil contamination, competition for available land, and a citizenry distracted by other activities in the industrial area, including construction of two sports stadiums."²⁶

Under Mayor Rice's leadership, the city founded the Office of Economic Development, which prioritized manufacturing as one of its key sectors for investment and support.²⁷ The Manufacturing Industrial Council, an association of industrial businesses, was also founded around this time with support from the Office of Economic Development. The Council would go on to become an influential and powerful voice for industrial businesses in the city.²⁸ As these key actors emerged, Seattle launched longer-term planning efforts that would have impact on the industrial base in the decades to come, which were prompted by state legislation.

Washington State passed the Growth Management Act in 1990. The law requires local governments to develop comprehensive plans that identify and protect critical areas and natural resource lands and designate urban growth areas. Legislators passed the law after determining that uncoordinated and unplanned growth posed significant risks to the environment, sustainable economic development, and quality of life for Washington residents. Comprehensive plans must define an urban growth boundary circle, which must include a Future Land Use Map (FLUM) that is intended to "illustrate the general location and distribution of the various categories of land uses anticipated by the Comprehensive Plan policies."²⁹ Under the law, comprehensive plans are required to be updated every seven years and can be amended once per year.

Seattle produced and published its first Comprehensive Plan, *Toward a Sustainable Seattle*, in 1994. *Toward a Sustainable Seattle* lays out a 20-year vision and plan for Seattle's future. From its inception, the plan's Land Use Element has included language and goals to protect industrial lands and promote industrial jobs including:

- **Ensure that adequate accessible industrial land is available to promote a diversified employment base and sustain Seattle's contribution to regional high-wage job growth.**

- **Promote high-value-added economic development and support growth in the industrial and manufacturing employment base.**
- **Preserve industrial land for industrial uses and protect viable marine and rail-related industries from uses competing for scarce land resources.**³⁰

The policies in the Plan's Land Use Element are designed to guide the development of the Land Use Code, which regulates the development and use of existing buildings and land. As a guiding document, the plan has also helped inform and guide the city's land use decisions on where to build new residential and commercial units. Language around preserving industrial lands and protecting industrial jobs has been strengthened in the Land Use Element over the last two decades. Today, the Land Use Element includes directives to "provide opportunities for industrial activity to thrive in Seattle, "give special attention to preserving industrial land adjacent to rail or water-dependent transportation facilities," and "consider high-value added, living wage industrial activities to be a high priority."³¹

The Seattle Comprehensive Plan also established Manufacturing and Industrial Centers in 1994. The city established the Duwamish Industrial Manufacturing Center and the Ballard/Interbay Industrial Manufacturing Center (BINMIC). Seattle established these lands to help ensure enough industrial land in the city remains to foster a diverse employment base and a regional high-wage job growth strategy. The Duwamish MIC and BINMIC comprised more than 10 percent of Seattle's land area in 2007 with the BINMIC covering 866 acres and the Duwamish measuring 3,981 acres. These industrial lands help provide critical infrastructure to the region's basic industries and are key to moving goods and products.

"Long before the GMA (Growth Management Act) the Duwamish Manufacturing and Industrial Center (MIC), has been in industrial use in Seattle for over 100 years. The MIC is bounded by the southern shores of Elliott Bay to the west, I-5 to the east, includes Harbor Island, two-thirds of Boeing Field, and extends five miles south of Seattle's downtown on both sides of the Duwamish Waterway to Boeing Access road at the city limit... Marine industrial uses are of the highest intensity in the MIC, with specific focus on inter modal break bulk and container cargo terminals supporting the transfer of cargo between ship, barge, rail, and truck. The Duwamish MIC is the Port of Seattle's primary marine shipping area, with deep water berths, wharfs, piers, shipyards, dry docks, container cranes, on dock rail, container yards, cargo distribution and warehousing, oil and petroleum storage facilities, and major railroad yards."³⁴

Seattle's MICs help the city draw and preserve boundaries around its industrial spaces. The MICs help limit incompatible commercial and residential activities and prohibit new residential construction

in particular. New retail and office structures are allowed in the MICs, but only within tight size restrictions. Artist live-work studios are also allowed if they occur in existing buildings and if tenants sign a covenant acknowledging the industrial nature of their surroundings. The boundaries of the MICs, defined in the Future Land Use Map, can only be changed through a lengthy amendment process that requires the approval of City Council. As a result, the MICs' help serve as a buffer from residential and commercial pressures.

At the same time Seattle created the MICs to preserve and protect industrial lands, the City also created Urban Villages. The 24 Urban Villages are areas where Seattle is directing concentrations of residential and some employment growth. These Urban Villages are in locations designed to allow people to live near services, entertainment, transportation and jobs.

Urban Villages have the zoning capacity needed to absorb the city's housing, retail and office space needs for about 50 years of growth, which adds further protection to industrial lands. These areas help serve as a "release valve for development pressures."³⁵

In addition to the Comprehensive Plan for the entire city, Seattle established the Neighborhood Planning Program in the late 1990s. The City of Seattle helps fund each of the city's neighborhoods to develop their own plans to address their unique needs and challenges. The Duwamish MIC and BINMIC each have a neighborhood plan that adds further support and protection for industrial lands.

The 2000s

In the early 2000s, the shrinking amount of industrial lands and continuous requests by industrial landowners to rezone industrial lands raised alarms. Land speculation was widespread as developers purchased industrial lands under the expectation that zoning changes and encroachment by commercial and residential businesses would drive up land values. "In SoDo, 22 percent of the land use permits issued between 1996 and 2006 were for a change from industrial use."³⁶ Mayor Nickels, business leaders and other stakeholders, including the Seattle Planning Commission, expressed

Rezoning Land in Seattle

Land owners must apply for a permit to have their land rezoned for another purpose. Applications are reviewed once a year by Seattle's Department of Planning and Development before moving onto the City Council for a vote. Applications are reviewed in part based on how the rezone would impact neighborhood plans, surrounding property uses and land use zones, and the Comprehensive Plan since rezoning land requires the Comprehensive Plan and the Future Land Use Map to be amended.

concern that land decisions were being made on a case-by-case basis without an overarching strategy for preserving industrial lands. They called for the development of an industrial lands strategy that would clarify the city's goals in attracting and retaining industrial jobs and provide a framework for making decisions about requests to change or rezone industrial lands.

In 2005, City Council, under a recommendation provided by the Seattle Planning Commission, requested and funded the Department of Planning and Development to conduct research in order to better understand the pressures on industrial lands, to help guide amendments to Seattle's land use policies, and ultimately to develop an Industrial Lands Strategy. DPD and the Office of Economic Development conducted a series of studies in collaboration with business owners, industrial land owners, and the Seattle Planning Commission.

The reports from those studies include:

- **Industrial Lands Survey: Investigation of Comparable Cities**
- **Industrial Lands Survey: A Survey of Business Owners**
- **Industrial Lands Survey: Perspectives on the Benefits and Challenges of Business Opportunities**
- **Seattle's Industrial Lands Background Report**

At the height of these debates over industrial lands, SPC and DPD also co-hosted a four-part workshop series to engage the community. The workshops explored lessons from other cities, examined the challenges and opportunities of industrial businesses, and gathered feedback on DPD's research and strategies. Similarly, the Manufacturing Industrial Council has continuously engaged industrial businesses around land use policy and brought their issues and concerns to the forefront of policymakers and political leaders.

In 2007, the Seattle Planning Commission also issued a report titled, "The Future of Industrial Lands." Collectively, DPD's and SPC's reports pinpointed the concerns of businesses on industrial lands. These reports and other advocacy efforts raised awareness of these issues among the community and its leaders, and sparked a community-wide dialogue about land use. In August 2007, under Mayor Greg Nickels, the Mayor's Office released a report providing recommendations about Seattle's industrial lands.

In December 2007, in what was a landmark victory for industrial advocates, the City Council adopted a key recommendation from the Mayor to restrict commercial uses in industrial areas. The new law

reduced the maximum amount of office and retail space allowed on general industrial lands as seen below:³⁷

LAND ZONING CODE	PREVIOUS RESTRICTION PRIOR TO 2007	NEW RESTRICTION ADOPTED IN 2007
IG 1		
Office	50,000 square feet	10,000 square feet
Retail	30,000 square feet	10,000 square feet
IG 2		
Office	100,000 square feet	25,000 square feet
Retail	75,000 square feet	25,000 square feet

SOURCE: Property Counselors, "Seattle Industry Area Zoning Changes," May 2008

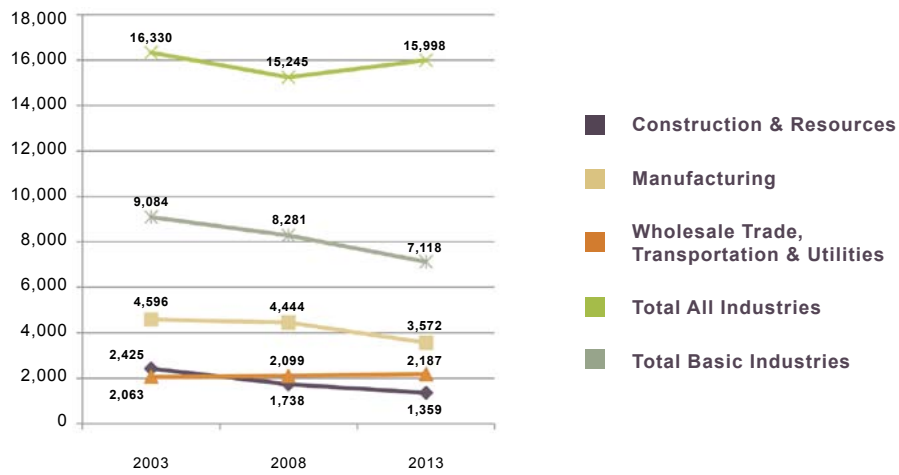
The Present

Many businesses in Seattle’s basic industries reside within the city’s designated industrial lands. The Duwamish MIC and the BINMIC are home to many of Seattle’s industrial businesses and jobs and these industrial lands continue to be at the forefront in the land use debates. In this short section, we examine employment and business activity in these areas.

Chart 14 displays the number of basic jobs in the BINMIC. While overall employment in the BINMIC has begun to rebound since the recession, jobs in basic industries have not yet reversed their negative trends.

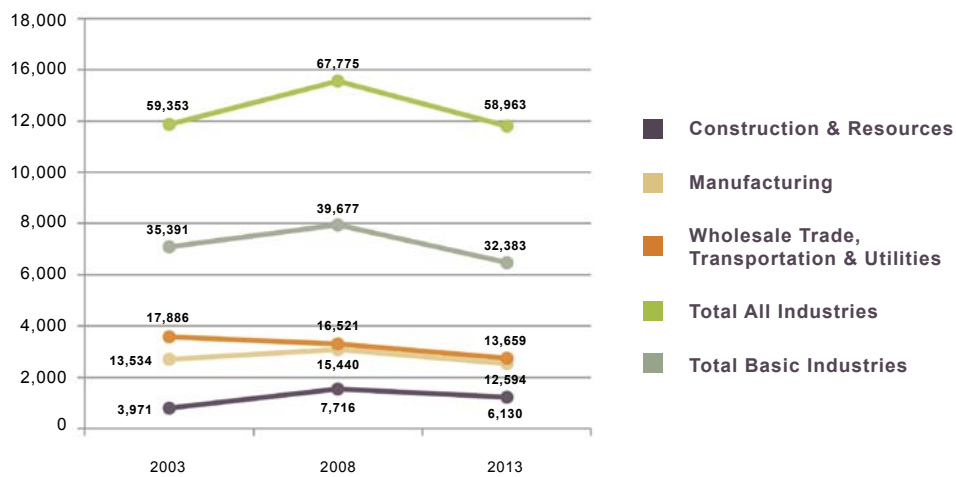
In the Duwamish Manufacturing Industrial Center, the overall number of jobs and the number of jobs in basic industries remains down from pre-recession levels as seen in **Chart 15**.

CHART 14:
Jobs in Ballard-Interbay Manufacturing Industrial Center



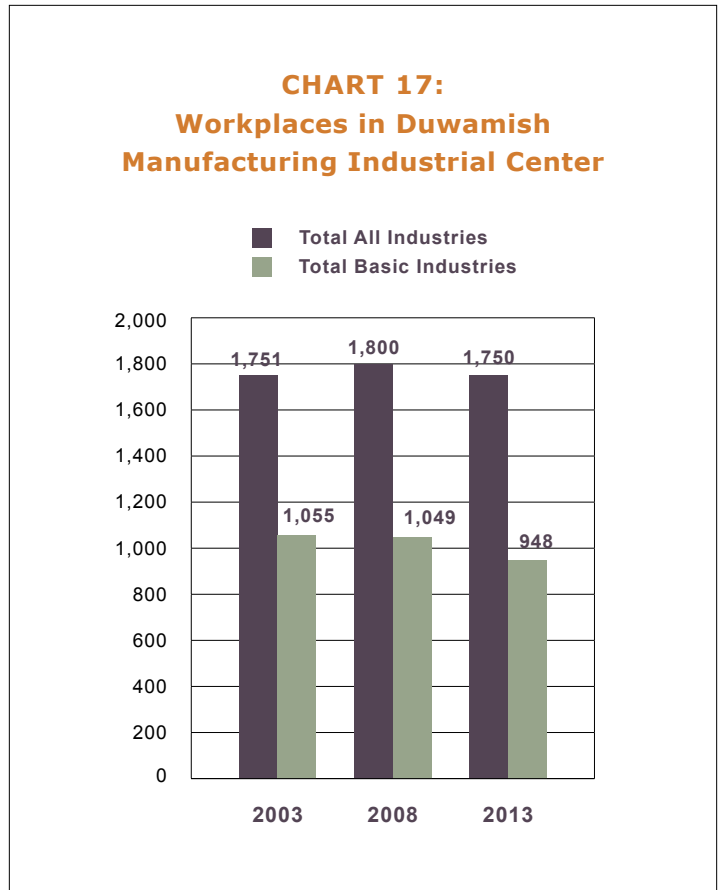
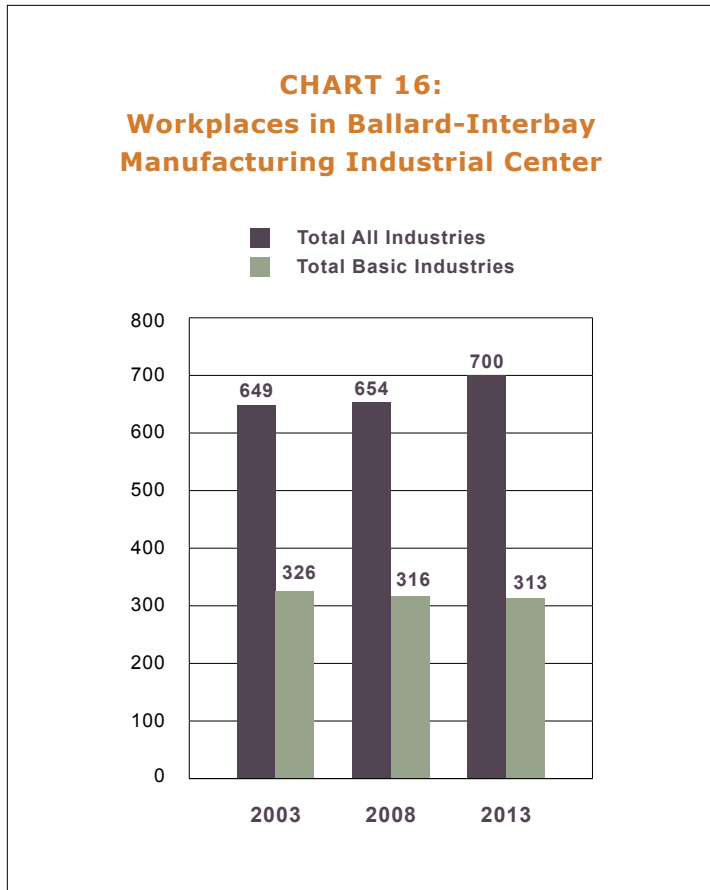
SOURCE: Puget Sound Regional Council, Washington State Employment Security Department. Data includes only covered employment. Covered Employment accounts for approximately 85-90% of employment. See End Notes for additional information.³⁸

CHART 15:
Jobs in Duwamish Manufacturing Industrial Center



SOURCE: Puget Sound Regional Council, Washington State Employment Security Department. Data includes only covered employment. Covered Employment accounts for approximately 85-90% of employment.

The number of basic industry workplaces in the MICs held fairly steady between 2003 and 2013 as seen in **Chart 16** and **Chart 17**.



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

Seattle is growing rapidly once again and housing and commercial development pressures are increasing in areas around the MICs. Seattle recently revisited many of the land use debates and issues when plans were announced to build a new sports arena on industrial zoned land in South Seattle. Industrial advocates quickly organized once again and their opposition to the location of the arena was widely known. The debate subsided after Seattle lost in its attempts to bring another professional basketball team. The debate will continue, however, as the proponent for the arena, who also owns the land where the arena would be built, pursues other teams. This example is yet another reminder that industrial lands can come under threat at any time.

A small number of industrial business leaders interviewed for this report expressed continued concern about industrial lands in Seattle, including what affects a potential arena and other development cause. One business leader located in the Ballard area expressed concern about the impacts on industrial businesses of continued development in that neighborhood. "There are always new

condos being built in Ballard, many of them right across the street from industrial businesses. That development creates demand for restaurants and bars and it leads to noise and odor complaints by residents. All of this threatens to run industrial and maritime businesses out of town,” the business owner commented. For industrial businesses, the Manufacturing Industrial Centers are critical to their success and survival in Seattle. Protecting the MICs will need to be an ongoing priority if Seattle is to retain industrial businesses and jobs.

Transportation & Freight Mobility

Businesses in basic industries depend on transportation systems to move and transport their goods and products. The highways and streets around the city are the lifeline for businesses in Seattle’s basic industries and the Port of Seattle. Thousands of containers arrive each day through the Port of Seattle from around the world. Trucks are essential to moving the cargo from those containers to local vendors, warehouses or to the rail-yard for transport to other cities around the country.³⁹ Some businesses in Seattle’s basic industries receive and/or send dozens of truck deliveries each day. Receiving, moving, and transporting goods, materials, and supplies efficiently is so critical to the success of industrial businesses that increases in congestion can lead to losses in revenue and may cause some businesses to relocate.

SEATTLE’S TRAFFIC CONGESTION

Since 2007, Seattle’s traffic congestion has grown noticeably worse. A rapidly growing population, the demolition of the Viaduct and construction of the Highway 99 tunnel, and other major construction projects are contributing to increasingly congested highways and roads in Seattle. A recent report ranked Seattle as having the fourth worst traffic of major cities in the U.S. and eight worst among cities in North and South America.⁴⁰

According to research conducted by the Washington State Department of Transportation and Washington State University, a 20 percent increase in congestion on highways and interstates in Washington State would lead to significant increases in business costs because of increased fuel consumption, higher labor costs, new equipment and truck purchases, and higher costs to hold additional inventory. According to the report, “Congestion causes freight-dependent businesses, such as manufacturing, retail and wholesale trade, agriculture, construction, and timber/wood products, to operate less efficiently by increasing the amount of time for each truck trip and increasing the time that trucks (and drivers) spend in traffic, wasting time in an unproductive manner.” Nearly 60 percent of freight-dependent industries surveyed in the report said they would pass increased costs onto consumers, but nearly 10 percent said they would be forced to close or relocate their business. The

report found that a 20 percent increase in congestion would lead to nearly 22,000 jobs being lost and \$3.6 billion in lost output in the Central Puget Sound Region alone.⁴¹

In a survey of 100 businesses on industrial lands in 2007, business leaders cited traffic congestion, large truck access, adequate parking, and proximity to major highways as some of their primary reasons for their location decision.⁴² The majority of businesses surveyed, however, reported high levels of dissatisfaction with the area's transportation systems and capacity with those located near the city's stadiums especially frustrated. Limited truck access due to traffic congestion and insufficient street parking was noted by many as of particular concern.⁴³

Two business leaders interviewed for this report also expressed frustration about the growing congestion. A business leader in Ballard said, "Most of our supplies have to be brought to us from South Seattle. The truck drivers bringing those supplies have a hard time getting here and they often miss their scheduled loading time. That congestion impacts the costs of the goods delivered to us, which ultimately raises our costs." The same business leader also expressed concern about the company's workers having to battle tough commutes into and out of Seattle.

STRATEGIES TO IMPROVE SEATTLE'S TRANSPORTATION SYSTEMS FOR INDUSTRIAL BUSINESSES

The City of Seattle's Department of Transportation (SDOT) has been regularly engaged with industrial businesses to identify and address transportation challenges. Both the City of Seattle and Washington State became increasingly engaged in issues around freight mobility beginning in the 1990s. Seattle's Transportation Strategic Plan, a subsection of the Comprehensive Plan, has contained guidance on freight mobility since its initial draft in 1994.

Throughout the late 1990s and early 2000s, the SDOT, in partnership with other agencies such as the Port of Seattle, conducted a number of studies around freight mobility in the Manufacturing and Industrial Centers. These efforts culminated in a variety of capital improvement projects.

SDOT also formed the Freight Mobility Advisory Committee in 2002. SDOT designed the Committee, made up of leaders from basic industry businesses and the Port of Seattle, to open up a continuous dialogue with business leaders and stakeholders around their transportation and freight mobility challenges. SDOT looked to the committee to represent truck, rail and marine transportation in discussing the movement of goods and services. With the guidance and input of the committee, SDOT produced three freight action plans in the early 2000s.

These plans led to railroad grade separations, truck guide signing, street improvements, and improved truck radii. These discussions and efforts also led to the creation of the Duwamish Truck

Spot Improvement Project, an effort that helps identify and address conditions on freight corridors and streets that impact truck movement. As part of this work, SDOT began maintaining an inventory of known obstacles to freight movement on major truck streets. These obstacles are addressed on an ongoing basis as funding becomes available. SDOT also began employing a staff person dedicated solely to freight mobility. The staff member helps ensure freight improvement is integrated into SDOT plans, projects and practices and serves as a single point-of-contact with the freight community.

The heightened awareness and debate about industrial lands in 2006 and 2007 also led to additional discussions about improving transportation systems for industry. Under a City Council resolution in 2007, the city identified 19 capital projects to improve freight mobility. These projects included street and bridge improvements and repairs, as well as a continued focus on developing and improving Seattle's Intelligent Transportation Systems (ITS). In Seattle, ITS "employ electronics and communications technologies on the street, and automated traffic systems, to enhance mobility for all modes by increasing the efficiency and safety of the transportation infrastructure."⁴⁴ ITS has been used to improve signs and provide real-time traffic conditions to drivers en-route about accidents, bridge closures, special events, construction and more.⁴⁵

Seattle's Freight Advisory Committee evolved into the Freight Advisory Board in 2010 in order to provide a more formal structure for industrial businesses and freight stakeholders to provide input into the city's freight plans. The board advises the Mayor, City Council, and City of Seattle departments. The board is providing input into the development of the city's first Freight Master Plan (FMP). The plan will examine the challenges of moving freight in the city and help develop solutions to address those challenges. As with other efforts aimed at retaining Seattle's industrial base, the development of the FMP includes plans to engage industry and the broader community in the process. FMP is conducting a survey of freight stakeholders to identify the major freight bottlenecks, identify the biggest challenges of moving freight, and determine how the city can help move goods more efficiently.⁴⁶

To complement the development of the Freight Master Plan, SDOT and the Port of Seattle partnered to form the Industrial Areas Freight Access Project (FAR). FAR is designed to explore truck freight bottlenecks that occur in the city and identify traffic congestion locations in the Greater Duwamish MIC and BINMIC A primary goal of the project is to identify transportation improvement projects that will "maintain and improve freight-truck mobility and access to accommodate expected general traffic, freight, and cargo growth" and "ensure connectivity for major freight intermodal transload facilities" while also improving safety and reducing environmental impacts.⁴⁷ The FAR's work will also help inform the Seattle Freight Master Plan.

In 2014, Mayor Murray announced plans to create a new heavy-haul network of truck routes. The new routes will allow permitted trucks and vehicles carrying overweight loads to travel on designated

routes. The roads on these routes will be rebuilt to accommodate heavier weights that allow for new heavy haul standards. The heavy-haul network is proposed to be located in South Seattle and near the Port of Seattle to help facilitate more efficient transportation of goods arriving and departing from Seattle's marine port.

A multitude of other efforts are underway to further enhance transportation systems. Efforts by Seattle to improve freight movement are well-complemented by state-level efforts. State law requires the Washington State Department of Transportation (WSDOT) to develop a state freight mobility plan. The Port of Seattle is also continuously evolving and developing to stay current with modern demands. The Port is working to upgrade its facilities to handle larger ships, rehabilitate docks, and improve the efficient flow of goods in and out of Port facilities.

Despite all of these actions, one cannot argue today that Seattle's transportation and congestion issues are not a problem. Though the development of light rail may help ease congestion, many of the light rail stations are years, if not decades away from being built. In the meantime, the City of Seattle will continue to have to find creative opportunities to not only move people around the region, but to move freight.

Workforce Development

Access to skilled labor is one of the primary factors in determining where a business locates. Sixty percent of industrial businesses in Seattle said being close to skilled labor was essential or important in a survey of businesses on industrial lands in Seattle in 2007.⁴⁸ Nearly three-quarters of businesses said being close to unskilled labor was essential, important, or desirable.⁴⁹

Business leaders interviewed for this report expressed a continued concern about finding workers with the appropriate technical and soft skills to fill jobs at basic industry businesses. Some also noted concerns about attracting younger people to careers in basic industries and expressed a need to expose youth in the K-12 system to opportunities in these sectors.

STRATEGIES TO PREPARE WORKERS FOR EMPLOYMENT IN SEATTLE'S BASIC INDUSTRIES

Many organizations in the workforce development community in Seattle and Washington State have prioritized the training of individuals for careers in manufacturing, maritime, logistics and transportation, and the construction sectors. Workforce intermediaries such as Seattle Jobs Initiative, SkillUp Washington, and the Seattle-King County Workforce Development Council and nonprofit organizations such as Port Jobs are working with the Seattle College District, local apprenticeship

programs, and the K-12 system to prepare skilled workers to basic industry businesses. Some of these efforts include:

- **Seattle Jobs Initiative supports students to earn short- and long-term credentials at Seattle Colleges to prepare these individuals for careers as welders and machinists. Through SJI's partners, welding students receive intensive supports, case management and career navigation services.**
- **SkillUp Washington partnered with South Seattle College, the Seattle King-County Workforce Development Council, and various industry leaders including the Manufacturing Industrial Center and Vigor Shipbuilders to create the Industrial Manufacturing Academy (IMA). IMA allows individuals the opportunity to earn 28 college credits along with certifications in forklift, traffic and flagging, Industrial CPR/First Aid and OSHA 30. The curriculum includes topics and training in Lean Manufacturing, Beginning Composites, and Math for Technicians and Manufacturing Tools & Trades.⁵⁰**
- **Port Jobs, in partnership with Apprenticeship and Non-Traditional Employment for Women (ANEW), has operated the Apprenticeship Opportunity Project since the mid-1990s. The AOP helps prepare help low-income individuals, women, and people of color enter and succeed in apprenticeship and trades-related jobs in King County. In addition to helping individuals prepare for and enter an apprenticeship in a variety of occupations such as electricians, ironworkers and laborers, AOP helps provide job retention services to these individuals including case management and additional financial assistance to cover the costs of tools, equipment, and other expenses.⁵¹**
- **Core Plus is an innovative set of learning activities that are embedded in K-12 classrooms to promote the development of STEM skills and industrial career exploration. Core Plus grew out of the Boeing Company's efforts to document the Knowledge, Skills and Abilities (KSAs) required for success in a cross section of entry-level jobs in aircraft manufacturing. Boeing partnered with the Manufacturing Industrial Council, other industrial companies, the Office of the Superintendent for Public Instruction and K-12 educators to further develop the KSAs to ensure the skills were relevant for other industrial careers. Today, Core Plus learning activities are used in 30 high schools around Washington State to support teachers and classes in Computer-Aided-Design, Aerospace Composites, Aerospace Machining, Marine Technology, Metal Fabricating, Principles of Engineering and Construction. Students may participate in in-depth programs at "skill center" campuses with instruction that lasts up to three hours per day or may participate in exploratory classes at their high school for one hour per day.⁵²**

Seattle's College District has also, in recent years, strengthened ties with Seattle's industrial businesses. In 2008, South Seattle College opened up its Georgetown Campus within the Duwamish MIC. The Georgetown Campus houses the Puget Sound Industrial Excellence Center (PSIEC), which offers customized contract training programs in manufacturing, transportation, distribution, logistics, and construction. In partnership with numerous Joint Apprenticeship Committees, the Georgetown Campus is also home to the Apprenticeship and Education Center, which provides training to apprentices and journey workers in various industries.⁵³

Finally, Washington State has also established Centers of Excellence in Construction; Aerospace and Advanced Manufacturing; Marine Manufacturing and Technology; International Trade, Transportation, Logistics. The centers help coordinate and guide statewide education and training efforts in these sectors to ensure each industry has a skilled, competitive workforce. Each Center of Excellence helps create linkages and collaborations between education, business, industry, community partners, and workforce development organizations.⁵⁴

Seattle and Washington State's workforce development investments and strategies have helped many industrial businesses access the skilled workers they need to succeed. As in other communities, however, the workforce development system in Seattle could be strengthened through better coordination and less fragmentation. Better aligned and coordinated investments and strategies by workforce development entities could help improve the engagement and participation of industrial businesses and ensure that precious public and private resources are spent efficiently.

As basic industries grow and new jobs are created, the efforts of the workforce development community and investments by funders should grow with them to ensure local residents are prepared to take advantage of these opportunities. As seen earlier, the basic industries workforce is older and many workers are expected to retire in the coming years. Policymakers, funders, and workforce development programs should seek opportunities to support and expand apprenticeship programs, encourage the development of STEM skills and industrial career exploration in the K-12 system, and increase engagement between educational institutions and industrial businesses to help ensure businesses in basic industries have the skilled workforce they need to succeed and compete in today's global economy.

Other Industrial Business Attraction & Retention Challenges & Strategies

Through a small number of interviews conducted with industrial business leaders by SJI, other challenges to industrial retention and growth were revealed. One business leader worried about the rising cost of living in Seattle. "Very few of our employees can afford to live in the city anymore,"

he said. "We have to go farther and farther away to get the talent we need, and not many of those workers want to make the tough commute into the city anymore."

Some industrial businesses are concerned about the effects the city's minimum wage hike, the paid sick time law, and additional taxes may have on small industrial businesses. Business leaders also expressed concern about an increasing maze of environmental regulations, which increase the costs of doing business in Seattle. In general, business leaders expressed concern about the bureaucracy of city government when it comes to important processes such as issuing permits.

These issues are on the radar of policymakers and political leaders. Several complementary initiatives have taken root in Seattle to help address some, but not all of these issues, in order to foster the development of Seattle manufacturers and its industrial base. The City of Seattle and the Manufacturing Industrial Council partner together on Seattle First, an initiative devoted to industrial business attraction and retention. Seattle First is another proactive way to identify the issues and concerns of industrial businesses and then develop customized solutions to address those challenges. Seattle First, designed by industrial business managers and owners, has a Rapid Response Team to provide a coordinated response to companies wanting to locate or expand in Seattle. The Rapid Response Team and Seattle First can help industrial businesses problem solve challenges with government regulations and relocation. Business members of Seattle First can access free and low cost services. The programs can help with state tax incentives, capital investment loans, and workforce training services.⁵⁵

In addition to technical and consulting assistance offered by Seattle First and Office of Economic Development's Grow Seattle initiative, a collaborative of local producers and manufacturers has formed in an effort to collectively grow their businesses. The Seattle Made initiative is designed to promote Seattle products and educate the public about the value of manufacturing to the Seattle economy and community. Eventually, the initiative will also offer a variety of support services and training to manufacturers.⁵⁶

Recent efforts and statements by Mayor Ed Murray point to a strong commitment to the industrial base from his administration. Mayor Murray's recently commented, "For well over a century, maritime and manufacturing industries have helped shape and define the identity of this city...I'm looking forward to working with these industries to build upon Seattle's strengths as a maritime and manufacturing center and as a trading hub."⁵⁷



X. RETAINING BASIC INDUSTRIES: LESSONS FROM OTHER CITIES

The challenges of attracting and retaining basic industries are not unique to Seattle. The increasingly competitive global economy, the rise of other industries such as information technology, pressures on industrial lands, and other factors have led to many cities re-examining the role and importance of their industrial base. Research conducted by the University of Maryland showed an increasing number of cities and regions conducting industrial land use studies. Many of these studies noted the loss of industrial lands to residential and other development and found that if industrial lands are not protected, industrial businesses can be crowded out of the economy.⁵⁸ Many cities and regions are also constantly examining their transportation systems and workforce development policies and practices to ensure these needs of basic industries are addressed. In this section, we highlight the stories of San Francisco and Chicago and their efforts to retain and grow their industrial base.

San Francisco

Similar to Seattle, San Francisco's economy relied on industrial businesses and a strong port in its early years. Throughout the first part of the 20th Century, the Port of San Francisco was one of the busiest ports in the country with a large industrial area of piers, railroad terminals, and warehouses. During World War II, the port served as a military logistics center and shipbuilding and ship repair flourished. And after the war, San Francisco continued to be the West Coast's premier cargo port.⁵⁹ Over the last several decades, however, the port and the basic industries surrounding it have moved away, and with them, many of the middle-wage jobs they provided to the city.

Beginning in the 1950s, competition with other West Coast ports, including Seattle, but also from across the Bay in Oakland began to compete with San Francisco's port. Longer wait times at docks and the increasing use of trucks to transport goods instead of rail put San Francisco's port at a competitive disadvantage. Truck drivers did not want to wear their trucks driving through the hills of San Francisco and space challenges around San Francisco's port made maneuvering trucks very difficult. Ships began to get bigger and San Francisco's port could not accommodate these larger ships and many sheds had insufficient floor space. Towards the beginning of the 1960s, many industrial businesses that relied on material transferred through the ports could now rely on trucks more to transport their goods to them and began abandoning the area for cheaper rents in suburban locations. Manufactured items such as machinery and electronics began to replace raw and unrefined good such as fruit and fewer processing plants were needed near the waterfront. As more basic industries relocated away from the port, other sectors including the service industry moved worsening traffic congestion and increasing land use conflicts.⁶⁰

The development and use of shipping containers dealt a serious blow to San Francisco's Port in the 1960s. The move to the use of containers necessitated the purchase of new infrastructure such as cranes and other marshaling equipment and required existing facilities to be altered. More land space was also needed to sort, stack, and store containers and rail lines and truck access needed to re-designed and improved. Ultimately, San Francisco had few land areas sufficient to accommodate container shipping.⁶¹

As San Francisco's port faltered, the Port of Oakland had transformed from a minor port of call to one of the busiest ports in the country. Containerization, investments in the infrastructure of the Port of Oakland, the geographical advantages of Oakland due to its closer proximity to distribution routes, the move to trucking, traffic congestion, and competition with tourist facilities for street and rail space in San Francisco, and a myriad of other factors contributed to Oakland assuming dominance in shipping over San Francisco. As a result, the number of jobs related to waterborne commerce in San Francisco decreased from 23,000 in 1964 to 11,000 in 1978.⁶² The rise of the Port of Oakland over

San Francisco's port illustrates the decentralization of San Francisco's manufacturing, distributing, and maritime industries to the suburbs and other Bay Area centers after World War II.⁶³

According to a report produced for the Mayor and Board of Supervisors in San Francisco in 2007, "The industrial sector of the economy grew dramatically through the war years of the 20th Century and San Francisco like many core cities had a base of large-scale factories and operations that remained a visible part of the landscape well into the 1970s and 80s. By this time, however, the dominance of large-scale manufacturing and the port were ebbing."⁶⁴

San Francisco was on the move towards a corporate center for global headquarters and offices. Over a 25 year period, from 1965 to 1980, San Francisco's office space more than doubled.⁶⁵ From some perspectives, the efforts to prioritize the development of non-industrial sectors also shifted how the city prioritized workers. "Within twenty years from the late 1950s to the early 1980s, San Francisco replaced its low rise factories and warehouses with high rise modern office buildings, shifted its economic base from manufacturing and distribution to corporate and business services, and shifted its employment base from working class to middle and upper class."⁶⁶

What remained of the city's manufacturing economy in the 1980s began shifting away from large-export based factories centered around industries such as food processing and garment manufacturing to new, smaller industrial businesses more focused on local and regional activities.⁶⁷ The bulk of large distribution and manufacturing companies left San Francisco by the 1980s to more affordable and attractive locations in the suburbs where they could build large, single story facilities. As the port's cargo business declined, fewer distribution facilities and trucks were needed, which exacerbated the trend of industrial businesses leaving the city.⁶⁸ Between 1980 and 1989, employment in San Francisco's transportation, wholesale trade, and manufacturing sectors all decreased by double-digit percentages.⁶⁹

The dot-com boom of the 1990s put further pressure on San Francisco's industrial lands and businesses. Multimedia and technology firms began building offices on traditionally industrial lands. Office growth in San Francisco between 1995 and 2000 doubled what had occurred in the previous 10 years.⁷⁰ The growth of San Francisco as a technology and finance hub drew more workers to the city. With a growing population the need for more housing also increased. Industrial lands, which were easy and cheap to develop, soon became desirable locations to build new apartment buildings, condos, and live/work lofts. Between 1982 and 2002, land use for residential purposes increased by nearly 120 percent while land use for industrial purposes fell by eight percent.⁷¹ Lax zoning regulations allowed many of the lands to be easily converted as well. As demand for land increased, rent on industrial lands increased, which forced many businesses to relocate to other parts of the city, leave San Francisco or go out of business.⁷²

Between 1990 and 2005, San Francisco's basic industries continued to face significant headwinds. Employment in manufacturing decreased by 60 percent over this time period and wholesale trade fell by nearly 40 percent. At the same time, employment in accommodation and food services – typically lower-paying jobs - rose by over 20 percent.⁷³

In the early 2000s, many political and community leaders expressed concern about the loss of much of the city's industrial base. In 2002, the San Francisco Planning Department released a report on industrial lands in San Francisco that called for new zoning controls over the city's industrial lands. The research highlighted that Francisco's land use policy included zoning districts designed to allocate space for office, retail, and residential uses, but no equivalent regulations for industrial activities. As a result, developers have the right to compete with industrial businesses over land where industrial uses are permitted, a battle industrial businesses will often lose.⁷⁴

In 2007, San Francisco's Back Streets Business Advisory Board released a report detailing concerns about retaining and growing the businesses they defined as medium-size industrial or commercial businesses that create products or provide services in manufacturing, wholesale, commercial, logistics, construction, repairs, and food processing. According to the report, "The land available for the kind of larger-footprint and operations-intensive activities characteristic of Back Streets Businesses is not growing, and in fact has been shrinking over recent decades as office and residential uses have slowly spilled over into formerly industrial districts from adjacent neighborhoods."⁷⁵ The report highlighted several land issues affecting industrial businesses including the critical shortage of industrial properties in the city, the negative impacts of industrial land being subdivided during the dot-com boom, and the allowance of housing in existing industrial areas. Limited truck route, the failure to provide back street businesses with a voice in the city's decisions, and workforce issues were also cited as concerns.

The decrease of industrial businesses in San Francisco can likely be attributed to a variety of factors. The failure to protect industrial lands among pressures to develop more housing and office space stands out as one driving factor. Today, only 6.8 percent of land in San Francisco is zoned for industrial purposes, the lowest of any major city in the U.S.⁷⁶ Global competitive pressures and the geography of the city, however, may have made some of the decline inevitable. The high costs of doing business in San Francisco may also have played a role. And some can certainly be attributed to the natural evolution of the region's economy towards a larger reliance on sectors such as information technology. Political leadership, until recently, around preserving industrial businesses and jobs has been relatively absent. And community and stakeholder engagement around these issues has seemed uneven. According to a report by the City and County of San Francisco Budget and Legislative Analyst, "From 1997 until 2001, community organizations had no formal access to planning and policy making regarding zoning in industrial districts and construction of live/work

developments.”⁷⁷ Simply arriving at a common definition of what an industrial business and job is has also complicated efforts to retain San Francisco’s industrial base.

What is clear, however, is that San Francisco has lost many of its good-paying industrial jobs. According to the Mayor’s Office of Economic and Workforce Development in San Francisco, over the last several decades, “there has been a consistent decline in middle-income occupations, including production-related and office and administrative jobs” and “growth has been steady and slow in low-income service occupations.”⁷⁸ Data provided by the Office of Economic and Workforce Development showed jobs in basic industries in San Francisco County fell from nearly 79,000 in 2001 to about 60,000 by 2014, a 24 percent decrease.⁷⁹

San Francisco’s strongest industries today are the Creative Industries and the Experience Industries. Creative Industries include the information technology, film and music, and high manufacturing sectors while Experience Industries includes accommodations, restaurants and bars, and recreation sectors. These industries have created mostly high-paying jobs for the highly educated and low-paying jobs for those with minimal levels of education. The Local Industries, which include wholesale trade, construction, transportation, and traditional manufacturing, create a more balanced distribution of job opportunities, but these have continued to decline in recent years.⁸⁰

These trends and loss of industry have likely contributed to the city’s large income inequality. San Francisco has the second highest income inequality of America’s 50 largest cities according to the Brookings Institution.⁸¹ San Francisco also experienced the largest growth in income inequality between 2007 and 2012 out of the 50 largest cities in the U.S.⁸²

San Francisco still maintains small segments and pockets of industrial businesses including a healthy printing and publishing sector and emerging food and beverage, and apparel and bag manufacturing sectors. According to a report released by SFMade, a nonprofit organization focused on developing San Francisco’s manufacturing sector, manufacturing now employs over 4,000 individuals in the city.⁸³ Headwinds remain strong though as industrial land remains scarce and rents high. Many of these new businesses will need space to grow, which currently doesn’t exist. SFMade’s report also highlighted that the lack of affordable housing for manufacturing workers is a challenge for the sector.⁸⁴

San Francisco has recently moved forward with more industrial friendly land policies. In 2009, San Francisco switched 1,000 parcels of land to a strict industrial zoning classification.⁸⁵ In addition, San Francisco passed legislation that eliminated some “red tape when it comes to building and expanding manufacturing spaces.”⁸⁶ Mayor Ed Lee recently created a five point plan to preserve and grow manufacturing and distribution sectors that will focus on “building new industrial space on private sites, building new industrial space on public sites, upgrading existing industrial space, preserving

existing industrial space, and retaining and growing production, distribution & repair (PDR) businesses.”⁸⁷ The commitment to San Francisco’s industrial base by political leaders is a welcome sign as the city attempts to recapture some of the industrial businesses and jobs it lost over the last several decades.

Chicago

In the 1800s, Chicago quickly gained prominence as the nation’s central trading hub that connected the East Coast with the ever-expanding territories to the West. The creation of the Illinois and Michigan Canal in 1848 that built a link between the Mississippi River and the Great Lakes also expanded the city’s commerce and economic reach. The construction of railroads cemented the city’s place as a primary transportation hub in the United States. Even today, half of the rail freight in the U.S. continues to pass through Chicago.⁸⁸

By 1860, Chicago was the chief rail center as lumber, grain, and livestock from the Midwest and West made their way to markets in the eastern U.S.⁸⁹ As a central transit point, Chicago was able to use a variety of raw materials from the Midwest to produce a range of goods including automobiles, steel, petroleum products and communications equipment. The city also became a large printing and publishing center.⁹⁰

Chicago’s famous stockyards took root in the mid to late 1800s, as well as the rail trade and the meatpacking industry grew. The work of the packinghouses quickly led to the creation and expansion of other industries. Using the by-products of the slaughterhouses, factories began to manufacture soap, leather, fertilizer, glue, perfume, instrument strings, shoe polish and other products.⁹¹

Financial and banking sectors grew quickly and the city became home to many corporations following the creation of the Chicago Stock Exchange in 1882.⁹² The manufacturing industry began branching into other sectors such as chemicals, furniture, machine tools and more around the turn of the century. The city’s production of telephone equipment “made Chicago the Silicon Valley of an earlier era.”⁹³

During World War II over a 1,000 companies produced a wide range of military goods and products.⁹⁴ Post World War II, the expansion of the federal highway system and refrigerated trucks allowed packinghouses to move out of the more expensive urban areas they had depended upon for railroad access. The increases in land value, property taxes and environmental regulations also contributed to the stockyards’ decline.⁹⁵ During the first four postwar decades, Chicago lost an estimated one million jobs as the city’s multistory factory buildings located in congested urban areas lost out to suburban

industrial parks with single story plants and access to expressways.⁹⁶ The decentralization and loss of industry were occurring at the same time the economy was shifting more towards professional and corporate services. This shift was seen prominently in the large growth and concentration of commercial offices in the Loop business district and office parks in the suburbs.⁹⁷

Despite these trends, Chicago maintained a fairly healthy industrial base into the late 1970s and early 1980s. Like Seattle, a large part of Chicago's industrial base is located within near downtown and is a critical part of the landscape and culture. This base, however, was increasingly endangered by increasing foreign competition and land pressure according to the Initiative for a Competitive Inner City:

“In the 1980s, Chicago’s inner city was bleeding its industrial jobs—partly due to increased foreign competition (specifically, Germany and Japan). A tight housing market and demand for both housing and retail development created pressure on industrial firms located on Chicago’s near-north side. The city was experiencing an influx of young urban professionals moving to areas downtown near the industrial corridor for jobs in the financial, insurance and real estate sectors. Developers had begun to convert vacant industrial buildings in to residential units...As residential uses crept toward the industrial corridor, industrial firms seeking to expand put their plans on hold. Real estate speculation on remaining sites increased pressure on existing firms to sell, move or close.”⁹⁸

At that time, each of the city's aldermen essentially controlled and regulated land use and zoning decisions in their wards. As a result, proposed land zone changes were essentially made on a “case-by-case” basis without any overarching policy or framework to guide these decisions.⁹⁹ In some neighborhoods, the failure to protect and retain industrial businesses in the face of foreign competition and land use pressures had devastating consequences. In the North River Industrial Corridor, half of the industrial firms and jobs were lost in the 1980s.¹⁰⁰

As jobs began to exit the area, community based organizations and organizers became concerned about declining employment and economic opportunities for their constituents. The Local Employment and Economic Development Council (LEED), a community development organization now named North Branch Works, began to document the industrial displacement and its resulting impacts and organized manufacturing companies, labor unions, local press, and residential groups around the importance of maintaining an industrial base and industrial jobs.¹⁰¹

Reflecting on these efforts, Mike Holzer, LEED Council's director of economic development said, “We were able to put together a case that showcased industry's importance and the jobs that industry supported. We worked with universities and city planners and got the city to understand that the jobs at these medium and large industrial plants were often good paying, head of household jobs that paid

benefits.” The data on the economic benefit of these jobs stood in stark contrast to the retail jobs that new development was bringing.¹⁰²

Despite strong opposition from developers and some media outlets, who favored zoning policies that encouraged “highest” and best” use,¹⁰³ efforts and arguments led by LEED and their partners including the Chicago Department of Economic Development began to curry favor with elected officials and the community. Eventually, their efforts garnered the support of Mayor Harold Washington who became concerned about the effects industrial job loss was having on workers, families, communities and the city.¹⁰⁴

While Mayor Washington formed industry task forces to battle industrial job losses, LEED, DED staff, and other community leaders developed a complementary land zoning tool to these efforts. In 1985, these industrial advocates proposed the creation of Planned Manufacturing Districts (PMD). PMDs would serve as special zoning designations that would restrict the rezoning of industrial land for non-industrial uses. In particular, PMDs were intended to preserve manufacturing employment by protecting industrial firms from encroachment by other land uses that were non-compatible with manufacturing.¹⁰⁵ With a goal of retaining and creating good jobs for city residents, PMDs “would make future zoning changes extremely cumbersome.”¹⁰⁶

In 1988, after a few more years of organizing, advocacy and coalition building, Chicago’s City Council with the support of Mayor Sawyer established its first PMD in the Clybourn Corridor. The ordinance creating the first PMD also provided a legal framework to create additional PMDs in other parts of the City and mandated that zoning in a PMD can only be changed with a majority vote by City Council. PMDs are designed to:

- **“foster the city’s industrial base;**
- **maintain the city’s diversified economy for the general welfare of its citizens;**
- **strengthen existing manufacturing areas that are suitable in size, location and character and which the City Council deems may benefit from designation as a PMD;**
- **encourage industrial investment, modernization, and expansion by providing for stable and predictable industrial environments; and,**
- **help plan and direct programs and initiatives to promote growth and development of the city’s industrial employment base.”¹⁰⁷**

With Mayor Daley's support, Chicago established two more PMDs in 1990, two more between 1991 and 2000, and an additional five in 2004.¹⁰⁸ Today, Chicago has 15 Planned Manufacturing Districts.

Other policies and mechanisms added additional support to the PMDs. The city's Local Industrial Retention Initiative, established under Mayor Washington, offers industrial businesses assistance and serves as their advocate.¹⁰⁹ LIRI Councils, operated by local nonprofit organizations with funding from the city, help serve as a liaison between the city and industrial businesses in particular locations. LIRI provides services to businesses related to planning, needs assessments, maintaining inventories of existing facilities, workforce development services, and more. LIRI Councils are able to identify business needs and advise city departments on how best to address those needs.

LIRI Councils can also help businesses access grants and tax credits. Chicago's use of Tax-Incremental Financing (TIFs) are also widely recognized as a promising tool in retaining industrial businesses. TIFs are used to help manufacturers and other industrial businesses to grow and develop their properties. Under TIF, the city essentially freezes property taxes in designated TIF districts at a base value for 23 years. If the land is improved or developed, and the property value increases, any increment of tax revenue collected above the base value is reinvested in the TIF district to make additional improvements. Industrial businesses in Chicago have used TIF to facilitate site and property improvements, improve signage, purchase property for truck staging, and finance worker training initiatives.

Chicago's efforts to retain industrial businesses have led to some mixed results. Research conducted by the University of Wisconsin-Milwaukee that evaluated the impacts of three PMDs in Chicago found the PMDs performed well on overall business and job creation and retention. Between 1988 and 2004, the number of businesses in these three PMDs increased from 255 to 356 while jobs rose from 6,588 to 7,415. Creation and retention of manufacturing jobs in the three PMDs varied and one of the PMDs "has transitioned from a largely industrial area to a retail area" despite the PMD designation. And manufacturing jobs in another district were largely replaced by warehouse jobs. Still, the overall trends in the research conducted indicate that the PMDs are having positive impacts.¹¹⁰

The use of TIFs has shown mixed results. One study, that recognized while some individual TIF projects may have had success in creating jobs, found that on average TIFs were unsuccessful in increasing economic development and that the use of TIFs may have led to decreased funding for education due to the diverted public revenues.¹¹¹

Overall, manufacturing in the Chicago metropolitan area is still central to the region's economy. In 2011, Chicago's metropolitan area had about 411,000 manufacturing jobs, the second highest in the nation. Manufacturing is also playing an increasingly important role in the regional economy.

Manufacturing's percentage of all metro jobs increased from 1.08 times the national percentage in 2001 to 1.11 times that percentage in 2011.¹¹² Many of these jobs are accessible and well-paying. In 2012, there were 136,000 jobs in production that paid a median wage between \$10 and \$22 per hour and nearly 40,000 high-skill production jobs that paid a median wage between \$19 and \$27 an hour that required advanced vocational training according to the Chicago Metropolitan Agency for Planning.¹¹³

Like many cities, the overall trend in recent decades has shown a drop in manufacturing employment, and though manufacturing employment is beginning to rebound in recent years, Chicago has been no exception. Given some of these results, some may call into question the effectiveness of PMDs and Chicago's other industrial retention activities. The context for when this research was conducted in which a large portion of the U.S. manufacturing base relocated overseas, however, should be kept in mind. Effective land use controls and business supports alone cannot provide immunity to global pressures and trends. The city's continued loss of manufacturing may have occurred even more rapidly without these efforts.¹¹⁴

Chicago's remaining and diverse industrial base and its protection of industrial lands, the business services offered to industry, and the focus of many local workforce efforts on manufacturing now has the city well-positioned to take advantage of the small rebound in manufacturing that is occurring nationally. Importantly, a critical success of the PMDs was a change in the way the city thought about economic development. According to the Initiative for a Competitive Inner City, "The success of the PMDs has altered the Chicagoan mindset toward industrial activity. It is now more widely accepted and the 'highest and best' has been redefined to include the impact of jobs."¹¹⁵



XI. LESSONS LEARNED & FUTURE DIRECTIONS

Seattle, San Francisco and Chicago highlight the challenges of retaining an industrial base in an ever-changing global economy. These cities, however, also point to some common principles and actions that can help support retaining industrial jobs. None of the cities were immune to the loss of industry though some of the policies and practices implanted in Chicago and Seattle likely helped stem the loss of manufacturing and other basic industries. Some of the key lessons learned from all of these cities include:

- **Industrial retention must be an ongoing and visible priority from the highest levels of local government.** Retaining a strong industrial base requires strong leadership and a long-term vision for the region’s economy. This vision must be communicated and local leaders must be willing to make sometimes unfavorable choices around issues such as land use and transportation. Industrial retention is ultimately a choice communities and their leaders must make about what type of economy and jobs they want.
- **Retaining a strong industrial base requires a comprehensive strategy.** Preservation of industrial lands is often only one piece of a larger strategy. Planners and policymakers must also work to develop fair regulations, make transportation systems more efficient, invest in the education and skills development of entry-level and incumbent workers in basic industries, and provide technical assistance to help industrial businesses start, grow, and navigate government regulations.
- **Forums and relationships that promote regular dialogue between industrial businesses and local government are critical.** In order for government to be responsive to the needs of industry, government must have numerous ways to solicit input and feedback from business leaders. Formalized advisory committees and boards, as well as informal relationships between government staff and business owners, can help ensure the challenges of businesses are known and recognized and facilitate the development of creative solutions. Designated intermediary organizations are another mechanism to be considered in facilitating dialogue and partnership between the business community and government.
- **Research into the challenges and opportunities of the industrial base must be ongoing.** Quality research can help catalyze industrial retention efforts. Surveys and interviews with industrial businesses can help pinpoint the challenges businesses face. Research and evaluation into other areas such as transportation systems, workforce development initiatives, and the impacts of government regulations can also help identify industry needs and concerns and help inform strategies going forward.
- **A strong and diverse coalition that advocates for retaining an industrial base must be built and continuously expanded.** Retaining an industrial base is the responsibility of the local government, business leaders, workers, and the community at large. The stories of Seattle and other cities such as Chicago show that the involvement and pressure of the community on local government to retain industry is vital.

Basic industries in Seattle are on a positive trajectory with significant growth expected in the years ahead. City leaders, industrial supporters, advocates and funders should capitalize on this trajectory. The workforce development community should continue to try to align resources, find opportunities to support and expand apprenticeship programs, encourage the development of STEM skills and industrial career exploration in the K-12 system, and increase engagement between community colleges and industrial businesses. A skilled and productive workforce will be needed if local businesses are to compete with foreign and domestic competition. Larger investments in public transportation, ITS systems, and truck route improvements are also needed to improve the flow of goods, services, and workers.

As Seattle grows, the pressures on industrial businesses and lands are likely to increase. Only a large, broad-based coalition is going to be able to help confront these pressures. The responsibility of retaining and growing industry does not fall on the government's shoulders alone. Efforts from Seattle and other cities show that communities that understand and advocate for retaining an industrial base are one of the most important determinants of whether industrial jobs are retained. Retaining industry at its core, some argue, does not rest on a set of defined policies or practices that can be replicated in other cities. Rather, those advocating for industrial retention need first and foremost to learn how to organize communities and stakeholders to support their efforts.¹¹⁶ Industrial advocates, as a result, need to look for new opportunities to build alliances and coalitions. Advocates that argue for more investments in transportation systems and workforce development initiatives stand out as two possibilities. Coalition building efforts must also include more reaching out to and educating Seattle residents about the importance of the city's industrial base and industrial jobs.

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