

Industrial Land Use Study and Employment Policy Plan

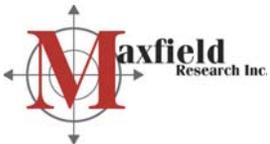


City of Minneapolis

Approved by Minneapolis Planning Commission: June 12, 2006

Approved by Minneapolis City Council: November 3, 2006

Prepared by:



June 1, 2006

Ms. Jennifer Jordan, Planner
City of Minneapolis
Department of Community, Planning, and Economic Development
350 South Fifth Street
Minneapolis, MN 55415

Dear Ms. Jordan:

We are pleased to present a final copy of the Industrial Land Use Study and Employment Policy Plan.

We hope elected officials, city staff members, and community members will utilize our analysis to inform current and future policymaking and land use planning.

We greatly enjoyed working with you.

Sincerely,



Mary Bujold
President



Grant Martin
Senior Research Analyst



Mark Spector
Research Analyst

TABLE OF CONTENTS

| | <u>Page</u> |
|--|-------------|
| EXECUTIVE SUMMARY | i |
| 1 INDUSTRIAL EMPLOYMENT AND MINNEAPOLIS | 1 |
| 1.1 Industrial Land Use Study (ILUS) Objectives | 1 |
| 1.2 Study Structure | 1 |
| 1.3 Industry is Important to Minneapolis | 2 |
| 1.4 Industrial-to-Residential Conversions: Impact on Property Tax Base and Revenue... | 8 |
| 1.5 Industrial-to-Residential Conversions: Economic Impact..... | 10 |
| 2 MINNEAPOLIS INDUSTRIAL LAND AND BUILDING SUPPLY | 14 |
| 2.1 Five Analysis Areas | 14 |
| 2.2 Minneapolis is Losing Industrial Land..... | 16 |
| 2.3 Minneapolis Industrial Land Supply: Modest with Solid Fundamentals | 21 |
| 2.4 Minneapolis Industrial Building Supply: Moderate and Mature..... | 24 |
| 2.5 Demand for Industrial Space Exists in the Twin Cities Metro Area..... | 30 |
| 2.6 Minneapolis Positioned to Capture Demand..... | 32 |
| 2.7 Minneapolis' Publicly-Owned Land | 34 |
| 3 INDUSTRIAL EMPLOYMENT IN MINNEAPOLIS | 36 |
| 3.1 Industrial is Significant But Contracted | 36 |
| 3.2 Minneapolis will Undergo an Industry and Zoning Shift in the Industrial Sector Over the Next 20 Years | 40 |
| 3.3 Industrial Jobs Provide Living Wages | 43 |
| 3.4 Industrial Jobs are Available to People with Modest Levels of Education | 45 |
| 3.5 Industrial Jobs Go To Minneapolis Residents..... | 47 |
| 3.6 Employment Density..... | 52 |
| 3.7 Four Industry Clusters in Minneapolis | 54 |
| 3.8 Industry Scorecard: A New Way of Looking at Industrial Businesses & Demand.... | 56 |
| 3.9 Industrial Demand Estimates | 59 |
| 4 PUBLIC INPUT AND PARTICIPATION | 62 |
| 5 CONCLUSIONS AND RECOMMENDATION | 72 |
| 5.1 Primary Land Use Recommendations: Three Options | 72 |
| 5.2 General Land Use Recommendations | 81 |
| 5.3 Economic Development Recommendations | 83 |
| 5.4 Measuring Outcomes..... | 87 |
| 5.5 Study Conclusion..... | 87 |
| 6 APPENDICES | 88 |
| A Scorecard | 89 |
| B Employment District Maps | 100 |
| C Actions Undertaken in Other Cities..... | 108 |

LIST OF TABLES AND FIGURES

| <u>Table & Figure Number and Title</u> | <u>Page</u> |
|--|-------------|
| 1.3.1 Employment by Major Industry Group, Minneapolis, 2004 | 4 |
| 1.3.2 Property Tax Revenue by Use, Minneapolis, 2004..... | 6 |
| 1.3.3 Median Market Value and Tax Revenue per Square Foot, By Zoning Type, Minneapolis, 2004..... | 7 |
| 1.4.1 Industrial-to-Residential Conversion Projects, Minneapolis, 2002 - 2005..... | 8 |
| 1.4.2 Annual Tax Base Increase and Tax Revenue Shift, From Industrial-to-Residential Conversions, 2005..... | 9 |
| 1.5.1 Net Economic Impact of Industrial-to-Residential Conversions, Minneapolis, 2005 | 13 |
| 2.2.1 Industrial-Zoned Land in Twin Cities Metro Area, 1990 – 2000..... | 16 |
| 2.2.2 Industrial Zoning vs. Use, Minneapolis, 2004..... | 16 |
| 2.2.3 Industrial Land Use Changes in Small Area Plans, City of Minneapolis..... | 19 |
| 2.3.1 Size and Market Value per Square Foot of Industrial-Zoned Land, Minneapolis, 2004..... | 21 |
| 2.3.2 Access at Industrial Sites, Minneapolis, Minnesota..... | 23 |
| 2.4.1 Average Industrial Building Size and Floor Area Ratio, Minneapolis, 2004..... | 24 |
| 2.4.2 Age of Industrial Zoned and Used Buildings, Minneapolis, 2004 | 25 |
| 2.4.3 Average Building Market Value per Square Foot, Minneapolis, 2004..... | 26 |
| 2.4.4 Total Industrial Market Value per Acre, Cities with TIMV Above \$50M, In Twin Cities Metro Area, 2000 | 26 |
| 2.4.5 Product Type: Minneapolis Industrial and Metro Industrial | 28 |
| 2.4.6 Average Rent and Vacancy Rates, Office Showroom Space, 1999 - 2004 | 28 |
| 2.4.7 Average Rent and Vacancy Rates, Office Warehouse Space, 1999 - 2004 | 29 |
| 2.4.8 Average Rent and Vacancy Rates, Bulk Space, 1999 - 2004 | 29 |
| 2.5.1 New Industrial Projects, Twin Cities Metro Area, 1996 – 2005..... | 31 |
| 2.5.2 Development Pipeline – Under Construction & Planned, Twin Cities Metro Area, 2005 – 2006..... | 31 |
| 2.5.3 Development Pipeline – Preliminary, Twin Cities Metro Area, 2005 - 2006 | 32 |
| 2.7.1 Amount of Publicly Owned Industrial Zoned Land, City Wide & Study Area, City of Minneapolis, 2004 | 34 |
| 3.1.1 Overall Change in Employment, Minneapolis and Metro Area, 2000 to 2004..... | 37 |
| 3.1.2 6-Digit NAICS Industries with Greater Employment Losses, Minneapolis, 2000 – 2004 | 37 |
| 3.1.3 Industrial Employment, Minneapolis, 2000 – 2004 | 38 |
| 3.1.4 Industrial Employment Estimates by Industry Group, Minneapolis, 2000 – 2004 | 39 |
| 3.1.5 Industrial Employment & Establishments, Minneapolis, 2004..... | 39 |
| 3.1.6 Major Industrial Employers, Minneapolis Study Area, 2004 | 40 |
| 3.2.1 Projected Industrial Employment, Minneapolis, 2000 – 2020 | 41 |
| 3.2.2 Industrial Employment by Zoning Type, Minneapolis, 2000 – 2020..... | 42 |
| 3.3.1 Percent of Living Wage Jobs, Minneapolis & Metro Area, 2004..... | 43 |
| 3.3.2 Jobs Starting at a Living Wage as a Percentage, Minneapolis, 2004 | 44 |
| 3.3.3 Estimated Number of Jobs Starting at a Living Wage, 2004..... | 45 |

LIST OF TABLES AND FIGURES (continued)

| <u>Table & Figure Number and Title</u> | <u>Page</u> |
|---|-------------|
| 3.4.1 Educational Attainment for Population Age 25 and Older, Minneapolis & 7-County Metro Area, 2000 | 45 |
| 3.4.2 Entry Education Level Requirements by Industry | 46 |
| 3.6.1 Estimated Employment per Acre, Industrial Zoned Industries..... | 53 |
| 3.7.1 Industry Clusters in Minneapolis, 1998 – 2002..... | 55 |
| 3.9.1 Demand Estimates, Industrial Land in Minneapolis, 2002 & 2012..... | 60 |
| 5.1.1 Land Use and Zoning Responses, Cities that Completed Industrial Land Use Study..... | 80 |

Executive Summary

The objective of this Industrial Land Use Study and Employment Policy Plan is to provide policy direction for industrial land use and industrial employment in Minneapolis, Minnesota. A number of key findings emerged about what is happening to industrial land and jobs in Minneapolis.

Industrial Employment and Minneapolis

The definition of industrial is changing. Today, industrial means high-wage, life sciences research and development jobs that contribute to the City's economic growth. Industrial means growing and living-wage utility technician jobs that help Minneapolis residents move up the economic ladder. Industrial means laboratories and flex space just as much as warehouses.

The industrial sector contributes to the City's economic diversity and property tax revenue. Industrial uses contribute a higher median tax payment per square foot than residential uses. A considerable tax base increase and tax revenue shift occurs at conversion sites, but the market won't necessarily support conversions in areas where the highest and best use remains industrial. The net economic impact of a conversion depends on a host of factors.

While the industrial sector is important to Minneapolis, Minneapolis is losing industrial land. The 1990s saw a decline in the City's industrial land supply, which has continued during the current decade. Another 31% of industrial land will change use if all the recent small area plans are implemented.

Minneapolis Industrial Land and Building Supply

The industrial land supply shows low market values per square foot and smaller parcel sizes relative to the Twin Cities Metro Area. Potential remediation costs exist, but industrial sites have strong market fundamentals.

Minneapolis also shows smaller building sizes, older ages, and lower market values than the Metro Area. Minneapolis has more warehouse product, lower rents, and more volatile vacancy rates than the Metro Area.

However, the industrial real estate market is recovering and Minneapolis is positioned to capture demand. Site attributes still matter, brownfield redevelopment is more financially feasible, and scattered-site production is more common. Redeveloping sites as flex space would help the City capture demand.

Industrial Employment in Minneapolis

The industrial sector is significant but contracted. Industrial employment especially suffered during the 2000-2004 period. Employment projections show a recovery, but Minneapolis is forecasted to move away from heavy industrial users toward light and medium industrial users like transportation and warehousing.

Just as industrial employment projections show a recovery, there will be demand for industrial land in Minneapolis over the next ten years

Industrial jobs provide economy opportunities to Minneapolis residents whose job prospects are made difficult in a global economy. Industrial jobs pay living wages to people with modest levels of education, while incomes at comparable positions in many retail and service industries are below a living wage. Minneapolis residents appear to work at industrial jobs.

The study puts forward a new analytical tool for the City of Minneapolis: the *Industrial Scorecard*. The *Industrial Scorecard* presents each industry's current employment, projected job growth, percentage of living wage jobs, average job density, four-year degree requirement, and estimated Metro Area demand.

Public Input and Participation

Community meetings revealed that residents were concerned about visual aesthetics, contamination and noise, and truck traffic. They were also concerned however, about having jobs located in the neighborhood and accessible via options other than driving a car.

Local real estate brokers indicated there is demand for industrial land in the City. They also mentioned that residential conversions are contributing to rises in land costs, making it difficult for industrial users to afford.

A survey of Minneapolis industrial businesses found employers locate here primarily because it offers: a convenient central location, close proximity to transportation arteries, and close proximity to their customer base.

Conclusions and Recommendations

The City should adopt Employment Districts. The Minneapolis Plan singles out Industrial Business Park Opportunity Areas (IBPOAs) for industrial use and jobs, but the boundaries are unclear. Employment Districts provide geographic boundaries to IBPOAs. See Appendix B for maps of each Employment Districts.

Rezoning amendments for residential uses should be prohibited in Employment Districts. Residential uses and ILODs clearly have a disturbing effect on the stability of industrial areas. They introduce conflicting uses, friction, inflated industrial land prices and lease rates, and deferred investment.

There are three distinctions to consider about Employment Districts:

- 1) Employment Districts are designed to protect prime industrial space with strong long-term market fundamentals. Industrial businesses can continue to operate outside of the Employment Districts, but without added protection from residential conversions.
- 2) Employment Districts present an opportunity for the City to support targeted industrial users, such as *21st Century* and *Opportunity* industrial employers, and redevelop underutilized sites.
- 3) The restrictions would apply only to future residential zoning amendments and not existing residential uses in Employment Districts.

When considering rezoning amendments on industrial sites outside of Employment Districts, the City should consider the following criteria: job impacts, tax base impacts, viability, transition costs, and adjacency to viable industrial areas.

A series of economic development actions would foster industrial job growth and Minneapolis resident employment:

- Target at least half of the available industrial business assistance to *21st Century* and *Opportunity* industrial employers.
- Align workforce investments with labor needs of *21st Century* and *Opportunity* industrial employers.
- Increase resident employment at existing and new industrial businesses through workforce investments.
- Institute biannual survey of industrial businesses.
- Improve outreach to business community.
- Continue efforts to streamline the development process.
- Coordinate infrastructure investments with *21st Century* and *Opportunity* industrial employers.
- Pursue industrial redevelopment through public-private partnerships.

Four outcome measures are outlined for tracking the success of this policy and land use plan.

Industrial Employment and Minneapolis

1.1 Industrial Land Use Study (ILUS) and Employment Policy Plan Objectives

The study's objective is to provide policy direction for industrial land use and industrial employment in Minneapolis, Minnesota. The analysis pursues three goals to achieve this over-arching objective.

- Examine current and future industrial market trends in Minneapolis.
- Determine the most appropriate and feasible areas for industrial use.
- Propose a policy and land use framework that will support industrial jobs.

A year-long research program was undertaken to accomplish these three goals. Maxfield Research Inc., Short Elliot Hendrickson, Inc., and Quam Sumnicht Associates, Inc., conducted significant employment data and land use analysis, GIS representations, and stakeholder meetings.

Public involvement was facilitated in a number of ways. A steering committee of 24 citizens and city staff members guided the study team's efforts. Public input was gathered through 16 neighborhood meetings, four employer focus groups, an employer survey, and two city council study sessions.

1.2 Study Structure

The study is separated into five chapters. Chapter 1 outlines the study and speaks to the importance of industrial land and jobs. Chapter 2 analyzes the Minneapolis industrial land and building supply. Chapter 3 considers industrial employment and labor force trends. Chapter 4 summarizes neighborhood and employer comments. Chapter 5 issues conclusions and recommendations.

Appendix A is the *Industry Scorecard*. Appendix B is comprised of the proposed Employment District maps. Appendix C is an inventory of actions undertaken by other cities that completed an industrial land use study.

1.3 Industry is Important to Minneapolis

The Minneapolis Plan makes a critical statement. “Industry is important to the city. It provides jobs, a tax base, and economic vitality to the region.” (1.2.2) The statement captures the value of the industrial sector in Minneapolis: jobs, economic growth, and a tax base.

Industrial Jobs Provide Economic Opportunity

The Minneapolis Plan articulates that residents face a greater struggle to find living wage jobs. It states “Current trends suggest that city residents are finding it increasingly difficult to find employment that pays living wage levels, as technological and structural change alters the character of economic activity” (1.2.4).

In fact, today’s highly competitive global market is making it harder for low-income Minneapolis residents without a college degree to earn a living wage. Good job prospects in the local labor market are deteriorating because of long-term trends such as globalization, outsourcing, consolidation, and automation (see Section 3.7, pg. 37).



*Factory floor in Minneapolis, 1923.
Courtesy of Minnesota Historical Society*

The industrial sector still serves that purpose. It’s just different. Today, the face of industrial is reflected in *Opportunity* industrial jobs, which still offer living wages to people with less formal education. Industries like printing, machine shops, and power generation. Industries grouped under this label are projected to grow, but at medium job density levels.

The industrial sector has a long-standing history of providing living-wage jobs accessible to people with less than a four-year education. The many immigrants that built Minneapolis worked through the mills and steel yards to provide a better life for themselves and their families.

Industry Scorecard

A “scorecard” of industries is presented in Appendix A on pg. 76. It shows qualities such as employment growth, living wage jobs, density, percentage of occupations requiring a 4-year degree, and estimated demand for space for three groupings of industries:

- *21st Century* industrial jobs
- *Opportunity* industrial jobs
- *Run of the Mill* industrial jobs

Industrial Jobs Generate Economic Growth

A segment of today's industrial jobs have the potential to drive economic growth. *21st Century* industrial jobs are high on all measures of the industry scorecard (see sidebar) –wages, formal education, density, etc. An example is the Pharmaceutical and Medicine Manufacturing industry.



21st Century Industrial Employment

Many of the businesses associated with *21st Century* industrial jobs are in research-related industries. Whether it's a scientific research and development business incubating and commercializing new medicine or a next generation manufacturing business producing electromedical instruments, these businesses have potential to generate economic growth.

First, many *21st Century* industrial companies are linked to commercializing university research, which often leads to spin-off companies with their own hiring needs. Second, people in these jobs earn higher incomes and spend a portion within the local economy. The spending in turn leads to more or induced jobs. More industries and employment, in other words, are tied to income generated by *21st Century* industrial jobs.

The industrial sector also adds to the economic diversity of Minneapolis. In 2004, the City had approximately 282,500 jobs (see Figure 1.3.1 below). According to our estimates, industrial employment was 58,200 jobs in 2004, which represents 21% of all jobs (see Figure 3.1.3 on page 38). Those 58,200 jobs were predominately spread across Construction, Manufacturing, Trade, Telecommunications, and Utilities, and Information industry groups.

**Figure 1.3.1
Employment by Major Industry Group
Minneapolis, 2004**

| | No. ¹ | Pct. |
|-----------------------------|------------------|--------------|
| Agriculture | 100 | 0.0 |
| Construction | 7,470 | 2.6 |
| Manufacturing | 16,380 | 5.8 |
| TTU | 41,160 | 14.6 |
| Information | 11,540 | 4.1 |
| Financial Activities | 33,220 | 11.8 |
| Pro. & Bus. Services | 53,560 | 19.0 |
| Edu. & Health Services | 68,780 | 24.3 |
| Leisure & Hospitality Svcs. | 26,650 | 9.4 |
| Other Services | 10,790 | 3.8 |
| Government | 12,840 | 4.5 |
| Total | 282,491 | 100.0 |

¹ Data estimated by applying US Census Bureau's Zip Code Business Pattern data distributions to missing values.

Sources: MN Department of Employment and Economic Development; Maxfield Research Inc.



Economic diversity helps a local economy weather market cycles. A number of academic studies show that a city's or region's economy will perform better with more diversification because risk and market effects are spread out. Diverse urban areas "tend to have more industries that can remain relatively healthy during difficult times and retain their employment levels."¹

Conventional wisdom is that Minneapolis and Minnesota weathered recent recessions better than other areas in the United States because of a long-standing diversified economy. Conversely, a reduction in industrial land could detrimentally affect the economic health of Minneapolis.

See the sidebar for references that further explain how a diverse economy matters.

Definition of Industrial Space is Changing

Just as the definition of industrial jobs is changing from heavy industry to *21st Century*

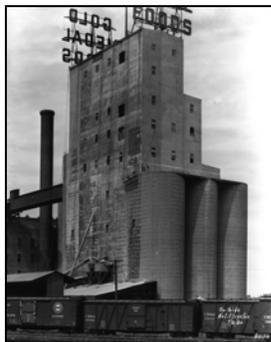
Four recent studies on economic diversity:

1. Dissart, J.-C. "Regional Economic Diversity and Regional Economic Stability: Research Results and Agenda." *International Regional Science Review*. Vol. 26, No. 4, 2003. pg.423-336¹
2. Mayer, Henry. Greenberg, Michael. "Coming Back from Economic Despair: Case Studies of Small- and Medium-Size American Cities." *Economic Development Quarterly*. Vol. 15, No. 3, 2001. pg. 203-216
3. Wagner, John E. Deller, Steven C. "Measuring the Effects of Economic Diversity on Growth and Stability." *Land Economics*. Vol. 74, No. 4. 1998 pg. 541-546.
4. Malizia, Emil E. Ke, Shanzi. "The Influence of Economic Diversity on Unemployment and Stability." *Journal of Regional Science*. Vo. 33, No. 2, 1993. pg. 221-235

industrial jobs and *Opportunity* industrial jobs, so is the definition of industrial space.

Minneapolis has a heritage as a center of milling, lumber, and transport businesses emanating from the city's location along the Mississippi River. That heritage brings to mind smokestacks and heavy industry jobs.

But industrial land and buildings have evolved and continue to evolve. Today industrial space typically means single-level office showroom buildings with a welcoming exterior, multi-story lab space near the University of Minnesota, and flex space that can adjust to the demands of a highly-competitive global marketplace.



Grain Elevators in Minneapolis, 1930.

Courtesy of Minnesota Historical Society



Industrial Building in Minneapolis, 2006

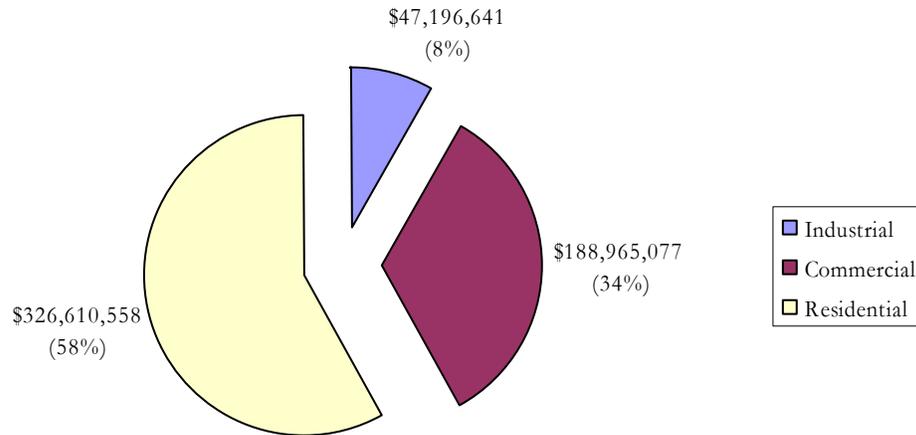
The City of Minneapolis defines industrial according to zoning and land use. Industrial zoning refers to the land use regulated by the City's zoning code. Under that code, the primary industrial districts are light (I1), medium (I2), and general (I3). Industrial use is applied by the City Assessor for property tax purposes.

The analysis presented below often refers to zoning and land use status. The Minneapolis Plan also identifies seven Industrial Business Park Opportunity Areas and references the potential for light industrial jobs in each.

Industrial Land Contributes to Property Tax Revenue

Maxfield Research Inc. examined 2004 property tax revenue data provided by the City of Minneapolis Assessor's Office. The pie chart below illustrates the distribution of property tax revenue by use.

Figure 1.3.2
Property Tax Revenue by Use
Minneapolis, 2004



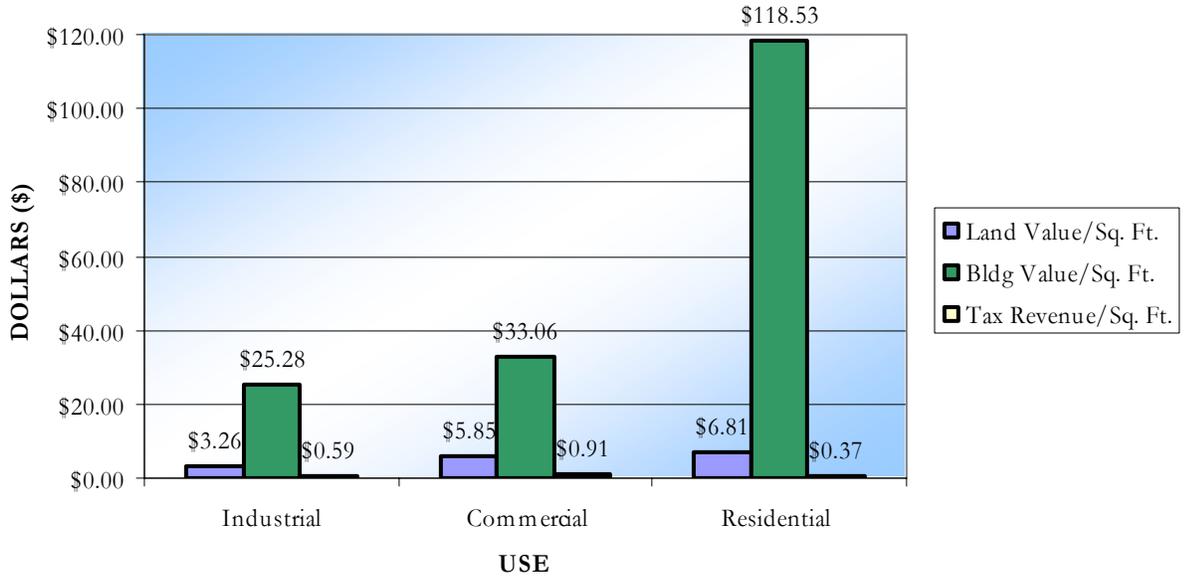
Industrial property tax revenue makes up the smallest portion of the City’s property tax revenue. In 2004, industrial users paid \$47 million in property taxes, which represents 8% of the total \$563 million in property taxes paid.

Taking land and building size into account, residential uses show significantly greater market values per square foot than industrial uses, especially building value. As shown in Figure 1.3.3 below, the median industrial land value is \$3.26 per square foot and the median industrial building value is \$25.28 per square foot. The median residential land value is \$6.81 per square foot and building value per square foot is \$118.52 per square foot.

*Industrial building in Southeast
 Minneapolis Industrial Area
 (SEMI)*



Figure 1.3.3
Median Market Value and Tax Revenue per Square Foot
By Zoning Type
Minneapolis, 2004



Industrial properties, in fact, contribute more tax revenue per square foot than residential properties. The median tax payment per square foot for industrial users is \$0.22 higher than residential. The higher median building value per square foot among residential parcels does not translate to a higher property tax payment.



*Stinson Technology Campus in
 Mid-City Industrial Area*

1.4 Industrial-to-Residential Conversions: Impact on Property Tax Base and Revenue

The overwhelming majority of these projects are located in Downtown Minneapolis because the multistory buildings are functionally obsolete as industrial and offer premium architectural qualities. In addition, many converted buildings command higher price points because of the close proximity to the Mississippi River and retailers along Nicollet Mall.

The market demand driving conversion projects does not automatically carry over to industrial areas throughout Minneapolis. First, few industrial areas outside of downtown can command the same premium price points. Shoreham Yards does not attract condominium buyers like the North Loop neighborhood. Second, many of the buildings are not obsolete and do not offer the same architectural features. Third, even if a building requires investment, the market fundamentals at many industrial sites are strong enough to reposition a site in the market (see Sections 2.2 and 2.5).

Even so, the following fifteen industrial conversion projects were examined to better understand their tax implications.

Figure 1.4.1
Industrial-to-Residential Conversion Projects
Minneapolis, 2002-2005

| Project | Address | Initial Conversion Year |
|-------------------------|----------------------------------|-------------------------|
| 212 Lofts | 212 1st Street N | 2004 |
| 607 Washington Lofts | 607 Washington Avenue | 2004 |
| 801 Washington | 801 Washington Avenue N | 2002 |
| 918 Lofts | 918 3rd Street N | 2005 |
| 1901 Lofts | 1901 Hennepin Avenue E | 2005 |
| American Trio Lofts | 616 3rd Street S | 2005 |
| Bassett Creek Lofts | 901 3rd Street N | 2003 |
| Bookmen Lofts | 525 3rd Street N | 2004 |
| CW Lofts | 730 Stinson Boulevard | 2004 |
| Madison Lofts | 1701 Madison Street NE | 2005 |
| Mill Trace Condominiums | 619 8th Street SE | 2005 |
| Riverview | 2313 West River Road | 2004 |
| Security Lofts | 404 Washington Avenue N | 2004 |
| Stone Arch Apartments | 106 6th Avenue SE/625 Main St SE | 2000 |
| Tower Lofts | 700 Washington Avenue N | 2004 |

Source: Maxfield Research Inc.

Market value data is not available for 710 Lofts, 720 Lofts, and Bookmen Stacks because these projects are being assigned new property identification numbers. As such, the annual tax payment for these projects is not estimated.

All of the condominium and townhome projects in the Mill District and east of 2nd Street North in the North Loop neighborhood were formerly zoned for commercial use. These developments are not included in the analysis.

Measuring the Property Tax Impact

Conversions lead to two major impacts: annual tax base impact and annual tax revenue impact. The annual implications of the conversion are captured by comparing the tax base (market value) and tax revenue in the pre-conversion year and complete conversion year. Any appreciation in value after conversion, and future tax gains, reflect the condominium building's continued presence in the marketplace and not the conversion.

Conversions Increase the Tax Base and Shift Tax Revenue

Conversions add significant value to the parcels. Among the 15 projects, the increases in market value range from \$6.9 million to \$43.7 million. As a percentage, the increases range from 5.5% to 2,198%. See Figure 1.4.2 below.

| Figure 1.4.2 Annual Tax Base Increase and Tax Revenue Shift From Industrial-to-Residential Conversions 2005 | | | | |
|---|------------------------------------|---|---|---|
| Project | Initial Conversion Year | Annual Tax Base Increase¹ | Annual Tax Base Increase (%) | Annual Tax Revenue Shift² |
| Actual | | | | |
| 801 Washington | 2002 | \$22,298,115 | --- | \$136,734 |
| 918 Lofts | 2005 | \$6,859,799 | 11.9 | \$38,745 |
| Bassett Creek Lofts | 2003 | \$10,871,211 | 2.0 | \$41,141 |
| Stone Arch Apartments | 2003 | \$15,645,795 | 5.5 | \$103,683 |
| Projections | | | | |
| 212 Lofts | 2004 | \$22,215,709 | 2,645.1 | \$139,031 |
| 607 Washington Lofts | 2004 | \$10,256,954 | 799.7 | \$54,910 |
| 1901 Lofts | 2004 | \$9,634,086 | 2,509.7 | \$60,284 |
| American Trio Lofts | 2005 | \$28,945,917 | 978.7 | \$152,099 |
| Bookmen Lofts | 2004 | \$24,882,865 | 1,375.7 | \$146,822 |
| Riverview | 2004 | \$11,718,561 | 1,018.6 | \$65,275 |
| Security Lofts | 2004 | \$14,649,341 | 366.6 | \$78,290 |
| Madison Lofts | 2005 | \$11,576,447 | 1,138.4 | \$65,784 |
| Tower Lofts | 2004 | \$45,710,051 | 2,198.2 | \$281,401 |
| CW Lofts | 2004 | \$19,524,377 | 692.6 | \$100,485 |
| Mill Trace Condominiums | 2005 | \$14,186,750 | 1,997.7 | \$86,497 |
| Total | 2000-2005 | \$213,301,057 | 1,159.3 | \$1,230,879 |
| % of Mpls Property Tax Base/Revenue (2004) | | 0.7% | --- | 0.5% |
| ¹ = 2004 dollars. | | | | |
| ² = City of Minneapolis' portion of the 2004 extension rate. Does not include estimated tax revenue accrued to Hennepin County, Minneapolis Public Schools, Minneapolis Park Board, Met Council, or any other referenda. | | | | |
| Source: Maxfield Research Inc. | | | | |

Tower Lofts at 700 Washington Avenue in the North Loop neighborhood is an example of a significant tax base growth. The building is a large multi-level structure built for a bag manufacturer in 1920. Before conversion, the parcel had a market value of \$2.1 million. We estimate the building will be assessed at almost \$48 million after construction ceases. Holding industrial market value growth constant, the tax base increase is \$43.7 million.

The tax base increase does not translate automatically to an increase in tax revenue. The City of Minneapolis sets the property tax levy based on spending needs and not the available tax base. In that light, the additional property tax revenue is an annual shift from existing property taxpayers to the new taxpayers. The magnitude of the annual shift ranges from \$38,745 at 918 Lofts to \$281,401 at Tower Lofts.

Three important considerations when thinking about Figure 1.4.2 above:

- 1) As mentioned before, not every site will be able to command the price points that lead to elevated market values and property tax revenues.
- 2) The analysis above does not account for the fiscal costs of providing City services to new residential units. A full fiscal analysis is beyond the study's scope.
- 3) The tax base and revenue impacts both comprise less than 1% of the City's overall tax base and revenue. It's a small effect right now. Without actions to preserve industrial sites, however, the effect could grow.



1.5 Industrial-to-Residential Conversions: Economic Impact

Aside from the potential effect on property tax revenues, it is important to understand what determines whether a conversion has a positive or negative net impact on the economy of Minneapolis. Jobs are lost, but new condominiums are built. Which is better for the local economy?

Maxfield Research Inc. utilized Implan® software to model a number of conversion scenarios and differentiate these factors. Implan® is an economic impact analysis software program and dataset based on input-output analysis.

Input-output analysis measures the interrelationships of commodity sales and purchases among local industries through multipliers.

The answer to the question “Jobs or condos, which is better for the economy?” is it depends. Four primary variables determine the net economic impact of a conversion project: scale of job loss; type of industry; market demand for residential use; income of new homebuyers. Figure 1.5.1 shows four scenarios that illustrate each factor.

Value-added describes the amount of wealth created by an event. It sums up the take-home income earned by people, owners, and government.

For example, if a metal valve manufacturer sells \$700,000 in valves this year (event), only a portion of the \$700,000 will be accrued to the owner and employees as income and gov. in tax revenue.

The firm needs to pay for the inputs (e.g. raw metals). The remaining margin is value-added.

Scale of Job Loss: Scenario 1 shows that 100 more jobs lost in the same industry yields a very different outcome. Fifty jobs lost results in +\$33M impact and 150 jobs lost yields a -\$176M impact.

Type of Industry: Scenario 2 shows a \$55M impact associated with a conversion project in which the job losses take place in a low value-added industry. If the job losses take place in a high value-added industry, the conversion project yields a -\$78M impact.

Market Demand for Residential: Scenario 3 results in a -\$75M impact when the conversion takes place at a site in which demand is not strong for condominiums. Units sell at higher price points when demand is strong (\$73M), which translates to a \$38M impact.

Income of New Homebuyers: Spending by new homebuyers only affects the local economy if they do not already live in Minneapolis. Plus, a household with an income of \$35,000 impacts the local economy less than a household with an income of \$100,000. Scenario 4 shows a conversion project that attracts fewer new higher-income households. The impact is -\$48M impact. A project that sells units to higher incomes households yields a +\$6M impact.

Again, the answer to how conversions impact the local economy is: it depends. Large job losses in a high value-added industry, on a site where demand for condominiums is weak, will likely yield a net economic loss. A small number of jobs lost in a low value-added industry, on a site where strong demand for condominiums exists, will likely yield a net economic gain to the City. These factors should be considered when evaluating a conversion projects.

Summary

The definition of industrial is changing. Today, industrial means high-wage, life sciences research and development jobs. Industrial means growing and living-wage utility technician jobs that help Minneapolis residents move up the economic ladder. Industrial means laboratories and flex space just as much as warehouses.

The industrial sector contributes to the City's property tax revenue. Industrial uses contribute a higher median tax payment per square foot than residential uses. Our analysis shows a considerable tax base increase and tax revenue shift at conversion sites, but the market won't necessarily support conversions in areas where the highest and best use remains industrial. Beyond the property tax effect, the net economic impact of a conversion depends on a host of factors.

**Figure 1.5.1
Net Economic Impact of Industrial-to-Residential Conversions
Minneapolis, 2005**

| Scenario | Industry | Assumptions | | | | Impacts ¹ | | | | | | |
|---|-----------------------------------|-------------|-------------|--------------------|---------------|----------------------|----------------|---------------------------|--------------|-------------|---------------|---------------------------|
| | | 2005-2015 | Value Added | Total Bldg. | New HH's | Job Loss | | Construction ³ | | HH Spending | | Net Economic ⁴ |
| | | Job Loss | / Job Lost | Value ² | \$100k-\$150k | Jobs | Value-Added | Jobs | Value-Added | Jobs | Value-Added | Value-Added |
| Small Job Loss | Packaging Machinery Manufacturing | -50 | -\$101,407 | \$53,000,000 | 25 | -110 | -\$99,093,419 | 756 | \$47,434,184 | 133 | \$83,122,949 | \$33,231,975 |
| Large Job Loss | Packaging Machinery Manufacturing | -150 | -\$101,407 | \$53,000,000 | 25 | -330 | -\$297,280,256 | 756 | \$47,434,184 | 133 | \$83,122,949 | -\$176,092,963 |
| Jobs lost in low value industry | Tradebinding And Related Work | -121 | \$37,126 | \$53,000,000 | 25 | -165 | -\$78,695,808 | 756 | \$47,434,184 | 133 | \$83,122,949 | \$54,775,931 |
| Jobs lost in high value industry | Metal Valve Manufacturing | -121 | \$104,848 | \$53,000,000 | 25 | -218 | -\$204,258,705 | 756 | \$47,434,184 | 133 | \$83,122,949 | -\$77,843,600 |
| Less Demand for Condos | Envelope Manufacturing | -121 | -\$122,461 | \$35,000,000 | 8 | -223 | -\$152,567,472 | 503 | \$31,548,207 | 78 | \$49,645,044 | -\$75,385,453 |
| Greater Demand for Condos | Envelope Manufacturing | -121 | -\$122,461 | \$73,000,000 | 63 | -223 | -\$152,567,472 | 1,030 | \$64,662,643 | 198 | \$123,673,942 | \$37,779,337 |
| Fewer Upper Income HH's Moving into Mpls. | Envelope Manufacturing | -121 | -\$122,461 | \$42,750,000 | 10 | -223 | -\$152,567,472 | 609 | \$38,260,593 | 107 | \$67,969,839 | -\$48,941,182 |
| More Upper Income HH's Moving into Mpls. | Envelope Manufacturing | -121 | -\$122,461 | \$72,000,000 | 65 | -223 | -\$152,567,472 | 1,027 | \$64,438,891 | 150 | \$93,964,515 | \$6,163,913 |

¹ = Value-added impacts are net present value of 2005-2015 impacts.
² = 150 unit condominium building.
³ = Construction impacts are one-time.
⁴ = 2005 dollars.

Source: Maxfield Research Inc.

Minneapolis Industrial Land and Building Supply

The City of Minneapolis needs industrial-zoned land to capture the benefits generated by industrial jobs. Existing industrial businesses need enough land in Minneapolis to maintain operations and expand with new opportunities. New businesses are more likely to consider Minneapolis when the City is able to maintain a stable and available supply of industrial land.

So what is really happening with the City's industrial land and building supply?

2.1 Five Analysis Areas

In order to understand the strengths and weaknesses of the City's supply of industrial land and buildings, our analysis examines the building, land, and market characteristics city-wide and in five smaller areas.

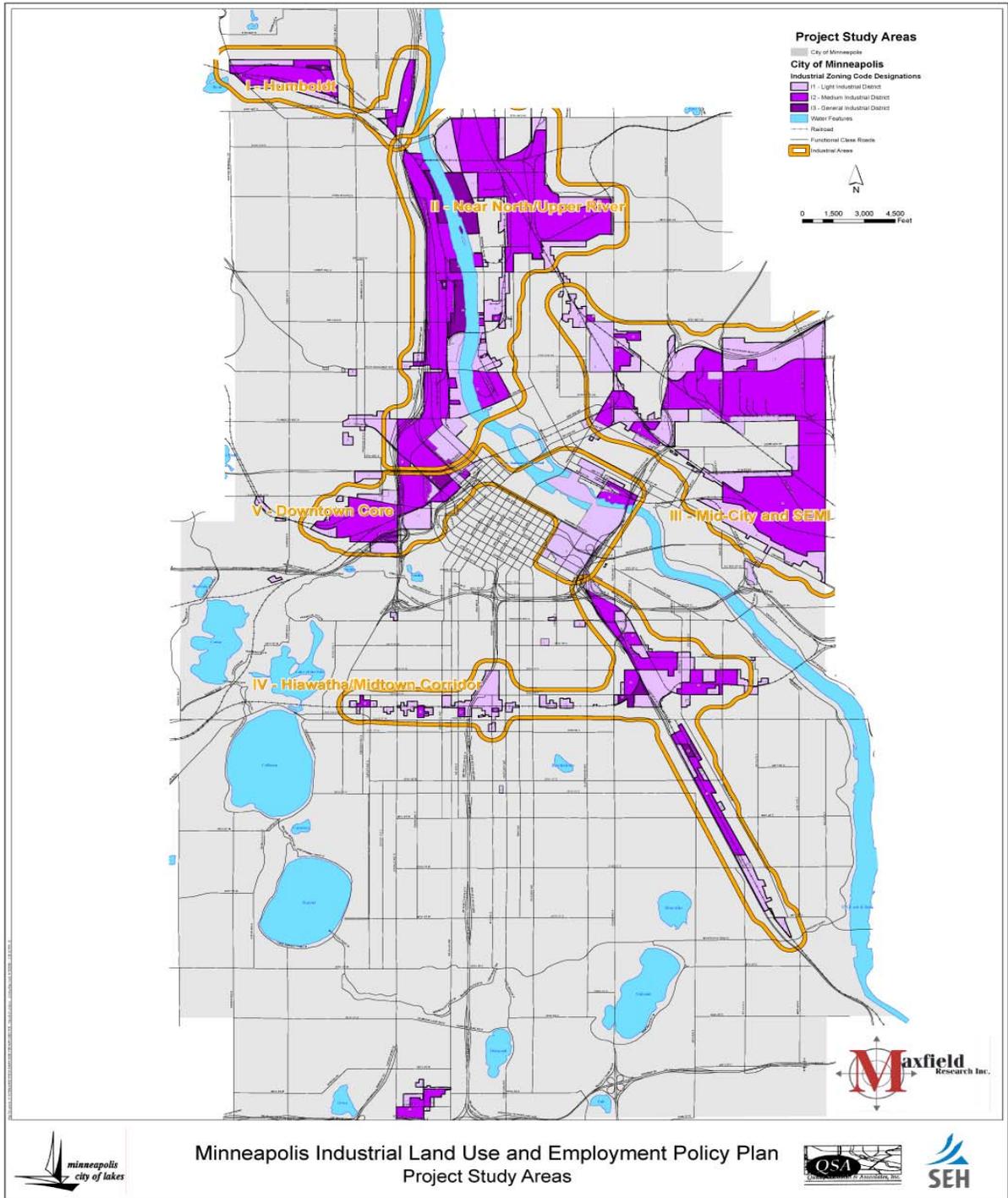
- Area I: Humboldt
- Area II: Near North/Upper River
- Area III: Mid-City/SEMI
- Area IV: Hiawatha/Midtown Greenway
- Area V: Downtown Core



*New industrial development in
Area III*

The five analysis areas correspond to five sets of community meetings held with neighborhoods in and near these areas. (For purposes of the supply analysis, much of Area V: Downtown Core – namely, the western edge of Downtown and the Bassett Creek Valley – is included in Area II: Near North/Upper River.)

Each analysis area has its own supply profile. Many of the tables and charts presented in this document disaggregate the data city-wide and by analysis area. The five areas are displayed in the map below.



2.2 Minneapolis is Losing Industrial Land

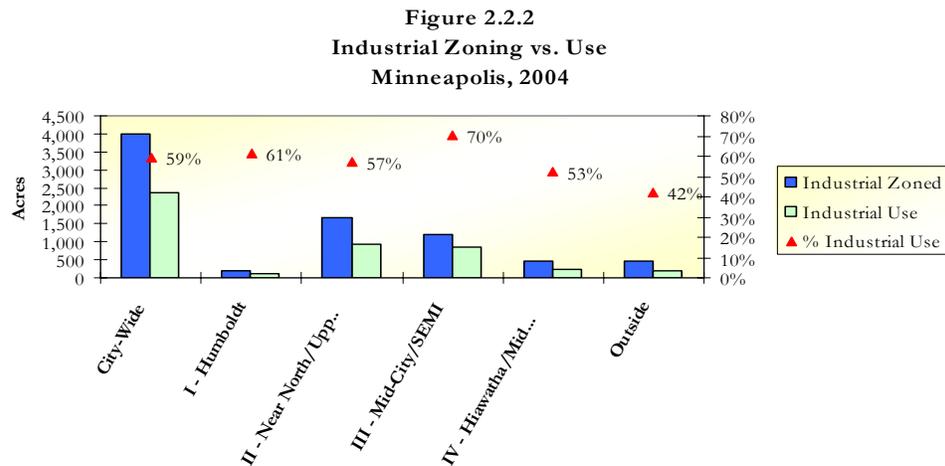
The amount of industrial land in Minneapolis is dwindling. During the 1990's, the City's industrial land supply declined while Metro Area suburbs expanded their industrial bases.

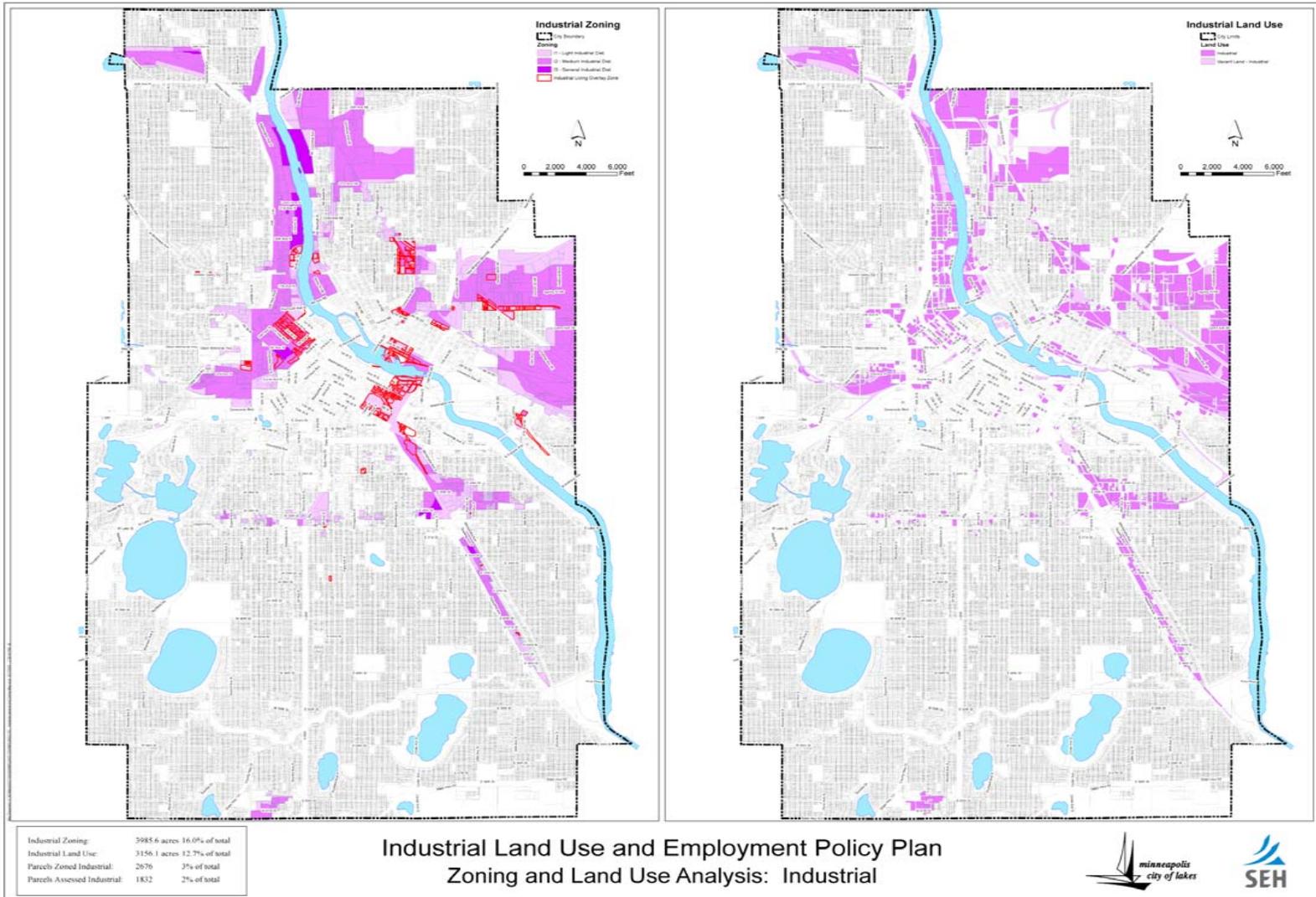
Figure 2.2.1
Industrial-Zoned Land in Twin Cities Metro Area
1990-2000

| City | Acreage | | Change | |
|-----------------|---------|--------|----------|----------|
| | 1990 | 2000 | Absolute | Relative |
| Minneapolis | 4,916 | 4,047 | -869 | -18% |
| St. Paul | 3,952 | 3,917 | -35 | -1% |
| Fridley | 1,153 | 1,549 | 396 | 34% |
| Shakopee | 789 | 1,167 | 378 | 48% |
| Rosemount | 1,145 | 1,512 | 367 | 32% |
| Eagan | 1,063 | 1,374 | 311 | 29% |
| Brooklyn Park | 578 | 836 | 258 | 45% |
| Ramsey | 256 | 456 | 200 | 78% |
| Blaine | 680 | 875 | 195 | 29% |
| Lakeville | 811 | 975 | 164 | 20% |
| Rogers | 115 | 270 | 155 | 135% |
| Savage | 612 | 762 | 150 | 25% |
| Hennepin County | 15,919 | 15,585 | -334 | -2% |
| Metro Area | 40,388 | 46,496 | 6,108 | 15% |

Source: Metropolitan Council

In 2004, Minneapolis has 3,986 acres of industrial-zoned land. Less than 60% of all industrial-zoned parcels in Minneapolis are used as industrial. Figure 2.2.2 and the following map show the difference and geographic location of industrial-zoned and industrial-used parcels



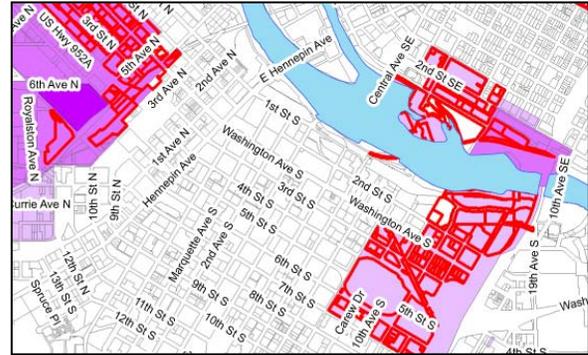


**Industrial Land Use and Employment Policy Plan
Zoning and Land Use Analysis: Industrial**



Industrial Living Overlay District (ILOD)

An important factor involved in the diminishing amount of industrial-zoned land is the Industrial Living Overlay District. The following map displays selected ILODs in Downtown Minneapolis. With the exception of Area I: Humboldt, all analysis areas have at least one ILOD.



According to the zoning code, ILODs “...encourage the rehabilitation and reuse of existing industrial structures and to provide for limited residential and retail uses in the I1 and I2 Industrial Districts...” Permitted uses include general retail sales and services and residential use as a conditional use.

Conversions, especially residential and mixed-use projects, are primarily facilitated by rezoning to another primary district, application of a new ILOD, or the site already is located in an ILOD. Areas that fall under an ILOD encompass 11% of all industrial-zoned land.

Trending Toward Conversion

Market pressure is driving the recent surge in industrial-to-residential conversions. Industrial land-owners and residential developers are capitalizing on demand for condominiums and the growing buyer preference for urban living by converting older industrial sites to residential buildings.

Fifteen industrial-to-residential conversion projects were under construction or completed in Minneapolis by 2005 (See section 1.4). Another twelve projects, encompassing twelve acres, are planned.

Looking ahead, neighborhood small area plans dramatically shift the City’s land use mix away from industrial. The amount of industrial land will be reduced by 31% if the small area plans are implemented. See Figure 2.2.3 below for the industrial zoned acres before and after the implementation of recent small area plans.



**Figure 2.2.3
Industrial Land Use Changes in Small Area Plans
City of Minneapolis**

| | Industrial Zoned Acres | | Change | |
|--------------------------------|------------------------|--------------|--------------|------------|
| | Before ¹ | After | Absolute | Relative |
| City-Wide | 3,986 | 2,677 | 1,308 | 32% |
| Study Areas | | | | |
| I - Humboldt | 207 | 207 | 0 | 0% |
| II - Near North/Upper River | 1,828 | 1,047 | -781 | -43% |
| III - Mid-City and SEMI | 1,193 | 1,007 | -186 | -16% |
| IV - Hiawatha/Midtown Corridor | 449 | 290 | -159 | -35% |
| Total: | 3,677 | 2,551 | -1,126 | -31% |

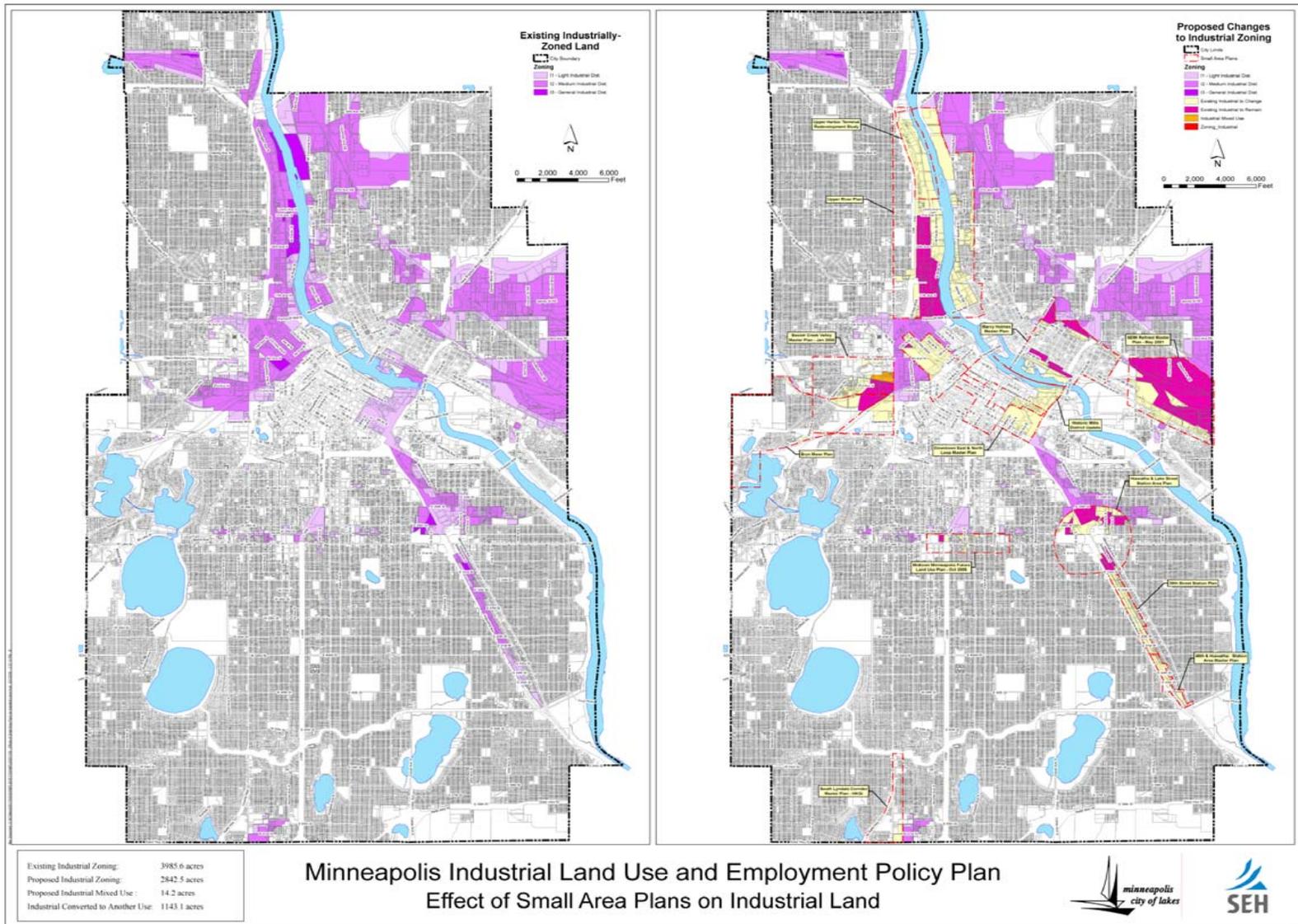
¹ = 2004

Source: Maxfield Research.

The maps that follow show the land use changes according to recent small area plans. Keeping the current and planned loss of industrial space in mind, we turn to an analysis of land and building characteristics.

Above the Falls Small Area Plan (1999) provides for light industrial use between Plymouth Ave. & 31st Ave., west of the railroad spur, and converts the remaining land to residential, mixed-use, and public green space.





2.3 Minneapolis Industrial Land Supply: Modest with Solid Fundamentals

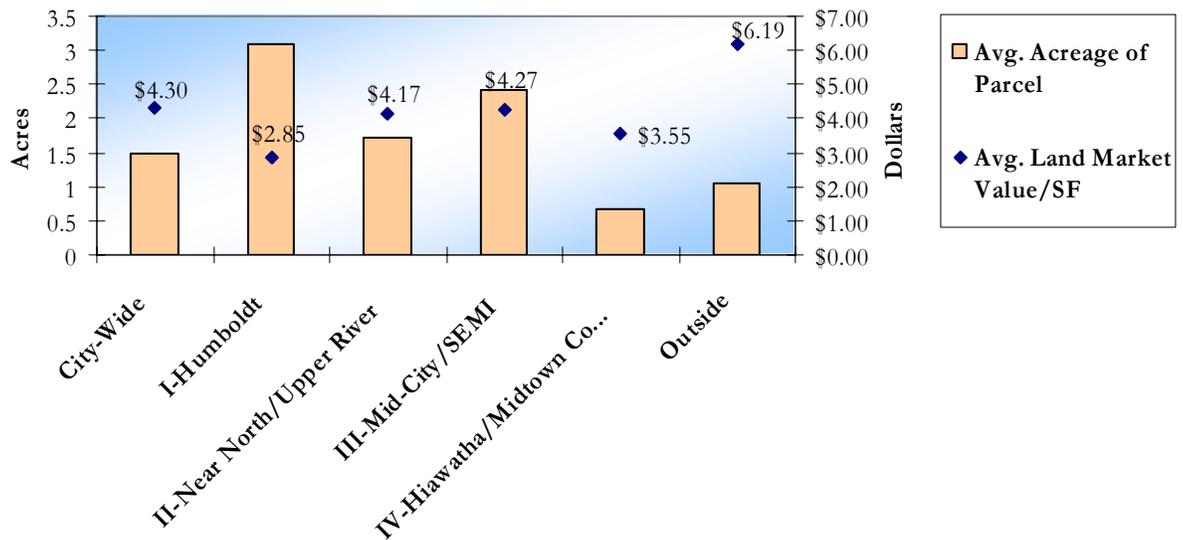
With the assistance of the Minneapolis Assessor’s Office and the Minneapolis GIS Business Services Office, the study team put together a database of industrial properties and buildings in Minneapolis. An electronic copy of this database is provided to CPED as a tool for long-term industrial land-use and employment planning.

Small, Low-Value, and Little Vacant

Minneapolis industrial parcels tend to encompass a small amount of land and often carry a low market value per square foot. The average industrial zoned parcel is 1.5 acres and the average land market value per square foot is \$4.30. Industrial development in suburban Twin Cities Metro Area and exurban locations often sits on 5-10 acre sites. A comparison between Minneapolis and other Metro Area cities of land and building market value per square foot is included in Section 2.3.

Figure 4 below highlights these findings.

Figure 2.3.1
Size and Market Value Per Square Foot of Industrial-Zoned Land
Minneapolis, 2004

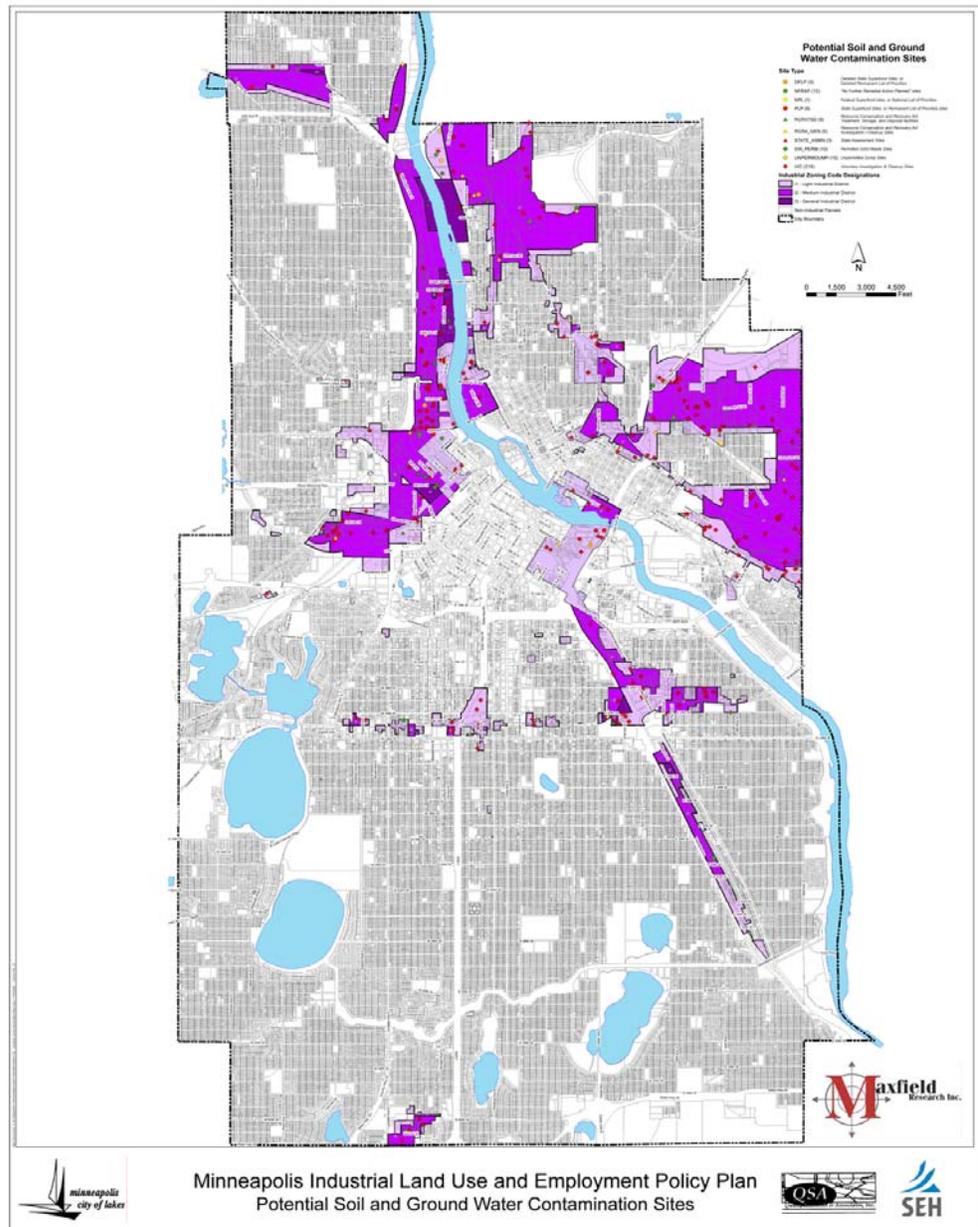


Minneapolis’ industrial land supply does not contain a significant amount of vacant industrial parcels. Of the total 3,984 industrial-zoned acres, 631 acres are vacant

(16%). The Near North/Upper River and Mid-City/SEMI areas have the most vacant industrial land with 214 acres each.

Contaminated Industrial Land

Minneapolis has a long heritage as a working town. An unfortunate consequence of that history is pollution. Before today’s environmental safeguards, many heavy industrial users contaminated the land on which they operated. The map below provides good news and bad news. The City’s industrial land supply has many contaminated sites.





However, many of the sites are voluntarily being cleaned up under the supervision of the Minnesota Pollution Control Agency or Minnesota Department of Agriculture. Over 200 voluntary investigation and clean-up sites are located in Minneapolis.

Strong Market Fundamentals

The City’s supply characteristics seem to paint a bleak picture, however many Minneapolis industrial parcels possess two unique strengths: access and proximity. Industrial sites in Minneapolis are often connected to major arterial routes leading to and from the Twin Cities Metro Area. Goods producing businesses need to bring in supplies and ship out their finished products to customers.

As shown in Figure 5, each analysis area provides premium and marketable access to industrial users.

| Figure 2.3.2 Access at Industrial Sites Minneapolis, Minnesota | | |
|--|--|---|
| Study Area | Transport Routes | Metro Area Arterials |
| I- Humboldt | Brooklyn Blvd. 49th Ave. | Hwy 100 I-94 |
| II - Near North/Upper River | Washington Ave. W. Broadway Ave. 49th Ave. Dowling Ave. Hennepin Ave. | I-94 I-94 I-94 I-94 I-94/I-394 |
| III - Mid-City/SEMI | Stinson Ave. Industrial Blvd. E. Hennepin Ave. Como Ave. University Ave. | I-35W I-35W I-35W/Hwy 280 Hwy 280 Hwy 280 |
| IV - Hiawatha/Midtown Corridor | --- Minnehaha Ave. Lake St. 38th St. | Hwy 55 Hwy 55 Hwy 55 Hwy 55 |

Connect To/Serve Collector Traffic

Source: Maxfield Research Inc.

In addition, Minneapolis locations derive a premium by providing industrial businesses close proximity to clients and customers. A key finding from the employer survey is that employers frequently choose Minneapolis because the site is located a short distance from their customers, suppliers, and labor force. Central location was reported as the main reason a company chose Minneapolis 57% of

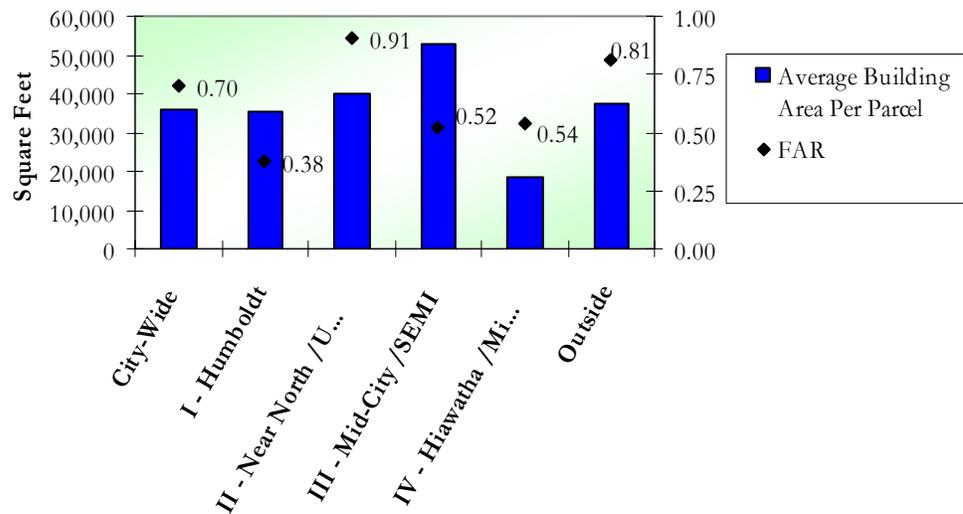
the time. Proximity to highways and good customers/close to customers were reported 23% and 17% of the time, respectively.

2.4 Minneapolis Industrial Building Supply: Moderate and Mature

Moderate Size Buildings

Industrial buildings in Minneapolis tend to be of moderate size, but the average size varies in each analysis area. Area III: Mid-City/SEMI has the largest building size, while Area IV: Hiawatha/Midtown Corridor has the smallest building size. See Figure 2.4.1 below.

Figure 2.4.1
Average Industrial Building Size and Floor Area Ratio
Minneapolis, 2004



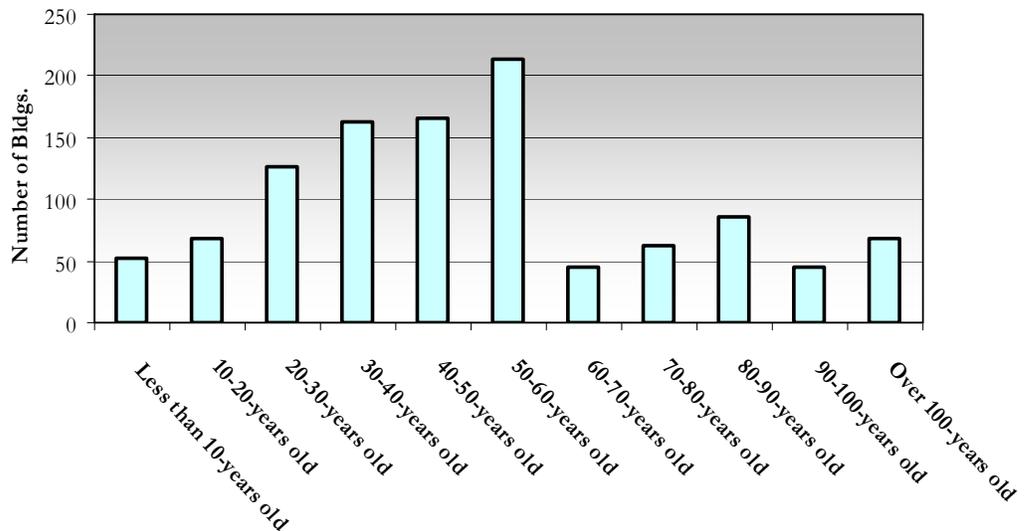
Industrial buildings in Minneapolis have a range of floor area ratios. Floor area ratio is defined as the building size divided by the parcel size. For example, a parcel with a floor ratio of 1.0 could have a single-story building that covers the whole lot or it could be a two-story building covering half the lot.

Figure 2.4.1 also displays FARs city-wide and in each analysis area. With more stringent setback and storm-water ponding requirements, suburban locations tend to have 70% FAR.

Older Buildings

Minneapolis' industrial building stock was originally built on the Mississippi River, and passed through various waves of construction, neglect, and redevelopment, as it has spread out through the City. As a result, the City's industrial sector still has many older buildings. The average age of an industrial-zoned building in Minneapolis is 59 years. A portion of the older buildings may be functionally obsolete. Figure 7 below displays the ages of industrial buildings in 2004.

Figure 2.4.2
Age of Industrial Zoned and Used Buildings
Minneapolis, 2004



As development patterns move further toward the suburban and exurban fringe, relatively inexpensive land prices attract a greater share of new industrial projects. The distribution of building age is more likely weighted toward 10-30 years old outside of Minneapolis.

Lower-Valued Buildings

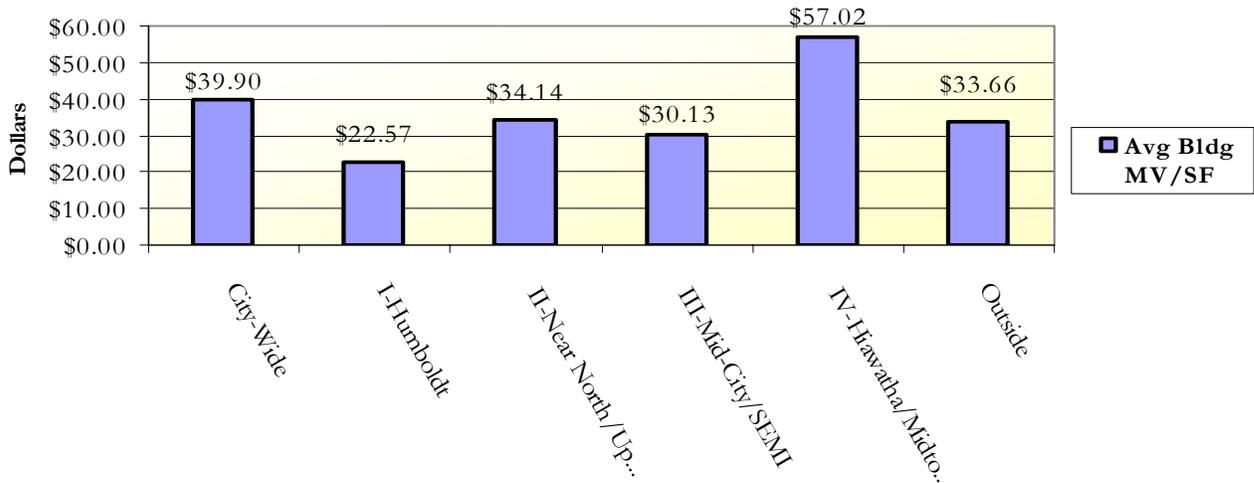
In light of the smaller size and older building age, industrial buildings in Minneapolis show a low market value per square foot. Assessed value parcel data was provided by the City of Minneapolis Assessor's Office and is used as a proxy for full market value.

*Older industrial building in NWJP
 (Area II)*



The average market value per square foot is \$39.90. Figure 2.4.3 below displays the market value of industrial buildings by analysis area.

Figure 2.4.3
Average Building Market Value Per Square Foot
Minneapolis, 2004



The supply of low value buildings and land is evident relative to other Metro Area cities. While Minneapolis has the largest amount of industrial land and the largest total industrial market value among Metro Area cities (2000), Minneapolis shows a middle-of-the-pack industrial market value per acre. See Figure 2.4.4 below.

Figure 2.4.4
Total Industrial Market Value Per Acre
Cities with TIMV Above \$50M
Twin Cities Metro Area, 2000

| City | 2000 Market Value ¹ | 2000 Acreage | 2000 MV/Acre |
|------------------|--------------------------------|--------------|--------------|
| 1 Maplewood | \$311,539,712 | 479 | \$650,396 |
| 2 Bloomington | \$535,600,561 | 1,097 | \$488,241 |
| 3 Plymouth | \$801,849,172 | 1,671 | \$479,862 |
| 4 Edina | \$180,151,132 | 396 | \$454,927 |
| 5 Chanhassen | \$145,784,416 | 347 | \$420,128 |
| 6 New Hope | \$205,257,236 | 535 | \$383,658 |
| 7 St Louis Park | \$221,915,637 | 598 | \$371,096 |
| 8 Minnetonka | \$253,621,396 | 697 | \$363,876 |
| 9 Golden Valley | \$200,553,714 | 590 | \$339,922 |
| 10 Brooklyn Park | \$319,484,687 | 966 | \$330,729 |
| 11 Eden Prairie | \$585,877,212 | 1,788 | \$327,672 |
| 12 Hopkins | \$145,386,635 | 444 | \$327,447 |
| 13 Chaska | \$150,335,914 | 510 | \$294,776 |
| 14 Shakopee | \$290,018,035 | 1,166 | \$248,729 |
| 15 Anoka | \$118,974,222 | 503 | \$236,529 |

**Figure 2.4.4 (Cont.)
Total Industrial Market Value Per Acre
Cities with TIMV Above \$50M
Twin Cities Metro Area, 2000**

| | | | |
|--------------------|---------------|-------|-----------|
| 16 Coon Rapids | \$158,033,128 | 673 | \$234,819 |
| 17 Rogers | \$61,639,453 | 269 | \$229,143 |
| 18 Fridley | \$331,419,472 | 1,548 | \$214,095 |
| 19 Minneapolis | \$954,208,422 | 4,599 | \$207,482 |
| 20 Ramsey | \$79,670,034 | 456 | \$174,715 |
| 21 Eagan | \$269,974,921 | 1,671 | \$161,565 |
| 22 Maple Grove | \$315,910,478 | 2,127 | \$148,524 |
| 23 Burnsville | \$182,891,257 | 1,328 | \$137,719 |
| 24 Roseville | \$131,165,679 | 974 | \$134,667 |
| 25 St Paul | \$477,426,873 | 4,520 | \$105,625 |
| 26 Lakeville | \$106,304,944 | 1,007 | \$105,566 |
| 27 Brooklyn Center | \$90,516,580 | 966 | \$93,702 |
| 28 Blaine | \$195,538,319 | 2,395 | \$81,644 |
| 29 Rosemount | \$109,744,367 | 1,580 | \$69,458 |
| 30 Arden Hills | \$77,759,976 | 1,142 | \$68,091 |

¹ = 2004 dollars.

Source: Minnesota Department of Revenue, Maxfield Research Inc.



Underutilized parcels in Shoreham Yards (Area II)

Minneapolis has More Warehouse Product, Lower Rents, and More Volatile Vacancy Rates than Twin Cities Metro Area

Figure 2.4.5 below shows the distribution of industrial property types in the City of Minneapolis and the Twin Cities Metro Area. The data and product definitions are from Colliers Turley Martin Tucker in their *Commercial Real Estate Report*.

It should be pointed out that the secondary market source used in this analysis – such as the *Commercial Real Estate Report* – do not provide a complete picture of the industrial real estate market in Minneapolis because they only survey multi-tenant properties and exclude single-tenant properties. In comparison, Minneapolis has more single-tenant properties than other

Industrial real estate can be organized into the following types.

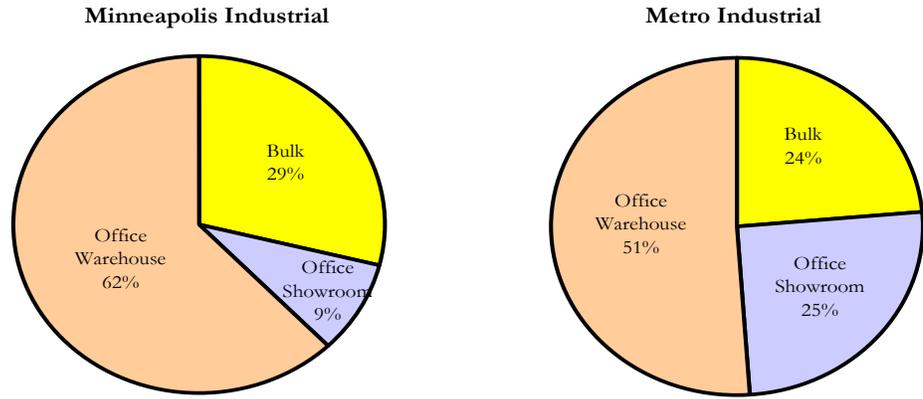
Office Showroom/Business Center: multi-tenant buildings larger than 25,000 rentable square feet, more than 30% office space, and clear heights between 12 and 16 feet. They are characterized by usage flexibility, smaller bay sizes and better than average landscaping.

Office Warehouse: multi-tenant buildings 25,000 square feet or more rentable area, typically offer 10% to 20% office space and have 16 to 20 feet clear ceiling heights.

Bulk Warehouse: multi-tenant buildings have 50,000 or more square feet of rentable area, built after 1945, have 5%-10% office finished and 20 feet or higher clear ceiling heights.

communities in the Metro Area. That said, these studies provide good data on the overall trends of the market, and many of the trends can be carried over from multi-tenant to single-tenant properties.

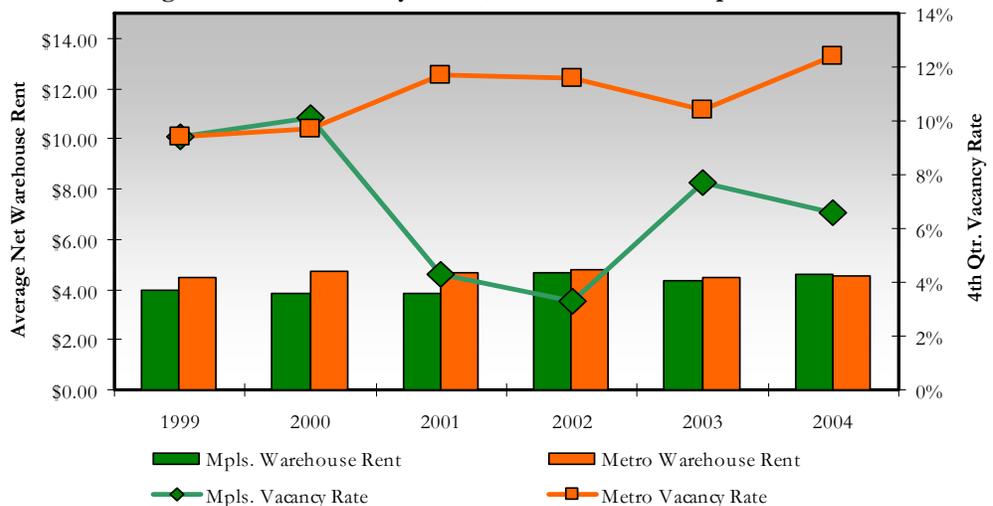
**Figure 2.4.5
Product Type**

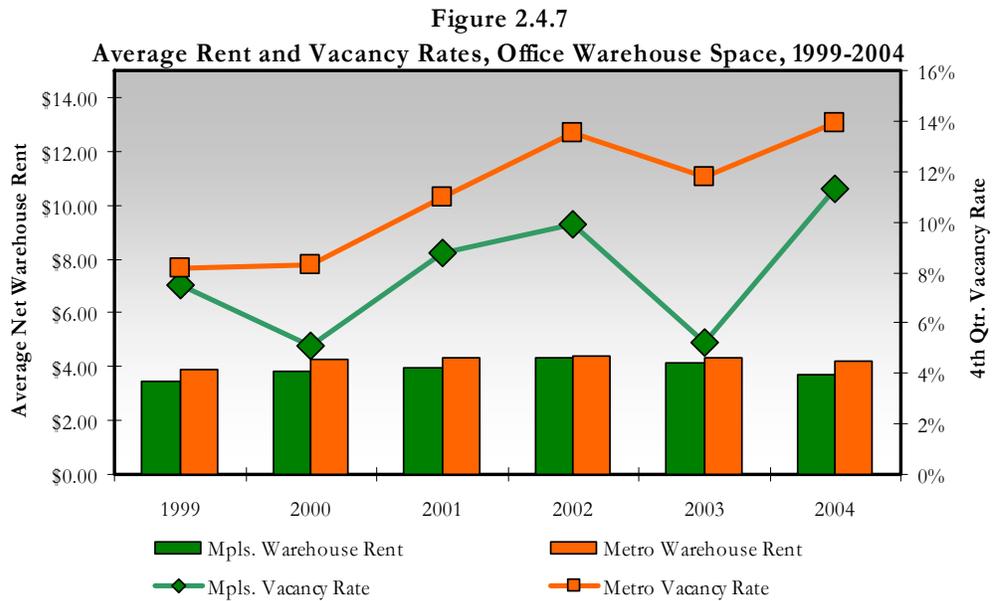


Compared to the Twin Cities as a whole, Minneapolis has more Office Warehouse and Bulk Warehouse space and less Office Showroom space.

Lease rates across all multi-tenant product types have been slightly lower in the City of Minneapolis than the Metro Area as a whole. Lower rents are likely attributable to the fact that industrial properties in Minneapolis tend to be older. Average net lease rates are highest for Office Showroom, followed by Office Warehouse and Bulk Warehouse Space.

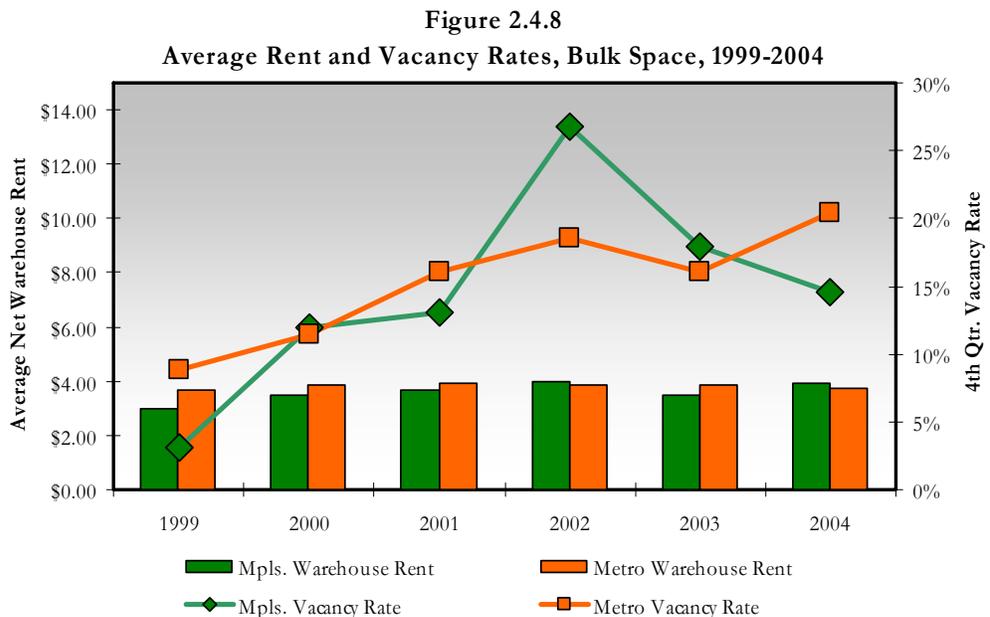
**Figure 2.4.6
Average Rent and Vacancy Rates, Office Showroom Space, 1999-2004**





In 2004, Bulk Warehouse had the highest vacancy rate with 15% in the City of Minneapolis. Office Warehouse was 11% and Office Showroom was 7%.

Compared to the Metro Area as a whole, vacancy rates in the City of Minneapolis have changed more dramatically from year to year. Much of this volatility can be blamed on the fact that fewer properties in Minneapolis mean fewer properties are surveyed, and, as a result, periodic vacancies can have a greater effect on the overall average.



In sum, Minneapolis has more warehouse product, which characteristically has lower rents and higher vacancy rates. Maxfield Research compared results published by Colliers Turley Martin Tucker with data published by other secondary market publications, such as Minnesota Chapter of the National Association of Industrial and Office Properties (NAIOP) and United Properties. Results were relatively consistent across sources.

2.5 Demand for Industrial Space Exists in the Twin Cities Metro Area

Industrial Real Estate Market Recovery

The late 1990s were characterized by significant development in new industrial projects. With rising lease rates driven by strong economic growth and stable land costs, developers took advantage of opportunities across the spectrum of industrial real estate. Much of the new industrial development occurred outside the Interstate 494/694 beltway.

New industrial projects slowed significantly throughout the Metro Area after 2000. In the last five years, land costs have increased while industrial lease rates remained stable. As a result, the Metro Area has seen few new industrial real estate developments. See Figure 2.5.1 below.

However, vacancy rates are expected to decline in the next few years as employment growth drives up demand for industrial space. According to the Commercial Real Estate Report, the industrial market absorbed 3.8 million square feet in 2005 – more than three times the absorption in 2004. This strong activity helped push down vacancies to 13.6% at the end of 2005 from a historical high of 15.5% in 2004. This trend is expected to continue into the near future.

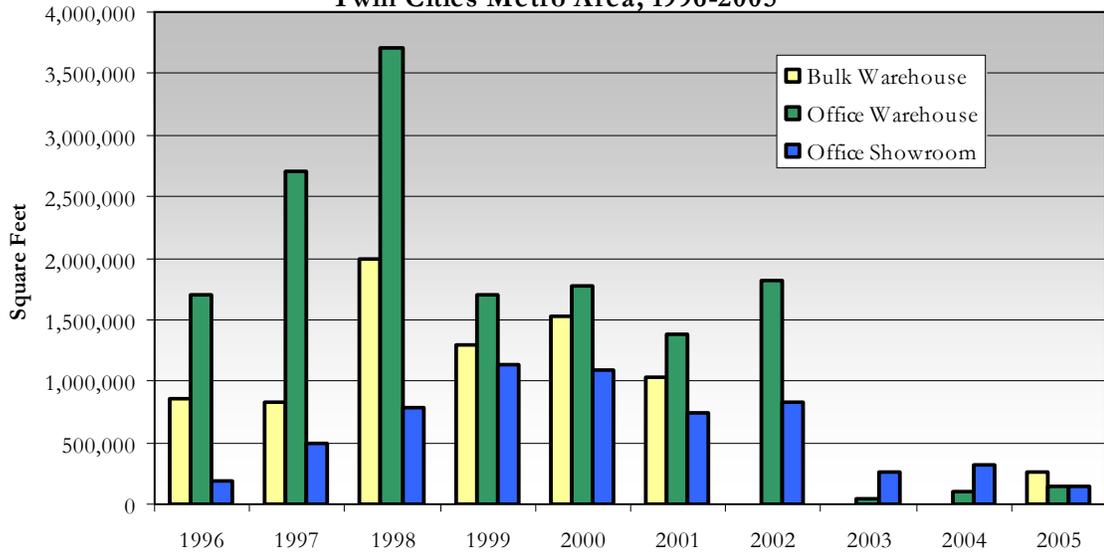
Speculative industrial development is starting to return to the market. These projects face challenges, including high land, construction, and energy costs along with shortages of available land. These costs will ultimately translate to higher lease rates for users. Most developers will be forced to deal with the financial constraints of higher costs and uncertain lease rates.

This data above is from the Minnesota Chapter of the National Association of Industrial and Office Properties (NAIOP), and is published in their 2005 Industrial Market Update.

Recent Office Warehouse Building in Area II



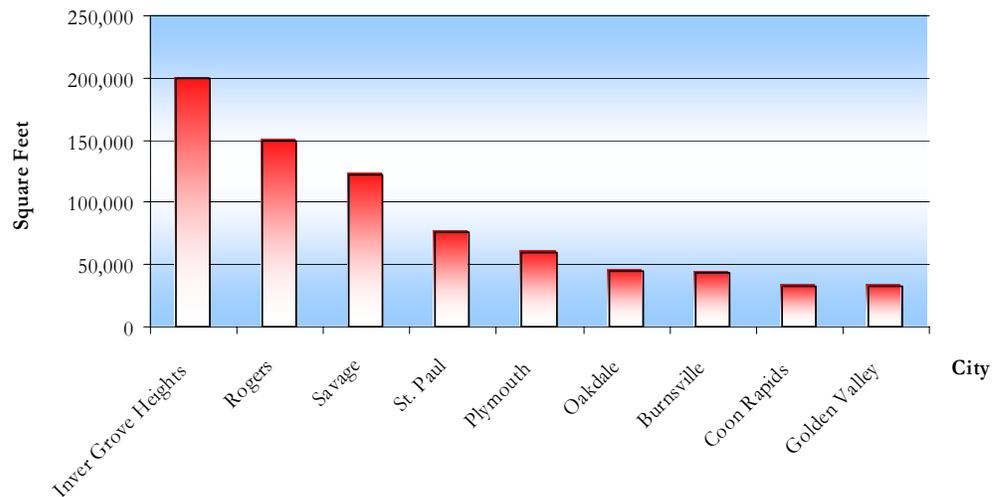
**Figure 2.5.1
New Industrial Projects
Twin Cities Metro Area, 1996-2005**



Increase in Demand

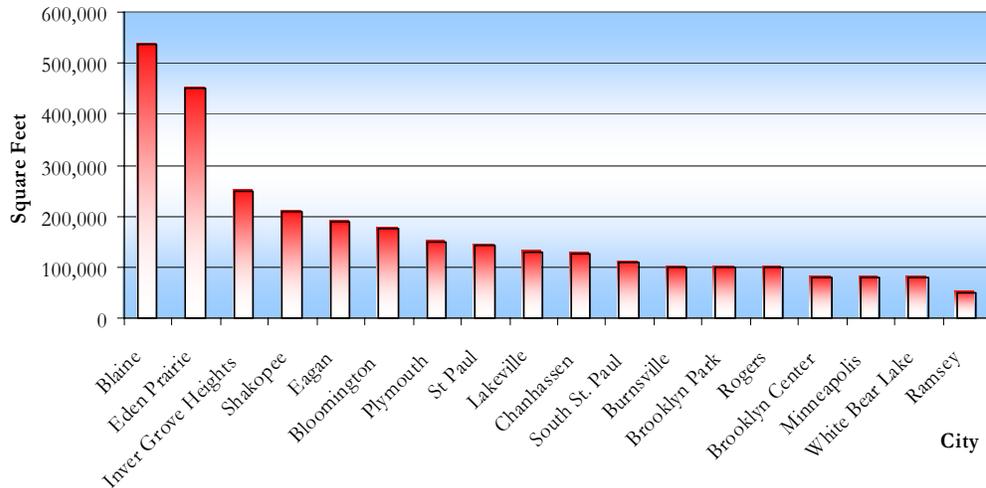
The lack of new industrial space over the last five years and a recovering economy translate to new unmet industrial demand. As shown in Figures 2.5.2 and 2.5.3, industrial development is being planned to meet this demand and its taking place largely outside Minneapolis. This data is gathered by United Properties and published in its Outlook publication (January, 2006).

**Figure 2.5.2
Development Pipeline - Under Construcion & Planned
Twin Cities Metro Area, 2005-2006**



Industrial users who occupy these new projects will have to pay higher lease rates. Faced with higher lease rates, many users who need additional space may simply retrofit an existing property or split up operations and move into multiple locations. In addition, higher lease rates may push some tenants to older properties, which typically have lower rates.

Figure 2.5.3
Development Pipeline - Preliminary
Twin Cities Metro Area, 2005-2006



2.6 Minneapolis Positioned to Capture Demand

While it appears Minneapolis’ low-value industrial land and building supply is deterring industrial development, a number of trends suggest the City’s weaknesses may become its strengths.

Minneapolis is suited to capitalize on four trends identified in secondary market research and academic research.

1) Traditional attributes that make industrial real estate marketable – access to transportation routes, proximity to customers and labor force – still apply.

As shown in Section 2.2, Minneapolis industrial parcels offer marketable proximity to major metropolitan arterial routes.

Surveyed employers chose Minneapolis precisely for the proximity to customers, suppliers, and a labor force. Central location was reported as the main reason a company chose Minneapolis 57% of the time. Proximity to highways and good customers/close to customers were reported 23% and 17% of the time.



Access to I-94 at W. Broadway Ave in Area II – Near North/Upper River

2) Brownfield and industrial redevelopment in Minneapolis are more financially viable due to rising land costs outside the I-494/694 beltway.

As discussed in Sections 2.2 and 2.3, Minneapolis has a considerable supply of underutilized parcels with low market values per square foot and polluted sites.

Current remediation and redevelopment project in Area I - Humboldt



3) With a tighter market for new industrial space, users are now considering retrofitting existing spaces or locating operations at several sites.

Section 2.2 also highlights that Minneapolis offers many smaller-size parcels for industrial users with scattered site production.

Small parcel industrial users in Area IV – Hiawatha /Midtown Corridor



4) Demand for flexible industrial space will increase.

Competitive firms must respond quickly to changes in the global marketplace – making flexible space a priority. One local broker said office/warehouse space should be able to convert 25%-100% of its space into office.

Recent industrial facility in Area III – Mid-City/SEMI



Through redevelopment of underutilized industrial parcels, Minneapolis' product mix can shift toward flexible office warehouse and office showroom concepts.

City-led industrial redevelopment projects in Area IV – Hiawatha/Midtown Corridor



2.7 Minneapolis' Publicly-Owned Land

Maxfield Research analyzed the total amount of industrially zoned land that is publicly owned and, as a result, does not contribute property tax. (The small portion of public land that has a non-public use and contributes tax is not included in this analysis.) The data is shown in Figure 2.7.1. About 7% of industrial zoned land in Minneapolis is owned by public entities.

The largest owner is the City, with 127 acres. The University of Minnesota also owns a significant portion at 84 acres. Of the publicly owned land, about 57% is used industrially and 42% is used commercially.

Figure 2.7.1
Amount of Publicly Owned Industrial-Zoned Land
City-Wide & Study Area
Minneapolis, 2004

| Public Entity | City-Wide | | Humboldt (I) | Upper River (II) | SEMI/Mid-City (III) | Hiawatha (IV) | Outside Study Areas |
|------------------------------|------------|-------------|--------------|------------------|---------------------|---------------|---------------------|
| | Acres | % | Acres | Acres | Acres | Acres | Acres |
| City | 127 | 3.2% | 0 | 86 | 2 | 25 | 13 |
| Schools | 8 | 0.2% | 0 | 4 | 0 | 0 | 4 |
| Parks | 4 | 0.1% | 0 | 4 | 0 | 0 | 0 |
| County | 14 | 0.4% | 0 | 14 | 0 | 0 | 0 |
| Met Council | 15 | 0.4% | 0 | 13 | 0 | 2 | 0 |
| State | 13 | 0.3% | 0 | 12 | 0 | 0 | 1 |
| Federal | 8 | 0.2% | 0 | 0 | 0 | 0 | 8 |
| University | 84 | 2.1% | 0 | 0 | 77 | 0 | 7 |
| Total | 273 | 6.9% | 0 | 134 | 79 | 26 | 34 |
| All Industrial-Zoned Parcels | 3,984 | 100% | | | | | |

Source: Maxfield Research Inc.

Summary

Minneapolis is losing industrial land. The 1990s saw a decline in the City's industrial land supply, which has continued during the current decade. Another 31% of industrial land will change use if all the recent small area plans are implemented.

The industrial land supply shows low market values per square foot and smaller parcel sizes relative to the Twin Cities Metro Area. Potential remediation costs exist. But Minneapolis industrial sites have strong market fundamentals. Minneapolis shows smaller building sizes, older ages, and lower market values than the Metro Area. Minneapolis also has more warehouse product, lower rents, and more volatile vacancy rates than the Metro Area.

The industrial real estate market is recovering and Minneapolis is positioned to capture demand. Site attributes still matter, brownfield redevelopment is more financially feasible, and scattered-site production is more common. Redeveloping sites for flex space will also work to the City's advantage.

Industrial Employment in Minneapolis

Just as understanding the market forces and city actions affecting the City's industrial land supply is important, looking at industrial employment trends in Minneapolis is valuable. This section analyzes employment, wage levels, and resident hiring among Minneapolis's industrial businesses. A "scorecard" of industries is presented as a tool for CPED and neighborhoods to attract industries that provide the greatest return to Minneapolis.

3.1 Industrial is Significant But Contracted

Overall Employment Declines in 2000-2004

While the exact cause of the 2001 recession is still being debated – federal fiscal policy, speculative tech bubble in the stock market, September 11th – the recession clearly had an impact on the economy and labor market of Minneapolis. In 2000, the City had an estimated 309,400 jobs. By 2004, the City had 282,500 jobs, which translates to a loss of -27,000 jobs (-7%).



*Area IV – Hiawatha/Midtown
Corridor*

Figure 3.1.1 on the following page displays the 2000-2004 employment change by major industry group. Those job losses were spread among many specific industries. Figure 3.1.2 shows the industries hit hardest at a more focused industry level.

Figure 3.1.1
Overall Change in Employment
Minneapolis and Metro Area, 2000 to 2004

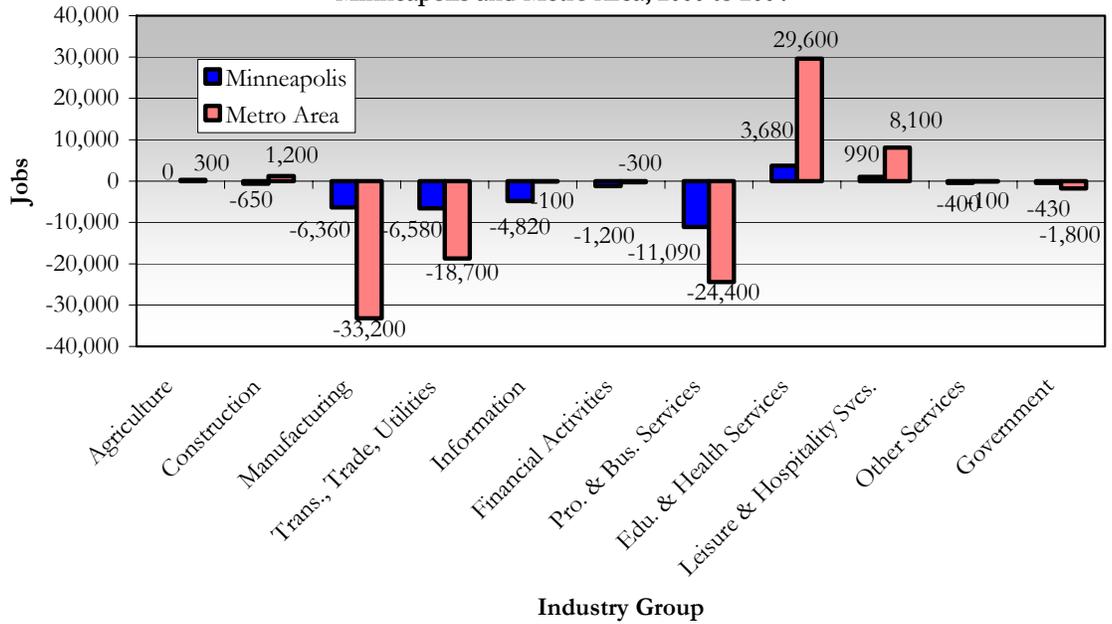


Figure 3.1.2
6-Digit NAICS Industries with Greatest Employment Losses
Minneapolis, 2000-2004

| Code | Industry | 2000 Employment | 2004 Employment | Change |
|--------|--|--------------------|--------------------|--------|
| 561320 | Temporary Help Services | 8,670 | 5,440 | -3,230 |
| 523110 | Investment Banking and Securities Dealing | 6,510 | 4,380 | -2,130 |
| 551114 | Corporate, Subsidiary, and Regional Managing Offices | 13,240 | 11,300 | -1,930 |
| 511210 | Software Publishers | 1,490 | 230 | -1,260 |
| 524113 | Direct Life Insurance Carriers | 3,580 | 2,370 | -1,200 |
| 561720 | Janitorial Services | 3,670 | 2,500 | -1,170 |
| 323110 | Commercial Lithographic Printing | 2,360 | 1,310 | -1,050 |
| 517110 | Wired Telecommunications Carriers | 2,670 | 1,760 | -920 |
| 221111 | Hydroelectric Power Generation | 2,790 | 1,970 | -830 |
| 518210 | Data Processing, Hosting, and Related Services | 3,850 | 3,070 | -770 |

Sources: Minnesota Department of Employment and Economic Development; US Census Bureau; Maxfield Research Inc.

Industrial Employer in Seward Industrial Park (Area IV)



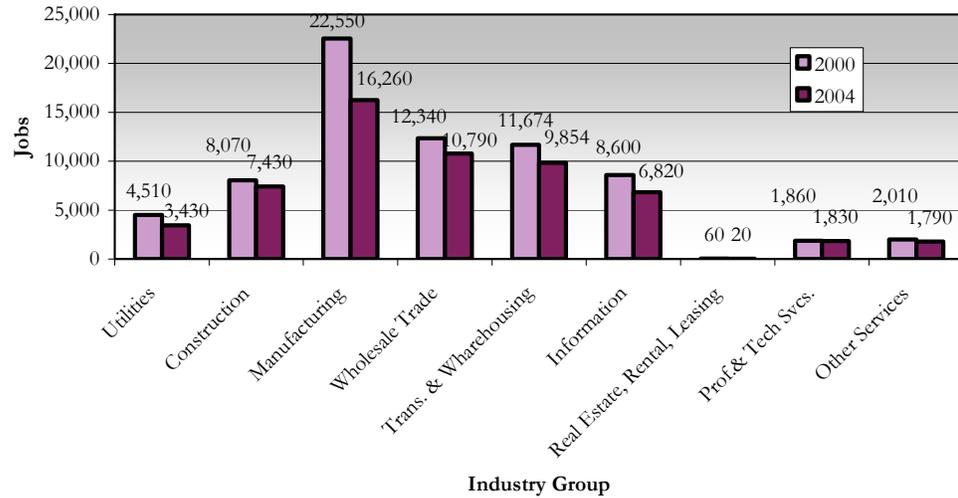
Industrial Employment Declined in 2000-2004

The market contraction and slow recovery significantly struck industrial employment in Minneapolis. As shown in Figure 3.1.3 below, overall employment declined by almost -27,000 jobs (-9%) and industrial employment decreased by -13,450 jobs (-19%). An estimated 50% of the jobs lost between 2000 and 2004 were industrial.

| Figure 3.1.3. Industrial Employment Minneapolis, 2000-2004 | | | | |
|---|-------------|-------------|------------|--------------|
| | 2000 | 2004 | Ch. | % Ch. |
| Overall Employment in Minneapolis | 309,350 | 282,500 | -26,850 | -9% |
| Industrial Employment in Minneapolis | 71,670 | 58,220 | -13,450 | -19% |
| <i>% Share of Overall Employment</i> | <i>23%</i> | <i>21%</i> | <i>50%</i> | <i>3%</i> |
| Source: MN Department of Employment and Economic Development; City of Minneapolis; Maxfield Research Inc. | | | | |

As shown in figure 3.1.4, industrial firms in the Manufacturing, Information, Transportation and Warehousing, and Wholesale Trade industries experienced the largest job losses in the 2000-2004 period. Manufacturing firms cut 6,290 jobs, transportation and warehousing firms eliminated 1,820 jobs, information-related firms cut 1,780 jobs, and wholesale trade firms cut 1,550 jobs.

Figure 3.1.4
Industrial Employment Estimates by Industry Group
Minneapolis, 2000-2004



Industrial Employment in 2004: Zoning Types & Major Businesses

Each analysis area contains a different mix of zoning classifications. Zoning classifications gauge the intensity of use on a range from light (I1) to medium (I2) to heavy (I3). Area I and Area IV are made up primarily of light and medium users. Area II and Area III are comprised of more light industrial users. Data in Figure 14 differs slightly from previous estimates because the source is different.

Figure 3.1.5
Industrial Employment & Establishments
Minneapolis, 2004

| Study Area | Establishments | | | | Employment | | | |
|------------------------------------|----------------|-----|-----|-------|------------|-------|-----|--------|
| | I1 | I2 | I3 | Total | I1 | I2 | I3 | Total |
| I - Humboldt | 12 | 14 | 3 | 29 | 87 | 294 | 109 | 490 |
| | 41% | 48% | 10% | 100% | 18% | 60% | 22% | 100% |
| II - Near North/ Upper River | 333 | 255 | 38 | 626 | 6,639 | 4,904 | 999 | 12,542 |
| | 53% | 41% | 6% | 100% | 53% | 39% | 8% | 100% |
| III - Mid-City/ SEMI | 254 | 177 | 30 | 461 | 9,040 | 3,995 | 925 | 13,960 |
| | 55% | 38% | 7% | 100% | 65% | 29% | 7% | 100% |
| IV - Hiawatha/ Midtown Corridor | 147 | 134 | 19 | 300 | 2108 | 2411 | 390 | 4909 |
| | 49% | 45% | 6% | 100% | 43% | 49% | 8% | 100% |

Source: InfoUSA; Maxfield Research Inc.

Each analysis area has a different set of major employers. Figure 3.1.6 below shows the top three employers in each analysis area.

| Figure 3.1.6 Major Industrial Employers Minneapolis - Study Area, 2004 | | | |
|---|-----------------------------|---|-----------|
| Study Area | Employer | Products/Services | Est. Emp. |
| I - Humboldt | Mereen Johnson Machine Co | Woodworkers | 100 |
| | Owens-Corning Fiberglass | Asphalt Felts & Coatings (Mfrs) | 77 |
| | Bfi Recycling | Recycling Centers (Wholesale) | 73 |
| II - Near North/ Upper River | Honeywell Laboratories | Computers-Electronic-Mfrs | 500 |
| | Mentor Minnesota Inc | Physicians & Surgeons Equip & Surpls (Mfrs) | 299 |
| | Velocity Express Inc | Delivery Service | 250 |
| III - Mid-City/ SEMI | Honeywell Aerospace | Search/Detection/Nav Systs/ Instruments (Mfrs) | 2200 |
| | Techne Corp | Biological Products (Mfrs) | 520 |
| | Northern Star Co | Dried/Dehydrated Fruits Vegetables (Mfrs) | 300 |
| IV - Hiawtha/ Midtown Corridor | Hauenstein & Burmeister Inc | Elevators-Sales & Service-Mfrs | 175 |
| | Allweather Roof Co | Roofing Contractors | 150 |
| | Graybar Electric Co | Electric Equipment-Mfrs | 140 |
| Sources: InfoUSA; Maxfield Research Inc. | | | |

3.2 Minneapolis Will Undergo an Industry and Zoning Shift in the Industrial Sector over Next 20 Years.

2000-2020: Projected Recovery But No Growth

Taken together, industrial users in Minneapolis are forecast to undergo job losses between 2000 and 2010 and job growth between 2010 and 2020. Industrial employment in Minneapolis is expected to decrease by -5,260 jobs (-7.3%) in the current decade and increase by 5,470 jobs (+8.2%) in the subsequent decade.

Industry Shift

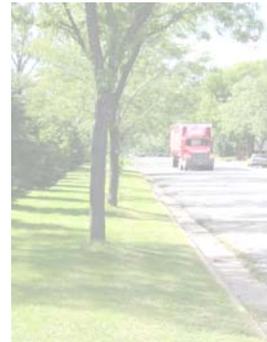
The 20-year period shows job growth for trade and transport-oriented industrial businesses, while traditional industrial segments do not grow or decline. As shown in Figure 3.2.1 below, transportation and warehousing is expected to grow by over 2,000 jobs. Wholesale trade is expected to add over 1,100 jobs and construction is forecasted to grow by around 1,000 jobs.

On the other hand, manufacturing employment is forecast to drop by almost 4,000 jobs. Information and utilities are expected to decrease by -1,200 jobs and -900 jobs, respectively.

**Figure 3.2.1
Projected Industrial Employment
Minneapolis, 2000-2020**

| | Employment | | | | | | Change | | | | | |
|------------------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|-------------|--------------|------------|------------|------------|
| | 2000 | | 2010 | | 2020 | | 2000-2010 | | 2010-2020 | | 2000-2020 | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Utilities | 4,510 | 6.3 | 3,660 | 5.5 | 3,600 | 5.0 | -850 | -18.8 | -60 | -1.6 | -910 | -20.2 |
| Construction | 8,070 | 11.3 | 7,960 | 12.0 | 9,060 | 12.6 | -110 | -1.4 | 1,100 | 13.8 | 990 | 12.3 |
| Manufacturing | 22,550 | 31.5 | 18,570 | 28.0 | 18,800 | 26.2 | -3,980 | -17.6 | 230 | 1.2 | -3,750 | -16.6 |
| Wholesale Trade | 12,340 | 17.2 | 12,280 | 18.5 | 13,520 | 18.8 | -60 | -0.5 | 1,240 | 10.1 | 1,180 | 9.6 |
| Trans. & Warehousing | 11,670 | 16.3 | 12,080 | 18.2 | 14,170 | 19.7 | 410 | 3.5 | 2,090 | 17.3 | 2,500 | 21.4 |
| Information | 8,600 | 12.0 | 7,420 | 11.2 | 7,480 | 10.4 | -1,180 | -13.7 | 60 | 0.8 | -1,120 | -13.0 |
| Real Estate, Rental, Leasing | 60 | 0.1 | 60 | 0.1 | 70 | 0.1 | 0 | 0.0 | 10 | 16.7 | 10 | 16.7 |
| Prof. & Tech Svcs. | 1,860 | 2.6 | 2,100 | 3.2 | 2,660 | 3.7 | 240 | 12.9 | 560 | 26.7 | 800 | 43.0 |
| Other Services | 2,010 | 2.8 | 2,280 | 3.4 | 2,520 | 3.5 | 270 | 13.4 | 240 | 10.5 | 510 | 25.4 |
| Total | 71,670 | 100.0 | 66,410 | 100.0 | 71,880 | 100.0 | -5,260 | -7.3 | 5,470 | 8.2 | 210 | 0.3 |

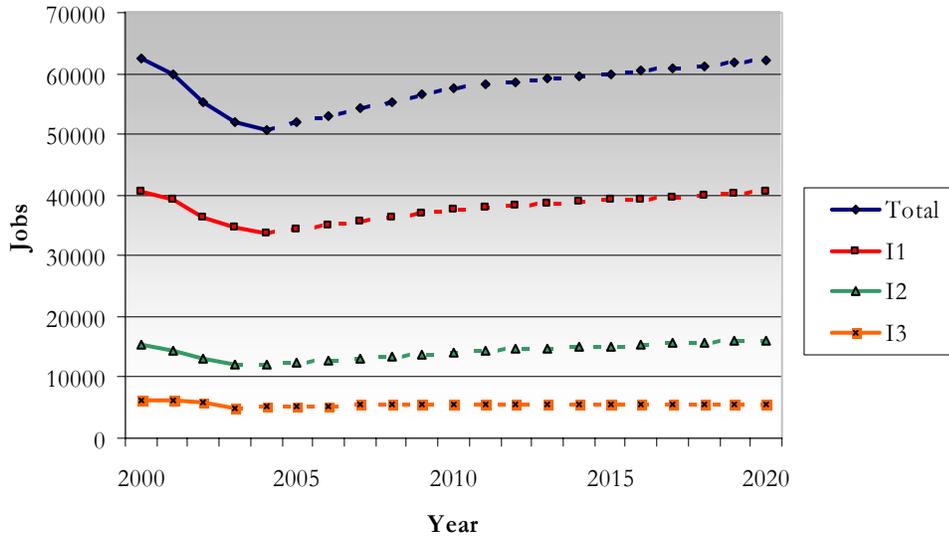
Sources: MN Department of Employment and Economic Development; City of Minneapolis; Maxfield Research Inc.



Zoning Shift

By 2020, light and medium industrial users are projected to recover. Heavy industrial users are not. Between 2000 and 2020, I1 users are expected to reach largely recover from the 2000-2004 recession. Projections show a loss of -40 jobs (-.1%). I2 users are projected to grow, adding 660 jobs (+4.3%). I3 users are forecasted to diminish in size significantly. I3 jobs show a forecasted decline of 730 jobs (-11.6%)

Figure 3.2.2
Industrial Employment by Zoning Type
Minneapolis, 2000-2020



Driving Forces

Above and beyond the 2001-2004 recession and recovery, a number of long-term trends are impacting the industrial employment trends in Figure 3.2.2. Six trends are important to recognize.

- Dramatic changes in demography that affect demand for goods and services -e.g. population aging, greater ethnic and racial diversity, consumer demand for technology.
- Technology advances. Efficient computer-controlled equipment has automated production, which translates to a shift from lower-skilled operators to higher skilled technicians.
- New global markets. Businesses in Minneapolis once competed with companies in New Jersey and California, and now compete with companies in Brazil and Indonesia.
- Greater emphasis on cost containment and improved efficiency. In an ever increasing competitive environment, businesses that can provide the best product in the fastest time and at the least cost will thrive.

- Industry consolidation. The emphasis on cost containment and efficiency means certain industries will be dominated by a few highly efficient, profitable firms that develop economies of scale.
- Changing regulatory environment. A changing regulatory context impacts employment. Some regulations are more stringent, like environmental regulations. Others are being reduced, like international trade regulations.

3.3 Industrial Jobs Provide Living Wages

Industrial Jobs Often Pay Living Wages

Someone looking for a living wage job will likely find one in the industrial sector. As shown in Figure 3.3.1, businesses in the construction, manufacturing, TTU, and information industries often start their employees at a living wage. For example, 89% of all construction jobs began at a living wage in 2004. Manufacturing and TTU show 63% and 66% of jobs started at living wage in 2004.



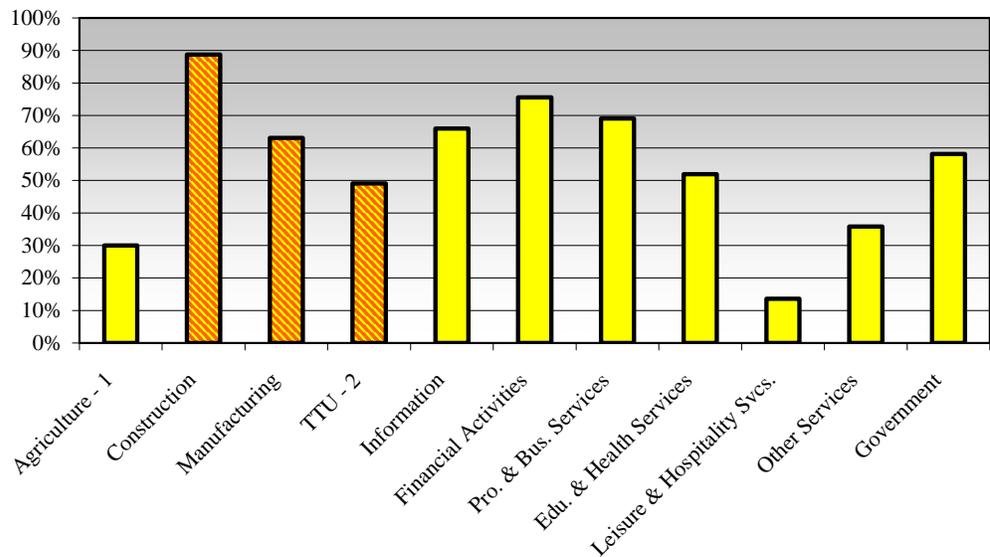
| Figure 3.3.1 | | | |
|--|-----------------------------|---------------------|-------------|
| Percent of Living Wage Jobs Minneapolis & Metro Area, 2004 | | | |
| | <u>Living-Wage Jobs</u> | <u>All Jobs</u> | <u>Pct.</u> |
| City of Minneapolis | | | |
| Agriculture ¹ | 30 | 100 | 30% |
| Construction | 6,630 | 7,470 | 89% |
| Manufacturing | 10,330 | 16,380 | 63% |
| TTU ² | 20,200 | 41,160 | 49% |
| Information | 7,620 | 11,540 | 66% |
| Financial Activities | 25,120 | 33,220 | 76% |
| Pro. & Bus. Services | 37,000 | 53,560 | 69% |
| Edu. & Health Services | 35,730 | 68,780 | 52% |
| Leisure & Hospitality Svcs. | 3,610 | 26,650 | 14% |
| Other Services | 3,870 | 10,790 | 36% |
| Government | 7,470 | 12,840 | 58% |
| Total | 157,610 | 282,491 | 56% |
| 7-County Metro Area | | | |
| Total | 829,487 | 1,561,241 | 53% |
| ¹ Agriculture includes Forestry, Fishing, and Mining. | | | |
| ² TTU includes Trade, Transportation, and Utilities. | | | |
| Sources: MN Department of Employment and Economic Development; US Bureau of Labor Statistics; Maxfield Research Inc. | | | |

Maxfield Research used the 2004 City of Minneapolis living wage of \$9.97 per hour as the delineating factor.

Retail and Service-Based Jobs Are Less Likely to Pay Living Wages

In contrast to the industrial sector, retail and service-based industries are less likely to pay their workers a living wage. In 2004, 14% of jobs in the leisure and hospitality industry started at a living wage. The other services industry shows 36% of jobs start at a living wage.

Figure 3.3.2: Jobs Starting at a Living Wage as Percentage
Minneapolis, 2004



* Striped Industries have the most industrial workers

¹ Agriculture includes Forestry, Fishing, and Mining.

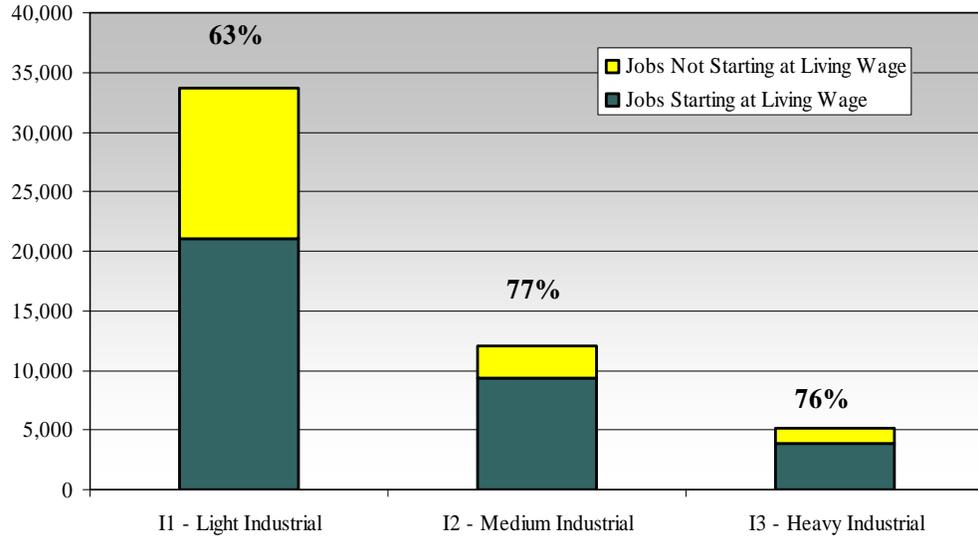
² TTU includes Trade, Transportation, and Utilities.

Among industrial firms, medium and heavy industrial users are more likely to create jobs that start at a living wage. The percentage of I2 and I3 jobs that pay a living wage is 77% and 76% respectively. The percentage of I1 jobs that pay a living wage is 63%.



See Figure 3.3.3 below.

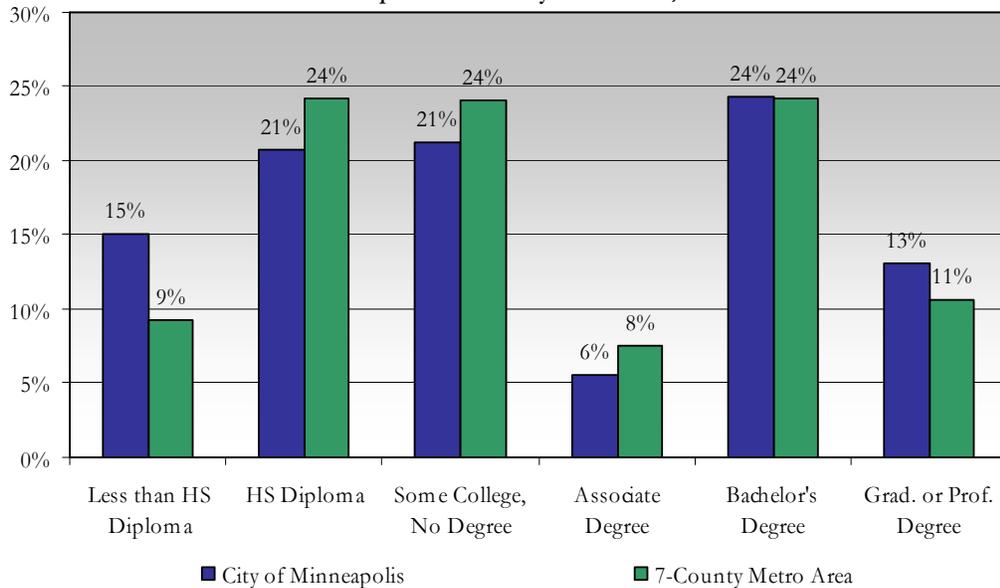
Figure 3.3.3: Estimated Number of Jobs Starting at a Living Wage, 2004



3.4 Industrial Jobs Are Available to People with Modest Levels of Education

Minneapolis has a significant number of residents with a high school diploma (G.E.D.) or less. As shown in Figure 3.4.1, over 87,000 residents (36%), age 25 and older, did not receive a formal education beyond high school in 2000.

**Figure 3.4.1
Educational Attainment for Population Age 25 and Older
Minneapolis & 7-County Metro Area, 2000**

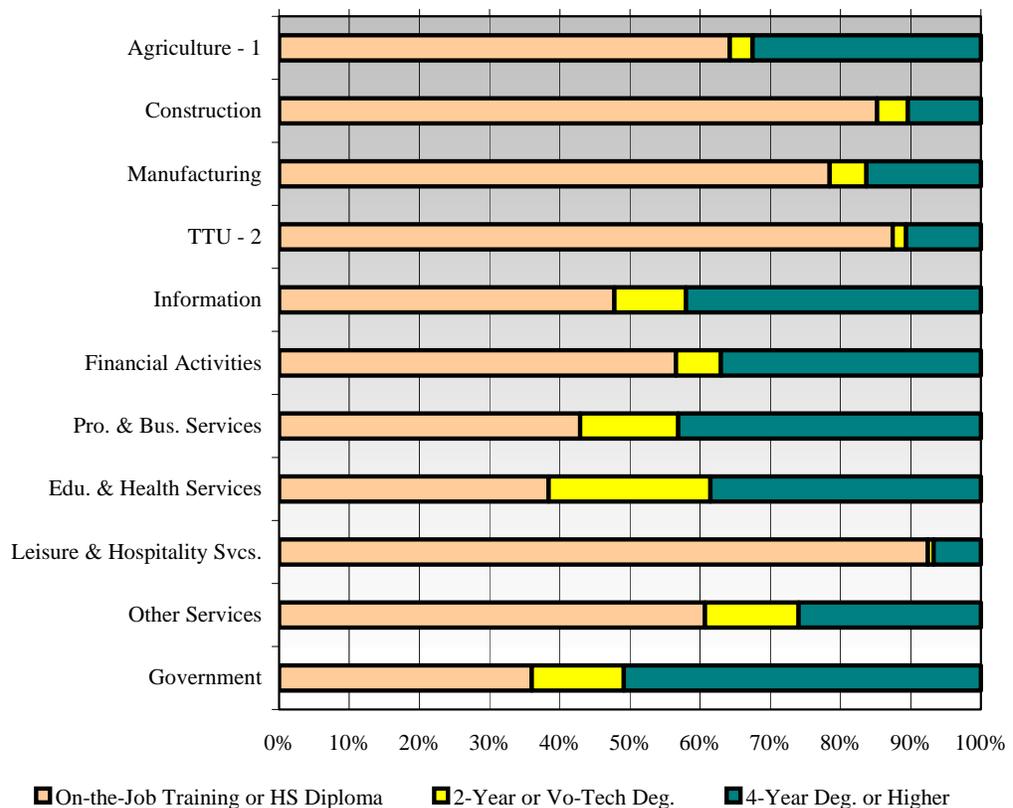


The prospects of finding a living wage job for these workers are declining. High-wage industries, such as professional and technical services, frequently require a college degree for entry-level positions. Retail and service-based industries hire people without a college degree but are less likely to pay a living wage. That leaves the industrial sector.

Figure 3.4.2 shows the percentage of jobs within each industry that require on-the-job training or a high school diploma, 2-year degree or vocational/technical degree, and 4-year degree or higher. Construction; Manufacturing; Transportation, Trade, and Utilities; and Leisure and Hospitality Services offer the greatest percentage of jobs to workers with less than a 4-year degree.

In 2004, Minneapolis industrial employment accounted an estimated 27% (44,700) of jobs requiring on-the-job training or high school diploma and 13% (4,100) of jobs requiring a 2-year or vocational technical degree.

Figure 3.4.2: Entry Education Level Requirements by Industry



¹ Agriculture includes Forestry, Fishing, and Mining.

² TTU includes Trade, Transportation, and Utilities.

3.5 Industrial Jobs Go To Minneapolis Residents

1 in 2 Residents Work in Minneapolis

About one in two residents work in the City. According to Census commute-shed data, over 111,000 people both live and work in the City of Minneapolis, making up 51% of the labor force. This statistic is partially explained by Minneapolis' position as a metro employment center. The number of people working in Minneapolis is simply larger than Minneapolis' population.

CPED currently works to increase resident employment at companies that receive city subsidies. Under the City's living wage policy, one living wage job must be created for every \$25,000 in assistance and Minneapolis residency is preferred in filling the mandated jobs.

If the employer is exempted from the living wage policy, the City develops a five-year job linkage agreement to establish goals for living wage job creation. The Minneapolis Employment and Training Program then works with the employer to fill the open positions.

Industrial Workers Live in Minneapolis

Commute-shed data by industry or occupation is difficult to obtain. Non-disclosure rules hamper the development of summary statistics from Census commute-shed data.

In place of summary figures, mapping commute-shed Census data for each analysis area presents a picture of whether industrial users hire local residents. Commercial and residential uses also exist on area parcels, so some workers in each analysis area are employed by non-industrial businesses.



Industrial User in Area III – Mid-City/SEMI

Industrial employers provide a similar indication. Maxfield Research conducted a survey of industrial employers during the course of the Industrial Land Use Study research program. Survey results show 42% of employers stated that 40% or more of their employees live in Minneapolis.

Many employers commented they hire Minneapolis residents, but the workers relocate outside Minneapolis. As income and purchasing power rise, households

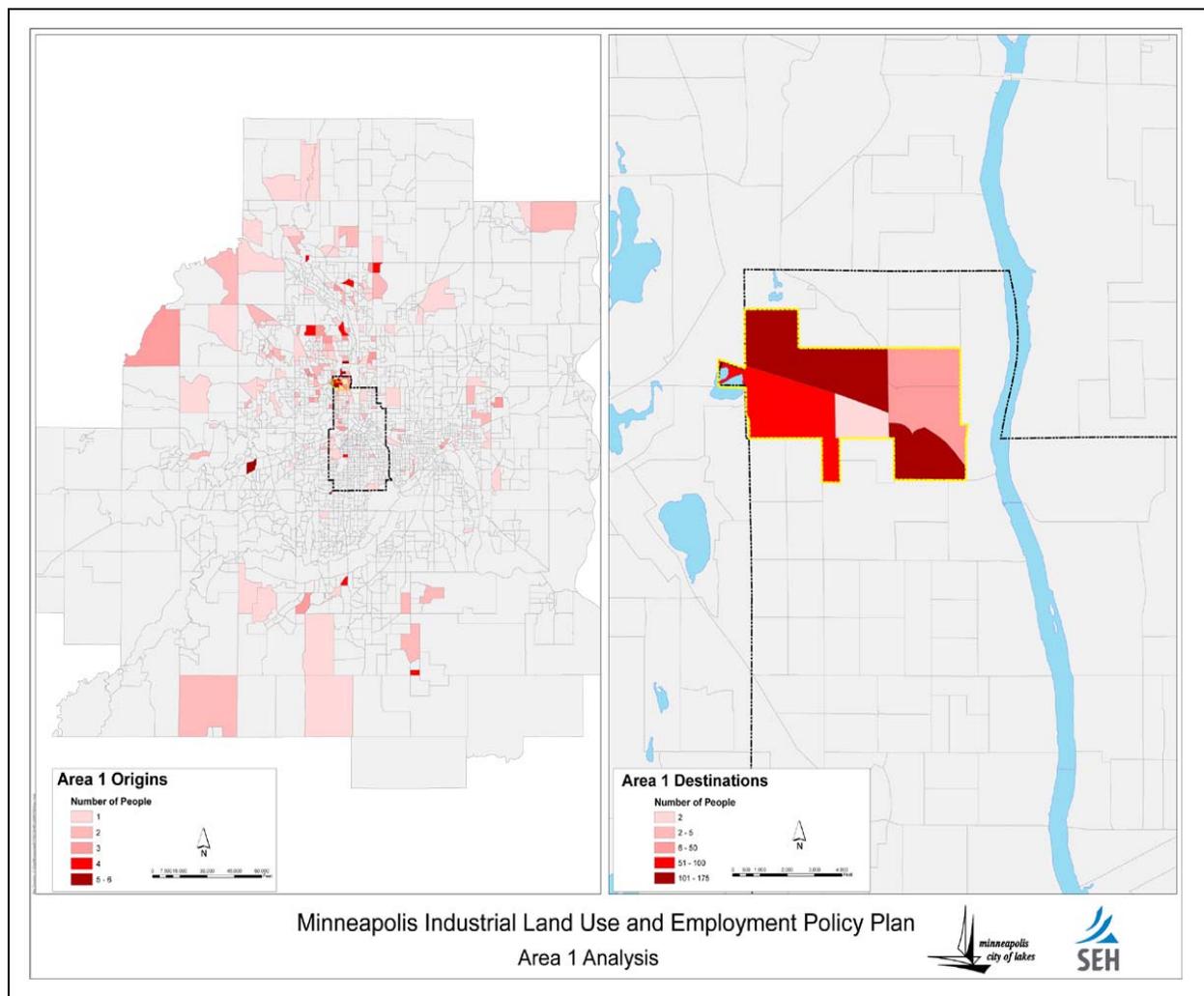
often look to suburban locations for less expensive home and land prices. The same households may also perceive a suburban school district is better and neighborhoods less impacted by crime. Employers simply want good workers.

Area I – Humboldt

The map below shows that Minneapolis residents work in Area I - Humboldt. Looking at the left-hand side –the origins map- a darker red color indicates a higher density of people originate from that location.

The origins map shows a focal density of workers living in the analysis area. In addition, the neighborhoods immediately surrounding it show a pink hue, indicating 1-3 workers live in the area.

The right-hand side –the destinations map- shows the northwestern and southwestern quadrants have the highest job density.





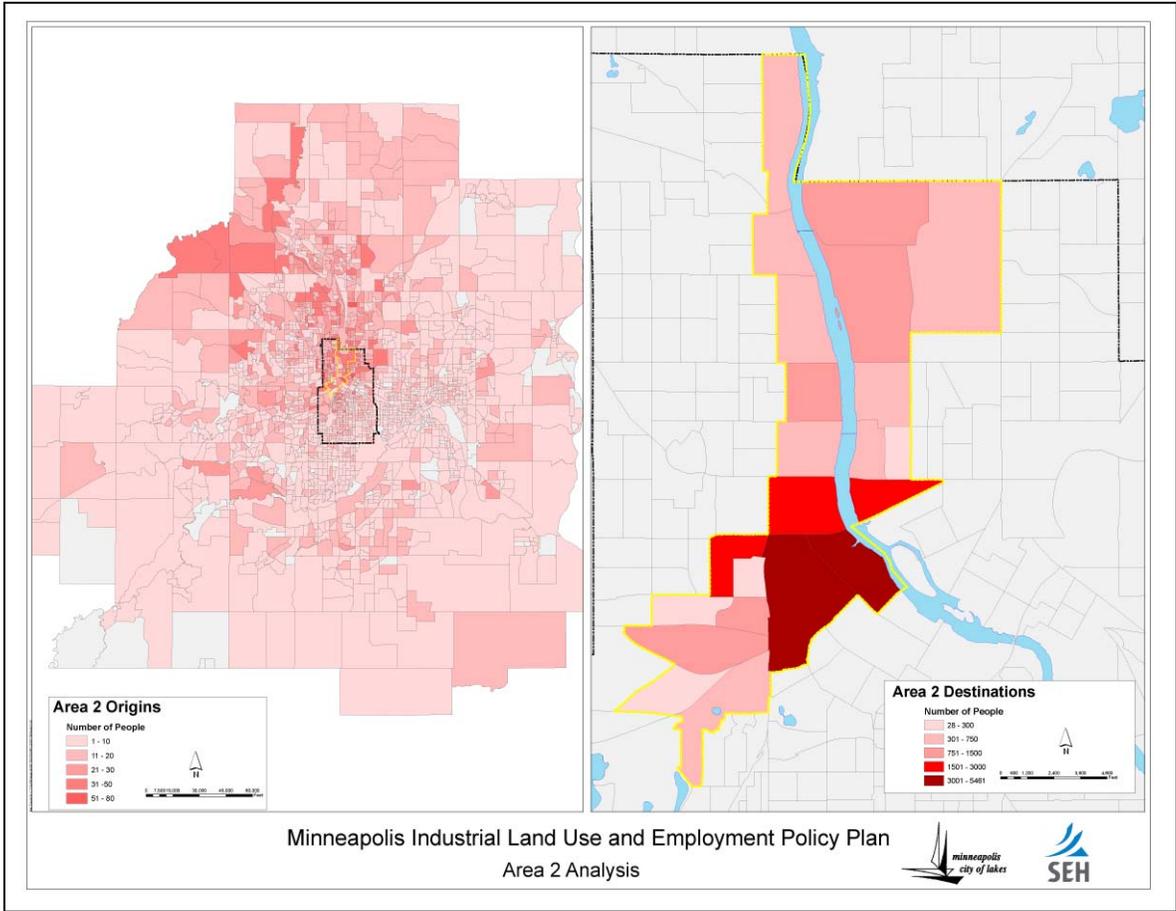
Area I - Humboldt

Area II – Near North/Upper River

A high density of residents lives and works in Area II and adjacent north and northeast neighborhoods. The red shading indicates the density of Area II workers that live in a geographic location. Darker shades of red indicate that 31-50 and 51-80 people reside in the corresponding census tract and work in Area II.

The map below indicates that Area II is a major regional employment center. Workers come from throughout the Metro Area. People who work in Area II are choosing to live in Minneapolis, St. Paul, and the suburbs. A noticeable portion of Area II workers live in the northwest metro suburbs, again where land prices are more affordable.

The portions of Area II in the Central Business District show the highest job density, although the North Washington Jobs Park also displays the second highest job density.





Area II – Near North/Upper River

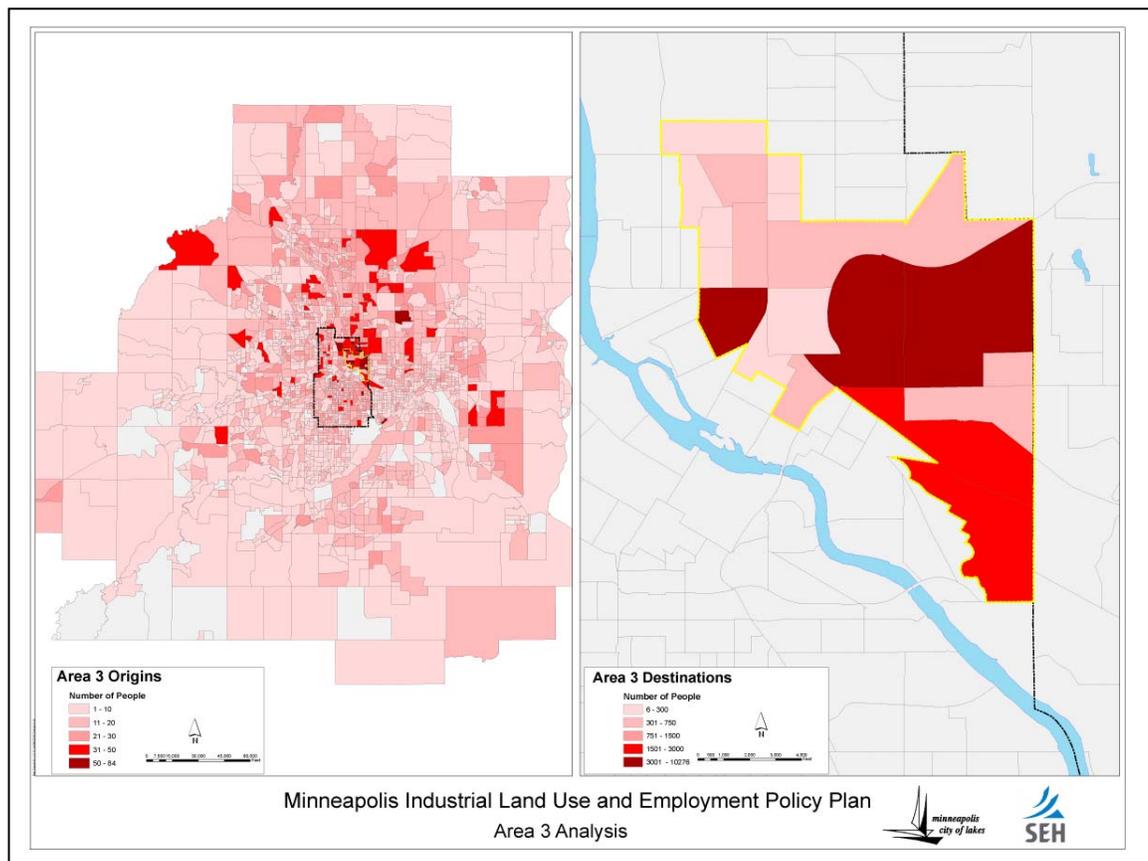
Area III - SEMI & Mid-City

The analysis area itself, northeast, and southeast Minneapolis neighborhoods all have a high density of residents that work in Area III. Census tracts nearby show ranges of 31-50 and 50-84 workers.

Area III is also a significant regional employment center. Workers come from all over the Metro Area. The red shading in the map below is spread across Minneapolis, St. Paul, and the immediate suburbs.

Likely due to the higher-income occupations in SEMI, Census tracts in more expensive suburbs east of St. Paul and in the southwest metro have 31-50 workers residing there.

The highest job density within Area III is Mid-City and the area southwest of the intersection between Broadway and Central Avenues.



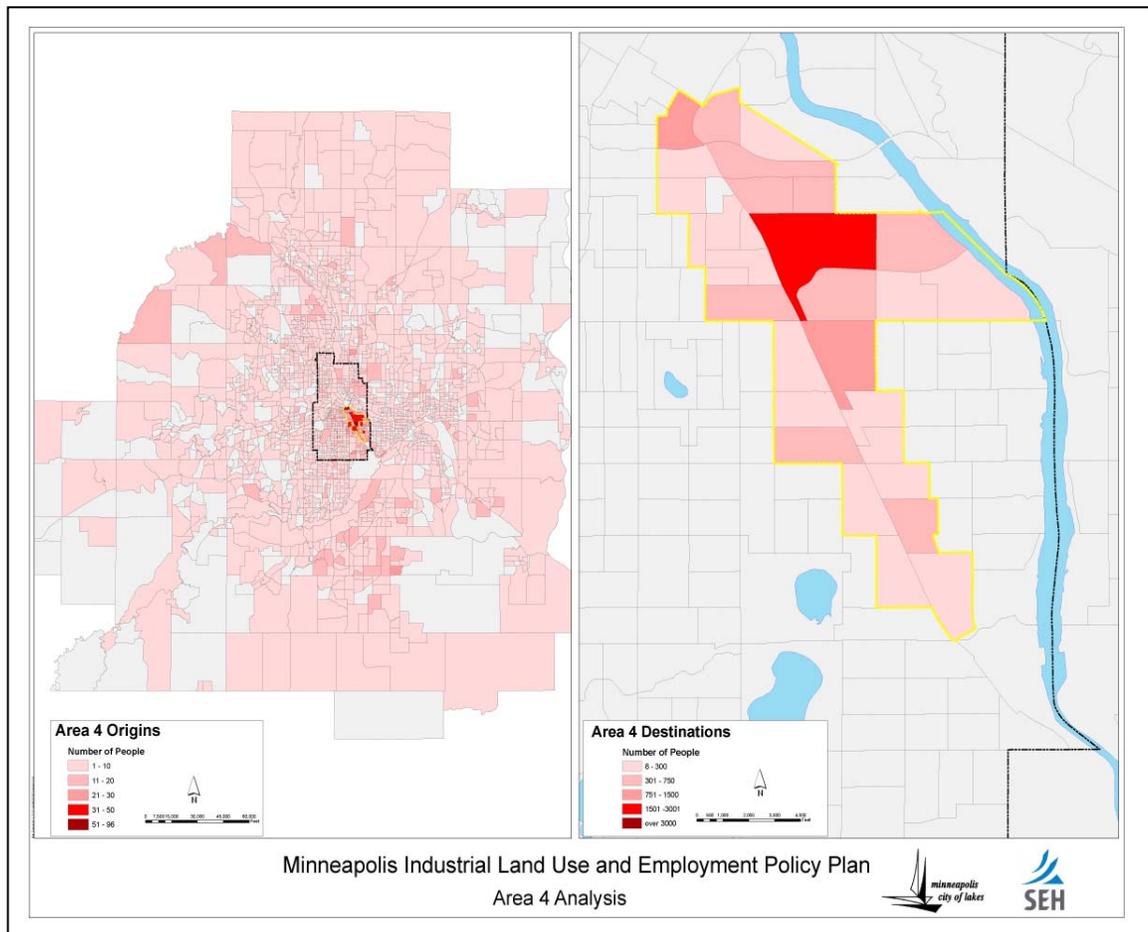
Area III SEMI & Mid-City



Area IV – Hiawatha/Midtown Corridor

Area IV shows a considerable concentration of workers who live within the analysis area or nearby Minneapolis neighborhoods. Census tracts in the immediate neighborhoods -such as Corcoran, Longfellow, and Seward- show 31-50 and 51-96 workers also live there. Our commute-shed analysis only considers the Hiawatha Corridor, and does not examine the Midtown Corridor.

Area IV is a regional employment center like the other analysis areas. Workers are dispersed throughout the metro area.





Area IV – Hiawatha/Midtown Corridor

3.6 Employment Density

To further analyze industrial land use in Minneapolis, Maxfield Research examined employment per acre for industrial employers. We used data purchased from InfoUSA combined with data from the Minneapolis Assessors Office. Because there were some small numbers of employers that could be successfully matched with parcels, other employment density studies were reviewed.

Figure 3.6.1 shows the employment per acre for industrial employers in Minneapolis, along with similar data from other studies throughout the country. The data shows that the average acre of industrial in Minneapolis, for all industries and property types, has about 34 employees. Information industries typically have the most employees per acre, while transportation and warehousing industries have the fewest employees per acre.

**FIGURE 3.6.1
ESTIMATED EMPLOYMENT PER ACRE
INDUSTRIAL ZONED INDUSTRIES**

| | Assessor/ InfoUSA Data Mpls ¹ | Puget Sound Study ² | | Portland Study ³ | So. California Study ⁴ | Rhode Island Study | Final Estimate Mpls |
|------------------------------|--|-----------------------------------|---------|--------------------------------|---|--------------------------|---------------------------|
| | | Round 1 | Round 2 | | | | |
| Utilities | 42 | 28 | 22 | 35 | 20 | 30 | 40 |
| Construction | 30 | 32 | 36 | 27 | 18 | 5 | 30 |
| Manufacturing | 27 | 27 | 30 | 23 | 15 | 20 | 30 |
| Wholesale Trade | 20 | 27 | 33 | 11 | 17 | 6 | 20 |
| Trans. & Warehousing | 14 | 28 | 22 | 5 | 20 | 10 | 15 |
| Information | 64 | 28 | 22 | 35 | 20 | 40 | 60 |
| Real Estate, Rental, Leasing | 7 | 26 | 28 | 43 | 33 | 125 | 20 |
| Prof. & Tech Svcs. | 64 | 27 | 26 | 21 | 33 | 62 | 60 |
| Other Services | 50 | 27 | 26 | 21 | 25 | 62 | 50 |
| All Industries | 34 | | | | | | 34 |

1. Because of small sample sizes and large outliers, median values are used. Industries do not match exactly; all other studies used SIC coded industries, where this data is NAICS industry coded.
2. Published as square foot per employee; adjusted to employee per acre by Maxfield Research Inc.
3. Published as building square foot per employee; adjusted to employee per acre by Maxfield Research Inc. based on published FARs.
4. Published by land use type; adjusted by Maxfield Research Inc., based on published tables showing land use by industry.

Sources: Pflum; Yee and Bradford; Natelson Company Inc.; Rhode Island Statewide Planning Program; Maxfield Research Inc.

How does these employment densities compare with other uses? This analysis is somewhat limited because only industrial employers were selected for the study. However, it is safe to say that on average industrial uses have fewer employees per acre than other commercial uses, such as office and retail.

3.7 Industry Clusters in Minneapolis

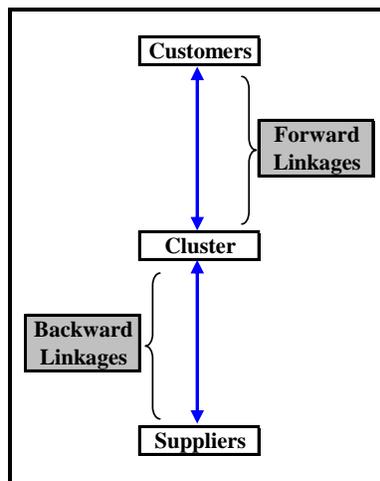
In July 1995, the State and Local Policy Program (SLPP) at the University of Minnesota's Humphrey Institute for Public Affairs released a study of industry clusters in Minneapolis, Minnesota.

The study used location quotients to identify industry clusters in the region. Location quotients are ratios of an industry's employment in an area relative to that industry's employment nationally. A location quotient above one is a generally agreed-upon indicator of economic competitiveness.

The 1995 study identified four industry clusters: printing and publishing, computers and software, medical devices, machinery and metalworking.

The industry clusters identified in the 1995 study continue to exist. Almost all the industries in the four clusters show location quotients above one.

Maxfield Research verified the presence of these four industry clusters and identified additional clusters through a two-step process that combined location quotient and input-output analysis. As shown in the diagram below, input-output analysis measures forward and backward linkages between industries.



What are Industry Clusters?

Industry clusters emerged in the early 1990's as a way of explaining the competitive advantages of a specific location. Although cluster analysis has longstanding roots, Michael Porter at Harvard University formulated and popularized the idea of industry clusters. In short, clusters are linked industries and institutions that foster economic competitiveness and job growth.

Industry Cluster Initiatives

States, counties, and cities have utilized cluster studies and launched business assistance programs tailored to industry clusters. A cluster approach to business assistance is followed in at least 18 states and 18 cities or regions - cities such as Austin, Cincinnati, Los Angeles, New York, San Diego, and Tampa.¹

Businesses and governments frequently target resources to meet the needs of the established or emerging clusters.

However, the impact of cluster-based targeting programs is undetermined. Regardless, the City of Minneapolis requested this study evaluate the presence of industry clusters.

The four clusters and example industries are presented below in Figure 3.7.1. Metal and Machinery, Printing and Publishing, and Medical Devices Clusters are predominately comprised of industrial land users. The Computers and Software Cluster contains many industries that are not permitted users of industrial land under the City of Minneapolis zoning code.

| Figure 3.7.1 | |
|--|--|
| Industry Clusters in Minneapolis, 1998-2002 | |
| Metal and Machinery Cluster | |
| Navigational, Measuring, Electromedical and Control Instruments Manufacturing Coating, Engraving, Heat Treating, and Allied Activities Turned Product and Screw, Nut, and Bolt Manufacturing | |
| Printing and Publishing Cluster | |
| Newspaper, Periodical, Book, and Database Publishers Commercial Lithographic Printing Support Activities for Printing | |
| Medical Devices Cluster | |
| Navigational, Measuring, Electromedical and Control Instruments Manufacturing Medical Equipment and Supplies Manufacturing Medical, Dental, and Hospital Equipment and Supplies Wholesalers | |
| Computers and Software Cluster | |
| Computer Systems Design and Related Services Information Services and Data Processing Services Computer and Computer Equipment Manufacturing | |
| Source: U.S. County Business Pattern Data 1998-2002; Implan Customized Dataset 2004. Maxfield Research Inc. | |

Maxfield Research identified a number of potential clusters in addition to those singled out in the 1995 study: Advertising and Telecommunications; Arts; Finance, Insurance, and Real Estate; Professional and Technical Services; Health Care; Utilities. Of these additional clusters, Advertising and Telecommunications, Arts, Professional and Technical Services, Health Care, and Utilities have the potential to use industrial-zoned land.

Employment, location quotient, and forward/backward expenditure data for the four clusters in Figure 3.7.1 can be found in the technical document. Data on the additional potential clusters can be made available upon request.

3.8 Industrial Scorecard: A New Way of Looking at Industrial Businesses & Demand

Three Segments

Each industry's employment in Minneapolis, projected job growth, proportion of living wage jobs, average job density, and required educational attainment is presented by industry in the *Industrial Scorecard* in Appendix A. Also included is whether or not the industry has been identified in one of the clusters in the previous section.

Three segments of industrial businesses emerge when we take the above observations and look at the industry-level: *21st Century* industrial jobs; *Opportunity* industrial jobs; *Run of the Mill* industrial jobs. The critical grouping components are required educational attainment and percentage of jobs starting at a living wage.

Two key points to consider:

- 1) These are groupings based on general characteristics, analyzed from national and Metro Area employment data and aggregated to better understand how these employers provide economic benefits to Minneapolis. Not all employers in these industries share these characteristics.
- 2) The City must continue to stay abreast of industry trends for the *Industrial Scorecard* to remain relevant.

21st Century Industrial Jobs

These industries have higher percentages of jobs requiring a four-year degree along with higher percentages of jobs starting above a living wage. In general, *21st Century* industrial jobs are the production part of the knowledge-based economy. They are industrial jobs linked to scientific and University-based research. While many of the jobs in these industries require four-year degrees, significant portions require two-year and technical degrees.

21st Century industrial employers have higher employment densities for their job sites than other industrial users. Shown in Appendix A, the average number of employees per acre for these industries is 44, compared to 28 for *Opportunity* employers and 27 for *Run of the Mill* employers.

These industries often require workers with specialized training in technical methods of production. *21st Century* industrial jobs can often have spillover effects into other industries, as all industries require greater technological training for workers.

21st Century industries can be characterized by higher projected growth rates, although many of the *21st Century* industries shown in Appendix A actually show negative growth rates, primarily due to contractions in the semiconductor and computer manufacturing industries. Higher employment growth rates can have positive economic benefits for the Minneapolis and regional economy as new workers are recruited from the area to develop new skills and new workers with higher skill levels are attracted to the area.

Examples of *21st Century* industrial jobs include:

- Navigational, Measuring, Electro-medical, and Control Instruments Manufacturing
- Pharmaceutical and Medicine Manufacturing
- Scientific Research and Development Services
- Architectural, Engineering, and Related Services
- Communications Equipment Manufacturing
- Land Subdivision
- Wireless Telecommunications Carriers (except Satellite)
- Telecommunications Resellers
- Railroad Rolling Stock Manufacturing
- Manufacturing and Reproducing Magnetic and Optical Media
- Aerospace Product and Parts Manufacturing

Because of the University of Minnesota and its many hospitals and health care facilities, Minneapolis is in a unique position to attract *21st Century* employers, and should dedicate resources to accommodating the specialized needs of these industries.

Opportunity Industrial Jobs

Opportunity industrial jobs are characterized by a smaller percentage of jobs requiring a four-year degree and a larger percentage of jobs starting at a living wage. Many of the jobs in these industries require two year or vocational technical degrees. Others require three-year apprenticeship programs in conjunction with class room training.

In general, *Opportunity* employers tend to have lower land density, especially in comparison to *21st Century* employers.

Opportunity industrial jobs provide economic benefits because they can elevate the economic status of workers who may not have the opportunity to attend a four-year institution. These jobs often provide workers with entry level positions where they can continue to develop skills and move up economically.

Opportunity employers interviewed for this study pointed out that they often provide excellent benefit packages along with higher wages.

Examples of *Opportunity* industrial jobs include:

- Building Equipment Contractors
- General Freight Trucking
- Foundation, Structure, and Building Exterior Contractors
- Building Finishing Contractors
- Medical Equipment and Supplies Manufacturing
- Electrical and Electronic Goods Merchant Wholesalers
- Other Wood Product Manufacturing
- Plastics Product Manufacturing
- Wholesale Electronic Markets and Agents and Brokers
- Nonresidential Building Construction
- Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers
- Residential Building Construction
- Freight Transportation Arrangement
- Machinery, Equipment, and Supplies Merchant Wholesalers
- Other General Purpose Machinery Manufacturing
- Other Specialty Trade Contractors
- Specialized Freight Trucking
- Metalworking Machinery Manufacturing
- Lumber and Other Construction Materials Merchant Wholesalers
- Metal and Mineral (except Petroleum) Merchant Wholesalers
- Office Furniture (including Fixtures) Manufacturing
- Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing
- Commercial and Service Industry Machinery Manufacturing
- School and Employee Bus Transportation
- Cement and Concrete Product Manufacturing

Run of the Mill Industrial Jobs

This grouping of industrial employers and industries offers lower percentages of jobs to workers with four-year or higher degrees but also has lower percentages of jobs starting at a living wage.

As with *Opportunity* industrial employers, *Run of the Mill* industrial employers have lower employment densities.

Run of the Mill employers provide needed employment opportunities for workers and valued goods and services to their customers. However, these employers do not offer the same level of economic benefits to the City, and, where industrial land is in short supply, should have less priority over industries that do provide higher benefit levels.

Examples of *Run of the Mill* industries include:

- Couriers
- Warehousing and Storage
- Grocery and Related Product Wholesalers
- Textile and Fabric Finishing and Fabric Coating Mills
- Apparel Accessories and Other Apparel Manufacturing
- Greenhouse, Nursery, and Floriculture Production
- Other Textile Product Mills
- Other Food Manufacturing
- Miscellaneous Nondurable Goods Merchant Wholesalers
- Fruit and Vegetable Preserving and Specialty Food Manufacturing

3.9 Industrial Demand Estimates

How much industrial land will be needed in Minneapolis? Given changes in employment, will industrial employers seek land in Minneapolis? Does the changing economy mean a decline in demand for industrial real estate? What is a reasonable amount of industrial land in the City?

Answers to these questions are critical in outlining an industrial policy for Minneapolis. Two methodologies were used to estimate demand for industrial land in Minneapolis. The first methodology looks at Minneapolis' industrial base and applies metro growth rates to estimated demand for industrial acreage in the City between 2002 and 2012. The second methodology estimates demand for industrial acreage in the Metro Area between 2002 and 2012 and then estimates demand in Minneapolis by applying a capture rate. The capture rate was estimated using past absorption rates for Minneapolis compared to the rest of the Metro Area.

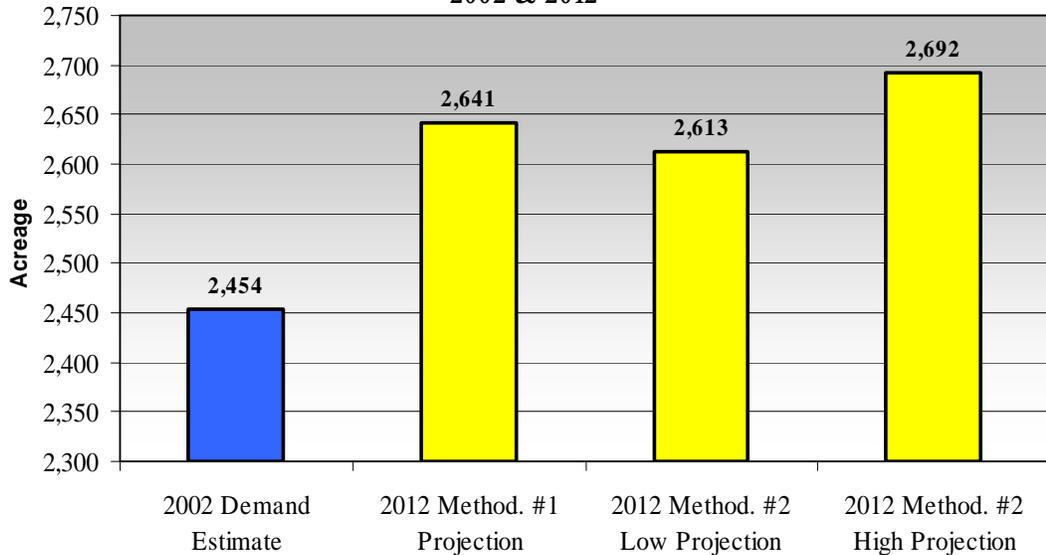
Figure 3.9.1 shows the demand estimates using the first methodology along with both the low and high estimates using the second methodology. The demand estimates show an increase in the demand for industrial acreage of between 158 and 237 acres over the period.

These estimates should not be viewed as precise estimates. There are many factors that could have dramatic effects on the estimates, such as economic shocks to the national economy, significant land use changes in Minneapolis or elsewhere in the Metro Area, or one or two large employers either leaving the City or choosing to

relocate to the City. These estimates should be viewed as estimates only. (For more detail on the demand estimates, please see the Technical Report.)

However, that said, the estimates show that based on industry projections for the region and the land use assumptions, there will be demand for industrial land in the City in the next ten years.

Figure 3.9.1
Demand Estimates, Industrial Land in Minneapolis,
2002 & 2012



Summary

The industrial sector is significant but contracted. The 2000-2004 period affected the overall local economy, but industrial employment especially suffered. Employment projections show a recovery, but an industry and zoning shift is expected to take place among industrial businesses. The shift will be expected to take Minneapolis away from heavy industrial users, such as manufacturing industries, toward light and medium industrial users like transportation and warehousing industries.

Industrial jobs pay living wages, while incomes in many retail and service industries are below a living wage. Industrial jobs are also available to people with modest levels of education, and Minneapolis residents appear to work at industrial jobs. Taken together, industrial jobs provide economy opportunity to Minneapolis residents whose job prospects are made difficult in a global economy.

Four industry clusters exist in Minneapolis: printing and publishing, computers and software, medical devices, machinery and metalworking. Maxfield Research identified a number of potential clusters in addition to those singled out by an earlier study.

The *Industrial Scorecard* presents industry's employment in Minneapolis, projected job growth, percentage of living wage jobs, average job density, four-year degree requirement, and estimated Metro Area demand.

Based on industry projections for the region and the land use assumptions, there will be demand for industrial land in Minneapolis over the next ten years.

Public Input and Participation

This section summarizes information gathered through neighborhood meetings, focus group sessions with industrial businesses, real estate brokers, and other professionals involved with industry and through a survey of industrial employers.

A first set of public meetings was held in Fall 2005 to solicit input and information from neighborhood residents and local industrial businesses regarding industrial land uses in their areas. Meetings were held in four areas:

- Humboldt/Camden Area
- Upper River/Near North
- Mid-City/SEMI
- Hiawatha Corridor/Midtown Greenway

An additional meeting was held in the Upper River/Near North Area and in the Hiawatha Corridor/Midtown Greenway due to low attendance at the initial meeting.

A second set of public meetings was held in Spring 2006 to present initial study findings and to solicit feedback and additional input from neighborhood residents and businesses regarding the findings. Meetings were held in the following areas:

- Humboldt/Camden
- Upper River/Near North
- Mid-City/SEMI
- Hiawatha Corridor/Midtown Greenway
- Downtown Core

Four focus group sessions were held with local industrial employers and businesses located in industrial areas. Input was solicited regarding businesses' ability to

expand in the City, reasons for locating in Minneapolis, ability to upgrade their facilities, ability to work with the City on changes to their sites, types of jobs provided, where workers live, worker mobility and skill levels, among other topics.

A focus group session was held with local real estate brokers to solicit input on industrial user needs, types of spaces desired, location attributes of Minneapolis, demand for industrial land, among other topics.

Summary of Public Meetings

Fall Session

The Fall 2005 public meetings focused on gathering input from residents and businesses regarding industrial uses in their local areas. Responses were diverse but in general, some patterns emerged from these sessions.

Residents and businesses were most often concerned about conflicts between residential areas and business locations. Conflicts mentioned included the following items:

Visual Aesthetics/Operations

Noise

Land and Air Contamination

Health Concerns resulting from Contaminants

Heavy Truck Traffic in Residential Areas

Maintenance of Outside Storage Areas and Visual Attractiveness of Industrial Users

Deferred Maintenance of Buildings

Economic Issues

Does the business provide living wage jobs to local residents?

From where are employees hired?

Where do employees live?

What is the value added of industrial businesses?

What will our economic landscape look like in 30 years and how will it affect industrial businesses?

Concerns about retaining high paying jobs in Minneapolis neighborhoods

Land Use/Planning Issues

Do not want heavy industrial uses in our neighborhoods

Prefer a focus on light industrial and medium industrial uses

Concerns about low density of industrial uses, poor land utilization

Concerns about suburban-looking buildings in urban industrial districts

Concern about condominiums pushing out businesses in some areas

Concern about preserving locations for atypical users that do not “fit” in other areas (ex. Artists working in heavy materials, veterinary clinics, stone cutting/fabrication)

Spring 2006

The Spring 2006 sessions solicited feedback from residents regarding the study findings and preliminary recommendations.

Most of the comments received from participants supported the findings and recommendations, but additional questions and concerns were raised regarding:

- Preservation of areas to accommodate artists and other creative workers whose work requires a location with industrial zoning and incorporating opportunities for live/work settings in those areas.
- The lower densities of existing suburban-style industrial buildings;
- Types of uses allowed in industrial zoning (including churches and schools);
- The level of demand for industrial space in the City;
- The ability to develop multi-story industrial buildings rather than sprawling single-story structures;
- Fiscal impacts of this analysis;
- The amount of industrial acreage lost over the past ten years;
- The effect of the study recommendations on the current small area plans;
- Concerns by some residents in transition areas that there will always be some industrial uses in the neighborhood.
- How will the study recommendations change current city processes?
- How will we measure the outcomes from implementation of the study recommendations?

Employer Focus Groups

Employers’ issues centered on the expansion, operations and employment issues they face. Most of those that attended the sessions felt strongly about continuing to operate in the City of Minneapolis. Several stated that they had investigated

moving to other locations, but in the end decided to remain in Minneapolis for several reasons including:

- Central location
- Close proximity to customers
- Close proximity to sizeable labor pool

Employers also identified several challenges to remaining at their current locations including:

- No expansion space or other suitable location;
- Zoning and code requirements that inhibit expansion;
- Increasing land prices are pushing industrial businesses out of locations where condominiums are being developed;
- Do try to hire Minneapolis residents but more importantly, want to hire good qualified employees;
- Feel as though the planning process generally excludes businesses;

Employer Survey

Maxfield Research Inc. completed a survey of industrial businesses in Minneapolis. A total of 247 responses were received from 651 contacts made for an overall response rate of 38%. The following table shows the response rates by individual areas (Zones correspond to the analysis areas):

ZONE

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | Zone 1 | 7 | 2.8 | 2.8 | 2.8 |
| | Zone 2 | 102 | 41.3 | 41.3 | 44.1 |
| | Zone 3 | 73 | 29.6 | 29.6 | 73.7 |
| | Zone 4 | 65 | 26.3 | 26.3 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

68% of respondents stated they had been involved in the decision to locate the business at its current location; more than 99% indicated they would be involved in any decision to remain or relocate the business today.

3 Altogether, how many years has the company been in business?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------------|-----------|---------|---------------|--------------------|
| Valid | 1 1 to 19 years | 70 | 28.3 | 28.3 | 28.3 |
| | 2 20 to 30 years | 61 | 24.7 | 24.7 | 53.0 |
| | 3 31 to 50 years | 55 | 22.3 | 22.3 | 75.3 |
| | 4 51 to more years | 61 | 24.7 | 24.7 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

The number of businesses responding to the survey was weighted fairly evenly across all age categories with a slightly higher percentage for companies that had been in business less than 20 years.

4 And, how many years at your current Minneapolis location?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------------------|-----------|---------|---------------|--------------------|
| Valid | 1 Less than a year to 5 years | 53 | 21.5 | 21.5 | 21.5 |
| | 2 6 to 14 years | 64 | 25.9 | 25.9 | 47.4 |
| | 3 15 to 24 years | 56 | 22.7 | 22.7 | 70.0 |
| | 4 25 or more | 74 | 30.0 | 30.0 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Again, there was a relatively even weighting of how long businesses had been at their current Minneapolis location with a somewhat higher proportion of businesses at their current location for 25 years or more.

5 Is your company engaged mostly in:

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------------|-----------|---------|---------------|--------------------|
| Valid | 1 Manufacturing | 81 | 32.8 | 32.8 | 32.8 |
| | 2 Printing | 17 | 6.9 | 6.9 | 39.7 |
| | 3 Construction | 35 | 14.2 | 14.2 | 53.8 |
| | 4 Service Business | 83 | 33.6 | 33.6 | 87.4 |
| | 5 Other: (type) | 31 | 12.6 | 12.6 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Most of the respondents are engaged in either manufacturing or service businesses which comprised 66% of the total responses.

6 Is the total size of your facility at this Minneapolis location...

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--|-----------|---------|---------------|--------------------|
| Valid | 1 Less than 25,000 square feet | 148 | 59.9 | 59.9 | 59.9 |
| | 2 Between 25,000 but less than 50,000 sq. ft. | 47 | 19.0 | 19.0 | 78.9 |
| | 3 Between 50,000 but less than 75,000 sq. ft. | 18 | 7.3 | 7.3 | 86.2 |
| | 4 Between 75,000 but less than 100,000 sq. ft. | 8 | 3.2 | 3.2 | 89.5 |
| | 5 More than 100,000 sq. ft. | 19 | 7.7 | 7.7 | 97.2 |
| | 6 Don't know | 7 | 2.8 | 2.8 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Nearly 79% of those responding are operating in less than 50,000 square feet, with the majority (60%) operating in less than 25,000 square feet; nearly 8% of respondents is operating in more than 100,000 square feet.

7 Altogether, how many people does your firm employ at the Minneapolis location?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------------------|-----------|---------|---------------|--------------------|
| Valid | 1 1 to 7 employees | 54 | 21.9 | 21.9 | 21.9 |
| | 2 8 to 13 employees | 74 | 30.0 | 30.0 | 51.8 |
| | 3 14 to 30 employees | 60 | 24.3 | 24.3 | 76.1 |
| | 4 31 or more employees | 59 | 23.9 | 23.9 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Total employment among respondents was very similar with between 24% and 30% of respondents falling into the four employment categories. The highest number of respondents (74) employed between 8 and 13 employees. About 24% employed 31 or more employees.

8 Which of these categories best describes the company's annual revenue:

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------------------------|-----------|---------|---------------|--------------------|
| Valid | 1 Less than \$1 Million | 53 | 21.5 | 21.5 | 21.5 |
| | 2 \$1 Million to \$5 Million | 101 | 40.9 | 40.9 | 62.3 |
| | 3 Over \$5 Million to \$20 Million | 54 | 21.9 | 21.9 | 84.2 |
| | 4 Over \$20 Million to \$50 Million | 14 | 5.7 | 5.7 | 89.9 |
| | 5 More than \$50 Million | 10 | 4.0 | 4.0 | 93.9 |
| | 6 Don't know/Refused | 15 | 6.1 | 6.1 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Most of the companies responding have annual business revenue of between \$1 and \$5 million, which is 42%. The second highest categories were virtually tied between Less than \$1 million (21.5%) and Over \$5 million to \$20 million (21.9%).

Companies were asked to identify the top three reasons for choosing their current business location and then were asked to identify the single most important reason.

Among both questions, responses were generally similar. Top responses were:

Top three reasons for choosing current location:

Central, convenient location: 74 responses
 Convenient freeway access 39 responses
 Close proximity to customers 31 responses
 Close proximity to owner’s home 16 responses
 Low/reasonable costs for space 14 responses

Single, most important reason for choosing current location:

Central Location 38 responses
 Needed More Space 35 responses
 Low/Reasonable Costs for Space 34 responses
 Space well-suited to operations 17 responses
 Close proximity to Customers 12 responses

11 Is the business considering a move to a new location any time in the future?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------|-----------|---------|---------------|--------------------|
| Valid | 1 Yes | 37 | 15.0 | 15.0 | 15.0 |
| | 2 No | 177 | 71.7 | 71.7 | 86.6 |
| | 3 Maybe | 30 | 12.1 | 12.1 | 98.8 |
| | 4 Don't know | 3 | 1.2 | 1.2 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Most businesses that responded indicated they were not planning to move in the future. As shown on the table, only 15% of businesses said they were considering a move.

14 If your company moves from your current location, will that probably be in...

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 1 Less than two years | 23 | 9.3 | 34.3 | 34.3 |
| | 2 2 to 3 years | 27 | 10.9 | 40.3 | 74.6 |
| | 3 4 to 5 years | 7 | 2.8 | 10.4 | 85.1 |
| | 4 More than 5 years | 5 | 2.0 | 7.5 | 92.5 |
| | 5 Refused | 5 | 2.0 | 7.5 | 100.0 |
| | Total | 67 | 27.1 | 100.0 | |
| Missing | System | 180 | 72.9 | | |
| Total | | 247 | 100.0 | | |

Companies that were considering a move in the future were asked about their timeframe to complete that move. Of those responding, 9.3% stated less than two years while 10.9% indicated within two to three years. This reflects that if the business is considering a move, it wants to move relatively quickly.

Most businesses that are considering a move indicated they would need roughly a 20% increase in the amount of space to consider moving. Approximately 9% of respondents indicated a need for up to another 15,000 square feet if they were to make a move.

16a About how many more do you see being hired in the first two years after moving?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | 1 1 to 3 employees | 7 | 2.8 | 21.9 | 21.9 |
| | 2 4 to 5 employees | 10 | 4.0 | 31.3 | 53.1 |
| | 3 6 to 9 employees | 5 | 2.0 | 15.6 | 68.8 |
| | 4 10 or more employees | 10 | 4.0 | 31.3 | 100.0 |
| | Total | 32 | 13.0 | 100.0 | |
| Missing | System | 215 | 87.0 | | |
| Total | | 247 | 100.0 | | |

Companies that indicated they would consider moving, also indicated they would need to hire new employees. The number of new hires was split evenly between those that would need to hire 4 to 5 new employees (4%) in the first two years to those that would need to hire 10 or more employees (4%).

18 (First Mention) Next, I would like to ask you how easy is it to find the types of employees you need. Please tell me which of these statements describes your situation:

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--|-----------|---------|---------------|--------------------|
| Valid | 1 We REALLY NEVER HAVE A PROBLEM finding employees for all our | 110 | 44.5 | 44.5 | 44.5 |
| | 2 SOMETIMES WE HAVE PROBLEMS filling job vacancies or, | 80 | 32.4 | 32.4 | 76.9 |
| | 3 We have SOME JOBS THAT ARE A CONTINUING CHALLENGE to find pe | 53 | 21.5 | 21.5 | 98.4 |
| | 4 None of the above | 4 | 1.6 | 1.6 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

20 What proportion of your employees would you estimate live in the City of Minneapolis, would you say...

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------------|-----------|---------|---------------|--------------------|
| Valid | 1 Less than 10% | 74 | 30.0 | 30.0 | 30.0 |
| | 2 10% to 19% | 26 | 10.5 | 10.5 | 40.5 |
| | 3 20% to 29% | 28 | 11.3 | 11.3 | 51.8 |
| | 4 30% to 39% | 8 | 3.2 | 3.2 | 55.1 |
| | 5 40% to 49% | 30 | 12.1 | 12.1 | 67.2 |
| | 6 More than 50% | 76 | 30.8 | 30.8 | 98.0 |
| | 7 Not Sure/Refused | 5 | 2.0 | 2.0 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

The following two questions indicate a lack of awareness of the programs available to businesses in the City of Minneapolis. Many businesses choose to avoid financial and other assistance programs if these programs come with too many requirements. Clearly however, respondents did not feel as though they had knowledge of programs that may help them to grow their businesses.

On the job training is an increasing need among businesses that are looking for qualified, well-educated employees. Many times the employee will have a satisfactory education base, but does not have the specific skill levels employers want. Some of these skills could perhaps be gained through joint partnerships between the City and the employer to train less skilled workers for these positions.

Q21a Are you aware of The City's financial assistance programs for business expansion?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | 1 Yes | 57 | 23.1 | 23.1 | 23.1 |
| | 2 No | 190 | 76.9 | 76.9 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Q21b Are you aware of The City's job training programs?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | 1 Yes | 94 | 38.1 | 38.1 | 38.1 |
| | 2 No | 153 | 61.9 | 61.9 | 100.0 |
| | Total | 247 | 100.0 | 100.0 | |

Summary

In summary, residents were concerned about some visual aesthetics, contamination and noise, and truck traffic. They were also concerned however, about having jobs located in the neighborhood and accessible via other transit options including LRT or commuter rail, biking, among others;

Tax impacts, future technology impacts and the value added to the City's economy were also considered important and preserving areas for primarily light and medium industrial businesses.

Local real estate brokers indicated there is demand for industrial land in the City and specifically for users requiring 25,000 to 30,000 square feet or less and for new construction. They also mentioned that land costs are rising dramatically making it difficult for industrial users to afford many of these sites. Contributing to this are substantial increases in the market value of industrial land occurring primarily due to residential conversion in areas close to the core;

Employers locate in Minneapolis because it offers: 1) a convenient central location, 2) close proximity to major transportation arteries and their customer base. A number of businesses also stated that the costs of purchasing existing structures are lower.

Conclusions and Recommendations

This section provides a summary of conclusions derived from this study and provides recommendations. This section also suggests outcome measures in order to track the effectiveness of recommendations.

5.1 Primary Land Use Recommendations: Summary of Options

We submitted three options to address industrial land use in Minneapolis. Providing recommendations as options presents City policy makers with a range of responses. The options differed in relative strength, with the first option providing policy statements to guide land use, the second option outlining criteria for industrial land use decisions, and the third option limiting land use changes.

While three options are outlined, we recommended that City policymakers select Option #3. Option #3 protects industrial land use in areas where the market will support it, and gives policy-makers direction when weighing re-zoning industrial properties in transitioning areas. **Upon review and approval of the document, the policy makers crafted an additional option – Option 2.5 which draws geographic boundaries around long-term industrial areas and strengthens the policy statement to say that these areas are prioritized for industrial uses and that residential uses are strongly discouraged.**

Option #1 Strengthen policy statement in Minneapolis Plan. NOT ADOPTED

Recommendation #1.1: Revise Minneapolis Plan to clarify that Industrial Business Park Opportunity Areas (IBPOA) are prioritized for industrial use.

The City should revise the Minneapolis Plan so IBPOAs are clearly designated for the retention, expansion, and attraction of existing and new industrial firms. As mentioned in Section 1.1, the Minneapolis Plan designates seven Industrial Business Park Opportunity Areas. The Plan, however, does not express a firm policy commitment to industrial jobs or land use in the IBPOAs.

Recommendation #1.2: Specify that all rezoning decisions need to consider employment impacts.

To coincide with Recommendation #1.1, the Minneapolis Plan should have additional language that states all rezoning decisions affecting industrial-zoned land should consider impacts on:

- living-wage jobs
- jobs available to workers with less than a four-year degree
- employment density.

Option #2 Clearly define Employment Districts; outline city-wide guidelines for rezoning industrial land **NOT ADOPTED.**

Recommendation #2.1: Clearly define boundaries of Industrial Business Park Opportunity Areas in the Minneapolis Plan.

Because IBPOAs are designated as “points” rather than “districts,” their boundaries are unclear. They lose significance in land use and zoning decisions without boundaries.

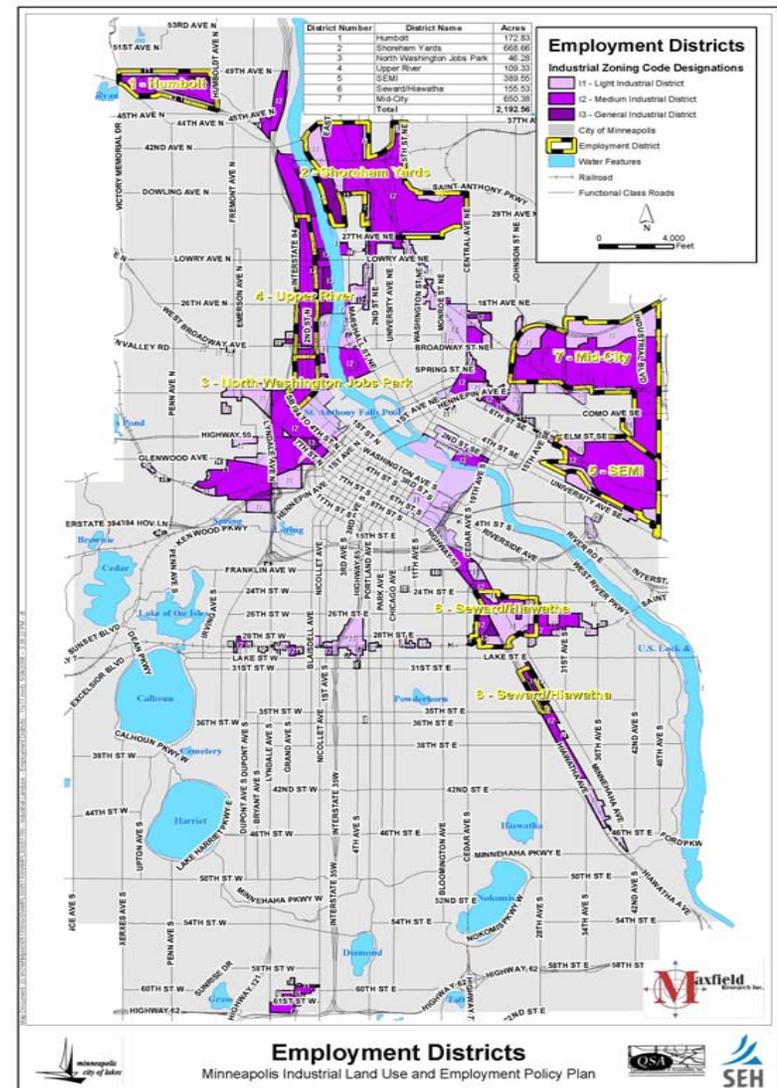
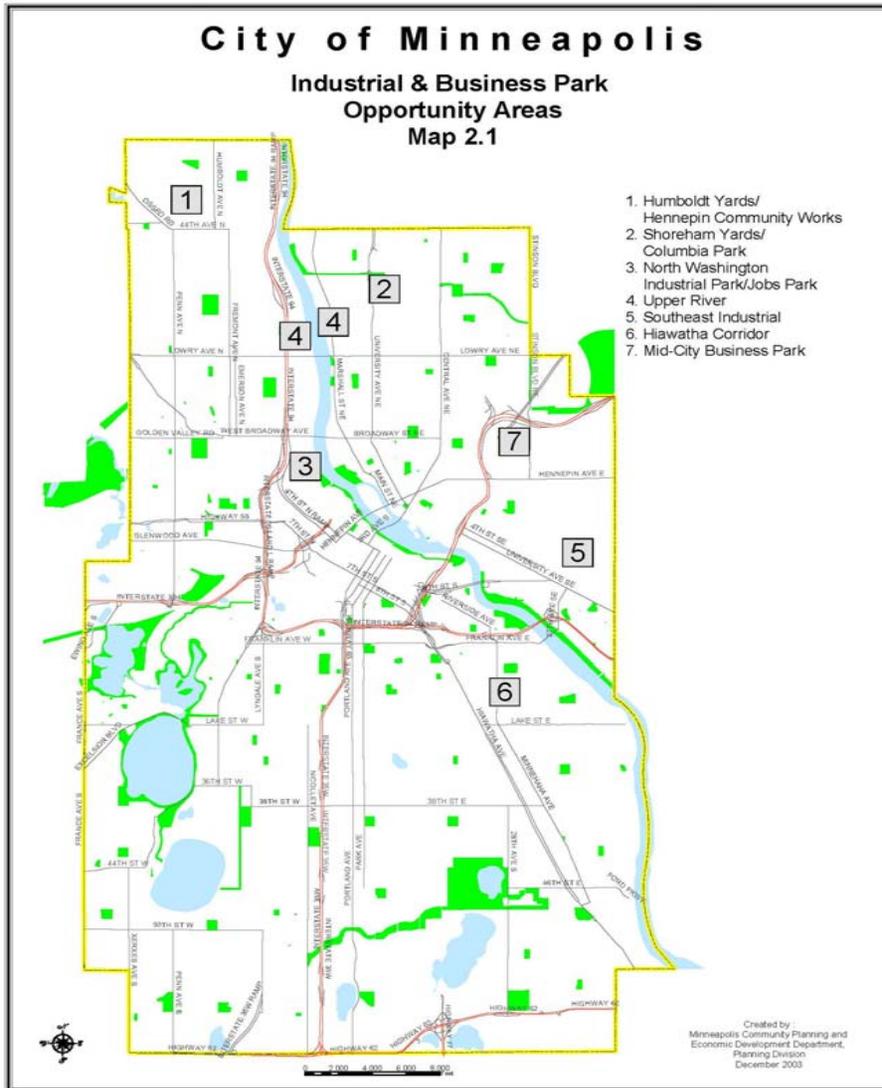
As such, we recommend the City adopt Employment Districts to provide geographic boundaries to IBPOAs. Specific geographic boundaries will clarify that industrial is the priority land use and uses that impede industrial businesses should not be permitted.

Employment District boundaries were identified through the following criteria:

- Contiguous and Significant Area
- Marketable Sites
 - Access
 - Proximity to Recent Market Investment
 - Proximity to/Buffering from Residential Uses
- Small Area Plan
 - Envisioned Land Use

The proposed boundaries designate 2,193 acres for continued industrial use, which represents 55% of industrial-zoned acreage and 70% of industrial-used land in 2004.

The following maps display the IBPOAs and proposed Employment Districts. Maps of each Employment District are presented in Appendix B.



Recommendation #2.2: Adopt city-wide criteria to consider when evaluating rezoning amendments related to industrial land.

In Section 525.280 of the Minneapolis Zoning Code, the planning commission is required to make findings on five issues, including comprehensive plan compliance, whether the amendment would be in the public interest, compatibility with adjacent uses, whether the existing use is reasonable, and any transitions that have occurred in the character of the general area.

In addition to these considerations, the following criteria need to be addressed when considering rezoning amendments for industrial areas:

- *Job Impacts.* Consider number of living-wage jobs lost, existing and future job opportunities for residents with less than a four-year degree, and job density at the site.
- *Tax base impacts.* Evaluate tax base impacts relative to job impacts.
- *Viability.* Prioritize developments with immediate users over potential uses without users lined up.
- *Transition.* Consider the cost of transitioning a property from one use to another through zoning. Properties made non-conforming may suffer years of deferred maintenance until a viable user surfaces. Public resources may also not be available to change a property's use.
- *Adjacency to viable industrial areas.* Consider negative impacts of residential users on adjacent and viable industrial sites, such as land price uncertainty and conflict with residents.

Option #2.5 Strengthen policy statement in Minneapolis Plan; Clearly define Employment Districts. ADOPTED NOVEMBER 3, 2006.

Recommendation #2.5.1: Revise Minneapolis Plan to clarify that Industrial Business Park Opportunity Areas (IBPOA) are prioritized for industrial use.

Recommendation #2.5.2: Clearly define boundaries of Industrial Business Park Opportunity Areas in the Minneapolis Plan.

Because IBPOAs are designated as “points” rather than “districts,” their boundaries are unclear. They lose significance in land use and zoning decisions without boundaries.

As such, we recommend the City adopt Employment Districts to provide geographic boundaries to IBPOAs. Specific geographic boundaries will clarify that industrial is the priority land use and uses that impede industrial businesses should not be permitted.

Employment District boundaries were identified through the following criteria:

- Contiguous and Significant Area
- Marketable Sites
 - Access
 - Proximity to Recent Market Investment
 - Proximity to/Buffering from Residential Uses
- Small Area Plan
 - Envisioned Land Use

The proposed boundaries designate 2,193 acres for continued industrial use, which represents 55% of industrial-zoned acreage and 70% of industrial-used land in 2004.

The following maps display the IBPOAs and proposed Employment Districts. Maps of each Employment District are presented in Appendix B.

Option #3 Adopt Employment Districts; prohibit rezoning amendments for residential uses in Employment Districts. NOT ADOPTED.

Recommendation #3.1: Clearly define boundaries of Industrial Business Park Opportunity Areas by adopting Employment Districts into the Minneapolis Plan. See Recommendation #2.1.

Recommendation #3.2: Prohibit residential uses and Industrial Living Overlay Districts (ILODs) in Employment Districts.

Residential uses and ILODs clearly have a disturbing effect on the stability of industrial areas. First, ILODs introduce conflicting uses and friction between businesses and new residents. Second, industrial land prices and lease rates rise. Third, uncertainty among land owners also often brings deferred investment and possible relocation.

Industrial sites in Employment Districts are different than in industrial conversion sites in Downtown Minneapolis. Industrial buildings in Downtown are often older, functionally obsolete, and attractive because of premium architectural features. Industrial sites in an Employment Districts are less likely to be obsolete, and have attributes –like close access to highways- that make industrial the long-term highest and best use.

In order to prevent disruptive residential developments where long-term market demand is expected for industrial use, ILODs should be granted only outside of the Employment Districts.

Two routes exist for prohibiting ILODs in Employment Districts. The City could revise the Minneapolis Plan. Updated language would state ILODs, and other zoning districts that permit residential uses, are prohibited in Employment Districts. In Section 525.280 of the Zoning Code, the city planning commission must find a zoning amendment is “consistent with the applicable policies of the comprehensive plan” to approve it. The other route is to revise the Zoning Code in the City Ordinances to prohibit application of new ILODs in Employment Districts.

Three important distinctions to consider:

- 1) Employment Districts are designed to protect prime industrial space with strong long-term market fundamentals. Industrial businesses can continue to operate outside of the Employment Districts, but without added protection from residential conversions.
- 2) Employment Districts present an opportunity for the City to support targeted industrial users, such as *21st Century* and *Opportunity* industrial employers, and redevelop underutilized sites.
- 3) The restrictions would apply only to future residential zoning amendments and not existing residential uses in Employment Districts.

Recommendation #3.4: Adopt guidelines to consider when evaluating rezoning amendments in areas outside of the Employment Districts.

This recommendation applies #2.2 outside of the Employment Districts.

*Industrial space in Employment
District VII - Mid-City.*



Figure 5.1.1 below shows how the three options compare to actions undertaken by six other cities that completed an industrial land use study. All six cities designate specific areas for industrial use with geographic boundaries. Most restrict or ban re-zoning from industrial to other uses in these designated

areas. Three of the six cities go further and ban existing and future non-industrial uses in the designated areas.

In juxtaposition to the other six cities, Minneapolis currently sits on the beginning of the continuum of actions. Minneapolis currently designates areas with a policy statement expressing the importance of industrial jobs (IBPOAs). Option one reiterates the importance of these areas, but not much more. Option 2 provides geographic boundaries and a city-wide re-zoning criteria. Option 3 moves the city further in addressing the problem by applying a re-zoning criteria outside of the Employment Districts and banning residential re-zonings in Employment Districts.

A full discussion of actions undertaken by other cities can be found in Appendix C.

Figure 5.1.1
Land Use and Zoning Responses
Cities that Completed an Industrial Land Use Study

| | Designate Area w/Policy Statement | | Limit Conditional Uses in Designated Area | Restrict Re-Zoning to Non-Industrial Uses | | | | Ban Existing Non-Industrial Uses in Designated Areas | | More Restrictive |
|---------------|-----------------------------------|--------------------------|---|---|-------------------------------------|-----------------------|------------------------------------|---|--------|---------------------|
| | Primary Zoning is Industrial | Geographic Boundaries | | Policy Statement Not to Re-Zone | Additional Review for Re-Zonings | Re-Zoning Criteria | Ban on Re-Zoning to Residential | Residential | Office | |
| City | | | | | | | | | | |
| Chicago | X | X | X | | X | X | | X | X | |
| Portland | X | X | X | | X | | | | | |
| Baltimore | X | X | X | | | X | X | X | X | |
| Boston | X | X | X | | | | | | | |
| San Francisco | X | X | | | | X | X | X | X | |
| New York City | X | X | X | X | | | | | | |
| Minneapolis | X | | | | | | | | | |
| Option 1 | X | | | | | | | | | |
| Option 2 | X | X | | | | X ¹ | | | | |
| Option 3 | X | X | | | | X ² | X ³ | | | |

¹ = Apply a city-wide re-zoning criteria.
² = Apply a re-zoning criteria outside of Employment Districts
³ = Ban re-zoning to residential within Employment Districts

Source: Maxfield Research Inc.

5.2 General Land Use Recommendations

ADOPTED NOVEMBER 3, 2006

Recommendation #4: Allow more conditional uses in ILODs.

ILODs have become a specialized zoning tool to transition areas from industrial to residential uses. Initially created to protect historic structures and promote the creation of affordable housing, ILODs now give developers and the city a way to zone a parcel for residential use while maintaining the primary industrial zoning. These districts may become entirely residential and need to be rezoned as such.

One issue that surfaced is that some commercial uses are limited under the ILOD designation. The City should allow a wider range of conditional commercial uses in ILODs, when applied in transitioning areas.

Recommendation #5: Incorporate industrial uses into small area plans for locations adjacent to Employment Districts.

In community meetings, residents frequently said they are very interested in having job opportunities available for residents and most are satisfied with their relationship to industrial businesses. Likewise, many employers are very interested in developing ongoing, mutually beneficial relationships with neighborhoods and community groups. The small area planning process presents an excellent opportunity for the City to foster this relationship.

To that end, the City should encourage communities participating in small area plans to partner with business associations and seek input from neighborhood employers. While several plans submitted sought input and participation from the business community, there is room for improvement.

Recommendation #6: Within the Employment Districts, make churches a conditional use as opposed to a permitted use. Exclude all primary, secondary and post-secondary schools in the employment districts except those where the curriculum is targeted to preparing students for careers associated with business and industry.

Currently, churches are a permitted use in the I-1 and I-2 zoning districts. The Religious Land Use and Institutionalized Persons Act (S.2869-June 2, 2005) states that no government shall impose a land use policy that totally excludes religious assemblies from a jurisdiction or unreasonably limits religious assemblies, institutions or structures from within a jurisdiction. As such, Minneapolis cannot exclude churches from the employment districts. We believe however, that identifying specific industrial employment districts through employment

boundaries may steer churches toward other areas nearer residential neighborhoods and more conducive to attracting their constituencies.

Excluding all primary, secondary and post-secondary schools in the employment districts except those where the curriculum is targeted to preparing students for careers associated with business and industry. This recommendation is intended to reduce potential conflicts between school children and industrial operations. Schools that focus on training and future employment in business and industry would prepare future workers to fill industrial positions. Currently, schools are permitted uses in I-1 and I-2 zoning districts and locate in these areas primarily because of low lease rates and low density building structures. This situation limits the ability to redevelop these sites and/or preserve them for industrial use.

Recommendation #7: Encourage and implement buffering through site plan review process.

For new structures within the employment districts and new structures in transition areas, we recommend that appropriate buffering be implemented to reduce conflicts between existing industrial uses and sites that may have a land use different from an industrial use.

For example, in a number of transition areas, former historic warehouse buildings are being converted to residential dwellings. In some cases, industrial sites are redeveloped with new construction. New users to the area should bear the burden of applying buffering to mitigate potential conflicts with existing industrial or commercial users that are already in the area.

Typically, conflicts most often arise between residential uses and industrial uses in close proximity to one another. As the residential use is moving into a traditionally industrial area, it seems appropriate through site plan review and approvals to require an appropriate amount of buffering.

5.3 Economic Development Recommendations

ADOPTED NOVEMBER 3, 2006

Recommendation #8: Set aside at least half of the available industrial business assistance for targeted industrial employers.

CPED staff report that industrial business assistance is typically provided on a first-come-first-serve basis. While assistance can be provided quickly, it does not guarantee capital goes to businesses that provide the greatest return to Minneapolis.

We recommend setting aside at least half of the available industrial business assistance for *21st Century* and *Opportunity* industrial employers. While there are tradeoffs between these both groups, supporting *21st Century* and *Opportunity* employers raises the possibility of greater economic benefits for Minneapolis -higher wages, better job opportunities for residents without a four-year degree, and high-growth potential.

Targeting specific industrial users would emulate the Life Sciences Corridor initiative. The current initiative provides city assistance and state bioscience tax credits to life science firms in order to further grow the medical institutions and business in the corridor.

Some of the medicine-oriented *21st Century* industrial users may also be eligible for the bioscience sub-zone tax credit by locating in the SEMI Employment District.

The City should actively market the targeted industrial business assistance through one-on-one meetings with business owners and managers, outreach to industry organizations, and continued contact through business associations.

Recommendation #9: Align workforce investments with targeted industrial employers.

There is a role for the City in workforce development. The City should encourage the skill attainment and hiring of Minneapolis residents, which ultimately benefits both employer and employee. Health Careers Institute is an example of a City-funded job training program that benefits both job seekers and the employer.

Industry Scorecard

A “scorecard” of industries is presented in Appendix A on pg. 76. It shows qualities such as employment growth, living wage jobs, density, percentage of occupations requiring a 4-year degree, and estimated demand for space for three groupings of industries:

- 21st Century industrial jobs
- Opportunity industrial jobs
- Run of the Mill industrial jobs

We submit three recommendations:

- 1) CPED staff should maintain and continue to develop strong relationships with the Minneapolis Workforce Investment Board, the Minnesota Department of Employment and Economic Development, the Minnesota State Colleges and Universities, the University of Minnesota, and the Minneapolis School District.
- 2) Workforce development programs should be customized and targeted to *21st Century* and *Opportunity* industrial employers.
- 3) Encourage on-site job training among workforce development programs. Employer interviews reveal that a number of employers believe the best form of job training is on-site. In fact, CPED may be in a unique position to identify where onsite job training may be most needed and where resources could best be applied to benefit Minneapolis residents.

Recommendation #10: Increase resident employment at existing and new industrial businesses through workforce development.

Helping employers find and hire skilled Minneapolis workers is a more constructive approach to increasing resident employment than mandated hiring requirements. The City already works to place Minneapolis residents with Minneapolis employers through the living wage ordinance and job linkage agreements. Instead of a strategy to force employers to hire Minneapolis residents, we recommend the City pursue resident hiring through the workforce development strategies outlined above.

Recommendation #11: Institute biannual survey of industrial businesses.

We believe that conducting a reoccurring survey would accomplish two goals: provide an opportunity to collect data on industrial wages, education levels, resident employment, business needs, and satisfaction with City services; and provide an opportunity for outreach to businesses.

Recommendation #12: Improve outreach to business community.

In addition to the survey, we also recommend using face-to-face meetings with business owners and managers, ongoing outreach to industry organizations, and continued contact with area business associations. An instructive example is the proactive business visitation program coordinated by ComEd, World Business Chicago, and the City of Chicago (see Appendix C, page 99).

Recommendation #13: Continue efforts to streamline the development process.

Minneapolis has made great strides in streamlining its development and redevelopment process through the Minneapolis One Stop, but still has room for improvement. Through community meetings and individual interviews, business owners and developers expressed frustration in dealing with development and property issues through the City. Many also expressed optimism about Minneapolis One Stop, and felt that it represented a good effort that would result in streamlined services. We believe the Minneapolis One Stop program will be critical for industrial redevelopment in the City and recommend that CPED continue to be an effective and collaborative partner in these efforts.

Recommendation #14: Coordinate infrastructure investments with needs of targeted industrial employers.

In general, there appears to be little coordination between Public Works and CPED on industrial development and redevelopment issues. Improvement in this area represents an opportunity for the City to show industrial developers and businesses its commitment to developing a competitive and supportive business environment.

Two actions could catalyze industrial redevelopment. First, the City should develop a mechanism where CPED industrial development priorities are submitted to Public Works for incorporation into their project work plan. Second, CPED should ask about the infrastructure needs of industrial businesses when conducting business outreach (see Rec. #8) and coordinate remedies with Public Works.

Recommendation #15: Pursue industrial redevelopment through public-private partnerships.

Two strategies for industrial redevelopment are available to the City. The first strategy is traditional site acquisition and assembly, in which the City purchases and eventually turns over land as part of a redevelopment project. The North Washington Jobs Park has recognizable products of this strategy. St. Paul Port Authority developments provide other examples.

However, a number of constraints currently affect the City's traditional acquisition and assembly program.

- Little money is available. According to CPED staff, the MILES program is the only resource for traditional acquisition and only \$1.8 million remains available.

- Industrial land prices are high. At high land prices the City's limited resources won't buy much land. High land prices drive up the eventual City subsidy per job.
- The state political climate is hostile to using eminent domain for redevelopment, which reduces the City's negotiating position in a land sale.

In order to overcome these constraints to industrial redevelopment, we recommend a second strategy: partner with industrial business owners and developers. We recommend proactively reaching out to growing targeted industrial businesses and developers and guiding these businesses to potential redevelopment sites. Once a site is selected, the City should help redevelop an underutilized parcel through business assistance funds.

A number of advantages exist to partnering with business owners and developers. For example, unlike the traditional site assembly strategy, other financing becomes available, such as pay-as-you-go tax increment financing, low-interest loans, and industrial revenue bonds. The City also does not pay the carrying cost and carry the risk during the intermittent years. The business operator or developer might also negotiate with landowners more effectively.

Redevelopment also presents an opportunity to clean-up environmentally contaminated and polluted sites. Hennepin County and the State of Minnesota will be important partners in recycling polluted land. In turn, the City should work to insure any targeted industrial business receiving financial assistance does not environmentally damage a site.

Finally, redevelopment presents a chance to introduce emerging industrial development concepts. The market feasibility of mixed-use and vertical industrial space is relatively undetermined in the current marketplace. However, these development concepts may help industrial and residential uses cohabitate and could be explored.

5.4 Measuring Outcomes

Stated as a goal of this analysis, the recommendations seek to outline a policy and land use framework for supporting high quality industrial jobs. Throughout the analysis, quality industrial jobs have been defined as those that pay a living wage, provide employment opportunities to workers without a 4-year degree, and are at facilities that have low impacts and high employment density.

Using these goals, we outline four outcome measures for tracking the success of this policy and land use plan. The following four measures would be determined through data collected in the survey outlined in Recommendation #9. The survey conducted as a part of this study establishes baseline data.

- 1) An increase in the percentage of living wage jobs;
- 2) An increase in the number of *21st Century* and *Opportunity* industrial jobs;
- 3) An increase in the number of Minneapolis residents employed at industrial businesses; and
- 4) Scores of “satisfied” or “very satisfied” on questions about the quality of specific City services.

In addition, the City can use the Minnesota Pollution Control Agency data presented in this report (page 23) as a baseline to measure:

- 5) A decrease in the number of polluted sites on industrial land.

We believe these are critical outcome measures to use when determining whether the City has accomplished its goals through this policy and land use plan.

5.5 Study Conclusion

The preceding recommendations put forward a policy and land use framework designed to grow high-quality industrial jobs. They are grounded in an understanding of industrial market trends – employment, industry, labor force, land and building supply – as well as neighborhood and employer viewpoints.

Additional project components submitted alongside this document include:

- Technical Document
- Redevelopment Analysis
- Industrial Land and Building Supply Database
- Employment Database

Appendix A

Industry Scorecard

**APPENDIX A
INDUSTRIAL INDUSTRY "SCORE CARD"**

| NAICS Code | NAICS Description | Identified Cluster | Metro Area Proj. Growth Rate | 2004 Est. Mpls. Empl. | % of Jobs Starting at a Living Wage | % of Jobs Req. 4-Year Deg. | Est. Empl. Per Acre | Change in Metro Acreage 02-'12 |
|---|--|--|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "21st Century Industrial Employment" | | | | | | | | |
| 4234 | Professional and Commercial Equipment and Supplies Merchant Wholesalers | | 8% | 1,356 | 77% | 33% | 20 | 51 |
| 3345 | Navigational, Measuring, Electromedical, and Control Instruments Manufacturing | Machinery and metal working | 4% | 1,143 | 76% | 44% | 30 | 41 |
| 3254 | Pharmaceutical and Medicine Manufacturing | | 41% | 3 | 75% | 39% | 30 | 30 |
| 5417 | Scientific Research and Development Services | Profesional, scientific, and technical | 27% | 1,841 | 76% | 68% | 60 | 27 |
| 5413 | Architectural, Engineering, and Related Services | Profesional, scientific, and technical | 8% | 3,392 | 90% | 57% | 60 | 12 |
| 3342 | Communications Equipment Manufacturing | | 5% | 43 | 66% | 40% | 30 | 6 |
| 5179 | Other Telecommunications | | 30% | 76 | 78% | 34% | 60 | 5 |
| 2372 | Land Subdivision | | 11% | 75 | 64% | 36% | 30 | 2 |
| 5172 | Wireless Telecommunications Carriers (except Satellite) | | 12% | 50 | 72% | 34% | 60 | 2 |
| 5173 | Telecommunications Resellers | | 2% | 206 | 54% | 57% | 60 | 0 |
| 5122 | Sound Recording Industries | Advertising and telecomm. | 5% | 108 | 55% | 46% | 60 | 0 |
| 3365 | Railroad Rolling Stock Manufacturing | | 0% | 0 | 51% | 42% | 30 | 0 |
| 3346 | Manufacturing and Reproducing Magnetic and Optical Media | | -6% | 82 | 59% | 34% | 30 | -3 |
| 3364 | Aerospace Product and Parts Manufacturing | | -23% | 0 | 75% | 52% | 30 | -5 |
| Continued | | | | | | | | |

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|---|--|---------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "21st Century Industrial Employment" (Continued) | | | | | | | | |
| 5111 | Newspaper, Periodical, Book, and Directory Publishers | Printing and publishing | -3% | 3,530 | 64% | 39% | 60 | -6 |
| 5174 | Satellite Telecommunications | | -41% | 121 | 78% | 34% | 60 | -7 |
| 5171 | Wired Telecommunications Carriers | | -12% | 1,756 | 78% | 39% | 60 | -12 |
| 3344 | Semiconductor and Other Electronic Component Manufacturing | Computer and software | -23% | 273 | 63% | 39% | 30 | -54 |
| 3341 | Computer and Peripheral Equipment Manufacturing | Computer and software | -40% | 31 | 61% | 57% | 30 | -84 |
| "21st Century Industrial Employment" Averages | | | 0% | 741 | 69% | 43% | 44 | 0 |
| "Opportunity Industrial Employment" | | | | | | | | |
| 2382 | Building Equipment Contractors | | 20% | 1,437 | 89% | 8% | 30 | 143 |
| 4841 | General Freight Trucking | | 18% | 248 | 79% | 7% | 15 | 101 |
| 2381 | Foundation, Structure, and Building Exterior Contractors | | 24% | 927 | 92% | 5% | 30 | 92 |
| 2383 | Building Finishing Contractors | | 23% | 609 | 85% | 9% | 30 | 88 |
| 3391 | Medical Equipment and Supplies Manufacturing | Medical device | 22% | 633 | 60% | 17% | 30 | 83 |
| 4236 | Electrical and Electronic Goods Merchant Wholesalers | | 21% | 1,237 | 71% | 25% | 20 | 61 |
| 3219 | Other Wood Product Manufacturing | | 30% | 342 | 50% | 8% | 30 | 61 |
| 3261 | Plastics Product Manufacturing | | 16% | 290 | 52% | 10% | 30 | 55 |
| 4251 | Wholesale Electronic Markets and Agents and Brokers | | 8% | 1,202 | 67% | 17% | 20 | 46 |
| Continued | | | | | | | | |

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|--|--|-----------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Opportunity Industrial Employment" (Continued) | | | | | | | | |
| 2362 | Nonresidential Building Construction | | 15% | 1,403 | 90% | 17% | 30 | 44 |
| 4237 | Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers | | 22% | 493 | 59% | 14% | 20 | 39 |
| 2361 | Residential Building Construction | | 13% | 1,090 | 85% | 15% | 30 | 39 |
| 4885 | Freight Transportation Arrangement | | 28% | 98 | 63% | 19% | 15 | 37 |
| 4238 | Machinery, Equipment, and Supplies Merchant Wholesalers | | 7% | 894 | 70% | 14% | 20 | 32 |
| 3339 | Other General Purpose Machinery Manufacturing | Machinery and metal working | 15% | 1,159 | 72% | 22% | 30 | 32 |
| 2389 | Other Specialty Trade Contractors | | 16% | 102 | 86% | 9% | 30 | 27 |
| 4842 | Specialized Freight Trucking | | 15% | 104 | 72% | 7% | 15 | 25 |
| 3335 | Metalworking Machinery Manufacturing | | 16% | 76 | 84% | 15% | 30 | 20 |
| 4233 | Lumber and Other Construction Materials Merchant Wholesalers | | 11% | 471 | 58% | 13% | 20 | 17 |
| 4235 | Metal and Mineral (except Petroleum) Merchant Wholesalers | | 15% | 320 | 64% | 14% | 20 | 15 |
| 3372 | Office Furniture (including Fixtures) Manufacturing | Machinery and metal working | 22% | 376 | 58% | 12% | 30 | 15 |
| 3334 | Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing | Machinery and metal working | 10% | 233 | 62% | 15% | 30 | 14 |
| 3333 | Commercial and Service Industry Machinery Manufacturing | | 13% | 30 | 68% | 31% | 30 | 14 |
| 4854 | School and Employee Bus Transportation | | 4% | 206 | 81% | 5% | 15 | 14 |
| Continued | | | | | | | | |

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|--|---|---------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Opportunity Industrial Employment" (Continued) | | | | | | | | |
| 3273 | Cement and Concrete Product Manufacturing | | 22% | 185 | 80% | 9% | 30 | 13 |
| 5175 | Cable and Other Program Distribution | | 38% | 362 | 85% | 17% | 60 | 13 |
| 4242 | Drugs and Druggists' Sundries Merchant Wholesalers | | 15% | 320 | 66% | 18% | 20 | 13 |
| 4241 | Paper and Paper Product Merchant Wholesalers | | 11% | 502 | 59% | 15% | 20 | 12 |
| 5629 | Remediation and Other Waste Management Services | | 52% | 96 | 77% | 22% | 50 | 12 |
| 4882 | Support Activities for Rail Transportation | | 25% | 18 | 54% | 21% | 15 | 10 |
| 4246 | Chemical and Allied Products Merchant Wholesalers | | 16% | 290 | 68% | 17% | 20 | 10 |
| 5621 | Waste Collection | | 28% | 122 | 81% | 9% | 50 | 9 |
| 2371 | Utility System Construction | | 11% | 82 | 89% | 10% | 30 | 9 |
| 5324 | Commercial and Industrial Machinery and Equipment Rental and Leasing | Computer and software | 10% | 54 | 63% | 26% | 20 | 9 |
| 4248 | Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers | | 12% | 19 | 63% | 15% | 20 | 8 |
| 4889 | Other Support Activities for Transportation | | 137% | 20 | 54% | 21% | 15 | 8 |
| 4239 | Miscellaneous Durable Goods Merchant Wholesalers | | 5% | 488 | 56% | 14% | 20 | 7 |
| 3366 | Ship and Boat Building | | 114% | 0 | 59% | 28% | 30 | 7 |
| 3371 | Household and Institutional Furniture and Kitchen Cabinet Manufacturing | | 7% | 92 | 54% | 7% | 30 | 7 |
| Continued | | | | | | | | |

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|--|---|-----------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Opportunity Industrial Employment" (Continued) | | | | | | | | |
| 8113 | Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance | Computers and software | 27% | 191 | 81% | 12% | 50 | 6 |
| 3353 | Electrical Equipment Manufacturing | Machinery and metal working | 6% | 193 | 57% | 19% | 30 | 5 |
| 3369 | Other Transportation Equipment Manufacturing | | 33% | 0 | 65% | 22% | 30 | 5 |
| 3326 | Spring and Wire Product Manufacturing | | 19% | 29 | 64% | 12% | 30 | 4 |
| 4232 | Furniture and Home Furnishing Merchant Wholesalers | | 3% | 289 | 54% | 16% | 20 | 4 |
| 4884 | Support Activities for Road Transportation | | 7% | 83 | 57% | 8% | 15 | 4 |
| 3255 | Paint, Coating, and Adhesive Manufacturing | | 8% | 350 | 69% | 22% | 30 | 3 |
| 3322 | Cutlery and Handtool Manufacturing | Machinery and metal working | 12% | 43 | 68% | 13% | 30 | 3 |
| 3111 | Animal Food Manufacturing | | 14% | 39 | 57% | 14% | 30 | 1 |
| 3271 | Clay Product and Refractory Manufacturing | | 50% | 26 | 64% | 13% | 30 | 1 |
| 3336 | Engine, Turbine, and Power Transmission Equipment Manufacturing | Machinery and metal working | 5% | 79 | 81% | 21% | 30 | 1 |
| 3241 | Petroleum and Coal Products Manufacturing | | 2% | 289 | 80% | 24% | 30 | 1 |
| 3313 | Alumina and Aluminum Production and Processing | | 10% | 0 | 69% | 12% | 30 | 1 |
| Continued | | | | | | | | |

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|--|--|-----------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Opportunity Industrial Employment" (Continued) | | | | | | | | |
| 2212 | Natural Gas Distribution | Utilities | 2% | 1,067 | 76% | 31% | 40 | 1 |
| 3252 | Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing | Computers and Software | 12% | 13 | 74% | 22% | 30 | 1 |
| 2213 | Water, Sewage and Other Systems | Utilities | 9% | 370 | 83% | 18% | 40 | 0 |
| 3312 | Steel Product Manufacturing from Purchased Steel | Machinery and metal working | 2% | 342 | 67% | 14% | 30 | 0 |
| 3274 | Lime and Gypsum Product Manufacturing | | 6% | 2 | 69% | 10% | 30 | 0 |
| 3251 | Basic Chemical Manufacturing | Printing and publishing | 0% | 7 | 87% | 26% | 30 | 0 |
| 4821 | Rail Transportation | | -24% | 390 | 73% | 19% | 15 | 0 |
| 4883 | Support Activities for Water Transportation | | -19% | 21 | 53% | 29% | 15 | 0 |
| 3279 | Other Nonmetallic Mineral Product Manufacturing | | -8% | 0 | 69% | 10% | 30 | 0 |
| 3262 | Rubber Product Manufacturing | | -2% | 239 | 57% | 17% | 30 | 0 |
| 3315 | Foundries | Machinery and metal working | 0% | 437 | 77% | 9% | 30 | 0 |
| 3314 | Nonferrous Metal (except Aluminum) Production and Processing | | -3% | 14 | 64% | 16% | 30 | 0 |
| 3331 | Agriculture, Construction, and Mining Machinery Manufacturing | | -1% | 0 | 74% | 18% | 30 | -1 |
| 3211 | Sawmills and Wood Preservation | | -16% | 0 | 52% | 9% | 30 | -1 |
| 3325 | Hardware Manufacturing | | -26% | 1 | 56% | 14% | 30 | -1 |
| 3221 | Pulp, Paper, and Paperboard Mills | | -8% | 1 | 73% | 14% | 30 | -1 |
| Continued | | | | | | | | |

**APPENDIX A
INDUSTRIAL INDUSTRY "SCORE CARD"**

| NAICS Code | NAICS Description | Identified Cluster | Metro Area Proj. Growth Rate | 2004 Est. Mpls. Empl. | % of Jobs Starting at a Living Wage | % of Jobs Req. 4-Year Deg. | Est. Empl. Per Acre | Change in Metro Acreage 02-'12 |
|--|--|-----------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Opportunity Industrial Employment" (Continued) | | | | | | | | |
| 3343 | Audio and Video Equipment Manufacturing | | -15% | 29 | 50% | 30% | 30 | -1 |
| 2379 | Other Heavy and Civil Engineering Construction | | -7% | 64 | 84% | 18% | 30 | -1 |
| 3253 | Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing | | -30% | 0 | 78% | 23% | 30 | -1 |
| 3259 | Other Chemical Product and Preparation Manufacturing | Printing and publishing | -2% | 100 | 69% | 23% | 30 | -1 |
| 3321 | Forging and Stamping | Machinery and metal working | -2% | 296 | 75% | 13% | 30 | -1 |
| 3323 | Architectural and Structural Metals Manufacturing | | -1% | 567 | 74% | 11% | 30 | -2 |
| 3361 | Motor Vehicle Manufacturing | | -4% | 0 | 13% | 72% | 30 | -2 |
| 5622 | Waste Treatment and Disposal | | -33% | 0 | 78% | 20% | 50 | -2 |
| 3311 | Iron and Steel Mills and Ferroalloy Manufacturing | | -17% | 32 | 77% | 12% | 30 | -2 |
| 3362 | Motor Vehicle Body and Trailer Manufacturing | | -16% | 0 | 56% | 14% | 30 | -3 |
| 3112 | Grain and Oilseed Milling | | -16% | 139 | 53% | 17% | 30 | -4 |
| 4832 | Inland Water Transportation | | -8% | 2 | 67% | 32% | 15 | -4 |
| 3399 | Other Miscellaneous Manufacturing | Computer and software | -4% | 378 | 57% | 14% | 30 | -4 |
| 3324 | Boiler, Tank, and Shipping Container Manufacturing | | -8% | 0 | 76% | 13% | 30 | -4 |
| 3328 | Coating, Engraving, Heat Treating, and Allied Activities | Machinery and metal working | -6% | 575 | 73% | 11% | 30 | -5 |
| 4243 | Apparel, Piece Goods, and Notions Merchant Wholesalers | | -12% | 311 | 51% | 18% | 20 | -5 |
| Continued | | | | | | | | |

**APPENDIX A
INDUSTRIAL INDUSTRY "SCORE CARD"**

| NAICS Code | NAICS Description | Identified Cluster | Metro Area Proj. Growth Rate | 2004 Est. Mpls. Empl. | % of Jobs Starting at a Living Wage | % of Jobs Req. 4-Year Deg. | Est. Empl. Per Acre | Change in Metro Acreage 02-'12 |
|--|---|-----------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Opportunity Industrial Employment" (Continued) | | | | | | | | |
| 3121 | Beverage Manufacturing | | -10% | 33 | 51% | 13% | 30 | -6 |
| 4247 | Petroleum and Petroleum Products Merchant Wholesalers | | -24% | 10 | 63% | 14% | 20 | -6 |
| 2211 | Electric Power Generation, Transmission and Distribution | Utilities | -6% | 1,994 | 86% | 28% | 40 | -7 |
| 3256 | Soap, Cleaning Compound, and Toilet Preparation Manufacturing | | -15% | 313 | 55% | 17% | 30 | -9 |
| 3327 | Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing | Machinery and metal working | -4% | 745 | 84% | 11% | 30 | -9 |
| 3359 | Other Electrical Equipment and Component Manufacturing | Machinery and metal working | -16% | 31 | 51% | 18% | 30 | -11 |
| 2373 | Highway, Street, and Bridge Construction | | -5% | 1,678 | 93% | 9% | 30 | -11 |
| 3272 | Glass and Glass Product Manufacturing | | -46% | 59 | 54% | 12% | 30 | -11 |
| 3363 | Motor Vehicle Parts Manufacturing | | -35% | 19 | 57% | 16% | 30 | -14 |
| 3332 | Industrial Machinery Manufacturing | Machinery and metal working | -16% | 206 | 76% | 28% | 30 | -15 |
| 3231 | Printing and Related Support Activities | Printing and publishing | -3% | 3,000 | 64% | 13% | 30 | -17 |
| 3222 | Converted Paper Product Manufacturing | Machinery and metal working | -8% | 773 | 67% | 9% | 30 | -17 |
| 4911 | Postal Service | | -4% | 4,702 | 93% | 3% | 15 | -29 |
| 3329 | Other Fabricated Metal Product Manufacturing | Machinery and metal working | -19% | 214 | 70% | 17% | 30 | -34 |
| "Opportunity Industrial Employment" Total | | | 7% | 382 | 68% | 16% | 28 | 11 |
| Continued | | | | | | | | |

**APPENDIX A
INDUSTRIAL INDUSTRY "SCORE CARD"**

| NAICS Code | NAICS Description | Identified Cluster | Metro Area Proj. Growth Rate | 2004 Est. Mpls. Empl. | % of Jobs Starting at a Living Wage | % of Jobs Req. 4-Year Deg. | Est. Empl. Per Acre | Change in Metro Acreage 02-'12 |
|--|---|-----------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Run of the Mill Industrial Employment" | | | | | | | | |
| 4921 | Couriers | | 39% | 1,465 | 27% | 13% | 15 | 175 |
| 4931 | Warehousing and Storage | | 33% | 647 | 43% | 11% | 15 | 151 |
| 4859 | Other Transit and Ground Passenger Transportation | | 63% | 291 | 37% | 10% | 15 | 143 |
| 4244 | Grocery and Related Product Wholesalers | | 8% | 1,261 | 49% | 10% | 20 | 40 |
| 4851 | Urban Transit Systems | | 42% | 573 | 33% | 9% | 15 | 34 |
| 4231 | Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers | | 12% | 714 | 49% | 14% | 20 | 29 |
| 5121 | Motion Picture and Video Industries | Advertising and telecomm. | 25% | 735 | 43% | 31% | 60 | 14 |
| 4853 | Taxi and Limousine Service | | 29% | 303 | 30% | 7% | 15 | 12 |
| 4245 | Farm Product Raw Material Merchant Wholesalers | | 5% | 287 | 47% | 16% | 20 | 5 |
| 3118 | Bakeries and Tortilla Manufacturing | | 3% | 564 | 25% | 7% | 30 | 4 |
| 3212 | Veneer, Plywood, and Engineered Wood Product Manufacturing | | 24% | 0 | 48% | 9% | 30 | 4 |
| 8123 | Drycleaning and Laundry Services | | 3% | 1,383 | 17% | 6% | 50 | 3 |
| 4855 | Charter Bus Industry | | 7% | 45 | 24% | 8% | 15 | 2 |
| 3379 | Other Furniture Related Product Manufacturing | Machinery and metal working | 4% | 160 | 31% | 10% | 30 | 1 |
| 3131 | Fiber, Yarn, and Thread Mills | | 1% | 3 | 28% | 8% | 30 | 0 |
| 3117 | Seafood Product Preparation and Packaging | | -40% | 0 | 46% | 13% | 30 | 0 |
| 3122 | Tobacco Manufacturing | | -10% | 2 | 48% | 13% | 30 | 0 |
| 3151 | Apparel Knitting Mills | | 0% | 0 | 27% | 8% | 30 | 0 |
| Continued | | | | | | | | |

**APPENDIX A
INDUSTRIAL INDUSTRY "SCORE CARD"**

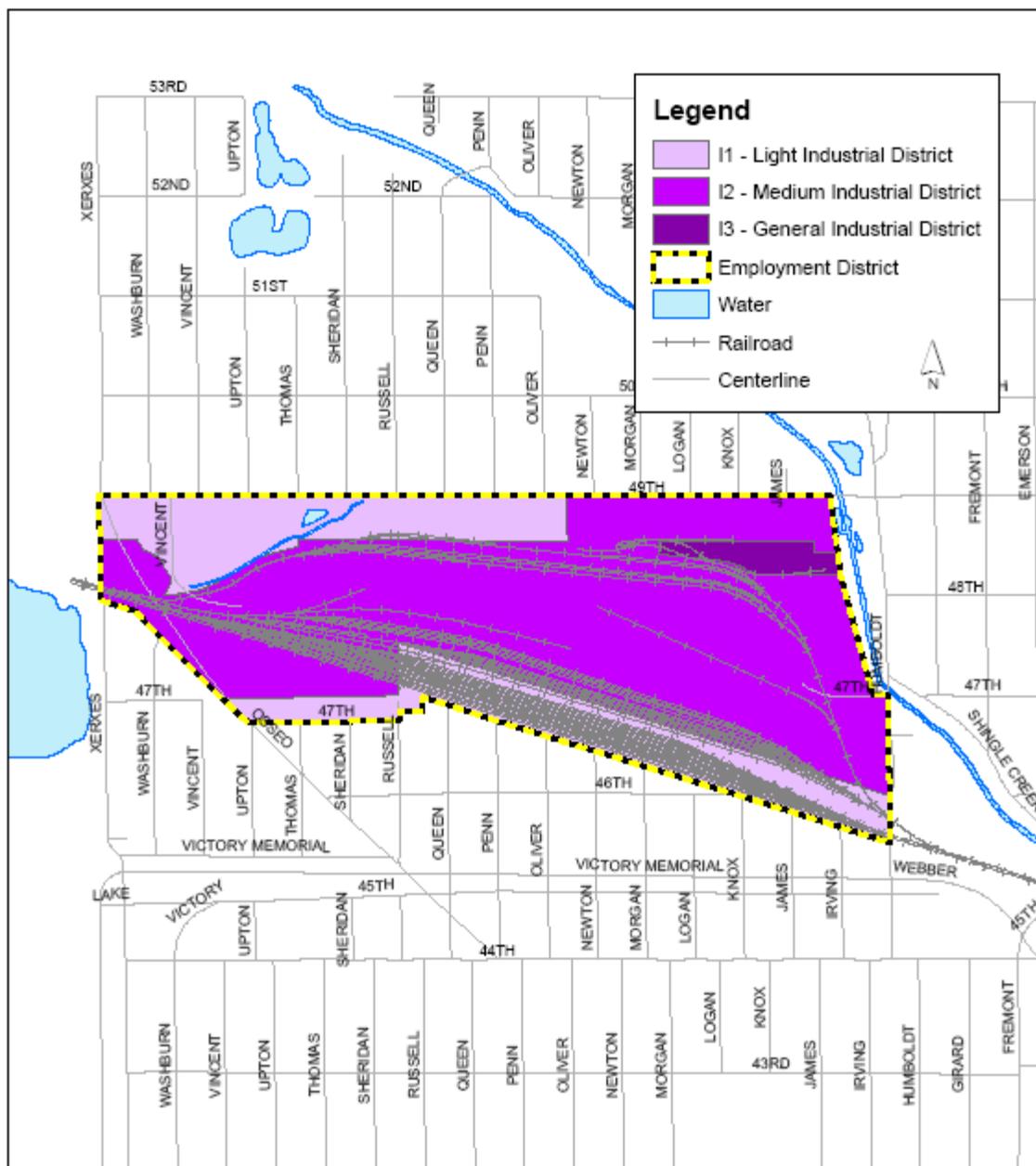
| NAICS Code | NAICS Description | Identified Cluster | Metro Area Proj. Growth Rate | 2004 Est. Mpls. Empl. | % of Jobs Starting at a Living Wage | % of Jobs Req. 4-Year Deg. | Est. Empl. Per Acre | Change in Metro Acreage 02-'12 |
|--|---|---------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Run of the Mill Industrial Employment" (Continued) | | | | | | | | |
| 3162 | Footwear Manufacturing | | 0% | 0 | 15% | 13% | 30 | 0 |
| 3161 | Leather and Hide Tanning and Finishing | | -9% | 0 | 24% | 15% | 30 | 0 |
| 3169 | Other Leather and Allied Product Manufacturing | | -35% | 25 | 24% | 15% | 30 | -1 |
| 3351 | Electric Lighting Equipment Manufacturing | | -17% | 0 | 45% | 20% | 30 | -1 |
| 3132 | Fabric Mills | | -23% | 8 | 33% | 9% | 30 | -1 |
| 4852 | Interurban and Rural Bus Transportation | | -17% | 131 | 16% | 29% | 15 | -1 |
| 3141 | Textile Furnishings Mills | | -39% | 35 | 30% | 8% | 30 | -2 |
| 3113 | Sugar and Confectionery Product Manufacturing | | -8% | 7 | 35% | 11% | 30 | -3 |
| 3152 | Cut and Sew Apparel Manufacturing | | -33% | 56 | 24% | 7% | 30 | -4 |
| 3115 | Dairy Product Manufacturing | | -6% | 389 | 45% | 11% | 30 | -4 |
| 4922 | Local Messengers and Local Delivery | | -7% | 508 | 25% | 10% | 15 | -4 |
| 3352 | Household Appliance Manufacturing | | -63% | 2 | 40% | 17% | 30 | -4 |
| 3133 | Textile and Fabric Finishing and Fabric Coating Mills | | -66% | 16 | 41% | 10% | 30 | -6 |
| 3159 | Apparel Accessories and Other Apparel Manufacturing | | -56% | 69 | 23% | 15% | 30 | -6 |
| 1114 | Greenhouse, Nursery, and Floriculture Production | | -15% | 0 | 30% | 30% | 40 | -8 |
| 3149 | Other Textile Product Mills | | -39% | 70 | 31% | 12% | 30 | -8 |
| 3119 | Other Food Manufacturing | | -17% | 228 | 40% | 12% | 30 | -10 |
| Continued | | | | | | | | |

**APPENDIX A
INDUSTRIAL INDUSTRY "SCORE CARD"**

| NAICS Code | NAICS Description | Identified Cluster | Metro Area Proj. Growth Rate | 2004 Est. Mpls. Empl. | % of Jobs Starting at a Living Wage | % of Jobs Req. 4-Year Deg. | Est. Empl. Per Acre | Change in Metro Acreage 02-'12 |
|--|---|---------------------------|-------------------------------------|------------------------------|--|-----------------------------------|----------------------------|---------------------------------------|
| "Run of the Mill Industrial Employment" (Continued) | | | | | | | | |
| 4249 | Miscellaneous Nondurable Goods Merchant Wholesalers | | -6% | 340 | 48% | 15% | 20 | -11 |
| 3114 | Fruit and Vegetable Preserving and Specialty Food Manufacturing | | -42% | 56 | 40% | 11% | 30 | -24 |
| "Legacy Industrial Employment" Total | | | -7% | 280 | 34% | 13% | 27 | 14 |
| Total Industrial Employment | | | 0% | 468 | 57% | 24% | 33 | 8 |
| Source: Maxfiled Research Inc. | | | | | | | | |

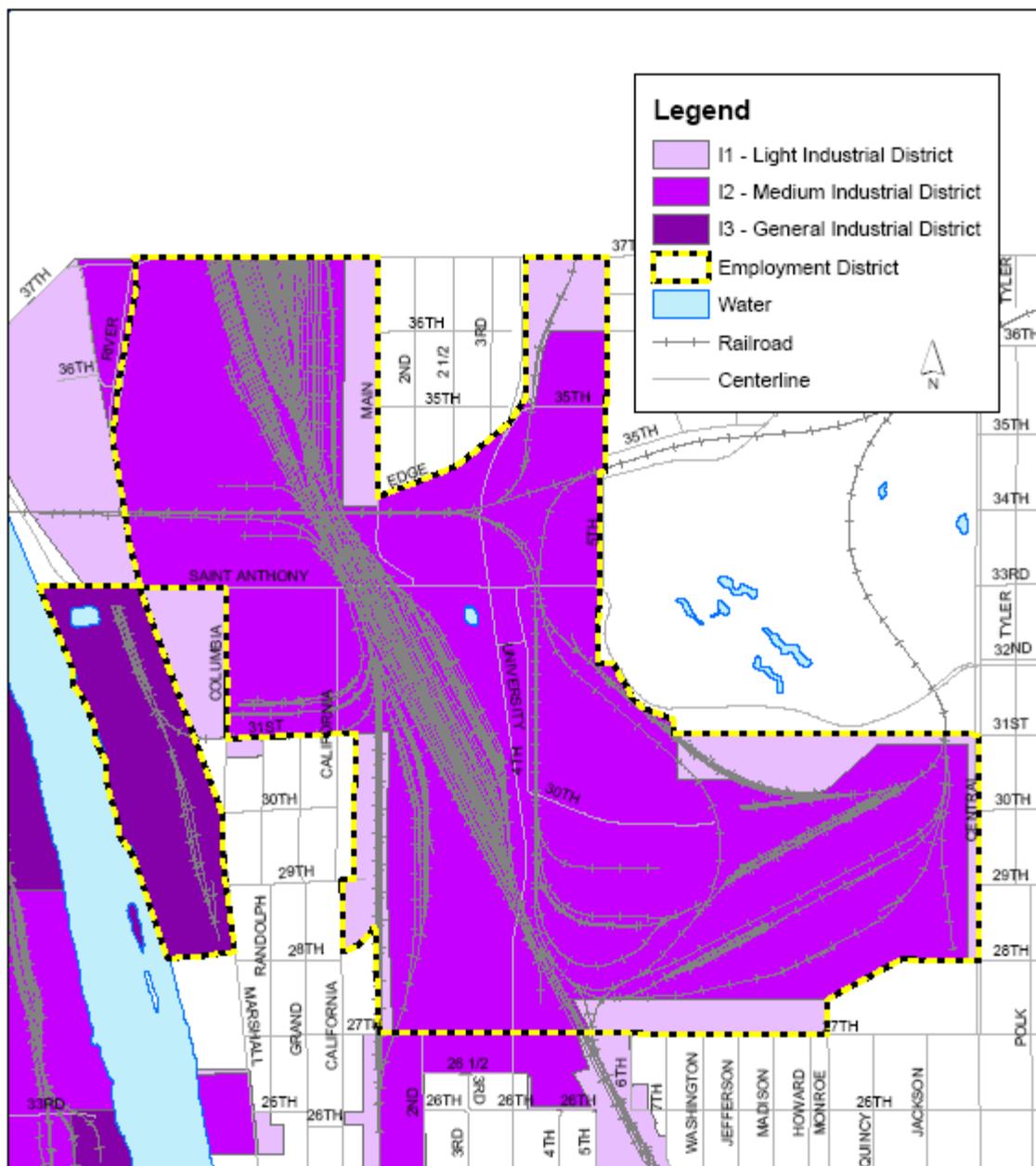
Appendix B

Employment Districts



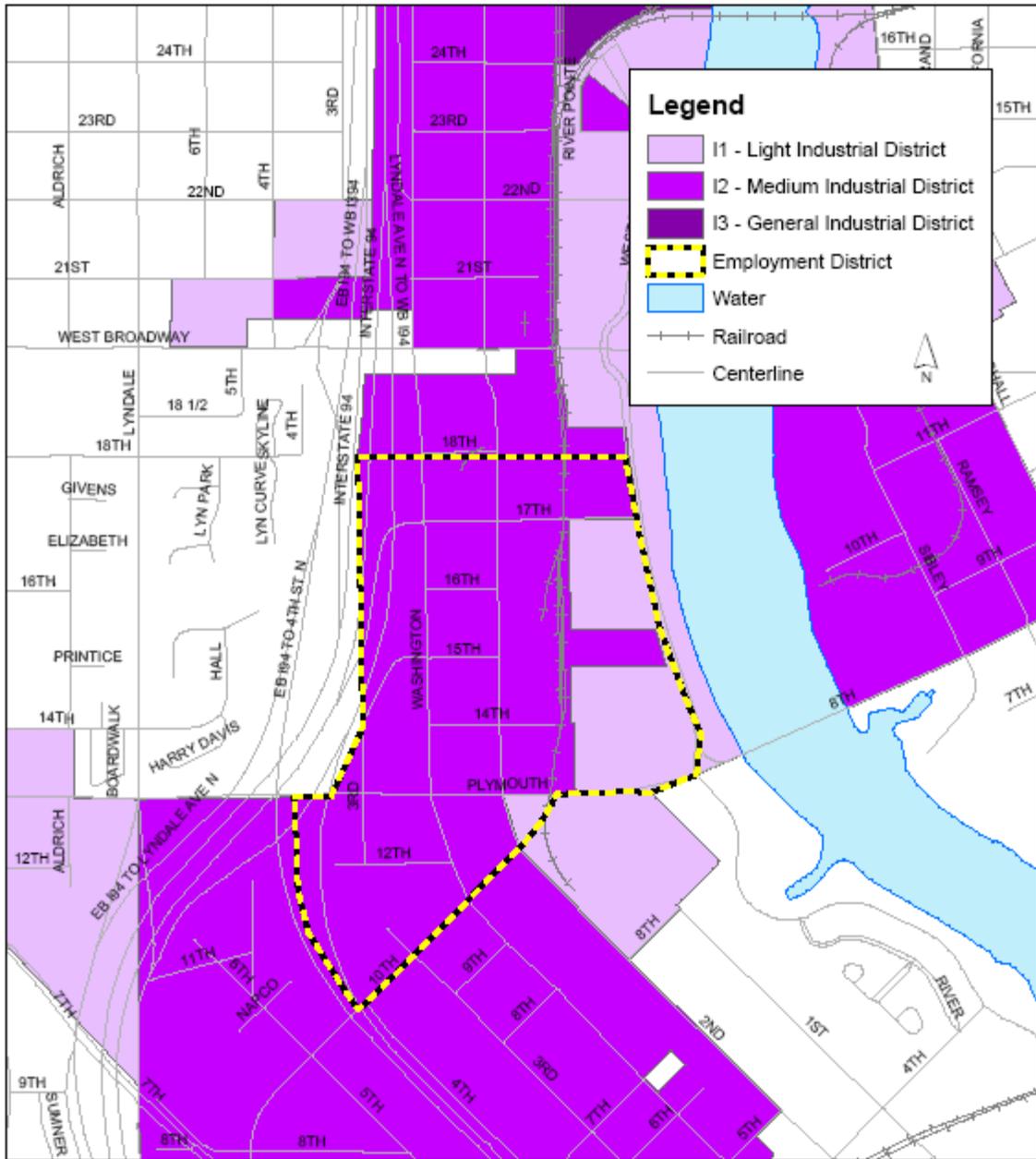
Employment District 1 - Humboldt
Adopted November 3, 2006

0 235 470 940 1,410
Feet



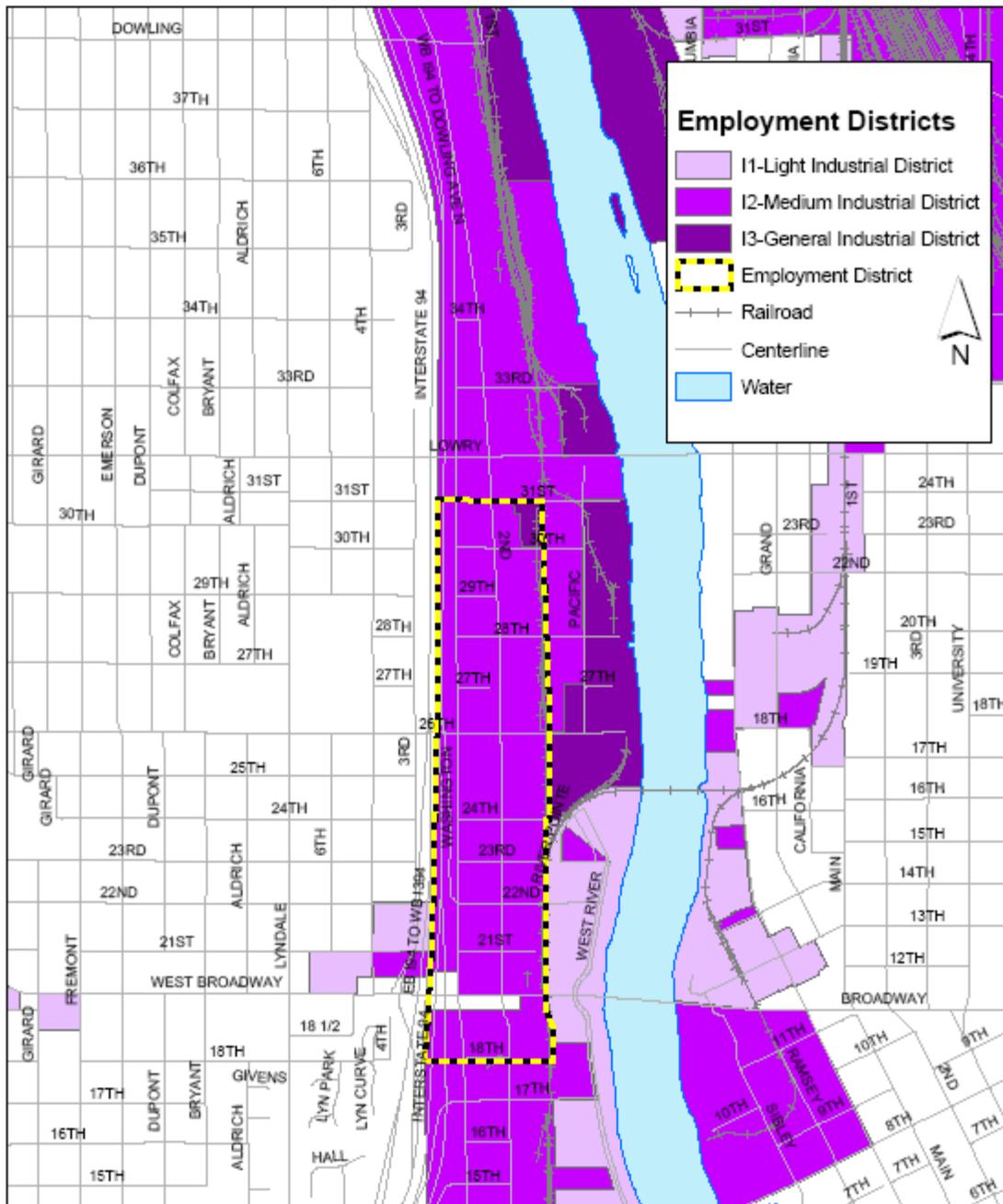
Employment District 2 - Shoreham Yards
Adopted November 3, 2006

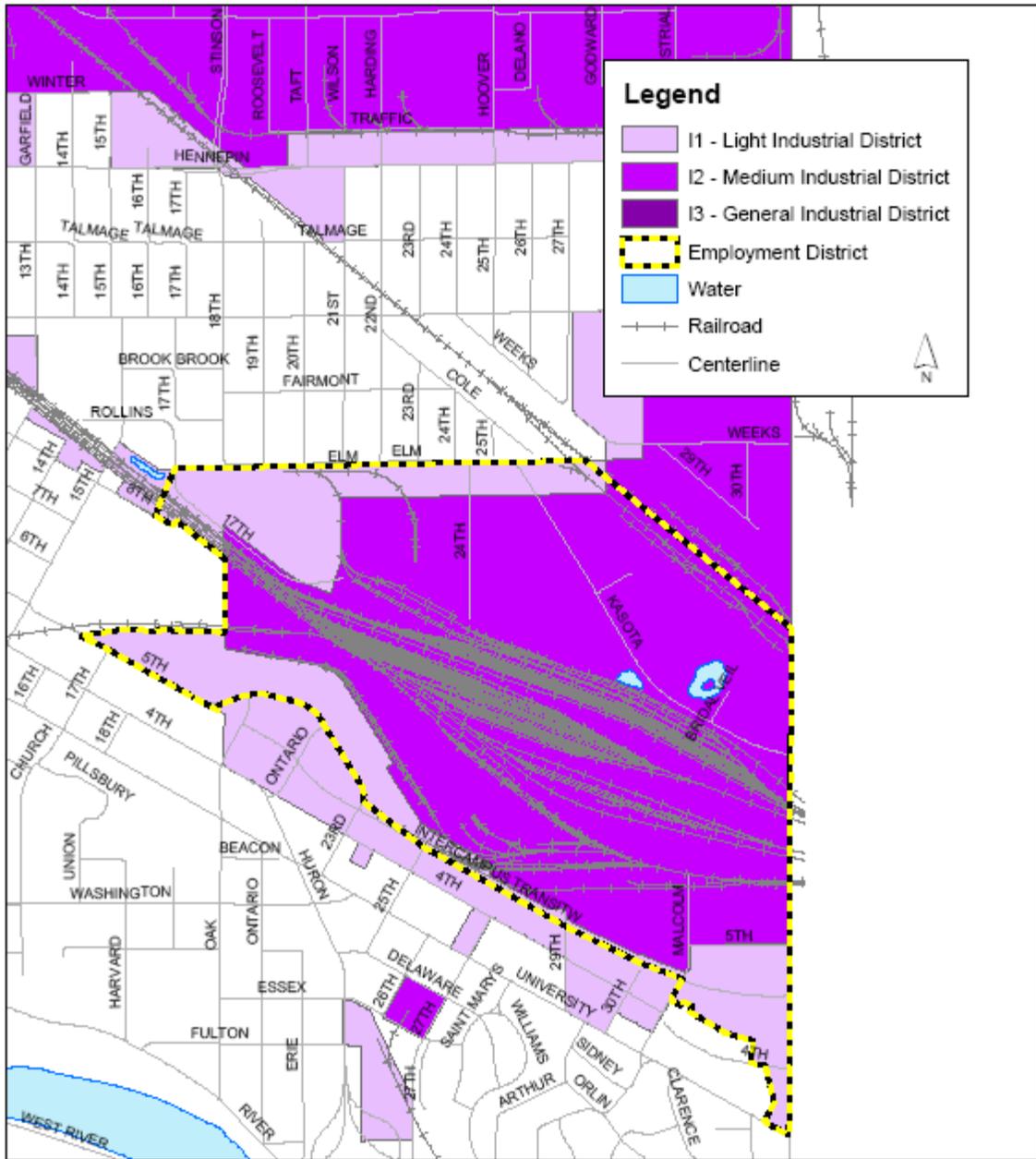
0 310 620 1,240 1,860
Feet



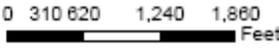
Employment District 3 - North Washington Jobs Park
Adopted November 3, 2006

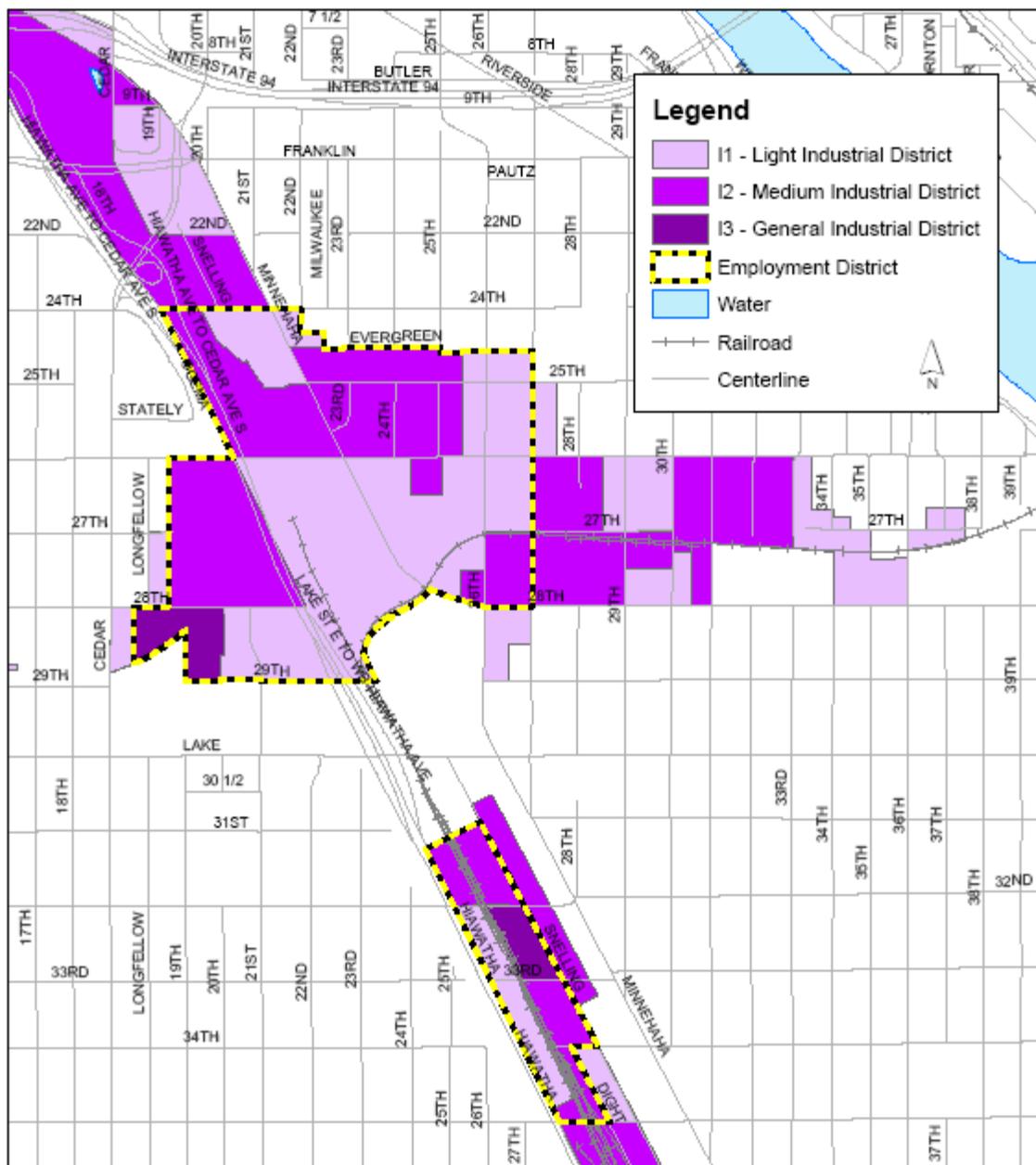






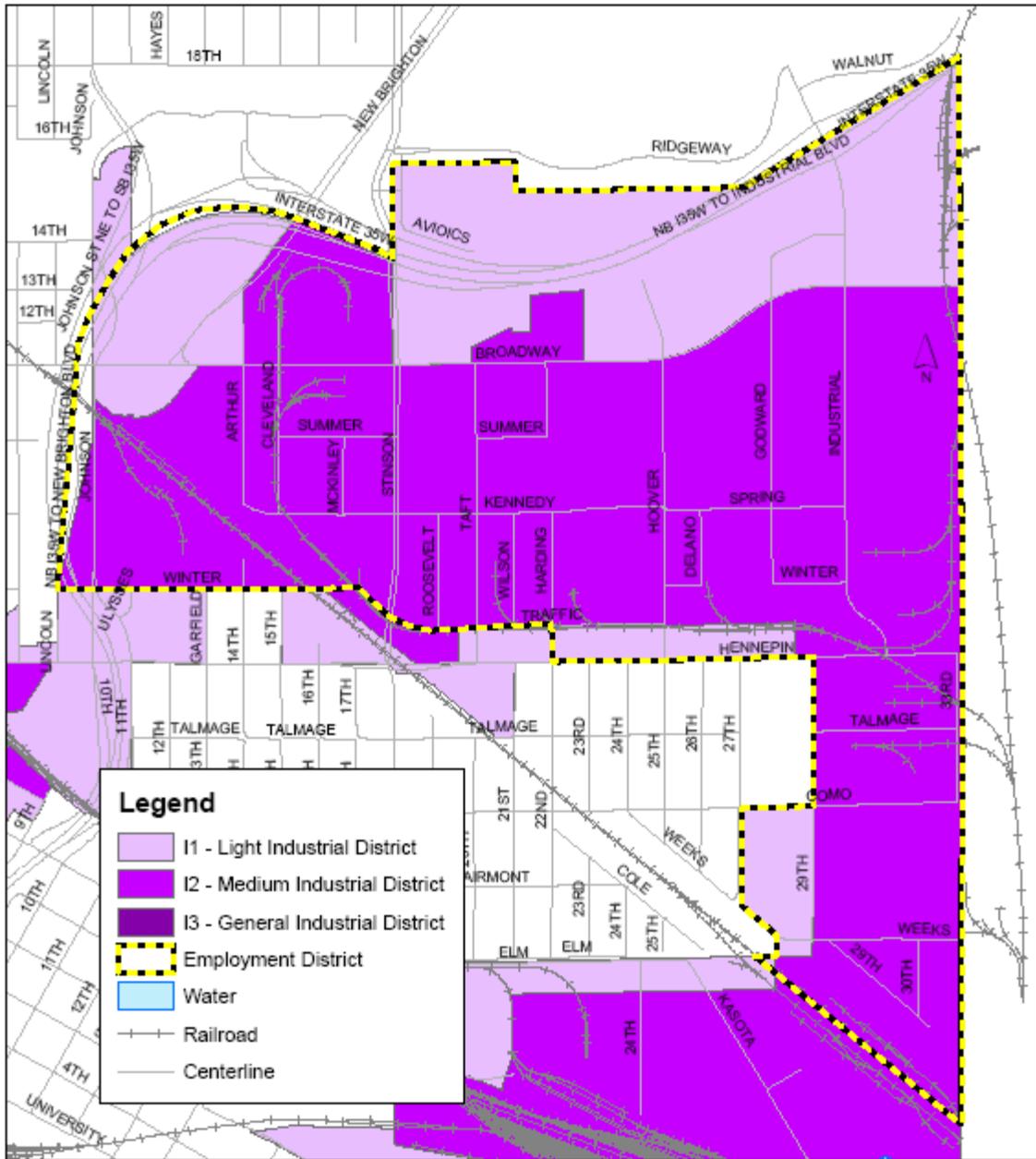
Employment District 5 - SEMI
Adopted November 3, 2006





Employment District 6 - Seward/Hiawatha
Adopted November 3, 2006

0 310 620 1,240 1,860
Feet



Employment District 7 - Mid-City Industrial Area
 Adopted November 3, 2006

0 310 620 1,240 1,860
 Feet

Appendix C

Actions Undertaken in Other Cities

In order to better meet the needs of industrial businesses, cities have instituted a number of changes outlined in their industrial land use studies. These responses can be organized into five categories:

Zoning and Planning

Financial Assistance

Site Assembly and Acquisition

Targeted Infrastructure Investments

Workforce Development



*Hiawatha Industrial Area,
Minneapolis*

Maxfield Research conducted interviews with senior staff members in the planning and economic development departments, and industrial business advocates, in Baltimore, Boston, Chicago, New York, and Portland. Multiple attempts were made to reach interviewees with the City of San Francisco, but the inquiries were unanswered.

1. Zoning and Planning

All six cities are pursuing zoning and planning changes to protect industrial space, although many of the cities are building off existing protective zoning practices.

For example, Portland proactively set aside industrial land early on. The City passed an industrial sanctuary policy in 1980.

However, the 2003 industrial land use study prompted regional zoning that further strengthened the established industrial areas.



Upper River Industrial Area, Minneapolis

The City of Portland also followed-up its industrial land use study with an industrial land atlas that profiles eight industrial districts in order to provide baseline data for industrial space developers and future planning.

The follow-up zoning responses vary in restrictiveness. New York City's Industrial Business Zones (IBZs) indicate a policy commitment by the City not to rezone industrial parcels to residential uses. However, non-industrial commercial uses are still allowed as-of-right in IBZs. Chicago's Planned Manufacturing Districts (PMDs), in contrast, codify permitted industrial uses in the zoning code.

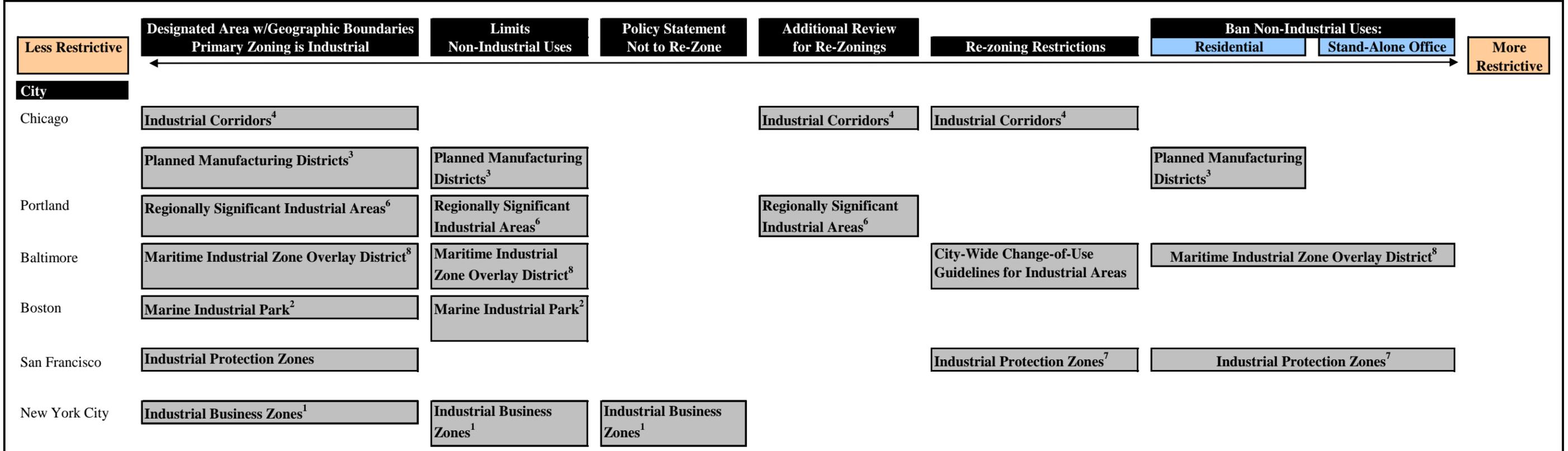
Figures C.1.1. and C.1.2 illustrate the spectrum of zoning and planning tools utilized.

FIGURE C.1.1
ZONING AND PLANNING RESPONSES
SELECTED CITIES WITH INDUSTRIAL LAND USE PLANS
2005

| City | New Responses | Existing Responses |
|----------------------|--|--|
| Baltimore | <ul style="list-style-type: none"> • In 2004, adopted city-wide Change-of-Use (Re-Zoning) Guidelines for industrial parcels (study rec.). Call for retaining industrial sites "that can meet the needs of industry and compete for users/tenants." • Also created Maritime Industrial Zone Overlay District (MIZOD) around harbor in 2004. MIZOD is an industrial protection zone, in which office uses are not permitted unless accessory to industrial user. | <ul style="list-style-type: none"> • Two Urban Renewal Areas, located south and east of the harbor, have zoning protections that prioritize industrial uses, but both are being re-vamped to allow more non-industrial uses. • Standard industrial zoning. |
| Boston | <ul style="list-style-type: none"> • Introducing zoning restrictions on non-industrial users in industrial areas outside Marine Industrial Park and using commercial space to buffer residential properties. | <ul style="list-style-type: none"> • City owns Marine Industrial Park. Ownership side steps market pressure to convert and zoning restricts users to maritime industrial businesses. • Standard industrial zoning. |
| Chicago | <ul style="list-style-type: none"> • In 2004, required all re-zoning in industrial corridors must go before Plan Commission. • B/w 2003 and 2005, created 8 Planned Manufacturing Districts (PMDs) in corridors. PMDs permit only industrial uses and compatible uses. Cannot re-zone individual parcels in PMDs. | <ul style="list-style-type: none"> • Established 24 protected industrial corridors in 1992-1995. • Five PMDs were established before study. • Standard industrial zoning. |
| New York | <ul style="list-style-type: none"> • In 2005, created Office of Industrial and Manufacturing Businesses that will establish Industrial Business Zones (IBZs). IBZs are only a policy statement not to rezone industrial parcels. • Proposal before City Council to create Industrial Employment Districts that limit non-industrial uses currently allowed on industrially-zoned land. | <ul style="list-style-type: none"> • Standard industrial zoning. Although many consider "M-zones" to be very permissive. |
| Portland | <ul style="list-style-type: none"> • 2003 Industrial Land Inventory was used in proposing boundaries of Regionally Significant Industrial Areas (RSIAs). In RSIAs, rezoning undergoes additional regional review and non-industrial commercial use is limited to 3,000 sq. ft. • Created Industrial District Atlas (2004) to profile characteristics of 8 industrial district. | <ul style="list-style-type: none"> • Established Industrial Land Sanctuary Policy in 1980. Protects industrial districts in Portland comprehensive plan and zoning code. • Standard industrial zoning. |
| San Francisco | <ul style="list-style-type: none"> • In 2001, established Industrial Protection Zones (IPZs) that ban residential, live/work, and office development or conversion. Precursor was Industrial Development Guidelines. • In 2005, published supply/demand study for PDR businesses in eastern neighborhoods. | <ul style="list-style-type: none"> • Standard industrial zoning, which is increasingly re-zoned for mixed-use and residential development in neighborhood master plans. |
| Minneapolis | <ul style="list-style-type: none"> • N/A | <ul style="list-style-type: none"> • Standard industrial zoning -I1,I2,I3. |

Source: Maxfield Research Inc.

FIGURE C.1.2
SPECTRUM OF ZONING AND PLANNING RESPONSES TO INDUSTRIAL BUSINESS NEEDS
SELECTED CITIES WITH INDUSTRIAL LAND USE PLANS
2005



¹ = Does not include proposed Industrial Employment Districts.

² = Established in 1977, so not a direct policy response to Industrial Land Use Study (2000)

³ = Five PMDs were in place before industrial land use study. Eight more PMDs were created between 2003-2005 after industrial land use study. PMDs make "industrial use the priority and restrict or prohibit uses that impeded the functions of industrial operations."

⁴ = All re-zonings in Industrial Corridors must go before Planning Commission. In addition, re-zonings in PMDs cannot be individual properties and must be compatible land uses.

⁵ = Re-zonings undergo review through regional planning body.

⁶ = RSIA's limit size of commercial development in industrial-zoned areas, but do not limit industrial-to-residential uses.

⁷ = "No residential or live/work dev. or conversion to such uses...no new office development or conversion to office shall be allowed"

⁸ = In MIZOD, office uses are only permitted if accessory to industrial uses. No residential uses allowed.

Source: Maxfield Research Inc.

2. Financial Assistance

Financial assistance is emerging as a common tool for fostering local business expansion and attracting outside industrial firms. While all the cities used tax incentives and municipal bonds to support overall business growth, a handful of cities specifically reserve funds for industrial businesses. Boston, Chicago, New York, and Minneapolis are making financial assistance exclusively available to industrial firms.

Figure C.2.1 details the identified financial assistance programs.

| FIGURE C.2.1 FINANCIAL ASSISTANCE PROGRAMS SELECTED CITIES WITH INDUSTRIAL LAND USE PLANS 2005 | | |
|---|---|---|
| City | Exclusively Targeted to Industrial Users | Available to all Businesses including Industrial Users |
| Baltimore | <ul style="list-style-type: none"> • None identified. | <ul style="list-style-type: none"> • Loan programs: revolving loan fund, EZ 50/50 loan fund, G.O. bond financing. • EZ property tax abatement. • TIF is available, but primarily used for commercial uses outside of harbor. • Brownfield re-development financing fund and property tax credit. |
| Boston | <ul style="list-style-type: none"> • In 2002, established Back Streets Program: comprehensive, strategic use of land, job training, and financial resources to retain and grow eight industrial areas. • Back Streets markets low-interest loans from city to industrial firms. \$1M was added to low-interest loan fund for Back Streets firms. • Tax-exempt bond financing for industrial firms to expand or locate in Boston. | <ul style="list-style-type: none"> • Empowerment Zone tax credits • Enterprise Zone bond financing |
| Chicago | <ul style="list-style-type: none"> • Tax-increment financing (TIF) districts are sited in industrial corridors. • "Industrial Bonds" or tax-exempt bond financing for industrial firms. • Business visitation program: partnership b/w ComEd utility and City of Chicago to conduct on-site interviews with employers in order to identify barriers to growth. • Plant Optimization Studies: consultants help factories utilize space better. City and utility sponsored base survey of 1,200 firms. • Laboratory Facilities Fund: 25% of base construction costs (up to \$1.25M). | <ul style="list-style-type: none"> • Empowerment Zone and Enterprise Zone tax credits and bond financing. • Loan programs: bank loan participation, low-interest loans and micro-loans. • Façade Improvement Program • Small Business Improvement Fund: TIF for capital improvements at small and mid-sized industrial and commercial firms. • Reduced property tax assessments for industrial and commercial uses in specified areas. • Seawall Improvement Fund: TIF for seawall investments. • Business Express Program: assigns an account manager to refers businesses to loan programs and EZ tax credits. |

**FIGURE C.2.1 (CONT.)
FINANCIAL ASSISTANCE PROGRAMS
CITIES WITH INDUSTRIAL LAND USE PLANS
2005**

| City | Exclusively Targeted to Industrial Users | Available to all Businesses including Industrial Users |
|----------------------|--|---|
| New York | <ul style="list-style-type: none"> • Office of Industrial and Manufacturing Businesses will offer relocation tax credits. • In-Place Industrial Parks (IPIPs) targeted for financial assistance programs. IPIPs created in late 1980's, but correspond to new IBZs. • NYC Industrial Development Authority offers low-cost tax-exempt bond financing and tax abatement programs. • Proposed revolving fund for industrial dev. -developer fees from conversion projects. | <ul style="list-style-type: none"> • Empire/Empowerment Zone tax credits. • Commercial Expansion Program: tax reduction for new, renewal, or expansion leases in abatement zones. • Industrial and Commercial Incentive Program: property tax exemption for renovated and newly constructed buildings. |
| Portland | <ul style="list-style-type: none"> • None identified. | <ul style="list-style-type: none"> • Loan Programs: low-interest/forgivable loans for qualifying businesses. • Economic Opportunity Fund finances expansion and relocation to urban renewal areas. • N/NE Enterprise Zone: property tax abatement on new investment. • Storefront Improvement Program: grants for exterior improvement. |
| San Francisco | <ul style="list-style-type: none"> • None identified. | <ul style="list-style-type: none"> • Mayor's Office of Community Dev. administers micro-enterprise loans and small business loans. • Enterprise Zone tax credits/financing. |
| Minneapolis | <ul style="list-style-type: none"> • A number of TIF districts are sited within industrial areas of Minneapolis. • Industrial Revenue Bonds: tax-exempt bonds issued to finance acquisition, construction of industrial space or equip. Low-interest loans range from \$500,000 to \$10 million. • Common Bond Fund Program: tax-exempt bonds for same purposes, but available to owner-occupied manufacturing companies in Hennepin County. | <ul style="list-style-type: none"> • 2% Loan Fund & Com. Corridor/Com. Node 2% Loan Fund: low-interest loans for building and equipment improvements. Minneapolis businesses and property owners are eligible. • Capital Acquisition Loan Fund: low-interest financing for small commercial and industrial rehab. • Business Development Loan Fund: loans w/flexible terms & partial forgiveness for redevelopment. • Capital Investment Fund: bridge and long-term loans for capital investments. • Community Econ. Development Fund: financing for community com. redev. • Working Capital Loan Program: purchase or guarantee loans -including light manufacturing |

Source: Maxfield Research Inc.

3. Site Acquisition and Assembly

Cities also assemble and acquire sites for redevelopment in order to bring more industrial land to the market and provide industrial businesses with expansion or relocation space.

All six cities play a role in positioning sites for reuse, but cities vary in how actively they try to acquire parcels for redevelopment.



Hiawatha Industrial Area, Minneapolis

San Francisco focuses on bringing together firms and available sites through its Prospector listing service. Chicago is starting to proactively use tax reactivation and lien foreclosure to push land being held speculatively back on to the market. Minneapolis acquires parcels for reuse. Figure C.3.1 highlights the site acquisition and assembly roles of the inventoried cities.

| FIGURE C.3.1 SITE ACQUISITION AND ASSEMBLY ROLE SELECTED CITIES WITH INDUSTRIAL LAND USE PLANS 2005 | |
|--|--|
| City | Programs |
| Baltimore | <ul style="list-style-type: none"> • Baltimore Development Corporation acquires properties and then works as a broker with incoming developers and businesses to reposition the properties as industrial, commercial, or residential development. |
| Boston | <ul style="list-style-type: none"> • Back Streets program acts more like a broker rather than developer -helping match businesses with sites. Although might be involved in developing an industrial park. • Boston Redevelopment Authority acquires and positions properties for industrial, commercial, and residential redevelopment. |
| Chicago | <ul style="list-style-type: none"> • City uses condemnation, tax reactivation, lien foreclosure to acquire and assemble industrial parcels. Now applying in more areas with retail and residential speculation. |
| New York | <ul style="list-style-type: none"> • NYC Economic Development Commission sells city-owned parcels. Acquisition and assembly role is unclear. |
| Portland | <ul style="list-style-type: none"> • Portland Development Commission runs a commercial properties listing service and sells city-owned parcels. |
| San Francisco | <ul style="list-style-type: none"> • City operates Prospector website that maps and profiles available industrial and commercial sites. Prospector also creates demographic, consumer expenditure, and workforce reports for specific sites. |
| Minneapolis | <ul style="list-style-type: none"> • CPED acquires and assembles underdeveloped industrial, commercial, and residential parcels. TIF funds can be used for site acquisition and preparation costs. • MILES program acquires and repositions blighted land suitable for industrial use. |

Source: Maxfield Research Inc.

4. Targeted Infrastructure Investments

The majority of cities are also targeting and coordinating infrastructure investments in order to maximize their effectiveness to industrial users. Boston, Chicago, Portland, and New York are making sure capital investments are consistent with industrial needs.

For example, Portland is developing a Harbor Reinvestment Strategy and Freight Mobility Master Plan to understand where and how to make infrastructure investments. Boston is making \$5 million in infrastructure investments through its Back Streets program. Figure C.4.1 below documents each city's use of infrastructure upgrades to retain industrial businesses.



SEMI Area, Minneapolis

| FIGURE C.4.1 TARGETED INFRASTRUCTURE INVESTMENTS SELECTED CITIES WITH INDUSTRIAL LAND USE PLANS 2005 | |
|---|---|
| City | Responses |
| Baltimore | <ul style="list-style-type: none"> • Baltimore Development Commission is involved in coordinating infrastructure investments, but not targeting investments to Maritime IPZ. |
| Boston | <ul style="list-style-type: none"> • Back Streets coordinating \$5M in infrastructure investments for industrial users. |
| Chicago | <ul style="list-style-type: none"> • City targets industrial infrastructure investments to corridors (e.g. bridge replacement, viaduct, clearance improvements, intersection improvements). • City also focuses state and federal industrial infrastructure requests on corridors. |
| New York | <ul style="list-style-type: none"> • Office of Industrial and Manufacturing Businesses will recommend infrastructure investments and coordinate enhanced sanitation services for IBZ's. |
| Portland | <ul style="list-style-type: none"> • Developing Harbor Reinvestment Strategy that coordinates infrastructure investments by Port of Portland, Portland Development Commission, and City. • Developing Freight Mobility Master Plan that will alter street design and street improvements to better meet needs of freight traffic. |
| San Francisco | <ul style="list-style-type: none"> • None identified. |
| Minneapolis | <ul style="list-style-type: none"> • CPED making effort to coordinate public infrastructure investments with industrial business needs (e.g. Kasota Drive in northern part of SEMI). |

Source: Maxfield Research Inc.

5. Workforce Development

Cities are also trying to meet the labor needs of industrial employers. In addition to funding industrial training programs, cities and city-funded organizations are acting as brokers between employers, training programs, and job seekers.

Baltimore, Boston, Chicago, and New York all play brokering roles. For example, the Baltimore Development Commission and Mayor's Office of Economic Development are working together to meet industrial employer needs.

Figure C.5.1 below summarizes these efforts to meet the labor needs of the industrial sector.

| FIGURE C.5.1 WORKFORCE DEVELOPMENT ROLE SELECTED CITIES WITH INDUSTRIAL LAND USE PLANS 2005 | |
|--|---|
| City | Programs |
| Baltimore | <ul style="list-style-type: none"> • City funds industrial job training programs through non-profit providers. • Baltimore Development Commission and Mayor's Office of Economic Development joining to meet employers' workforce and development needs. |
| Boston | <ul style="list-style-type: none"> • City funds industrial job training programs through non-profit providers. • Back Streets acts as an intermediary between industrial firms and job training program graduates through Boston's Career Centers. Also helps employers access funds for employee education and English-as-a-Second-Language classes. |
| Chicago | <ul style="list-style-type: none"> • City funds industrial job training programs through non-profit providers. • Mayor's Office of Workforce Development acts as a broker between job-seekers and employers, including industrial employers. Also administer TIF funds for employee education costs. • Jane Addams Resource Corporation (JARC), a local CDC, offers metalforming job training for residents and works to improve the competitiveness of local manufacturers. JARC holds forums for manufacturers to address industry issues and developed a metalforming industry assessment tool. |
| New York | <ul style="list-style-type: none"> • City funds industrial job training programs through non-profit providers. • Department of Small Business Services is matching employers and job seekers, and working to customize training programs to employer needs, including industrial firms. |
| Portland | <ul style="list-style-type: none"> • Portland Development Commission funds industrial job training programs through non-profit providers. |
| San Francisco | <ul style="list-style-type: none"> • City funds industrial job training programs through non-profit providers. |
| Minneapolis | <ul style="list-style-type: none"> • City funds industrial job training programs through Minneapolis Employment and Training Program. |
| Source: Maxfield Research Inc. | |

Do these responses work?

The relative effectiveness of these responses is unknown. From zoning measures to job training, cities consistently did not track the associated number of jobs created, firms retained, wages levels, or tax revenue generated.

Maxfield Research, however, obtained anecdotal evidence about the use of financial assistance in Chicago and Regionally Significant Industrial Area zoning in Portland.

The City of Chicago volunteered anecdotal evidence showing job growth associated with using financing tools to retain an industrial firm. Both cases follow.

Chicago Anodizing is a metal forming plant in the Northwest PMD of Chicago. The City conducted soil remediation, sold the site, and authorized \$500,000 in property tax abatement. The 15,000 sq. ft. expansion retained 65 jobs and created 15 jobs.

Aramark is a uniform laundry business in the Stockyards PMD of Chicago. The City conducted \$1 million in soil remediation, sold the site for \$1, and authorized a property tax break. The 125,000 sq. ft. facility retained 230 jobs and created 100 jobs.

It's still unclear whether Chicago Anodizing or Aramark would have relocated outside of Chicago without the financial incentives. Economic development practitioners and academics, in fact, debate the effectiveness of tax incentives in retaining or growing jobs.

The City of Portland contends that RSIA's and the corresponding municipal zoning code effectively control non-industrial commercial development through space limitations. Commercial users are limited to 3,000 square feet and building size is capped at 20,000 square feet.

The City's industrial atlas found that only 5% of Portland's 14,000 acres of industrial-zoned land is used by non-industrial businesses. The size limitation restricts commercial businesses' scale and impact on industrial users.