

AN INDUSTRIAL STRATEGY

FOR THE CITY OF SAINT PAUL



PREPARED FOR THE SAINT PAUL PORT AUTHORITY

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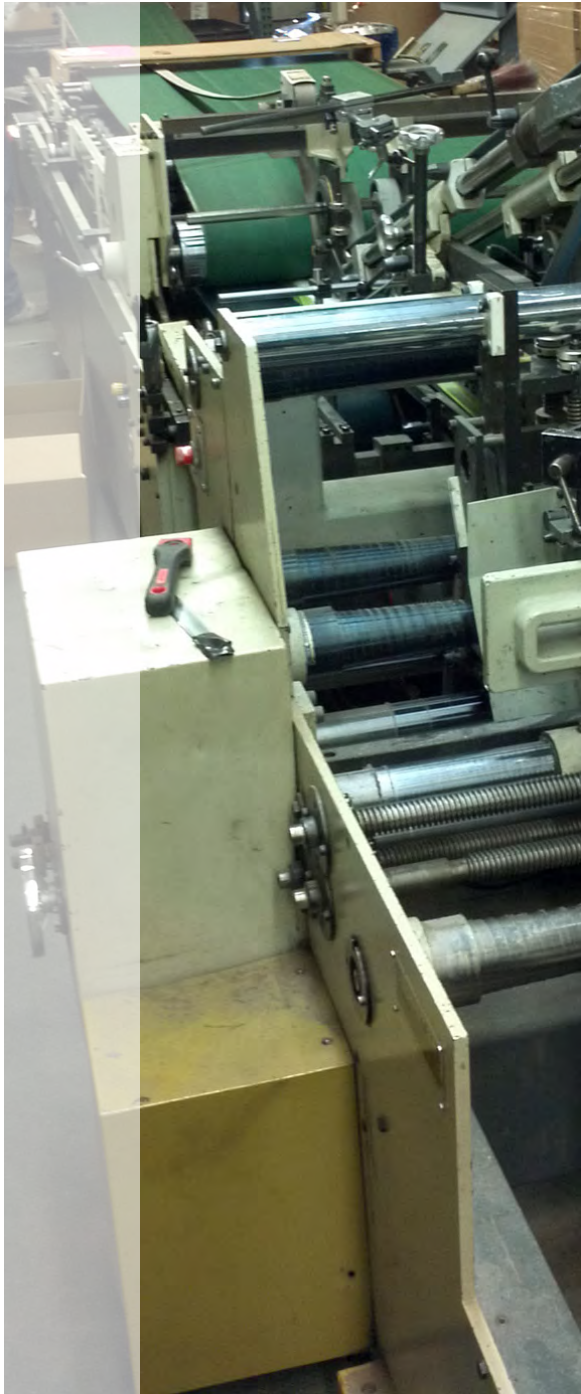
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PREFACE

The Initiative for a Competitive Inner City (ICIC), in partnership with Interface Studio and Laura Wolf-Powers of the University of Pennsylvania School of Design, began work on a comprehensive study of the Saint Paul industrial economy in June 2011. Based on a combination of data analysis, site visits, interviews with key stakeholders, and additional research, we found a city that is rich with industrial assets and opportunities, but one whose resources are not being fully appreciated or leveraged.

The project team brings a unique perspective to the study of industrial activity in cities, based on prior research and engagements. In recent years, we have been involved in an in-depth and ongoing study of the potential of modern industry to unleash growth in a re-imagined Detroit, and published a detailed industrial strategy for the city of Philadelphia. In addition, the team convened an industrial panel at the American Planning Association's annual conference.

ICIC is a Boston-based national not-for-profit organization founded in 1994 by Harvard Business School professor Michael E. Porter.* A 501 (c) (3), ICIC's mission is to promote economic prosperity in America's inner cities through private sector

* ICIC is not affiliated with, funded by or in any way supported by the Harvard Business School.

engagement that leads to jobs, income and wealth creation for local residents. There are two key aspects of ICIC's research and recommendations. The first is unparalleled access to data on urban economies, which allows ICIC to compile and track economic and demographic data for inner cities, central cities, and metropolitan statistical areas (MSAs) in its State of the Inner City Economies (SICE) database. These data allow for detailed analyses to be performed at the industry level. The second important aspect of ICIC's work is an emphasis on communication with practitioners through convenings, roundtables, and conference calls. ICIC's work in recent years has highlighted the fact that industrial activity, both nationally and in specific cities, represents a key vehicle for achieving economic growth that is not only robust, but equitable.

Interface Studio is a full-service planning and urban design practice based in Philadelphia that has worked on a diverse array of projects, including the Philadelphia and Detroit industrial strategy studies described above, corridor studies in Chicago and Macon, GA, and a master plan for Hamtramck, MI. Interface's work has been recognized with state and national awards, including three American Planning Association National Planning Excellence Awards, two for Grassroots Planning (2009 and 2012)

and one for Public Outreach (2010) as well as a national award for Planning and Analysis from the American Society of Landscape Architects in 2010. The founding principal of Interface, Scott Page, is a leading authority on urban design, teaching at the University of Pennsylvania's School of Design and lecturing widely on the topic in both the United States and Europe.

Laura Wolf-Powers is an Assistant Professor of City and Regional Planning at the University of Pennsylvania's School of Design. Her research focuses on job-centered economic development, workforce development, urban political economy and the role of community-based organizations in urban politics and governance. Professor Wolf-Powers' practical engagements center on workforce development and on urban manufacturing and industrial land use. She has presented on urban industrial land use policy and strategy at the American Planning Association's annual conference and served as a juror for the Community Design Collaborative's Design Challenge, Infill Philadelphia: Industrial Sites. Professor Wolf-Powers has also organized "How Should We Grow? Philadelphia's Industrial Future," a forum highlighting the challenges and choices facing the city of Philadelphia as it attempts to recycle unsuitable industrial land for other purposes while supporting the city's still-substantial industrial employment base.

This study is organized in six chapters. The first chapter provides background on industrial trends at the global, national, regional, and local levels, the importance of industry and industrial jobs for the future of the City of Saint Paul and the Twin Cities region, and roles the Saint Paul Port Authority and its Business Centers play in supporting an industrial

growth agenda. The second chapter documents the contribution of the industrial sector to Saint Paul and the region, and details the economic and fiscal impact of the Port Authority's Business Centers. Chapter Three describes the geography of industry in Saint Paul, identifying and illustrating the impact of local and regional assets on industry before closing with an overview of challenges to industrial development. The fourth chapter takes stock of the local and regional industrial strengths using cluster analysis, an investigation of workforce characteristics, and a review of peer cities. Chapter Five offers general recommendations on land use and urban design, leadership, cluster strategies, and workforce for key city stakeholders to consider, and Chapter Six concludes the report. Technical Appendices are available under separate cover.



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1

BACKGROUND

1. BACKGROUND

INTRODUCTION: A CASE FOR INDUSTRY

The 13-county Minneapolis-Saint Paul region has grown significantly in recent years and decades, serving in many ways as a striking contrast to its peers in the Midwest, many of which have struggled over the same period. Yet beneath the surface, trouble signs are brewing for the Twin Cities. Growth is not as robust as it once was, and once-significant edges in areas like educational attainment and innovation are beginning to diminish. At the same time, a growing gap between outcomes in the region's core cities and suburbs threatens to undermine the region's overall economic health.

A heightened focus on industrial activity holds the key to reversing some of these trends, while preserving middle-wage jobs that are accessible to residents across the educational attainment spectrum. In Saint Paul, which has experienced significant struggles over the past decade, existing industrial assets and a robust manufacturing legacy provide the opportunity to leverage industry into a sustainable vision that promotes growth in the city and region as a whole. With manufacturing experiencing a renaissance across the U.S., these strengths can be central to a successful economic development strategy.

Contrary to popular perception, such a vision hardly entails a city laden with smokestacks and pollution. Modern industry represents a range of activities involving the production, distribution, and

repair of goods and materials. In fact, several cities now use the term “PDR,” signifying production, distribution, and repair, rather than “industrial” to more accurately characterize the sector.¹ Modern industrial land may be occupied by laboratories, flex space, warehouses and distribution centers, or purpose-built manufacturing. This mix results in a broad array of opportunities for cities and their residents.

Based on an expanded version of PDR that includes activities like front-end design and recycling, industrial activity accounted for roughly 33,000 of Saint Paul's 154,000 jobs as of 2009. This number is supported by the work of the Saint Paul Port Authority, which actively converts unproductive, often-contaminated land into vibrant Business Centers

that are occupied primarily by industrial firms. As in many cities, Saint Paul's industrial land is scarce; in some neighborhoods, this is due to encroachment from residential and retail and in many this results in pressure on industrial users to sacrifice functionality in favor of smaller land use footprints. Partly as a result of this, industrial activity is often overlooked or hindered by competition from these other uses as cities and regions think about new economy growth, vibrant retail, and short-term fiscal considerations. As this report will describe, however, industrial activity is not only complementary to these broader goals, it is an important vehicle for achieving them. This makes it imperative that city leaders – whether advocates of residential, retail, industrial, or other uses – work together to ensure a unified approach that recognizes the importance of industrial activity in growing Saint Paul equitably and sustainably.



1 Adapted from An Industrial Land and Market Strategy for the City of Philadelphia, which was co-authored by ICIC and Interface. (http://www.pidc-pa.org/userfiles/file/PIMLUS_Report_September_2010.pdf)

Above: Collage of news articles documenting the rising fortunes of U.S. manufacturing activity

REGIONAL TRENDS

An Overview

The Twin Cities region – as defined for purposes of this study – consists of 13 counties, including 11 in Minnesota and two in Wisconsin. The map on the next page shows the Minneapolis-Saint Paul-Bloomington, MN-WI Metropolitan Statistical Area (MSA), as defined by the U.S. Census Bureau, with the two largest cities, Minneapolis and Saint Paul highlighted.

The Twin Cities as a region has experienced high levels of growth – especially prior to the recession of 2008 – in a part of the country that has largely struggled in recent decades. In fact, its 3.7% growth rate from 1998 to 2009 ranks second among 16 large metropolitan regions located in or near the so-called “Rust Belt.”² Yet it is worth noting that while Minneapolis and Saint Paul are home to roughly 700,000 of the region’s 3.2 million residents, they have declined, with population changes of 1% and -2%, respectively, compared to 10% for the rest of the region.

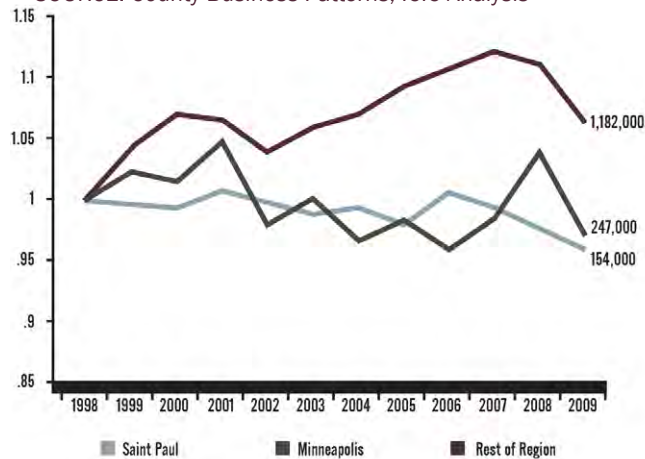
In terms of overall economic strengths, the region is particularly well-represented in advanced manufacturing, such as medical devices and analytical instruments. Minneapolis carries a reputation for being strong in FIRE (Finance,

² These regions (in order of growth rate) are: Madison, WI; Minneapolis-St. Paul-Bloomington, MN-WI; Columbus, OH; Indianapolis, IN; Pittsburgh, PA; Rochester, NY; Buffalo-Niagara Falls, NY; Cincinnati-Middletown, OH-KY-IN; Milwaukee-Waukesha-West Allis, WI; Chicago-Naperville-Joliet, IL-IN-WI; Akron, OH; Grand Rapids-Wyoming, MI; Toledo, OH; Fort Wayne, IN; Cleveland-Elyria-Mentor, OH; and Detroit-Warren-Livonia, MI.

Insurance, and Real Estate),³ and this is largely borne out in the data, which show that financial services is one of the city’s strengths, along with analytical instruments and a fast-growing biopharmaceutical industry. Saint Paul, meanwhile, is strong in educational and public sector jobs, due to the presence of major universities and state government offices in the city.

FIGURE 1. Indexed Employment Growth in Twin Cities, 1998-2009

SOURCE: County Business Patterns, ICIC Analysis



Saint Paul’s private sector is most highly concentrated in financial services and information technology, but a number of industrial strengths are emerging, as will be discussed later in this report.

Yet despite the strengths described above, the cities of Minneapolis and Saint Paul have been unable

³ Based on interviews and conference calls with city and regional leaders.

to keep up with overall job growth in the region, as shown in Figure 1. Between 1998 and 2009, Saint Paul and Minneapolis employment declined at similar rates of 3% and 4% respectively, while the rest of the region grew. Meanwhile, the distressed portions of each city exhibited varying patterns.⁴ Inner city Minneapolis actually outperformed the rest of its city as a whole, declining by just 1%, while Saint Paul’s highest-poverty neighborhoods lost 6% of their jobs over the period.

Population trends in the region largely mirror those described for employment. While Minneapolis and Saint Paul have a combined population of roughly 700,000 of the region’s 3.2 million residents, they have experienced changes of 1% and -2%, respectively, while the rest of the region has grown by 10%.

In light of this widely recognized trend of outmigration of residential and business activity,⁵ the importance of economic activity in the region’s urban centers – in particular, those neighborhoods that are struggling – is magnified. The trends shown above are an important reason why local and regional leaders should be concerned with leveraging existing assets to catalyze equitable growth across the region.

⁴ Based on ICIC’s proprietary inner city definitions.

⁵ The Metropolitan Council reported that for each year between 2000 and 2009, the urban core lost an average of 10,545 jobs, compared to a target of an annual increase of 9,600. (Source: Metropolitan Council, “Regional Benchmarks: Measuring Our Progress.” Last update: September 17, 2010. Accessed at: <http://www.metrocouncil.org/planning/framework/benchmarks.pdf>)

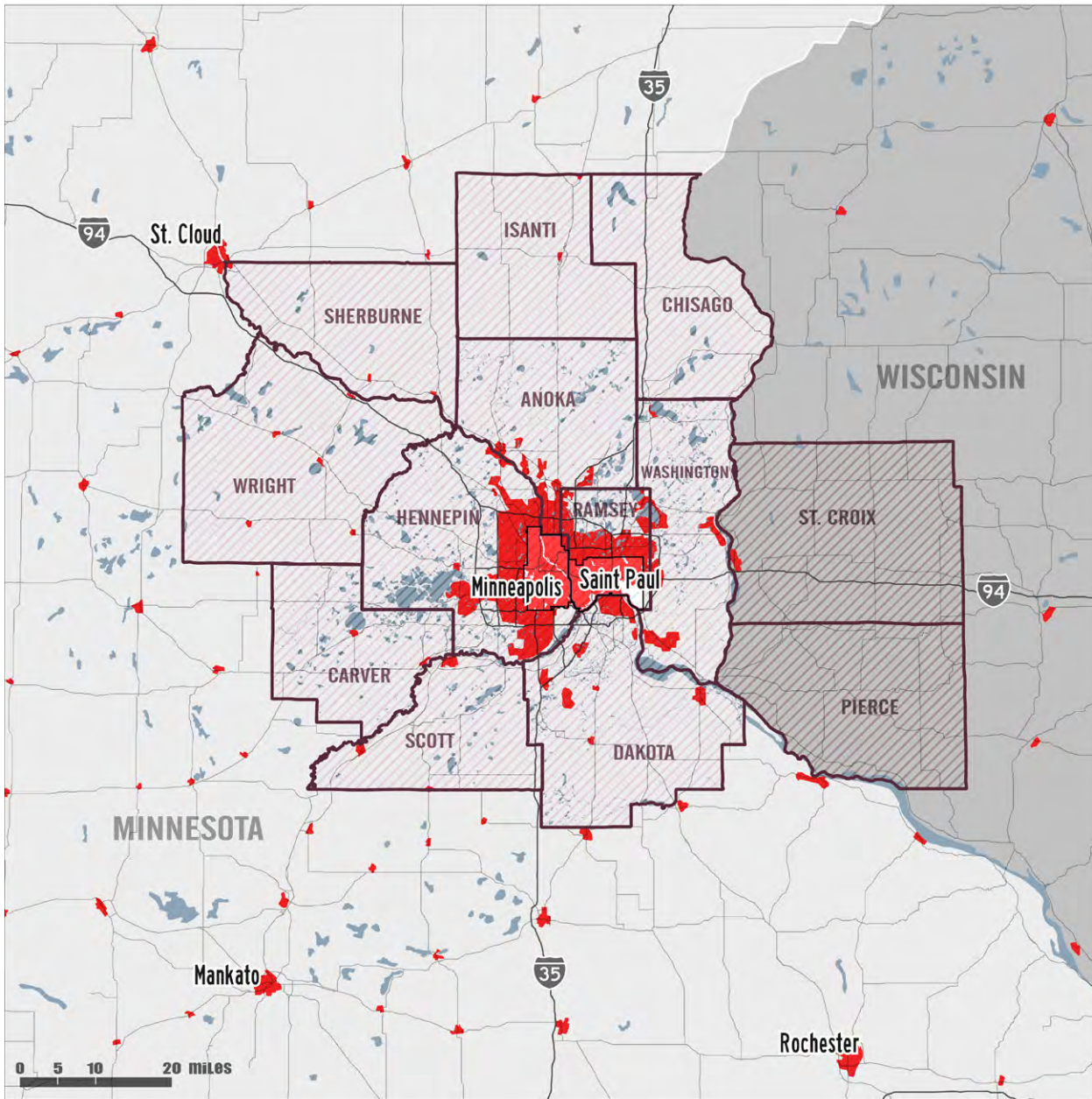


FIGURE 2. Twin Cities Region
 SOURCES: ESRI, U.S. Census

-  Minneapolis-Saint Paul-Bloomington MS
-  Urbanized Area(1,000+ per sq mi)
-  Twin Cities Municipal Boundaries
-  Lakes, Rivers, Ponds

High-Level Workforce and Firm Dynamics

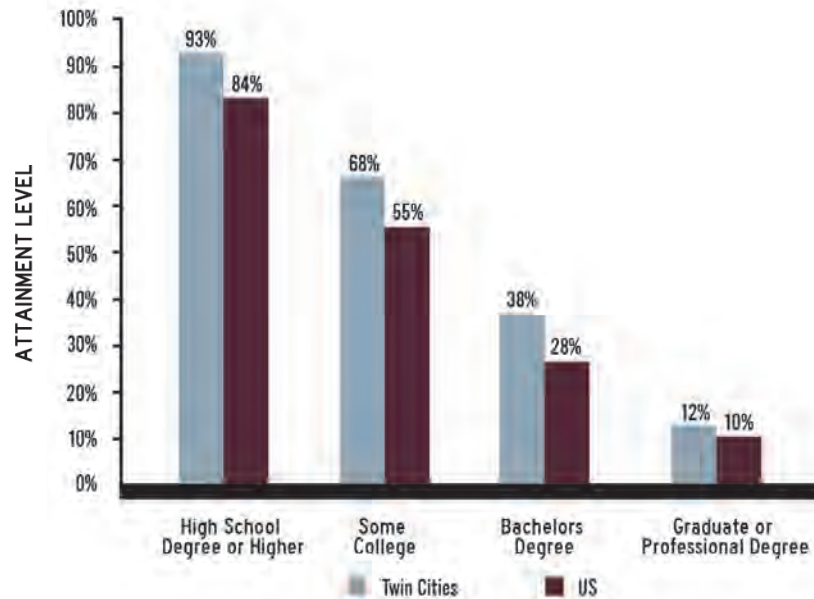
Human capital is among the region's strongest assets. The regional workforce is considered among the most well-educated and competitive in the country,⁶ with educational attainment rates that are significantly higher than the rest of the U.S. As shown in the table below, the Twin Cities region boasts high school and college graduation rates of 93% and 38%, respectively, compared to 84% and 28% for the U.S.

The Twin Cities also exhibit high levels of innovation. The region produces 56.7 patents per 100,000 people, more than twice the national average.⁷ The combination of workforce and institutional strength has put the region in a position to thrive. This is driven at least in part by the presence of educational assets throughout the city and region, which will be covered in more detail in Chapter Two.

At the firm level, the regional economy boasts an unusually high concentration of large multinational corporations, with the headquarters of 21 Fortune 500 firms, many of which are homegrown. This represents more than four percent of the Fortune 500 in a region that is home to just over one percent of the nation's population. The presence of so many headquarters generates spending and an abundance of potential opportunities for local businesses and residents.

FIGURE 3. Educational Attainment Levels in Twin Cities Region and U.S., 2009

SOURCE: Greater MSP. <http://www.greatersp.org/site-location-consultants/workforce/> (calculated using data from the 2009 American Community Survey)



6 See Appendix 2 of 2009 Metro MSP Business Vitality Index. http://www.metromsp.org/powerpoints_pdfs/2009MSPBusinessVitalityIndex_Appendix2_WorkforceDevelopment.pdf. This report shows that the region has the highest percentage of population with high school diplomas and is fourth in knowledge competitiveness among the top 25 MSAs.

7 MetroNation Profile: The Minneapolis-Saint Paul Metropolitan Area, Brookings Institution <http://www.brookings.edu/~media/Files/Projects/blueprint/metrosbp/Minneapolisbp.pdf>.

Yet despite its well-documented strengths, many believe that gaps persist in the regional economy. A recent report from the Brookings Institution concludes that, despite the region's strong asset base, its economy has suffered from missed opportunities.⁸ The study shows that the region has lagged national growth in productivity, wages, and employment. The report also recognizes that technology transfer and spinoff from research institutions have not generated enough impact in terms of regional jobs and growth. To this end, employment projections for the region have been lowered in recent years, and, according to some, an image of the Twin Cities as fragmented and without an "open for business" identity has begun to take hold.⁹

8 Full report is titled Accelerate: A Minneapolis Saint Paul Regional Prospectus for Stimulating the Entrepreneurial Ecosystem. Available online at: http://www.brookings.edu/~media/Files/rc/papers/2010/12_metro_business_muro/12_metro_business_msp.pdf

9 Based on interviews conducted during team visit to Saint Paul.

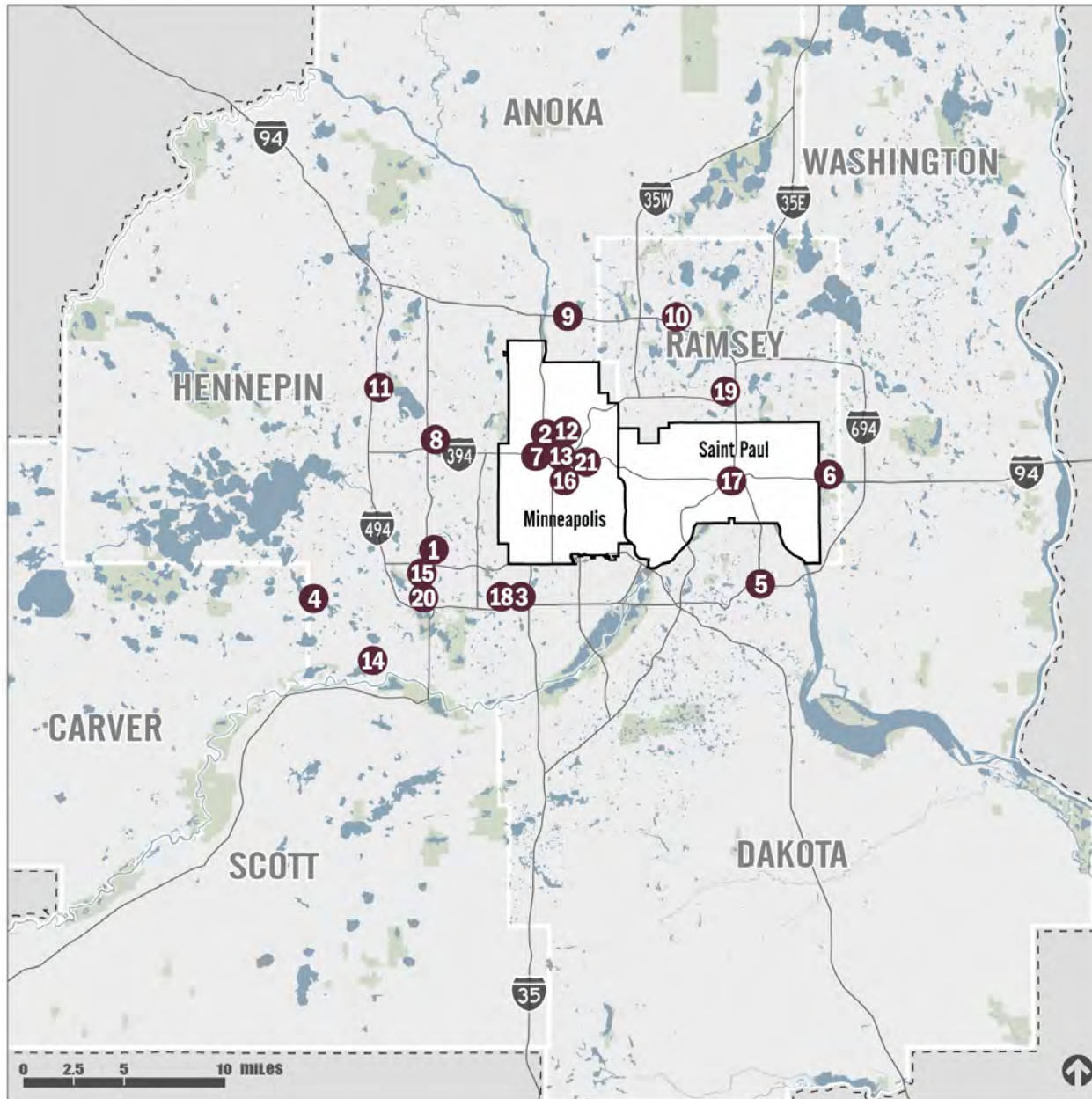






FIGURE 4. Fortune 500 Headquarters & Rank

SOURCES: ESRI, U.S. Census, Interface Studio, ICIC

1	UnitedHealth Group	21
2	Target	30
3	Best Buy	45
4	Supervalu	47
5	CHS	91
6	3M	106
7	US Bancorp	121
8	General Mills	155
9	Medtronic	160
10	Land O'Lakes	226
11	Mosaic	231
12	Xcel Energy	244
13	Ameriprise Financial	288
14	CH Robinson Worldwide	301
15	Hormel Foods	340
16	Thrivent Financial	342
17	Ecolab	365
18	Nash Finch	400
19	St. Jude Medical	445
20	Alliant	454
21	PepsiAmericas	464

-  Municipal Boundaries
-  Parks
-  Lakes, Rivers, Ponds
-  Minneapolis-Saint Paul-Bloomington MSA

Furthermore, a regional benchmarking effort showed that, over the course of the previous decade, the region's urban core lost more than 100,000 jobs while less developed suburbs added roughly 36,000.¹⁰ This movement of jobs, combined with urban poverty rates that are more than twice those of the region,¹¹ highlights the importance of equitable development throughout the region, a goal that has become increasingly elusive in recent years in the face of an increased emphasis on regionalism.¹² This is especially relevant when it comes to economic growth and job creation, which increases the stakes associated with fully exploiting opportunities in the industrial economy. With this in mind, there have been groups and initiatives that focus on further developing local manufacturing capabilities. One example is Enterprise Minnesota, an affiliate of the Manufacturing Extension Partnership, a network of more than 70 not-for-profit centers with the sole purpose of providing services to small and medium-sized manufacturers.¹³ Leveraging such organizations, perhaps as partners to regional and city stakeholders, would help to encourage the development of a base of skilled manufacturing

10 Metropolitan Council, "Regional Benchmarks: Measuring Our Progress." Last update: September 17, 2010. Accessed at: <http://www.metrocouncil.org/planning/framework/benchmarks.pdf>

11 Detailed data on poverty can be found in the discussion of workforce in Chapter Four.

12 Teresa Lynch and Adam Kamins. "Creating Equity: Does Regionalism Have an Answer for Urban Poverty? Can It?" ICIC Research: September 2011.

13 For more information, see <http://www.nist.gov/mep/about.cfm>.

workers in the Twin Cities, allowing the city and region to enjoy the benefits of industrial growth that will be described in detail in the chapters that follow.

GLOBAL AND NATIONAL INDUSTRIAL TRENDS

Despite a narrative around a post-industrial U.S. economy, the reality is that an industrial renaissance is beginning to take hold nationally. In fact, Labor Department numbers for 2011 are expected to show a second consecutive year of increased employment in manufacturing – the key industrial sector – following more than a decade of decline. Furthermore, the Institute for Supply Management reported that, as of December 2011, more manufacturers were hiring than reducing employment.¹⁴ While traditional manufacturing industries like apparel continue to lose jobs, other manufacturing sectors including fabricated metals, plastics, wood products, and food manufacturing are expected to grow nationally over the next decade. Moreover, many of the sectors with highest projected national growth are in non-manufacturing industrial activities like construction, transportation, and warehousing.

Multiple local, state, and federal agencies have been at the forefront of recognizing the opportunity that

14 Floyd Norris. "Manufacturing Is Surprising Bright Spot in U.S. Economy." The New York Times, January 5, 2012.

industrial jobs can provide, with a number of city-specific studies and initiatives taking hold in recent years. Philadelphia, for example, has re-examined its industrial potential around more modern PDR uses that fit with current land use patterns.¹⁵ Similarly, Seattle commissioned a two-year study to strengthen industrial land policies, while New York created an Office of Industrial and Manufacturing Businesses to oversee and coordinate industrial policy implementation across agencies.¹⁶ Cities like Detroit are developing industrial strategies that combine existing assets with promising opportunities, knowing that a focus on industry is perhaps the most efficient way to create jobs for displaced workers.

The future of industry is also the topic of a current national conversation about jobs and the revival of the economy. A recent report to President Obama by his Council of Advisors on Science and Technology (PCAST)¹⁷ advocates for an executive-level federal policy to support advanced manufacturing innovation, and in response the Obama Administration has launched a promising new

15 "An Industrial Land and Market Strategy for the City of Philadelphia," which was co-authored by ICIC and Interface. (http://www.pidc-pa.org/userfiles/file/PIMLUS_Report_September_2010.pdf)

16 Laura Wolf-Powers. Urban industrial land and land policy: national context. April 12, 2010.

17 Report to the President on Ensuring American Leadership in Advanced Manufacturing. Washington, DC: President's Commission on Science and Technology. June 2011.

initiative, the Advanced Manufacturing Partnership. This includes significant funding dedicated to the renewal of American manufacturing.¹⁸

There are numerous reasons why industrial activity is primed to increase significantly in the coming years and decades. For one, according to numerous studies, the competitive advantages associated with manufacturing abroad are eroding. According to the Boston Consulting Group, productivity-adjusted labor costs in the Yangtze River Delta region, China's industrial heartland, are rising 15-20% annually, making them likely to converge with those in Sun Belt states by about 2015.^{19,20} From a demand side, as wealth increases in Asia, plants in China and India may no longer have the capacity

to meet American demand.²¹ In addition to the straightforward economic costs, there are hidden costs that include an increased risk of managing vendors or operations halfway around the world, along with high turnover, inconsistent quality, and inadequate protection of intellectual property.²² On top of those concerns, the falling value of the dollar has reduced the relative price of U.S. exports, with the dollar to Euro exchange rate falling from \$1.20 in 2000 to between \$0.75 and \$0.80 during the spring of 2012.

Broad economic trends from the previous decade also point to more domestic industrial activity in the coming years. For one, the real estate bubble resulted in significant competition for land from residential developers, crowding out industrial activity. Prior to the collapse of the housing market, industrial land prices in Los Angeles, for example, increased from one-third to twice those of residential

due to pressure from conversions.²³ Now that residential demand has cooled significantly, more land – specifically, inexpensive land – is available for industry.

In addition, as crude oil has increased in price from \$16/barrel in 1999 to roughly \$100/barrel today, it has become more cost-effective for many firms to shift production closer to their headquarters and/or customer base. This, in combination with the concerns about energy usage and carbon emissions that helped spawn the green movement, has rendered long supply chains less desirable in recent years.

The confluence of factors described above helps explain recent positive trends when it comes to manufacturing and industry, while providing the foundation for an increasingly vibrant industrial sector in the coming years. In all, the signs point to an industrial economy that is poised to take off; the cities and regions that recognize this and cultivate industry stand poised to reap tremendous benefits in the coming years.

18 Is There a Progressive Approach to Innovation Policy? The President's Council of Advisors on Science and Technology Policy's Advanced Manufacturing Partnership 2011 Jennifer Clark, Georgia Institute of Technology

19 Harold L. Sirkin, Michael Zisner, and Doug Hohner. "Why U.S. Manufacturing Is Poised for a Comeback." BCG Perspectives, June 22, 2011. https://www.bcgperspectives.com/content/commentary/manufacturing_supply_chain_management_made_in_the_usa_again/

20 Harold L. Sirkin, Michael Zisner, Doug Hohner, and Justin Rose. "The U.S. Manufacturing Renaissance: Which Industries?" BCG Perspectives, October 7, 2011. https://www.bcgperspectives.com/content/commentary/manufacturing_supply_chain_management_us_manufacturing_renaissance_which_industries/

21 Harold L. Sirkin, Michael Zisner, and Doug Hohner. "Made in America, Again." BCG Perspectives, August 25, 2011. https://www.bcgperspectives.com/content/articles/manufacturing_supply_chain_management_made_in_america_again/

22 James Manyika, Susan Lund, Byron Auguste, Lenny Mendonca, Tim Welsh, and Sreenivas Ramaswamy. "An Economy that works: Job Creation and America's Future." McKinsey Global Institute, June 2011. http://www.mckinsey.com/Insights/MGI/Research/Labor_Markets/An_economy_that_works_for_US_job_creation

23 Source: Bloomberg (adapted from Industrial Strategies for Distressed Urban Economies, ICIC, September 2009).

IMPORTANCE OF INDUSTRIAL AND BUSINESS CENTER JOBS

While the focus when it comes to job creation – industrial and otherwise – is understandably on the number of opportunities being created, there are other important considerations that must be taken into account. These include job quality, as proxied by average wage figures,²⁴ and accessibility, especially with respect to those workers who do not hold college degrees.

With respect to job quality, Figure 5 shows that while the average Saint Paul job pays just over \$43,000, that figure is more than \$4,000 higher when it comes to industrial jobs. Jobs within the Port Authority’s Business Centers do even better, paying nearly \$50,000 annually, on average.

In most sectors, increased wages correspond with higher barriers in terms of educational requirements; however, industrial jobs are actually more accessible than the average opportunity, as shown in Figure 6.

²⁴ Average wages are based on industry averages that are calculated using Economic Census data on payroll and employees. Education and training requirements are based on a combination of data sets from the Bureau of Labor Statistics (BLS), one of which contains education and training data by occupation and another that shows the occupational breakdown by industry.

FIGURE 5. Average Saint Paul Wages, 2008

SOURCE: Bureau of Labor Statistics, ICIC analysis

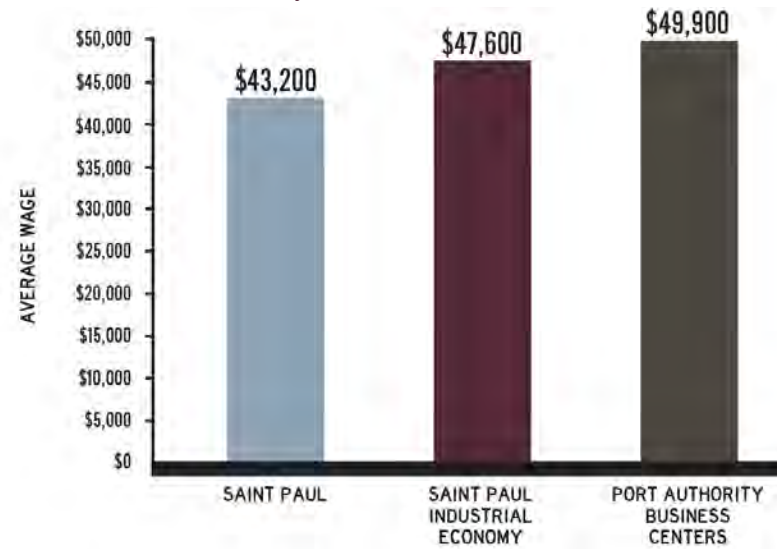
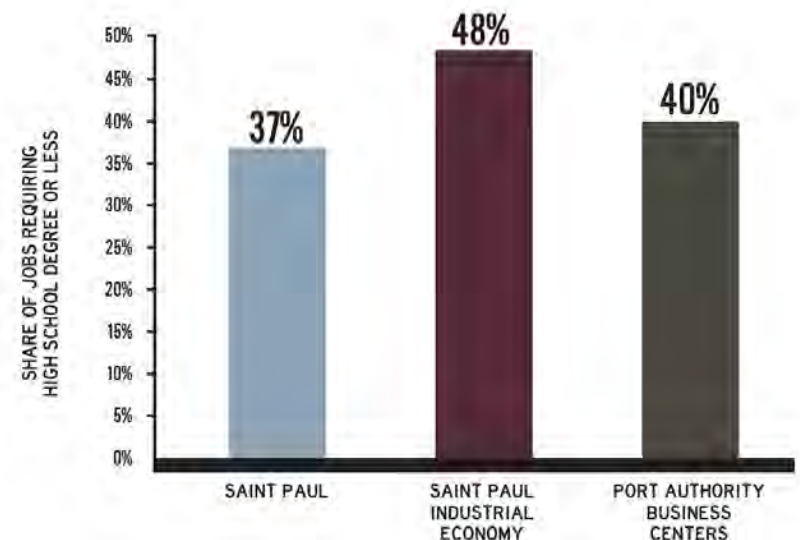


FIGURE 6. Share of Jobs that Demand High School Diploma or Less, 2008

SOURCE: Bureau of Labor Statistics, ICIC analysis



PREVIEW OF PORT AUTHORITY'S ROLE

In short, industrial jobs as a whole have relatively low barriers to entry but, unlike many opportunities that are available to less educated workers, still offer middle income wages. Within the Port Authority's Business Centers, the advantages of industrial activity can be seen clearly: despite average salaries that are more than 15% higher than the rest of the city's economy, accessibility to workers with a high school diploma or less is actually greater. These figures highlight the importance of industrial activity in the current Saint Paul economy to not only maximize job creation, but to do so in a way that results in the type of high-quality jobs that can catalyze broad, equitable growth and in turn play a role in reducing income inequality.

With this in mind, however, the industrial jobs of the future are likely to require increased levels of skill and training. While this will be covered in more detail during the discussion of workforce considerations, it is important that city leaders sharpen their focus on building the industrial skill base in Saint Paul in order to ensure that local residents are able to fully exploit emerging opportunities.

In light of the broad trend of industrial growth and its positive implications for the challenges facing the Twin Cities, the role of lead industrial organizations, including the Saint Paul Port Authority, is more important now than ever. Having served as an advocate for industry and a vehicle for industrial firms to succeed in Saint Paul for decades, the process of re-imagining and modernizing the city's economy requires the Port Authority to have a prominent voice.

The Port Authority's primary activity of converting brownfields into Business Centers that are home to large firms and thousands of jobs remains critical. These Business Centers have become an important part of the city's economy, contributing nearly \$29 million in tax revenue and accounting for more than 17,000 jobs. It is important not only that this land be protected, but that the city maximize its economic potential. Improved access and upkeep in areas that surround Business Centers are critical to maximizing firm attraction and retention possibilities. This is particularly important in the face of competition from the suburbs, the larger Midwest region, and even the rest of the world. Such concerns are particularly pronounced when it comes to the Twin Cities, as neighboring South Dakota has aggressively promoted its low business taxes via radio and print advertisements in recent

years, helping the state to successfully recruit businesses out of Minnesota.²⁵

More broadly, the future may require better leveraging the Port Authority as the leading voice of industry in Saint Paul, ensuring that the concerns of the private sector are addressed and opportunities for the city to attract and retain industrial firms are fully exploited. Like many of their counterparts nationally, the industrial firms that the Port Authority touches generally understand and embrace their role in helping to strengthen the sector in the city and region. Yet with companies becoming increasingly footloose, it is important for cities like Saint Paul recognize that they risk losing firms and jobs without maintaining a sharp focus on the needs of industry. Leveraging the Port Authority to coordinate these firms with other industrial stakeholders can not only help to promote business retention, but will allow for the development and implementation of an industrial growth agenda. Ideally, such an approach would allow Saint Paul to emerge as the urban hub of the region's modern PDR economy, especially in light of the dramatic loss of industrial land in neighboring Minneapolis.²⁶

25 A.G. Sulzberger. "Businesses Stand to Gain Most in Rivalry of States." The New York Times, April 7, 2011. <http://www.nytimes.com/2011/04/08/us/08states.html?pagewanted=all>

26 Based on interviews conducted during team visit to Saint Paul.



2

**THE CONTRIBUTION
OF INDUSTRY TO SAINT PAUL & THE REGION**

2. THE CONTRIBUTION OF INDUSTRY TO SAINT PAUL & THE REGION

THE TOTAL ECONOMIC IMPACT OF SAINT PAUL PORT AUTHORITY BUSINESS CENTERS

In order to fully understand the impact of Port Authority Business Centers and more generally, industrial activity on Saint Paul and the region, we examined the total impact of this activity on the Twin Cities, beyond simply reporting the number of people directly employed. These numbers represent indirect impacts, or the additional job creation associated with adding jobs in a particular industry, accounting for demand for intermediate goods and services; along with induced impacts, which are based on employee purchases.

The results of this analysis show that the roughly 17,000 Business Center jobs yield more than 27,500 additional jobs in the region before adjusting for double-counting.²⁷ Once the adjustment has been made (removing almost 4,000 jobs), the indirect and induced impact of Business Center firms is 23,700 jobs in the Twin Cities, meaning that firms in the Port Authority's Business Centers account for the creation of at least 41,000 jobs in the region. This is shown graphically in Figure 7.

²⁷ See Appendix for more detail on how and why double-counting adjustment was made, as well as the rest of the methodology underlying the calculations in this chapter.

FIGURE 7. Overall Job Creation from Port Authority Business Center Firms, 2011
SOURCE: Bureau of Economic Analysis, ICIC analysis

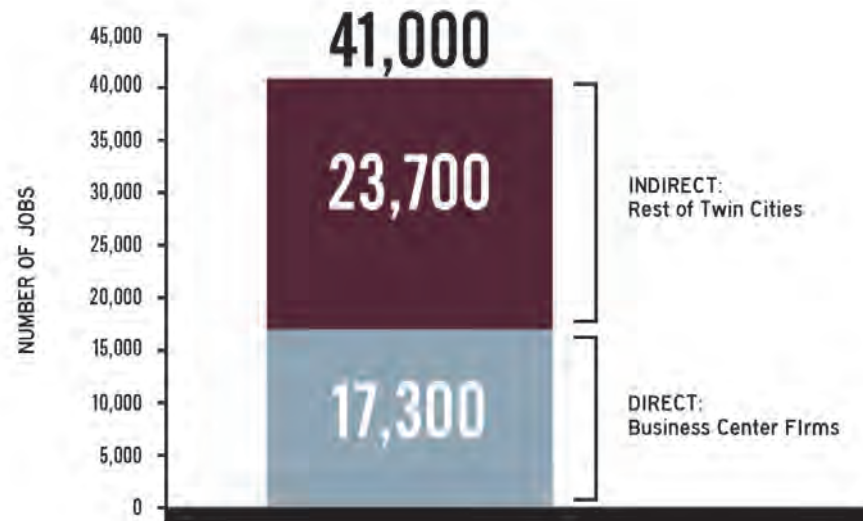


FIGURE 8. Industrial Job Creation from Port Authority Business Center Firms, 2011
SOURCE: Bureau of Economic Analysis, ICIC analysis

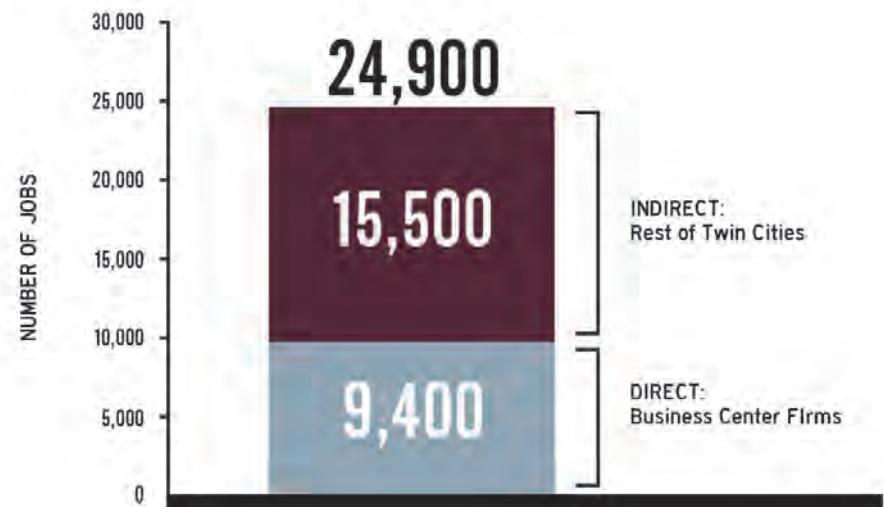


FIGURE 9. Diagram of Indirect Job Creation Driven by One Industry

SOURCE: Interface Studio

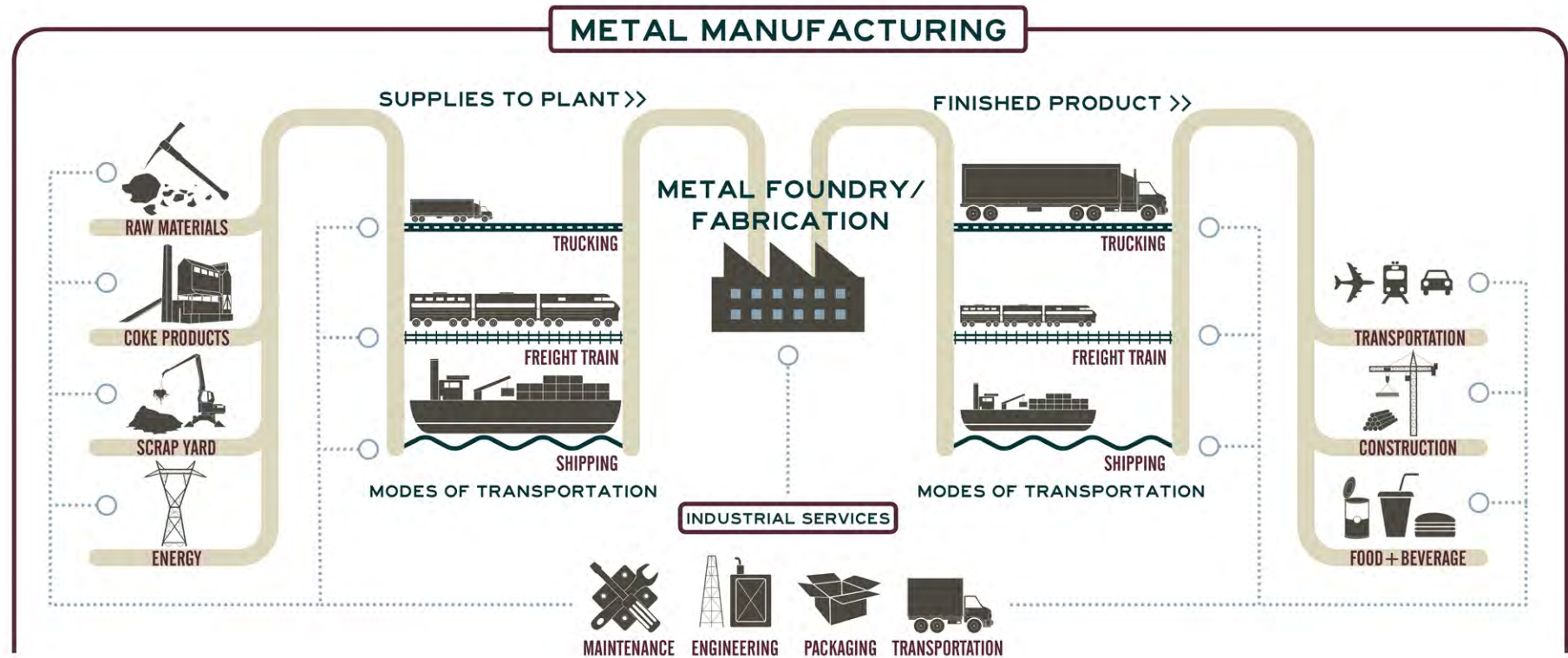


Figure 8 examines only jobs located in the Port Authority’s Business Centers that are classified as industrial. After adjusting for double-counting, these 9,400 jobs lead to an additional 15,500 jobs for the rest of the region, resulting in a total impact of nearly 25,000 jobs.

As the figure shows, every industrial Business Center job yields roughly 1.6 additional jobs in the region; this is approximately 20 percent greater than the figure for all jobs in Business Centers and nearly

60 percent higher than the corresponding number for non-industrial jobs.²⁸ Overall, this indicates a significantly higher return on investment associated with industrial job creation, with nearly 0.6 additional jobs derived from industrial employment as compared to non-industrial job creation.

²⁸ Non-industrial activity comprises the majority of economic activity in Saint Paul and nationally; among the key sectors classified as non-industrial are retail, health care, education, finance, food services, and various professional services.

FISCAL IMPACT ANALYSIS

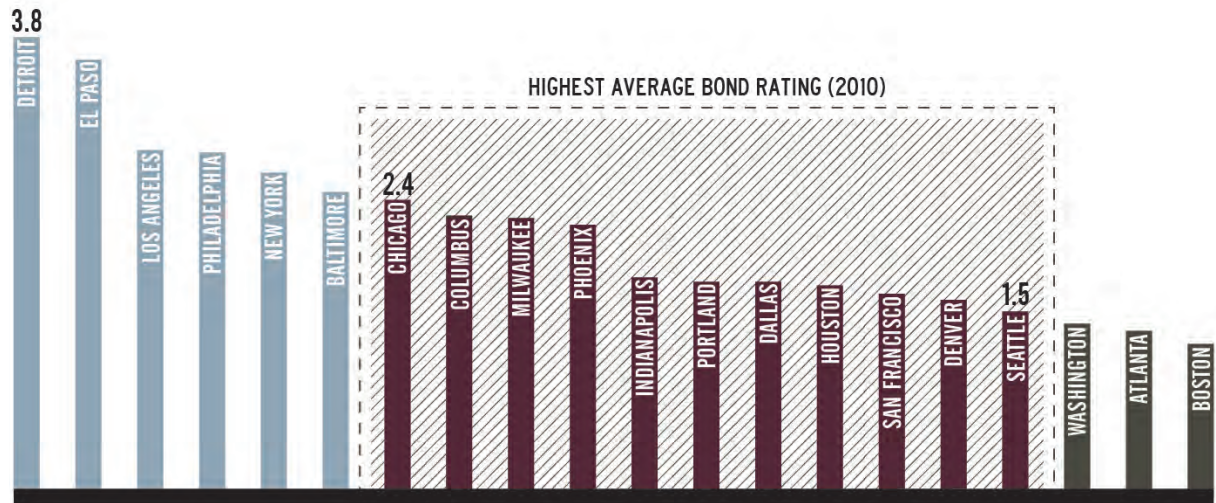
As cities struggle with their finances in an extremely challenging economic and political environment, it is more imperative now than ever that long-term fiscal viability be an emphasis for policymakers. One important question that faces every city in its attempts to achieve this goal is how best to balance residential and commercial development, as well as to understand where industrial activity fits into this mix. In order to better understand this, we analyzed and modeled the fiscal implications associated with various activities in Saint Paul.²⁹

A key principle that emerges from an examination of national trends is that fiscally healthy cities must avoid becoming overly reliant on residential development. To this end, Figure 10 shows that the ratio of population to employment in selected major cities across the U.S., using bond ratings to represent cities' fiscal health. The cities to the left of the shaded area tend to be disproportionately residential, while those to the far right are more heavily skewed towards employment. It is the cities the find the appropriate balance, generally indicated by residential population that is somewhere between 1.5 and 2.4 times greater than employment, that tend to be the most fiscally healthy. While Saint Paul would currently fit into the shaded section of the chart, it remains important for city leaders to continually monitor the balance between job creation and residential growth in order to ensure continued fiscal health.

29 We worked with numerous local and regional officials, including Cecile Bedor, Director, and Luis Pereira, Senior City Planner at Saint Paul Planning and Economic Development (PED); as well as Robb Luckow of Hennepin County. Our basic framework was a model developed by Luis and Robb.

FIGURE 10. Population to Employment Ratios for Selected Cities, 2009

SOURCE: U.S. Census, Moody's, ICIC analysis



To estimate the impact of different activities on fiscal outcomes, costs and revenues in Saint Paul were analyzed, using additional studies and the project team's research in order to better understand the impact of residential and employment growth on fiscal conditions in the city.³⁰ Based on a range of scenarios, we found that on average, existing industrial activities generate significantly more in revenue than they consume in city services. As shown in Figure 11, we estimate that industrial activity consumes only \$0.60 to \$0.70 in city services for every \$1.00 in revenue that it generates. Note that the impact of visitors on city costs on city services is not accounted for, meaning that each the cost per dollar of revenue may be overstated

30 Details about sources and methods can be found in the technical appendix on this topic.

across each of the three categories in Figure 11.³¹ While the impact of excluding visitors on each type of development is identical, the relative cost of each is not affected; in other words, it is possible that residential activity generates more revenue than it consumes but it will remain roughly 50 to 90 percent more expensive per dollar of revenue than industrial activity.

31 Note that the impact of visitors on Parks and Recreation costs is likely negligible, as large regional parks in Saint Paul (accounting for roughly half of the city's parkland) are operated by the Metropolitan Council. The rest of the city's parks are classified by Parks and Recreation as having limited service areas (Source: Saint Paul Parks and Recreation Vision Plan, <http://www.stallionpublishers.com/demos/US/Brad/714/714/default.html>).

In order to better understand the underlying drivers of these numbers, we examined some of the primary revenue sources underlying the \$553 million Saint Paul budget. Selected tax rates that contribute to this total are shown in Figure 12, along with their relative rank in comparison to cities/counties for which comparable rates are available. Saint Paul's relatively low residential and non-industrial revenues can be explained at least in part by these numbers. The absence of an income tax and very modest local sales tax limit the revenue potential associated with non-industrial activities like retail and personal services. In addition to the rates shown in Figure 12, revenue generation in Saint Paul is affected by significant franchise fees, which shifts the tax burden towards large energy consumers, typically comprising commercial (especially industrial) users. Additionally, state commercial property taxes in Minnesota are third-highest in the nation, with an effective rate of 4.7%, placing an additional tax burden on businesses throughout the state and across various sectors of the economy.³²

Meanwhile, on the cost side, there are numerous explanations for the fact that industrial generates a significant budget surplus when compared to residential. From a city expenditures standpoint, demand for police services, for example, tends to come from city residents or places where people

32 Michael A. Pagano with David Perry. Financing Infrastructure in the 21st Century: "How Did I Get Stuck Holding the Bag?" Prepared for CEOs for Cities, May 12, 2006. <http://www.uic.edu/cuppa/gci/publications/workingpaperseries/pdfs/PAGANO%20AND%20PERRY.pdf>

FIGURE 11. Ratios of Expenditures to Revenue, 2011

SOURCE: ICIC analysis

NOTE: The range represents a number of scenarios; a baseline (most conservative) set of assumptions; one that moves more revenues to residential; and one that moves more expenditures to residential.

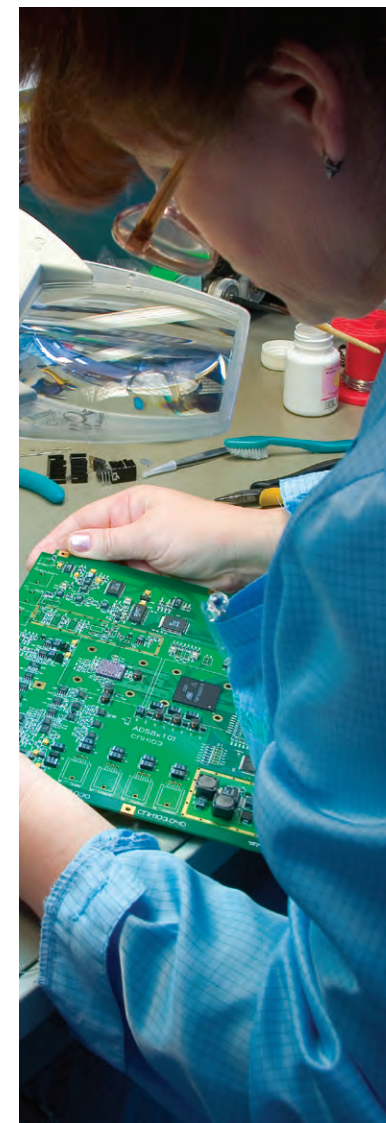
DEVELOPMENT TYPE	EXPENDITURES ASSOCIATED WITH EVERY DOLLAR OF REVENUE
Residential	\$1.06 - \$1.15
Non-Industrial	\$0.77 - \$0.94
Industrial	\$0.60 - \$0.69

FIGURE 12. Selected Effective and Actual Tax Rates for Saint Paul, 2010

SOURCES:

- 1) Minnesota Taxpayers Association. *Minnesota Property Tax Effective Rates, Payable 2010*, January 2011.
- 2) Joseph Henchman and Jason Sapia. *Local Income Taxes: City- and County-Level Income and Wage Taxes Continue to Wane*, Tax Foundation Fiscal Facts No. 280, August 31, 2011.
- 3) The Metropolitan Council. *Fiscal Disparities in the Twin Cities*, May 2011.
- 4) Minnesota Department of Revenue. *Local Sales and Use Taxes*, Sales Tax Fact Sheet 164.

TYPE OF TAX	RATE	RANK
COMPOSITE PROPERTY TAX RATE*		
Homestead	1.20%	11th of 87 counties
Non-Homestead	1.36%	21st of 87 counties
Farm	0.92%	3rd of 87 counties
Commercial/Industrial	3.15%	15th of 87 counties
Apartment	1.51%	41st of 87 counties
INCOME	0.00%	n/a
SALES + USE	0.50%	Equal to 19 of 22 cities/counties



congregate, such as retail establishments; generally speaking, industrial demand for police services is much lower. And fire department calls typically come primarily from city residents; interviews that the Saint Paul Planning and Economic Development (PED) team conducted with fire officials indicated that 80% of calls were for Emergency Medical Services (EMS), and that the elderly are five times as likely to need these services, imposing significant costs. So while industrial firms help to pay for these services, they account for only a small share of their costs. While the expenditures associated with road wear are typically more pronounced for industrial activity, this is a relatively small cost when compared to other city expenses.

The finding that industrial activity is usually beneficial from a fiscal standpoint is consistent with studies from across the country. An examination of similar analyses in other cities showed a clear pattern of industrial activity resulting in the lowest ratio of expenditures to revenue, based at least in part on many of the reasons described above.³³ While there are cases when industrial does not pay for itself, this tends to happen when low-cost industrial space contributes little in terms of property taxes, which is not the case in Saint Paul.³⁴

³³ Examples of such studies include the following: 1) Larry DeBoer. A Cost of Community Services Study for Indiana Counties and School Corporations, Purdue University, September 2010; 2) Tischler & Associates: Prototype Land Use Fiscal Impact Analysis: Prepared for Anchorage 2010. June 30, 2010; 3) Tischler Bise: Cost of Land Uses Fiscal Impact Analysis: Prepared for the City of Champaign, Illinois, May 2009; 4) Tischler Bise: Cost of Land Uses Fiscal Impact Analysis: Prepared for the City of Lawrence, Kansas, March 10, 2006.

³⁴ Based on an interview with Julie Herlands, a Principal at Tischler Bise.

Within the Twin Cities, the Metropolitan Council has conducted its own fiscal impact study, the results of which were quite favorable toward industrial in a number of localities.³⁵ This underscores the importance of recognizing the opportunity that industry affords in not only creating jobs for residents, but generating revenue for the city without requiring the expenditure levels associated with residential and even other commercial

³⁵ Metropolitan Council. The Fiscal Impact of Growth on Cities: Twin Cities Metropolitan Area. October 16, 2001.

development. As such, it is clearly in Saint Paul's best interest to promote and support industrial firm and job creation throughout the city. Doing so is a rare win-win proposition when it comes to managing a budget. Not only will additional revenue be generated for the city, but it will do so with fewer of the costs associated with residential or non-industrial development, all the while creating opportunities for residents of the city and region to access good-paying jobs, benefitting them and keeping the city's population to employment ratio on par with those cities shown in Figure 12 to be in good fiscal standing.



SAINT PAUL'S INDUSTRIAL REACH

Based on industry classifications defined by the Institute of Strategy and Competitiveness at Harvard Business School, the study team was able to classify firms and jobs in Saint Paul as serving a global, regional, or local (i.e. neighborhood) market.³⁶ Using industry-level employment data for 2009, we were also able to break down Saint Paul employment – both industrial and non-industrial – by the geography that firms serve. The results are shown in Figure 13.³⁷

While locally-serving firms employ just under half of the Saint Paul workforce, it is interesting to note that these firms are overwhelmingly non-industrial in nature, including activities like retail, health care, and personal services, all of which are very much locally based. However, industrial jobs in Saint Paul are associated with a much more diverse customer base, split relatively evenly among local, regional, and global demand. This has numerous implications: for one, it means that the industrial economy is better protected in the event of a local shock, such as a rapid decline in housing prices.

³⁶ While the optimal approach would obviously involve an analysis of every Saint Paul firm's customer base, this would be extremely labor intensive and inefficient.

³⁷ Note that total employment is slightly lower across these categories than the actual total. This is because a small number of jobs are classified as not fitting into any of the market categories above.

In addition, because firms that serve a global and regional market tend to provide higher paying – albeit relatively less accessible – jobs, the opportunities generated by modern industrial growth are more likely to be high-quality, good-paying ones. Yet there remains a strong presence of locally-serving PDR firms, which play an important role in urban and regional economies.³⁸ With their customer base located within the Twin Cities region (and frequently within a specific neighborhood), it is possible that such firms may be less footloose. As such, under the right operating conditions, those firms can help to create a stable base of industrial activity in Saint Paul, which would lead to jobs with low barriers to entry that are also resistant to pressure to move out of the city and region.

Yet the relatively high share of regional and global industrial firms as compared to the rest of the economy also indicates significant growth potential and the opportunity for workers who hone their skills at local companies, becoming part of a larger pipeline of workers who can access career ladders. On the whole, the data show that industrial firms in Saint Paul provide workers with significant opportunities that span the spectrum of wages and accessibility, leading to increased mobility and advancement potential. In concert with appropriate workforce development strategies, these characteristics of Saint Paul's industrial economy make it a critical component of any effort to grow the city effectively, equitably, and sustainably.

FIGURE 13. Market Served by Job Type, 2009

MARKET SERVED	LOCAL	REGIONAL	NATIONAL/GLOBAL	TOTAL
Industrial	10,800	11,800	9,700	32,300
SHARE OF TOTAL:	33%	37%	30%	
Non-Industrial	64,200	27,700	29,400	121,300
SHARE OF TOTAL:	53%	23%	24%	

³⁸ ICIC has studied this topic in detail, courtesy of a grant from the Surdna Foundation.

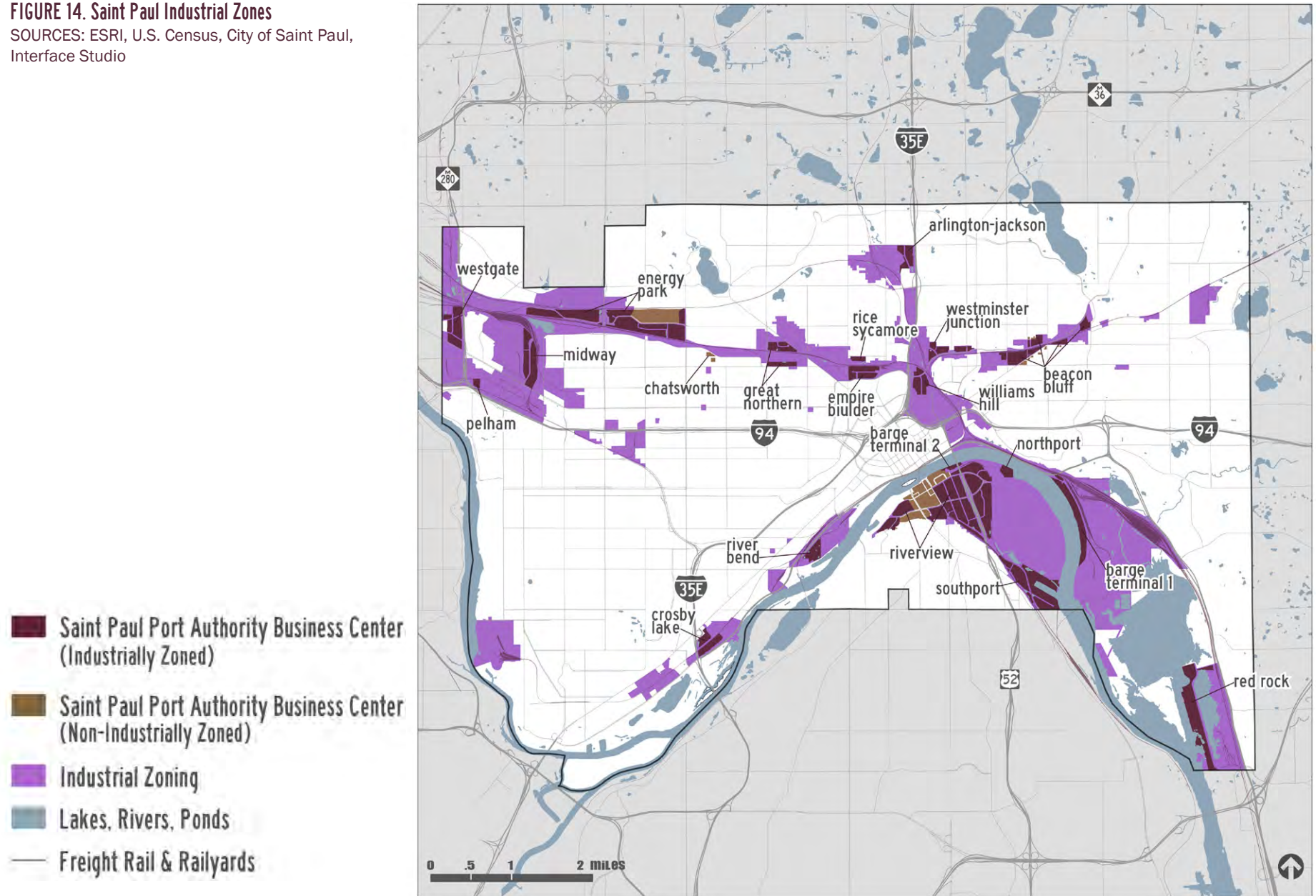
BANDANA SQUARE



**THE GEOGRAPHY
OF INDUSTRY IN SAINT PAUL**

FIGURE 14. Saint Paul Industrial Zones

SOURCES: ESRI, U.S. Census, City of Saint Paul, Interface Studio



3. THE GEOGRAPHY OF INDUSTRY IN SAINT PAUL

INDUSTRIAL ASSETS

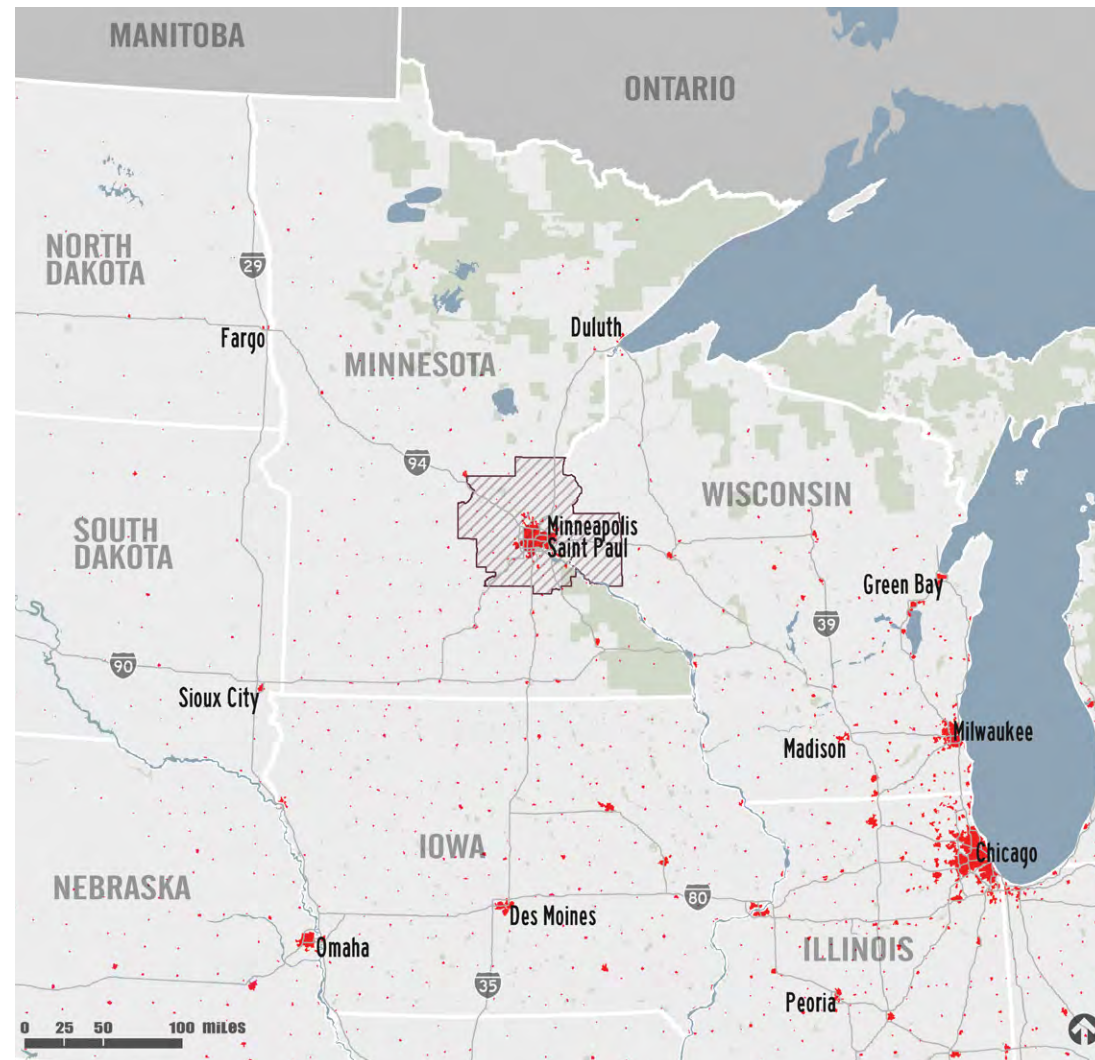
Saint Paul boasts a rich combination of resources that make it a prime location for industrial activity. Some of the key assets are described below:



GEOGRAPHY

Saint Paul's unique north-central geography and access to the interstate highway network is a significant advantage for many firms. A number of Saint Paul firms interviewed for this study revealed "pin maps" of their client bases and distribution markets. Such maps typically encompassed a 500 mile swath surrounding the Twin Cities, including major metropolitan markets such as Kansas City, Milwaukee, and Chicago, western markets in the Dakotas and beyond, and many major Canadian ports and metros. Saint Paul is also located just 150 miles from the Port of Duluth which, like the Saint Paul Harbor, provides marine freight access to the Atlantic.

FIGURE 15. North-Central Context

SOURCE: Interface Studio



-  Minneapolis-Saint Paul-Bloomington MSA
-  Urbanized Area (1,000+ per sq mi)

INDUSTRIAL LAND

While land availability is a relative asset in Saint Paul, it remains an ongoing challenge, as in every large city, for the proponents of industry. On one hand, the city has significantly more land available for industrial development than neighboring Minneapolis, which has seen its industrial land base decline in recent years in the face of residential development and increased pressure on existing land. More recently, with the elimination of 3M's Saint Paul manufacturing plant and administrative offices over the past decade, as well as the December 2011 closing of the city's Ford plant, a select few large industrial parcels do exist on the east and west side of the city. While it would not be realistic to expect the Ford site, for example, to remain fully industrial, it is important to promote at least some new industrial development there.

However, the Port Authority, which has in recent years redeveloped over 226 acres of contaminated brownfields for productive uses, faces significant constraints in further assembly of marketable industrial property in Saint Paul. Because the parcels located in Port Authority Business Centers generate roughly \$22,000 in tax and assessment revenue per acre, while the rest of the city's taxable parcels account for less than \$12,000 per acre, there are significant long-term implications for the city if industrial land is not adequately protected.



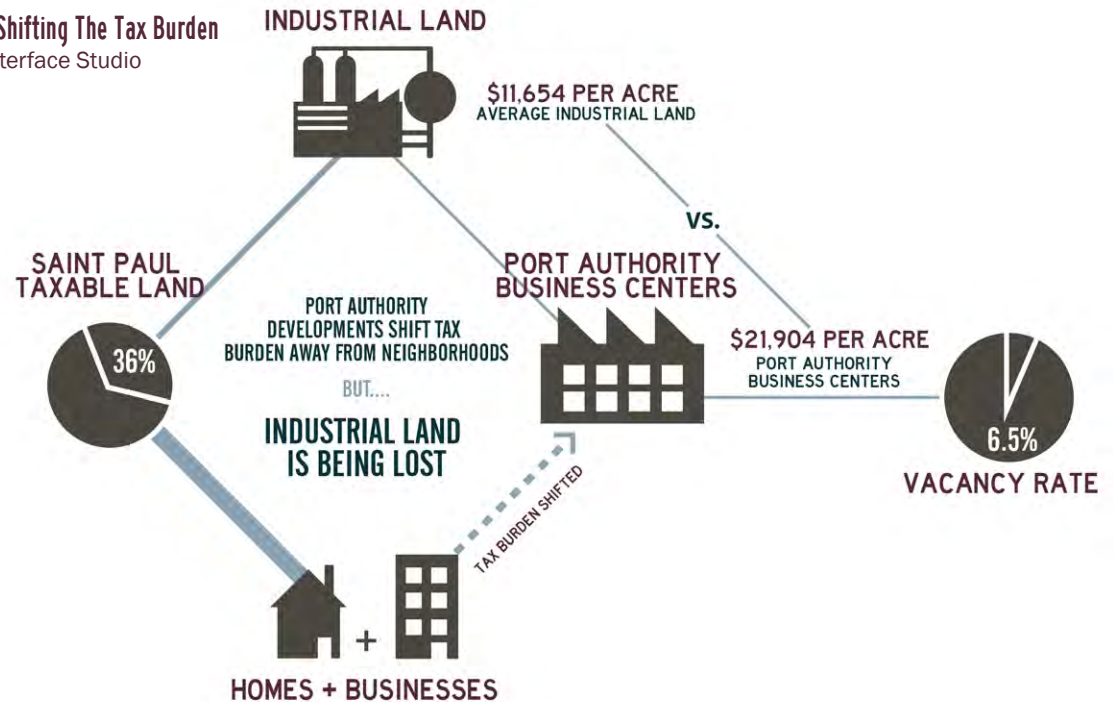
Former Ford Plant



Former 3M Warehouse

FIGURE 17. Shifting The Tax Burden

SOURCE: Interface Studio



Critical Infrastructure

Freight Rail & Yards

Saint Paul is home to three Class I Railroads: BNSF Railway, Union Pacific, and Canadian Pacific.³⁹ Because of this, freight rail transportation is quite accessible to firms in Saint Paul, and was cited by numerous firms during the course of our research. This is important to the economy of the entire city and region, but specific types of firms, in particular those that are involved in or rely heavily on logistics, benefit from access to rail.

Meanwhile, broader trends indicate that rail is increasing in importance in today's industrial economy. Intermodal transportation is becoming more and more important, allowing firms to utilize rail for long haul freight movement. In addition, rail transit is growing in popularity due to its energy efficiency, especially in light of sustained high fuel prices. One interviewee mentioned that the

this number is even lower, including one that shows a breakeven threshold in the range of 300-350 miles based on current diesel fuel prices.⁴⁰

Marine Terminals

Use of the Mississippi River for shipping and barging purposes is critically important to a number of industries, and the river has long been a vital asset for moving food and grain.⁴¹ The river has played and continues to play a key role in the import and export of agricultural commodities to and from the region. The movement of steel also takes place largely on the river, as it provides cost-effective access to mini-mills in the South. A number of industrial firms use marine terminals for bulk transport of goods in combination with rail, depending on diesel prices, again reflecting the importance of intermodal transportation.

In fact, most of Saint Paul's industrial base is located in close proximity to rail or the river. Although this locational pattern is partially a legacy of the city's industrial past, the river remains vitally important to many industries today (in addition to the commodities described above, river terminals today handle a variety of materials including pig iron, scrap, coke, salt, fertilizer, wood pulp, and aggregate for concrete production); in light of the Panama Canal expansion that is currently being completed in the coming years, it is likely that water transport will increase in importance globally, with effects being felt throughout cities that rely on the Mississippi River, including Saint Paul.

Airports

Another important transportation asset is the presence of a major international airport in the region and a smaller downtown airport in Saint Paul. Minneapolis-Saint Paul International (MSP), located just south of Saint Paul, is a major passenger hub that generates a great deal of economic activity. Meanwhile, Saint Paul Downtown Airport (also known as Holman Field), while relatively small, is frequently used by executives and could potentially serve as a selling point for firms looking to locate or expand in the city. Because the corridor surrounding the airport – which includes the Riverview Business Center – is often one of the first places in Saint Paul that the executives who use Holman Field are exposed to, investments that address the surrounding infrastructure and aesthetics could be beneficial to the city's image, especially within the business community.



threshold at which rail becomes less costly than trucking has dropped from 1,000 miles to 600, which obviously makes Saint Paul's strength in rail increasingly relevant. Some studies suggest that

³⁹ Minnesota Department of Transportation. Twin Cities Area Freight Railroad Map, July 2009. <http://www.dot.state.mn.us/ofrw/maps/MetroRailMap.pdf>

⁴⁰ Impact of High Oil Prices on Freight Transportation: Modal Shift Potential in Five Corridors. Transportation Economics & Management Systems, Inc. (TEMS). October 2008. http://www.marad.dot.gov/documents/Modal_Shift_Study_-_Technical_Report.pdf

⁴¹ Based on information from an ICIC call with Lee Nelson, CEO of Upper River Services and a conference call with Port Authority staff.

Anchor Institutions

Educational Institutions

Among large cities in the U.S., only Boston is home to more colleges and universities per capita than Saint Paul.⁴² The University of Minnesota, the nation's fourth-largest four-year university in terms of enrollment,⁴³ is located in the region's urban core, with campuses located in both Minneapolis and Saint Paul. In addition to the University of Minnesota, Saint Paul is home to an additional 16 institutions of higher learning.⁴⁴ This includes Saint Paul College, a renowned junior college that works closely with the business community to provide workforce training and development opportunities and was recently ranked the top community college in the nation by Washington Monthly.⁴⁵

The high educational attainment figures associated with the city and region described earlier are related at least in part to this strong university presence. In addition, the prevalence of educational and medical institutions contributes to high levels of regional innovation, as covered in the discussion of regional trends. A key challenge facing local leaders is to be able to convert this activity into business and job creation by encouraging commercialization of local innovations.

Medical Institutions

The city is also home to major medical centers, some of which maintain close ties with the University of

Minnesota and other area universities. Hospitals account for approximately 10,000 jobs in Saint Paul – as a share of the total economy, this is roughly 40% higher than the corresponding figure for the U.S. In addition to direct job creation benefits, this helps to promote regional strengths in medical devices and biopharmaceuticals. Near downtown Saint Paul are United Children's Hospital; Regions Hospital, which is home to Gillette Children's Hospital; and two HealthEast Care Campuses – Saint Joseph's and Bethesda Hospitals. University Enterprise Labs, in the Port Authority's Westgate Business Center in the Midway area of Saint Paul, is a unique collaborative research center and early-stage biosciences firm incubator that provides wet lab and office space, as well as invaluable business and technology commercialization guidance.

Corporate Headquarters

The 13-county Twin Cities MSA is home to an unusually large number of Fortune 500 headquarters, as described earlier. In many ways, these headquarters behave more like “anchor institutions” (a term typically associated with universities and hospitals) than in other parts of the country in that they are homegrown and heavily invested – both literally and figuratively – in the region, and would find it difficult and/or highly undesirable to relocate.

These headquarters represent an opportunity for industrial firms because of their locations – they are found almost without exception along the Twin Cities' primary freeways and “beltways.” This means that firms located within this “ring” are

ideally positioned to provide goods and services to some of the world's largest corporations – many of which could themselves benefit from a more strongly integrated local economy, in particular if links between urban businesses and suburban headquarters are strengthened.⁴⁶

Saint Paul Port Authority

Any discussion of assets must include the Saint Paul Port Authority itself, which finances the creation and retention of job-producing uses within its 22 Business Centers across the city.⁴⁷ The Port Authority's Business Centers are home to 1,300 acres of industrial business activity, nearly a quarter of the city's total inventory of industrially-zoned land. Apart from its namesake operations on the city's Mississippi River port terminals, the Port Authority is also the largest single redeveloper of brownfield sites in Saint Paul. The presence of a steward of industrial land is unique among cities with an active industrial base, both in its focus on re-developing brownfields for productive use, and its emphasis on the jobs and tax base that industrial activity provides. Businesses benefit directly through the development of clean, modern, centrally-located and well-managed Business Centers, but also indirectly through the presence of an organization that represents their interests at the local and state government levels.

42 <http://www.stpaul.gov/DocumentView.aspx?DID=5871>

43 Per U.S. Department of Education figures.

44 <http://www.stpaul.gov/DocumentView.aspx?DID=8649>

45 http://www.washingtonmonthly.com/college_guide/rankings_2010/community_colleges.php

46 The Itasca Project, an employer-led initiative consisting of roughly 40 private sector CEOs committed to strengthening the Twin Cities' competitiveness has examined this topic.

47 This count considers the four Beacon Bluff sites (3M, E 7th, Globe and Griffin) as one Business Center.

OVERVIEW OF PORT AUTHORITY'S BUSINESS CENTERS

The Port Authority's Business Centers play a key role in fostering industrial growth in Saint Paul. As mentioned previously, these centers are located on converted brownfield sites, which have been transformed into engines of local industrial growth that result in job creation opportunities.

Generally nestled within larger industrially zoned areas, these 22 Business Centers support a diverse and modern industrial base in the city. There is significant variation across business centers in terms of age, size, and location within the city. In terms of functionality, some Business Centers are home to one primary use while others support a wide range of business and industrial uses. Typically, however, they are located near residential neighborhoods and buffered by infrastructure like rail, highways, or changes in elevation. Numerous Business Centers – in particular, those that were developed more recently – are designed to reflect the needs of businesses and promote an identity that can be embraced by Business Center firms and the city alike. This often entails creating a sense of place within each.



Saint Paul Port Authority Development at the former headquarters of 3M in Saint Paul, now known as Beacon Bluff

The broader impact in terms of job creation associated with these Business Centers was described in the previous chapter. Selected Business Centers (with an emphasis on those that have received more attention recently) are described in more detail below in order to provide a sense of the conditions, challenges, and opportunities associated with these key assets. Findings are based on a combination of Port Authority data, site visits, and stakeholder interviews.

RIVER BEND

Located at Shepard Rd. and Randolph Ave., River Bend is surrounded primarily by industrially zoned land and the Mississippi River. Yet this 22 acre site also provides an example of industrial activity successfully co-existing with residential. North of the Smith Avenue High Bridge is new, dense housing overlooking the river and a recreational trail. Activity along the trail tapers off near the industrial land south of the Bridge. The Business Center is partially undeveloped but a large Port Authority parcel is under construction, which will allow empty land to be transitioned to active use.

CHATSWORTH

Construction at this site, located at Chatsworth Blvd. and Pierce Butler Route, began in the summer of 2011. This 4.1 acre Business Center will be home to an office-flex space building on the site of a former bowling alley; the building will house wholesalers of imported goods. Geographically, it is surrounded by a residential neighborhood to the west, denser public housing to the east, and distressed properties to the south. North of Pierce Butler is an established and mostly occupied industrial area that abuts the rail corridor, leading to potential complementarity.



New industrial development under construction at Chatsworth



Modern business & industrial development in River Bend is well manicured adjacent to the riverfront trail

SOUTHPORT RIVER TERMINAL

To the south of Saint Paul Downtown Airport – Holman Field, Southport River Terminal is home to firms that currently process, among other items, recyclable materials and chemicals, including those used for water safety and improvement. These processes, and the Business Centers adjacency to rail, make Southport a vital resource for the long-term viability of industry in Saint Paul.

Although the Business Center was established in 1964, significant modernization has taken place, especially in recent years. In 2010, the Port Authority completed the installation of a new dock wall along the Harbor split, better positioning adjacent firms for increased activity and job creation, while also helping to prevent soil erosion. In addition,

significant wetland upgrades have included the installation of new rain gardens to capture runoff, and the modernization of stormwater management, likely saving Saint Paul significant money in fines. An easement was also negotiated along the Union Pacific rail for a trail on behalf of the Parks Department.

These significant investments have resulted in numerous benefits, including an expansion of Harbor capacity, which has resulted in far-reaching benefits to the city and region.



Southport and Saint Paul Downtown Airport - Holman Field

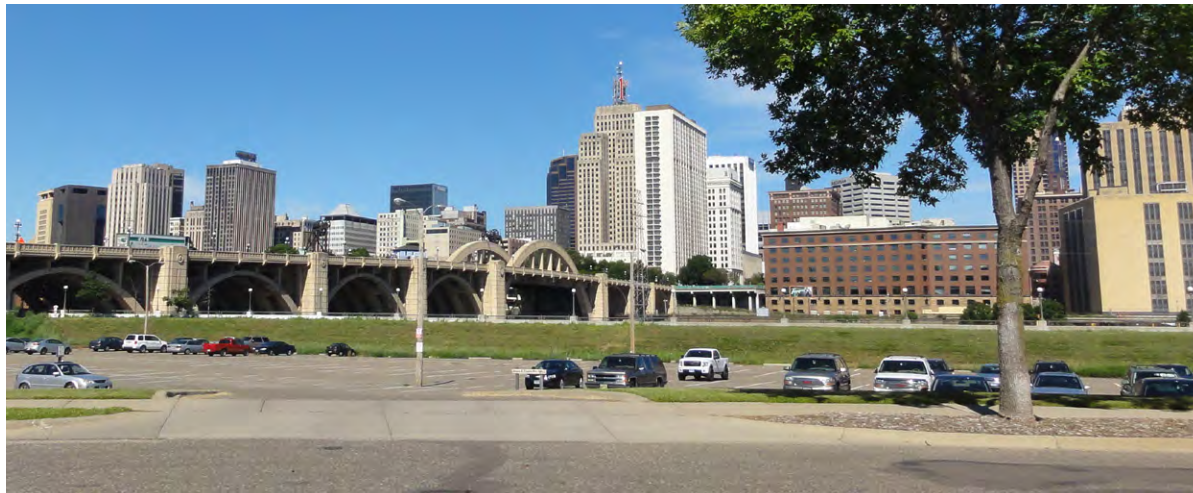


The Port Authority has recently completed a new dockwall along the Harbor split

RIVERVIEW

The Riverview Business Center is the Port Authority's largest in terms of acreage, located just across the Mississippi River from downtown. It is home to industrial and non-industrial sites, including the Comcast office building. With 11.5 available acres – 13.2 including underutilized parking lots – opportunities exist to further grow industry in this Business Center.

Geographically, Riverview is adjacent to Highway 52, which extends over the river via the Lafayette Bridge, and is directly west of Saint Paul Downtown Airport – Holman Field. A complete reconstruction of the bridge is underway, which should benefit Business Center firms, although the current frontage roads to Highway 52 are tight, creating a barrier to industrial and commercial development. If the city was to focus on improving these roads, that in combination with the availability of land would provide the best path to continued growth at Riverview.



Above, left: Proximity to downtown Saint Paul, Holman Field, and active freight rail are strong assets to Riverview
Above, right: Undeveloped land adjacent to new development in Riverview West

RIVERVIEW WEST

Established in 1962, Riverview West represents the Port Authority's first foray into inland industrial redevelopment. Adjacent to Riverview, this Business Center is home to a 500,000 square foot U.S. Bank facility that was built in 2001. Currently, Riverview West contains a mix of industry, institutions, medical office space, retail, and parking. Industrial uses are focused primarily along Plato Blvd., and Fillmore Ave./Water St., with Robert St. home largely to non-industrial uses. North of Water St., new facilities are being built to replace the trailers that currently occupy the area. A key asset for firms in Riverview West is an active rail line that is used by some tenants south of Plato Blvd; in other locations, however, old rail spurs dead end into grassy lots.

Despite the volume and variety of activity taking place within the Business Center, surrounding infrastructure is lacking. Nearby roads are in poor condition, lacking basic amenities like sidewalks, and chain link fencing is quite prevalent. Despite this, the location of the Business Center makes it quite desirable from a real estate perspective. As a result, there has been recent pressure on nearby land, including a proposed project called The Bridges of Saint Paul, which would have resulted in significant residential, hotel, and retail development along the West Side Flats, a largely vacant area north of Plato. While this proposal was rejected by the Saint Paul Planning Commission, it does point to the type of pressures faced by Business Centers like Riverview West.⁴⁸



48 http://www.fmr.org/projects/bridges_of_st_paul/proposal

BEACON BLUFF

Beacon Bluff represents a relatively large and new Business Center, encompassing the Port Authority's largest jobs restoration effort in two decades. Located in the Dayton's Bluff neighborhood on the city's East Side, it consists of the formerly abandoned 46-acre 3M campus, along with 15 additional acres that the Port Authority already owns; the re-developed site of Globe Building Materials, which had decayed significantly; and Griffin, an adjacent site that is home to Baldinger Bakery, which has invested \$30 million in upgrades.

The Beacon Bluff site is well-positioned with assets, including available land and proximity to transportation, including rail and highway. The key thoroughfare is Phalen Boulevard, which has historically been and remains a major east-west street in Saint Paul, providing access to the city and east metro, as well as Interstates 35E and 94. All Beacon Bluff parcels are located either on Phalen or within one block. While changes in elevation and grade along Phalen can cause the Business Center to appear disconnected, investments in nearby roads have helped to facilitate strong collaboration and access.



Former 3M Administration Building at Beacon Bluff

Currently, the Port Authority is involved in efforts to demolish a number of facilities on the site in order to open up additional possibilities for modern industrial facilities at the site. Building 24, the old 3M water tower, and a two-story structure on the south side of East Sixth Street – along with old utilities and blacktop – would be removed in order to

make the site buildable by 2012.⁴⁹ Additionally, the Port Authority has already installed a stormwater management system and is seeking additional infrastructure improvements. This effort should open up a variety of industrial opportunities for current and prospective Beacon Bluff businesses.

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www.beaconbluff.com



BEACON BLUFF



**Land Sales by
Saint Paul Port Authority**
Land Inquiries:
(651) 224-5886



**Building Sales by
Cassidy Turley**
Building Inquiries:
(612) 347-9355



A Next Generation Business Center

www.beaconbluff.com • (651) 224-5886

Marketing material detailing sites at Beacon Bluff

MIDWAY/PELHAM

Midway is a 54-acre Business Center that was established in 1976; nearby Pelham is 5.2 acres and has been the subject of litigation around its future. Both sites are located within the larger industrial hub known as Midway. Since its beginnings in the 1800s as a freight transfer yard, Midway has had a long and unique history as an engine of industrial and manufacturing activity. Its strategic location in the region – part of Saint Paul, but adjacent to and easily accessible to and from Minneapolis – makes it a very attractive location for firms.

Midway is home to a range of distribution activities, some manufacturing and light industrial uses, warehouses and offices. Its geographic location makes it accessible via public transportation for workers. In addition, existing rail infrastructure provides a key strategic advantage for firms and freeway access to Interstates 94 and 280 create opportunities for businesses that rely on truck transport. In addition, the proximity of Midway to some of the region's largest and most prestigious

universities, including the University of Minnesota, helps to attract firms, especially in those industries that require high levels of education and innovation, or those that supply educational (and other) institutions.

Pressure on land in these Business Centers has been increasing in recent years. Among the primary reasons for this has been the introduction of the Central Corridor light rail line along University Avenue, which includes three station stops: Westgate, Raymond, and Fairview. Partly as a result, mid-rise housing on University Ave. has become increasingly prevalent; in some cases, this has resulted in the conversion of buildings that were once home to industrial activity. On some

streets, like Charles Ave., residential and industrial now co-exist in close proximity. This residential encroachment, not surprisingly, has led to inflated land values, increased traffic, and resistance to important new industrial activity. Nowhere has this been more pronounced than the Pelham site, over which the city of Saint Paul is being sued by Meridian, an industrial developer, for refusing to allow redevelopment of industrially zoned land due to new zoning and development guidelines, inspired by recent changes in Midway.

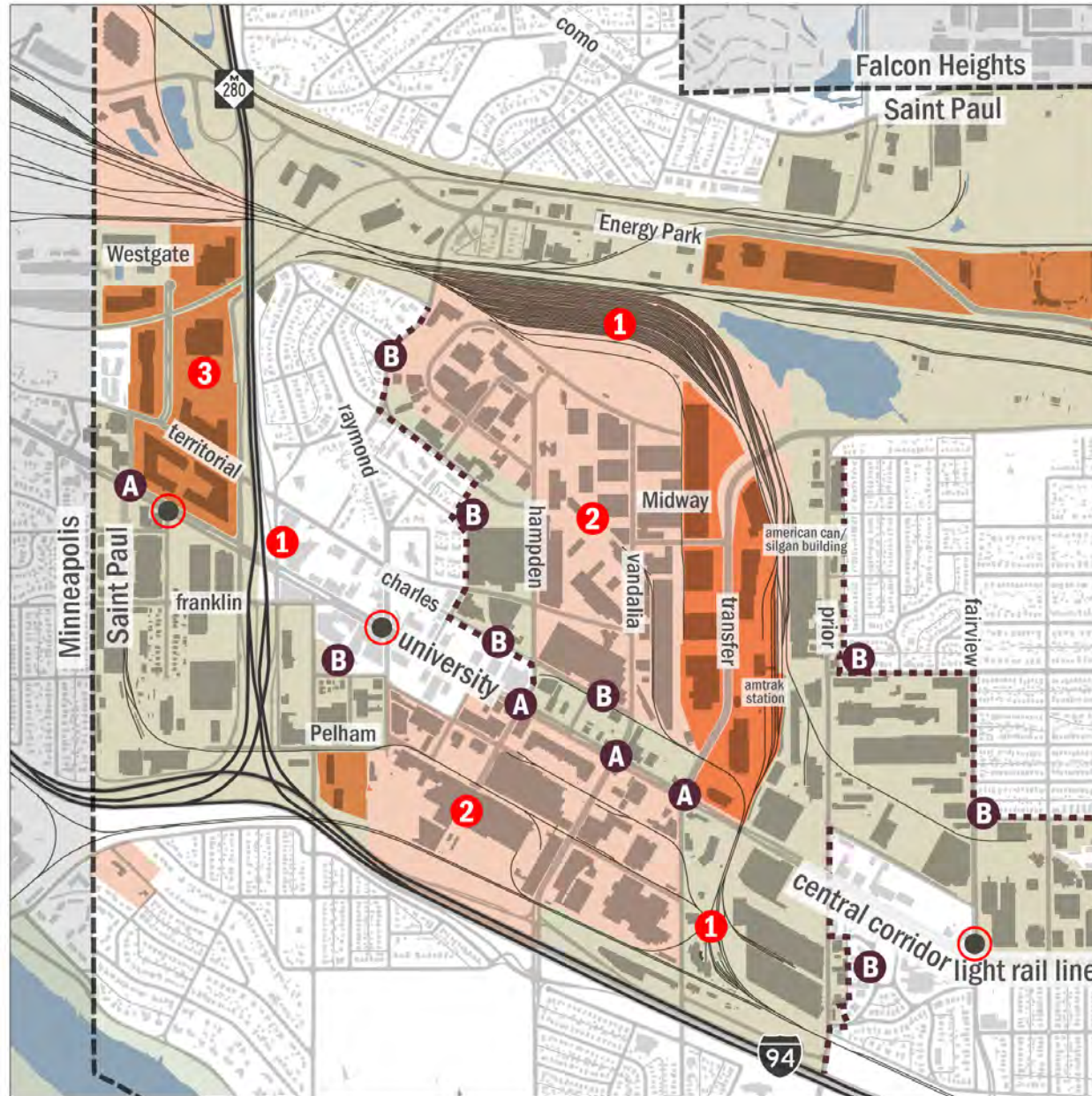
While the Saint Paul Planning Commission has appointed a West Midway Study Task Force to strike a balance between protecting industry and allowing for alternate uses, Midway remains one of the few sites that serves as a flash point of tension between advocates of industry and residential activity.



A range of land uses are found within and adjacent to the Port Authority's Midway Business Center

FIGURE 18. Midway / Pelham Opportunities & Challenges

SOURCE: Interface Studio



OPPORTUNITIES

- 1 FREIGHTWAY & FREIGHT RAIL ACCESS**
ready access to I-94 and 280 provide tremendous connectivity to the region; key intermodal center
- 2 DIVERSE, LEGACY INDUSTRIAL AGGLOMERATION**
the history of industrial co-location has provided some land use certainty; strong base of industrial services
- 3 PROXIMITY TO CENTERS OF UNIVERSITY RESEARCH**
most beneficial to the area's medical device firms; also provides ready access to skilled labor pools

CHALLENGES

- A REDUCED TURNING RADII**
likely to result from the placement of light rail down the middle of University Ave, hindering truck access
- B ABRUPT CHANGES IN LAND USE**
such as new high-density residential between University and Charles, directly abutting older industrial uses

- Saint Paul Port Authority Business Center
- I-1 Industrial Zoning
- I-2 Industrial Zoning
- Saint Paul City Limits
- Lakes, Rivers, Ponds
- Proposed Central Corridor Rail Stations

CHALLENGES TO INDUSTRIAL DEVELOPMENT

Despite the industrial assets and established Business Centers in Saint Paul that have resulted in jobs and tax revenue, there are a number of barriers to industrial development in the city.

RESIDENTIAL DEVELOPMENT ON INDUSTRIAL LAND

City economic development officials across the country have long relied on residential development as the key tool to drive growth. With this in mind, many cities have historically subsidized residential developers, given them preferential treatment, and/or allowed their plans to take hold on industrially zoned land. Among the reasons for this are the upside in terms of tax revenue (in particular, residential property tax revenue) should high-end housing attract wealthy new residents and the aesthetic appeal of such a plan, which typically entails additional park space and amenities. While residential activity is an important part of any economic development strategy, it can become a hindrance when such activity serves as a barrier

to job creation opportunities. For one, as recent history has shown, housing is very vulnerable to short-term economic shocks, and those cities that relied heavily on residential in the past decade have been among those most damaged by the Great Recession. Furthermore, as discussed in the Fiscal Impact Analysis in Chapter Two, an overreliance on residential activity is tied to negative impacts on a city's fiscal health; on the flip side, industrial activity is an efficient means of increasing tax revenues without the costs associated with residential.

LAND AVAILABILITY

Saint Paul's inventory of industrial land for future development, while an asset, nonetheless presents challenges in that eligible parcels are limited and constrained. New ground-up industrial development requires access to critical infrastructure like highways and rail but also needs larger sites than are typically available in built-out cities. There are currently 85 acres of vacant land within Port Authority Business

Centers, which represents only 6.5% of the total Port Authority inventory. An additional 95 acres within Business Centers are either partially vacant or consist of largely unused swaths of surface parking. While this indicates there is some land available for industrial redevelopment, the majority of that land is far from shovel-ready. Many sites will need infrastructure improvements and/or environmental remediation to make them market ready. Others are tied up because of zoning uncertainty. In order for new industrial development to occur, the market must know that zoning designations are definitive. As demonstrated through the success of cities across the country, strategic public intervention is necessary to create zoning certainty and provide supporting investments in infrastructure to stimulate private investment. For Saint Paul, this means ensuring that industrially zoned parcels are kept as such, that residential encroachment is minimized, and that the infrastructure around industrial land is maintained and/or improved.



This 22-acre vacant lot adjacent to U.S. Bank and overlooking downtown is a highly visible opportunity site within Riverview West

FIGURE 19. Vacant and Underutilized Land

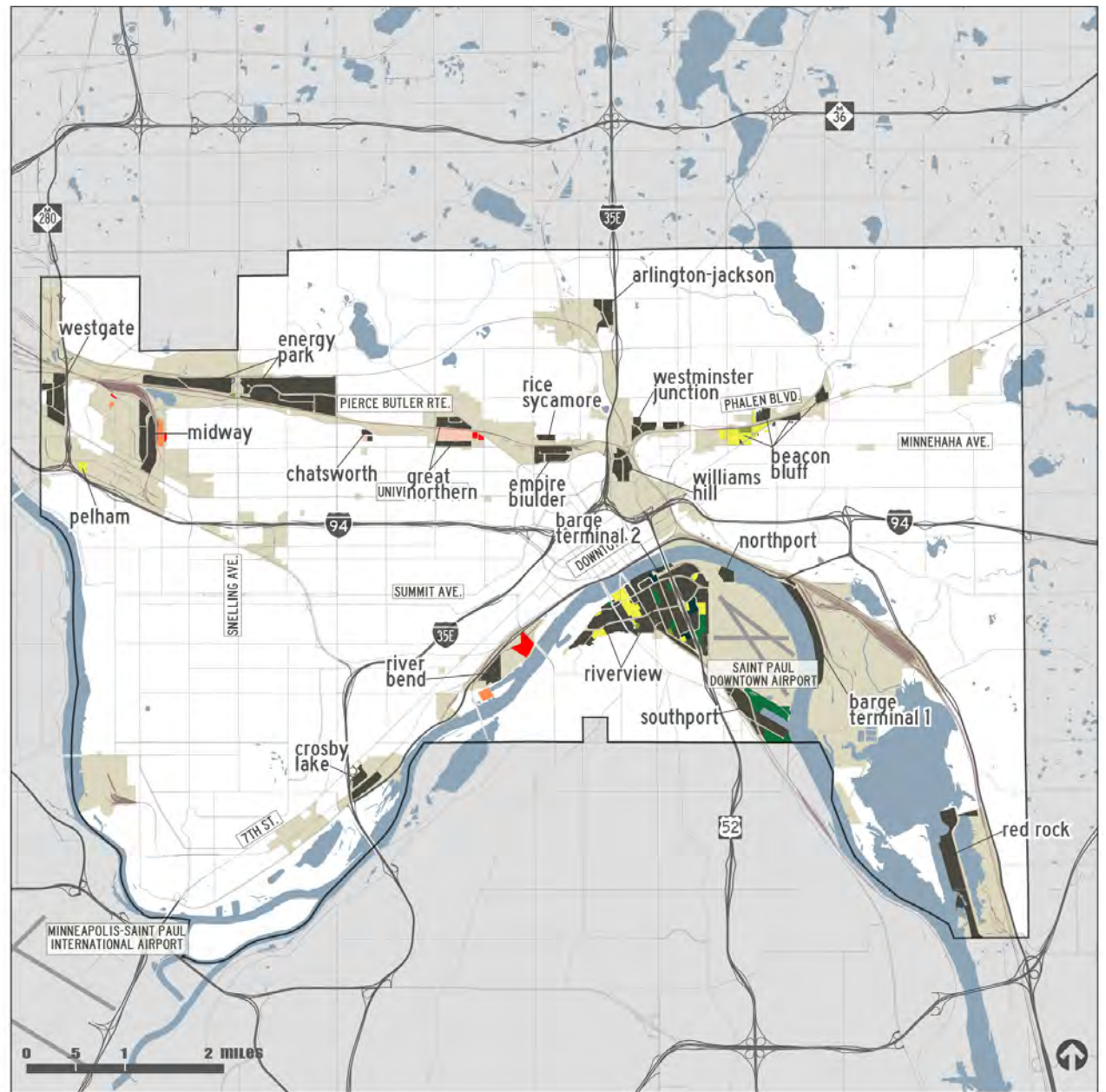
SOURCE: Interface Studio

PORT AUTHORITY BUSINESS CENTERS

- Vacant Land
- Vacant Buildings
- Underutilized
- Underutilized Parking

NON-PORT AUTHORITY LAND

- Vacant Land
- Vacant Buildings
- Underutilized
- Saint Paul Port Authority Business Center
- Industrial Zoning
- Lakes, Rivers, Ponds



LAND ASSEMBLY

Assembling land for industrial development has always been difficult. It requires identifying sites that are largely unused and in the right location near infrastructure yet protected from residential competition. With the recent restrictions placed on the use of eminent domain, land assembly is even more challenging. Operating within these current realities limits the ability of the Port Authority to expand its land holdings or to create new, well managed Business Centers. It will be important, therefore, to maximize the value of the Port Authority's existing land and, where possible, promote the acquisition of additional industrial properties. This will lead to accessible, good-paying jobs, resulting in economic growth for the city and region that is far-reaching and equitable.

DESIGN

Organizations promoting industrial development in cities across the country face a shared challenge around industrial design. While many residents and city leaders often want jobs located in their city, the physical implications of industrial development often spark debate about whether and how modern industrial development can be done differently. The reality is that the market for industrial land and real estate is unique in several ways when compared to other types of real estate products. Businesses choose their space and location based on purely pragmatic criteria such as access to transportation infrastructure and workforce as well as building amenities like the number of loading docks, ceiling clearances, and floor loads.

As a result, many industrial businesses cannot reuse old buildings and must seek out opportunities for new development. Businesses looking for new sites generally require large enough parcels to accommodate truck staging and maneuvering, employee parking, and materials storage. New industrial development on sites smaller than five acres is rare, and irregular shapes can prevent efficient use of a site. The form of a building is driven by its function and developing new, ground-up multi-story industrial development is nearly non-existent in this country, with the only exception being supporting office space on a second floor.

These realities sometimes conflict with the expectations of residents, community organizations, and city agencies that are looking for higher densities and smaller footprints. The result is

a set of conflicting prescriptions around how to most efficiently grow cities and regions. This leads to a missed opportunity for those who share an appreciation of development and growth based on business needs to work together towards outcomes that simultaneously serve economic development and neighborhood revitalization goals. An acceptance on the part of city leaders of these design considerations could help play a role in reducing the miscommunication and tension that often slows or even prevents the redevelopment of vacant sites. The experience of other cities demonstrates that to overcome this barrier, proactive and creative planning is needed through a partnership that brings together real estate and industrial developers with planners and community advocates around their shared interest in growing the city and region.



Twin City Glass Contractors, Great Northern Business Center



4

TAKING STOCK OF LOCAL AND REGIONAL STRENGTHS

4. TAKING STOCK OF LOCAL AND REGIONAL STRENGTHS

CLUSTER ANALYSIS

Methodology and High-Level Analytics

In order to analyze the Saint Paul and regional economy most effectively, we examined economic activity in terms of clusters. Unlike industries or sectors, clusters represent interconnected companies and institutions in a particular field in a particular location, be it a country, state, or city. Clusters generally include a group of lead firms; suppliers of specialized inputs, components, machinery, and services; financial institutions; and firms in related industries. In many cases, clusters also include firms in downstream industries;

producers of complementary products; specialized infrastructure providers; and institutions that provide specialized training; and technical support. Classic examples of clusters include automotive in Detroit, and information technology in the Bay Area.⁵⁰ Understanding the cluster economy in Saint Paul and the Twin Cities provides a starting point for a targeted approach to developing industrial activity.

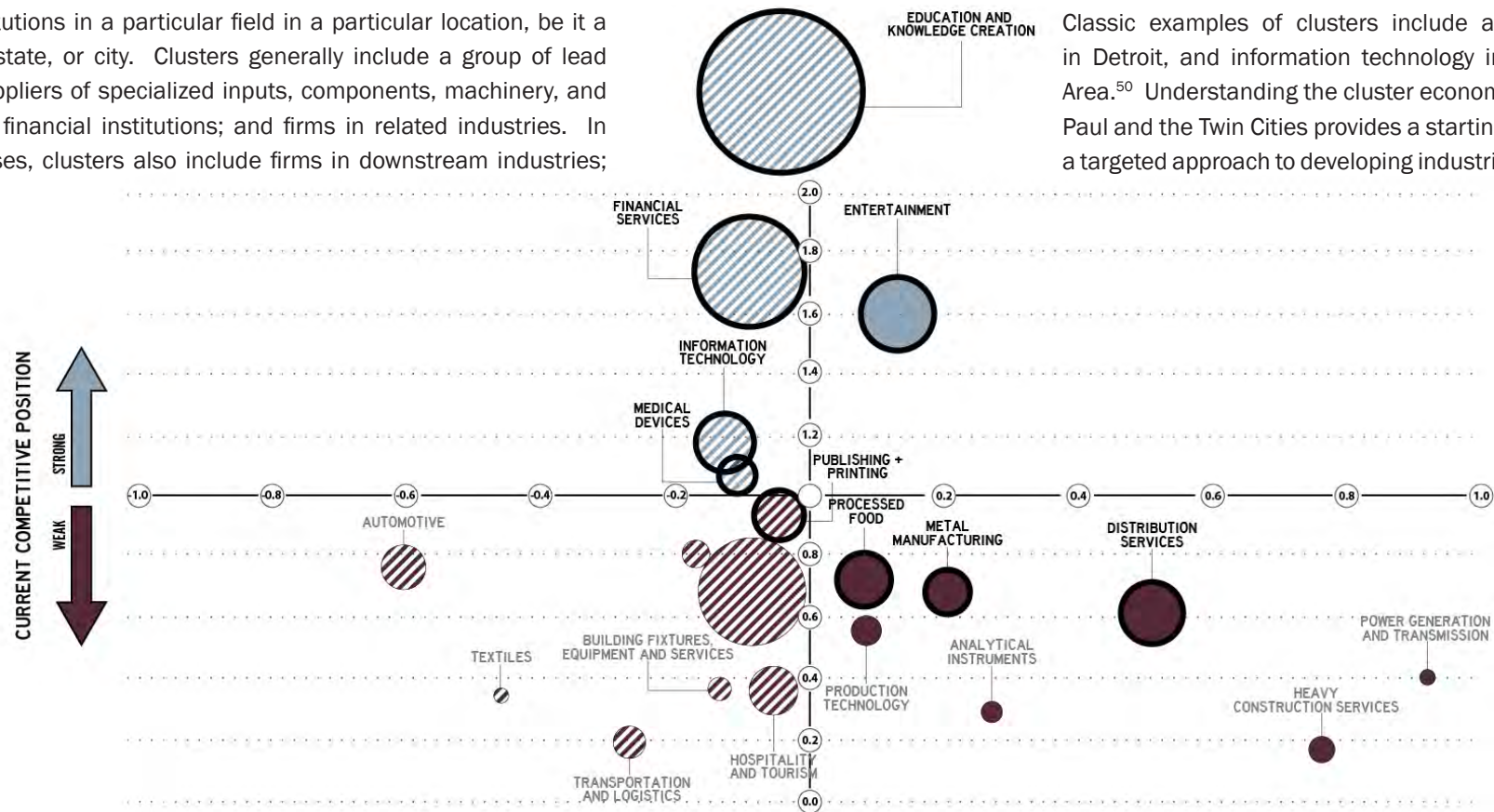


FIGURE 20. Cluster Landscape, Saint Paul, 2009

SOURCE: ICIC Analysis



⁵⁰ Clusters are defined using categorizations developed by the Institute of Strategy and Competitiveness at Harvard Business School, in which all six-digit North American Industry Classification System (NAICS) industries are grouped into a specific cluster.

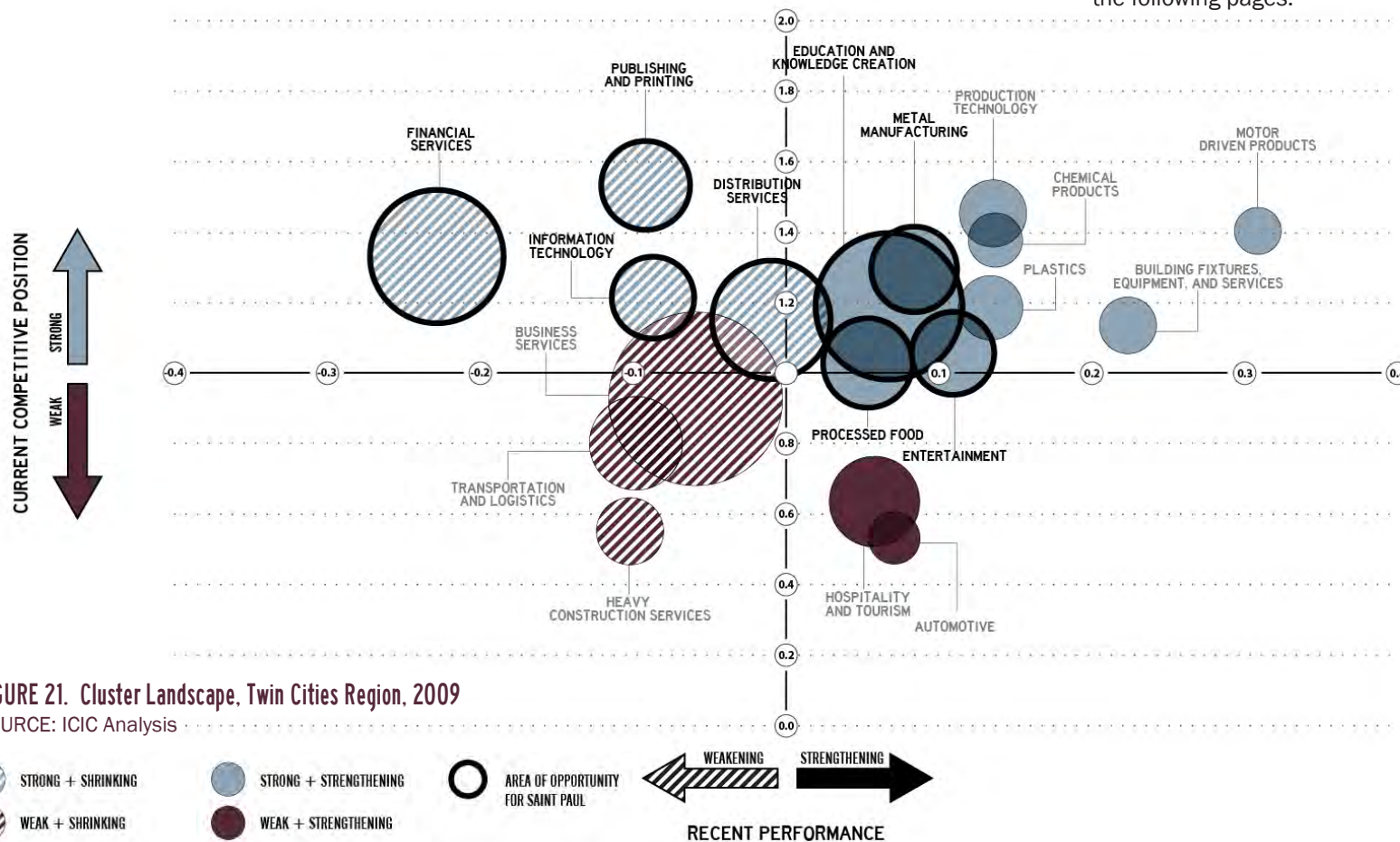
Clusters can be analyzed using location quotients, which provide a measure of competitive position relative to a reference region (typically the U.S.). In the case of Saint Paul, we compare the share of the city's jobs in a given cluster to the share of U.S. jobs in that cluster. A location quotient of greater than 1 indicates a higher concentration of cluster activity in Saint Paul than in the rest of the United States, while a location quotient of less than 1 indicates a relative lack of employment in that cluster.

Figure 20 and Figure 21 contain location quotient information as of 2009 for the city of Saint Paul and the entire Twin Cities region, along with data on location quotient growth since 2003. This information is combined with qualitative takeaways from interviews with local stakeholders to identify cluster opportunities.

Among the most promising clusters are a number of industrial ones that are concentrated or growing in Saint Paul, making them logical targets for attracting, promoting, and/or retaining firms. These include:

- Processed Food
- Medical Devices
- Publishing and Printing
- Metal Manufacturing
- Distribution Services

Each of these clusters is described in more detail on the following pages.



Processed Food (Figure 22)

Growing in Saint Paul and the Twin Cities region, Processed Food represents a historical strength, indicating that many existing assets, including the Mississippi River, can be leveraged. This legacy of agricultural activity, a strong regional headquarters presence in the cluster, which includes Supervalu, General Mills, and Land O'Lakes, and a prevalence of co-ops and farmer's markets make the cluster a natural fit in Saint Paul. In addition, as one interviewee noted, the Twin Cities region is a hotbed for food distribution – in particular, produce distribution – again highlighting the importance of the river when it comes to moving agricultural commodities.

Not only is Processed Food a cluster worth paying attention to in Saint Paul, but the food cluster in general has attracted interest across the nation, especially in cities. Economic development officials in Saint Paul have indicated that this is a strength they would like to further develop, and they would be well-served to do so.

Medical Devices (Figure 23)

The city of Saint Paul has not fully realized its potential in this cluster despite its strength regionally. With a location quotient of more than two in the Twin Cities region, it is clear that the assets and institutions required for the cluster to be strong exist locally. Those assets are complemented by a very high concentration of educational institutions in the city of Saint Paul, providing opportunities to leverage intellectual capital and technological advances. In addition, with city and regional leaders focusing on Life Sciences,⁵¹ this is a cluster that has already attracted attention from regional leaders, which could potentially be leveraged to benefit Saint Paul. One interviewee noted the importance of connecting the innovative activity taking place at the University of Minnesota to Saint Paul and the region's residents, spurring entrepreneurial activity and job creation.

Despite these positive indicators, as Figure 23 shows, activity in the cluster remains relatively scant. A focus on monetizing the innovation that takes place within the city, along with the cultivation of the linkages that exist between the regional and Saint Paul Medical Device clusters, would go a long way toward creating opportunities for Twin Cities residents. With this in mind, the proposed light rail could help facilitate knowledge transfer by encouraging increased interaction between regional thought leaders in the field.

51 A state organization – the BioBusiness Alliance – is focused on fostering and cultivating the long-term viability of the state's bioscience sector (source: <http://biobusinessalliance.org>).

Publishing and Printing (Figure 24)

Although it is one that has declined nationally, Saint Paul has retained some strength in this cluster, with a location quotient of nearly one. Although this is not a cluster that typically is viewed as one with high upside in terms of growth, there are certainly job and firm retention opportunities available. Given the potential links between Publishing and Printing and higher education, which – as discussed earlier – is very strong in Saint Paul, the city is better positioned in this cluster than most. Discussions with Publishing and Printing firms indicated that locations near major highways provide a particular strategic advantage, especially those that serve more of a regional market and therefore rely on short- to medium-haul distribution.

The link with higher education is especially pronounced when examining the geography of cluster activity. The concentration of firms in the Northwest corner of the city indicates co-location with Education and Knowledge Creation activity, especially near Saint Anthony, which is adjacent to both the Minneapolis and Saint Paul campuses of the University of Minnesota.

Metal Manufacturing (Figure 25)

Metal Manufacturing has grown in location quotient terms in the face of significant decline in Minneapolis, indicating that Saint Paul firms are successfully capturing a larger share of regional business. This, along with a large number of firms and an ability to capitalize on some of Saint Paul's key advantages, specifically Port Authority Business Centers and transportation assets, make Metal Manufacturing an attractive target. In addition, because the Twin Cities region is considered scrap-rich, there is an inherent advantage in terms of sourcing raw materials locally. Being in Saint Paul as opposed to the suburbs, however, has significant upside for Metal Manufacturing firms, because the ability to get immediate service should any issues arise is critical; a location near firms that can provide the necessary services results in a potential strategic advantage.

Figure 25 shows a number of neighborhoods in which Metal Manufacturing activity is located in Saint Paul. Activity in the cluster is often located near rail corridors, which are prevalent in Saint Paul.

Distribution Services (Figure 26)

Distribution Services does not boast a particularly high location quotient in Saint Paul, but the cluster has grown significantly in recent years. Again, given the transportation assets described in relation to other clusters in the city, it is not surprising to see that distribution firms may find Saint Paul an advantageous location. In this case, rail and river play a critical role, along with the region's location relative to Northwestern and Canadian markets.

Distribution Services can be found in much of Saint Paul, but like Metal Manufacturing, it is concentrated around transportation assets. In fact, there is some evidence of co-location with Metal Manufacturing, indicating a reliance of one cluster on the other. While there is significant growth potential in Distribution Services, the city must be strategic about the cluster because it generally requires a lot of space, making it a more logical fit for large industrial parcels or those that could be assembled in a way that best serves the cluster.

Potential Long-Term Cluster Opportunities

In addition to the clusters described above, there are other long-term targets that should be considered for Saint Paul, based on related cluster activity, regional performance, and assets. These are described below:

- *Analytical Instruments*: Strength in Minneapolis and the region along with strong growth in Saint Paul indicate that future opportunities may exist, especially given the overlap with so many of the potential opportunities identified earlier. However, the cluster is very small at present.
- *Biopharmaceuticals*: Growing rapidly in Minneapolis, manufacturing activities in particular may represent a niche play for this cluster in Saint Paul, especially given its overlap with Medical Devices and Education and Knowledge Creation. However, its current presence in the city is minimal.
- *Production Technology*: Growth in this cluster, which primarily involves the manufacture of tools and equipment, may overlap with Metal Manufacturing. Production Technology remains small at present but is gaining strength in the face of strong regional performance and a decline in Minneapolis.
- *Transportation and Logistics*: The same resources that drive potential strength in Distribution Services could reinvigorate this cluster in Saint Paul, although its current location quotient makes it more of a long-term cluster target.

FIGURE 22. Processed Foods Cluster
 SOURCE: ICIC Analysis

CLUSTER FUNCTIONS

- Food Processing And Manufacturing
- Food Wholesaling
- Packaging

EMPLOYEES PER FIRM

- 5 - 10
- 11 - 25
- 26 - 100
- 100 or more

- Saint Paul Port Authority Business Center
- Industrial Zoning
- Lakes, Rivers, Ponds

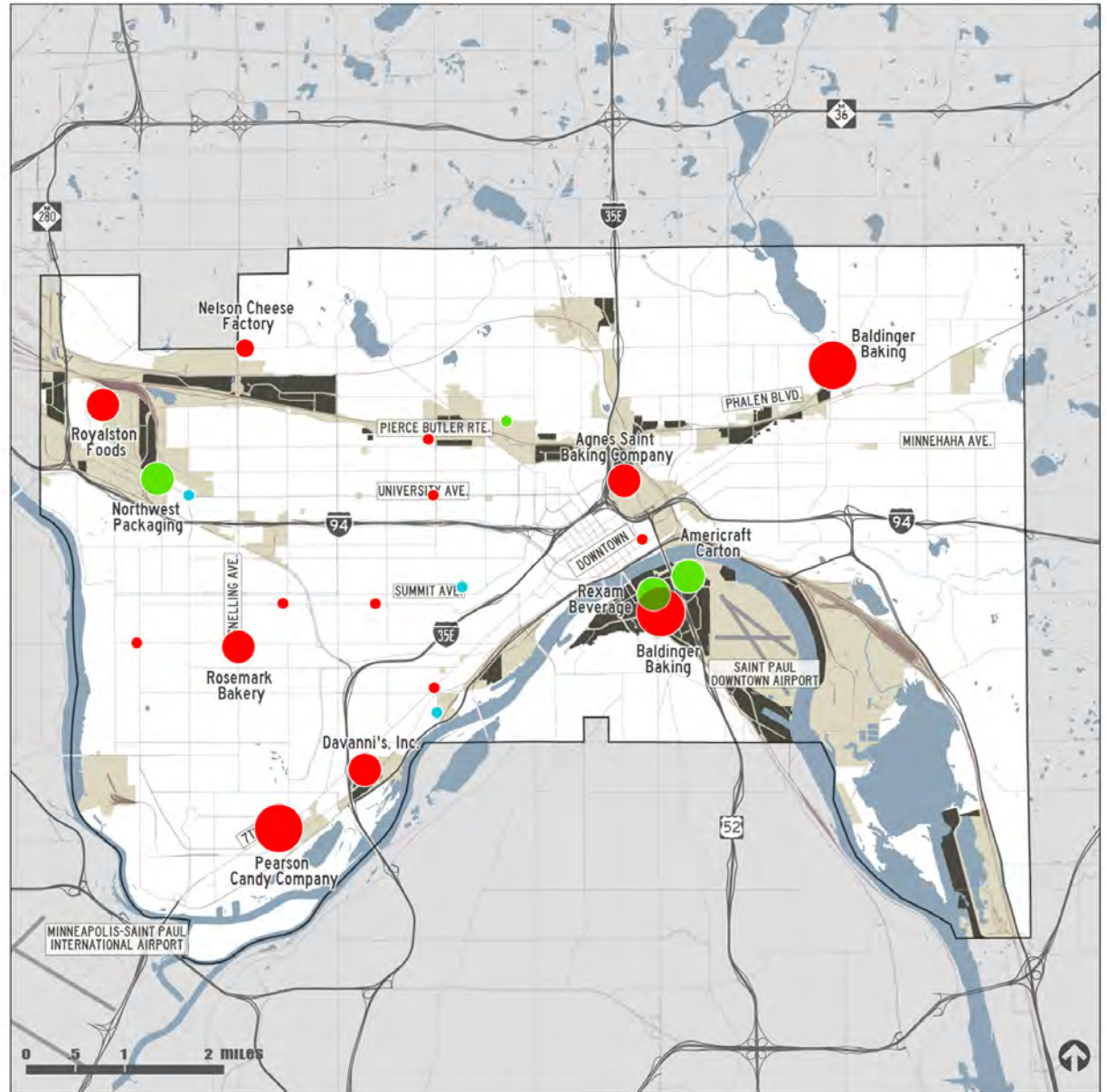
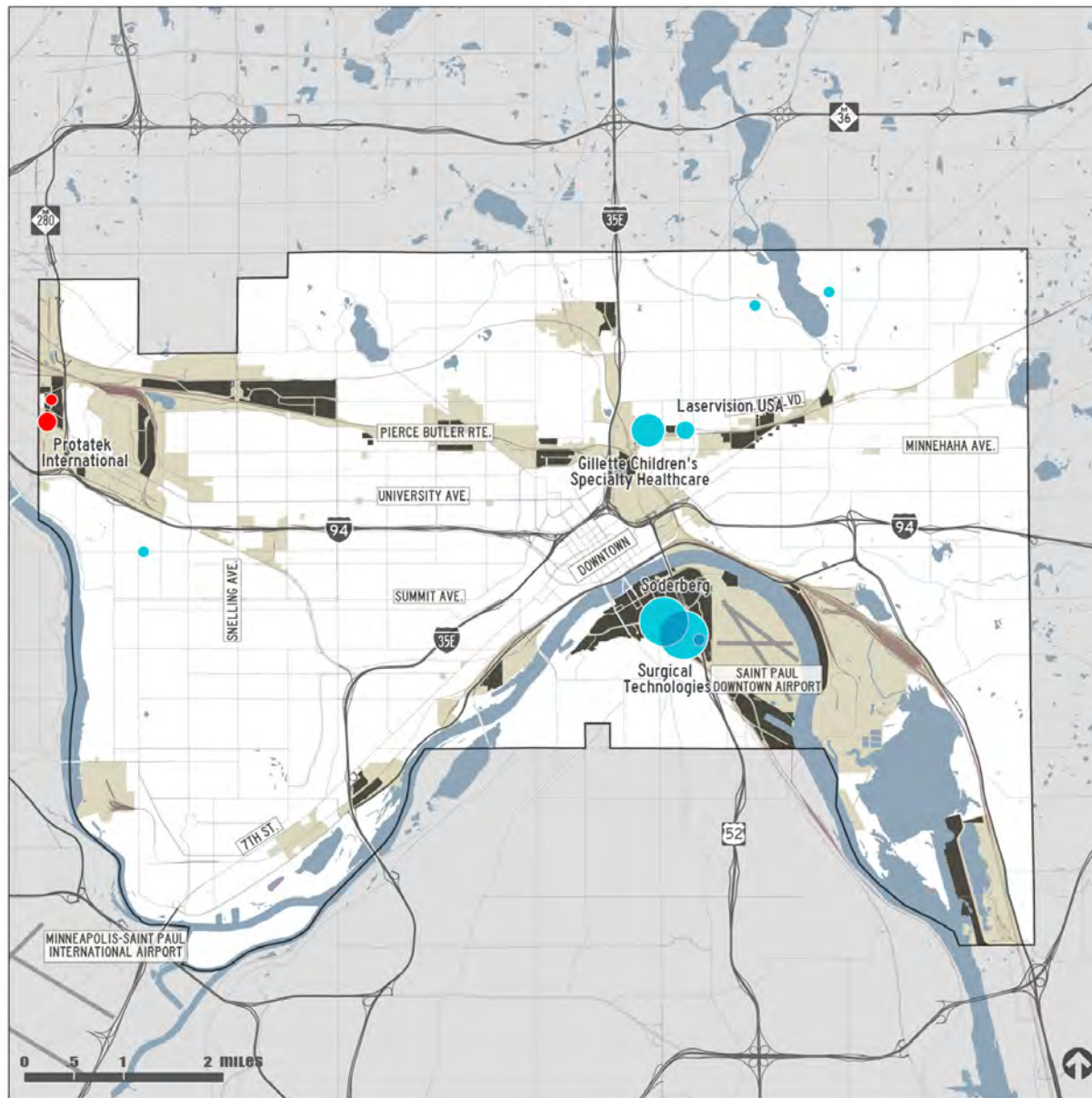


FIGURE 23. Medical Devices Cluster
 SOURCE: ICIC Analysis



CLUSTER FUNCTIONS

- Biopharmaceuticals
- Surgical and Dental Devices

EMPLOYEES PER FIRM

- 5 - 10
- 11 - 25
- 26 - 100
- 100 or more

- Saint Paul Port Authority Business Center
- Industrial Zoning
- Lakes, Rivers, Ponds

FIGURE 24. Publishing & Printing Cluster
 SOURCE: ICIC Analysis

CLUSTER FUNCTIONS

- Printing
- Publishing
- Publishing And Printing Services
- Supplies Manufacturing

EMPLOYEES PER FIRM

- 5 - 10
- 11 - 25
- 26 - 100
- 100 or more

- Saint Paul Port Authority Business Center
- Industrial Zoning
- Lakes, Rivers, Ponds

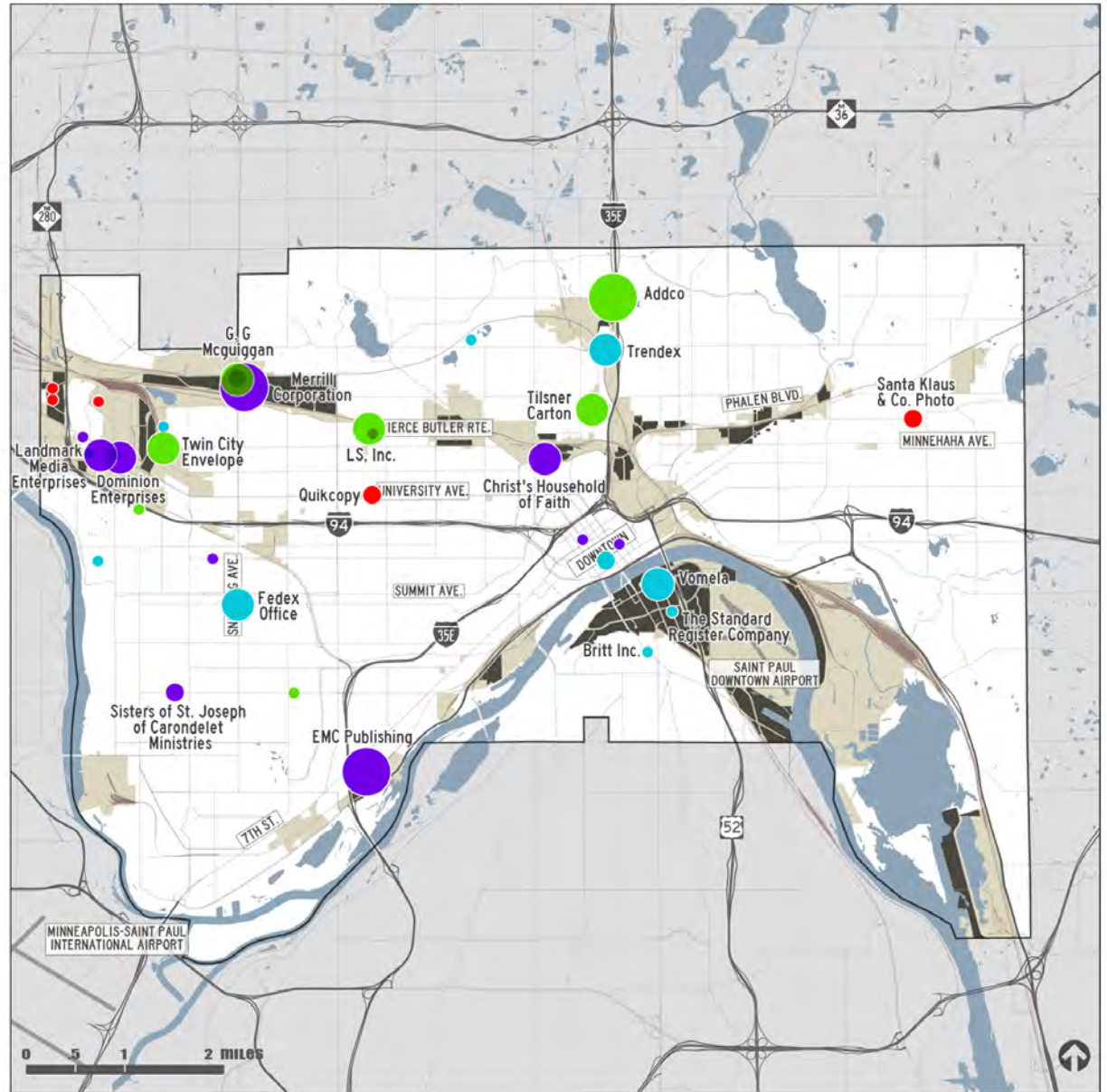


FIGURE 25. Metal Manufacturing Cluster
 SOURCE: ICIC Analysis

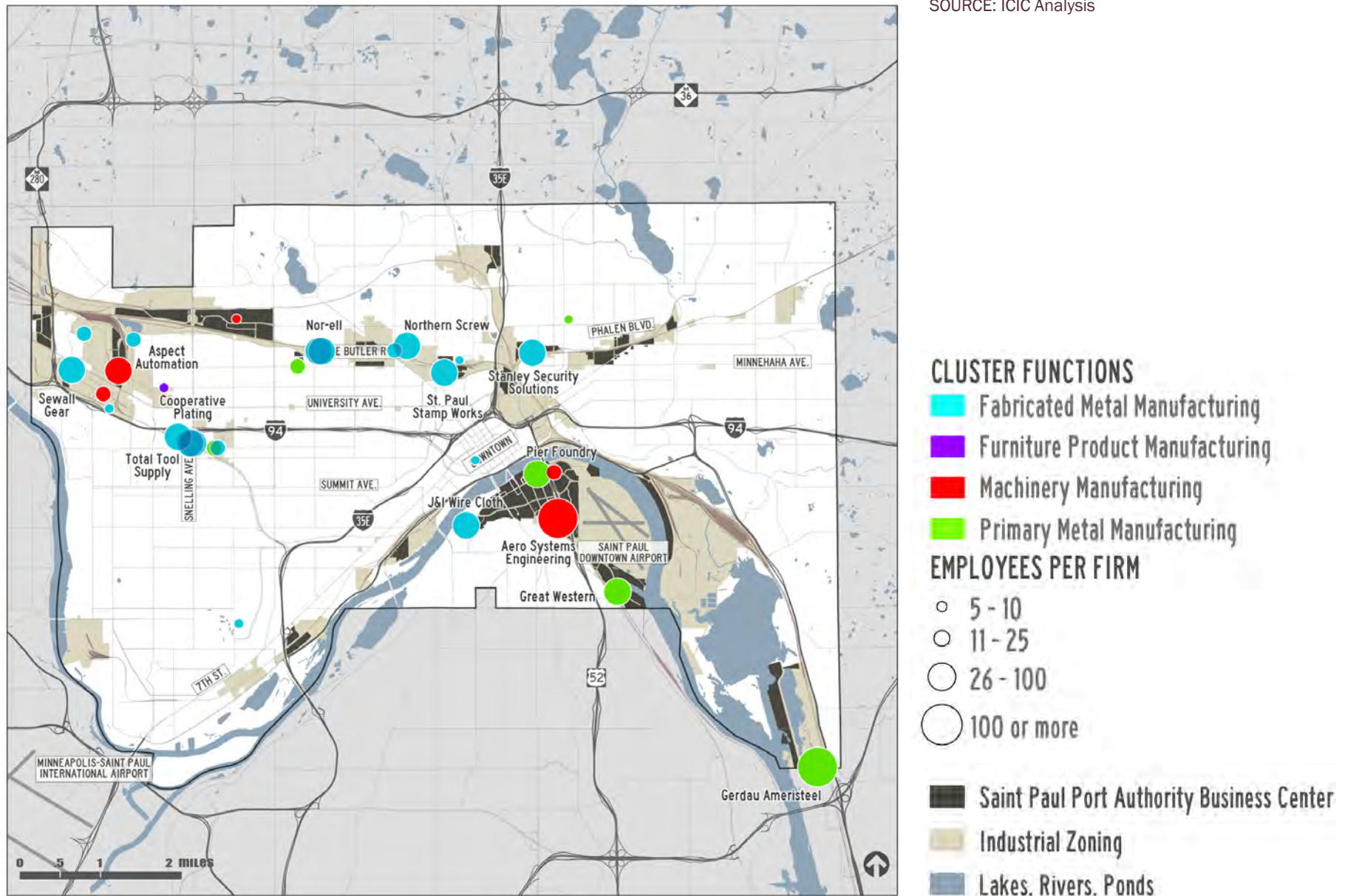
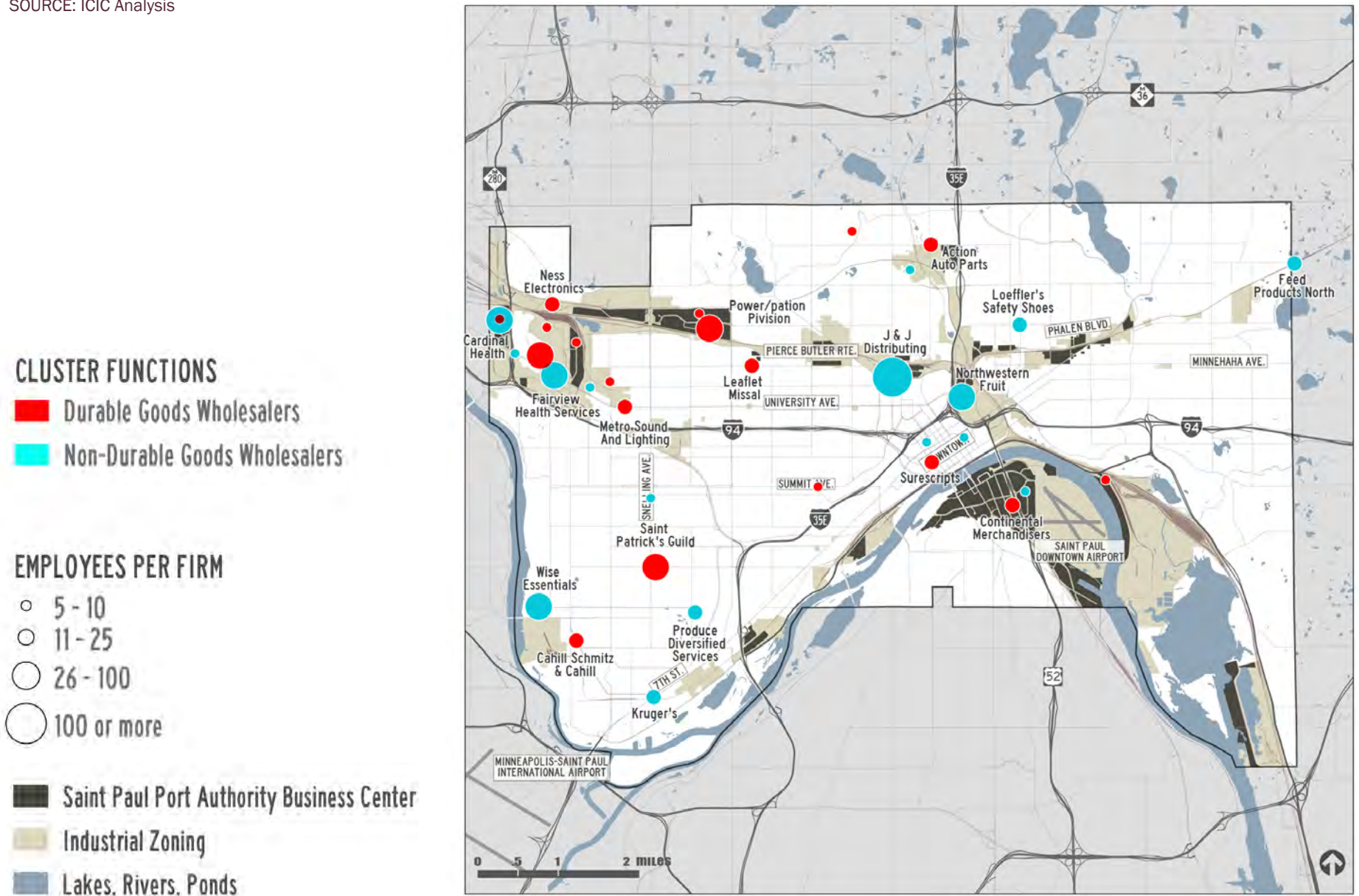


FIGURE 26. Distribution Services Cluster

SOURCE: ICIC Analysis



WORKFORCE CHARACTERISTICS

As described earlier – in particular, during the discussion of the markets served by Saint Paul’s industrial firms – a major factor in growing and retaining employment in key industrial clusters in Saint Paul is the availability of a skilled labor force. This section takes a close look at the occupational characteristics of the region’s workforce and discusses a theme that arose in interviews with firms and other informants: the importance of an agile, adaptable, computer-literate labor force to the future of Saint Paul’s industrial economy. This is particularly relevant today, as industrial firms have historically hired employees with a high school degree and relied on social networks of existing workers to find new workers. However, today’s industrial firms are looking for ways to enhance worker skills, which will require training existing workers and perhaps changing the model for identifying new workers.

This is particularly important given some of the context described earlier – namely, the fact that the industrial economy accounts for more than 20% of Saint Paul’s jobs and provides accessible, middle-wage opportunities. With this in mind, Figure 27 provides a more detailed glimpse into what drives the substantially higher wages associated with industrial activity.⁵² As can be seen when looking at Manufacturing, Wholesale Trade, and Transportation and Warehousing wages, this is not simply a case of one category driving the industrial average; in fact, all categories provide for significantly higher salaries than the rest of the economy does.

⁵² It should be noted that these wage figures include employees in white-collar occupations as well as production and transportation employees.

FIGURE 27. Average Weekly Wage by Industrial Category, 2011

SOURCE: Minnesota Department of Employment and Economic Development
(drawn from Quarterly Census of Employment and Wages)

INDUSTRY CATEGORY	SAINT PAUL AVERAGE WEEKLY WAGE, 2ND QUARTER 2011
Manufacturing	\$1,177
Wholesale Trade	\$1,125
Transportation and Warehousing	\$1,030
All Industries	\$940

Educational Attainment

Across all industries, educational attainment has become an increasingly important determinant of economic success. Manufacturing is no exception; a recent report by the Center for Regional Economic Competitiveness⁵³ found that 47% of the manufacturing industry job openings it analyzed required a bachelor's degree or higher, largely because only about 10% of the positions being filled were in production. Perhaps more surprisingly, employers were requiring a bachelor's degree for a full one-fifth of open production positions, although it is important to note that there is some variation across industries and that slack in the labor market may drive overqualified workers with high levels of educational attainment toward production positions.⁵⁴

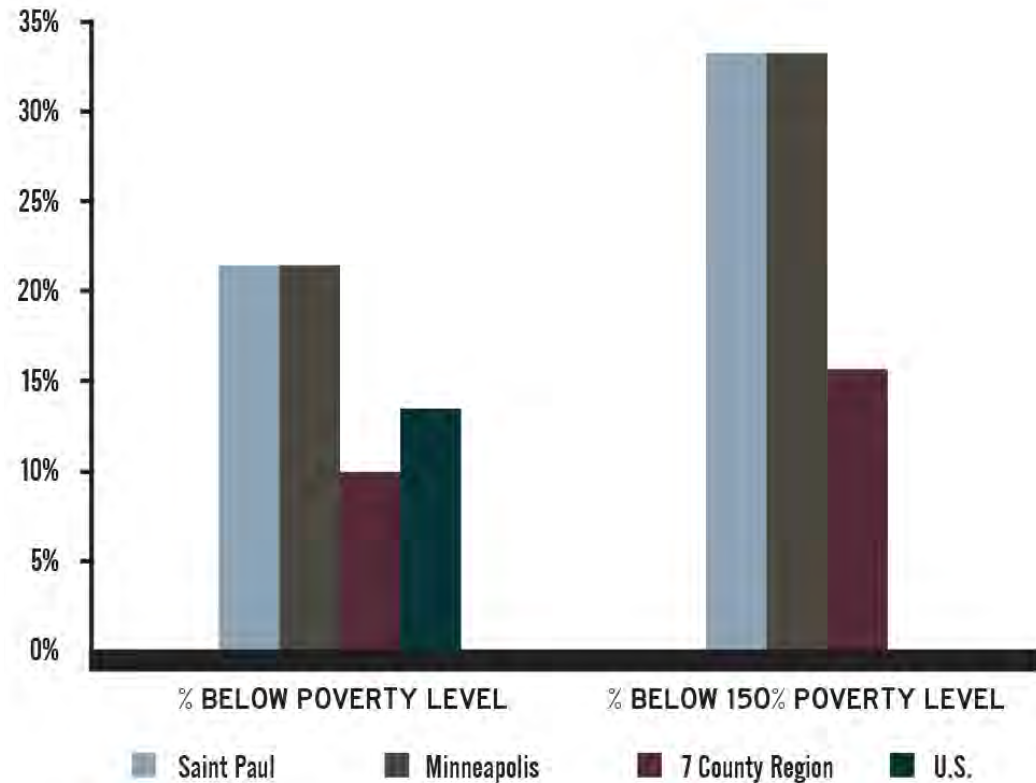
The Minneapolis-Saint Paul region has long been known for its high levels of educational attainment relative to the rest of the U.S. (as discussed earlier), which likely explains why unemployment rates have been consistently lower than the national average throughout the recent recession.⁵⁵ However, it is also clear that the knowledge economy is not working for everyone; one fifth of the residents of both Minneapolis and Saint Paul live below the federal poverty line, and fully one third live below 150% of the poverty standard, as shown in Figure 28. These trends are even

53 U.S. Manufacturing Jobs: Where Companies are Hiring. Arlington, VA, Center for Regional Economic Competitiveness, November 2011. The report analyzed web-based job advertisements for manufacturing industry job openings during the first six months of 2011.

54 The most common production openings were for production supervisors, inspectors and CNC machine operators.

55 Data from the Bureau of Labor Statistics (BLS) show a dramatic difference in unemployment rate by educational attainment level as of December 2011: 14.3% for those without a high school diploma; 8.7% for high school graduates; 7.4% for those with some college; and 4.0% for those with a Bachelor's or higher (<http://www.bls.gov/news.release/empsit.t04.htm>).

FIGURE 28. Poverty in Minneapolis and Saint Paul versus the Region and U.S.



Note: 1) U.S. data for 150% below poverty level are not available.

2) Poverty Level is just over \$22k of all income, including public assistance and unemployment, for a family of four, and barely over \$11k for an individual.

SOURCES: American Community Survey 2008-2010; Met Council 2011 Economic Indicators; Minnesota Local Area Unemployment Statistics * American Community Survey 2005-2009; <http://www.census.gov/hhes/www/poverty/about/overview/measure.htm>

more troubling; over the past decade, the Twin Cities region ranked 66th out of the 83 largest regions in terms of poverty alleviation.⁵⁶

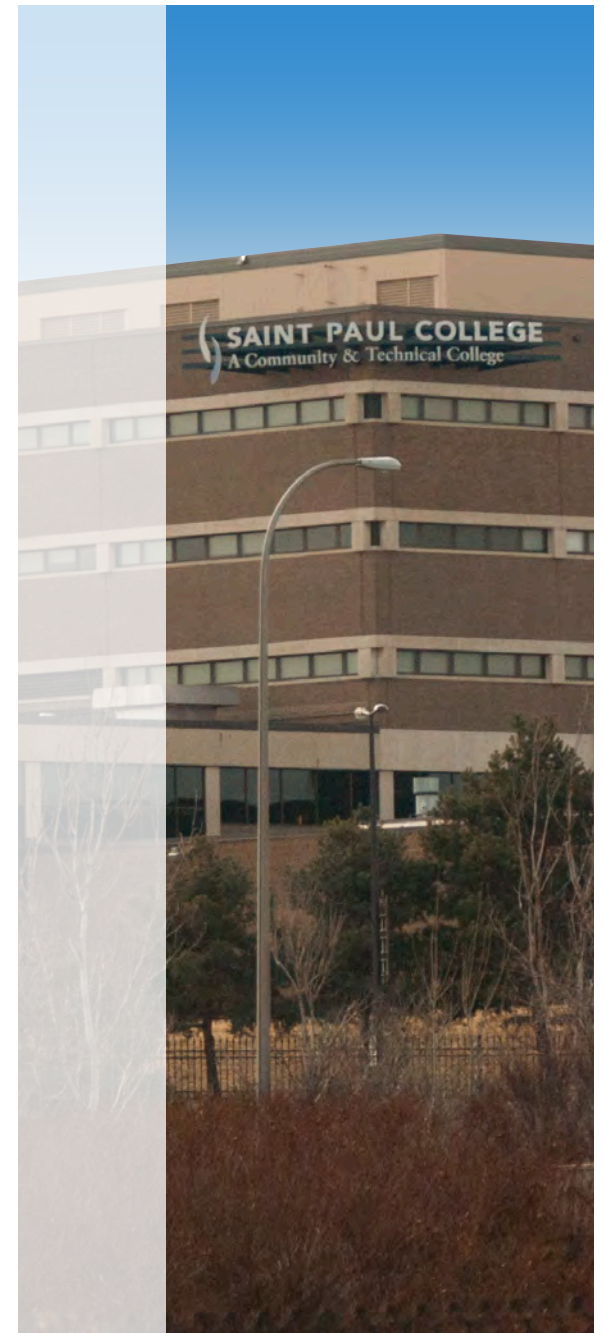
Stemming from these sobering poverty statistics as well as recent employment losses, there is a general anxiety that in the Twin Cities, workforce skills are not keeping up with firms' demands. These concerns were expressed in several of our interviews as well as in a recent Brookings Institution report that discusses employment disparities by class and race and points out that many moderate-skilled jobs have dispersed to the region's surrounding suburbs.⁵⁷ Younger residents of the Twin Cities have lower college completion rates than older residents, which raises concerns about the future competitiveness of the region.

At the state level, Minnesota continues to be among the top ten in the nation for K-12 school performance, but investment in post-secondary education has declined. Meanwhile, some of the state's key industrial sectors – biosciences, medical devices, other high tech manufacturing, and agricultural by-products (biofuels, wind energy, pharmaceuticals for animals) – have higher-than-average skill requirements, even and perhaps especially among production workers. Finally, there is a substantial achievement gap dividing students of color from white students and low-income students from students from higher-income households, which translates into racial and class-based employment gaps (for example, a 2011 study found that in the Twin Cities 13-county area, U.S.-born Black adults were more than three times as likely to be unemployed as Whites).⁵⁸ These trends underscore the importance of including work force development into a strategy to grow industrial activity and create accessible, high-quality jobs, as outlined in Chapter Two.

56 Teresa Lynch and Adam Kamins. "Creating Equity: Does Regionalism Have an Answer for Urban Poverty? Can It?" ICIC Research: September 2011.

57 Mind the Gap: Reducing Disparities to Improve Regional Competitiveness in the Twin Cities. Washington, DC: Brookings Institute: No date.

58 Everybody In: A Report to Reduce Racial Employment Disparities in the Ramsey County Metropolitan Area. Blue Ribbon Commission on Reducing Racial Employment Disparities, September 2011.



Occupational Analysis

An occupational analysis using Public Use Microdata Sample (PUMS) data from the 2010 census further underscores the need to upskill the industrial labor force in the Twin Cities.

According to PUMS estimates, the seven-county Minneapolis-Saint Paul metropolitan area employs 1,672,767 workers; 205,747 are employed at firms classified as manufacturing enterprises by the North American Industrial Classification System (NAICS 31-33). An occupational analysis enables us to discover what types of workers (as classified by occupational codes) are prevalent within industries of interest. Figure 29 shows that computer and mathematical occupations, business and financial operations occupations, architecture and engineering occupations and physical and life sciences occupations are among the specializations of the Twin Cities labor force. Within the manufacturing labor force (see columns 3 and 4 of Figure 29), these specializations are even more pronounced.

In other words, in Twin Cities' manufacturing businesses, engineers, business, financial operations and sales professionals; life, physical and social scientists and technicians; and managers are more prevalent than they are in other regions' manufacturing labor forces. This supports the hypothesis, put forward in several interviews, that industrial jobs in the Twin Cities are less production-oriented than they are in other places in the U.S. and more oriented toward design, management, and product development (note, however, that the location quotient for production jobs within

implications. First, the cultivation of a skilled workforce, whether those skills or obtained via outside education and training, or through training and career mobility for high school graduates, is important in order to enable the region to build on its current specialization in "manufacturing knowledge work." Second – and prefiguring our land use and development strategy recommendations – the development of office, lab and flex spaces may be appropriate for the type of industry that forms around these particular occupational specializations.

A second potentially notable finding (Figure 30) is that among workers in the region's scientific research and development sector (scientific research and development, NAICS 5417), which employs over 10,000 people region-wide and close to 400 people in Ramsey County, production occupations are actually *overrepresented* relative to the nation. In other words, a much higher proportion of research and development sector workers are classified in production occupations in the Twin Cities than they are elsewhere.⁵⁹ One explanation for this is that research and development enterprises in the Twin Cities tend to engage in product prototyping and testing and in early stage production – activities for which they need production workers. Again, however, skill profiles for research-related production work suggest that the education and skill requirements are formidable, re-emphasizing the potential need for upskilling.

59 Because of wide margins of error, these results are not as robust as those shown in Figure 29.

In the introductory chapter of this report, we emphasized the role of Saint Paul's industrial firms – both inside and outside of Port Authority Business Centers – in providing medium- and high-wage jobs to community residents without post-secondary education. That evidence forms a strong argument for continuing to create opportunities for industrial employment in the city. The data presented in this section, however, suggest that manufacturing and R&D sector workers in the Twin Cities are more likely than their counterparts in other places to be employed in jobs requiring post-secondary training.

The labor market as a whole is moving in this direction, as job openings in manufacturing nationwide – including openings for production workers – increasingly list a college education as a prerequisite. An investigative article in the January/February 2012 Atlantic Monthly magazine also draws the conclusion that the technological transformation of U.S. factories, while the source of significant growth in output and productivity, is lessening demand for routine production labor that can be performed by people without specialized skills.⁶⁰ These data underscore the fact that while successful measures to boost industrial job growth in Saint Paul will continue to have a positive impact on less-skilled workers, it is also important to nurture a labor force in the city whose skills match the demands of 21st century high-value production.

60 <http://www.theatlantic.com/magazine/print/2012/01/making-it-in-america/8844/>

FIGURE 29. Share of Regional Economy by Occupational Category, with Location Quotient

SOURCE: Public Use Microdata Sample (PUMS)

Note: Data in Figures 29 and 30 are from seven-county Twin Cities region

OCCUPATIONAL CATEGORY	OF WORKFORCE IN MN/SAINT PAUL MSA* (TOTAL: 1,672,767)	LOCATION QUOTIENT (U.S.)	OF MANUFACTURING WORKFORCE IN MN/SAINT PAUL MSA* (TOTAL: 232,711)	LOCATION QUOTIENT (U.S.)
Architecture and Engineering	2.1%	1.25	8.67%	1.30
Business and Financial Operations	6.12%	1.47	5.93%	1.59
Computer and Mathematical	3.81%	1.75	3.48%	1.26
Life, Physical, and Social Science	1.06%	1.20	2.18%	1.56
Management	10.58%	1.19	14.72%	1.32
Office and Administrative Support	14.91%	1.06	12.3%	1.27
Sales	11.96%	1.03	5.73%	1.33
Production	6.17%	.98	35.23%	.85

FIGURE 30. Occupational Analysis, Scientific Research and Development Sector

SOURCE: Public Use Microdata Sample (PUMS)

Note: Excludes two Wisconsin counties

OCCUPATIONAL CATEGORY	% OF RESEARCH AND DEVELOPMENT WORKFORCE IN MN/SAINT PAUL *	LOCATION QUOTIENT (U.S.)
Life, Physical, and Social Science Occupations	20.7%	.87
Architecture and Engineering Occupations	7.8%	.97
Computer and Mathematical Occupations	12.7%	1.82
Production Occupations	6.1%	2.83



PEER CITY ANALYSIS

A close analysis of industrial trends and land policies in three “peer cities” – Baltimore, Maryland; Cincinnati, Ohio; and Tacoma, Washington – provides a sense of what is possible in Saint Paul over the next several decades. We chose these three cities because they are similar to Saint Paul in terms of total population, share of industrial employment (20-25%), percent manufacturing share of total employment (5-8%), and the historic and/or current significance of port and intermodal facilities. The peers also share industry cluster strengths and opportunities in common with Saint Paul, including Education and Knowledge Creation, Medical Devices, and Metal Manufacturing, and numerous transportation assets.⁶¹ The summary that follows highlights the takeaways from each city that are relevant to Saint Paul.⁶²

61 Tacoma and Cincinnati are roughly comparable to Saint Paul in population, while Baltimore is larger and denser. Similarly to Saint Paul, Baltimore and Cincinnati have experienced population and employment losses in recent decades, while Tacoma has grown.

62 A profile of each peer city – including a description of its industrial land market, major industrial development and retention initiatives, sectoral strengths, and relevant land use/zoning policies – is included in a separate Appendix.

FIGURE 31. Peer City Comparison Table

SOURCES: Demographics: American Community Survey

Markets: Cushman-Wakefield, Jones Lang Lasalle, CB Richard Ellis, city websites, and interviews with city stakeholders

	BALTIMORE	CINCINNATI	TACOMA	SAINT PAUL
Population - 2010	620,961	296,943	198,397	287,151
Area - Square Miles	80.8	78.0	50.1	52.8
Persons Per Square Mile	7,685	3,806	3,960	5,400
Employment Growth - 1998-2008	-1%	-5%	9%	-3%
Poverty Rate - 2005-2009	20%	22%	16%	20%
Percent College Attainment - 25+	25%	27%	20%	32% - 38% in region
Percent Industrial Employment	25%	23%	25%	21%
Percent Manufacturing Employment	6%	6%	8%	5%
Industrially Zoned Acres	4,470 - (does not include Port property)	6,500	5,585 in Port of Tacoma Mfg/Industrial Center - 1,000 in other industrial districts	4,000
Volume of Trade Through Public Port Agency	8.2 million TEU's - 2010	n/a (port facilities are private, serve local supply chains)	1.5 million TEU's - 2010	5.2 million tons of commodities (Twin Cities overall)
Port Agency Role in Industrial Development	Port run by State of Maryland, but does market itself to off-port business as a logistics asset.	Port agency active, but exclusively dedicated to economic development (not port development).	Very Active in land acquisition, preparation of sites, and marketing and leasing of property.	Very Active in land acquisition, preparation of sites, and marketing and leasing of property.
Significant Industrial Sectors & Opportunities	Industrial and maritime logistics; metals; bioscience research and development, medical devices	Logistics and distribution; metalworking; R&D in the physical and life sciences	Maritime logistics; chemicals; lumber and wood products; food processing	Medical devices; processed food; metal manufacturing; printing and publishing

CINCINNATI

Cincinnati is roughly identical to Saint Paul in population (though, with a land area of 78 square miles to Saint Paul's 53, it is less dense). It is a river port, and began as a transshipment and processing point for bulk commodities (particularly agricultural products) transported by barge, although the river is now less central to its economic health than its intermodal rail-to-truck facilities and access to major highways. Home to numerous corporate headquarters, it is strong in financial and professional services, and "Eds and Meds" are an important component of its economic base. Of its 6,500 acres of industrially zoned land, over 4,000 are occupied by CSX and Norfolk Southern, along with the logistics and manufacturing businesses that rely on this infrastructure.

Within Cincinnati, the most active industrial agglomerations (those around the rail-to-truck intermodal facilities) are not seen as being under threat from competing land uses. With most modern industrial areas well-protected, local economic development agencies (namely the Port of Greater Cincinnati Development Authority and the City of Cincinnati Economic Development Authority) are most concerned with redevelopment in districts with obsolete building stock. There has been some conversion of older industrial buildings to offices and loft apartments, namely in a riverfront neighborhood called "The Banks," but this is very much the exception. In a few cases, multi-story industrial facilities have been converted to incubator space for start-up firms with fewer than 20 employees.



Rendering of new development at "The Banks"
SOURCE: Current at the Banks, www.currentcinci.com

Because economic development authorities in Cincinnati do not own or operate business parks, there is no local equivalent to the Saint Paul Port Authority. However, city authorities do assist in the assembly of parcels and the development of land, often for Flex/R&D facilities or in some cases, big box retail. Access to state and federal brownfields funding has been an important tool to repurpose property for current needs. There are no large greenfield sites remaining in the city, so the ability to "recycle" sites is critical, since users demand anywhere from five to 20 acres.

Flex/R&D space is in high demand in Cincinnati due to the corporate headquarters, hospitals, and universities that dot the city and region. This demand, which has driven the industrial land market in the city for the past several years, is typically accommodated through the conversion of existing manufacturing space or infill development in these locations. Local economic development



Flex/R&D space
SOURCE: City of Cincinnati,
www.choosecincy.com/projects/sky_lofts_llc_the_edge

officials view the transition of some space from more traditional logistics and manufacturing to Flex/R&D positively, because Flex/R&D is considered environmentally friendly, higher tech and synergistic with the city's strong "Eds and Meds" presence.

Overall, Cincinnati officials are operating on two fronts: marketing the city's central "nexus" location as an advantage for logistics and distribution operations, and capturing research and office uses associated with corporate headquarters and higher education activities. Their efforts appear not to require protective zoning, largely because the intermodal rail-to-truck infrastructure is isolated and because new residential and commercial development tends to take place in areas already zoned for these activities. While there has not, up to now, been much demolition of obsolete buildings in industrial neighborhoods to make way for new industrial construction, this may be on the horizon because there is so little new land available for industrial development.

BALTIMORE

Baltimore's industrial landscape is dominated by its seaport, which is currently ranked #1 in the country for roll-on/roll-off activities (ro-ro), sugar, gypsum, and forest products; and is #2 in the country for automobile and truck exports. Maritime industrial and logistics activity related to the port is the city's industrial "bread and butter." Waterfront areas, however, have also been highly susceptible to residential conversion pressure. Traditional maritime industrial uses have been converted in recent years, primarily to large planned unit developments (PUDs) that combine residential, retail, and office uses. The Inner Harbor is the most emblematic of this change, having converted almost completely to non-industrial uses.

This transformation hinders industrial firms that depend on port facilities and access to open water. The city's Maritime Industrial Zoning Overlay District (MIZOD), put in place in 2004, has kept rents for the 2,700 acres of waterfront industrial land in line with what industrial firms can pay. The MIZOD, along with capital investments and marketing efforts, is credited with having stabilized and even grown the maritime industrial activities of the city in

recent years (the Port itself is under the jurisdiction of the Maryland Department of Transportation). This is very important given that the Port is linked to more than 108,000 jobs. Building permits and property tax proceeds in the district have steadily increased since 2004. Yet, as with the other cities examined, developing new multi-acre sites for logistics and distribution is a challenge because unused and underutilized land consists primarily of small parcels, often with multiple owners, obsolete buildings and environmental contamination issues.

City agencies (notably the Baltimore Development Corporation) have been active in the development of business parks as a strategy for promoting industrial development outside of the port zone. Important tools include the Maryland's Enterprise Zone program, which provides income and property tax credits to businesses in return for job creation and property investments, and the federal Small Business Administration HUB program, which offers government contracting advantages to firms located in economically distressed areas. Notably, however, the new business parks (both those created through city-sponsored RFP processes and, more recently,

the unassisted efforts of private developers) feature a range of activity, including Flex/R&D and the re-use of older industrial buildings as offices. The city, through its RFP process, has been able to combine adaptive reuse and industrial-to-commercial conversion with the preservation and growth of contemporary industry. For example, the Chesapeake Commerce Center, developed through an RFP awarded to the Duke Realty Corporation, combines offices with small-to-medium scale logistics operations and Flex/R&D. As in Cincinnati, the presence of universities and research hospitals has also led to demand for combined lab/office/small-scale prototyping and production facilities within the new business parks.

A key learning from Baltimore is that where there is strong residential pressure on industrial areas, protective zoning can deflect this. At the same time, outside of these critical zones, some conversion and adaptation – as long as it excludes residential and retail – can be combined with industry preservation and the growth of competitive industrial sub-sectors like logistics/distribution and Flex/R&D. Further, where conversions of industrial land to mixed-use and residential have occurred in Baltimore, concerted and serious efforts to buffer healthy adjacent industrial areas (through landscape and transportation features as well as clarity regarding zoning designations) are very important. Strategies employed in the city's Jones Falls area also illustrate the potential for shrewd re-use of obsolete industrial building stock to house artisanal or "making" activities and services in the absence of more desirable facilities.



Baltimore's Inner Harbor

SOURCE: http://www.usamapxl.com/images/cities/attractions/baltimore/baltimore_inner_harbor.jpg



Adaptive Re-use in Jones Falls

SOURCE: <http://www.cbhassociates.com/projects/archive/renovation/images/clipper01.jpg>

TACOMA

As in Baltimore, Tacoma's industrial base grew up around its port and continues to be port-oriented, although international trade is now a much more significant component of port commerce. Recent years have seen development pressure on industrial land near the port, a trend sparked by the conversion of obsolete factories and warehouses in downtown Tacoma to residential, retail and office space. An active port agency and a strong contingent of industrial business owners have engaged in strategic land purchases to create buffers between new mixed-use, pedestrian-oriented waterfront development and the warehousing and manufacturing districts that provide 14,000 direct jobs in the port. They have had a significant voice in the city planning process, leading to a general land use plan for Tacoma that acknowledges the job and revenue benefits of industry and strives to keep the sector stable and healthy.

In many ways, the Port of Tacoma, an independent municipal corporation chartered by the State of Washington, is more similar in nature and orientation to the Saint Paul Port Authority than analogous governance structures in the other two peer cities. As in Saint Paul, the Port of Tacoma operates as a land developer/broker and as a property manager, and its mission is to maximize the job creation potential of the property within its purview. It actively manages the 400-acre Commencement Bay Industrial Development District as well as 550 acres of land south of Tacoma in Fife, Washington, undertaking capital investments, preparing sites, and marketing land to manufacturers, warehouse users and consumers of flex space. Port officials'

dedication to a strong industrial employment base is reflected not only in their acquisition and development activities but also in their participation in the city's land use planning process.

Over the past 20 years, pressure in Tacoma for new commercial and residential development has been accommodated without significant incursion into districts where such development would harm industrial businesses. Clear, strictly-enforced zoning has helped to shield industrial businesses from residential and commercial competition. Where this has been insufficient, the port agency has engaged in a more aggressive approach, acquiring land in order to prevent conversions like those that took place on the east side of the waterway in active industrial areas two decades ago. The Port's land acquisition strategy, supported by the city's general plan, has strategically separated mixed-use development and heavy industrial uses. For example, the 20-acre Wheeler-Osgood property on the Central Foss Peninsula, located on the site of a former mill, is zoned for a mix of office, research and development, and light industrial uses. If tenants are found successfully, this will yield a combination of uses that buffers heavier industry from pedestrian-oriented shoreline residential and retail development. Such an approach shows how Tacoma has been able to preserve a balance between various types of industrial activity, consumer-oriented neighborhood revitalization, and the incubation of new office-based sectors like corporate management and information technology.



Port of Tacoma

SOURCE: <http://coastalnewstoday.com/wp-content/uploads/2011/11/Port-of-Tacoma.jpg>

The conditions and trends that prevail in Tacoma differ noticeably from those in Saint Paul. Tacoma's industrial sectors are powered by international trade and the seaport-related commerce it generates. Saint Paul's port commerce comprises a relatively small segment of its industry, and the driver of Pacific trade is absent. Nevertheless, there is enough alignment on mission and strategy between the Port of Tacoma and Saint Paul Port Authority that it could be worth exploring opportunities for the two organizations to partner with and learn from each other, to the extent that they are not already.

Takeaways

The peer city analysis highlights several important implications concerning the role of economic development and planning agencies in promoting industrial stability and growth in contemporary American cities.

Not surprisingly, an important competitive advantage of urban industrial activity is its ability to shorten supply chains through intermodal transportation access, whether this access is based on port-to-rail, port-to-truck or rail-to-truck infrastructure. To the extent that non-industrial development in industrial areas compromises the functionality of these intermodal facilities and the competitiveness of the firms that use them, public sector protection of industrial land is critically important. Depending on the situation, effective responses vary. In Baltimore, a strict protective zoning overlay was required. In Tacoma, the port agency chose a defensive land acquisition strategy, which was complemented by clear language in the city's general plan about the importance of industry to the city's job and revenue base and the non-negotiability of stated industrial zoning designations even as some formerly industrial property was permitted to convert to other uses.

In addition, because of the challenges of parcel assembly and environmental cleanup in older, built-up areas, industrial stability and growth require active public sector stewardship in the land development arena. Whether in manufacturing, logistics, or university-linked labs, industrial firms across the spectrum rely on public organizations (sometimes working in collaboration with developers) to identify, assemble and prepare sites in competitive locations.

In the cities examined, new industrial development, while economically important, is never simple. It may involve converting manufacturing space to Flex/R&D space, demolishing obsolete industrial building stock to make way for modern logistics facilities, or finding and preparing infill locations. Success, however, keeps industrial activity in places with existing infrastructure and where jobs and revenue are needed, making it vital that the public sector take on a leadership role.

Another important finding is that all three peer cities contain examples of industry advocates positioning themselves as allies of advocates for improved public space in waterfront areas. Tacoma's experience in particular demonstrates that accessibility to the shoreline for recreational users can actually complement industry preservation if strategically pursued.

Finally, entrepreneurial industrial development agencies are constantly assessing and adapting both to changes in the character and composition of urban industry and to changes in urban population. Particularly in Cincinnati and Baltimore, officials have capitalized on strong "Eds and Meds" sectors to take advantage of opportunities for Flex/R&D development. In Baltimore, the development of new business parks around existing transportation infrastructure has involved demolition of older industrial buildings to make way for new construction, as well as adaptive re-purposing of multi-story buildings for office tenants. The Port of Tacoma's new mixed commercial-industrial facility on the Central Foss Peninsula aims to accommodate Tacoma's new identity as a location for corporate

headquarters and high-tech firms while helping to protect a traditional, job-rich industrial district from residential and retail development. All three peer cities contain examples of industry advocates positioning themselves as allies of advocates for improved public space in waterfront areas. Some of the key successes in each city involve cooperation between various interests and parties, a lesson that could easily be applied to Saint Paul.

According to the workforce characteristics analysis above, the Twin Cities are less specialized than the nation in production employment within the manufacturing sector, while being more specialized in production work within the research and development sector. This suggests the possibility of a niche in Saint Paul in which the development of "flex real estate"—space capable of accommodating business operations, research, product design and early-stage manufacturing—could present a valuable proposition for industrial land developers.



5



RECOMMENDATIONS

5. RECOMMENDATIONS

LAND USE & URBAN DESIGN

Retain Industrially Zoned Land for Industrial Use with Limited Exceptions

It is vital to protect Saint Paul's industrial economy in a way that balances competing land uses while preserving the small business and industrial growth that is critical to the city's economic vitality. The closure of Ford Motor Company's Twin City Assembly Plant and the planning for a mixed-use future around the inter-city Central Corridor Light Rail stations in the Midway area of Saint Paul mean that a significant erosion of the city's jobs base has already taken place. The Port Authority should consider a range of strategies designed to preserve vital industrial lands, and/or replace those that are lost to conversion.

Any such strategy must build not only upon the important work that the Port Authority does, but on the valuable efforts of the Saint Paul Department of Planning and Economic Development to protect industrial districts from land uses that can undermine future viability. Residential development, schools, and big box retail are examples of uses that are particularly sensitive to industrial business activity; as such, their presence on or near industrial land may threaten the sustainability of existing industrial operations. In addition, many cities have witnessed the introduction of such uses subsequently raising the value of surrounding land to a level that begins to put strong speculative pressure on adjacent

industrially-zoned areas, eventually resulting in a domino effect of industrial erosion.

Obviously, any policy or ordinance must recognize the need for land use to be responsive to demand over the long term. This means that there will be instances in which the market dictates that conversion from industrial to another use is optimal. In theory, such conversions would be balanced by

a corresponding addition of industrial land in Saint Paul. In practice, however, changes in land use tend to move only in one direction, with conversions from residential or retail to industrial exceedingly rare. This reality underscores the importance of ensuring that one-off developments and short-term speculation do not drive additional encroachment onto valuable – and scarce – industrial land.



Ideal Printers, Williams Hill Business Center

Identify and Protect Critical Industrial Buffers

In addition to promoting industrial activity, it is imperative that city leaders work to physically protect industrial land from the types of pressures that can lead to conflict and anti-industrial sentiment. A key tool when it comes to achieving this goal is the creation of buffers that physically separate industry from other uses. Such buffers can take a variety of forms. For example, infrastructure assets such as stormwater management systems serve as an effective barrier between industry and more residential uses, as is currently the case near the Crosby Lake Business Center. Similarly, dense landscaping may create a clear line of demarcation between industrial and residential activity, as is done near Great Northern North. Where the construction of physical barriers is not feasible, however, the “Tacoma model” described earlier could be employed. This would mean excluding certain adverse land uses including residential and retail, while still promoting provisions for physical buffering based on landscaping, street design, and setbacks.⁶³

Such protections will serve to maximize the job creation potential of industry while minimizing tension over land, which is especially important in areas where industry faces significant pressure, such as Midway. Although this will not eliminate land use

⁶³ See the City of Tacoma’s CIX Commercial-Industrial Mixed Use zoning category for a precedent.

conflicts in all areas, a targeted approach that uses buffers to protect key pockets of industrial activity in Saint Paul – in particular those that are located near important industrial assets – is critical to job creation and retention efforts. Intermodal yards, utilities, and large manufacturing or distribution nodes provide a measure of security because they are less prone to conversion pressure and can help to create a critical mass of like activity and a “working” atmosphere. The result of displacement from such areas is often the flight of industrial firms from a city entirely. As such, where speculative pressure from competing land uses threatens to degrade a functioning industrial district, special care should be taken to balance competing uses, based on a



Above Left: dense landscape buffer between Great Northern North and residential uses across the street
Above Right: closely adjacent institutional and industrial land uses in Midway

combination of the techniques described above and the potential addition of a zoning category that forbids the most adverse uses.

While employing industrial buffers has the potential to bolster industrial activity throughout the city, the impact would be particularly robust in those neighborhoods that are under the most pressure from competing uses. In particular, a concerted effort to buffer industry in Midway and Pelham could potentially go a long way towards allowing residential developers to take advantage of desirable attributes like the Central Corridor rail while ensuring that industrial activity and its benefits in terms of job creation and fiscal impact are shielded.



Develop a Strategy for Older Industrial Districts and Business Centers

The Port Authority's newer Business Centers are well-designed, attractive, and environmentally sustainable. Yet older industrial districts and Business Centers often lack these characteristics, giving them a less cohesive feel and a lack of identity. This leaves these districts and the specific businesses that occupy them vulnerable to intrusion from other uses, as the job creation opportunities associated with these areas may be overshadowed by physical traits.

In such districts, it is critically important to incorporate modern amenities and aesthetics in order to maximize firm retention and avoid negative perceptions around industry. To do this requires upgrades that are both functional and cosmetic. The best approach to achieving this would involve

a partnership between industrial businesses, the Port Authority, and the city that focuses on creating an inviting feel by promoting landscaping, signage, streetscapes, and other improvements that can encourage new and infill development in these employment centers.⁶⁴ Within Business Centers, it is important for all parties to work together to ensure sufficient space for parking and trucks, along with a front entrance that welcomes customers, tenants, and visitors. Ideally, this would be accompanied by efforts to link industrial hubs, such as the Riverview and Riverview West Business Centers, in order to promote collaboration and a focus on shared interests. In this case, a strategy ⁶⁴ For an industrial district master planning precedent, see the Navy Yard Master Plan in Philadelphia produced in 2004 and currently under build-out. <http://www.navyyard.org/master-plan>

would help to coordinate site assembly efforts, improve gateways, upgrade local infrastructure, and potentially promote new private investment. In order to accomplish this, a steering committee of local business representatives and Business Center-specific stakeholders could be formed to outline the intent of the initiative and to develop strategies for the district's future.

By changing the operating conditions and perceptions surrounding older industrial districts in Saint Paul, a stronger industrial base would result. An investment in improved features and aesthetics would ultimately benefit a wide range of stakeholders in the city and region by increasing the job creation potential of the firms located in industrial areas.



Construction of decorative bridge abutment in Riverview



Landscaping and signage at the gateway to River Bend

Consider an Industrial BID to Manage Common Spaces in Older Business Centers

In interviews with Business Center firms, the effectiveness with which the Port Authority manages common areas in its Business Centers was apparent. For older industrial districts, challenges stemming from older infrastructure and/or structures are more easily resolved when there is a clear management presence for both exterior spaces and interior common areas of multi-tenant Business Center facilities. This is a straightforward way of increasing retention of existing Business Center firms. In a time of budget constraints at all levels of government, one way to fund such measures could be the establishment of an Industrial Business Improvement District (I-BID). If agreed upon by area firms, a small assessment based on street frontage, facility square footage, or even employment could be pooled to fund “clean and safe” improvements and development/communications programs in the immediate vicinity of the assessments. Such districts have a strong track record of success in commercial areas and are being increasingly utilized for urban industrial areas as well in major cities.⁶⁵

65 For a precedent, see industrial BIDs in Los Angeles - <http://cityclerk.lacity.org/BIDS/Downtown-Industrial-Engineers-Report-2010-2014.pdf> and New York - http://www.nycedc.com/ProjectsOpportunities/RFPsRFQsRFEIs/Pages/Opportunity257_PC.aspx

Explore Strategies to Consolidate Surface Parking in Older Districts

Older industrial districts in Saint Paul would benefit from a more strategic approach to maximizing output and job creation per acre. One way to do this would be to consider alternate uses for the acres of underutilized surface parking that exist. This would free up industrially-zoned land so that additional development could take place, strengthening each district’s character and adding to the city’s employment and revenue base.

An obstacle to such a plan, however, would be that the owners of these surface parking lots are under no obligation to support such a strategy. It

is therefore imperative that the private sector firms and individuals whose land would be affected by a revised district parking strategy be part of any discussions that take place; perhaps they could be granted right of refusal on productive land and compensated for parcels that are not essential to their business operations. Arriving at these types of solutions requires a shared vision and spirit of partnership among all parties.

consider consolidating underutilized parking lots to create opportunities for new development

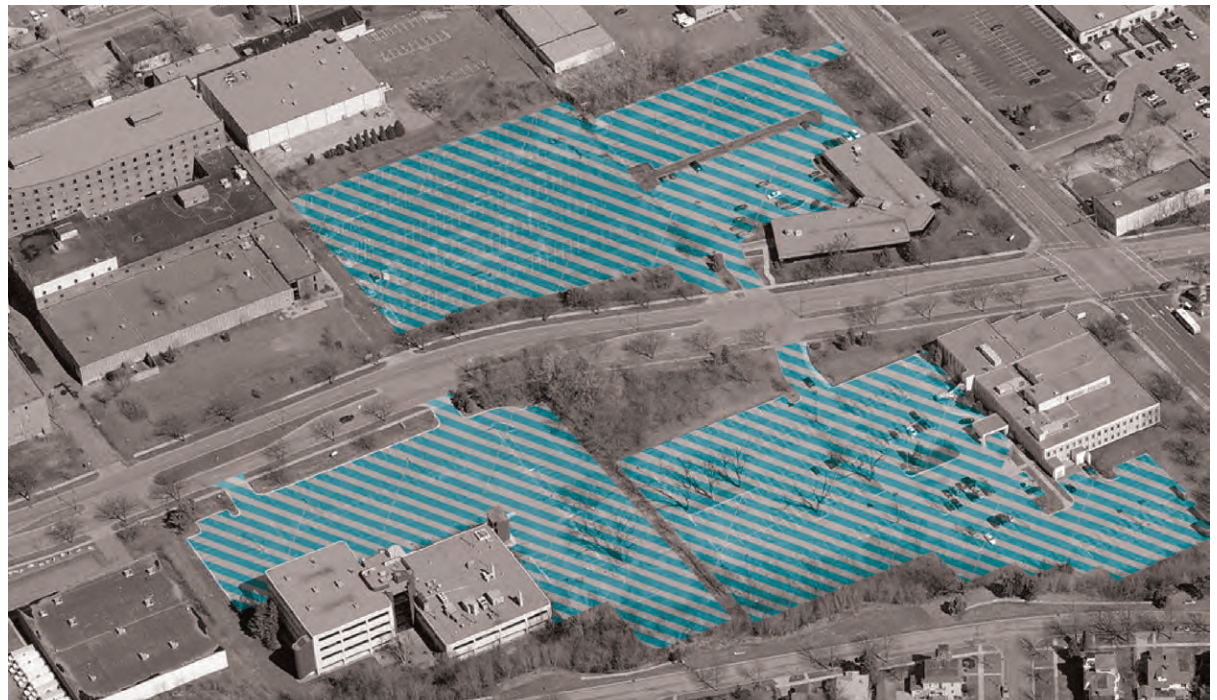


FIGURE 32. Underutilized Parking Lots

SOURCE: Interface Studio

Ally with Advocates of Open Space Access on the Waterfront

In many industrial cities with significant waterfront land, stakeholders have learned that industrial development and open space access can successfully co-exist. In fact, open space can be used to help create buffers for industrial businesses; the earlier discussion of Tacoma provides an example of recreational and industrial uses complimenting each other.

The Great River Passage Master Plan, which was completed in 2011, presents recommendations for orienting Saint Paul towards the river with a coordinated effort to exploit the recreational, natural, and economic opportunities afforded by the 17-mile stretch of the Mississippi River that runs through the city.⁶⁶ In an example of a mutually beneficial approach that promotes recreational activity while protecting industrial land, the Port Authority recently donated 16 acres of riverfront land to this effort. As part of this process, Barge Terminal 2, which was initially under consideration, was kept for job-producing industrial uses.⁶⁷

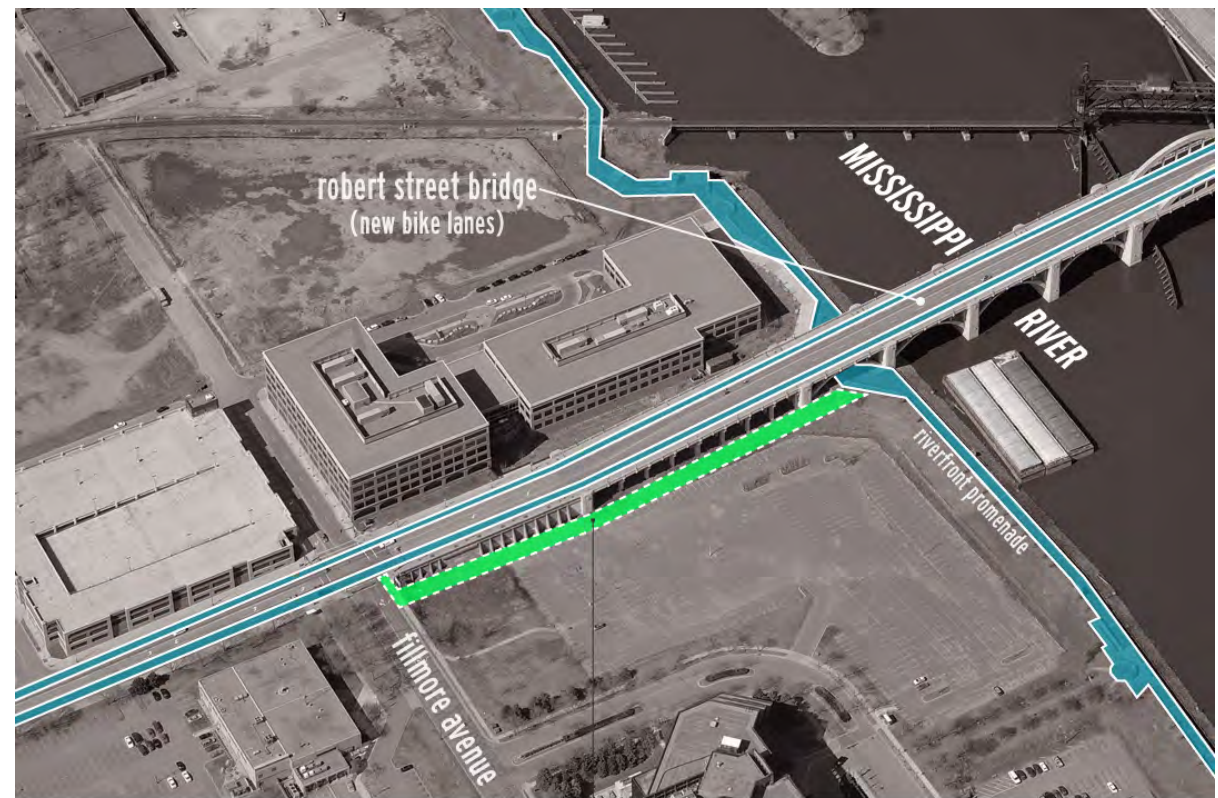
Approaches like this that protect productive land uses are very important. A similar strategy could help, for example, the Riverview Business Center create more open space while strengthening its industrial presence, as shown in Figure 33. At the city level, targeted improvements in landscaping,

66 Great River Passage Master Plan. <http://www.stpaul.gov/DocumentView.aspx?DID=19153>

67 "A win-win for the river – Saint Paul Barge Terminal agreement results in 16 acres of riverfront parkland." Bob Spaulding, Friends of the Mississippi River. http://www.fmr.org/news/current/barge_terminal_land_exchange-2011-09

FIGURE 33. Riverfront Access Opportunity at Riverview

SOURCE: Interface Studio



consider a connection for pedestrians and new bike lanes to the riverfront across adjacent sites

signage, and public art – whether implemented by city officials or other local organizations – can also help promote a spirit of partnership around waterfront development.

Right: Seattle's waterfront weaves well-designed open space and recreation areas through working industrial uses, providing a vision of what is possible along Saint Paul's Mississippi River waterfront

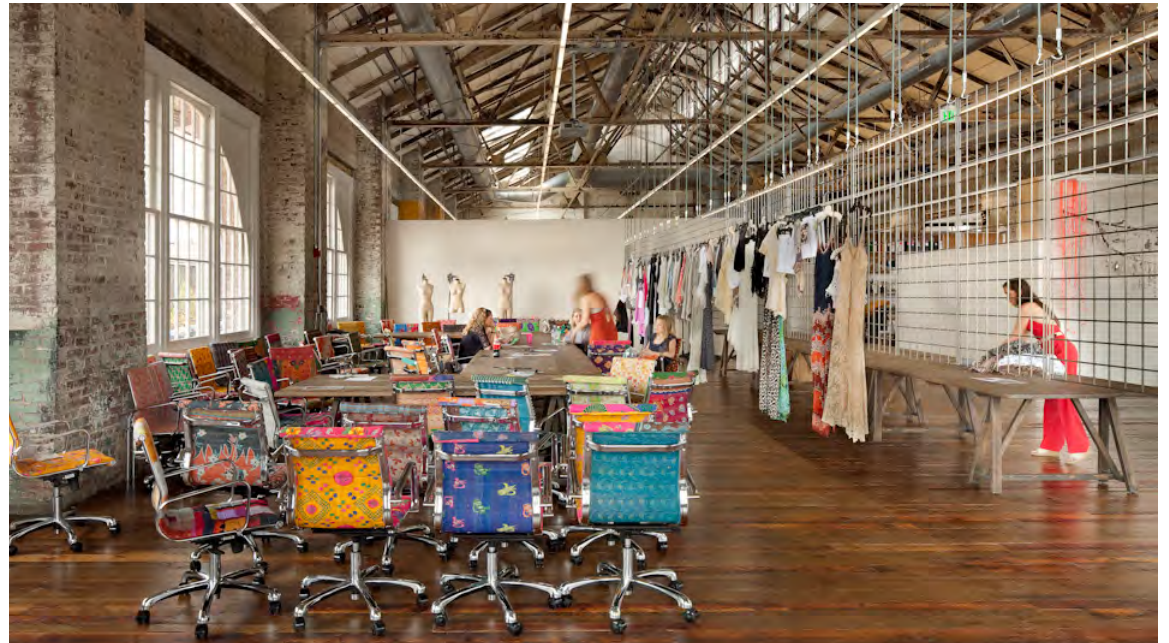


Support Efforts to Convert Former Industrial Buildings to Complementary Productive Uses

Although it adheres to strict development covenants in its Business Centers, the Port Authority has supported creative re-use of older industrial buildings and participated in community discussions around the topic. A continued willingness to engage some of these uses, including artisanal, do-it-yourself, and creative enterprises, would be beneficial to the economic development picture in Saint Paul. This would entail lending real estate development expertise to efforts to convert former or obsolete industrial buildings into complementary uses, where appropriate.

While re-use of older buildings, which are typically multi-story and lack the amenities needed to support modern industrial activity, comprises a very small niche market,⁶⁸ it can nevertheless benefit traditional and modern industrial development in a number of ways. For one, it supports continued job-generating activity in these buildings. In addition, such activities can create “buzz” and attention for Saint Paul as a place for smaller, artisanal, do-it-yourself activity as well as for the modern industrial uses that these activities tend to complement. Such an approach may have success in Midway, where multi-story facilities that are unfit for modern PDR could be re-deployed, perhaps using the Greenpoint Manufacturing and Design Center (GMDC) in Brooklyn, NY as a template. In fact, officials from GMDC have already visited Saint Paul and engaged in discussions with local partners about potential opportunities.

⁶⁸ For example, the Greenpoint Manufacturing and Design Center (GMDC) in Brooklyn – which has successfully used such a model – employs just over 500 people, representing less than 0.05% of New York’s industrial economy. (Sources: GMDC Tenant Survey Statistical Report, Fall 2010; ICIC analysis)



Top: URBN headquarters reactivated a historic factory in Philadelphia’s Navy Yard

Bottom: Small-scale artisanal wood workshop in old, multi-story industrial building (also in Philadelphia)

LEADERSHIP

Undertake a Public Relations Campaign to Broaden the Discussion about Industrial Use

Because of some prevailing attitudes about industrial activity and the political attractiveness of residential development – which remains a focus for many cities despite sharp declines in home prices and increased residential vacancies in recent years⁶⁹ – proponents of industrial job creation have too often been forced to adopt a defensive posture. This makes it imperative for cities like Saint Paul to take a proactive approach to promoting industry. One way to do this would be through a public relations campaign that highlights the benefits associated with industry. This would serve as an investment in getting city residents and some in the public sector to move beyond the outdated images of industry to an understanding that today's PDR activity looks dramatically different than industry did just one generation ago. This not only could help foster cooperation, but potentially lead to increased interest in industrial careers among students, neighborhood residents, and current workers as they learn more about potential opportunities.

69 U.S. Census Bureau Homeowner Vacancy Survey, First Quarter 2012. Table 2: Quarterly Homeowner Vacancy Rates: 1956 to Present.

“Most people don't get a chance to see this stuff. More exposure builds appreciation - for the service, jobs, products, process.”
- Vice President at a Saint Paul-based foundry.

Partner with Other Local Organizations to Advance the Conversation around Industrial

An opportunity exists for Saint Paul and regional leaders to develop a more prominent voice in the ongoing national conversation about the revival of the industrial manufacturing sector. Groups like the Manufacturing Institute, the Urban Manufacturing Alliance and the Information Technology and Innovation Foundation are setting the agenda at the national level. Government initiatives have aligned with the goal of reviving innovation in the U.S. economy by supporting advanced manufacturing. This represents a timely opportunity for Planning and Economic Development officials to work in a parallel way with local groups (Capital City Partnership, Saint Paul Area Chamber of Commerce, Twin Cities LISC) to raise the profile of industrial activity in Minneapolis/Saint Paul and advocate for strategic efforts to promote it. This would provide a potential avenue for addressing regional problems using two tracks – the first would entail a partnership with specific manufacturing organizations, while the second would involve engaging parties that have a stake in growth and equity within the Twin Cities. Ultimately, the outcomes should include increased access to workforce, small business growth, land development, and/or technical assistance to firms.

“Job generation is a win-win, less controversial than land use - it can change the tone of the discussion.”
- Leader at a local economic development organization.

Promote an Industrial Pipeline

While the Port Authority enforces strict development covenants around size and job density for Business Center firms, it is important that early-stage companies in Saint Paul that could potentially develop into future Business Center occupants be given every opportunity to thrive. Ideally, this would involve leadership from the city on preserving job-generating activities, especially in neighborhoods where industry is under pressure. Whether through product innovations or linkages to local headquarters, there are opportunities for smaller industrial firms to enter the Saint Paul and regional markets. Such firms would initially be a good fit for multi-tenanted flex buildings, such as the Langer Industrial Condos in Westminster, the new flex buildings in River Bend that are operated by Wellington Management or the proposed commercial development in Pelham that was described earlier. Ultimately, the goal would be for the relatively small firms that occupy these facilities to grow in order to generate the revenue and jobs needed to be part of the next generation of industrial companies.

“We need to do a better job of welcoming businesses and retaining the ones we have. We need to help people with expansion and turn around the policy dynamic. The regulation services staff is the only contact that most businesses have with city staff.”
- Regional Economic Development Official .

CLUSTER STRATEGIES

Expand Industrial Outreach

While the Port Authority's Business Centers are home to much of Saint Paul's industrial activity, a majority still takes place elsewhere in the city. This presents an opportunity to promote the work of the Port Authority to businesses that may not be aware of all that it offers. Such an approach would be beneficial to all parties, providing increased visibility to the rest of the city's industrial economy (and further promoting a pipeline), while educating firms that may benefit from an eventual move into one of the Business Centers. In turn, because establishing personal outreach throughout the city is likely unrealistic, the Port Authority could potentially develop web interfaces that engage young entrepreneurs and start-ups accustomed to having information at their fingertips.

"We need to juice up the informational interfaces."

- Leader at a local economic development organization.

"Businesses need to feel love. It goes a long way – and it's FREE. City reps should go see businesses – just to thank them for doing business here, employing residents, paying taxes. It doesn't cost anything."

- Leader at a local economic development organization.

Target Rail and River Sensitive Clusters for Growth to Capitalize on Local Infrastructure

As described in the discussion of Saint Paul assets, rail and river are tremendously important to the city's economy. The existing infrastructure around both of these resources is a strong selling point to firms in a number of potential target clusters, including Distribution Services, Metal Manufacturing, and Processed Food, all of which are projected to grow nationally over the next decade. Firms in these clusters are well-positioned to thrive in Saint Paul based on existing assets and growth patterns. Additionally, as heavy users of rail and river, such firms could help to encourage continued investment in the city's industrial infrastructure.

Fill the Missing Link Between Local Industry and Universities

The assets exist for firms to take advantage of the many benefits associated with a strong university presence, including workforce development, innovation, and local procurement. While all clusters can benefit from Saint Paul's strength in these areas, Medical Devices and Biopharmaceuticals are especially well-positioned to leverage all of these benefits, creating industrial jobs for the residents of Saint Paul and the region.

"I love this town, and I'm doing a high volume business, but I don't know what the plan is for attracting businesses."

- General Manager at a Saint Paul industrial firm.

Capitalize on Manufacturing Opportunities in High-Skill Clusters

As described in the Workforce section, production jobs in high-skill sectors like Life Sciences are abundant in Saint Paul. Because of this, a targeted strategy of leveraging highly technical industrial clusters to create advanced manufacturing opportunities – ideally, done in conjunction with an effort to upskill existing workers – could yield significant benefits.

Promote Energy Efficiency and a Green Industrial Base

During conversations with industrial firms, energy efficiency was frequently mentioned as a theme, and Saint Paul appears to be on the cutting edge in this field in many respects. Although green is not a cluster per se, a sustainable energy source (anaerobic digesters, for example) within one or more clusters could draw new industrial uses or expansion among local firms.

WORKFORCE

As emphasized in the Workforce section, industrial jobs in the United States – particularly jobs in manufacturing – are increasingly “knowledge jobs,” requiring proficiency with high-level mathematics and computer programming. While industrial jobs are significantly more accessible to workers with high school degrees, the Twin Cities specialization in production work within the research and development sector, for example, will require higher levels of education and training than those needed even a generation ago.

For decades, the prevailing focus of workforce and education policy has been knowledge jobs in the service industries. In the face of growing awareness that in fact, industrial jobs do involve knowledge work, the question of how to prepare young people for careers in the sector arises frequently. There is also a need for incumbent workers to upgrade their skills.

Port Authority affiliate Employer Solutions Incorporated, operating on a client-based model, has already made progress in preparing Saint Paul residents for jobs at Business Center firms. It has provided an array of workforce services, and created training opportunities by seeking state and federal grants, most recently securing a \$300,000 training grant from the Environmental Protection Agency in August 2011. Any effort to further develop and upgrade the industrial and R&D production

workforce in Saint Paul and the Twin Cities will be strengthened by the collaboration of the Port Authority with the Minnesota Department of Employment and Economic Development, local economic development agencies, secondary school systems, technical colleges, and consortia of interested employers. Goals that might be pursued by a “Joint Commission on the Industrial Workforce” in Saint Paul include:

1. Greater exposure to manufacturing and R&D production occupations at the high school level, accompanied by stronger emphasis on the science and math skills needed for those occupations.
2. More and better opportunities for post-secondary technical training in high-demand industrial and R&D sector occupations.
3. Targeted on-the-job training for incumbent industrial workers, perhaps in conjunction with the piloting of a new National Association of Manufacturers-endorsed Manufacturing Skills Certification System (see below).
4. Connection of Saint Paul firms with local and state financial incentives to provide training to incumbent employees.
5. Better coordination of workforce policy with innovation policy in the region and the state, through collaboration with groups like Enterprise Minnesota as they ratchet up assistance to small and medium-sized enterprises. Assistance with process innovation and supply chain development will increasingly go hand in hand with workforce development efforts.

The National Association of Manufacturers, through its Manufacturing Institute, has taken up the challenge of facilitating training, primarily through technical colleges, for skilled CNC machine programmer/operators and other skilled technicians that manufacturers have reported difficulty recruiting.⁷⁰ This group is already working with the Minnesota Department of Employment and Economic Development, and a Saint Paul specific partnership could potentially be developed.

“It’s important to have jobs, but it doesn’t resonate if local neighbors don’t get those jobs.” - Leader at a local economic development organization

⁷⁰ *Boiling Point? The Skills Gap in U.S. Manufacturing.* Deloitte Development LLC and the Manufacturing Institute. 2011.



6

CONCLUSION

6. CONCLUSION

Industrial activity is on the rise again across the U.S. With unemployment rates for workers who lack a high school diploma and those without any college roughly three and two times the rate for college graduates,⁷¹ respectively, there is no better place for cities to focus their economic development efforts than on the industrial economy. Saint Paul stands poised to take advantage of these trends in the coming years, with assets and resources that are scarce elsewhere in the U.S.

The Benefits Associated With Industry

The benefits of an increased focus on industry would be both far-reaching and highly sustainable. Its potential entails not only the addition of new jobs, but the types of jobs that help cities and regions grow efficiently and equitably. Industrial jobs often confer significantly greater benefits to their city and region than their non-industrial counterparts while requiring, in many cases, no more than a high school education and training that can be obtained either on-the-job or at a technical/community college. By creating opportunities for a wide range of residents, and ideally supplementing that with a focus on upskilling the existing work force, city leaders can use industrial growth as a key lever when it comes to achieving strong and equitable economic growth in Saint Paul and the region.

The beneficiaries, however, are not limited to specific groups of residents of a city. Our analysis shows that adding jobs in the Port Authority's Business Centers, all of which are located within Saint Paul's city limits, results in significant additional job creation throughout the 13-county Twin Cities region. These effects are particularly pronounced when it comes to industrial jobs, which result in higher multiplier effects than their non-industrial counterparts. Additionally, from a fiscal perspective, industrial development is a more efficient path to generating revenue for Saint Paul while minimizing expenditures relative to residential and other commercial activity. In an era marked by belt-tightening at all levels of government, this is an especially important consideration for local governments.

Next Steps

For Saint Paul to maximize industrial growth and its benefits, we have outlined a series of recommendations that would most effectively promote industrial activity in the city. From a land use perspective, it is crucial that industrially-zoned land be protected from uses that result in conversion pressure. Given the fundamental importance of industrial activity, it is critical to encourage modern, single-story industrial development in Saint Paul. Such development needs to be protected from the types of residential and retail encroachment that can jeopardize industrial activity and jobs. In the absence of new industrial development, creating buffers between existing uses is also vital. This can include physical barriers, such as landscaping

or water management systems but can also be accomplished with designated zoning categories that ensure that productive, job-creating activity is protected. Even something along the lines of artisanal work in converted multi-story facilities, if viewed and treated as a complement to the more impactful activity of firms in the Port Authority's Business Centers, can play an important role in preserving industrial activity in Saint Paul.

Such an approach would be most effective if complemented by an effort by the city, Port Authority, and other key stakeholders to "play offense" in support of industrial development. Among the tools that could be used to achieve this goal would be to convene industrial firms located in the Port Authority's Business Centers, expand conversations between the Port Authority and other local economic development interests, and promote city-level encouragement of an industrial pipeline that can grow into the next generation of industrial jobs. In trying to facilitate such a pipeline, it would be wise to focus on clusters like those identified earlier in this report as current or future strengths in Saint Paul, in order to most efficiently utilize the city's existing resources. Any strategy would also require a continued focus on workforce development to ensure that the opportunities

71 <http://www.bls.gov/news.release/empsit.t04.htm>

afforded by industrial activity in the coming years are fully leveraged by residents of Saint Paul and the region. Exposing students to opportunities, while increasing training – both on-the-job and post-secondary – is vital to capitalizing upon the benefits afforded by modern industrial development.

Underlying the benefits of industrial sector growth is the need for cooperation in order to address some of the challenges to industrial development that have been described throughout this report. A lasting spirit of partnership among all stakeholders that recognizes the shared interests and opportunities that exist may represent the most important ingredient for realizing the many benefits and opportunities associated with industrial activity in Saint Paul.



Above: Warners' Stellan Appliance, Great Northern Business Center



Above, left and right: Summit Fire Protection and Restoration Professionals, Great Northern Business Center