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Minneapolis Saint Paul Regional Analysis: Demographics, Economy, Entrepreneurship and Innovation

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JUMPSTART COMMUNITY ADVISORS

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Updated April 2011

**MINNEAPOLIS SAINT
PAUL REGIONAL
ANALYSIS:**

**DEMOGRAPHICS,
ECONOMY,
ENTREPRENEURSHIP
AND INNOVATION**

CENTER FOR
ECONOMIC
DEVELOPMENT

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EXECUTIVE SUMMARY

This report has been prepared for JumpStart Community Advisors by the Center for Economic Development at Cleveland State University. The objective of this study is to provide background analysis of the Minneapolis Saint Paul area for JumpStart Community Advisors as they conduct interviews and research to create a Regional Entrepreneurial Action Plan Initiative in the Minneapolis Saint Paul area.

This report is organized into three chapters: Demographics, Economy and Industry, and Entrepreneurship and Innovation. Each chapter contains the same structure: a literature review/review of other studies and analysis conducted by the Center for Economic Development. In most instances in the analysis, a graphic or table is displayed with bullet points underneath it highlighting the observations of data collected and studied. In addition, MSAs comparable to Minneapolis Saint Paul were identified in order to benchmark to other regions; this allowed for regional comparison.

DEMOGRAPHICS

The demographic information gathered about Minneapolis Saint Paul Metropolitan Statistical Area (MSA) revealed interesting trends and snapshots about the population. Of the 20 largest MSAs in the country, Minneapolis Saint Paul ranked 9th in population growth between 2000 and 2008. Within the metro area, population trends in the two largest cities differed; while the city of Minneapolis continued to grow (0.8%), the city of Saint Paul, experienced a population decline of 1.9%. The composition of the population is almost 85% white, only 6.4% of the population is Black and 5.0% is Asian.

The workforce of Minneapolis Saint Paul is highly educated and skilled. When educational attainment is compared, the largest group for the Minneapolis Saint Paul MSA is those people who have received a bachelor degree (25.1%), which is higher than for the United States where only 17.3% have obtained a bachelor degree. The percentage of people who have received graduate degrees is also higher in Minneapolis Saint Paul (11.9%) when compared to the United States (10.1%).

With an unemployment rate lower than the national average, high educational attainment, and per capita personal income significantly higher (\$47,863 in 2008) than the United States (\$39,582 in 2008), the Minneapolis Saint Paul region has ratings significantly better than the nation as a whole.

INDUSTRY AND ECONOMY

The last 30 years have seen steady growth for the Minneapolis Saint Paul regional economy, which consistently outperformed the state of Minnesota and the United States based on the major measures of economic growth (employment, total GDP, and average wage). Interestingly, the growth of the Minneapolis Saint Paul economy has not been concentrated in traditionally defined high-tech sectors. Rather, growing industries in the Minneapolis Saint Paul area are in medical and electrical manufacturing (medical devices), the insurance industry, and securities and commodities.

Industries that outperform others are considered “winning industries” and overall there were 15 winning industries in the Minneapolis Saint Paul regional economy. These industries varied in size and

scope, but had in common growing employment, regional specialization, and high wages. The top three industries with high concentration and specialization in the Minneapolis Saint Paul relative to the U.S. are medical equipment and supplies manufacturing, farm product raw material merchant wholesalers and management of companies and enterprises.

Recently, there appear to be challenges to the Minneapolis Saint Paul economy, however, because it has been recently losing ground to other regions in the areas of innovation and entrepreneurship. In addition, the Minneapolis Saint Paul metro area has a high cost of doing business in terms of the tax, regulatory, and labor structures.

ENTREPRENEURSHIP AND INNOVATION

The Minneapolis Saint Paul region has been a strong leader in entrepreneurship and innovation, but in the last few years it has been losing ground to competitors. Although the Minneapolis Saint Paul region is a leader in technology transfer overall, it has a lower start-up rate. The elected and civic leadership believe that the region lacks a strong entrepreneurial community.

A large number of Fortune 500 companies located in the area are a major source of R&D in the region. Patent data is an indication of innovation, and five major corporations (3M, Medtronic, Boston Scientific, ADC Telecommunication, and Cardiac Pacemakers) accounted for almost 30% of patents in the Minneapolis Saint Paul region from January 2006 to July 2010. In addition, Minnesota firms accounted for \$6.6 million of industry R&D.

In the Minneapolis Saint Paul region there are 21 early stage investment firms, 8 late stage investment firms, and 17 private equity firms. However, these firms may invest in companies located in Minnesota as well as in other parts of the country. Local start-up companies and local leadership note that the region has insufficient levels of seed money and early state investment dollars.

Indicators of entrepreneurship and innovation for Minneapolis – Saint Paul rank from high to low:

- Higher Rankings: venture capital, propensity to be in business, expenditures at universities and colleges, industry R&D, and SBIR/STTR awards
- Lower Rankings: Kauffman Index of Entrepreneurial Activity, birth rate (new firms per capita), and business churning (average ratio of firm births to firm closings)

CONCLUDING COMMENTS

Minneapolis Saint Paul is doing well by many economic measures but has shown recent signs of weakness. Minneapolis Saint Paul is a top performing region in the Midwest, but comparing the region to national leaders in their focus industries (i.e. Boston, San Diego) shows that Minneapolis Saint Paul must continue to strive for growth and excellence. The leadership of the region has had the foresight to address these declining trends early and not wait for more economic decline before taking action. The new initiative to create a Regional Entrepreneurial Action Plan Initiative to accelerate entrepreneurship may reverse these trends.

INTRODUCTION

In this report, Chapter 1 contains demographic information and includes analysis of population, population distribution by race and age, concentration of foreign-born residents, income, poverty, education attainment, labor force participation, unemployment, and housing statistics. Chapter 2 examines the economy and industry trends of Minneapolis Saint Paul and includes analysis of trends in total employment, gross product, average wage, and employment in high-tech industries. It also discusses select growth industries, and occupational shares. Chapter 3 looks at entrepreneurship and innovation. Examining entrepreneurship through the Kauffman Index of Entrepreneurial Activity, public offerings, business dynamics, propensity to be in business, and capital markets; it analyzes Innovation through university research and development, industry research and development, SBIR/STTR awards, and patents.

This analysis was conducted by the Center for Economic Development at Cleveland State University's Maxine Goodman Levin College of Urban Affairs.

CHAPTER 1: DEMOGRAPHIC ANALYSIS

This section describes the socio-demographic characteristics of the Minneapolis Saint Paul (MSP) Metropolitan Statistical Area (MSA). It includes analysis of population, population distribution by race and age, concentration of foreign-born residents, income, poverty, education attainment, labor force participation, unemployment, and housing statistics.

POPULATION & GROWTH

Table 1. Population Change for the Minneapolis Saint Paul MSA and United States, 2006-2008

Minneapolis Saint Paul MSA				United States			
Year	Total Population	Population Change	% Change	Year	Total Population	Population Change	% Change
2006	3,175,041	-	-	2006	299,398,485	-	-
2007	3,208,212	33,171	1.04%	2007	301,621,159	2,222,674	0.74%
2008	3,229,878	21,666	0.68%	2008	304,059,728	2,438,569	0.81%
Total Change '06 – '08		54,837	1.73%	Total Change '06 – '08		4,661,243	1.56%

Source: U.S. Census Bureau, American Community Survey

Population in the Minneapolis Saint Paul MSA grew from 2,981,508 people in 2000 to 3,229,878 by 2008, an increase of 248,370 residents (8.3%) (Table 1).

Among the 20 largest MSAs in the country, Minneapolis Saint Paul ranked 9th in population growth between 2000 and 2008. Of the 13 counties that encompass the MSA, 3 were ranked among the 100 fastest growing counties in the nation. The counties of Scott, Sherburne, and Wright enjoyed a collective population growth of 97,778 residents between 2000 and 2009.

The cities of Minneapolis and Saint Paul, the anchor cities of the MSA, experienced differing population trends over the past decade. In 2000, the city of Minneapolis had a population of 382,562 residents. By 2008 that total grew to 385,542 residents, an increase of 2,980 people (0.8%). In contrast, the population of Saint Paul declined from 286,774 residents in 2000 to 281,262 residents in 2008, a loss of 5,512 people (-1.9%).¹

¹ Population Estimates, U.S. Census Bureau, <http://factfinder.census.gov>, accessed July 2010

RACE & AGE DISTRIBUTION

Table 2. Race and Age Distribution for the Minneapolis Saint Paul MSA, 2008

<i>Race Distribution</i>	<i>Total</i>	<i>Percentage</i>	<i>U.S. Percent</i>	<i>Age Distribution</i>	<i>Total</i>	<i>Percent</i>	<i>U.S. Percent</i>
White Alone	2,730,566	84.5%	75.0%	Under 5 to 19	898,477	27.8%	27.3%
Black or African American Alone	207,851	6.4%	12.4%	20 - 29	426,428	13.2%	13.8%
Asian Alone	160,157	5.0%	4.4%	30 - 39	452,449	14.0%	13.3%
Two or More Races	68,729	2.1%	2.3%	40 - 49	530,377	16.4%	14.7%
Some Other Race Alone	43,300	1.3%	4.9%	50 - 59	441,269	13.7%	13.1%
American Indian & Alaska Native Alone	18,797	0.6%	0.8%	60 and Over	480,878	14.9%	17.8%
Native Hawaiian & Other Pacific Islander Alone	478	0.0%	0.1%				

Note: Total Population in MSA = 3,229,878

Source: U.S. Census Bureau, American Community Survey

A large majority of the population of the MSP MSA is White: 84.5% of the population or 2,730,566 people are classified as White. The next largest category, Black or African American, includes only 6.4% of the population which is equivalent to 207,851 people (Table 2).

The largest age category is the age group *under 5 to 19* with 898,477 people or 27.8% of the total population. Remaining age groups range from a low of 426,428 people (13.2% of the population) for the 20 to 29 class to a high of 530,377 people (16.4% of the population) for the 40 to 49 year old (Table2).

Table 3. Shift in Race Distribution for Minneapolis Saint Paul MSA, 2000, 2005, and 2008

Race Distribution	2000		2005		2008		Percent Change (2000-2008)
	Total	Percent	Total	Percent	Total	Percent	
White Alone	2,557,586	86.15%	2,585,702	84.05%	2,730,566	84.50%	6.76%
Black or African American Alone	154,317	5.20%	189,799	6.17%	207,851	6.40%	34.69%
Asian Alone	119,977	4.04%	156,888	5.10%	160,157	5.00%	33.49%
Two or More Races	67,242	2.26%	53,319	1.73%	68,729	2.10%	2.21%
Some Other Race Alone	46,456	1.56%	68,302	2.22%	43,300	1.30%	-6.79%
American Indian & Alaska Native Alone	22,150	0.75%	20,423	0.66%	18,797	0.60%	-15.14%
Native Hawaiian & Other Pacific Islander Alone	1,078	0.04%	1,806	0.06%	478	0.00%	-55.66%
Total Population (All Races)	2,968,806	100%	3,076,920	100%	3,229,878	100%	

Note: 2000 Statistics are acquired from the Decennial Census

Source: U.S. Census Bureau, American Community Survey; U.S. Census Bureau, Decennial Census

- Four of the seven racial distribution categories (White Alone, Black or African American Alone, Asian Alone, and Two or More Races) increased in population between 2000 and 2008 (Table3).
- The largest increase in both absolute level and percent of change from 2000 to 2008 was Black or African American Alone (53,534) (34.69%); followed closely by Asian Alone (40,180) (33.49%).
- The smallest racial category was Native Hawaiian & Other Pacific Islander Alone and from 2000 to 2008 the population fell by more than half.

FOREIGN-BORN

Table 4. Population Born Outside the U.S. for the Minneapolis Saint Paul MSA and United States, 2005-2008

Year	Minneapolis Saint Paul MSA			United States		
	Total	Change from Previous Year		Total	Change from Previous Year	
		Population	Percent		Population	Percent
2005	267,368	-	-	35,689,467	-	-
2006	282,017	14,649	5.5%	37,547,315	1,857,848	5.2%
2007	289,261	7,244	2.6%	38,059,555	512,240	1.4%
2008	281,428	-7,833	-2.7%	37,960,773	-98,782	-0.3%
Change from 2005 to 2008		14,060	5.3%		2,271,306	6.4%

Source: U.S. Census Bureau, American Community Survey

Between 2005 and 2008 the number of foreign-born residents in the Minneapolis Saint Paul MSA grew from 267,368 residents to 281,428, representing a population change of 14,060 or 5.3% (Table 44). However, the population of foreign-born residents within the MSA declined between 2007 and 2008, losing 7,833 people or 2.8% (Table 44).

INCOME MEASURES

Table 5. Personal Income and Per Capita Personal Income for the Minneapolis Saint Paul MSA and United States, 2006-2008

Area	Personal Income					Per-Capita Personal Income				
	Millions of Dollars			Percent Change from Preceding Period		Dollars			Percent Change from Preceding Period	
	2006	2007	2008	2007	2008	2006	2007	2008	2007	2008
United States	10,978,053	11,634,322	12,035,388	6.0	3.4	36,794	38,615	39,582	4.9	2.5
Minneapolis Saint Paul MSA	140,158	149,496	154,593	6.7	3.4	44,295	46,752	47,863	5.5	2.4

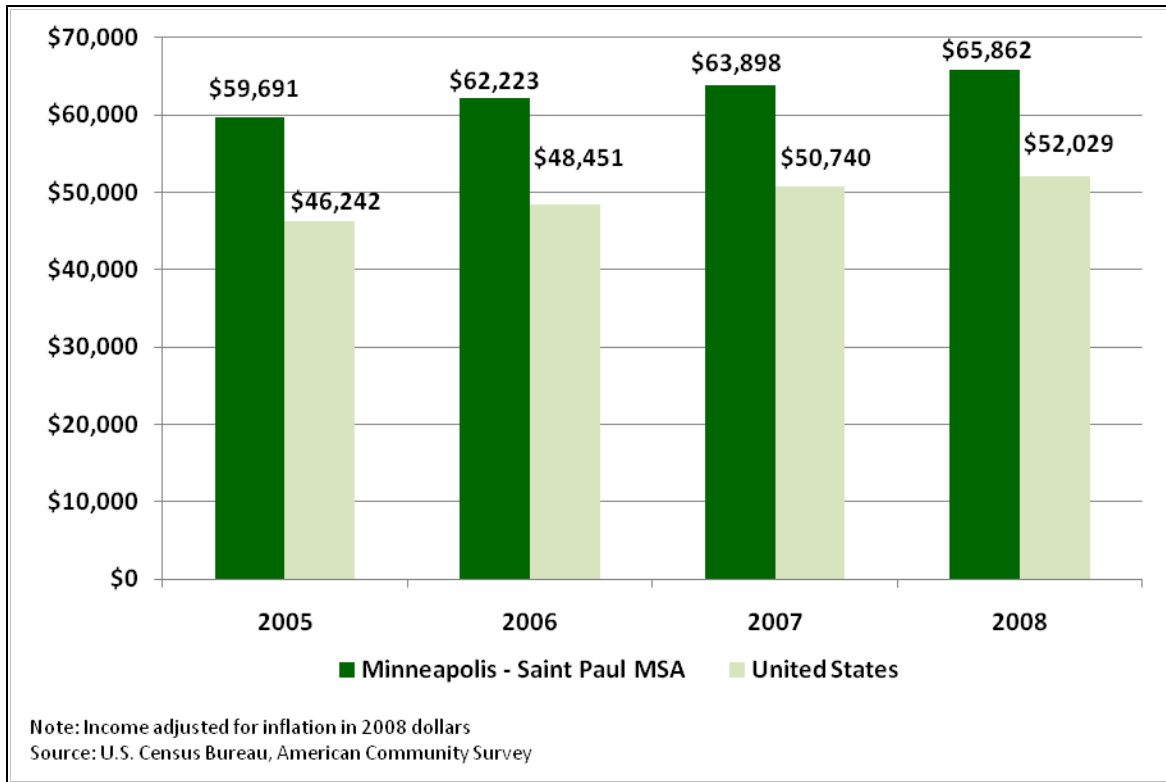
Source: U.S. Commerce Department, Bureau of Economic Analysis

The total personal income of residents in the Minneapolis Saint Paul MSA in 2006 was \$140,158 million. By 2008, the preliminary estimates state that total personal income had increased to \$154,593, representing a growth of \$14,435 or 10.3%, not adjusted for inflation (Table 55).

The per capita income of residents within the Minneapolis Saint Paul MSA in 2006 equaled \$44,295. By 2008, preliminary estimates showed an increase to \$47,863 or 8.1%. This ranking placed the

Minneapolis- Saint Paul MSA as 21st in the country. The United States per capita personal income for 2008 was \$39,582, \$8,281 less than in the Minneapolis Saint Paul MSA (Table 55).

Figure 1. Median Household Income for Minneapolis Saint Paul MSA and United States, 2005 - 2008



Median household income in the Minneapolis Saint Paul MSA is significantly higher than that for the United States; however, the gap has declined slightly in the last 3 years. In 2008, MSP median household income was 26.6% higher than that for the United States, while it was 29.1% higher in 2005 (Figure 1).

Between 2005 and 2008 the median household income for the Minneapolis Saint Paul MSA grew by \$6,171, representing a change of 10.3%. The United States, over that same time period, saw median household income rise by \$5,787 or 12.5% (Figure 1).

POVERTY

Table 6. Minneapolis Saint Paul MSA Population of Residents below Poverty Level, 2008

	<i>Total Population Below Poverty Level</i>	<i>% of Total Population Below Poverty Level</i>
Minneapolis- Saint Paul MSA Population	264,475	8.3%
Female	143,205	8.8%
Male	121,270	7.5%
White Alone	156,897	6.0%
Black or African American Alone	59,668	29.5%
Asian Alone	26,563	16.9%
American Indian & Alaska Native Alone	6,282	38.5%
Two or More Races	9,379	16.5%
Some Other Race Alone	5,532	94.7%
Native Hawaiian & Other Pacific Islander Alone	-	-
Hispanic or Latino (White and Non-white)	24,519	16.5%

Source: U.S. Census Bureau, American Community Survey

Comparing the 20 largest MSAs in the nation, Minneapolis Saint Paul (MSP) possess the second lowest rate of poverty at 8.3%. A total of 264,475 residents within the MSA had incomes below the poverty threshold. This MSP poverty rate is less than half of the national poverty rate of 13.2% (Table 6).

The MSP White Alone population (81.6% of total population) had only a 6% poverty rate. The Black population (second largest race in the MSA) had a poverty rate of 29.5%, a rate **nearly 5 times larger than the poverty rate for Whites**. Both the categories of *Hispanic or Latino* (White and Non-White) and *Two or More Races* had poverty rates of 16.5%.

The MSP population has a high concentration of White population with a very low poverty rate. The minority populations have very high unemployment rates in comparison to Whites.

EDUCATION MEASURES

Table 7. Educational Attainment for Residents 25 Years and Over for the Minneapolis Saint Paul MSA and United States, 2008

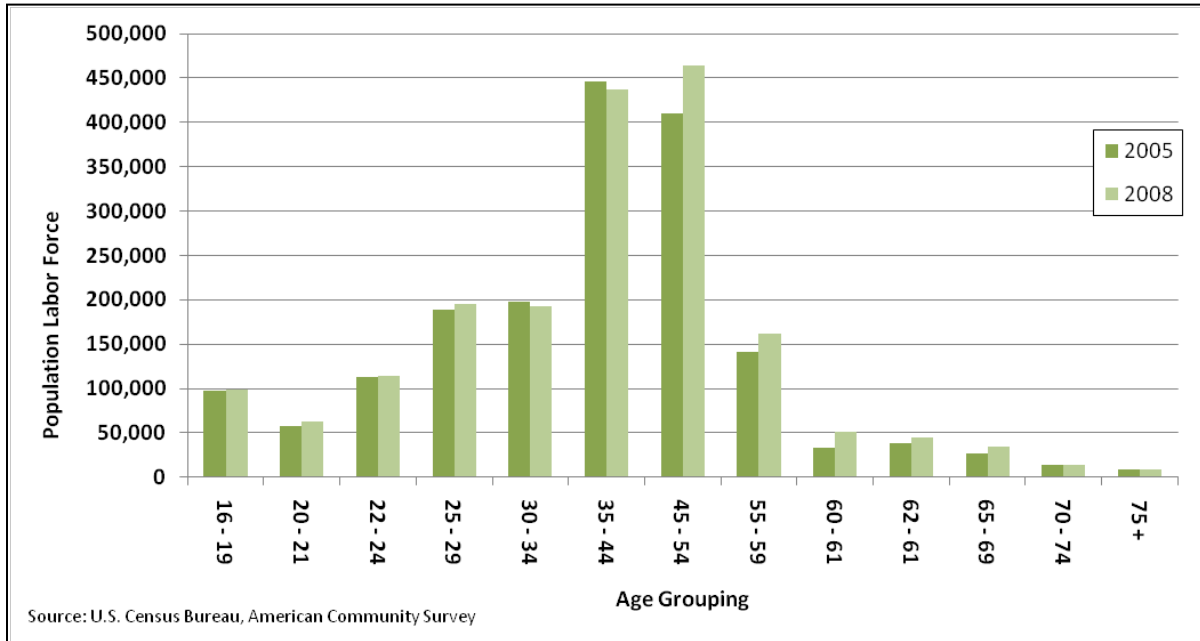
	<i>Minneapolis Saint Paul MSA</i>		<i>United States</i>	
	Total	% of Total	Total	% of Total
Population	2,097,602	-	197,794,576	-
Less Than 9th Grade	63,240	3.0%	12,659,790	6.4%
9th to 12th Grade No Diploma	92,890	4.4%	17,944,384	9.1%
High School Graduate, GED, or Alternative	515,797	24.6%	58,488,235	29.6%
Some College, No Degree	462,880	22.1%	39,756,516	20.1%
Associate's Degree	185,657	8.9%	14,723,709	7.4%
Bachelor's Degree	526,570	25.1%	34,295,753	17.3%
Graduate or Professional Degree	250,568	11.9%	19,926,189	10.1%

Source: U.S. Census Bureau, American Community Survey

Educational attainment in the Minneapolis Saint Paul MSA is much higher than nationally. Among the MSP population of people 25 years old and over, (25.1%) have bachelors' degrees and an additional (11.9%) have graduate or professional degrees. Only (17.3%) and (10.1%) of the United States population of people 25 years old and over has bachelors' degrees and graduate or professional degrees, respectively (Table 7). Only 7.4% of the population in the Minneapolis Saint Paul MSA has less than a high school degree, one half the national rate of 15.5% (Table 7).

LABOR FORCE PARTICIPATION

Figure 2. Population by Age Group in the Labor Force within Minneapolis Saint Paul MSA, 2005 & 2008



- Labor force participation increased in several age categories between 2005 and 2008. This is especially true for people over the age of 45 (Figure 2).

UNEMPLOYMENT

Table 8. Unemployment Rate for Minneapolis Saint Paul, Minnesota, and United States, (Not Seasonally Adjusted), May 2010

Rank	Area	Rate
48	Minneapolis Saint Paul MSA	6.4%
	State of Minnesota	7.0%
	United States	9.3%

Note: Rank out of 372

Source: U.S Bureau of Labor Statistics, Local Area Unemployment Statistics

The unemployment rate in the Minneapolis Saint Paul MSA (6.4%) is lower than that for both the state of Minnesota (7.0%) and the United States (9.3%). The Minneapolis Saint Paul MSA ranked 48th in its unemployment rate among all the MSAs in the country (Table 8).

HOUSING STATISTICS

Table 9. Median Sale Price of Existing Single-Family Homes for Select Regions, 2006-2008

MSA or Region	2006 (\$Thousands)	2007 (\$Thousands)	2008 (\$Thousands)	3 Year Change	% Change
Minneapolis Saint Paul MSA	\$232.3	\$225.2	\$202.0	-\$30.3	-13.0%
United States	\$221.9	\$217.9	\$197.1	-\$24.8	-11.2%
North East Region	\$280.3	\$288.1	\$271.5	-\$8.8	-3.1%
Midwest Region	\$164.8	\$161.4	\$150.5	-\$14.3	-8.7%
South Region	\$183.7	\$178.8	\$170.0	-\$13.7	-7.5%
West Region	\$350.5	\$342.5	\$275.4	-\$75.1	-21.4%

Note: Not Seasonally Adjusted

Source: National Association of Realtors

Median sale price of single family homes in the Minneapolis Saint Paul MSA fell at a higher rate (-13.0%) than that of the United States (-11.2%) and the Midwest Region (-8.7%) from 2006 to 2008 (Table 9).

Table 10. Homeownership Rates for Minneapolis Saint Paul MSA and Selected Regions, 2005-2008

<i>MSA or Region</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>
Minneapolis Saint Paul MSA	74.9%	73.4%	70.7%	69.9%
United States	68.9%	68.8%	68.1%	67.8%
Northeast	65.2%	65.2%	65.0%	64.6%
Midwest	73.1%	72.7%	71.9%	71.7%
South	70.8%	70.6%	70.1%	69.9%
West	64.4%	64.7%	63.5%	63.0%

Source: U.S. Census Bureau, Housing Vacancy & Homeownership

For each year between 2005 and 2008, the Minneapolis Saint Paul MSA had a higher rate of home ownership than the United States. Compared to the Midwest, the Minneapolis Saint Paul MSA had a higher rate of home ownership for 2005 and 2006, but was lower in 2007 and 2008 (Table 10).

Table 11. Years Housing Structures Were Built for Minneapolis Saint Paul MSA and the United States, 2008

Year Housing Built	<i>Minneapolis Saint Paul MSA</i>		<i>United States</i>	
	Total Number	Percentage of Total	Total Number	Percentage of Total
2005 or later	49,318	3.7%	4,935,942	3.8%
2000 to 2004	137,760	10.2%	11,018,616	8.5%
1990 to 1999	201,796	15.0%	18,276,148	14.2%
1980 to 1989	196,528	14.6%	18,329,680	14.2%
1970 to 1979	212,482	15.8%	21,252,792	16.5%
1960 to 1969	139,640	10.4%	14,706,780	11.4%
1950 to 1959	142,959	10.6%	14,733,097	11.4%
1940 to 1949	55,487	4.1%	7,552,661	5.9%
1939 or earlier	209,648	15.6%	18,254,667	14.1%
Total Homes	1,345,618		129,060,383	

Source: U.S. Census Bureau, American Community Survey

CHAPTER 2: ECONOMY AND INDUSTRY

This chapter includes two types of information about the economy of the Minneapolis Saint Paul (MSP) metropolitan area. First, we summarize information from other studies that were conducted on the MSP economy.² Second, we describe major findings from an analysis conducted by the Center for Economic Development at Cleveland State University's Levin College of Urban Affairs.

Information collected from other studies pertains to the economies of the state of Minnesota, or the Twin City region (or cities) which encompasses seven counties.³ The analysis conducted by the Center for Economic Development includes a larger region, the Minneapolis Saint Paul Metropolitan Statistical Area (MSA), which is a 13-county region.⁴ The seven counties of the Twin City region are also included in the MSA.

The analysis conducted by the Center for Economic Development examines trends in total employment, gross product, and average wage. It also describes employment trends in high-tech industries, select growth industries, and occupational shares. It identifies high-performing (winner) industries and concludes with an analysis of variables of economic inclusion and the self employed.

²Source: Positively Minnesota: Minnesota Employment Review, May 2010; Positively Minnesota: Regional Industry Clusters, 2010; Positively Minnesota: Renewable Energy Industry, 2010; Positively Minnesota: Twin Cities LQ, 2010; Positively Minnesota: Minnesota's Manufacturing Industry Fact Sheet, 2010; ITASCA Project Executive Summary, 2009; MN Department of Employment and Economic Development: Twin Cities Location Quotients (2008)

³ The Twin-City region includes the following seven counties in Minnesota: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties.

⁴ The Minneapolis Saint Paul MSA includes 11 counties in Minnesota and two counties in Wisconsin. The counties in Minnesota include Anoka County, Carver County, Chisago County, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright counties. The Wisconsin counties include Pierce and St. Croix counties.

REVIEW OF OTHER STUDIES: ECONOMY

REGIONAL STRENGTHS

For the past 30 years, the Twin Cities region has enjoyed steady growth

- In terms of income per capita, the region has an average annual growth rate of 2.0% compared to 1.9% for the Midwest and the United States.
- In terms of Gross Domestic Product (GDP) per employee, the region has an average annual growth rate of 1.7% compared to 1.8% for the United States and 1.4% for the Midwest.

The Twin Cities region has a very strong private sector

- Eighteen Fortune 500 companies are headquartered in the Twin Cities (e.g., 3M, Best Buy, General Mills, Target, US Bancorp)
- The region has the 3rd highest number of Fortune 500 companies per capita in the United States
- The region has the 6th highest number of companies in the Fortune 400 private companies list – including the Cargill company and the Carlson company

A small number of sectors have driven the creation of the majority of jobs

- Food/Drinking Places
- Hospitals
- Social Assistance
- Ambulatory Health Care
- Educational Services
- Administrative Services
- Professional Services

The Twin Cities region has world class research center

- The University of Minnesota is ranked #7 nationally in patent revenue-generating research
- The Mayo Clinic has been ranked #2 in the *U.S. News & World Report 2009 America's Best Hospitals* for the 5th consecutive year

The Twin Cities region has strong human capital

- MSP has the 5th highest percentage of advanced degrees among MSAs with a population greater than 1 million (in 2007)
 - 93% of the population (>25) have high school diplomas (84.5% for the U.S.)
 - 37% of the population (>25) have bachelor's and graduate degrees (27% for the U.S.)

The Twin Cities region has good infrastructure

- MSP average commute time via private vehicle (24 minutes) is at the U.S. average (25 minutes)
- MSP average commute time via public transportation (38 minutes) is better than the U.S. average (48 minutes)

- Broadband use of 56% is middle of the road relative to 10 peer regions

The Twin Cities region has strong quality of life amenities

- Ranks #1 volunteering rate in the nation
- Has the #1 largest mall in America
- Ranks #3 for the number of museums in the nation
- Has 4 Major League sports franchises
- Ranks high compared to its peer MSAs in
 - Percentage of population volunteering in past year (38.3%)
 - Acres of park per 1,000 residents (16.7)
 - Library volumes per capita (3.5)
 - Arts establishments per 1,000 residents (0.72)
 - Ranked #1 on Sperling's best places
 - Ranked #2 on Forbes Best U.S. Cities to earn a living
 - Ranked #2 in Next Cities' Hotspots for young, talented workers

REGIONAL CHALLENGES

The Twin Cities region is losing ground

- Job growth has significantly declined in comparison to the United States
- Business rankings among the largest 200 MSAs have worsened
 - Forbes Best Places for Business and Careers (Slipped from #20 in 2003 to #71 in 2008)
 - Milken Best-Performing Cities (slipped from #99 in 2003 to #137 in 2008)

The Twin Cities region has a challenging business climate as seen by its low rankings

- High cost of doing business: Minnesota is 38th out of 50 in terms of overall business climate according to Milken Institute's Cost of Doing Business Index
- Minnesota has high taxes: The tax foundation ranked Minnesota 41st out of 50 on its business tax climate
- The region has high labor costs: Twin Cities is 373rd out of 381 MSAs ranked from lowest to highest labor cost
- The Twin Cities lack a coordinated business development effort

Minnesota is one of the least attractive places for small businesses and entrepreneurs

- Minnesota is lagging comparable (peer) states in small business attractiveness
 - Minnesota's taxes are among the highest in the country. In 2009, Minnesota ranked;
 - #44 in personal income tax
 - #46 in capital gains tax rates
 - #48 in corporate income tax rate
 - #18 in electric Utility cost

High cost of doing business in the Twin Cities is driven largely by tax, regulatory, and labor costs

- Tax environment (see previous point)
 - Minnesota ranks poorly both on business climate (41 of 50) and ratio of tax benefit to tax burden (46 of 50)
 - Minnesota's corporate tax rate of 9.8% is 3rd highest in the country
- Regulatory environment
 - Minnesota ranks in the lower half of the states (#30) on Forbes' "Best states for doing business" rankings
 - Minnesota has the most stringent health insurance mandates in the country
- Labor costs
 - The Twin Cities region has the 8th highest labor cost (out of 381 areas)
 - Wages for low skilled workers in the Twin Cities are 8.5% higher than peer regions
 - Minnesota's unionization rate is at 15.9% while the rate is 12.5% nationally

Minnesota's Incentive System is not competitive

- Minnesota only recently passed tax credits for angel investors. Neighboring states (Wisconsin, Iowa, and North Dakota) had instituted these tax credits before Minnesota
- Minnesota has relatively low R&D tax credits

INDUSTRY CLUSTERS⁵

- Ten clusters were identified
 - Medical Devices
 - Analytical Instruments
 - Publishing and Printing
 - Information Technology
 - Production Technology
 - Metal Manufacturing
 - Distribution Services
 - Financial Services
 - Chemical Products
 - Business Services
- To create more focus and targeted policy, the Itasca project Taskforce narrowed the list of ten to three clusters by vote
 - Medical Devices
 - Dental instruments and supplies
 - Diagnostic substances
 - Medical equipment
 - Ophthalmic goods
 - Surgical instruments and supplies

⁵ Analysis conducted by Regional Council of Mayors, Department of Employment and Economic Development (DEED), the Humphrey Institute, and University of Minnesota

- Financial Services
 - Insurance products
 - Passenger car leasing
 - Securities brokers, dealers, and exchanges
- Distribution services
 - Catalog and mail-order
 - Food products wholesale
 - Merchandise wholesale
 - Transportation vehicle and equipment distribution

INDUSTRY TRENDS

Minnesota Department of Employment and Economic Development (DEED) data on the Twin Cities Region

Analyzing one-year trends in employment from April 2009 to April 2010 shows that total non-farm wage and salary employment declined by 28,900 jobs, or -1.7%. Of the major sectors, all lost employment, except for the *Professional and Business Services* sector which added 5,200 for a rate of growth of 2.1%. This growth was driven by gains in the *Administrative and Support Services* (through the *Employment Services* industry). This is consistent with a period of early recovery where service-providing companies add employees through temporary employment companies.

Some other industries added jobs. Although *Retail Trade* declined slightly (-0.2%), jobs in *General Merchandise* stores grew by 4.4%. Employment in the *Healthcare and Social Assistance* sector was stable (0.1%), but jobs grew in *Nursing and Residential Care Facilities* (0.6%) and in *Social Assistance* (2.9%). Within the *Leisure and Hospitality* sector, employment increased by 3.8% in *Food Services and Drinking Places*. Federal government jobs rose also (1.1%).

RENEWABLE ENERGY

(Based on a 2006 DEED fact Sheet for the state of Minnesota, not the MSP MSA)

- Minnesota law requires that renewable energy sources, such as wind energy, must generate at least 25% of Minnesota's electricity by 2025
- Minnesota ranks 3rd in the United States in wind energy production, generating enough power for nearly 300,000 homes per year. Minnesota's Xcel Energy is the nation's largest purchaser of wind energy.
- Minnesota has companies engaged in producing wind horsepower (2006 information)
 - Suzlon produces rotor blades
 - Columbia Gear Corporation manufactures gears
 - Remmele Engineering machines castings
 - Mortenson and DH Blattner are North America's largest wind farm contractors
 - Wind Logics is the nation's largest modeler of wind currents
 - Minnesota ranks 4th nationally in ethanol production capacity, producing more than 1.1 billion gallons according to the Renewable Fuels Association.

- Employment in renewable electric power generation (excluding hydro) more than doubled between 2000 and 2006. The renewable energy sector generated more jobs than the fossil fuel-based energy sector per megawatt.⁶
- Companies on the cutting edge of fuel cell products include Entegris, 3M, Donaldson, ICM Plastics, Atmosphere Recovery, and Cummins.
- Minnesota is a center of water technology firms with more than \$3 billion in sales (e.g., Pentair, FilmTec, and GE Water & Process Technologies (formerly Osmonics)).
- Minnesota companies engaged in the delivery of renewable energy products and services include:
 - 3M's ACCR (Aluminum Conductor Composite Reinforced) cable provides greater transmission line capacity
 - Siemen's Energy Management and Automation provides transmission and distribution innovations
 - Duluth port ranks 2nd as most active for wind turbine shipments
 - Anderson Trucking Services has 200 trucks dedicated to the wind industry
- The University of Minnesota, in partnership with Xcel Energy and other Minnesota stakeholders, is working on a demonstration project where wind power produces hydrogen, which in turn produces anhydrous ammonia, an agricultural fertilizer.
- Minnesota exported almost \$1.5 billion of environmental technology goods worldwide in 2007—growing by 86% since 2002—and ranks 9th among the states in export value change during the period.
- The fastest growing segments in environmental technology exports for Minnesota between 2002 and 2007 were: heat and energy management (461%), other recycling systems (223%) and air pollution control (135%).

INDUSTRIES WITH HIGH CONCENTRATIONS IN THE STATE OF MINNESOTA⁷

- There are 22 industries (at the 3-digit NAICS level) with LQ=>1.2. They include:
 - 9 manufacturing industries
 - 2 transportation industries
 - 2 natural resource-based industries (animal production and mining).
 - 4 service industries that pay high wages such as management of companies (corporate headquarters), insurance carriers, and publishing.

⁶ University of California, Berkeley, Renewable and Appropriate Energy Laboratory Report, 2006

⁷ Location Quotient (LQ) measures industry concentration or specialization. It is calculated as the share of a specific industry in the regional economy divided by the share of the same industry nationally. LQ=1 means the local share of the industry is identical to its national share.

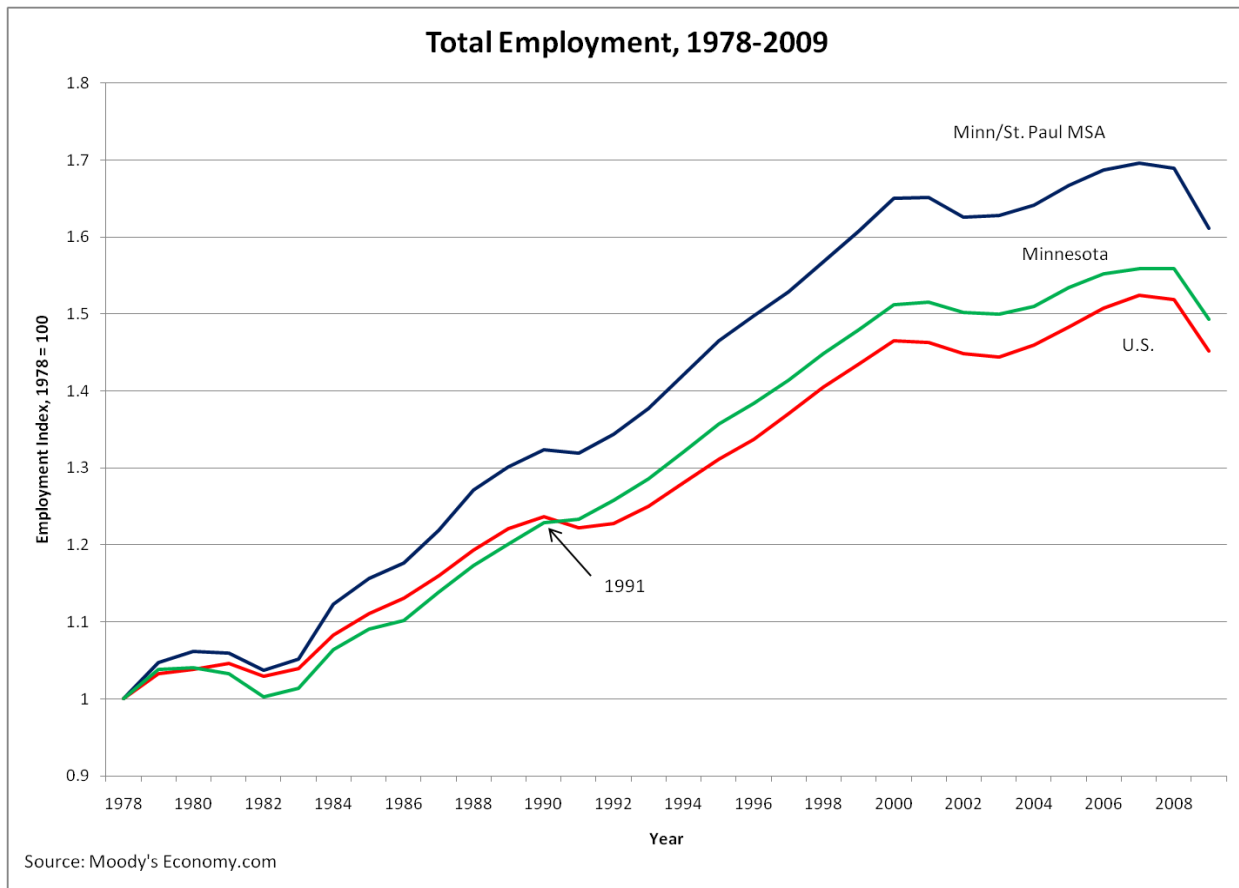
- 3 industries that have a direct role in maintaining the state’s quality of life —nursing and residential care facilities, social assistance and membership organizations (such as religious, grant-making and civic organizations).
- 2 industries that represent high-tech industries that experienced high growth in the 1990s — Internet service providers, search portals and data processing, and electronic markets agents and brokers (firms that buy and sell goods using the Internet or other electronic mechanisms).
- ***Even though manufacturing lost about 42,700 jobs between 2001 and 2008, the industry is of interest because of the high wages and opportunities it provides to Minnesotans possessing various skill sets.***
- Over time LQs can grow or shrink, making an industry more or less “distinguished” to a state.
 - Positive employment and LQ growth. Examples: animal production, management of companies, and miscellaneous manufacturing. Most of the growth in miscellaneous manufacturing came from medical manufacturing components.
 - LQ can grow, but employment decline (showing that while Minnesota lost jobs, the losses were smaller than losses nationwide). Example: printing industry
 - Both LQ and employment decline. These industries lose jobs at a faster rate in Minnesota than in the United States or they lose jobs while the nation gains. Examples: air transportation, and mining.
- ***Industries with rapidly increasing LQs are of particular interest because of their potential to define the state’s future industry landscape.***
 - May have rapidly expanding sub-industries relating to medical manufacturing such as in miscellaneous manufacturing and in computer and electronic product manufacturing.

INDUSTRY ANALYSIS

This section, conducted by the Center for Economic Development, includes analysis of trends in total employment, gross product, and average wage. It also describes employment trends in high-tech industries, select growing industries, and occupational shares. It identifies high-performing (winner) industries and concludes with an analysis of economic inclusion and the self employed.

EMPLOYMENT TRENDS

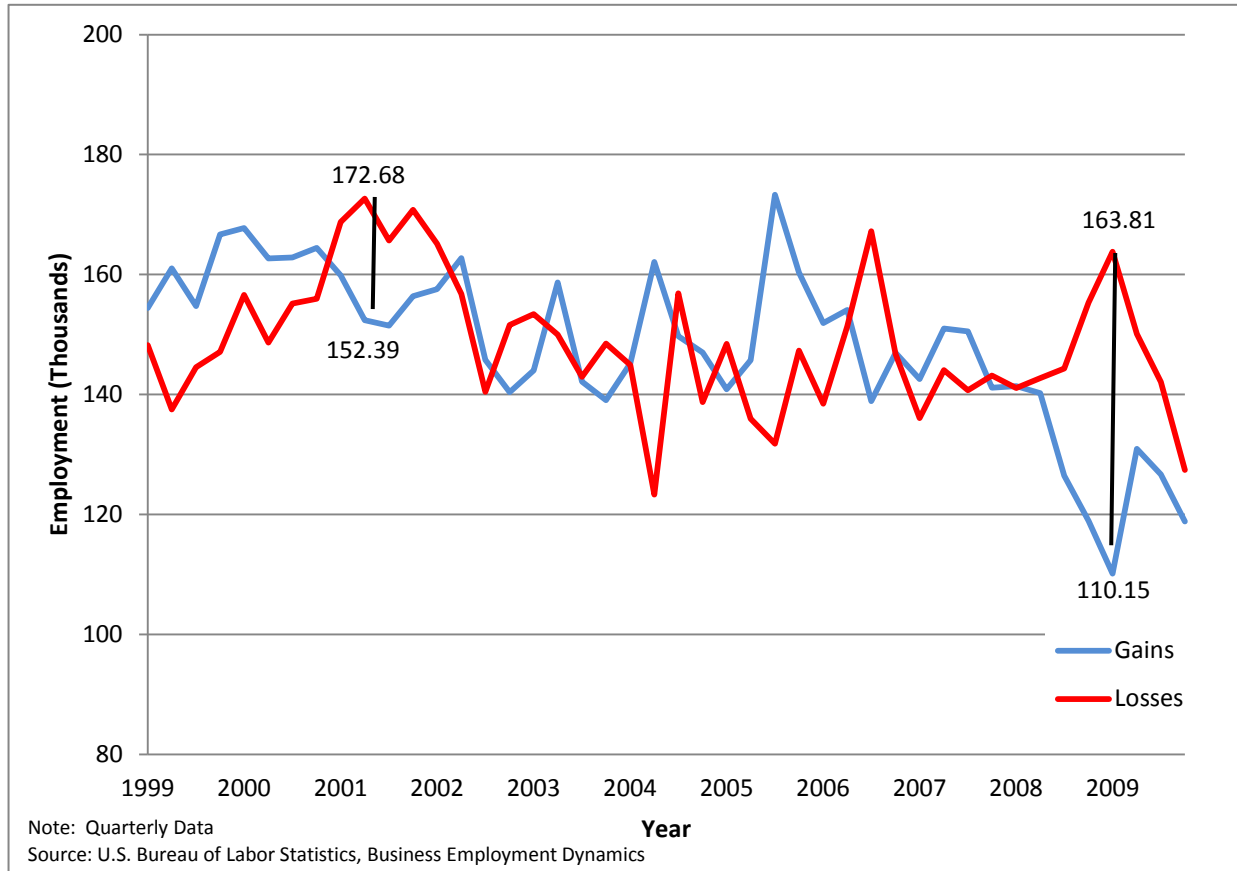
Figure 3. Total Employment for Minneapolis Saint Paul MSA, Minnesota, and United States, 1978-2009



- Employment growth in the state of Minnesota and in the Minneapolis MSA outpaced employment growth in the United States (Figure 3).
- The rate of employment growth in the Minneapolis MSA was higher than at the state suggesting that the Minneapolis Saint Paul region is a major driver of Minnesota employment.
- The gap between the Minneapolis Saint Paul MSA and the United States has widened since 1984.
- All three regions charted (Minneapolis MSA, Minnesota, and the United States) lost employment between 2008 and 2009 due to the recession.

EMPLOYMENT CHURNING: JOB GAINS AND LOSSES

Figure 4. Job Gains and Job Losses in Minnesota, Private Sector Only, Seasonally Adjusted, 1999 - 2009



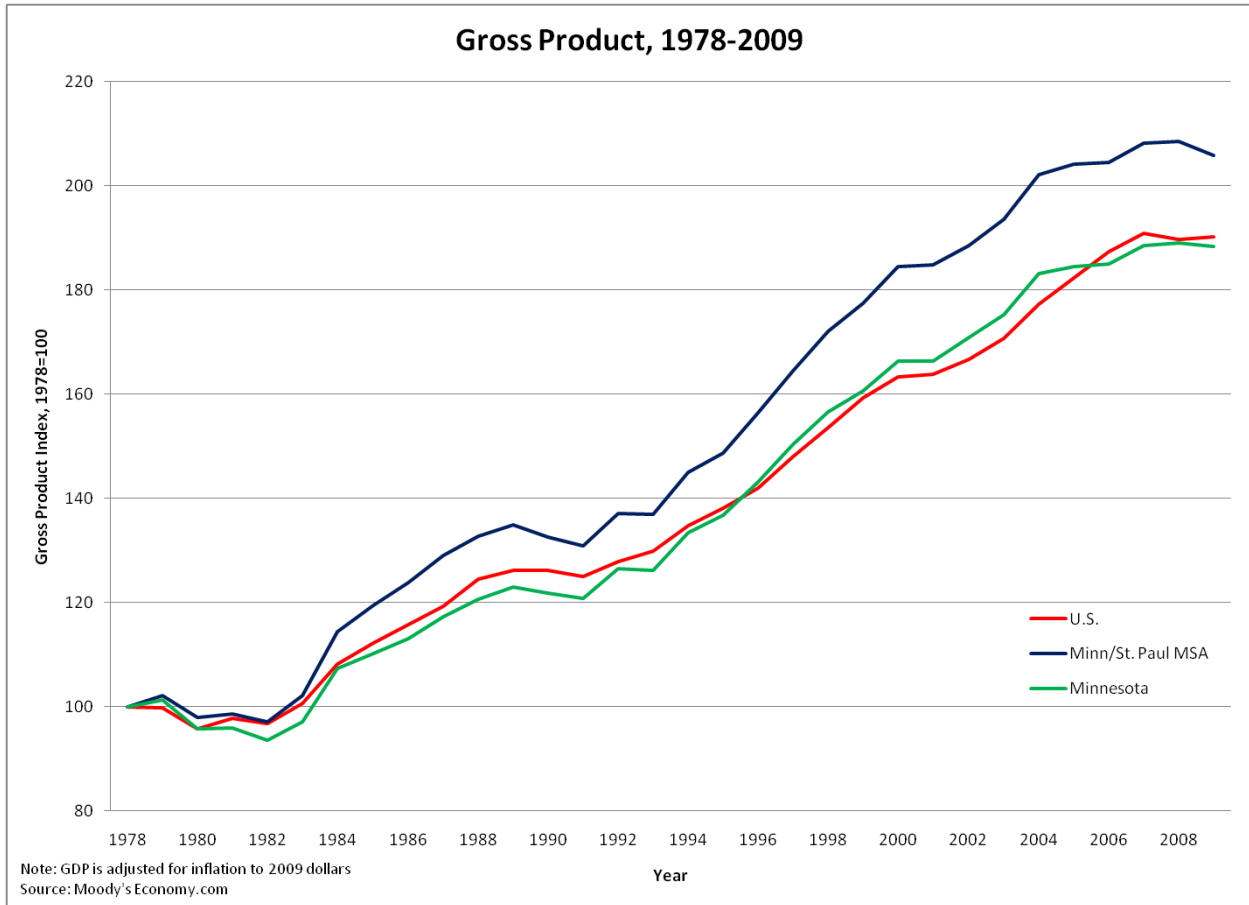
- Job gains⁸ and job losses⁹ measure quarterly employment at the establishment level and are charted for Minnesota in Figure 4.
- The last time job gains were higher than job losses was in the first quarter of 2008; Figure 4 represents a seventh consecutive quarter with a net loss of employment.
- The largest number of job losses in Minnesota was recorded in the second quarter of 2001 (172,677), showing that the current recession did not shed as many jobs in Minnesota as the previous recession (163,810). However, the largest net loss (the difference between job gains and job losses) for the past 10 years occurred in the first quarter of 2008 (-36,402), compared to the previous recession (-20,284).

⁸ Job gains = opening establishments + expanding establishments

⁹ Job losses = closing establishments + contracting establishments

TRENDS IN GROSS PRODUCT

Figure 5. Gross Product for Minneapolis Saint Paul MSA, Minnesota, and United States, 1978-2009



- The Gross Product of these regions show that from 1989 there is a gradual increase of output over the last 20 years (Figure 5).
- Gross Product in Minneapolis Saint Paul grew at a higher rate than Minnesota and the United States.
- There is no significant gap in the Gross Product between the United States and Minnesota.

EXPORTS

- In five of the six measures of exports shown in Table 12, Minneapolis Saint Paul ranks near the top (between #11 and #28) of the 100 largest MSAs.
- The average wage in the largest export industry for Minneapolis Saint Paul (\$78,130) was lower than the cohort average (\$87,736), but still higher than the average of the 100 largest MSAs (\$66,449). This corroborates that export industry jobs are high wage jobs
- The largest export industry in Minneapolis Saint Paul was machinery manufacturing; six of 13 comparable MSAs' largest export industry was computer and electronic product manufacturing (Austin, TX; Boston, MA; Phoenix, AZ; Portland, OR; Sacramento, CA; and San Diego, CA).
- The average wage of the largest export industry in MSP, although lower than the cohort average, is higher than the average wage as shown in Figure 6 (\$50,927).
- The lowest ranking for Minneapolis Saint Paul occurred in Export Growth Rate (#66). This may be of concern for policy leaders in Minneapolis Saint Paul because a strong growth rate in exports strengthens the economy of the region.
- In five of the six categories of exports, the cohort average outperforms the average of the 100 largest MSAs, showing that the MSAs in this cohort are among the strongest performers in exports in the United States.

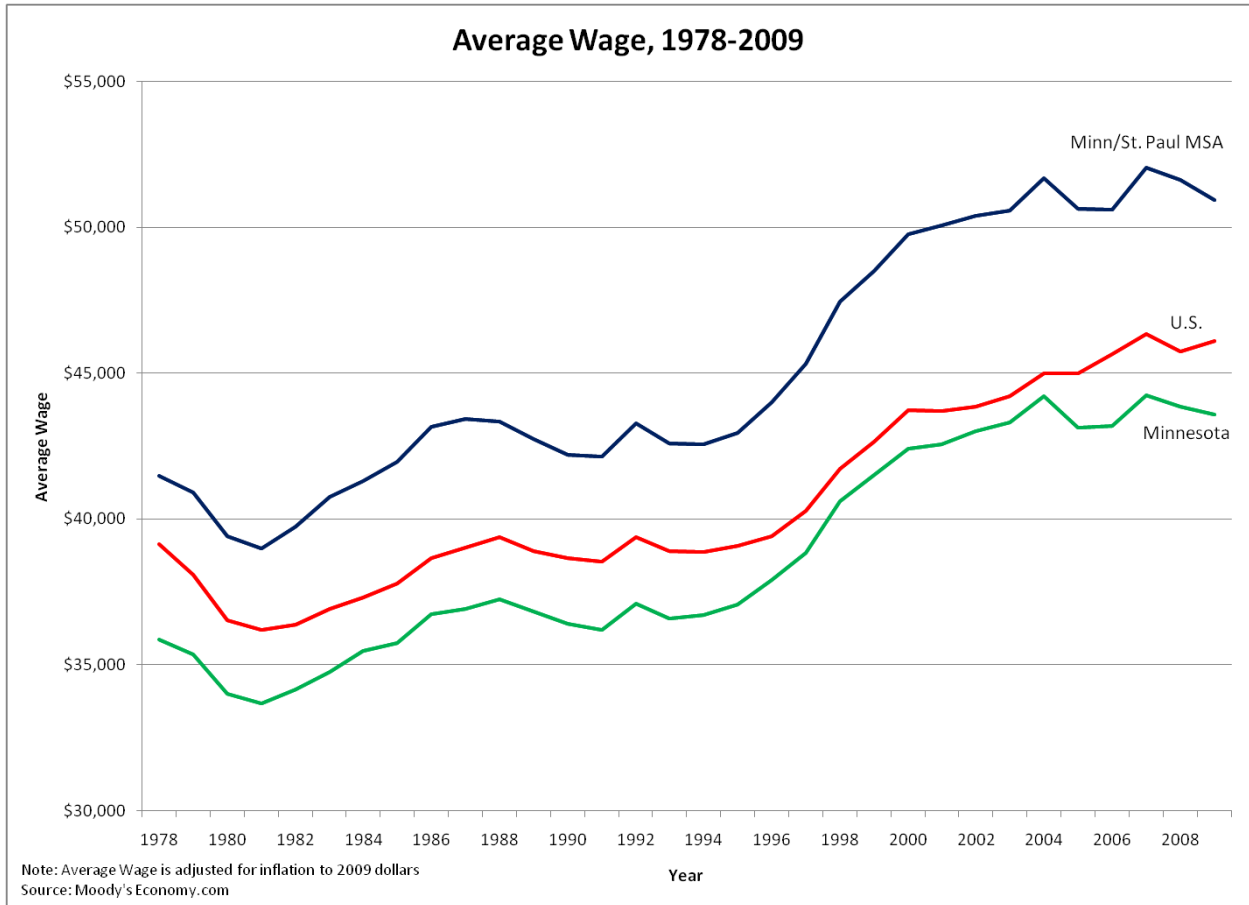
Table 12. Exports in Minneapolis Saint Paul, by Comparable MSAs and Rank, 2008

MSA	Total Exports (\$Bil)	Rank	Export Share of GMP	Rank	Total Export Jobs	Rank	% Jobs that are Export-Related	Rank	Export Growth Rate (2003-2008)	Rank	Average Wage in Largest Exporting Industry	Rank
Austin-Round Rock, TX	\$10.2	26	12.9%	23	73,540	31	9.3%	31	16.0%	10	\$92,223	12
Baltimore-Towson, MD	\$9.0	31	6.8%	92	74,032	30	5.5%	89	7.1%	68	\$70,965	35
Boston-Cambridge-Quincy, MA-NH	\$28.8	7	10.1%	54	223,070	7	8.9%	37	5.6%	84	\$101,085	7
Chicago-Naperville-Joliet, IL-IN-WI	\$52.9	3	10.9%	45	397,924	3	8.7%	43	7.5%	65	\$66,513	44
Columbus, OH	\$8.7	32	10.3%	53	76,282	27	8.0%	56	8.7%	50	\$61,022	57
Denver-Aurora-Broomfield, CO	\$10.1	28	7.3%	87	74,397	28	5.9%	83	10.9%	33	\$77,981	29
Minneapolis Saint Paul-Bloomington, MN-WI	\$19.0	14	10.7%	47	179,973	11	9.9%	22	7.4%	66	\$78,130	28
Phoenix-Mesa-Scottsdale, AZ	\$18.6	15	10.4%	50	152,435	14	8.0%	54	3.5%	94	\$85,395	21
Portland-Vancouver-Beaverton, OR-WA	\$22.0	12	20.6%	2	125,626	15	11.8%	9	20.2%	2	\$91,535	13
Raleigh-Cary, NC	\$5.0	54	9.8%	60	33,652	59	6.4%	76	8.7%	48	\$90,291	15
Sacramento--Arden-Arcade--Roseville, CA	\$6.3	47	6.3%	94	43,235	48	4.7%	94	8.6%	51	\$88,898	17
San Diego-Carlsbad-San Marcos, CA	\$15.5	17	9.2%	67	115,245	19	8.0%	55	10.1%	39	\$94,779	8
San Francisco-Oakland-Fremont, CA	\$30.9	6	11.5%	39	160,125	13	7.7%	58	13.0%	19	\$148,481	1
Seattle-Tacoma-Bellevue, WA	\$24.2	10	12.1%	33	196,000	10	10.7%	16	14.8%	14	\$81,004	25
Cohort Average	\$18.7	-	10.6%	-	137,538	-	8.1%	-	10.2%	-	\$87,736	-
Average of 100 Largest MSAs	\$10.4	-	10.9%	-	76,887	-	8.4%	-	9.4%	-	\$66,449	-

Note: Rank out of 100;
Source: The Brookings Institution

TRENDS IN AVERAGE WAGE

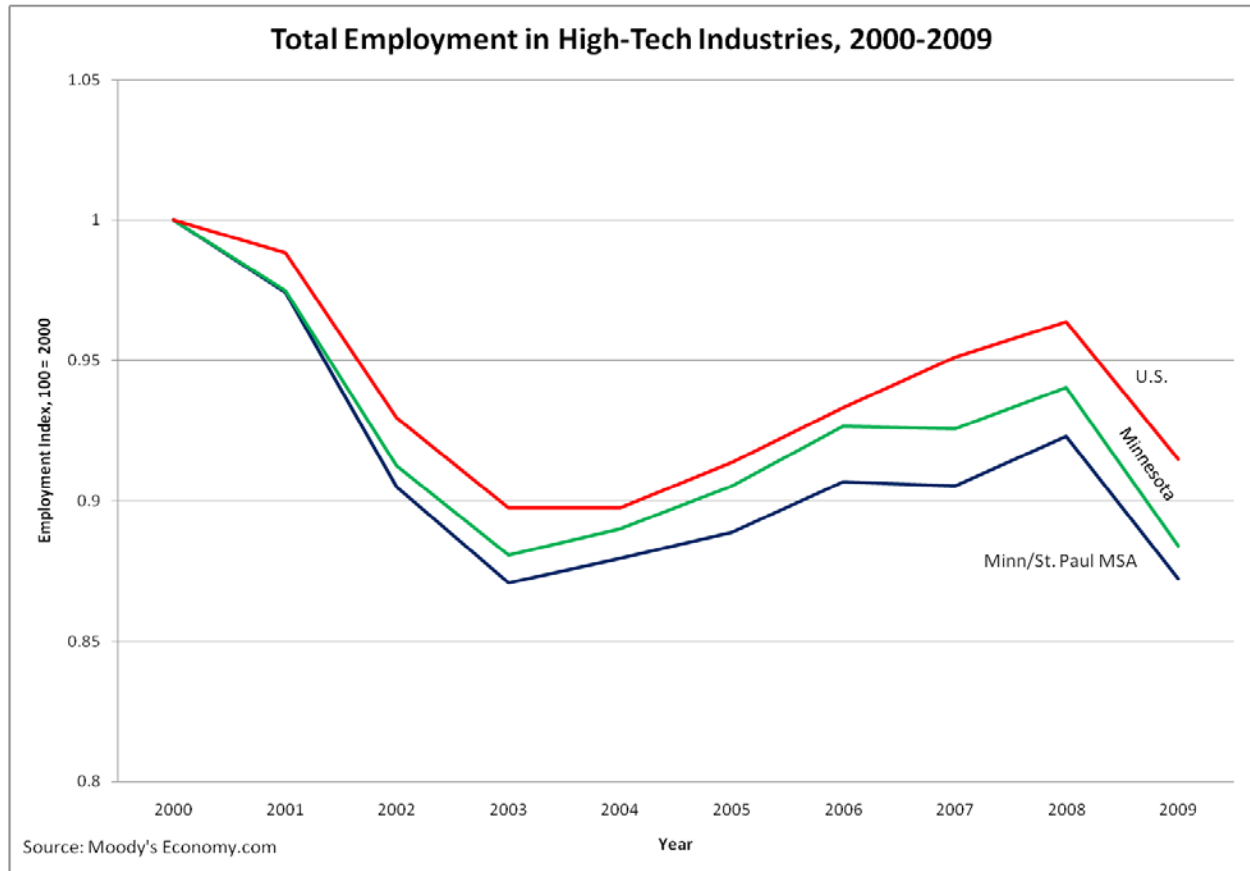
Figure 6. Average Wage, for Minneapolis Saint Paul MSA, Minnesota, and United States, All Industries 1978-2009



- Figure 6 demonstrates that the average wage in Minneapolis Saint Paul is significantly above the national average (and above the state average), indicating that residents in this MSA earn more than the average American.
- It is interesting to note that in the period from 2008 to 2009, Minneapolis Saint Paul and Minnesota showed a significant decline in average wage, while the U.S. trend line continued to slightly slope upward. Future study may show if Minnesota experienced the recession before it affected the United States as a whole.

EMPLOYMENT TRENDS IN HIGH-TECH INDUSTRIES

Figure 7. Total Employment in High-Tech Industries (Level I, II, & III), for Minneapolis Saint Paul MSA, Minnesota, and United States 2000-2009



- An industry is considered high-tech if employment in technology-oriented occupations account for a proportion of that industry's total employment equal to at least twice the 4.9% average for all industries as defined by the Bureau of Labor Statistics¹⁰. High-tech industries:
 - Employ a high proportion of scientists, engineers, and technicians (science, engineering, and technician occupation intensity)
 - Employ a high proportion of R&D workers (R&D employment intensity)
 - Produce high-tech goods, as specified on a Census Bureau list of advanced-technology products
 - Use high-tech production methods including intense use of high-tech capital goods and services in the production process.
- With the strong employment gains seen in Figure 3, one could assume that this employment gain was in high-tech sectors, but as Figure 7 demonstrates, the rate of growth of employment in high-tech industries in the Minneapolis MSA was lower than in Minnesota and the United States.

¹⁰ Daniel E. Hecker "High-technology employment: a NAICS-based update." *Monthly Labor Review*, pp. 57-72, July 2005.

In order to fully examine the high-tech growth trend and to confirm it is below the national trend line, we can break these industries into 3 levels:

Level I – high-tech occupations accounted for at least 5 times the average or greater;

Level II – high-tech occupations accounted for 3.0 to 4.9 times the average;

Level III – high-tech occupations accounted for 2.0 to 2.9 times the average.

- The most highly intensive high-tech industries (Level I) (Figure 8) do not show the same robust growth as in Figure 3 (Total Employment).
- Examining Level II (Figure 9) and Level III (Figure 10) industries shows a pattern similar to Figure 7 (All High-Tech Industries).
- Therefore, the healthy employment growth in the Minneapolis Saint Paul region cannot be explained by the high-tech sectors.

Figure 8. Total Employment in High-Tech Industries (Level I), for Minneapolis Saint Paul MSA, Minnesota, and United States, 2000-2009

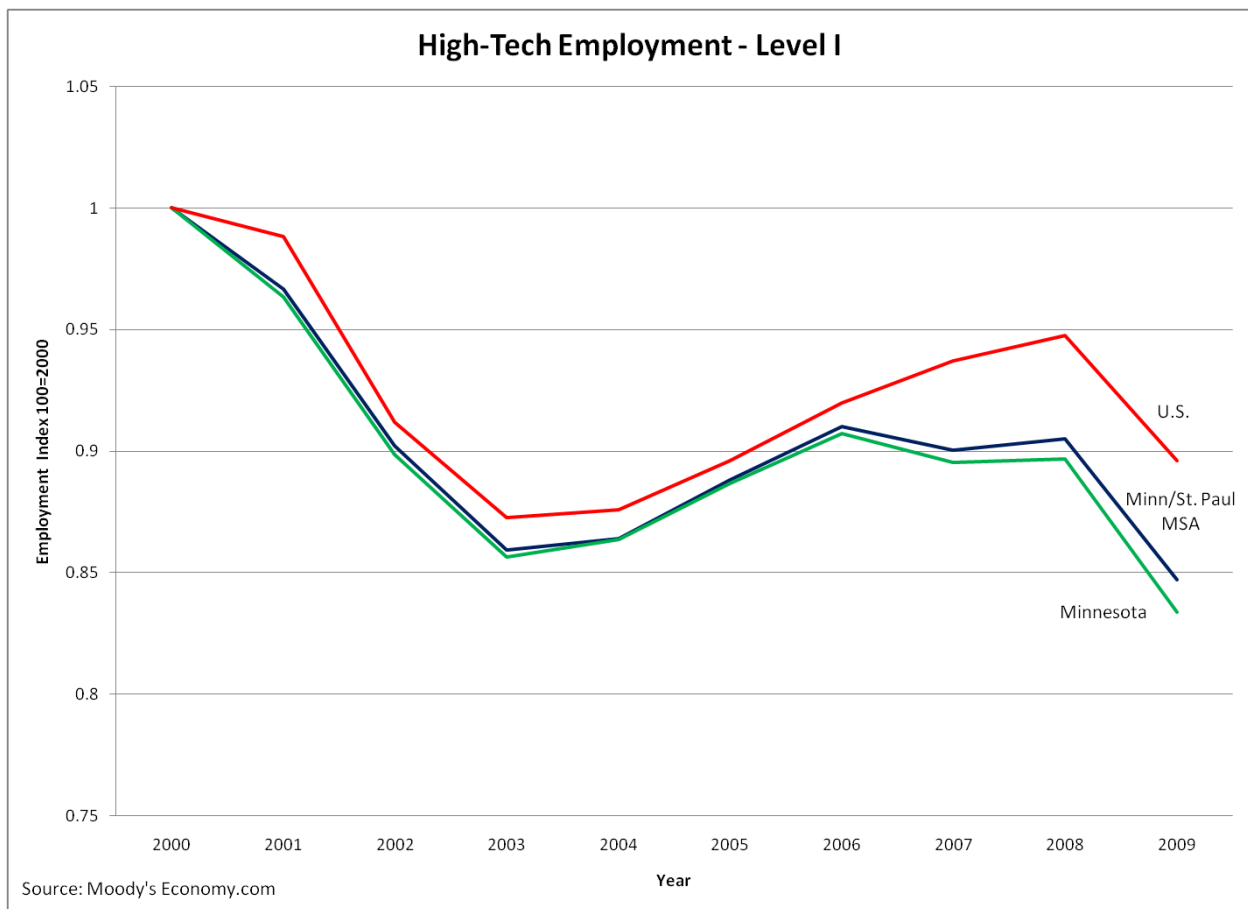


Figure 9. Total Employment in High-Tech Industries (Level II), for Minneapolis Saint Paul MSA, Minnesota, and United States, 2000-2009

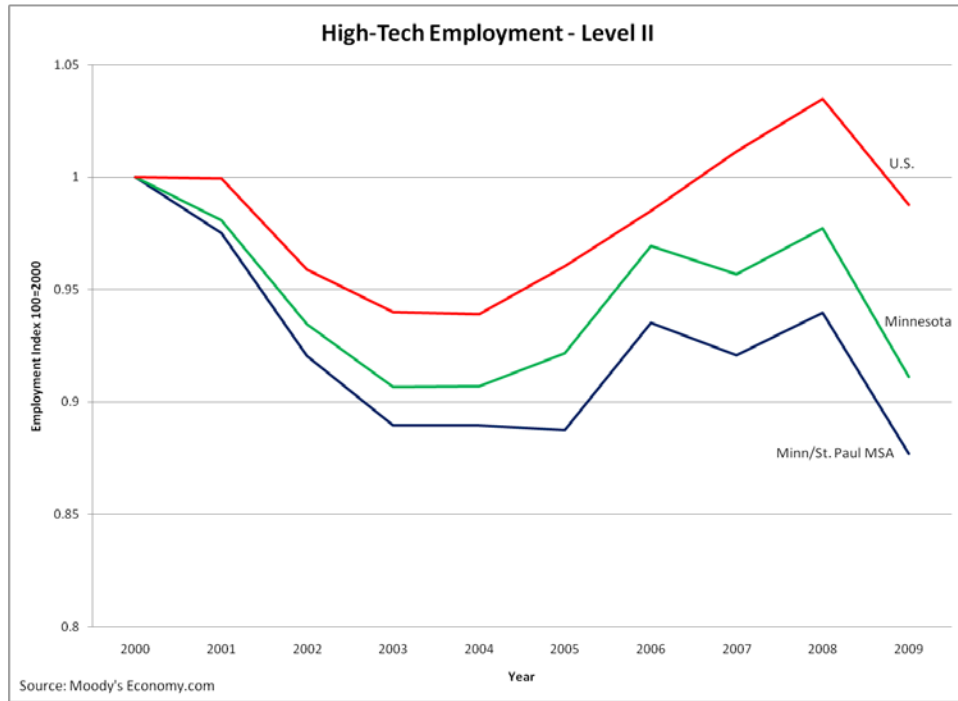
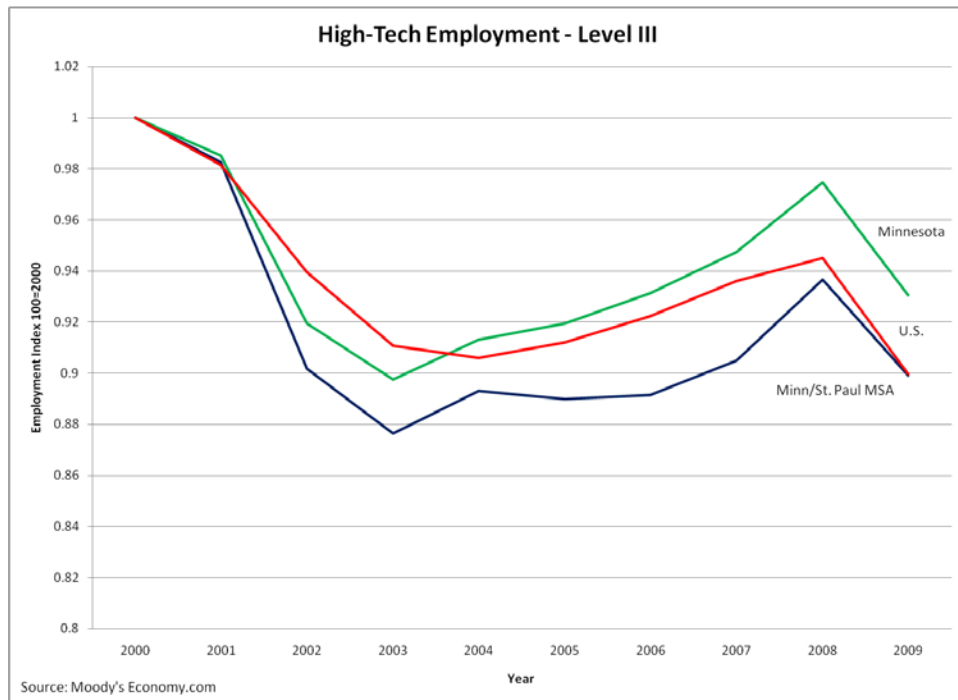


Figure 10. Total Employment in High-Tech Industries (Level III), for Minneapolis Saint Paul MSA, Minnesota, and United States, 2000-2009



GROWING INDUSTRIES: MEDICAL DEVICE INDUSTRY

Comparing the medical device manufacturing industry¹¹ (Figure 11 & 12) in Minneapolis Saint Paul MSA to the national and state data shows the robust employment growth that we see in the employment data (Figure 3). Since we know the MSA is the driver of employment in the state, we can see the MSA-level employment outperform the state data and far surpass the national-level data.

Figure 11. Total Employment: Instrument, Medical and Other Electrical Manufacturing for Minneapolis Saint Paul MSA, Minnesota, and United States, 1989-2009

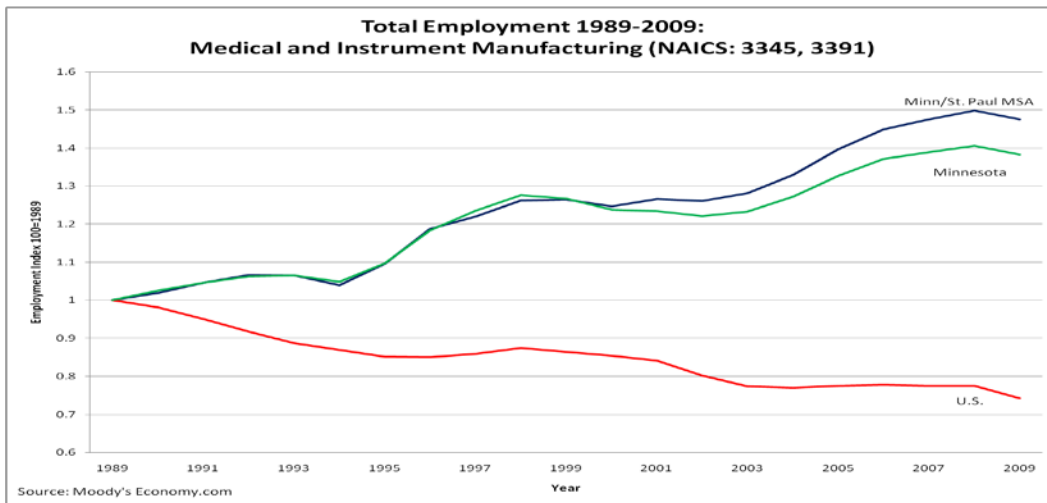
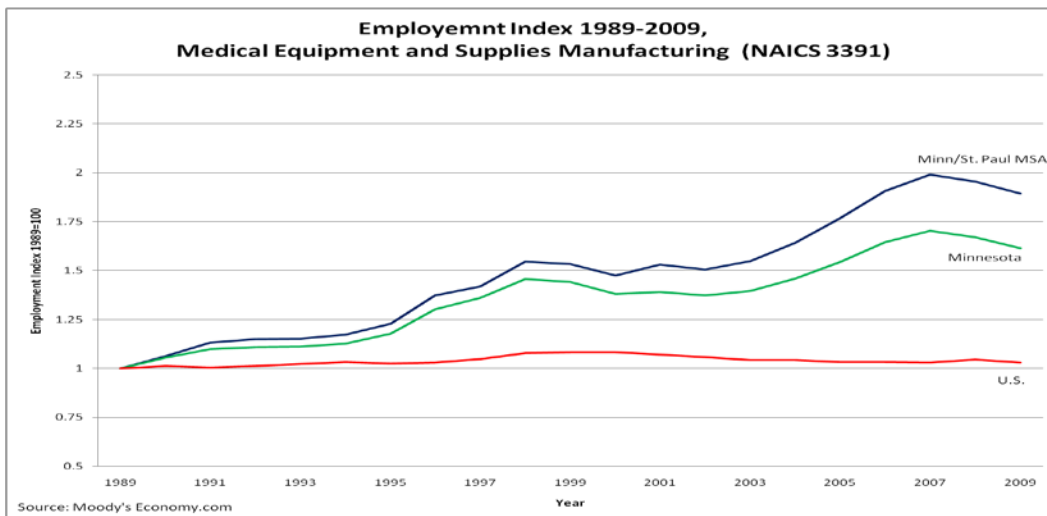


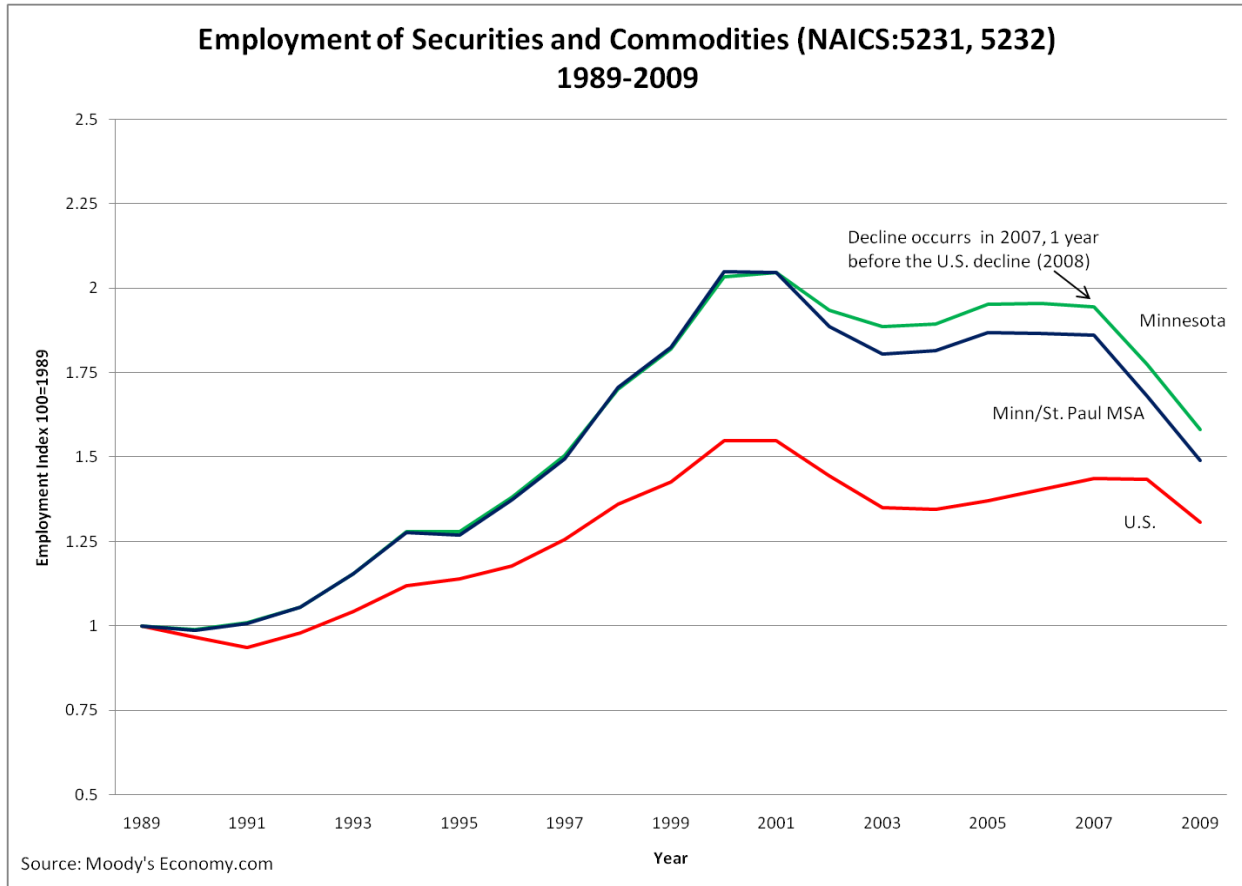
Figure 12. - Total Employment, Medical Equipment and Supplies Manufacturing for Minneapolis Saint Paul MSA, Minnesota, and United States, 1989-2009



¹¹ Two NAICS categories were identified as medical device manufacturing: 3345 - Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (i.e. MRI manufacturing) and 3391 - Medical Equipment and Supplies Manufacturing

GROWING INDUSTRIES: SECURITY AND COMMODITY INDUSTRY

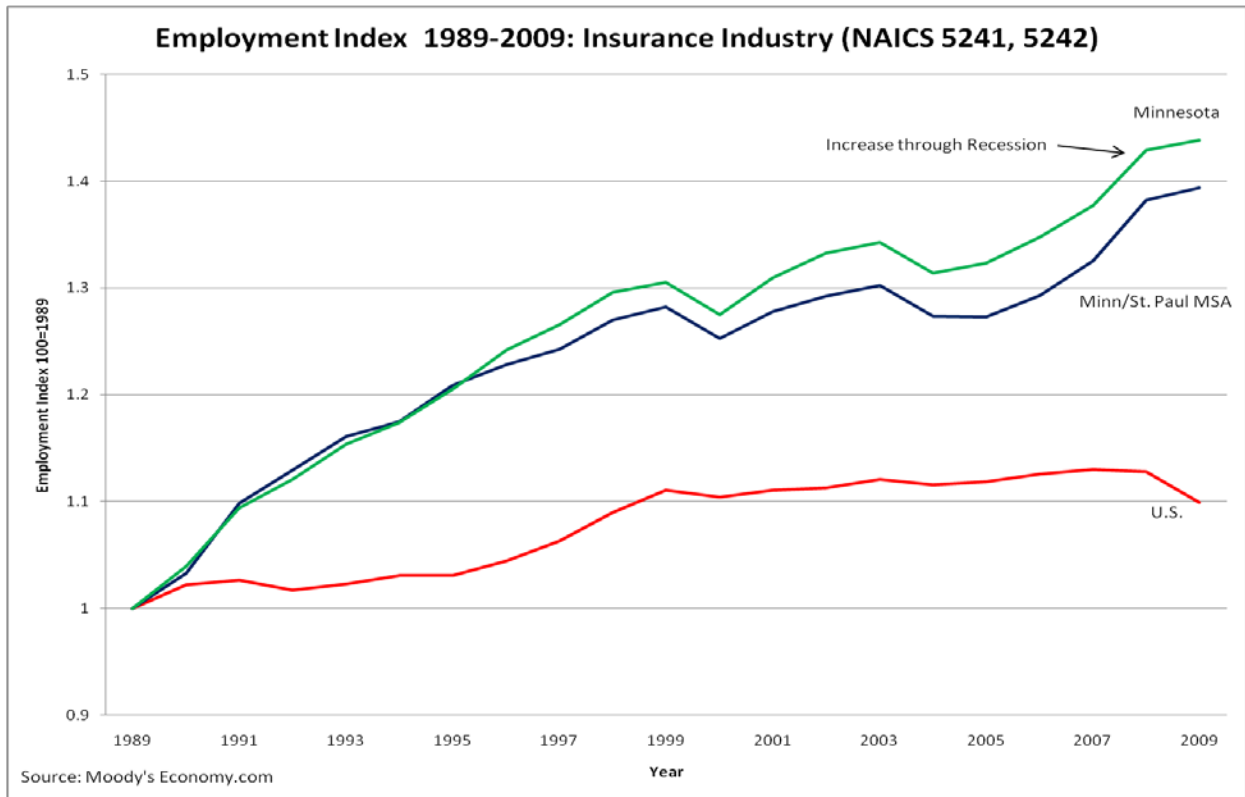
Figure 13. Total Employment, Securities and Commodities, for Minneapolis Saint Paul MSA, Minnesota, and United States, 1989-2009



- Another growth industry for the Minneapolis Saint Paul region is the security and commodity brokerage and exchange industries. These industries are a segment of the finance and insurance market that include investment banking, securities brokerage, commodity contracts, and exchanges.
- These industries are traditionally high wage industries with average wages (2009) of \$131,329 (NAICS 5231) and \$82,079 (NAICS 5232) (Figure 13).
- It is interesting to note the point at which this industry declined (2008), which is one year before this decline is seen in the national data as well as the steep slope of the Minneapolis Saint Paul decline in comparison to the U.S. slope. This shows that the security and commodity industry in Minnesota was more severely affected by the latest recession than the national aggregate.

GROWING INDUSTRIES: INSURANCE INDUSTRY

Figure 14. Total Employment, Insurance Industry, for Minneapolis Saint Paul MSA, Minnesota, and United States, 1989-2009



- Another major sector that is a driver for the Minneapolis Saint Paul economy is the insurance industry. This sector includes insurance carriers, insurance agencies and brokerages, and claims adjusters.
- The Minneapolis Saint Paul insurance industry has consistently out-performed the national data, and this upward trend has continued even through the most recent recession (Figure 14).
- These industries are historically high-wage industries with average wages (2009) of \$82,074 (NAICS 5241) and \$87,120 (NAICS 5242).

HIGH PERFORMANCE (WINNER) INDUSTRIES

It is important to combine all economic data to get a picture of which industries in the Minneapolis Saint Paul MSA are outperforming others in the region and nationally. To examine these high performance industries we selected data that meet all of the following criteria:

1. **Percent Employment Change (2000-2009) > 1%** – to show employment growth
2. **Average Wage > \$45,000** – to find industries that have livable wages
3. **Percent Change in GDP (2000-2009) > 0.1%** – to show positive growth in output
4. **GDP Location Quotient¹² > 1.2¹³** - to find industries that are more concentrated in Minneapolis Saint Paul relative to the U.S.
5. **Difference in GDP Location Quotient (2000-2009) > 0**– to find industries that are becoming more concentrated in the Minneapolis Saint Paul region

Table 13 shows the 15 industries that qualified (out of 287 industries) for all of the 5 criteria Note that 3 of the 15 industries have been highlighted in other sections of this report (NAICS 3345, 3391, 5241).

¹² Location Quotient measures the specialization of an industry in a region by comparing it to data in a larger region. For our analysis:
$$LQ = \frac{\frac{GDP_{industry, region}}{GDP_{region}}}{\frac{GDP_{industry, US}}{GDP_{US}}}$$
 where $GDP_{industry, region}$ = Minneapolis GDP in industry ; GDP_{region} = Total Minneapolis GDP; $GDP_{industry, US}$ = US GDP in industry ; GDP_{US} = Total US GDP

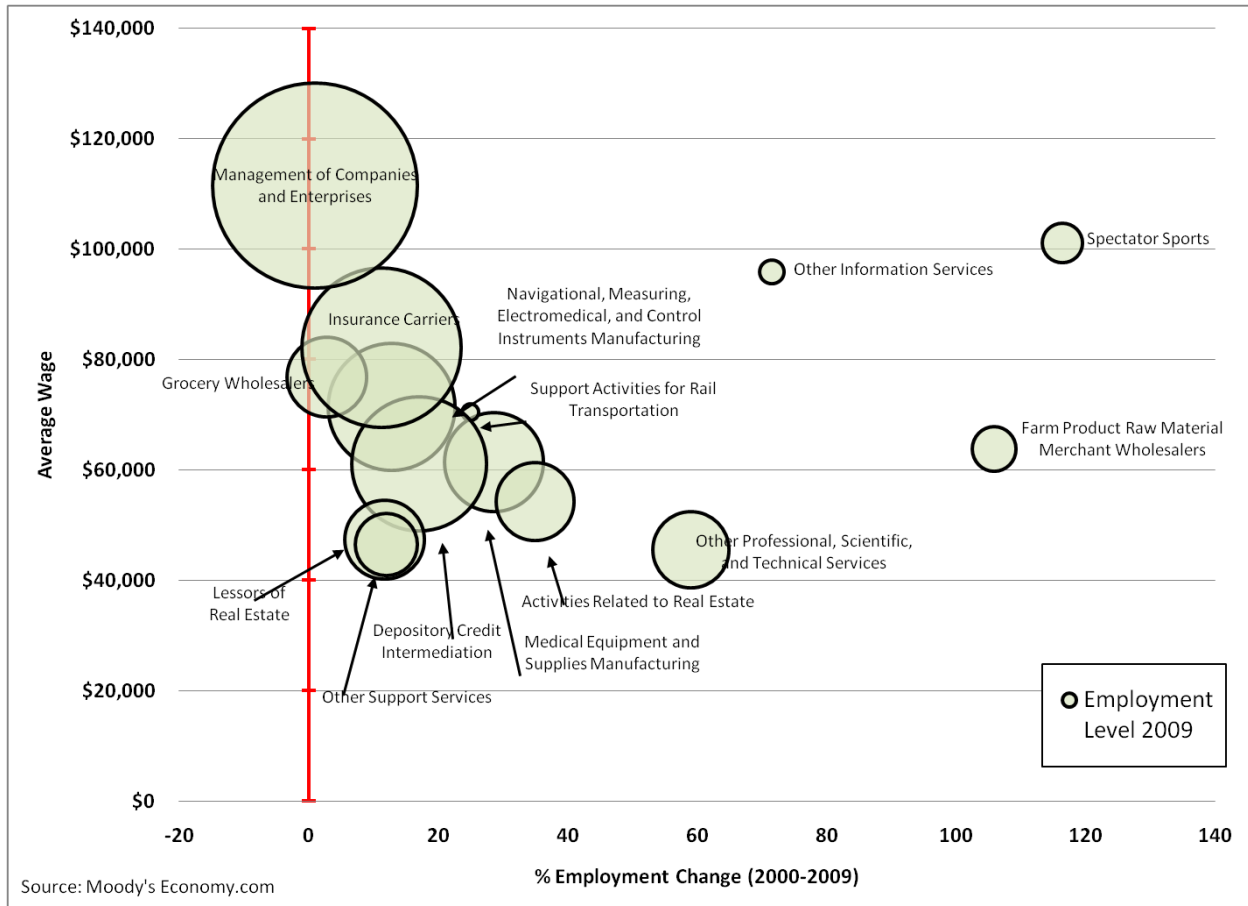
¹³ A location quotient >1.2 indicates specialization in an industry.

Table 13. Industry Winners in Minneapolis Saint Paul MSA

NAICS	NAME	2009		2000-2009		2009		2009		2000-2009		2009		2000-2009	
		Total Employment	Rank	%Δ Employment	Rank	Average Wage	Rank	Total GDP (\$Mil)	Rank	%Δ Total GDP	Rank	GDP LQ	Rank	Difference in GDP LQ	Rank
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	23,791	15	12.8%	58	\$71,463	68	\$1,618	30	0.2%	91	2.8	6	1.1	4
3391	Medical Equipment and Supplies Manufacturing	14,441	29	28.5%	32	\$61,351	90	\$2,553	14	1.3%	22	4.5	1	2.3	2
4244	Grocery and Related Product Merchant Wholesalers	9,434	50	2.8%	89	\$76,843	58	\$1,557	31	0.5%	51	1.5	40	0.4	22
4245	Farm Product Raw Material Merchant Wholesalers	2,923	118	105.8%	7	\$63,733	87	\$389	104	2.1%	9	4.2	2	2.5	1
4882	Support Activities for Rail Transportation	415	232	25.0%	35	\$70,469	72	\$70	204	1.1%	28	2.5	8	0.7	10
5191	Other Information Services	873	199	71.5%	14	\$95,853	26	\$329	113	0.7%	37	1.3	57	0.2	58
5221	Depository Credit Intermediation	26,785	12	17.1%	46	\$61,082	92	\$5,038	7	0.3%	80	1.4	48	0.2	62
5241	Insurance Carriers	37,574	7	11.3%	64	\$82,074	50	\$6,229	5	0.1%	104	2.2	11	0.3	45
5311	Lessors of Real Estate	9,316	51	11.7%	61	\$47,373	146	\$9,907	4	0.3%	88	1.2	61	0.2	67
5313	Activities Related to Real Estate	8,944	54	34.9%	28	\$54,193	125	\$10,792	2	0.4%	70	1.2	59	0.0	101
5419	Other Professional, Scientific, and Technical Services	8,632	56	59.0%	20	\$45,531	150	\$731	61	1.3%	23	1.2	58	0.4	28
5511	Management of Companies and Enterprises	61,775	3	1.0%	93	\$111,539	21	\$12,766	1	0.5%	56	3.4	3	0.7	11
5619	Other Support Services	5,724	79	12.0%	60	\$46,506	148	\$418	95	0.2%	96	1.7	25	0.1	87
7112	Spectator Sports	2,339	131	116.4%	5	\$101,093	24	\$479	87	1.2%	24	1.3	52	0.5	15
7113	Promoters of Performing Arts, Sports, and Similar Events	1,286	179	94.3%	9	\$47,314	147	\$114	183	2.8%	6	1.4	43	1.0	5

Source: Moody's Economy.com

Figure 15. Industry Winners: Average Wage by Employment Change, and Employment Level



- Several industries, both large and small, experienced growth in employment between 2000 and 2009 and are paying high wages.
- The larger industries include those with the categories: Management of Companies and Enterprises; Insurance Carriers; Depository Credit Intermediation; and Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (Figure 15).
- Smaller winning industries include those with the categories: Medical Equipment and Supplies Manufacturing; Wholesalers of Farm Product Raw Materials; Activities Related to Real Estate; Other Information Services; Other Professional, Scientific, and Technical Services. (Companies that are classified in “other” categories are frequently working on new goods and services that do not fall within an existing industry category; therefore, they may be indicated as emerging industries.)

Figure 16. Industry Winners: Average Wage by Location Quotient, and Total GDP



- Two winners that stand out when examining average wage, GDP location quotient, and total GDP level is industry categories of Management of Companies and Enterprises; Medical Equipment and Supplies; Insurance Carriers; and Manufacturing, Navigational, Measuring, Electromedical, and Control Equipment. With a GDP Location Quotient greater than 1.2 these industries are specialists in their field in the nation and have high wages and large employment (Figure 16).

INDUSTRY OCCUPATIONS

OUTPERFORMING OCCUPATIONS

- The outperforming occupations are in the higher skilled, higher wage occupations. These are consistent with the growing and/or winning industries.
- The largest difference (2%) between Minneapolis Saint Paul and the 100 largest MSAs occurred in the Business and Financial Operations occupations (Figure 17), followed by Management Occupations (1.4%).
- Architecture and Engineering Occupations and Legal Occupations had the smallest difference at .1% each (Figure 17).

UNDERPERFORMING OCCUPATIONS

- Not included in Figure 18 is Health Care Support Organizations shares because Minneapolis Saint Paul MSA shares (2.8%) were equal to that of the 100 largest MSA shares.
- The largest share of occupations in both Minneapolis Saint Paul and the 100 largest MSAs was in Office and Administrative Support Occupations. This occupation category also accounted for one of the largest differences among occupations (1.2%), tied with Construction and Extraction Occupations (Figure 18).
- Sales and Related Occupations had the smallest difference at .1% (Figure 18).

Figure 17. Minneapolis Saint Paul MSA Occupational Shares of Outperforming Industries, 2008

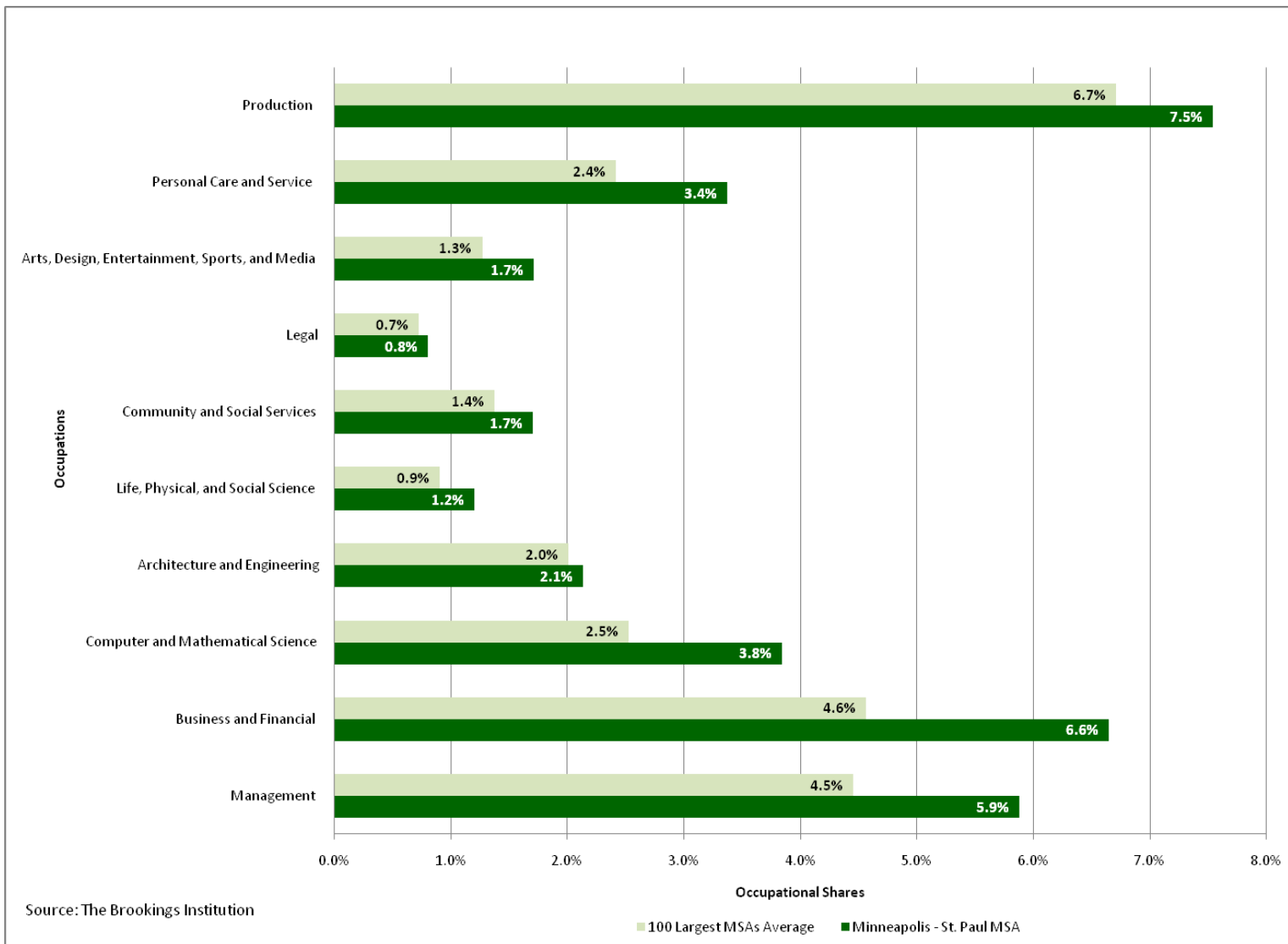
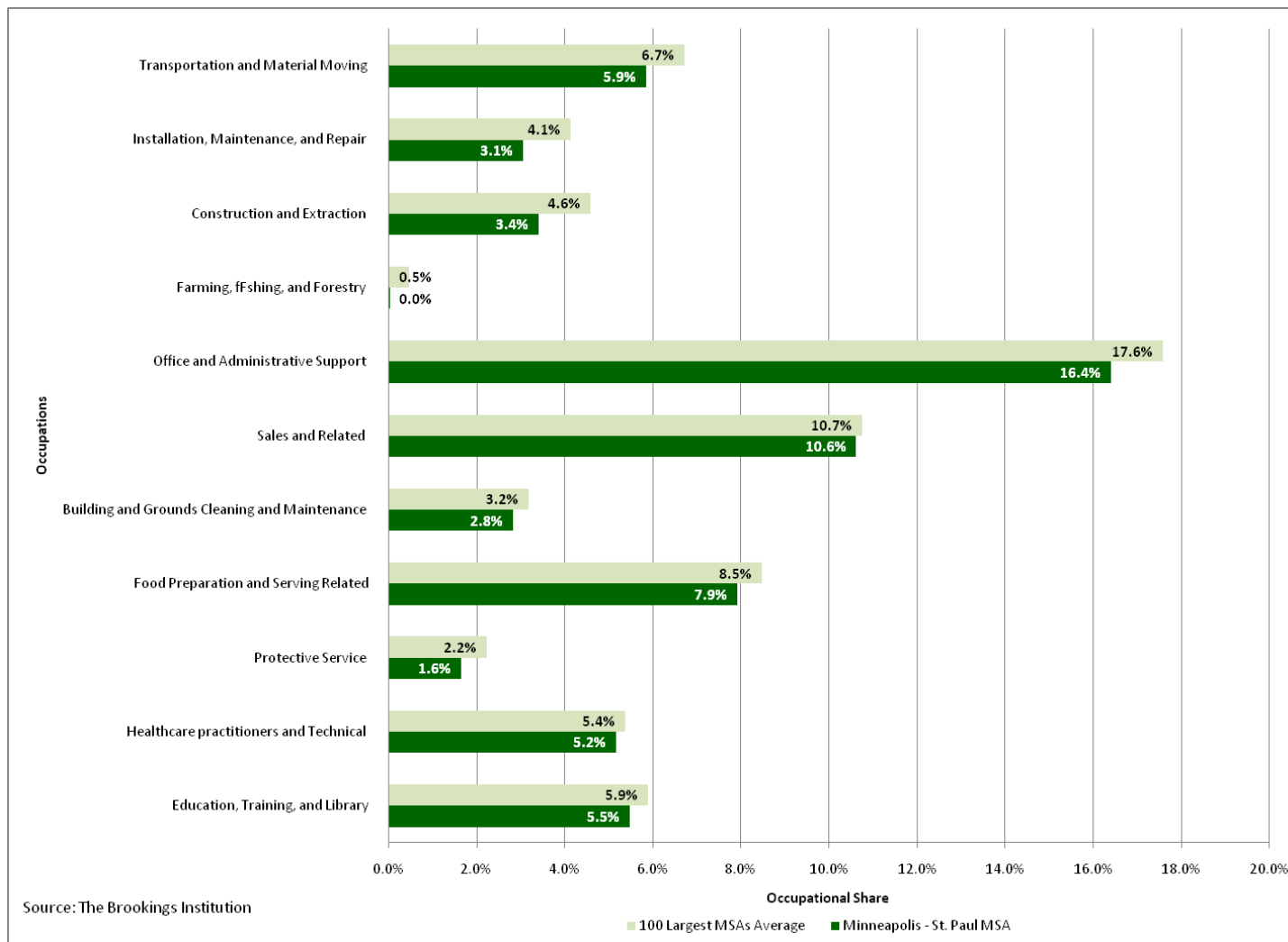


Figure 18. Minneapolis Saint Paul MSA Occupational Shares of Underperforming Occupations, 2008



ECONOMIC INCLUSION (MINORITY- AND WOMEN-OWNED BUSINESSES)

MINORITY INCLUSION

The demographic profile of Minnesota and Minneapolis Saint Paul shows that there are small numbers and shares of minority groups; to analyze business ownership by minority groups it is essential to compare it to population shares.

- Table 14 presents minority business ownership in Minnesota and comparable states. Comparable state are defined as states containing comparable MSAs to Minneapolis Saint Paul (data for metropolitan areas is not yet available):
 - Percentage of business owners by minority group¹⁴
 - Percentage of the minority group to the total population¹⁵
 - Share of shares - compares the percentage of business owners to the percentage of the minority group in the total population, and takes into consideration the different sizes of minority populations in the various states. If this percentage =1 then the share of business owners in a minority group is equal to the proportion of that group in the total population.
- Minnesota is below the cohort average and the U.S. average.
- Figure 19 is a graphic representation of the share of shares data in Table 14.

BLACK/AFRICAN AMERICAN INCLUSION

- The share of shares for Black/African American business ownership participation is the same for the cohort average (.58) and the United States (.58).
- Minnesota ranks in the middle of the cohort group and the share of shares (.58) value is on par with the cohort average and the United States.

ASIAN INCLUSION

- Using the cohort average (1.24) and the U.S. data (1.31) for comparison, the Asian community has the highest minority participation (in relation to their size of population) in business ownership compared to the other minority categories.
- Minnesota ranks last (.66) in Asian business ownership based on the share of the Asian community size.

HISPANIC INCLUSION

- In comparison to other minority groups, Hispanics have the lowest participation (in relation to their size of population) in minority business ownership, cohort average (.48), and U.S. (.55)
- Minnesota ranks last (.26) in Hispanic business ownership based on the share of Hispanics in the Minnesota population.

¹⁴ U.S. Census Bureau, Survey of Business Owners (2007)

¹⁵ U.S. Census Bureau, American Community Survey (2007)

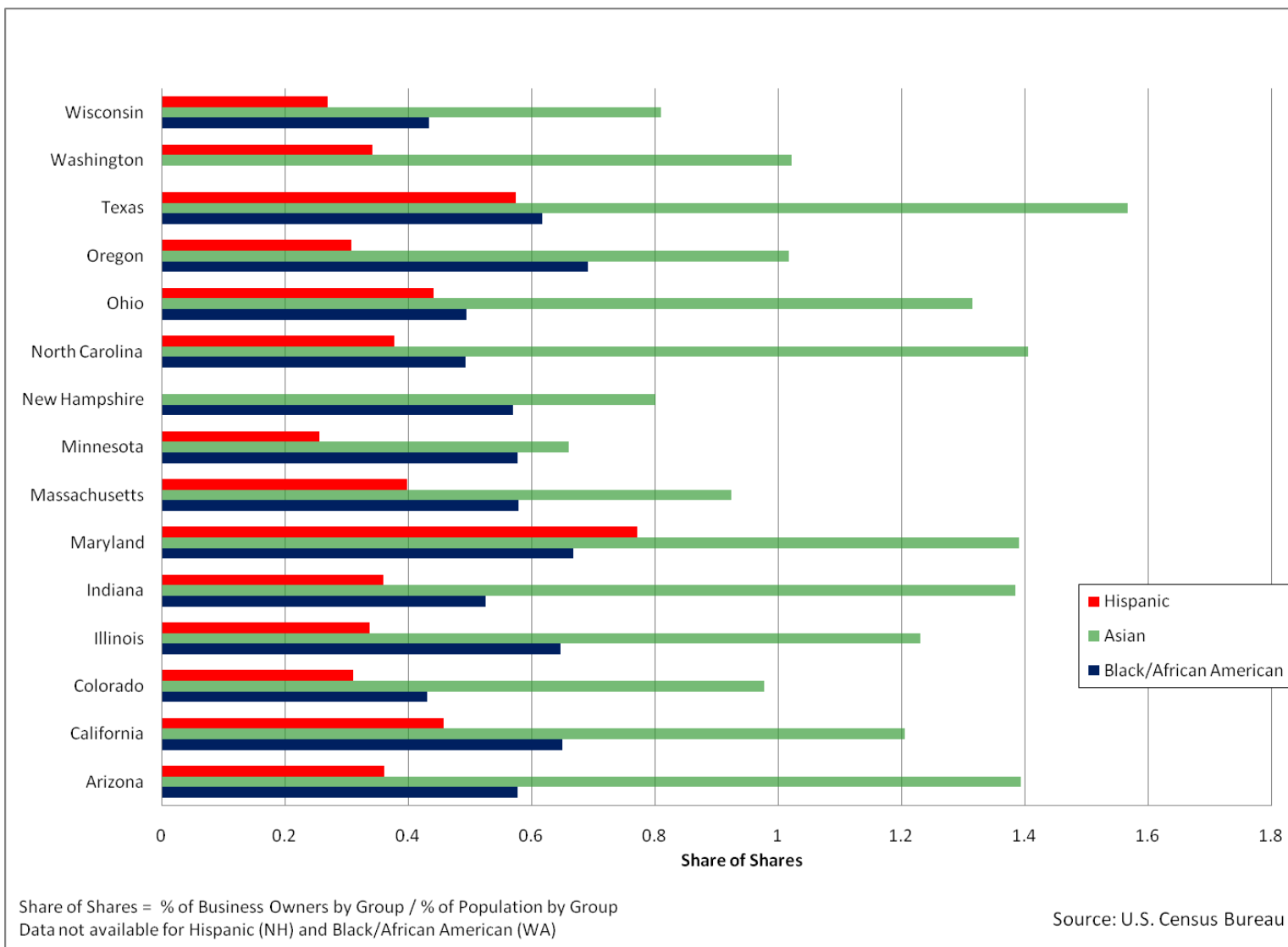
Table 14. Black/African Americans, Asians, and Hispanics as a Percentage of Business Owners and Percentage of the Population, by Comparable State, 2007

State	BLACK/AFRICAN AMERICAN				ASIAN				HISPANIC			
	% of Business Owners	% of Population	Share of Shares	Rank	% of Business Owners	% of Population	Share of Shares	Rank	% of Business Owners	% of Population	Share of Shares	Rank
Arizona	2.0%	3.5%	0.58	8	3.3%	2.4%	1.39	3	10.7%	29.7%	0.36	7
California	4.0%	6.2%	0.65	3	14.9%	12.3%	1.21	8	16.5%	36.2%	0.46	3
Colorado	1.7%	3.9%	0.43	14	2.6%	2.7%	0.98	11	6.2%	19.9%	0.31	11
Illinois	9.5%	14.7%	0.65	4	5.3%	4.3%	1.23	7	5.0%	14.9%	0.34	10
Indiana	4.6%	8.7%	0.53	10	1.8%	1.3%	1.39	5	1.8%	4.9%	0.36	8
Maryland	19.3%	28.9%	0.67	2	6.8%	4.9%	1.39	4	4.9%	6.3%	0.77	1
Massachusetts	3.4%	6.0%	0.58	6	4.5%	4.8%	0.92	12	3.3%	8.2%	0.40	5
Minnesota	2.5%	4.3%	0.58	7	2.3%	3.5%	0.66	15	1.0%	3.9%	0.26	14
New Hampshire	0.5%	1.0%	0.57	9	1.6%	2.0%	0.80	14	1.0%	-	-	-
North Carolina	10.5%	21.3%	0.49	12	2.5%	1.8%	1.41	2	2.7%	7.1%	0.38	6
Ohio	5.8%	11.7%	0.49	11	2.0%	1.6%	1.31	6	1.1%	2.5%	0.44	4
Oregon	1.2%	1.7%	0.69	1	3.6%	3.6%	1.02	10	3.3%	10.6%	0.31	12
Texas	7.1%	11.5%	0.62	5	5.3%	3.4%	1.57	1	20.7%	36.0%	0.57	2
Washington	-	3.4%	-	-	6.8%	6.6%	1.02	9	3.2%	9.4%	0.34	9
Wisconsin	2.6%	6.0%	0.43	13	1.6%	1.9%	0.81	13	1.3%	4.8%	0.27	13
Cohort Average	5.6%	9.6%	0.58	-	6.9%	5.5%	1.24	-	9.8%	20.7%	0.48	-
United States	7.1%	12.3%	0.58	-	5.7%	4.4%	1.31	-	8.3%	15.1%	0.55	-

Note: Share of Shares= Percent of Business Owners (in Group)/Percent of Population (in Group);

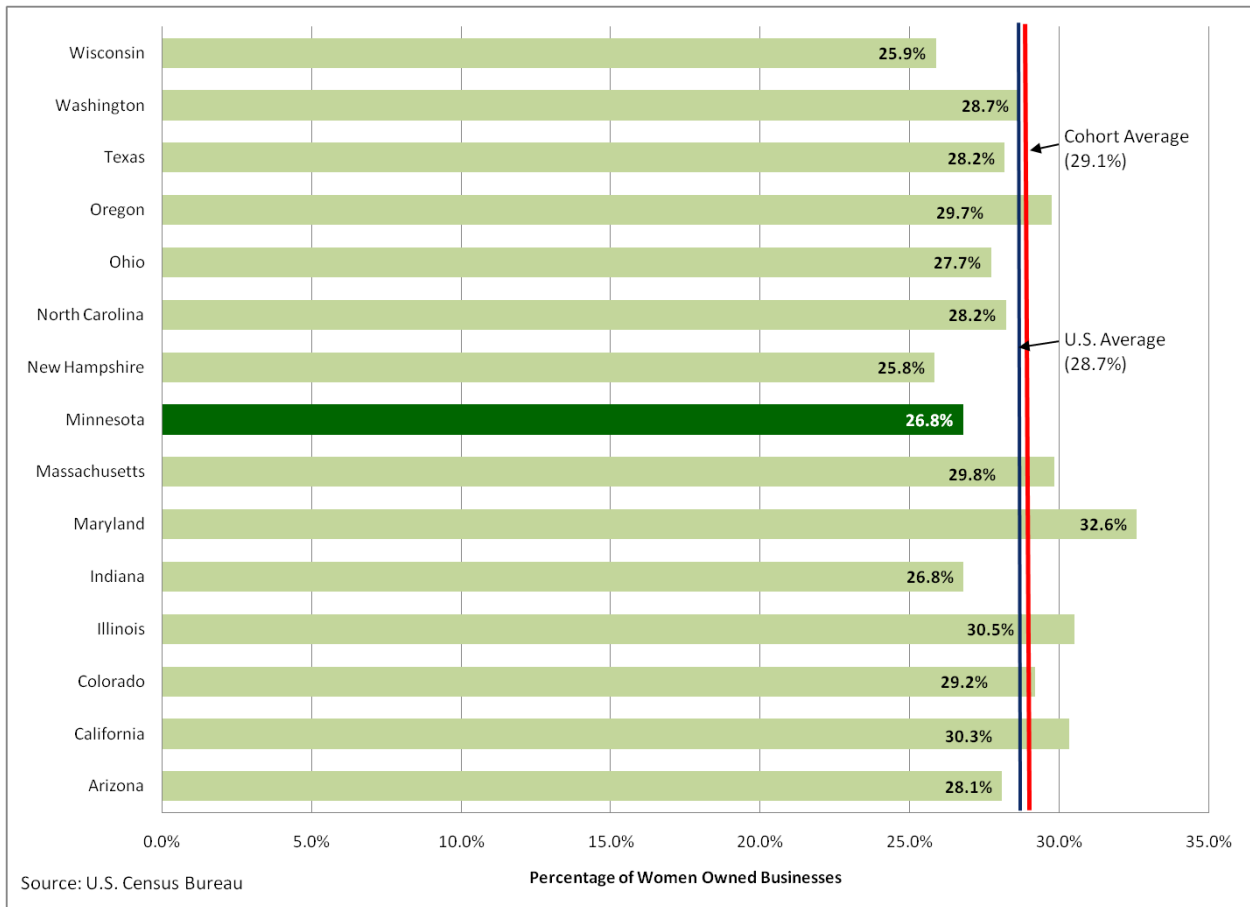
Source: U.S. Census Bureau, Survey of Business Owners

Figure 19. Minority Inclusion: Share of Shares, 2007



WOMEN-OWNED BUSINESSES

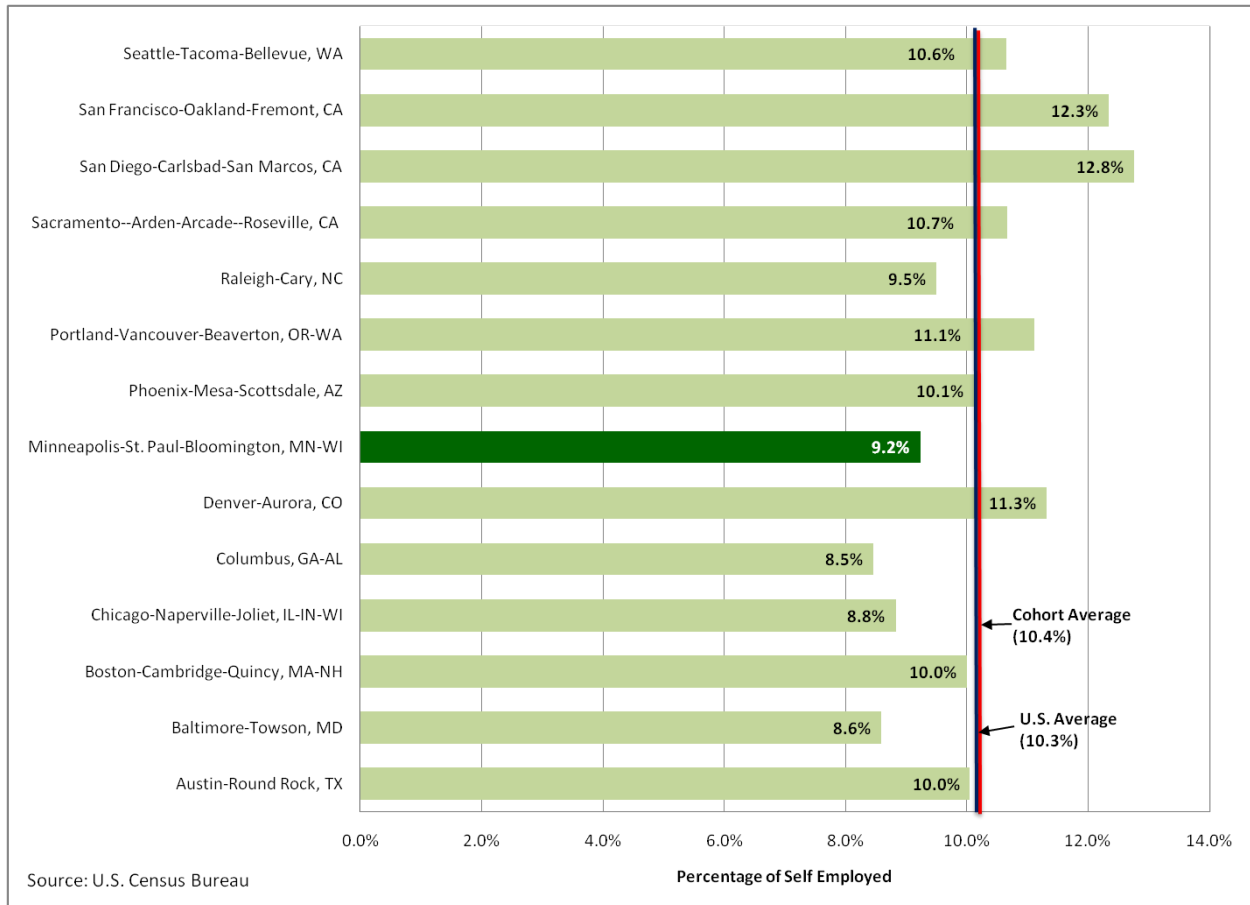
Figure 20. Percentage of Women-Owned Businesses, by Comparable States, Cohort Average, and U.S. Average, 2007



- Figure 20 presents the percentage of Women Business Owners in comparable states in comparison to the cohort and U.S. average.
- The percentage of women-owned businesses in Minnesota is below the cohort and U.S. average.

THE ROLE OF THE SELF-EMPLOYED

Figure 21. Percentage of Self-Employed, by Comparable MSAs, Cohort Average, and U.S. Average, 2008



- The percentage of self-employed in the Minneapolis Saint Paul MSA is lower than the U.S. and cohort average (Figure 21).
- Leading metro areas in this indicator include San Francisco, CA; San Diego, CA; Portland, OR; and Denver, CO.

CHAPTER 3: ENTREPRENEURSHIP AND INNOVATION

This chapter includes information on entrepreneurship and innovation in the Minneapolis Saint Paul (MSP) metropolitan area. First, we summarize information from other studies that were conducted for the Itasca Project on entrepreneurship and innovation in the MSP area. Second, we describe major findings from an analysis conducted by the Center for Economic Development at Cleveland State University's Levin College of Urban Affairs.

Analysis by the Center for Economic Development was conducted for the Minneapolis Saint Paul MSA, which is a 13-county region;¹⁶ cohort regions; the cohort average; and the United States.¹⁷ When data for the MSP MSA or comparable MSAs were not available, state-level data were used.

¹⁶ The Minneapolis Saint Paul MSA includes 11 counties in Minnesota and 2 counties in Wisconsin. The counties in Minnesota include Anoka County, Carver County, Chisago County, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright counties. The Wisconsin counties include Pierce and St. Croix counties.

¹⁷ The cohort regions were adopted from studies conducted out of the Itasca Project.

REVIEW OF OTHER STUDIES

ENTREPRENEURSHIP AND INNOVATION: SUMMARY OF FINDINGS¹⁸

Available reports show that Minnesota and the Minneapolis Saint Paul MSA are highly ranked in innovation and entrepreneurship, but they are facing some declining trends and their rankings have dropped. The Region's leadership is interested in reversing these trends to recapture a leading role in science and technology innovation.

- Minnesota is a leader in technology transfers overall but lower in its rate of start-ups.
 - In 2007, the University of Minnesota was among the top universities in licensing income, but it was ranked the lowest in terms of start-ups.
- Minnesota was ranked #12 in total R&D performed per total GDP in 2007.
- Minnesota is losing ground to international competitors.
 - 8th grade science scores declined from a rank of #6 in 1995 to #8 in 2007 based on a TIMSS (Trends in International Math & Science Study)
 - State lost high-tech jobs between 2002 and 2007
- Minnesota was, ranked #22 with 312 entrepreneurs per 100,000 people in 2007, slightly higher than the U.S. average (300). It has declined by 2.5% since 2002.
- Minnesota generates new establishments at a comparable rate to peer states, but has fewer establishment births per establishment closings.
 - MSP's establishment birth rate (average number of new firms per capita) between 2002 and 2006 was 0.29, just slightly higher than peer state average (0.280).
 - MSP's business churn (average ratio of firm births to firm closings) between 2002 and 2006 was 1.16 slightly lower than the peer state average (1.18).
- Based upon opinions of MSP leadership, the MSP region lacks a strong entrepreneurial community.
 - Need more networking within the entrepreneurial community
 - Need more mentors for the entrepreneurs
- Minnesota has insufficient levels of early stage funding.

¹⁸ Itasca Project, "Job Growth Taskforce: Current Innovation and Entrepreneurship Environment," January, 2010. "Job Growth Taskforce: Innovation and Start-up," November 2009. Minnesota Science & Technology Initiative, January 15, 2010.

- Between 1995 and 2009, Minnesota had seed-stage investment of \$62 per capita and early-stage investment of \$199 per capita, for a total of \$261 per capita. California, the leading state, had per capita pre- and early-stage capital of \$1,230.
- The MSP region lagged in number and value of venture capital deals (2006-2009).
 - The region had 34 deals (#8 among 11 comparable states)
 - Investment of \$261 per capita (#8 among 11 comparable states)
 - Average investment of \$25 million (#7 among 11 comparable states)
- Minnesota had two new economic development initiatives in 2010
 - On January 15, 2010, the Minnesota Science & Technology Initiative was submitted to the Minnesota state legislature by the Minnesota Science and Technology Economic Development Project Committee. Four priorities were recommended:
 - Priority 1: Create and fund a permanent structure for science and technology strategy and oversight, collaboration, and planning
 - Priority 2: Provide tax incentives to encourage research and development and investment in innovation
 - Priority 3: Fund mechanisms that attract and retain technology companies and technology-oriented individuals to Minnesota
 - Priority 4: Create a small business investment program which uses insurance money for early-stage investment, known generically across the country as CAPCO (CAPCO provides securities account protection for institutional and individual brokerage accounts)
 - Minnesota has recently passed its Angel Tax Credit
 - On April 1, 2010 the Minnesota House and Senate overwhelmingly approved a 5-year, \$50 million tax credit designed to spur early-stage investment in high-tech start-ups, including those focused on biotechnology and medical devices.
 - Minnesota's Angel Tax Credit provides incentives to investors or investment funds that invest in start-up and emerging companies focused on high technology or new proprietary technology. The Angel Tax Credit:
 - Provides a 25% individual income tax credit for qualified investors
 - Allows a maximum credit of \$125,000 per year per individual
 - Allows a maximum credit of \$250,000 for those married and filing jointly
 - A total of \$11 million in tax credits is available for the year 2010. Funding for the years 2011 to 2014 is set at \$12 million per year.

ENTREPRENEURSHIP AND INNOVATION ANALYSIS

This analysis, conducted by the Center for Economic Development, examines variables that measure entrepreneurship and innovation. Entrepreneurship analysis takes into account the Kauffman Index of Entrepreneurial Activity, public offerings, business dynamics, the propensity to be in business, and capital markets. Innovation trends are marked by university research and development, industry research and development, SBIR/STTR awards, and patents.

ENTREPRENEURSHIP TRENDS

KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY

The Kauffman Index of Entrepreneurial Activity (KIEA) uses data from the U.S. Census Bureau's Current Population Survey¹⁹. With a sample size of over 500,000, the KIEA measures the percentage of people (ages 20-64) who do not own a business in the first month surveyed and then start a business the next month and work 15 or more hours.

- Table 15 shows KIEA data from 2005 to 2009 for Minnesota and comparable states.
- Minnesota experienced a sharp drop in entrepreneurial activity between 2007 and 2008. Minnesota's KIEA dropped from .31% to .21% and its ranking dropped from 22 in 2007 to 47 in 2009.
- In contrast, the cohort average KIEA and U.S. KIEA remain fairly constant over this period (2005-2009). This indicates that entrepreneurial activity in Minnesota is decreasing in relation to comparable states and the United States, regardless of the recession.
- In comparison to the sharp dive in Minnesota's entrepreneurial activity, an increase occurred in two states from 2005 to 2009: Arizona and Texas. The ranks of these two states increased significantly.
- In 2009 it was estimated that 220 per 100,000 adults in Minnesota own businesses.

¹⁹ The Current Population Survey collects information from 130,000 people each month. The KIEA longitudinally links this data to create a yearly dataset. The Kauffman Foundation estimates that the KIEA dataset from 1996 to 2009 has a sample size of over 10 million adults.

Table 15. Kauffman Index of Entrepreneurial Activity, by Comparable States with Rank, 2005-2009

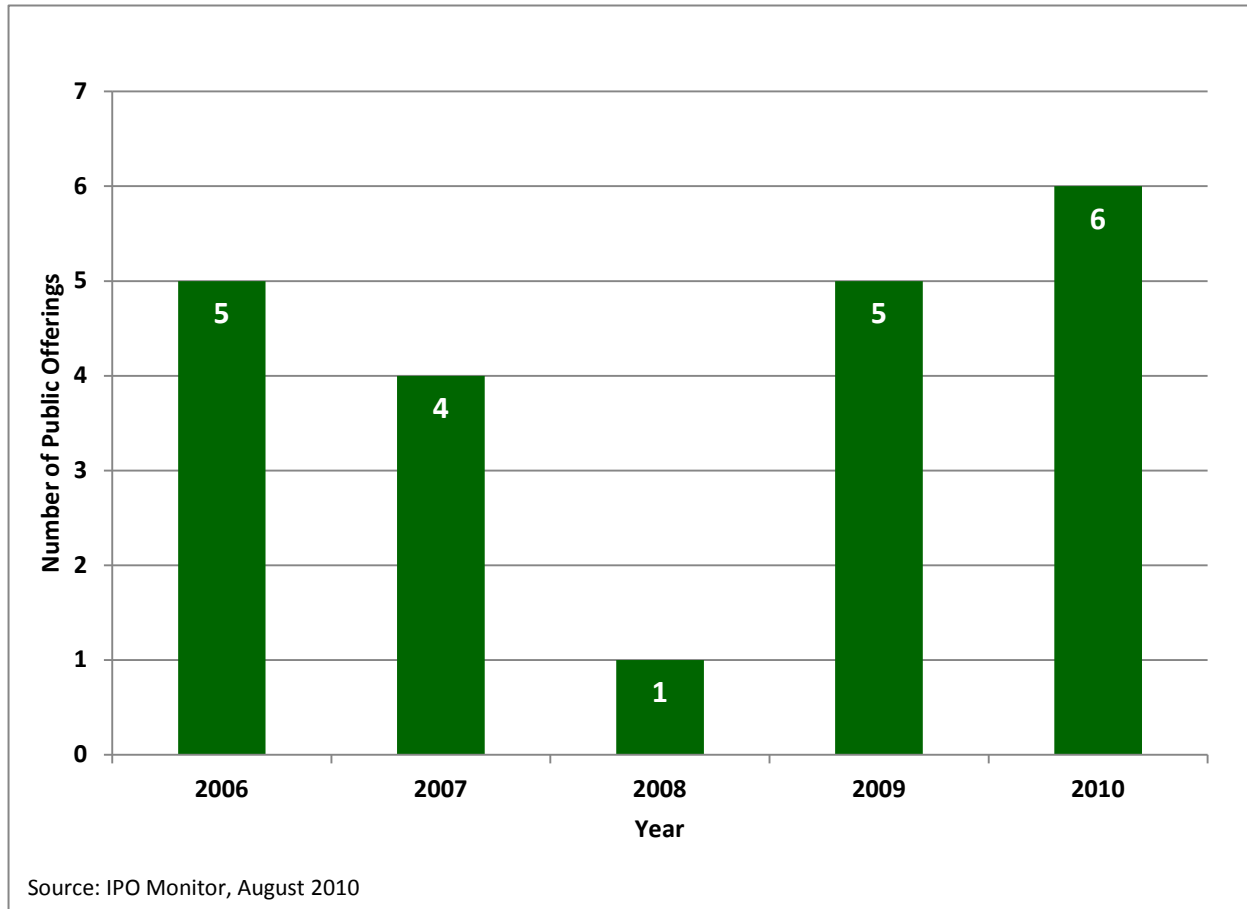
State	2005	Rank	2006	Rank	2007	Rank	2008	Rank	2009	Rank
Arizona	0.32%	22	0.30%	21	0.46%	3	0.49%	4	0.46%	3
California	0.32%	20	0.35%	12	0.40%	10	0.44%	6	0.41%	10
Colorado	0.53%	2	0.28%	30	0.34%	17	0.43%	7	0.38%	12
Illinois	0.26%	34	0.18%	48	0.24%	40	0.26%	35	0.24%	41
Indiana	0.29%	27	0.21%	43	0.24%	38	0.28%	26	0.28%	33
Maryland	0.42%	8	0.27%	34	0.32%	20	0.23%	40	0.29%	30
Massachusetts	0.23%	39	0.35%	13	0.24%	39	0.28%	25	0.33%	23
Minnesota	0.31%	24	0.29%	25	0.31%	22	0.21%	42	0.22%	47
New Hampshire	0.28%	28	0.21%	44	0.28%	30	0.27%	31	0.28%	32
North Carolina	0.23%	42	0.20%	45	0.32%	19	0.23%	39	0.25%	39
Ohio	0.27%	32	0.22%	42	0.19%	47	0.19%	46	0.27%	35
Oregon	0.33%	18	0.38%	9	0.35%	13	0.37%	14	0.38%	11
Texas	0.35%	14	0.30%	20	0.29%	26	0.37%	13	0.45%	4
Washington	0.23%	40	0.27%	33	0.22%	43	0.27%	29	0.24%	43
Wisconsin	0.27%	31	0.27%	32	0.29%	29	0.17%	49	0.30%	28
Cohort Average	0.31%	-	0.27%	-	0.30%	-	0.30%	-	0.32%	-
United States	0.29%	-	0.29%	-	0.30%	-	0.32%	-	0.34%	-

Note: Rank out of 51

Source: Kauffman Foundation

PUBLIC OFFERINGS

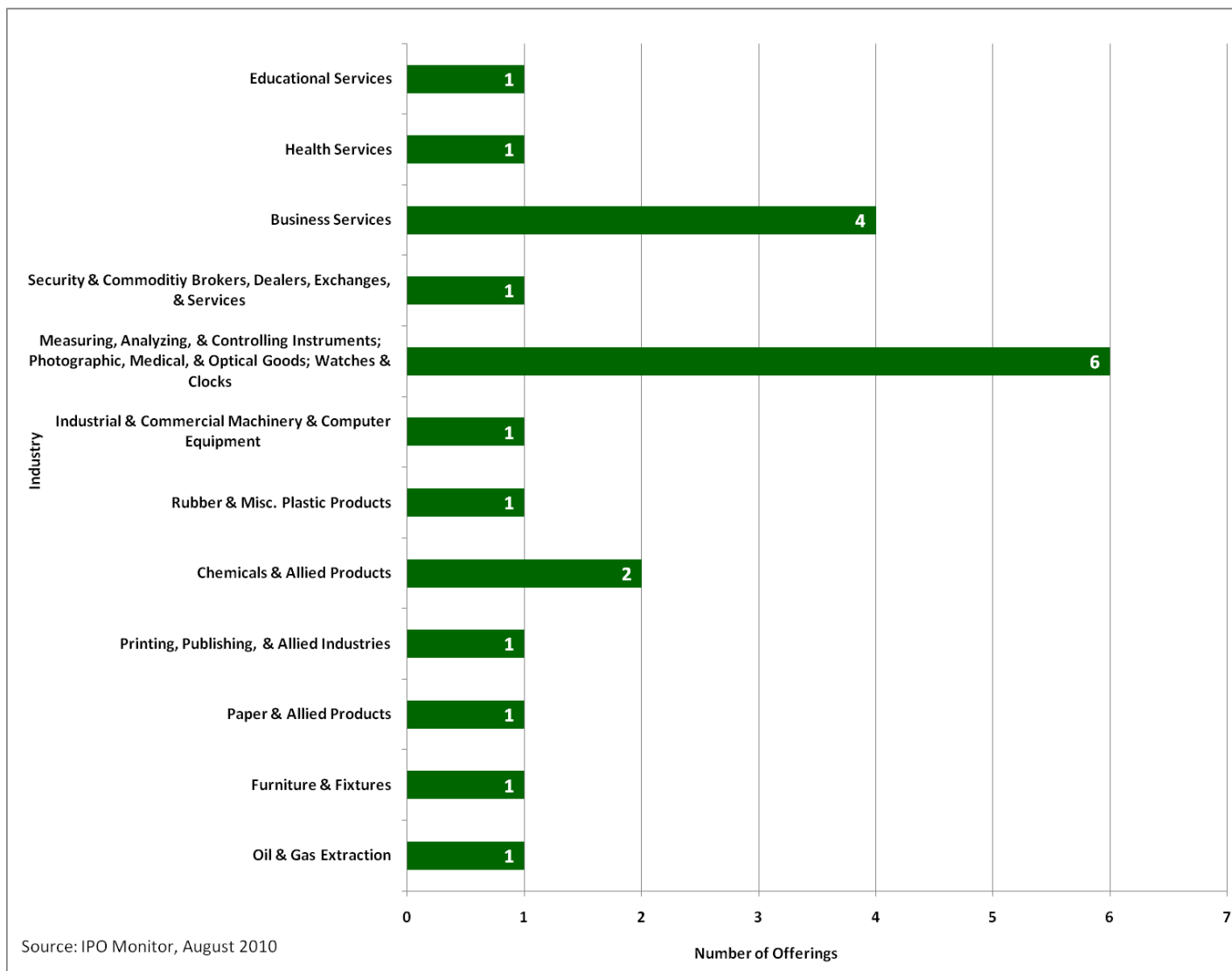
Figure 22. Public Offerings in the Minneapolis Saint Paul MSA, January 2006 – August 2010



- 21 companies had public offerings²⁰ in Minneapolis Saint Paul between January 2006 and August 2010. A listing of company name, type of public offering (initial or secondary), date, sector, industry, address, website, and underwriter is included in an electronic file given to JumpStart Community Advisors.
- Following the decline in the U.S. economy, there was a 75% decrease in public offerings from 2007 to 2008 in the Minneapolis Saint Paul MSA (Figure 22). By 2009, those numbers rebounded to pre-recession levels.
- In Figure 23, three industries had multiple public offerings within the study period (January 2006 to August 2010): Measuring, Analyzing and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks (6); Business Services (4); and Chemicals and Allied Products (2).
- In addition, 12 different Industrial Sectors were represented by at least one public offering (Figure 23).

²⁰ Public offerings are the sale of shares of a company on a public market (i.e. NASDAQ). Initial public offerings (IPO) are the first time sale of stock for a private company going public, and a secondary offering is the offering of new stock from an existing public company.

Figure 23. Public Offerings by Industry in the Minneapolis Saint Paul MSA, January 2006 - August 2010



BIRTH/DEATH AND BUSINESS CHURNING

Table 16. Birth/Death and Business Churning, by Comparable MSAs and Rank, 2005-2006

MSA	Birth/Death	Rank	Business Churning	Rank
Austin-Round Rock, TX	1.325	4	0.228	3
Baltimore-Towson, MD	1.199	8	0.198	12
Boston-Cambridge-Quincy, MA-NH	1.099	13	0.182	14
Chicago-Naperville-Joliet, IL-IN-WI	1.160	10	0.199	11
Columbus, OH	1.046	14	0.193	13
Denver-Aurora-Broomfield, CO	1.138	12	0.238	2
Minneapolis Saint Paul-Bloomington, MN-WI	1.167	9	0.205	10
Phoenix-Mesa-Scottsdale, AZ	1.500	1	0.246	1
Portland-Vancouver-Beaverton, OR-WA	1.327	3	0.212	8
Raleigh-Cary, NC	1.467	2	0.223	6
Sacramento--Arden-Arcade--Roseville, CA	1.239	7	0.227	4
San Diego-Carlsbad-San Marcos, CA	1.275	5	0.227	5
San Francisco-Oakland-Fremont, CA	1.153	11	0.207	9
Seattle-Tacoma-Bellevue, WA	1.251	6	0.219	7
Cohort Average	1.216	-	0.211	-
United States	1.128	-	0.205	-

Note: Birth/Death = Single Unit Births/Single Unit Deaths;

Business Churning = (Total Births + Total Deaths)/Total Establishments; Rank out of 14

Source: U.S. Census Bureau, Longitudinal Establishment and Enterprise Microdata

- The Minneapolis Saint Paul region ranked in the bottom half of the cohort group among the 14 comparable MSAs in both birth/death (#9) and business churning (#10) and the region was slightly below the cohort average (1.216, 0.211) (Table 16).
- Of the 136 MSAs with populations between 300,000 and 3.5 million, the top three performers in 2006 in birth/death were Boise City, ID (1.802); Provo, UT (1.645); and Fort Meyers, FL (1.467). Among these 136 MSAs, Minneapolis Saint Paul ranked 57th in birth/death.
- Of these 136 MSAs, the top three performers in 2006 in business churning were New Orleans, LA (.300); Provo, UT (.281); and Las Vegas, NV (.272). Among these 136 MSAs, Minneapolis Saint Paul ranked 49th in business churning.

PROPENSITY TO BE IN BUSINESS

Table 17. Ratio of Business Owners to Employees (Propensity to Be in Business), by Comparable States and Rank, 2007

State	Number of Firms	Number of Employees	# of Firms / # of Employees	Rank
Arizona	109,045	2,331,578	4.7%	10
California	708,022	13,796,965	5.1%	5
Colorado	126,628	2,045,805	6.2%	2
Illinois	251,809	5,365,847	4.7%	9
Indiana	109,919	2,569,215	4.3%	14
Maryland	109,682	2,227,883	4.9%	6
Massachusetts	138,046	3,097,236	4.5%	12
Minnesota	116,289	2,397,186	4.9%	7
New Hampshire	31,529	577,084	5.5%	4
North Carolina	168,116	3,498,352	4.8%	8
Ohio	192,390	4,755,400	4.0%	15
Oregon	90,091	1,446,753	6.2%	1
Texas	377,182	8,794,861	4.3%	13
Washington	146,172	2,451,141	6.0%	3
Wisconsin	110,573	2,469,883	4.5%	11
Cohort Average	185,700	3,855,013	4.8%	-
United States	5,752,975	118,668,699	4.8%	-

Note: Rank out of 15

Source: U.S. Census Bureau, Survey of Business Owners, 2007

- Minnesota ranks in the middle of the cohort for business propensity (#7). Its ratio of 4.9% is slightly above the cohort average (4.8%) and the United States (4.8%) (Table 17).

PROPENSITY TO BE AN ENTREPRENEUR

Table 18. Ratio of Business Owners to Population over 18 years (Propensity to be an Entrepreneur) by Comparable States and Rank, 2007

State	Number of Firms	Population > 18 yrs (Thousand)	Number of Firms / Thousand Population >18 yrs	Rank
Arizona	109,045	4,668	23.4	12
California	708,022	27,170	26.1	8
Colorado	126,628	3,669	34.5	1
Illinois	251,809	9,654	26.1	7
Indiana	109,919	4,759	23.1	13
Maryland	109,682	4,260	25.7	10
Massachusetts	138,046	5,018	27.5	6
Minnesota	116,289	3,938	29.5	5
New Hampshire	31,529	1,017	31.0	3
North Carolina	168,116	6,848	24.5	11
Ohio	192,390	8,712	22.1	14
Oregon	90,091	2,883	31.3	2
Texas	377,182	17,275	21.8	15
Washington	146,172	4,932	29.6	4
Wisconsin	110,573	4,282	25.8	9
Cohort Average	185,700	7,272	26.8	-
United States	5,752,975	227,713	25.3	-

Note: Rank out of 15

Source: U.S. Census Bureau, Survey of Business Owners; U.S. Census Bureau, American Community Survey

- Table 18 examines the propensity to be an entrepreneur by measuring the number of firms in business by the total population greater than 18 years old. Minnesota ranked toward the top of the list (#5), while Colorado, Oregon, and New Hampshire rounded out the top 3.
- 10 out of the 15 states listed in Table 18 have a higher number of firms per 1,000 population over 18 years old than the United States (25.3), which displays that the states in this cohort are drivers of entrepreneurship in the United States.

CAPITAL MARKETS

VENTURE CAPITAL INVESTMENT TRENDS

- Overall, there was a sharp decline in the number of companies receiving venture capital (VC) and VC investments from 2008 to 2009. This reflects the lack of VC investment and movement during the recession (Table 19).
- From 2007 to 2009 only one MSA showed an increase in VC investments: Seattle, WA; and from 2008 to 2009 only one MSA showed an increase in VC investments: Portland, OR. During these time periods, Minneapolis Saint Paul showed a decrease in VC investment, although it was moderate.
- Minneapolis Saint Paul is far below the cohort average for all three categories in all 3 years.
- Minneapolis Saint Paul increased in both the rankings of the number of companies receiving VC and the size of VC investments from 2007 to 2009. These increases are not due to stellar performance in the Minneapolis Saint Paul MSA, rather the poor performance of the other start-up companies in the cohort.

Table 19 . Venture Capital (VC): Number of Companies Receiving VC, VC Investment Dollars (\$Mil), and Investment Dollars per Employee (Emp), by Comparable MSAs and Rank, 2007-2009

MSA	2007						2008						2009					
	# of Companies Receiving VC	Rank	VC Investment (\$Mil)	Rank	VC \$ per Emp	Rank	# of Companies Receiving VC	Rank	VC Investment (\$Mil)	Rank	VC \$ per Emp	Rank	# of Companies Receiving VC	Rank	VC Investment (\$Mil)	Rank	VC \$ per Emp	Rank
Austin-Round Rock, TX	73	5	\$862	5	\$1,115	4	66	5	\$653	5	\$825	5	47	5	\$456	5	\$589	5
Baltimore-Towson, MD	46	8	\$412	8	\$305	8	38	9	\$227	11	\$168	10	28	9	\$161	11	\$124	10
Boston-Cambridge-Quincy, MA-NH	380	2	\$4,105	2	\$1,651	2	393	2	\$3,459	3	\$1,382	3	280	2	\$2,520	2	\$1,043	2
Chicago-Naperville-Joliet, IL-IN-WI	61	6	\$625	6	\$136	12	54	7	\$479	7	\$104	12	32	7	\$201	9	\$46	12
Columbus, OH	14	14	\$43	14	\$45	14	8	14	\$21	14	\$22	14	6	14	\$4	14	\$4	14
Denver-Aurora-Broomfield, CO	47	7	\$406	9	\$323	7	57	6	\$625	6	\$493	7	31	8	\$234	8	\$193	8
Minneapolis Saint Paul-Bloomington, MN-WI	44	9	\$486	7	\$266	10	43	8	\$450	8	\$247	8	36	6	\$322	6	\$186	9
Phoenix-Mesa-Scottsdale, AZ	20	12	\$300	11	\$154	11	25	11	\$284	10	\$150	11	12	11	\$178	10	\$101	11
Portland-Vancouver-Beaverton, OR-WA	34	10	\$307	10	\$288	9	35	10	\$197	12	\$184	9	20	10	\$291	7	\$289	6
Raleigh-Cary, NC	27	11	\$171	12	\$325	6	24	12	\$407	9	\$769	6	11	12	\$99	12	\$195	7
Sacramento--Arden-Arcade--Roseville, CA	16	13	\$122	13	\$131	13	12	13	\$72	13	\$79	13	8	13	\$29	13	\$34	13
San Diego-Carlsbad-San Marcos, CA	142	3	\$2,128	3	\$1,473	3	124	3	\$1,342	4	\$935	4	90	3	\$1,125	4	\$824	4
San Francisco-Oakland-Fremont, CA	595	1	\$6,014	1	\$2,886	1	638	1	\$7,222	2	\$3,471	2	454	1	\$5,392	1	\$2,744	1
Seattle-Tacoma-Bellevue, WA	138	4	\$1,573	4	\$868	5	122	4	\$11,087	1	\$6,053	1	88	4	\$1,644	3	\$942	3
Cohort Average	117	-	\$1,254	-	\$761	-	117	-	\$1,895	-	\$1,152	-	82	-	\$904	-	\$577	-
United States	6141	-	\$81,663	-	\$572	-	5869	-	\$80,934	-	\$568	-	4213	-	\$52,302	-	\$384	-

Note: Rank out of 14

Source: Thompson Financial; Moody's Economy.com

EARLY-STAGE INVESTMENT FIRMS

- A directory of early-stage investment firms, late-stage investment firms, and private equity firms have been provided in an electronic file with all contact information; Table 20, Table 21, and Table 22 are listings of these companies with only focus and specialization data fields for analysis purposes.
- Of the 21 early stage investment firms listed in Table 20, four invest mostly in information technology: Blue Stream Ventures, Square One Ventures, Technology Venture partners, and Vesbridge Partners.
- Four early stage investment firms invest only in technology companies: Brightstone Capital, HB Fuller Ventures, RAIN Source Capital, and StarTech Investments.
- Two of the 21 firms specialize only in healthcare industry investments: Lemhi Ventures and Tricardia.
- Of the 21 firms, seven invest in both technology and the healthcare industry: Cedar Point Capital, Crawford Capital Corporation, InterMedco Fund, Sherpa Partners, Space Center Ventures, Split Rock Partners, and Twin Cities Angels.
- Other investment areas of early-stage firms in Minneapolis Saint Paul include: gaming and leisure (Apex Capital), proprietary intellectual property (Clique Capital), minority-owned businesses (Milestone Growth Fund) and general early-stage ventures (Portage Equity Investments).

Table 20. Early Stage Investment Firms: Minneapolis Saint Paul MSA, August 2010

Early Stage Investment Firms in the Minneapolis Saint Paul MSA			
Organization	Website	Focus	Investment Specialization
Apex Capital, LLP	www.apexcapitalllp.com	Raising early-stage venture capital for companies in the gaming and leisure, restaurant, and financial services markets; early rounds are typically between \$2 million and \$5 million	Gaming and leisure, restaurant, and financial services markets
BlueStream Ventures	www.bluestreamventures.com	Investing in communications, enterprise, and infrastructure software, storage, and wireless markets; has invested 80 % of a \$280 million fund	Communications, enterprise, and infrastructure software, storage, and wireless markets
Brightstone Capital	www.brightstonevc.com	Investing \$2 million to \$5 million in growth-stage technology companies	Technology companies
Cedar Point Capital	www.cedarpointcapital.net	Raising private funds for early-stage medical, medical device, and technology companies	Medical, medical device, and technology companies
Clique Capital, LLC	www.cliquecapital.com	Clique Fund I is focused on seed and early-stage companies with experienced management teams, niche markets, or proprietary intellectual property; Clique Holdings focuses on larger markets, such as companies with an established cash flow and moving toward an IPO.	Proprietary intellectual property
Crawford Capital Corporation	www.crawcap.com	Assisting early-stage medical device, communications, technology, biotech, and software companies in raising capital principally through a network of angel investors and small venture capital firms	Medical device, communications, technology, biotech, and software companies
HB Fuller Ventures	www.hbfuller.com/Ventures/index.shtml	Aiming to invest between \$500,000 and \$2 million annually in two or three tech companies, with a preference to co-invest with a partner or enter financing at B round or later	Tech companies
InterMedco Fund	No Website	Investing \$100,000 to \$600,000 in health care, medical products, life sciences, and IT software industries	Health care, medical products, life sciences, and IT software industries

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August 2010)

Table 20. Early-Stage Investment Firms (Continued): Minneapolis Saint Paul MSA, August 2010

<i>Early-Stage Investment Firms in the Minneapolis Saint Paul MSA (Continued...)</i>			
Organization	Website	Focus	Investment Specialization
Lemhi Ventures, LLC	www.lemhiventures.com	Investing in companies with disruptive change business models in the healthcare industry	Healthcare industry
Milestone Growth Fund, Inc.	www.milestonegrowth.com	Assisting minority-owned businesses in early and expansion stages (at least one year in business) with proven track records; average investment ranges from \$200,000 to \$500,000	Minority-owned businesses
Portage Equity Investments, LD	www.portagecapital.com	Investments in early- stage venture	
RAIN Source Capital	www.rainsourcecapital.com	Providing a network of 23 angel investor RAIN funds and two venture funds. The RAIN funds are capitalized from \$500,000 to \$2 million to focus on investments in technology and manufacturing in six states; more than \$50 million in capital is available	Technology and manufacturing
Sherpa Partners	www.sherpapartners.com	Investing money from a \$13 million fund into early-stage technology, IT services, and life sciences firms primarily located in the Midwest, but will consider firms in other geographic areas	Technology, IT services, and life sciences firms
Space Center Ventures, Inc.	www.scvinc.com	Investing in Minnesota-based companies raising \$1 million to \$5 million at a pre-money valuation of less than \$10 million. Industries serviced include biotechnology, business services, electronics and instrumentation, health-care, medical devices, new media, software, and telecommunications	Biotechnology, business services, electronics and instruments, health care, medical devices, new media, software, and telecommunications
Split Rock Partners	www.splitrock.com	Seeking emerging opportunities in healthcare (primarily medical devices, software, and Internet services), particularly in the upper Midwest and on the West Coast; investments range between \$1 million and \$25 million	Health care (primarily medical devices, software, and Internet services)
Square One Ventures, LLC	www.smaby.com	Funding conception-stage venture capital with focus on forming, funding, and advising early stage IT start-ups	IT start-ups
StarTec Investments, LLC	No Website	Investing in Midwest-based, early-stage technology companies with initial and follow-on investments from \$100,000 to \$500,000. Prefers to invest in companies that have a proprietary product with market validation and an experienced management team	Technology companies

Table 20. Early-Stage Investment Firms (Continued): Minneapolis Saint Paul MSA, August 2010

<i>Early-Stage Investment Firms in the Minneapolis Saint Paul MSA (Continued...)</i>			
Organization	Website	Focus	Investment Specialization
Technology Venture Partners, LLC	www.tvp.com	Assisting in early- to mid-stage networking, communications, Internet, and infrastructure companies; investments of \$2 million to \$10 million over the life of the investment	Networking, communications, Internet, and infrastructure companies
Tricardia, LLC	www.tricardia.com	Providing pre-seed and seed funding for medical device companies; acts as an advisor to Split Rock Partners; prosecutes intellectual property	Medical device companies
Twin Cities Angels	http://www.tcangels.com/Index.html	Providing opportunities for members to obtain outstanding financial returns by investing in early-stage technology, life science companies, and in areas in which members have expertise within Minnesota and close proximity in the upper Midwest.	Technology, life science companies
Vesbridge Partners	www.vesbridge.com	Assisting early-stage opportunities in IT and networking, primarily in Minneapolis and Boston; makes initial investments of \$500,000 to \$5 million or \$3 million to \$8 million over the life of the company	IT and networking

LATE-STAGE INVESTMENT FIRMS

- Of the eight late-stage investment firms shown in Table 21, two invest specifically in Information Technology. They include Coral Capital Management and Quattris Fund.
- Four of the eight late-stage investment firms specialize in the Healthcare Industry (medical devices, medical software, and biotech tools). They include Affinity Capital Management, LFE Capital, SightLine Partners, and Thomas, McNerney and Partners.
- Of the eight late-stage investment firms, only Oak Investment Partners invests in both Information Technology and the HealthCare Industry.
- One late-stage investment firm, Wellspring Corporation, invests primarily in manufacturing businesses.

Table 21. Late Stage Investment Firms: Minneapolis Saint Paul MSA, August 2010

Late Stage Investment Firms in the Minneapolis Saint Paul MSA			
Organization	Website	Focus	Investment Specialization
Affinity Capital Management	www.affinitycapitalmanagement.com	Investing in companies in the medical device, biotech tools, and health-care service sectors, across all stages	Medical device, biotech tools, and health-care service sectors
Coral Capital Management	www.coralgrp.com	Investing in technology-driven companies in the communications, information technology/enterprise software, and rich digital media sectors; seeks opportunities nationwide in companies that have the potential to become leaders in global markets	Technology-driven companies in the communications, information technology/enterprise software, and rich digital media sectors
LFE Capital	www.lfecapital.com	Investing in revenue-generating small and middle-market companies and companies in need of buyout or expansion capital in the business services, health, and consumer sectors, especially women-owned or women-led businesses and companies serving female markets; investments up to \$10 million	Business services, health, and consumer sectors
Oak Investment Partners	www.oakvc.com	Investing in high-growth opportunities in clean energy, communications, IT, Internet new media, financial services, healthcare services, and retail; multi-stage investments with \$8.4 billion in committed capital	Clean energy, communications, IT, Internet new media, financial services, healthcare services, and retail
Quatris Fund, LLC	www.quatrisfund.com	Investing in seed capital for technology and software firms in the early-growth stage with primary investment focus on emerging high-growth B2B IT market sectors (fund is fully invested)	Technology and software firms
SightLine Partners	www.sightlinepartners.com	Investing in emerging growth companies in healthcare sectors with a concentration on medical technology; investments from \$2 million to \$6 million; total company financing needs should range from \$2 million to \$75 million; formed out of Piper Jaffray Ventures; manages \$248 million	Health-care sectors, medical technology
Thomas, McNerney & Partners	www.tm-partners.com	Financing in the pharmaceutical, medical device, biotechnology, and diagnostic sectors; new investments between \$5 million and \$40 million and is open to all stages	Pharmaceutical, medical device, biotechnology, and diagnostic sectors
Wellspring Corporation	No Website	Assisting manufacturing businesses in the continental United States and Asia; typically looking for deals valued at more than \$1 million	Manufacturing businesses

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August, 2010)

PRIVATE EQUITY FIRMS

- Of the 17 private equity investment firms listed in Table 22, six invest at least \$1 million annually. They include Agio Capital Partners, Brass Ring Capital, North Central Equity, Norwest Equity Partners, Spell Capital Partners, and Tonka Bay Equity Partners.
- Of the six that invest more than \$1 million annually, four invest \$10 million or more annually. They include North Central Equity (up to \$10 million), Norwest Equity Partners (up to \$150 million), Spell Capital Partners (up to \$12 million) and Tonka Bay Equity Partners (up to \$10 million).
- Eight of the 17 private equity investment firms invest specifically in middle-market-sized companies: Agio Capital Partners, Goldner Hawn Private Equity, Hillcrest Capital Partners, InvestAmerica NW, Norwest Equity Partners, Oxbow Industries, Stone Arch Capital, and TRG Investors.
- Additional information on Factoring Firms, Mezzanine Debt Financiers, Public and Private Investors, Certified Development Companies, Small Business Development Centers, and Support Organizations is located in Appendix A1-A6.

Table 22. Private Equity Firms: Minneapolis Saint Paul MSA, August 2010

<i>Private Equity Firms in the Minneapolis Saint Paul MSA</i>		
Organization	Website	Focus / Investment Specialization
Agio Capital Partners I, LP	www.agio-capital.com	Financing in the manufacturing and service industries; targets middle-market companies with annual sales of \$5 million to \$100 million and equity investments of \$1 million to \$5 million
Brass Ring Capital, Inc.	www.brassringcapital.com	Buyouts and recapitalization of small, profitable Midwestern firms with \$5 million to \$25 million in revenue and more than 5 years of operating history in the business services and manufacturing sectors; typical equity of \$1 million to \$3 million, with preference given to management continuity
Cargill Ventures	http://www.cargillventures.com/index.htm	Launched in 2000, Cargill Ventures was funded by Cargill as a proprietary investment business investing in high-growth companies in the information technology, life sciences and clean technology sectors. Continues to look for attractive, high growth investment opportunities, led by outstanding management teams.
Cherry Tree	http://www.cherrytree.com/index.htm	Cherry Tree is a financial advisory firm offering investment banking, investment management, and wealth management services. Established in 1980, it is headquartered in Minneapolis, Minnesota and specializes in serving entrepreneurial managers and successful families.
Feltl and Company	www.feltl.com	Corporate financing, equity research, institutional sales and trading, individual investment services
Goldner Hawn Private Equity	www.goldnerhawn.com	Controlling-interest equity placements for middle-market companies; will consider minority positions for growth capital and recapitalization
Hillcrest Capital Partners, LLLP	www.hillcrestcp.com	Acquiring smaller middle-market companies based in the Midwest
InvestAmerica NW, LLC	www.investamericaventuregroup.com	Venture capital/private equity fund investing in middle-market and later-stage businesses with \$5 million or more in annual sales
North Central Equity, LLC	www.ncequity.net	Acquiring businesses that can justify a purchase price of \$3 million to \$10 million, and smaller acquisitions if company can be merged with existing company; special focus on manufacturing, distribution, and B2B services
Norwest Equity Partners	www.nep.com	\$30 million to \$150 million investments for growing, profitable middle-market companies in technology and business services, consumer products and services, distribution, financial services, healthcare, and manufacturing sectors
Oxbow Industries, LLC	www.oxbowindustries.com	Diversified holding company that seeks to invest with management in leading middle-market companies
Platinum Group Holdings II, LLC	www.pllc.com	Invests in proven businesses-particularly in manufacturing, distribution, technology, and service industries-in need of capital and management assistance; provides equity for majority control

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August, 2010)

Table 22. Private Equity Firms (Continued): Minneapolis Saint Paul MSA, August 2010

<i>Private Equity Firms in the Minneapolis Saint Paul MSA (Continued...)</i>		
Organization	Website	Focus / Investment Specialization
<u>Spell Capital Partners, LLC</u>	www.spellcapital.com	Private equity buyout firm seeking manufacturing and distribution companies with established revenues of \$10 million; makes equity investments between \$4 million and \$12 million
<u>Stone Arch Capital, LLC</u>	www.stonearchcapital.com	Lower middle-market buyout fund focused on Midwest businesses with revenues between \$20 million and \$150 million; seeks majority control with management and co-investment
<u>Tonka Bay Equity Partners, LLC</u>	www.tonkabayequity.com	Invests \$4 million to \$10 million in growth-oriented companies for management buyouts, shareholder liquidity, completing acquisitions, and supporting growth and expansion
<u>TRG Investors, LLC</u>	www.trginvestors.com	Buyouts, recapitalizations, and growth capital for small and lower middle-market companies in the Upper Midwest
<u>Whitecliff Capital Partners</u>	www.whitecliff.com	Manufacturing, service, and distribution businesses with experienced management teams, steady revenue between \$4 million and \$50 million, and strong earnings history; preference for Midwestern firms

INNOVATION TRENDS

UNIVERSITY RESEARCH AND DEVELOPMENT

TOP 20 UNIVERSITIES IN R&D EXPENDITURES

- Table 23 shows the University of Minnesota is among the top 20 universities in R&D expenditures at universities and colleges reported by the National Science Foundation. Out of 679 institutions, the University of Minnesota ranged from #13 to #16 between 2004 and 2009.
- R&D expenditures at the University of Minnesota, from 2004 to 2009, were consistently around \$600 to \$700 million each year. This number, although very large, is below the cohort average of \$750 million each year.
- With 16 locations across Minnesota, and the main campus located in the Minneapolis Saint Paul MSA, the University of Minnesota is the economic R&D center of the state. In 2008, R&D expenditures at the University of Minnesota were \$682.7 million (Table 23), while R&D expenditures for all institutions within Minnesota were \$698.9 million (Table 24).

UNIVERSITY R&D BY STATE AND SCIENCE FIELD

- The highest rank of University R&D by Science Field in Minnesota (19) occurs in three science fields: Math and Computer Sciences, Psychology, and Social Sciences. Although these fields have the highest rank, combined they account for only 11% of university R&D expenditures in Minnesota (Table 24).
- The largest share of university R&D expenditures in Minnesota occurred in Life Sciences, which accounted for 72% of all R&D expenditures for the state (Table 24).
- R&D expenditures for universities in Minnesota are below the cohort average in all science fields (Table 24).

Table 23. Top 20 R&D Expenditures (\$Mil) in FY 2008 at Universities and Colleges, by Rank, 2004-2008

<i>Institution</i>	<i>FY 2004 (\$Mil)</i>	<i>Rank</i>	<i>FY 2005 (\$Mil)</i>	<i>Rank</i>	<i>FY 2006 (\$Mil)</i>	<i>Rank</i>	<i>FY 2007 (\$Mil)</i>	<i>Rank</i>	<i>FY 2008 (\$Mil)</i>	<i>Rank</i>
Johns Hopkins U.	\$1,567.3	1	\$1,591.7	1	\$1,602.0	1	\$1,613.8	1	\$1,680.9	1
U. CA, San Francisco	\$830.2	5	\$831.7	5	\$850.3	5	\$875.2	2	\$885.2	2
U. WI Madison	\$870.7	4	\$879.9	3	\$888.5	2	\$881.8	3	\$881.8	3
U. MI all campuses	\$876.7	3	\$891.8	2	\$854.9	4	\$839.8	5	\$876.4	4
U. CA, Los Angeles	\$880.6	2	\$866.1	4	\$866.7	3	\$854.7	4	\$871.5	5
U. CA, San Diego	\$807.8	7	\$794.9	6	\$806.1	7	\$829.6	6	\$842.0	6
Duke U.	\$593.7	15	\$695.4	10	\$701.8	10	\$811.9	7	\$766.9	7
U. Washington	\$813.8	6	\$780.0	8	\$831.1	6	\$785.8	8	\$765.1	8
U. Pennsylvania	\$680.2	10	\$722.1	9	\$722.0	9	\$673.1	12	\$708.2	9
OH State U. all campuses	\$590.6	16	\$671.3	12	\$696.7	11	\$747.9	9	\$702.6	10
PA State U. all campuses	\$684.1	9	\$689.9	11	\$688.0	13	\$677.2	11	\$701.1	11
Stanford U.	\$764.9	8	\$788.1	7	\$725.4	8	\$713.9	10	\$688.2	12
U. MN all campuses	\$599.9	13	\$605.1	16	\$635.3	15	\$648.1	14	\$682.7	13
MIT	\$619.5	12	\$640.2	14	\$641.6	14	\$637.9	15	\$659.6	14
Cornell U. all campuses	\$656.1	11	\$669.0	13	\$692.9	12	\$666.6	13	\$654.0	15
U. CA, Davis	\$583.3	17	\$603.0	17	\$612.0	16	\$623.6	16	\$642.5	16
U. Pittsburgh all campuses	\$526.3	24	\$576.0	22	\$566.2	21	\$580.0	19	\$595.6	17
U. CA, Berkeley	\$599.1	14	\$611.4	15	\$583.2	19	\$573.6	20	\$591.8	18
U. Florida	\$509.7	27	\$585.1	20	\$604.0	17	\$615.6	17	\$584.2	19
TX A&M U.	\$520.7	25	\$528.9	25	\$526.5	24	\$564.8	22	\$582.4	20
Cohort Average	\$728.8	-	\$751.1	-	\$754.8	-	\$760.7	-	\$768.1	-
All Institutions	\$49,308.4	-	\$50,492.4	-	\$50,998.9	-	\$51,456.5	-	\$51,908.7	-

Note: Rank out of 679; Expenditures adjusted for inflation to 2008 dollars

SOURCE: National Science Foundation, Survey of Research and Development Expenditures at Universities and Colleges

Table 24. R&D Expenditures at Universities and Colleges (\$Mil), by Comparable States, Science Field, and Rank, 2008

State	All R&D Expenditures (\$Mil)	Rank	Environmental Sciences (\$Mil)	Rank	Life Sciences (\$Mil)	Rank	Math and Computer Sciences (\$Mil)	Rank	Physical Sciences (\$Mil)	Rank	Psychology (\$Mil)	Rank	Social Sciences (\$Mil)	Rank	Other Sciences (\$Mil)	Rank	Engineering (\$Mil)	Rank
Arizona	\$831.2	20	\$39.6	21	\$352.8	27	\$24.2	22	\$192.9	6	\$18.4	17	\$37.9	18	\$9.0	29	\$156.4	15
California	\$7,026.4	1	\$392.7	1	\$4,316.3	1	\$276.7	1	\$656.7	1	\$106.5	1	\$214.1	1	\$193.9	1	\$869.5	1
Colorado	\$924.1	18	\$193.8	4	\$436.3	24	\$18.7	28	\$99.9	12	\$22.9	14	\$13.6	32	\$5.8	40	\$133.0	18
Illinois	\$1,972.8	8	\$56.5	16	\$1,257.2	7	\$122.4	6	\$158.8	7	\$35.2	7	\$54.8	15	\$32.5	9	\$255.4	10
Indiana	\$954.2	17	\$12.5	38	\$497.4	21	\$38.1	14	\$89.9	13	\$27.2	9	\$64.9	12	\$25.3	14	\$198.9	13
Maryland	\$2,747.0	4	\$143.9	5	\$1,332.5	6	\$144.2	4	\$220.3	5	\$17.4	18	\$106.6	4	\$44.9	5	\$737.2	2
Massachusetts	\$2,271.8	6	\$211.3	3	\$1,106.9	9	\$104.0	7	\$256.5	3	\$43.8	6	\$79.6	7	\$54.2	3	\$415.4	6
Minnesota	\$698.9	24	\$16.8	31	\$504.7	20	\$25.8	19	\$30.1	28	\$16.7	19	\$31.4	19	\$0.2	48	\$73.2	27
New Hampshire	\$302.0	37	\$58.5	15	\$157.9	37	\$6.4	39	\$11.2	46	\$3.4	37	\$8.1	39	\$18.1	20	\$38.4	36
North Carolina	\$1,980.8	7	\$74.4	10	\$1,495.0	5	\$59.8	10	\$81.8	16	\$14.7	21	\$92.2	5	\$4.2	44	\$158.7	14
Ohio	\$1,827.0	9	\$26.0	28	\$1,140.6	8	\$59.2	11	\$107.8	11	\$21.7	15	\$68.7	10	\$23.5	16	\$379.5	8
Oregon	\$594.9	26	\$48.0	18	\$393.0	25	\$34.6	16	\$25.3	32	\$10.0	28	\$17.1	27	\$32.3	11	\$34.6	39
Texas	\$3,744.2	3	\$221.3	2	\$2,415.5	3	\$192.0	3	\$222.9	4	\$68.8	3	\$79.5	8	\$32.4	10	\$511.8	4
Washington	\$1,058.2	14	\$107.5	8	\$692.4	15	\$10.7	34	\$56.0	19	\$10.5	25	\$60.2	13	\$13.3	25	\$107.6	21
Wisconsin	\$1,117.2	13	\$78.5	9	\$753.7	14	\$26.1	18	\$71.7	18	\$10.5	26	\$65.5	11	\$4.3	43	\$107.0	22
Cohort Average	\$1,870.0	-	\$112.1	-	\$1,123.5	-	\$76.2	-	\$152.1	-	\$28.5	-	\$66.3	-	\$32.9	-	\$278.4	-
All Institutions	\$51,908.7	-	\$2,800.3	-	\$31,215.2	-	\$2,089.1	-	\$3,933.0	-	\$928.5	-	\$1,940.5	-	\$1,045.5	-	\$7,956.7	-

Note: Rank out of 51

Source: National Science Foundation, Survey of Research and Development Expenditures at Universities and Colleges

INDUSTRY RESEARCH AND DEVELOPMENT

Table 25. Industry R&D Expenditures (\$Mil) and Industry R&D Expenditures per R&D Employee (\$Mil), by Comparable States and Rank, 2007

<i>State</i>	<i>Industry R&D Expenditures (\$Mil)</i>	<i>Rank</i>	<i>Industry R&D/ R&D Employees (\$Mil)</i>	<i>Rank</i>
Arizona	\$3,846	18	\$0.92	6
California	\$64,187	1	\$0.61	13
Colorado	\$5,223	14	\$0.38	23
Illinois	\$11,362	7	\$0.40	22
Indiana	\$4,939	15	\$1.10	3
Maryland	\$3,665	19	\$0.12	44
Massachusetts	\$19,488	2	\$0.47	18
Minnesota	\$6,636	13	\$1.03	4
New Hampshire	\$1,814	24	\$1.36	2
North Carolina	\$6,829	12	\$0.33	26
Ohio	\$7,265	11	\$0.46	19
Oregon	\$3,629	20	\$0.90	7
Texas	\$13,889	5	\$0.48	17
Washington	\$12,687	6	\$0.65	11
Wisconsin	\$3,411	21	\$0.65	12
Cohort Average	\$11,258	-	\$0.66	-
United States	\$269,266	-	\$0.43	-

Note: Industry R&D Expenditures per R&D Employee = Industry R&D Expenditures/ NAICS 5417 Employment; Rank out of 51
 Source: National Science Foundation, Survey of Industrial Research and Development; Moody's Economy.com

- Industry R&D expenditures for the state of Minnesota (\$6.6 billion) rank toward the bottom of comparable states (#13), and well-below the cohort average (\$11.3 billion) (Table 25).
- On the other hand, the expenditures per employee rank at the top of the list (#4, \$1.03 million), and well-above the cohort average (\$0.66 million).
- An explanation for the difference in Minnesota’s ranking between R&D dollar amount and R&D per employee is that the size of the labor force in the R&D industry in Minnesota is relatively smaller than the cohort average.
- The cohort average of R&D per employee (\$0.66 million) is higher than the U.S. figure (\$0.43 million), showing that the cohort of states in Table 25 are the leading drivers of Industry R&D in the United States.

SBIR/STTR AWARDS

Table 26. SBIR/STTR Number of Awards by Year and Award Total (\$) in the Minneapolis Saint Paul MSA, 2005 – 2010

Year	Number of Awards	Award Total (\$)
2005	118	\$39,696,082
2006	143	\$39,111,817
2007	116	\$35,302,424
2008	105	\$42,573,461
2009	111	\$41,637,978
2010*	17	\$5,082,272
Total	610	\$203,404,034

Note: *Complete data for the year has not yet been released;
 SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA
 Source: Small Business Administration Tech-Net; National Institute of Health

- 610 SBIR/STTR awards were distributed between 2005 and 2010 in the Minneapolis Saint Paul region to 103 different firms.
- Over these six years, the largest number of awards (143) occurred in 2006, while 2008 had the largest overall dollar amount allocated (\$42.6 million).
- For a complete list of firms and awards, please refer to Appendix A.7.

Table 27. SBIR/STTR Awards for Hennepin and Ramsey Counties by Number of Awards, Award Total and Percent of Region Total, 2005 – 2010

County	Number of Awards	% of Total Awards	Award Total (\$)	% of Award Total (\$)
Hennepin County	443	72.6%	\$148,527,557	73.0%
Ramsey County	109	17.9%	\$38,574,218	19.0%

Note: In 2010 Advanced Circulatory Systems moved from Hennepin County to Ramsey County. Its latest award was in 2009 and it is counted in Hennepin County.
 SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA
 Source: Small Business Administration Tech-Net; National Institute of Health

- Firms in Hennepin County received over 72% of all SBIR/STTR awards (443) and 73% of total award dollars (\$148.5 million).

- Ramsey County, on the other hand, received 17.9% of all awards (109) and 19% of the total award dollars (\$38.6 million).

Table 28. Top Ten SBIR/STTR Awards for the Minneapolis Saint Paul MSA by Number of Awards, 2005 – 2010

Rank	Firm Name	County	Number of Awards	Award Total (\$)
1	Advanced Medical Electronics Corp.	Hennepin	93	\$29,568,423.00
2	SVT Associates, Inc.	Hennepin	42	\$10,066,133.44
3	Architecture Technology Corp.	Hennepin	40	\$8,145,393.00
4	Koronis Biomedical Tech. Corp.	Hennepin	32	\$8,176,779.00
5	Advanced Circulatory Systems, Inc.	Hennepin	25	\$12,169,430.00
6	Innovative Surface Tech, LLC	Ramsey	21	\$3,819,876.00
7	Nve Corp.	Hennepin	20	\$6,019,188.64
8	Powerscope, Inc.	Hennepin	16	\$6,005,561.00
9	Discovery Genomics, Inc.	Hennepin	14	\$7,227,595.00
10	Smart Information Flow Tech.	Hennepin	13	\$3,113,605.00
Total		-	316	\$94,311,984.08

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

- Table 28 displays the top ten firms aggregated by number of SBIR/STTR awards in the Minneapolis Saint Paul MSA. Collectively, these firms garnered 316 awards, which accounted for 52% of all awards in this MSA.
- Nine of the ten companies were located in Hennepin County. Innovative Surface Tech, LLC was the only firm among the top ten not located in Hennepin County; it is located in Ramsey County.
- Advanced Medical Electronics Corp. had the largest number awards (93). The second highest award count was held by SVT Associates, Inc. (42) but was dwarfed in comparison to Advanced Medical Electronics Corp.
- Companies that receive multiple awards over several years may indicate progress towards commercialization.

Table 29. Top Ten SBIR/STTR Awards for the Minneapolis Saint Paul MSA by Award Total (\$), 2005 – 2010

Rank	Firm Name	County	Number of Awards	Award Total (\$)
1	Advanced Medical Electronics Corp.	Hennepin	93	\$29,568,423.00
2	Advanced Circulatory Systems, Inc.	Hennepin	25	\$12,169,430.00
3	SVT Assoc. Inc.	Hennepin	42	\$10,066,133.44
4	Koronis Biomedical Tech. Corp.	Hennepin	32	\$8,176,779.00
5	Architecture Technology Corp.	Hennepin	40	\$8,145,393.00
6	Advanced Photodynamic Tech. Inc.	Hennepin	6	\$7,769,616.00
7	Discovery Genomics, Inc.	Hennepin	14	\$7,227,595.00
8	Nve Corp.	Hennepin	20	\$6,019,188.64
9	Powerscope, Inc.	Hennepin	16	\$6,005,561.00
10	Third Wave Systems, Inc.	Hennepin	11	\$5,998,608.00
Total		-	299	\$101,146,727.08

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

- Table 29 displays the top ten firms aggregated by total SBIR/STTR award dollars in the Minneapolis Saint Paul MSA. Together, these firms were awarded over \$101 million in awards, representing 49% of all dollars allocated in the MSA, and all of these firms are located in Hennepin County.
- Advanced Photodynamic Tech. Inc. had the largest average dollar amount per award at \$1.3 million; more than doubling any other firm in the top ten. Advanced Photodynamic Tech. Inc. and Third Wave systems, Inc. are the only companies not listed among the top ten by number of awards (Table 28).
- Advanced Medical Electronics Corp. had the most dollars awarded with \$29.6 million, while the next closest dollar award winner was Advanced Circulatory Systems, Inc. with \$12.2 million in awards.

PATENTS

Patents are an alternative measure for regional innovative activities. Each patent includes the name of at least one individual inventor (many have multiple inventors). Ownership of a patent is assigned to an individual inventor or to a corporation, university, or another research institution (assignee).

We downloaded all patents (those already granted and applications) in the state of Minnesota between January 2006 and July 2010. To be included in the data for the Minneapolis Saint Paul (MSP) metropolitan area, the patent had to include at least one inventor or an assignee from the MSP. An inventor or an assignee can be from outside the MSP (referred to as “Outside”).

Table 30. Patents: Minneapolis Saint Paul MSA, January 2006 – July 2010

<i>Designation</i>	<i>All Patents: Granted and Applications</i>
MSP Inventor without Assignee	6,207
MSP Inventor and MSP Assignee	6,294
MSP Inventor and Outside Assignee	3,155
Outside Inventor and MSP Assignee	11,205
Total Patent Applications from MSP Inventors and/or Assignees	16,861

Source: Delphion.com

Table 31. Patent Frequency Counts, January 2006 - July 2010

<i>Year</i>	<i>Number of Patents</i>	<i>Percent of Total</i>
2006	4,951	29.4%
2007	4,849	28.8%
2008	3,948	23.4%
2009	2,829	16.8%
2010	284	1.7%
Total	16,861	100.0%

Source: Delphion.com

- In the state of Minnesota there were a total of 21,111 patents (granted and applied for) between January 2006 and July 2010, and of these, 16,861 patents are from the MSP MSA (Table 27).
- The majority (80%) of innovative activities in Minnesota are taking place in the MSP metropolitan area (Table 27).
- From 2006 to 2009 there was a significant decrease in the number of patents. There were almost twice as many patents in MSP in 2006 (4,951) as in 2009 (2,829). This is an indication of the recessionary trends in patent data (Table 28).

Table 32. Top 20 Patent Assignee Companies in MSP, Number of Patents, Percentage of Total Patents, and Rank, January 2006 - July 2010

<i>Assignee Name</i>	<i>Number of Patents</i>	<i>Percentage of Total Patents</i>	<i>Rank</i>
3M INNOVATIVE PROPERTIES CO.	1,652	9.8%	1
MEDTRONIC INC.	1,261	7.5%	2
BOSTON SCIENTIFIC SCIMED, INC.	798	4.7%	3
ADC TELECOMMUNICATIONS, INC.	657	3.9%	4
CARDIAC PACEMAKERS, INC.	600	3.6%	5
HONEYWELL INTERNATIONAL INC.	271	1.6%	6
ECOLAB INC.	208	1.2%	7
SEAGATE TECHNOLOGY, LLC	179	1.1%	8
TARGET BRANDS, INC.	162	1.0%	9
DONALDSON COMPANY, INC.	156	0.9%	10
ZIMMER SPINE, INC.	138	0.8%	11
CARGILL, INC.	117	0.7%	12
STARKEY LABS, INC.	103	0.6%	13
AMS RESEARCH CORP.	96	0.6%	14
UNIVERSITY OF MINNESOTA	93	0.6%	15
IMATION CORP.	90	0.5%	16
CVRX, INC.	82	0.5%	17
ROSEMOUNT INC.	82	0.5%	18
TENNANT COMPANY	71	0.4%	19
CUMMINS FILTRATION IP, INC.	69	0.4%	20

Note: Total Patents = 16,861; Rank out of 959
 Source: Delphion.com

- The largest aggregation not in Table 29 is inventors of individual patents. Individually owned patents accounted for 36.8% of total patents (6,207).
- The top five companies (3M Innovative, Medtronic, Boston Scientific, ADC Telecommunications, and Cardiac Pacemakers) accounted for 29.5% (4,968) of patents in the MSP area (Table 29) (Figure 24).

Figure 24. Top 20 Patent Assignee Companies in MSP, by Percentage of Total Patents, January 2006 - July 2010

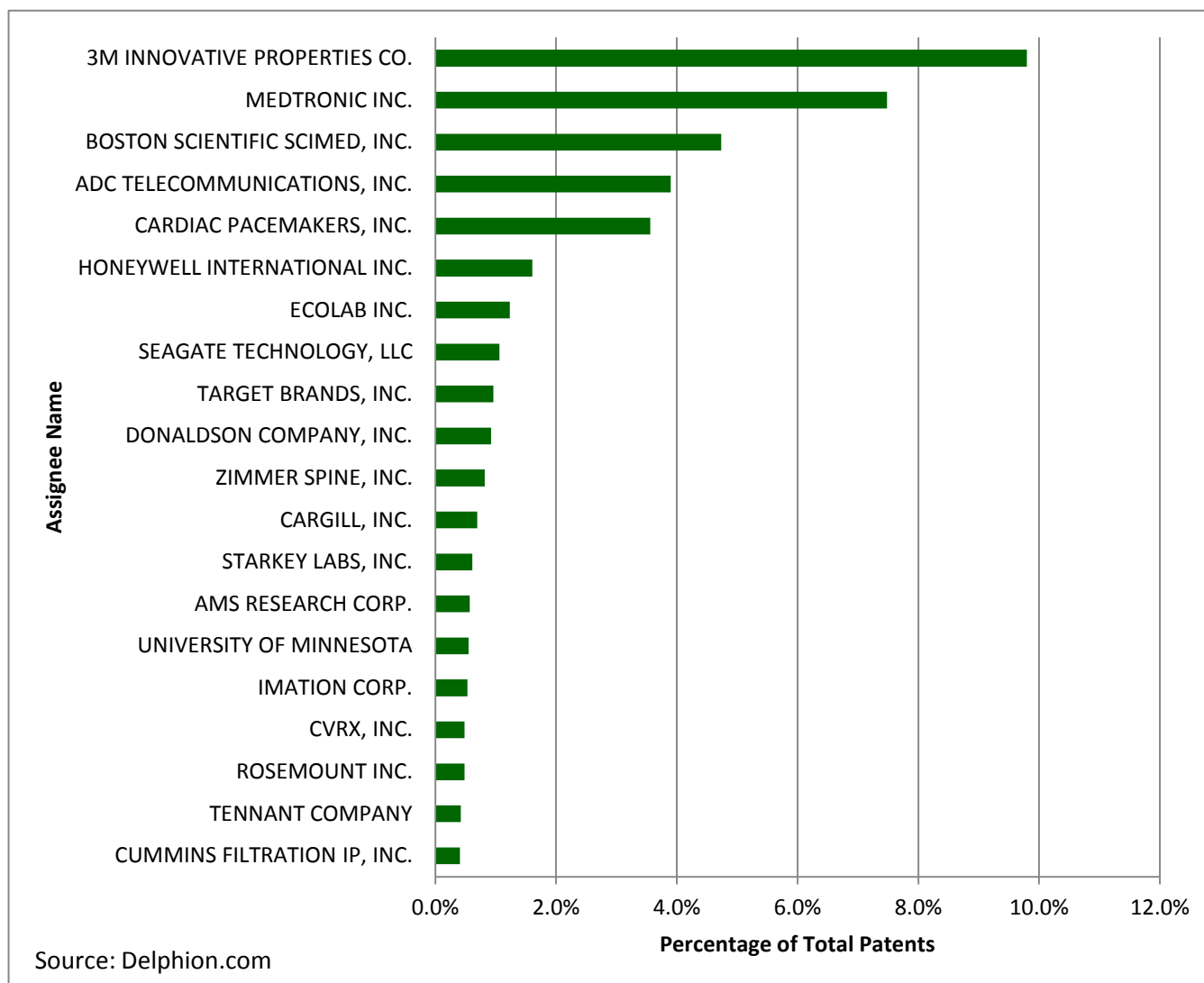


Table 33. Top 20 Minneapolis Saint Paul Patent Counts: Percentage of Total Patents, and Rank, by International Patent Classification Name, January 2006 – July 2010

<i>International Patent Classification Name</i>	<i>Number of Patents</i>	<i>Percentage of Total</i>	<i>Rank</i>
Diagnosis; Surgery; Identification	1,964	11.6%	1
Electrotherapy; Magnetotherapy; Radiation therapy; Ultrasound therapy	1,847	11.0%	2
Filters implantable into blood vessels; Prostheses; Devices providing patency to, or preventing collapsing of, tubular structures of the body; Orthopedic, nursing or contraceptive devices; Formentation; Treatment or protection of eyes or ears; Bandages, dressings or absorbent pads; First-aid kits	1,102	6.5%	3
Electric digital data processing	942	5.6%	4
Devices for introducing media into, or onto, the body; Devices for transducing body media or for taking media from the body; Devices for producing or ending sleep or stupor	726	4.3%	5
Preparations for medical, dental, or toilet purposes	519	3.1%	6
Optical elements, systems, or apparatus	427	2.5%	7
Layered products, i.e. products built-up of strata of flat or non-flat form	387	2.3%	8
Separation - Separating solids from solids	383	2.3%	9
Data processing systems or methods, specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes; Systems or methods specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes, not otherwise provided for	315	1.9%	10
Processes for applying liquids or other fluent materials to surfaces, in general	213	1.3%	11
Semiconductor devices; Electric solid state devices not otherwise provided for	192	1.1%	12
Recognition of data; Presentation of data; Record carriers; Handling record carriers	173	1.0%	13
Investigating or analyzing materials by determining their chemical or physical properties	172	1.0%	14
Electrically-conductive connections; Structural associations of a plurality of mutually-insulated electrical connecting elements; Coupling devices; Current collectors	161	1.0%	15
Containers for storage or transport of articles or materials; Accessories, closures, or fittings there for; Packaging elements; Packages	159	0.9%	16
Information storage based on relative movement between record carrier and transducer	153	0.9%	17
Shaping or joining of plastics; Shaping of substances in a plastic state, in general; After-treatment of the shaped products	146	0.9%	18
Transmission of digital information	140	0.8%	19
Loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers; Deaf-aid sets; Public address systems	129	0.8%	20

Note: Rank out of 446
 Source: Delphion.com

- Table 30 displays the Top 20 patent counts by the International Patent Classification Name (IPC) and shows that the top 5 account for almost 40% of patents in the Minneapolis Saint Paul MSA.
- These scientific fields identify the technology strengths in the Minneapolis Saint Paul region.

APPENDIX

A. 1 Factoring Firms: Minneapolis Saint Paul MSA, August 2010

<i>Factoring Firms in the Minneapolis Saint Paul MSA</i>		
Organization	Website	Focus
Beacon Financial, AC	www.beaconfinancial.net	Equipment leasing, accounts receivable financing, and bridge loans for construction-related projects
Creekridge Capital, LLC	www.creekridgecapital.com	Nationwide vendor leasing provider with special expertise in health care and technology
PrinSource Capital Companies, LLC	www.prinsourcecap.com	Asset-based lending, accounts receivable funding, trade finance and licensed specialty finance products, and management services for the community bank industry
Riviera Finance, LLC	www.rivierafinance.com	Accounts receivable financing/factoring and management services
Spectrum Commercial Services Company	www.spectrumcommercial.com	Asset-based lending and accounts receivable financing for firms unable to secure bank financing due to losses, rapid growth, startup status, or restructuring; investments range from \$250,000 to \$6 million
TCI Business Capital, Inc.	www.tcibizcap.com	Invoice factoring and accounts receivable financing for transportation companies, staffing firms, and other businesses

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August 2010)

A. 2 Mezzanine Debt Financiers: Minneapolis Saint Paul MSA, August 2010

<i>Mezzanine Debt Financiers in the Minneapolis Saint Paul MSA</i>		
Organization	Website	Focus
Churchill Capital Mezzanine Finance, LLC	www.churchillmezzanine.com	Subordinated debt of \$5 million to \$30 million per investment in middle-market companies with quality management, earnings, cash flow, and business strategies
Convergent Capital	www.cvcap.com	Growth and transition debt financing for established companies that require capital for expansion, MBOs, M&A, or recapitalizations
GMB Mezzanine Capital, LP	www.gmbmezz.com	Primarily lower middle-market companies with annual revenue between \$10 million and \$100 million; target investment size ranging from \$3 million to \$13 million, or more with investment partners
Marquette Capital Partners, Inc.	www.marquettecapitalpartners.com	Private capital for mature companies seeking financing for growth and expansion, acquisitions, LBOs, MBOs, and family successions
Medallion Capital, Inc.	www.medallioncapital.com	Senior subordinated or mezzanine debt with typical investments between \$1 million and \$5 million
Northstar Capital, LLC	www.northstarcapital.com	Service, food, and light manufacturing companies with \$10 million to \$150 million in revenue; typical investments of \$4 million to \$20 million
Norwest Mezzanine Partners	www.nmp.com	Providing up to \$50 million of junior capital to middle-market companies and investing in partnership with private equity sponsors

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August 2010)

A. 3 Public and Private Investors in Minneapolis Saint Paul MSA, August 2010

Public and Private Investors in the Minneapolis Saint Paul MSA		
Organization	Website	Focus
Latino Economic Development Center	www.ledc-mn.org	Creating economic opportunities for Latino businesses and the Latino community by providing micro-entrepreneur training, one-on-one technical training, financial workshops and modules, a scholarship program, and rural economic development initiatives
Metropolitan Consortium of Community Developers	www.mccdmn.org	A consortium of nonprofit community development organizations that help new and early-stage businesses access information and capital to grow and prosper; loans range from \$2,000 to \$25,000; technical assistance, business counseling, and financial management is directly provided
Metropolitan Economic Development Association (MEDA) Business Consulting Services Group	www.meda.net	Services to entrepreneurs of color include management and technical assistance, one-on-one consulting, business planning, loan packaging and financing, training, networking, and assistance with certification and government procurement opportunities; provides up to \$400,000 for larger businesses
Minneapolis Community Planning and Economic Development	www.ci.minneapolis.mn.us/cped	Offers finance loans from \$1,000 to \$10 million to Minneapolis businesses; provides businesses assistance with finding locations, accessing capital for expansion, finding skilled employees, training employees, and lowering taxes
Minnesota Agricultural and Economic Development Board (a division of the Minnesota Department of Employment and Economic Development)	www.deed.state.mn.us	Loans of \$1 million to \$5 million for small businesses in manufacturing and industry, through the issuance of industrial development bonds backed by a state-funded reserve
Minnesota Community Capital Fund	www.mncommunitycapitalfund.org	Provides subordinated loans of between \$50,000 and \$2.5 million to small businesses throughout Minnesota
Minnesota Department of Employment and Economic Development Office of Science and Technology	www.positivelyminnesota.com/scitech	Collaborates with academia and industry to access federal funding for new projects; provides technology transfer assistance to link small, medium, and large companies to commercialize technology; and offers assistance to small businesses to access federal funding for high-tech, high-risk product development
Minnesota Department of Employment and Economic Development (DEED)	www.positivelyminnesota.com	Minnesota's principal economic development agency, with programs promoting business recruitment, expansion, and retention
Neighborhood Development Center	www.ndc-mn.org	Provides access to credit for low-income Twin Cities start-up businesses and entrepreneurs who are unable to access traditional sources of capital

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August 2010)

A.3 (Continued) Public and Private Investors in Minneapolis Saint Paul MSA, August 2010

<i>Public and Private Investors in the Minneapolis Saint Paul MSA (Continued...)</i>		
Organization	Website	Focus
Riverbridge Partners, LLC	www.riverbridge.com	Provides investment management services to individuals, families, and institutions
Saint Paul Port Authority	www.sppa.com	Provides businesses cleaner land on which to expand, space on the Mississippi River to receive and ship commodities efficiently, loans for real estate and equipment purchases, and job training and career development for workers
Twin Cities Community Capital Fund	www.mncommunitycapitalfund.org	Provides subordinated loans, between \$50,000 and \$2 million, to small businesses throughout the seven-county metro area
University of St. Thomas William C. Norris Institute	www.stthomas.edu/norrisinstitute	Nonprofit, revolving fund that provides up to \$75,000 in pre-seed capital to innovative IT, manufacturing, or environmental technology-based companies
US Small Business Administration	www.sba.gov	The SBA district office provides free counseling and technical assistance, pre-business and business planning workshops, and information on starting and managing a small business, and it financially assists small businesses through the 7(a) guarantee and 504 loan programs (up to \$1.5 million). Proceeds can be used to buy machinery and equipment, real property, and inventory, and/or to purchase an existing business. Provides assistance to small firms with the government and conducts business internationally.

A. 4 Certified Development Companies: Minneapolis Saint Paul MSA, August 2010

<i>Certified Development Companies in the Minneapolis Saint Paul MSA</i>		
Organization	Website	Focus
Central Minnesota Development Company	www.cmdcbusinessloans.com	Fixed-asset financing for small businesses throughout the state; has financed more than \$126 million in projects that exceed \$317 million in value
Minnesota Business Finance Corporation	www.mbfco.org	Generates loans and grants for for-profit businesses that help create and retain jobs or meet community development or public policy objectives
Prairieland Economic Development	www.prairielandedc.com	Has created a portfolio of more than 350 SBA loans totaling about \$99 million; targets 36 counties in Minnesota, South Dakota, and Iowa
Spedco	www.spedco.com	Helps small businesses obtain financing for job creation, business expansion, and promoting economic development in Minnesota
Twin Cities Metro Certified Development Company	www.504lending.com	Assists small business owners in obtaining financing for the acquisition or expansion of owner-occupied commercial real estate or for the purchase of capital equipment through the SBA's 504 loan program

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August 2010)

A. 5 Small Business Development Centers in the Minneapolis Saint Paul MSA, August 2010

<i>Small Business Development Centers in the Minneapolis Saint Paul MSA</i>	
Organization	Website
Anoka Ramsey Community College-Cambridge	www.anokaramsey.edu/ContinuingEd/sbdc.cfm
Anoka Ramsey Community College-Coon Rapids	www.anokaramsey.edu/ContinuingEd/sbdc.cfm
Anoka Technical College	www.stthomas.edu/sbdc
Dakota County Technical College	www.stthomas.edu/sbdc
Metropolitan Economic Development Association (MEDA)	www.meda.net
Minnesota Small Business Development Center	www.mnsbdc.com
University of St. Thomas	www.stthomas.edu/sbdc

Source: Twin Cities Business <http://www.tcbmag.com/factfinder/categories/Entrepreneurial-Financing-Providers-Later-Stage-Venture-Capital.aspx> (August 2010)

A. 6 Support Organizations in the Minneapolis Saint Paul MSA, August 2010

Organizations at Least Partially Engaged in Economic Development in the Minneapolis Saint Paul Region			
Organization Name	Web Address	Specific Role	Target Audience
Minneapolis Chamber	http://www.minneapolischamber.org/	The Minneapolis Regional Chamber of Commerce is committed to sustaining and enhancing the region's economic opportunity, growth and prosperity.	7 Metro Counties
Saint Paul Chamber	http://www.saintpaulchamber.com/cwt/external/wcpages/index.aspx	The Saint Paul Area Chamber of Commerce defines economic development as those activities intended to encourage the accumulation of wealth through the creation and retention of jobs; attraction, expansion and retention of businesses, expansion of the tax base and improvement of the business climate.	City of Saint Paul
Metropolitan Econ Dev't Assn	http://www.meda.net/	MEDA provides assistance to businesses owned and managed by entrepreneurs of color. Unique among economic development organizations, MEDA's services are directed toward new and existing businesses whose owners are committed to making an impact through job creation, their firms' growth and profitability, community involvement	Minority entrepreneurs in Minnesota.
Itasca Project	http://www.theitascaproject.com/	Itasca Project is focusing on the following priorities, some of them multi-year, to improve the Twin Cities region's economic competitiveness and its quality of life: Create a World-Class K-12 Education System in Minnesota, Improve Financial Fitness, Increase Understanding of the Region's Socio-economic Disparities, Support the Strategic Re-direction of Minneapolis Public Schools, Advance a Regional Transportation Plan, Set Regional Performance Indicators.	Twin Cities Region
Northeast Community Dev't Corp.	http://www.necdc.org/	The Northeast Community Development Corporation (NE CDC) is a nonprofit 501(c) 3 corporation committed to driving and nurturing the economic and residential development in Northeast Minneapolis.	Northeast Minneapolis
Minnesota Black Chamber	http://www.minnesotabcc.org/	MBCC is a vibrant, committed organization of area businesses, owned by Africans and Black Americans. The Chamber's membership includes businesses in manufacturing, wholesale, retail, professional services, and nonprofit organizations. The Minnesota Black Chamber Of Commerce serves as a clearinghouse, referral service, and a small business initiation tool to better equip and inform its members of current and necessary business requirements.	State of Minnesota
Minnesota Chamber	http://www.mnchamber.com/	The Minnesota Chamber of Commerce is the state's largest and premier business advocacy organization. As the statewide voice of business, the Chamber represents more than 2,400 businesses of all types and sizes across Minnesota. The Minnesota Chamber excels at offering private-sector solutions to public-sector problems.	State of Minnesota
MN Business Partnership	http://www.mnbp.com	Mission: Maintain a high quality of life for all Minnesotans by ensuring that the state's economy remains strong, globally competitive and its prospects for growth bright.	State of Minnesota
African Dev't Ctr of MN	http://www.adcmnnesota.org/	African Development Center works within the African communities of Minnesota to start and sustain successful businesses, build assets and promote community reinvestment.	African Communities within the State of Minnesota
Women's Bus Dev't Ctr	http://www.wbdc.org/MN/Default.aspx	The Women's Business Development Center – Minnesota (WBDC-MN) is the satellite office of the Chicago-based Women's Business Development Center (WBDC). The WBDC-MN was launched in 2003 to serve Women's Business Enterprises (WBEs) in Minnesota and neighboring states.	Women Business Owners in the State of Minnesota

Source: The Itasca Project "Local Organizations" <http://www.theitascaproject.com>

A.6 (Continued) – Support Organizations in the Minneapolis Saint Paul MSA, August 2010

Organizations at Least Partially Engaged in Economic Development in the Minneapolis Saint Paul Region

Organization Name	Web Address	Specific Role	Target Audience
Women Venture	http://www.womenventure.org/	Women Venture is a leader in providing the tools and support to help women and men start and grow a business, find a new job, or develop a new career path.	Women and men of all economic and ethnic backgrounds.
Latino EDC of MN	http://www.ledc-mn.org/	Mission: To establish, stabilize, and expand businesses through orientations, classes, development consulting, technical assistance, and access to capital for new and existing entrepreneurs; to revitalize or develop community "public markets" and commercial corridors in the Twin Cities and rural Minnesota that appropriately allow for Latino community business participation: to create an LEDC membership, a process and structure with which the Latino business community may access other institutions (such as banks, foundations, and elected officials) and actively shape the agenda of LEDC.	Latino Population in Twin Cities and Rural Minnesota
Hispanic Chamber of Commerce	http://www.hispanicmn.org/	HCCM is national award - winning-nonprofit community and economic development organization that provides training, technical assistance, college and careers pipeline, homeownership counseling, financial literacy, college scholarships, mentoring and other resources to Latino individuals, students, families and entrepreneurs. It is managed by 13 unpaid, all professional Latino Board of Directors and presently has 275+ members.	Latino Population in Minnesota
SCORE (Minneapolis Chapter 2)	http://www.score-minneapolis.org/about_chapter.html	The SCORE Association, headquartered in Washington, D.C., is a nonprofit association dedicated to entrepreneurial education and the formation, growth and success of small businesses nationwide. Our public service mission is to provide face-to-face and email business counseling to help small businesses evaluate plans, stabilize, grow, innovate and succeed.	Small business in Minnesota
Midwest Minority Supplier Development Council	http://msdc.adaptone.com/msdc/app/template/contentMgmt%2CContentPage.vm;jsessionid=9A88FD5B6D18604DB127F592108F69E2?contentid=1293	MMSDC's mission is to provide business development services to corporate members and certified MBEs to enhance relationships and maximize business opportunities.	
Governor's Office	http://www.governor.state.mn.us/	The Governor's Office has been involved with many issues, including prescription drug reform, streamlining government, protecting Minnesota waters, health care reform, economic development through the JOBZ program, and expanding trade with China. Use the links at left for detailed information on each project. As Minnesota's State Workforce Investment Board, the GWDC is at the center of a number of initiatives that are addressing the needs of Minnesota and its economy.	State of Minnesota
MN DEED	http://www.positivelyminnesota.com/	DEED facilitates an economic environment to produce jobs and improve the quality of the state's workforce. These actions support the economic success of Minnesota individuals, businesses, and communities by providing opportunities for growth.	State of Minnesota

A.6 (Continued) – Support Organizations in the Minneapolis Saint Paul MSA, August 2010

Organizations at Least Partially Engaged in Economic Development in the Minneapolis Saint Paul Region			
Organization Name	Web Address	Specific Role	Target Audience
Minneapolis Mayor	http://www.ci.minneapolis.mn.us/mayor/	We will continue to implement a focused and pro-active business growth strategy that builds on our strengths and core industries such as the health and life science sector. We will help small businesses grow along neighborhood commercial corridors with unique and specialized financing. We will focus on developing local industries and jobs for the new green economy. And we will keep up the fight against foreclosures while at the same time provide affordable, stable housing for everyone.	City of Minneapolis
Saint Paul Mayor	http://www.stpaul.gov/index.aspx?NID=307	Mayor's office has four main goals: Create a national model for community-wide learning; Create a growing economy and new jobs; Inspire private and public investments in infrastructure; and Invest in a quality way of life.	City of Saint Paul
Saint Paul Dept of Planning and Econ Dev't	http://www.stpaul.gov/index.aspx?nid=354	PED administers a variety of planning, housing, business and economic development activities. These activities support a number of neighborhood initiatives and also provide direct benefits to homeowners, home buyers, renters and businesses. Working in partnership with community and neighborhood partners, PED increases investments and values throughout Saint Paul. PED's goal is to ensure Saint Paul is the most livable city in America	City of Saint Paul
Minneapolis Dept of Planning and Econ Dev't	http://www.ci.minneapolis.mn.us/cped/	As CPED works to grow a sustainable city, it provides assistance and finance tools for businesses in the city of Minneapolis. CPED offers a wide array of financing programs, ranging from \$1,000 to \$10 million, for Minneapolis businesses as well as staff assistance in selecting the appropriate program.	City of Saint Paul
Metropolitan Council	http://www.metrocouncil.org/	The Metropolitan Council is the regional planning agency serving the Twin Cities seven-county metropolitan area and providing essential services to the region.	Seven County Metro Area
SBDC - MN	http://www.sba.gov/aboutsba/sbaprograms/sbdc/sbdclocator/SBDC_LOCATOR.html	The U.S. Small Business Administration (SBA) was created in 1953 as an independent agency of the federal government to aid, counsel, assist, and protect the interests of small business concerns, to preserve free competitive enterprise and to maintain and strengthen the overall economy of our nation. Recognizes that small business is critical to our economic recovery and strength, to building America's future, and to helping the United States compete in today's global marketplace.	State of Minnesota
Minnesota FED	http://www.minneapolisfed.org/community_education/community/resources/develop.cfm	The Federal Reserve Bank of Minneapolis is one of 12 regional Reserve Banks that, together with the Board of Governors in Washington, D.C., make up the Federal Reserve System — the central bank of the United States.	Branch located in Minnesota - Ninth District
Saint Paul Port Authority	http://www.sppa.com/	Helps provide businesses with capital to expand, create jobs, and contribute to health and prosperity of community; helps with business expansions, equipment financing, and advice about local lenders	Minneapolis Saint Paul Metro Area

A.6 (Continued) – Support Organizations in the Minneapolis Saint Paul MSA, August 2010

Organizations at Least Partially Engaged in Economic Development in the Minneapolis Saint Paul Region			
Organization Name	Web Address	Specific Role	Target Audience
Univ of MN - Business and Community Economic Dev't	http://www.ced.umn.edu/	The mission of the University of Minnesota's Office for Business & Community Economic Development is to contribute to the economic growth and development of Minnesota communities.	State of Minnesota
Minnesota Private College Council	http://www.mnprivatcolleges.org/	The Minnesota Private College Council, Fund and Research Foundation are related nonprofit organizations that represent private higher education in Minnesota. Members of the organizations are 17 private, 4-year liberal arts colleges with mission to preserve and enhance quality private higher education to serve the education and economic needs of our region.	Private Colleges in the State of Minnesota
Twin Cities Compass	http://www.mncompass.org/twincities/index.php	Compass gives measurable information in each topic area that shows trends over time. The indicators generally are put into two categories: Key Measures and More Measures. Key Measures were chosen by topic advisory groups as the most credible and compelling based on criteria developed by a technical committee. More Measures provide additional data in order to gain a more in-depth understanding of the issue, to improve quality of life.	State of Minnesota
Life Science Alley	https://www.lifesciencealley.org/default.aspx	Life Science Alley®, a Minnesota-based trade association serving over 620 member organizations, provides access to industry leaders, education and networking opportunities, insights into current trends, regulations, research and emerging technologies, and the power of a legislative voice.	State of Minnesota
Bio-business Alliance	http://biobusinessalliance.org/	The BioBusiness Alliance of Minnesota™ is an organization of people representing Minnesota companies, academia, and government, devoted to: Building the bioscience industry Retaining and creating jobs, and Positioning Minnesota as a global leader in biobusiness with the ultimate goal of improving economic, health, social, and environmental well-being.	State of Minnesota
J.J. Hill Business	http://www.jjhill.org/	The James J. Hill Reference Library is a private nonprofit business reference library, located in Saint Paul, MN. Since 1921, the Hill Library has housed a world-class collection of practical business information resources and is considered one of the most comprehensive business libraries in the country.	Centrally located in Saint Paul
Norwest Equity Partners	http://www.nep.com/	Norwest Equity Partners (NEP) cites their success with building companies into industry leaders is founded on skill and perseverance – both of which are defining characteristics of a premier private equity firm	Centrally located in Minneapolis
Milestone Growth Fund	http://www.milestonegrowth.com/	Founded in 1990, Milestone Growth Fund began with a modest \$1.3 million to invest in small minority-owned businesses. Now nearly 20 years later, Milestone continues to be the only Minnesota venture capital fund that is focused on providing equity type financing to minority-owned companies.	Minority business owners in Minnesota
Black River Asset Management	http://www.blackriver.com/	Black River Asset Management LLC, an independently managed subsidiary of Cargill, Incorporated, is a global asset management company that provides sophisticated institutional investors with alternative investment opportunities	Centrally located in Minneapolis
Split Rock Partners	http://www.splitrock.com/	Split Rock Partners is a venture capital firm dedicated to one goal: building productive partnerships with entrepreneurs who have the vision and ability to create companies of enduring value.	Minneapolis Region
Stone Arch Capital	http://www.stonearchcapital.com/	Stone Arch Capital, LLC is a private equity fund based in Minneapolis, MN. Fund was founded with a commitment to identifying and building value based on patience, discipline, and experience operating in core Midwest market. Seek to create shareholder value by forming partnerships with management teams based on trust and integrity	Minneapolis and the Midwest market

A. 7 SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 - 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2008	\$1,490,894.00	Impedance Threshold Value for Improving CPR
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	DOD, Army	2005	\$729,944.00	Noninvasive Treatment of Hemorrhagic Shock
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2006	\$980,719.00	Novel Device for Improving Standard CPR Outcomes
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2005	\$295,797.00	Intrathoracic Pressure Regulator for Resuscitation
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	DOD, Army	2006	\$69,731.00	Inspiratory Impedance as a Treatment for Traumatic Brain Injury
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	DOD, Army	2008	\$729,863.00	Inspiratory Impedance as a Treatment for Traumatic Brain Injury
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2006	\$153,176.00	Non-Invasive Device for Treatment of Elevated Intracranial Pressures
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2006	\$317,675.00	Resuscitation-Impedance Threshold Devices
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2007	\$177,040.00	Novel Non-invasive Treatment for Hypotension
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2009	\$181,470.00	Intrathoracic Pressure Regulator for Septic Shock
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	HHS	2009	\$194,873.00	Non-Invasive Extra Corporeal Circulator for Prolonged Resuscitation
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2005	\$1,023,511	Impedance Threshold Value for Improving Standard CPR
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2005	\$149,321	Intrathoracic Pressure Regulator for Resuscitation
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2006	\$146,476	Intrathoracic Pressure Regulator for Resuscitation
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2006	\$153,176	Novel non-invasive device for treatment of elevated intracranial pressures
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2006	\$168,831	Resuscitation--impedance threshold devices in pediatrics
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2006	\$1,018,097	Impedance Threshold Value for Improving Standard CPR
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2006	\$480,377	Novel device for improving standard CPR outcomes
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2007	\$148,844	Resuscitation using novel impedance threshold devices in pediatrics
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2007	\$177,040	Novel non-invasive treatment for hypotension during hemodialysis
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2007	\$1,014,996	Impedance Threshold Value for Improving Standard CPR
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2007	\$500,342	Novel device for improving standard CPR outcomes
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2008	\$1,490,894	Impedance Threshold Value for Improving Standard CPR
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2009	\$181,470	Intrathoracic Pressure Regulation for the Treatment of Septic Shock
Advanced Circulatory Systems, Inc.*	Eden Prairie	Hennepin	NIH	2009	\$194,873	Non-invasive Extra-Corporeal Circulator for Prolonged Resuscitation
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	ED	2005	\$75,000.00	Thermal Imaging as an Aid for the Blind
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$511,733.00	Sleep Study Sensors with Embedded Wireless Links
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2005	\$97,547.00	Implantable DC Ablation Device for Tumor Therapy

Note: *In 2010 Advance Circulatory Systems moved from Hennepin County to Ramsey County.

SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2005	\$210,542.00	Indoor Magnetic Wayfinding for the Visually Impaired
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$751,922.00	Indoor Magnetic Wayfinding for the Visually Impaired
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2005	\$250,000.00	Ambulatory Sternal Skin Conductance Recording Tool
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2005	\$104,046.00	Ambulatory Real Time High Channel Count electroencephalograph
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$908,531.00	Ambulatory Real Time High Channel Count electroencephalograph
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2005	\$100,000.00	Wireless System on a Chip EEG IC for Animal Studies
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2006	\$1,055,975.00	Wireless System on a Chip EEG IC for Animal Studies
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2005	\$100,000.00	Novel System for EMG Instrumentation
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$697,223.00	Novel System for EMG Instrumentation
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2006	\$245,092.00	Wireless Wearable System to Measure Mind/Body Study Protocols
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$1,566,040.00	Wireless Wearable System to Measure Mind/Body Study Protocols
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2006	\$102,618.00	Fully Integrated High Sensitivity Uncooled Terahertz Receiver Array
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2006	\$181,275.00	Wireless Digital Link Companion Microphone
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2008	\$799,974.00	Wireless Digital Link Companion Microphone
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2006	\$138,051.00	Calibration Tools for PC-Based Vision Assessment
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2006	\$148,528.00	Wireless Digital Link Between Hearing Aids
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2008	\$828,381.00	Wireless Digital Link Between Hearing Aids
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2006	\$174,499.00	Digital Sign System
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2009	\$1,454,610.00	Digital Sign System
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	DHS	2007	\$100,000.00	Mobile Stand Off Secure Wireless Biometrics Screening Device
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	DHS	2009	\$375,000.00	Mobile Stand Off Secure Wireless Biometrics Screening Device
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	ED	2007	\$75,000.00	Face Recognition for the Blind
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$121,314.00	Next Generation Technology for Chronic Care Self Management
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$100,000.00	Portable EEG Recorder for Household Surveys
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$100,000.00	IR Camera for Back Treatment
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2007	\$100,029.00	Home Pediatric Critical Care Intervention
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	ED	2008	\$75,000.00	Connectivity to Modern Electronics
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	ED	2007	\$75,000.00	Wireless Wrist Devise to Alert the Deaf

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	ED	2008	\$500,000.00	Wireless Wrist Devise to Alert the Deaf
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2008	\$126,160.00	Hearing Aid Connectivity to Consumer Electronics
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2009	\$1,362,525.00	Hearing Aid Connectivity to Consumer Electronics
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2008	\$118,925.00	Wearable Devise for Wireless Acquisition of EMG Signals
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	ED	2009	\$75,000.00	Display Reader for the Vision Impaired
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	ED	2008	\$75,000.00	Connectivity to Modern Electronics
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	ED	2009	\$500,000.00	Connectivity to Modern Electronics
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2009	\$137,997.00	Face Recognition Devise to Aid Alzheimer Patients
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	HHS	2009	\$326,478.00	Mouse Neuro-Recorder Headstage
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$100,000	Wireless System-on-a-Chip EEG IC For Animal Studies
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$100,000	Novel System for EMG Instrumentation
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$103,984	Indoor Magnetic Wayfinding For The Visually Impaired
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$104,046	Ambulatory Real Time High Channel Count Electroencephalograph
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$250,000	Ambulatory Sternal Skin Conductance Recording Tool
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$97,547	Implantable DC Ablation Device for Tumor Therapy
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$266,335	Development of a Flexible Infrared Imaging Endoscope
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$295,813	Infrared Augmented Reality Viewing System
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$375,627	Sleep Diagnostic Device With Wireless Internet Interface
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2005	\$435,139	Polysomnograph on a Chip
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$102,618	Fully Integrated High Sensitivity Uncooled Terahertz Receiver Array
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$106,558	Indoor Magnetic Wayfinding For The Visually Impaired
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$174,499	Development of Digital Sign System for Indoor Wayfinding by the Visually Impaired
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$243,792	Self-Reported Menopausal Symptomatology and Wireless Skin Conductance Recorder
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$245,092	A Wireless Wearable System to Measure Adherence to Mind-Body Protocols
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$423,160	Wireless System-on-a-Chip EEG IC For Animal Studies
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$138,051	Calibration Tools For PC-Based Vision Assessment
Advanced Medical Electronics Corp.	Maple Grove	Hennepin	NIH	2006	\$148,528	Wireless Digital Link Between Hearing Aids

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2006	\$181,275	Wireless Digital Link Companion Microphone
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$100,000	Portable EEG Recorder for Household Surveys
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$100,000	Using an IR Camera to Assess the Effectiveness of Back Treatment
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$100,029	Home Pediatric Critical Care Intervention to Reduce Hospitalization
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$121,314	Next Generation Technology for Chronic Care Self Management
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$386,674	Indoor Magnetic Wayfinding For The Visually Impaired
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$387,218	Novel System for EMG Instrumentation
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$478,786	Ambulatory Real Time High Channel Count Electroencephalograph
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$511,733	Regulatory Approval Program for Sleep Study Sensors with Embedded Wireless Links
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$632,815	Wireless System-on-a-Chip EEG IC For Animal Studies
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$775,674	A Wireless Wearable System to Measure Adherence to Mind-Body Study Protocols
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2007	\$310,719	Calibration Tools For PC-Based Vision Enhancement
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$118,925	A Wearable Device for Wireless Acquisition of High Density Surface EMG Signals
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$126,160	Hearing Aid Connectivity to Consumer Electronics
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$10,700	Novel System for EMG Instrumentation
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$365,248	Indoor Magnetic Wayfinding For The Visually Impaired
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$365,912	Novel System for EMG Instrumentation
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$429,745	Ambulatory Real Time High Channel Count Electroencephalograph
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$547,014	Development of a Digital Sign System for Indoor Wayfinding by the Visually Impair
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$790,366	A Wireless Wearable System to Measure Adherence to Mind-Body Study Protocols
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$276,754	Wireless Digital Link Companion Microphone
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$278,451	Wireless Digital Link Between Hearing Aids
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$391,354	Calibration Tools For PC-Based Vision Enhancement
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2008	\$54,683	Calibration Tools For PC-Based Vision Enhancement
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2009	\$137,997	Face Recognition Device to Aid Early Stage Alzheimer Patients
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2009	\$326,478	Mouse Neuro-Recorder Headstage for Wide-band Microelectrode Signals
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2009	\$125,560	Novel System for EMG Instrumentation

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2009	\$347,271	Hearing Aid Connectivity to Consumer Electronics
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2009	\$535,249	Development of a Digital Sign System for Indoor Wayfinding by the Visually Impair
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2009	\$243,512	Wireless Digital Link Companion Microphone
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	NIH	2009	\$288,379	Wireless Digital Link Between Hearing Aids
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	MINNESOTA	2010	\$133,178	Face Recognition Tool for the Blind
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	MINNESOTA	2010	\$555,377	Hearing Aid Connectivity to Consumer Electronics
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	MINNESOTA	2010	\$185,361	Survey and Test Platform for Use in Underserved Populations
Advanced Medical Electronics Corp.	Minneapolis	Hennepin	MINNESOTA	2010	\$292,708	Wireless Digital Link Companion Microphone
Advanced Photodynamic Tech. Inc.	Minneapolis	Hennepin	HHS	2005	\$3,407,727.00	Photodynamic Treatment of Endotracheal Tube Biofilms
Advanced Photodynamic Tech. Inc.	Minneapolis	Hennepin	NIH	2005	\$1,121,143	Photodynamic Treatment of Endotracheal Tube Biofilms
Advanced Photodynamic Tech. Inc.	Minneapolis	Hennepin	NIH	2005	\$574,183	Antimicrobial Chronic Wound Bandage Treatment
Advanced Photodynamic Tech. Inc.	Minneapolis	Hennepin	NIH	2006	\$1,934,196	Photodynamic Treatment of Endotracheal Tube Biofilms
Advanced Photodynamic Tech. Inc.	Minneapolis	Hennepin	NIH	2006	\$379,979	Antimicrobial Chronic Wound Bandage Treatment
Advanced Photodynamic Tech. Inc.	Minneapolis	Hennepin	NIH	2007	\$352,388	Photodynamic Treatment of Endotracheal Tube Biofilms
Advanced Research Corp.	White Bear Lake	Ramsey	DOD, AF	2008	\$92,620.00	Polarization Selective Infrared Detection
Advanced Research Corp.	White Bear Lake	Ramsey	DOE	2009	\$94,338.00	Scanning Probe Microscopy
Advanced Tech Engineering, Inc.	Burnsville	Dakota	DOD, DARP	2009	\$98,994.00	Highly Integrated Silicon (Si)based RF Electronics
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, DARP	2005	\$98,955.00	Vulnerability Assessment and Prioritization Methodology
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, DARP	2007	\$374,987.00	Vulnerability Assessment and Prioritization Methodology
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, OSD	2007	\$99,905.00	Cyber Craft System Scaling
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, OSD	2008	\$739,334.00	Cyber Craft System Scaling
Adventium Enterprises, LLC	Minneapolis	Hennepin	NASA	2007	\$100,000.00	System Level Autonomy Trust Enabler
Adventium Enterprises, LLC	Minneapolis	Hennepin	NASA	2008	\$599,986.00	System Level Autonomy Trust Enabler
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, OSD	2008	\$100,000.00	Mixed Criticality Assured Real Time VMM
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, OSD	2009	\$743,052.00	Mixed Criticality Assured Real Time VMM
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, OSD	2008	\$100,000.00	Xenon Based Host Resistant Assured CDS
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, OSD	2009	\$730,465.00	Xenon Based Host Resistant Assured CDS

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Adventium Enterprises, LLC	Minneapolis	Hennepin	NSF	2009	\$100,000.00	UAS Certification Artifact Formulation Environment
Adventium Enterprises, LLC	Minneapolis	Hennepin	DOD, DARP	2009	\$98,999.00	Automated Intelligent Management for Integrated Strategy & Tactics
Aero Systems Engineering, Inc.	Saint Paul	Ramsey	DOD, AF	2006	\$99,489.00	Flow-Field Seeding Techniques for Large Transonic Wind Tunnels
Aero Systems Engineering, Inc.	Saint Paul	Ramsey	DOD, Navy	2007	\$78,521.00	Practical Assessment of Noise/Performance Trade
Aero Systems Engineering, Inc.	Saint Paul	Ramsey	DOD, Navy	2009	\$758,473.00	Practical Assessment of Noise/Performance Trade
Algenta Tech.		Hennepin	NIH	2006	\$100,000	Automated Survey Instrument Documentation, Analysis
AME	Maple Grove	Hennepin	NSF	2007	\$141,784.00	Thermal Imaging as an Aid for the Blind
Applied Colloids	Elk River	Shelburne	DOD, AF	2007	\$340,865.00	Wax Substitutes for Melt Castable Explosive Fills
Applied Colloids	Elk River	Sherburne	DOD, AF	2006	\$99,490.00	Wax Substitutes for Melt Castable Explosive Fills
Applied Colloids	Elk River	Sherburne	USDA	2009	\$79,745.00	Renewable Biofuel Based on Jojoba Oil
Applied Colloids	Elk River	Sherburne	DOD, OSD	2009	\$99,610.00	Nanophase Technology for Lithium-Ion
Applied Membrane Technology, Inc.	Minnetonka	Hennepin	HHS	2005	\$161,854.00	Improved Hollow Fiber Membranes for Artificial Lungs
Applied Membrane Technology, Inc.	Minnetonka	Hennepin	NIH	2005	\$161,854	Improved Hollow Fiber Membranes for Artificial Lungs
Architecture Technology Corp.	Eden Prairie	Hennepin	USDA	2005	\$296,000.00	WirlWind Wireless Wide Area Incident Network
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Navy	2005	\$496,986.00	SIMON: Simulation and Modeling for SANs
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2005	\$99,472.00	End-to-End QoS IP Techniques for Heterogeneous Networks
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2006	\$747,708.00	End-to-End QoS IP Techniques for Heterogeneous Networks
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2005	\$68,590.00	Denial-of-Service Defenses for Ad Hoc Networks
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2005	\$69,138.00	Constrained Automatic Anti-Tamper System
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2005	\$98,315.00	Lowest-Cost Attack Path
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2005	\$99,425.00	After Shock
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2005	\$99,161.00	Polymorphic Virtual Machines
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2006	\$69,572.00	Plug and Play Adaptor for PASID
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2008	\$728,530.00	Plug and Play Adaptor for PASID
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2006	\$68,980.00	MANET Design Assistant Tool
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2006	\$99,134.00	Network Situational Awareness
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2006	\$69,316.00	Twister, An Anti-Tamper Meta-Protection Approach

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Navy	2006	\$69,801.00	Distributed Secure Control of Real Time Networks
Architecture Technology Corp.	Eden Prairie	Hennepin	DHS	2006	\$99,837.00	Logical Network Boundary Controller
Architecture Technology Corp.	Eden Prairie	Hennepin	DHS	2007	\$749,791.00	Logical Network Boundary Controller
Architecture Technology Corp.	Eden Prairie	Hennepin	DHS	2006	\$99,504.00	Situational Awareness Visualization for Emergency Responder
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2007	\$99,340.00	6-Synch
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Navy	2007	\$69,212.00	Agent Based Viral Object Caching and Dissemination Overlay
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2007	\$99,458.00	Medical Operations Simulator
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2007	\$99,638.00	Commodity Auxiliary Processors
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2007	\$98,497.00	Steganography
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, OSD	2007	\$99,982.00	Sandtrap
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2008	\$98,828.00	Organically Assured Routing System
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2009	\$738,611.00	Organically Assured Routing System
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2008	\$98,995.00	End to End Hybrid IntServ Signaling Platform
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2008	\$99,329.00	Reliable Services for Continuity of Operations
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2008	\$99,672.00	Continuous and Coordinated Target Tracking and Engagement
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2008	\$99,299.00	Border Gateway Protocol
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2009	\$748,774.00	Border Gateway Protocol
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2008	\$69,693.00	Multicast Security for Tactical Network
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, AF	2009	\$749,762.00	Multicast Security for Tactical Network
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Navy	2008	\$69,994.00	Enhancements for Lossy Optical Network
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2009	\$118,742.00	Multi-Robot Coordination and Pursuit System
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2010	\$69,422.00	Carver
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2009	\$69,691.00	Efficient Domain Name Server Protection Techniques
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Army	2009	\$69,725.00	Database Wiki with Interactive Query Integration
Architecture Technology Corp.	Eden Prairie	Hennepin	DOD, Navy	2009	\$149,507.00	Synapse
Architecture Technology Corp.	Eden Prairie	Hennepin	DHS	2010	\$99,962.00	Peer Integrity Checking System
Audiology, Inc.	Arden Hills	Ramsey	NIH	2006	\$345,984	Automated Test of Word Recognition - Phase II

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Audiology, Inc.	Arden Hills	Ramsey	NIH	2007	\$256,689	Development of Improved Earphone for Hearing Testing
Audiology, Inc.	Arden Hills	Ramsey	NIH	2008	\$256,717	Development of Improved Earphone for Hearing Testing
Audiology, Inc.	Arden Hills	Ramsey	HHS	2005	\$743,628.00	Automated Test of Word Recognition
Audiology, Inc.	Arden Hills	Ramsey	HHS	2005	\$99,950.00	Development of Improved Earphone for Hearing Testing
Audiology, Inc.	Arden Hills	Ramsey	HHS	2007	\$513,406.00	Development of Improved Earphone for Hearing Testing
Audiology, Inc.	Arden Hills	Ramsey	NIH	2005	\$99,950	Audiometric Earphone - Phase 1
Audiology, Inc.	Arden Hills	Ramsey	NIH	2005	\$397,644	Automated Test of Word Recognition - Phase II
Bioengineering, Inc.	Stillwater	Washington	HHS	2007	\$309,165.00	MRI-Guided Robotic Breast Cancer Interventions
Bioengineering, Inc.	Stillwater	Washington	NIH	2007	\$157,425	MRI-GUIDED ROBOTIC BREAST CANCER INTERVENTIONS
Biothera	Eagan	Dakota	HHS	2006	\$139,136.00	Oral Beta-Glucan Treats hematopoietic Injury
Biothera	Eagan	Dakota	NIH	2006	\$139,136	Oral beta-glucan treats hematopoietic injury resulting from acute radiation expos
Blue Sky Designs, Inc.	Minneapolis	Hennepin	NIH	2005	\$313,403	Accessible Mounting and Positioning Technology
Blue Sky Designs, Inc.	Minneapolis	Hennepin	ED	2005	\$74,996.00	Powered Mounting and Positioning System
Blue Sky Designs, Inc.	Minneapolis	Hennepin	ED	2006	\$499,998.00	Powered Mounting and Positioning System
Blue Sky Designs, Inc.	Minneapolis	Hennepin	ED	2007	\$74,997.00	Accessible Watercraft Transfer Devices
Blue Sky Designs, Inc.	Minneapolis	Hennepin	NIH	2006	\$262,445	Accessible Mounting and Positioning Technology
Blue Sky Designs, Inc.	Saint Paul	Ramsey	USDA	2005	\$79,980.00	Development of Portable Watercraft Transfer Technology
Blue Sky Designs, Inc.	Saint Paul	Ramsey	HHS	2005	\$609,526.00	Accessible Mounting and Positioning Technology
Bonner Motor Corp.	Rosemount	Dakota	DOD, Army	2005	\$69,710.00	Low Fuel Consumption High Altitude Capable IC Engine Concepts
Bonner Motor Corp.	Rosemount	Dakota	DOD, Army	2006	\$714,478.00	Low Fuel Consumption High Altitude Capable IC Engine Concepts
BuckyTech, LLC	Maple Grove	Hennepin	DOD, Army	2007	\$69,996.00	Embedded Resonated Screen Air Filtration Device
Celadon Systems, Inc.	Apple Valley	Dakota	NIST	2010	\$90,000.00	300 mm High Density Temperature Probe Card
Chi's Research Corp.	Minnetonka	Hennepin	NASA	2005	\$69,060.00	Enhancing the Processing Characteristics of Edible Beans
Diagnostic Biosensors, LLC	Minneapolis	Hennepin	DHS	2006	\$99,999.00	Plug and Play USB Electronic Reader
Discovery Genomics, Inc.	Minneapolis	Hennepin	HHS	2005	\$1,245,185.00	Sleeping Beauty Mediated Gene Therapy
Discovery Genomics, Inc.	Minneapolis	Hennepin	HHS	2007	\$1,657,037.00	Transposon-Mediated Gene Therapy
Discovery Genomics, Inc.	Minneapolis	Hennepin	HHS	2006	\$237,878.00	Brain Tumor Stem Cell-targeted Gene Therapy

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Discovery Genomics, Inc.	Minneapolis	Hennepin	HHS	2007	\$174,011.00	Targeted Transposons for Gene Therapy
Discovery Genomics, Inc.	Minneapolis	Hennepin	HHS	2008	\$290,918.00	Delivery of Sleeping Beauty Transposons
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2005	\$595,423	Sleeping Beauty-Mediated Gene Therapy for Hemophilia
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2006	\$649,762	Sleeping Beauty-Mediated Gene Therapy for Hemophilia
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2006	\$163,582	Brain Tumor Stem Cell-targeted Gene Therapy
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2007	\$837,417	Transposon-Mediated Gene Therapy for Fanconi Anemia
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2007	\$174,011	Targeted Transposons for Gene Therapy
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2007	\$74,296	Brain Tumor Stem Cell-targeted Gene Therapy
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2008	\$566,484	Transposon-Mediated Gene Therapy for Fanconi Anemia
Discovery Genomics, Inc.	Minneapolis	Hennepin	NIH	2008	\$290,918	Delivery of Sleeping Beauty Transposons to Dog Liver for Gene Therapy
Discovery Genomics, Inc.	Minneapolis	Hennepin	MINNESOTA	2010	\$270,673	Sleeping Beauty-mediated Gene Therapy of X-linked SCID
Eden Medical Inc.	Howard Lake	Wright	HHS	2009	\$133,531.00	Diabetic Foot Imaging Scanner
Eden Medical Inc.	Howard Lake	Wright	NIH	2006	\$413,906	Smart Seal Ostomy Appliance
Essential Systems Integration, Inc.	Andover	Anoka	DHS	2005	\$100,000.00	Secure Carton System by ESII
Fluid Measurement Tech. Inc.	Vadnais Heights	Ramsey	HHS	2005	\$1,223,165.00	A New Universal Chromatography Detector
Fluid Measurement Tech. Inc.	Vadnais Heights	Ramsey	NIH	2005	\$805,765	A New Universal Chromatography Detector
Fluid Measurement Tech. Inc.	Vadnais Heights	Ramsey	NIH	2006	\$417,400	A New Universal Chromatography Detector
Gel-Del Tech., Inc.	Saint Paul	Ramsey	HHS	2009	\$5,494,163.00	Arterial-Mimetic Grafts Molded from Purified Proteins
Gel-Del Tech., Inc.	Saint Paul	Ramsey	NIH	2006	\$1,031,981	Arterial-Mimetic Grafts Molded from Purified Proteins
Gel-Del Tech., Inc.	Saint Paul	Ramsey	NIH	2007	\$1,025,888	Arterial-Mimetic Grafts Molded from Purified Proteins
Gel-Del Tech., Inc.	Saint Paul	Ramsey	NIH	2009	\$1,124,655	Arterial-Mimetic Grafts Molded from Purified Proteins
Genesegues, Inc.	Chaska	Carver	DOD, Army	2005	\$69,883.00	Nanocapsules for Tranposon Therapy in Cancer
Genesegues, Inc.	Chaska	Carver	HHS	2006	\$199,475.00	Tumor-targeted Delivery of siRNA
Genesegues, Inc.	Chaska	Carver	HHS	2009	\$406,030.00	Nonviral Vehicles Targeting Liver Cell Subtypes
Genesegues, Inc.	Chaska	Carver	HHS	2009	\$185,073.00	Development of AntiCancer Agents Requestor
Genesegues, Inc.	Chaska	Carver	NIH	2006	\$99,729	Tumor-targeted delivery of siRNA via sub-50 nanometer capsules
Genesegues, Inc.	Chaska	Carver	NIH	2007	\$99,746	Tumor-targeted delivery of siRNA via sub-50 nanometer capsules

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Genesegues, Inc.	Chaska	Carver	NIH	2009	\$203,015	Nonviral vehicles targeting liver cell-subtypes for nuclear delivery via rafts
Gt Urological, LLC	Minneapolis	Hennepin	HHS	2005	\$338,377.00	Implantable Mechanical Urinary Sphincter
Gt Urological, LLC	Minneapolis	Hennepin	HHS	2006	\$460,767.00	Tape Mechanical Occlusive Device
Gt Urological, LLC	Minneapolis	Hennepin	HHS	2008	\$940,866.00	Tape Mechanical Occlusive Device
Gt Urological, LLC	Minneapolis	Hennepin	HHS	2007	\$299,245.00	Electro-Mechanical Occlusive Device
Gt Urological, LLC	Minneapolis	Hennepin	NIH	2005	\$338,377	Implantable Mechanical Urinary Sphincter
Gt Urological, LLC	Minneapolis	Hennepin	NIH	2006	\$460,767	Tape Mechanical Occlusive Device (TMOD)
Gt Urological, LLC	Minneapolis	Hennepin	NIH	2007	\$299,245	Electro-Mechanical Occlusive Device
Gt Urological, LLC	Minneapolis	Hennepin	NIH	2008	\$576,120	Tape Mechanical Occlusive Device (TMOD)
H V. Setty Enterprises, Inc.	Burnsville	Dakota	NASA	2009	\$99,436.00	Microsensor for Measuring Oxygen, Water and Carbon Dioxide
Hansen Engine Corp.	Minneapolis	Hennepin	DOD, Army	2005	\$726,390.00	Advanced Military Diesel Engine Technologies
Healthcare Interactive, Inc.	Minneapolis	Hennepin	HHS	2006	\$1,501,780.00	Nursing Home Training to Impact CMS Indicators
Healthcare Interactive, Inc.	Minneapolis	Hennepin	HHS	2005	\$306,360.00	Internet Savvy Caregiver: Dementia Training and Planner
Healthcare Interactive, Inc.	Minneapolis	Hennepin	HHS	2005	\$299,307.00	Training to Improve Late-Stage Dementia Care
Healthcare Interactive, Inc.	Edina	Hennepin	HHS	2009	\$344,752.00	Improving Dementia Care at Home
Healthcare Interactive, Inc.	Edina	Hennepin	HHS	2009	\$399,085.00	Caregiver Training
Healthcare Interactive, Inc.	Minneapolis	Hennepin	NIH	2005	\$299,307	Training to Improve Late-Stage Dementia Care
Healthcare Interactive, Inc.	Minneapolis	Hennepin	NIH	2005	\$306,360	Internet Savvy Caregiver: Dementia Training and Planner
Healthcare Interactive, Inc.	Minneapolis	Hennepin	NIH	2006	\$453,254	Nursing Home Training to Impact CMS Indicators
Healthcare Interactive, Inc.	Minneapolis	Hennepin	NIH	2007	\$587,747	Nursing Home Training to Impact CMS Indicators
Healthcare Interactive, Inc.	Minneapolis	Hennepin	NIH	2008	\$460,779	Nursing Home Training to Impact CMS Indicators
Healthcare Interactive, Inc.	Minneapolis	Hennepin	NIH	2009	\$344,752	Improving Dementia Care at Home and Reducing Burden for Family Caregivers
Healthcare Interactive, Inc.	Minneapolis	Hennepin	NIH	2009	\$399,085	Caregiver Training to Manage Inappropriate Behaviors in Individuals with Alzheimer
Hearing Components, Inc.	Oakdale	Washington	HHS	2005	\$802,501.00	Hearing in Noise with Improved Noise Reduction Foam
Hearing Components, Inc.	Oakdale	Washington	NIH	2005	\$428,268	Hearing in Noise With Improved Noise Reduction Foam
Hearing Components, Inc.	Oakdale	Washington	NIH	2006	\$374,233	Hearing in Noise With Improved Noise Reduction Foam
Hitchcock	Minneapolis	Hennepin	NSF	2005	\$99,711.00	Casting Process Capable of Casting Wrought Aluminum Alloys

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Humanetics Corp.	Eden Prairie	Hennepin	HHS	2009	\$600,000.00	Development of Cysteamine
Humanetics Corp.	Eden Prairie	Hennepin	NIH	2009	\$300,000	Development of Cysteamine as a Medical Radiation Countermeasure
Hysitron InCorp.ed	Minneapolis	Hennepin	DOE	2005	\$750,000.00	Quantitative In-Situ TEM Nanoindentation Instrument
Hysitron InCorp.ed	Minneapolis	Hennepin	DOE	2007	\$100,000.00	Quantitative In Situ TEM Tensile Testing Apparatus
Hysitron InCorp.ed	Minneapolis	Hennepin	DOE	2008	\$750,000.00	Quantitative In Situ TEM Tensile Testing Apparatus
Hysitron InCorp.ed	Minneapolis	Hennepin	DOE	2007	\$100,000.00	Quantitative In Situ TEM Nanotribology Tester
Hysitron InCorp.ed	Minneapolis	Hennepin	DOE	2008	\$750,000.00	Quantitative In Situ TEM Nanotribology Tester
Hysitron InCorp.ed	Minneapolis	Hennepin	DOD, Army	2009	\$69,997.00	Versatile Micro/Nano-mechanical Load Frame
Hysitron InCorp.ed	Minneapolis	Hennepin	DOE	2009	\$100,000.00	Fast Scanning Nanoindenter
ImmunoChemistry Tech. LLC	Bloomington	Hennepin	HHS	2008	\$490,126.00	PET and SPECT Ligands for Imaging Apoptosis
ImmunoChemistry Tech. LLC	Bloomington	Hennepin	NIH	2008	\$103,828	New Fluorescent Caspase Detection Probes to Label Apoptotic Tumor Cells In Vivo
ImmunoChemistry Tech. LLC	Bloomington	Hennepin	NIH	2008	\$241,382	PET and SPECT Ligands for Imaging Apoptosis
ImmunoChemistry Tech. LLC	Bloomington	Hennepin	NIH	2009	\$642,235	New Fluorescent Caspase Detection Probes to Label Apoptotic Tumor Cells In Vivo
ImmunoChemistry Tech. LLC	Bloomington	Hennepin	NIH	2009	\$248,744	PET and SPECT Ligands for Imaging Apoptosis
ImmunoChemistry Tech. LLC	Bloomington	Hennepin	NIH	2009	\$7,283	PET and SPECT Ligands for Imaging Apoptosis
Imricor Medical Systems, Inc.	Burnsville	Dakota	HHS	2008	\$919,149.00	MRI Compatible Electrode Catheter System
Imricor Medical Systems, Inc.	Burnsville	Dakota	NIH	2008	\$917,899	MRI Compatible Electrode Catheter System
Imricor Medical Systems, Inc.	Burnsville	Dakota	NIH	2009	\$1,250	MRI Compatible Electrode Catheter System
InfoBionics	Saint Paul	Ramsey	DOD, Navy	2007	\$99,938.00	next Generation Data Base Modeling on Human Neuro Process
Innovative Research, Inc.	Plymouth	Hennepin	DOD, AF	2005	\$99,981.00	Computational Modeling of Cold-Hearth Melting Processes
Innovative Research, Inc.	Plymouth	Hennepin	DOD, AF	2007	\$99,998.00	Computational Modeling of Two Phase Cooling System
Innovative Research, Inc.	Plymouth	Hennepin	DOD, AF	2008	\$749,612.00	Computational Modeling of Two Phase Cooling System
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2005	\$99,984.00	Microsphere Coatings for Immunoassays
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2006	\$99,595.00	Photoreactive Nanofibers for Bimolecular Immobilization
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2006	\$99,505.00	Multidrug Delivery Microparticle Coatings
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NSF	2007	\$149,033.00	Superhydrophobic Coatings
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NSF	2009	\$499,424.00	Superhydrophobic Coatings

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2007	\$99,933.00	Microsphere Coatings
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NSF	2008	\$99,939.00	Chlorhexidine Releasing Superhydrophobic Coating
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2008	\$99,857.00	Phosphane Functionalized Diblock Copolymers
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2008	\$99,682.00	Combination of Thermoresponsive and Nanofibrillar Surface
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2009	\$749,047.00	Combination of Thermoresponsive and Nanofibrillar Surface
Innovative Surface Tech. LLC	Saint Paul	Ramsey	HHS	2009	\$99,788.00	Catechol-Functionalized Coatings
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2006	\$142,300	Multianalyte Nanomagnetic Biosensor Array for Pathogen Detection
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2006	\$99,505	MULTIDRUG DELIVERY MICROPARTICLE COATINGS FOR ORTHOPEDIC DEVICES
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2006	\$99,595	Photoreactive nanofibers for biomolecule immobilization
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2007	\$99,933	Microsphere Coatings for Protein Arrays
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2005	\$99,894	Microsphere Coatings for Immunoassays
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2005	\$376,644	Latent Reactive Groups for Biomaterials
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2008	\$99,682	A Novel Combination of Thermoresponsive and Nanofibrillar Surface for Cell Cultur
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2008	\$99,857	Phosphane Functionalized Diblock Copolymers for Targeted siRNA Delivery
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2009	\$99,788	Catechol-functionalized Coatings for Cardiovascular Medical Devices
Innovative Surface Tech. LLC	Saint Paul	Ramsey	NIH	2009	\$406,891	A Novel Combination of Thermoresponsive and Nanofibrillar Surface for Cell Cultur
Insurtec	Saint Paul	Ramsey	NSF	2006	\$99,644.00	Bimolecular Immobilization Chemistry
Interlaken Technology Corp.	Chaska	Carver	NSF	2008	\$149,901.00	Innovative Warm Hydroforming System
Interlaken Technology Corp.	Chaska	Carver	NSF	2009	\$498,022.00	Innovative Warm Hydroforming System
Iterativity, Inc.	Minneapolis	Hennepin	DOD, OSD	2007	\$99,452.00	Collaborative Control of Unmanned Vehicle
Iterativity, Inc.	Minneapolis	Hennepin	DOD, Navy	2009	\$69,912.00	Self-Configuring User Interface Design
Ixmatch, Inc.	Edina	Hennepin	DOD, OSD	2006	\$749,947.00	Concept Based Information Retrieval and Fusion Engine
Jackpine Tech. Corp.	Eagan	Dakota	DOD, AF	2005	\$99,991.00	Air Traffic Control Tactical Briefcase
Koronis	Eden Prairie	Hennepin	ED	2005	\$75,000.00	System for Indoor Navigation to Assist the Visually Impaired
Koronis Biomedical Tech. Corp.	Eden Prairie	Hennepin	HHS	2005	\$121,242.00	Improved AED Resuscitation with Interactive CPR Coaching
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2005	\$10,000.00	A Chronic Disease Management Solution
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2006	\$865,519.00	A Chronic Disease Management Solution
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2006	\$98,124.00	Instrument to Quantify Dyskinesia in Parkinson Patients

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2006	\$98,124.00	Electronic Medication Compliance System
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2006	\$127,084.00	Thin Film Magnetic Sensors
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2008	\$1,124,245.00	Thin Film Magnetic Sensors
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2006	\$99,786.00	Indoor Personal Navigation System
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2009	\$844,479.00	Indoor Personal Navigation System
Koronis Biomedical Tech. Corp.	Eden Prairie	Hennepin	ED	2006	\$75,000.00	System for a Collaborative and Dynamic Wheelchair
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NSF	2007	\$100,000.00	Indoor Navigation to Assist Visually Impaired
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2007	\$117,265.00	Wearable Physiological Sensors for Aging Research
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2008	\$132,011.00	Magnetic Targeting
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	ED	2009	\$75,000.00	Transportation Assistant for Cognitively Impaired
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	HHS	2009	\$176,009.00	Magnetic Location System For Catheter Guidance
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2005	\$100,000	A Wireless TeleHealth Home Care System
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2005	\$121,242	Improved AED Resuscitation with Interactive CPR Coaching
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2006	\$127,084	Thin Film Magnetic Sensors for Ultrathin Bronchoscope Navigation
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2006	\$134,003	An Implantable Wireless Myoelectric Sensor for Prosthetic Control
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2006	\$98,124	A New Electronic Medication Compliance System
Koronis Biomedical Tech. Corp.	Eden Prairie	Hennepin	NIH	2006	\$98,124	A new Instrument to Quantify Dyskinesia In Patients with Parkinson's Disease
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2006	\$99,786	Personal Navigation System for the Blind using High-Sensitivity Indoor GPS
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2006	\$422,895	A Chronic Disease Management Solution
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2007	\$117,265	Wearable Physiological Sensors For Aging Research
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2007	\$442,624	A Chronic Disease Management Solution
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2008	\$132,011	Magnetic Targeting for Insertion of Distal Screws into Intramedullary Nails
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2008	\$583,411	Thin Film Magnetic Sensors for Ultrathin Bronchoscope Navigation
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2009	\$176,009	Magnetic Location System For Catheter Guidance
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2009	\$433,158	Indoor Personal Navigation System for the Blind Using Augmented GPS
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	NIH	2009	\$540,834	Thin Film Magnetic Sensors for Ultrathin Bronchoscope Navigation
Koronis Biomedical Tech. Corp.	Maple Grove	Hennepin	MINNESOTA	2010	\$411,321	Indoor Personal Navigation System for the Blind Using Augmented GPS

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Korosensor Com, Inc.	Howard Lake	Wright	HHS	2005	\$802,101.00	Smart Seal Ostomy Appliance
Korosensor Com, Inc.	Howard Lake	Wright	NIH	2005	\$285,902	Self-Dispensing Respiratory Effort Band
Korosensor Com, Inc.	Howard Lake	Wright	NIH	2005	\$398,495	Smart Seal Ostomy Appliance
Korosensor Com, Inc.	Howard Lake	Wright	NIH	2009	\$133,531	Diabetic Foot Imaging Scanner(DFIS)
Korosensor Com, Inc.	Howard Lake	Wright	MINNESOTA	2010	\$148,109	Foot Infrared Rolling Scan Transducer (FIRST)
Korosensor Com, Inc.	Howard Lake	Wright	MINNESOTA	2010	\$148,540	Self-Sealing Therapy Ostomy Pouch (S2TOP)
Leanics Corp.	Maple Grove	Hennepin	DOD, Navy	2006	\$69,977.00	Tactical Secure Voice / Variable Data Rate Inter Working Function
Leanics Corp.	Maple Grove	Hennepin	DOD, Navy	2008	\$750,000.00	Tactical Secure Voice / Variable Data Rate Inter Working Function
Mechmath LLC	Prior Lake	Scott	DOD, Navy	2005	\$69,858.00	In-Situ and Temporary Augmentation of Ship Hull Forms
Mechmath LLC	Prior Lake	Scott	DOD, Navy	2007	\$599,882.00	In-Situ and Temporary Augmentation of Ship Hull Forms
Mechmath LLC	Prior Lake	Scott	DOD, Navy	2006	\$69,991.00	Waterjet Wake Characterization Suite
Medisyn Tech., Inc.	Minnetonka	Hennepin	DOD, Army	2007	\$69,999.00	Development of Improved Therapeutics for Local Systemic Inflammation
MEI Research	Minneapolis	Hennepin	USDA	2008	\$79,815.00	Free Living Energy Balance Assessment
MEI Research	Minneapolis	Hennepin	USDA	2009	\$345,276.00	Free Living Energy Balance Assessment
MEI Research, LTD	Eden Prairie	Hennepin	HHS	2009	\$357,159.00	Systems Engineering Design
MEI Research, LTD	Eden Prairie	Hennepin	NIH	2009	\$357,159	Systems Engineering Design of Room Respiration Calorimeters
Microsurfaces, Inc.	Minneapolis	Hennepin	NSF	2008	\$100,000.00	Screening of Multivalent Drugs and Nanomedicine
Microsurfaces, Inc.	Minneapolis	Hennepin	HHS	2008	\$100,000.00	Cell Mimic MicroArrays
Microsurfaces, Inc.	Minneapolis	Hennepin	NIH	2005	\$370,094	Oriented Protein Microarray for Functional Studies
Microsurfaces, Inc.	Minneapolis	Hennepin	NIH	2008	\$100,000	Cell Mimic Microarrays for Multivalent Pathogen Characterization & Detection
Milbert Engineering, Inc.	Saint Paul	Ramsey	DOD, Army	2005	\$69,823.00	Geographically Enabled Augmented Reality System
Milbert Engineering, Inc.	Saint Paul	Ramsey	DOD, Army	2006	\$729,605.00	Geographically Enabled Augmented Reality System
Minnesota Health Solutions Corp.	Saint Paul	Ramsey	HHS	2007	\$100,000.00	Electric Lower Anchor Tether Winch
Minnesota Wire and Cable Co.	Falcon Heights	Ramsey	DOD, AF	2005	\$749,696.00	Wiring System In-Situ Health Monitoring Diagnostics
Minnesota Wire and Cable Co.	Saint Paul	Ramsey	DOD, AF	2006	\$99,783.00	Fatigue Resistant Wire for Airborne Applications
Minnesota Wire and Cable Co.	Saint Paul	Ramsey	DOD, AF	2007	\$749,860.00	Fatigue Resistant Wire for Airborne Applications
Minnesota Wire and Cable Co.	Saint Paul	Ramsey	DOD, Army	2007	\$69,949.00	Rapid Expansion Supercritical Solution
Minnesota Wire and Cable Co.	Saint Paul	Ramsey	DOD, Army	2008	\$729,999.00	Rapid Expansion Supercritical Solution

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
MRI Robotics, LLC		Ramsey	NIH	2008	\$151,740	MRI-GUIDED ROBOTIC BREAST CANCER INTERVENTIONS
MSI (Microsurfaces Inc)	Saint Anthony	Anoka	NSF	2005	\$500,000.00	Membrane Protein Microarrays
MSP Corp.	Shoreview	Ramsey	DOD, AF	2006	\$100,000.00	System to Characterize Particle Emissions from Gas Turbine Engines
Muve, Inc.		Hennepin	MINNESOTA	2010	\$96,998	Bioengineering Approaches to Energy Balance and Obesity
Mytek, LLC	Maple Grove	Hennepin	DOD, Navy	2005	\$69,724.00	Ruggedized Multifunction Fiber-Optic Transceiver Optical Subassembly
Mytek, LLC	Maple Grove	Hennepin	DOD, DARPA	2007	\$98,851.00	High Speed Coupled Cavity
Mytek, LLC	Plymouth	Hennepin	NSF	2007	\$99,994.00	Extended Performance RED VCSELS
Mytek, LLC	Plymouth	Hennepin	NSF	2008	\$485,794.00	Extended Performance RED VCSELS
Mytek, LLC	Plymouth	Hennepin	NSF	2008	\$99,456.00	Integrated Lens Laser Packaging Approach
Mytek, LLC	Plymouth	Hennepin	NSF	2009	\$500,000.00	Integrated Lens Laser Packaging Approach
Mytek, LLC	Plymouth	Hennepin	HHS	2008	\$116,492.00	Laser Scanning Technology for Computing Radiography
Mytek, LLC	Plymouth	Hennepin	NSF	2009	\$100,000.00	Wide Turning Range VCSEL
Mytek, LLC	Plymouth	Hennepin	NIH	2008	\$116,492	Novel Laser Scanning Technology for Computed Radiography
Mytek, LLC	Plymouth	Hennepin	MINNESOTA	2010	\$528,016	Novel Laser Scanning Technology for Computed Radiography
Nanocopeia, Inc.	Saint Paul	Ramsey	NSF	2005	\$99,834.00	Nanocomposite Coating on Coronary Stents
Nanocopeia, Inc.	Saint Paul	Ramsey	NSF	2006	\$499,539.00	Nanocomposite Coating on Coronary Stents
Nanocopeia, Inc.	Saint Paul	Ramsey	HHS	2005	\$261,033.00	Electrospraying Nanoparticle Coatings on Stents
Nanocopeia, Inc.	Saint Paul	Ramsey	NSF	2007	\$99,942.00	Electronanospray Process for Nanoformulating Drugs
Nanocopeia, Inc.	Saint Paul	Ramsey	NSF	2009	\$477,090.00	Electronanospray Process for Nanoformulating Drugs
Nanocopeia, Inc.	Saint Paul	Ramsey	NIH	2005	\$261,033	Electrospraying Nanoparticle Coatings on Stents
Northern Lights Semiconductor Corp.	Plymouth	Hennepin	NSF	2007	\$99,403.00	Magnetoresistive Device for THz-u W Computing
Northern Tech. Intern. Corp.	Circle Pines	Anoka	NSF	2009	\$150,000.00	Advanced Poly(lactide) Materials
Novel Sensor Tech. Inc.	Saint Paul	Ramsey	HHS	2009	\$100,000.00	Objective Assessment Instrumentation
Novel Sensor Tech. Inc.	Saint Paul	Ramsey	NIH	2009	\$100,000	Objective Assessment Instrumentation for Manual Therapy Techniques
Nve Corp.	Eden Prairie	Hennepin	DOD, DARPA	2005	\$520,099.00	Model Guided Development of Spin-Dependent-Tunnel Junction
Nve Corp.	Eden Prairie	Hennepin	DOD, DARPA	2005	\$799,978.00	Magnetic Sensors for Submarine Detection
Nve Corp.	Eden Prairie	Hennepin	DOD, Army	2005	\$119,990.00	Magnetic Anti-Tamper Sensor
Nve Corp.	Eden Prairie	Hennepin	DOD, Army	2006	\$729,983.00	Magnetic Anti-Tamper Sensor

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A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Nve Corp.	Eden Prairie	Hennepin	DOD, Navy	2005	\$69,994.00	Novel Materials for Ultra-Sensitive Low Frequency Magnetometers
Nve Corp.	Eden Prairie	Hennepin	DOD, Navy	2007	\$497,280.00	Novel Materials for Ultra-Sensitive Low Frequency Magnetometers
Nve Corp.	Eden Prairie	Hennepin	NASA	2006	\$69,980.64	Configurable Radiation Hardened High Speed Isolated Interface
Nve Corp.	Eden Prairie	Hennepin	DOD, MDA	2006	\$99,998.00	Securely Configurable Gate Arrays Utilizing Anti-Tampering Memory
Nve Corp.	Eden Prairie	Hennepin	DOD, OSD	2006	\$99,998.00	Zero-Remanence Anti-Tamper Cryptokey Storage Device
Nve Corp.	Eden Prairie	Hennepin	DOD, OSD	2008	\$750,000.00	Zero-Remanence Anti-Tamper Cryptokey Storage Device
Nve Corp.	Eden Prairie	Hennepin	NSF	2006	\$99,946.00	High Resolution Spintronic Sensors for Bioassay Analyzers
Nve Corp.	Eden Prairie	Hennepin	NSF	2006	\$99,735.00	Zero-remanence Tamper Responsive Cryptokey Memory
Nve Corp.	Eden Prairie	Hennepin	NSF	2007	\$499,809.00	Zero-remanence Tamper Responsive Cryptokey Memory
Nve Corp.	Eden Prairie	Hennepin	NASA	2006	\$99,991.00	Wireless Magnetic Sensor
Nve Corp.	Eden Prairie	Hennepin	DOD, MDA	2007	\$99,986.00	Radiation Hard Anti Tamper Magnetic Patch Memory
Nve Corp.	Eden Prairie	Hennepin	DOD, MDA	2007	\$99,998.00	Passive Anti Tamper Latching Stress Sensors for Volume Protection
Nve Corp.	Eden Prairie	Hennepin	DOD, MDA	2008	\$992,687.00	Passive Anti Tamper Latching Stress Sensors for Volume Protection
Nve Corp.	Eden Prairie	Hennepin	NASA	2007	\$99,987.00	Magnetic Logic Circuits
Nve Corp.	Eden Prairie	Hennepin	DOD, Navy	2008	\$69,851.00	Low Profile Magnetic Shielding
Nve Corp.	Eden Prairie	Hennepin	DOD, AF	2009	\$99,898.00	Miniaturized Thermocouple Scanner
Orlin Research, Inc.	Minneapolis	Hennepin	HHS	2007	\$99,934.00	Population and Health Data Manager
Orlin Research, Inc.	Minneapolis	Hennepin	HHS	2008	\$727,187.00	Population and Health Data Manager
Orlin Research, Inc.	Minneapolis	Hennepin	NIH	2007	\$99,934	Population and Health Data Manager
Orlin Research, Inc.	Minneapolis	Hennepin	NIH	2008	\$393,822	Population and Health Data Manager
Orlin Research, Inc.	Minneapolis	Hennepin	NIH	2009	\$333,367	Population and Health Data Manager
Par Systems	Shoreview	Ramsey	DOD, Navy	2006	\$69,686.00	New Approaches to Shipbuilding Finishing and Assembly Operations
Par Systems	Shoreview	Ramsey	DOD, AF	2007	\$99,840.00	Terminally Guided Robots and Robotic Applications
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	HHS	2006	\$581,590.00	Vanadocenes as a New Class of Spermicidal drugs
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	HHS	2005	\$100,000.00	Stampidine: A Novel Broad-Spectrum Anti-HIV Microbicide
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	HHS	2005	\$100,000.00	Formulation of dosage of the anti-HIV agent, DDE113

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	NIH	2005	\$100,000	Stampidine: A Novel Broad-Spectrum Anti-HIV Microbicide
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	NIH	2005	\$100,000	Formulation of dosage of the anti-HIV agent, DDE113
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	NIH	2005	\$378,050	LFM-A13: An antileukemic/antithrombotic agent
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	NIH	2005	\$378,654	Phase II SBIR: WHI-07: A Novel Dual-Function Microbicide
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	NIH	2006	\$293,876	VANADOCENES AS A NEW CLASS OF SPERMICIDAL DRUGS
Paradigm Pharmaceuticals, LLC	Roseville	Ramsey	NIH	2007	\$287,714	VANADOCENES AS A NEW CLASS OF SPERMICIDAL DRUGS
Phygen	Minneapolis	Hennepin	HHS	2006	\$1,668,323.00	Development of a High Efficiency Plasma Sterilizer
Phygen Inc.	Minneapolis	Hennepin	DOD, Navy	2006	\$79,718.00	Advanced Blade-Damping Coatings
Phygen Inc.	Minneapolis	Hennepin	DOD, Navy	2008	\$263,865.00	Advanced Blade-Damping Coatings
Phygen Inc.	Minneapolis	Hennepin	DOD, Navy	2006	\$70,000.00	Field Medical Sterilizer to be used in Austere Environments
Phygen Inc.	Minneapolis	Hennepin	DOD, Navy	2008	\$550,000.00	Field Medical Sterilizer to be used in Austere Environments
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2006	\$99,887	Real-time Characterization of Inhaler Doses
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2007	\$397,223	Nanoparticle Generator for Animal Inhalation Experiments
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2007	\$471,175	Airborne Nanoparticles for Therapeutic Applications
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2008	\$351,355	Nanoparticle Generator for Animal Inhalation Experiments
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2008	\$380,673	Airborne Nanoparticles for Therapeutic Applications
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2009	\$302,674	Airborne Nanoparticles for Therapeutic Applications
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2009	\$368,711	Real-time Characterization of Inhaler Doses
Powerscope, Inc.	Minneapolis	Hennepin	MINNESOTA	2010	\$381,289	Real-time Characterization of Inhaler Doses
Powerscope, Inc.	Minneapolis	Hennepin	HHS	2007	\$1,154,522.00	Airborne Nanoparticles for Therapeutic Applications
Powerscope, Inc.	Minneapolis	Hennepin	HHS	2005	\$100,000.00	Nanoparticle Generator for Animal Inhalation Experiments
Powerscope, Inc.	Minneapolis	Hennepin	HHS	2007	\$748,578.00	Nanoparticle Generator for Animal Inhalation Experiments
Powerscope, Inc.	Minneapolis	Hennepin	NSF	2006	\$99,587.00	Sensor/Controller for Submicron Fiberizing Processes
Powerscope, Inc.	Minneapolis	Hennepin	HHS	2006	\$99,887.00	Real Time Characterization of Inhaler Doses
Powerscope, Inc.	Minneapolis	Hennepin	HHS	2009	\$750,000.00	Real Time Characterization of Inhaler Doses
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2005	\$100,000	Nanoparticle Generator for Animal Inhalation Experiments
Powerscope, Inc.	Minneapolis	Hennepin	NIH	2005	\$200,000	Airborne Nanoparticles for Therapeutic Applications

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Primordial, Inc.	Saint Paul	Ramsey	DOD, Army	2007	\$69,999.00	Ground Guidance: Low Cost Tactical and Logistical Routing
Primordial, Inc.	Saint Paul	Ramsey	DOD, Army	2009	\$719,274.00	Ground Guidance: Low Cost Tactical and Logistical Routing
Primordial, Inc.	Saint Paul	Ramsey	DOD, Navy	2009	\$69,490.00	Objective Live-Training Infantry Performance Metrics
Promet International, Inc.	Shoreview	Ramsey	DOD, Navy	2009	\$79,601.00	fiber Optic Connector Inspection Test Kit
QRDC, Inc.	Excelsior	Hennepin	DOD, OSD	2009	\$100,000.00	Performance Analysis System
Quality Research Dev. & Consult.	Chaska	Carver	DOE	2006	\$99,978.00	Intelligently Vibrating Dewatering Machinery
Quality Research Dev. & Consult.	Chaska	Carver	DOE	2007	\$749,921.00	Intelligently Vibrating Dewatering Machinery
RateScan	Lake Elmo	Washington	NSF	2009	\$150,000.00	Sensing Technology for Cell Tracking in Suspension
Red Wing Tech., Inc.	Eagan	Dakota	DOD, DARPA	2009	\$427,636.00	Non-Intrusive Health Monitoring System
Red Wing Tech., Inc.	Eagan	Dakota	NIH	2005	\$82,112	Non-Intrusive Monitoring of High Functioning Elderly
Redphone Security	Saint Paul	Ramsey	DOD, Navy	2006	\$69,999.00	Cross-Domain RSS Processor and Router
Redphone Security	Saint Paul	Ramsey	DOD, Navy	2008	\$583,825.00	Cross-Domain RSS Processor and Router
Remmele Engineering, Inc.	New Brighton	Ramsey	DOD, AF	2006	\$99,997.00	Friction Stir Welded Aluminum Machining Preforms
ROI.com, Inc.	Minneapolis	Hennepin	ED	2006	\$96,000.00	Educational Scorecard
Ross-Hime Designs, Inc.	Minneapolis	Hennepin	DOD, Army	2006	\$69,974.00	Lightweight Low Cost Seeker Gimbals
Ross-Hime Designs, Inc.	Minneapolis	Hennepin	DOD, Army	2008	\$305,973.00	Lightweight Low Cost Seeker Gimbals
Ross-Hime Designs, Inc.	Minneapolis	Hennepin	NSF	2008	\$99,965.00	Dexterous Maching Head
Ross-Hime Designs, Inc.	Minneapolis	Hennepin	DOD, AF	2009	\$99,961.00	Communications on the Move Antenna Pointing & Stabilization
RST Implanted Cell Technology, Inc.		Ramsey	NIH	2006	\$100,000	Interaction between islets and implantable immunoisolation polyurethane membranes
Salo It Solutions, Inc.	Minneapolis	Hennepin	DOC	2007	\$94,796.00	ALERT 2 Protocol Development
Salo It Solutions, Inc.	Saint Paul	Ramsey	DOD, AF	2005	\$99,995.00	An Extensible QoS Framework for Secure Tactical Networks
SarTec Corp.	Anoka	Anoka	USDA	2006	\$80,000.00	Elimination of Pathogens from Livestock
SarTec Corp.	Anoka	Anoka	USDA	2008	\$80,000.00	Ultrafast Continuous Biodiesel Production
SarTec Corp.	Anoka	Anoka	USDA	2009	\$350,000.00	Ultrafast Continuous Biodiesel Production
SarTec Corp.	Anoka	Anoka	DOE	2009	\$100,000.00	System for the Sequestration & Conversion of CO2
Seward InCorp.ed	Minneapolis	Hennepin	ED	2005	\$500,000.00	Teaching Reading Comprehension Strategies
Seward, InCorp.ed	Minneapolis	Hennepin	ED	2007	\$100,000.00	The First 4000 Words

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Seward, InCorp.ed	Minneapolis	Hennepin	ED	2007	\$750,000.00	The First 4000 Words
Seward, InCorp.ed	Minneapolis	Hennepin	ED	2008	\$100,000.00	Individualized Language Development
Seward, InCorp.ed	Minneapolis	Hennepin	ED	2008	\$100,000.00	Building Model Eliciting Activities in Middle Grades
Seward, InCorp.ed	Minneapolis	Hennepin	ED	2009	\$100,000.00	Word Learning Strategies
Seward, InCorp.ed	Minneapolis	Hennepin	ED	2009	\$750,000.00	Word Learning Strategies
Shepherd Medical Company		Hennepin	NIH	2005	\$410,140	A new male contraceptive: the Intra Vas Device
Shepherd Medical Company		Hennepin	NIH	2006	\$209,893	A new male contraceptive: the Intra Vas Device
Sift, LLC	Minneapolis	Hennepin	NASA	2006	\$69,989.00	An Automated Evaluation and Critiquing Aid
Sift, LLC	Minneapolis	Hennepin	NASA	2007	\$598,133.00	An Automated Evaluation and Critiquing Aid
Sift, LLC	Minneapolis	Hennepin	NASA	2009	\$99,984.00	SAFE - P System for Assurance of Flight Executable Procedures
Silicon Informatics, Inc.	Edina	Hennepin	DOD, Army	2010	\$99,965.00	Random Number Generation for Computing
Simulation, Inc.	Shakopee	Scott	DOD, OSD	2006	\$749,760.00	Fractured Femur Simulator
Simulation, Inc.	Prior Lake	Scott	DOD, Army	2005	\$69,954.00	Integrated Lower Extremity Trauma Simulator
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, AF	2005	\$99,488.00	Cultural Etiquette and Its Impact on Directive Human Performance
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, AF	2006	\$748,951.00	Cultural Etiquette and Its Impact on Directive Human Performance
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, Navy	2005	\$69,953.00	Plan Understanding and Mission Assessment
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, Army	2006	\$69,896.00	Delegation in LoA3 Space
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, Army	2008	\$729,961.00	Delegation in LoA3 Space
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, DARP	2007	\$98,386.00	Extremely Low Attention Demand Information Systems
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, DARP	2009	\$734,041.00	Extremely Low Attention Demand Information Systems
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, DARP	2007	\$98,994.00	Kulit- A Workflwo for High Resolution Communications
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, OSD	2007	\$99,995.00	Interactive Phrasebook
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, OSD	2008	\$99,996.00	Sensing Using Physical and Phychological Observations
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, OSD	2009	\$98,644.00	GRASP: Global Recognition of Attacker Signatures
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, Navy	2009	\$69,094.00	Interface Management
Smart Information Flow Tech.	Minneapolis	Hennepin	DOD, AF	2009	\$96,206.00	Concepts for the Integrated Visualization of Effects
Spinnaker Semiconductor	Eden Prairie	Hennepin	DOD, MDA	2006	\$99,994.00	Red-Hard 20 Msps 14 bit Analog to Digital Converter
Sterilucent, Inc.		Hennepin	NIH	2006	\$880,589	Development of a High Efficiency Plasma Sterilizer

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Sterilucent, Inc.		Hennepin	NIH	2007	\$787,734	Development of a High Efficiency Plasma Sterilizer
SunnyTech	Mounds View	Ramsey	NSF	2006	\$99,575.00	Low Cost Hydrogen and Carbon Black Co-Production
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, MDA	2006	\$500,000.00	Passivation of InAs/GaN Sb Superlattices
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2005	\$99,994.00	Highly Polarized Photocathodes via Minimization of Spin Relaxation
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2005	\$119,784.00	AllInGaN-based Transistors for Advanced Applications
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2006	\$728,079.00	AllInGaN-based Transistors for Advanced Applications
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2005	\$119,754.00	ZnO Based Light Emitters for UV/Blue Applications
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2006	\$729,689.00	ZnO Based Light Emitters for UV/Blue Applications
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2005	\$69,788.00	Phased Array Antennas on Large Area Substrates
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2005	\$99,922.00	High Power IMPATT-Mode AlGaN/GaN HFETs for mm Wave App.
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2006	\$749,998.00	High Power IMPATT-Mode AlGaN/GaN HFETs for mm Wave App.
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Navy	2006	\$78,872.00	Advanced Fabrication Techniques for High Yield GaAsP
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2006	\$66,464.00	Pulsed Single Frequency MOPA Laser
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2006	\$69,791.81	High-Sensitivity Semiconductor Photocathodes
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2006	\$69,773.00	High-Performance Type II Superlattice LWIR
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, Army	2008	\$773,407.00	High-Performance Type II Superlattice LWIR
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, AF	2006	\$99,741.00	Next Generation Solar Cells Based on Nanostructures
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, MDA	2006	\$99,959.00	Improvement of Type II Superlattices by H-Plasma
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, MDA	2007	\$750,000.00	Improvement of Type II Superlattices by H-Plasma
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, AF	2006	\$99,741.00	Cost Effective Manufacturing of Device Quality Large Diameter InSb
SVT Assoc. Inc.	Eden Prairie	Hennepin	NSF	2006	\$99,757.00	Self-Limited Method to Improve Gas Selectivity
SVT Assoc. Inc.	Eden Prairie	Hennepin	NSF	2006	\$99,997.00	High Efficiency, Wide Bandgap Photocathodes for Solar Blind UV
SVT Assoc. Inc.	Eden Prairie	Hennepin	NSF	2006	\$99,966.00	Enhanced P-Type Doping of ZnO by Band Gap Engineering
SVT Assoc. Inc.	Eden Prairie	Hennepin	NSF	2006	\$99,912.00	Novel Encapsulation Process for Organic Light Emitting Diodes
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2006	\$99,989.00	Robust GaN Based Photocathodes
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2006	\$99,981.00	Method to Improve Performance of Hydrogen Silica Membranes
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2006	\$99,942.00	Large Area Robust GaN Based Photocathodes

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2007	\$748,796.00	Large Area Robust GaN Based Photocathodes
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, DARPA	2007	\$97,396.00	High Efficiency, Multi-Junction Photovoltaics
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOD, MDA	2007	\$99,030.00	Advanced MWIR/LWIR Multi Spectral Detectors
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2007	\$99,934.00	Biodegradable Long Shelf Life Food Packaging Materials
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2007	\$99,484.00	High Performance Dual Band Photodetector Array
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2008	\$599,371.00	High Performance Dual Band Photodetector Array
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2007	\$99,933.00	High Polarization and Robustness Antimonide Based Superlattice
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2007	\$99,819.00	High Polarization Peak Current Compositionally Graded Superlattice
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2008	\$749,532.00	High Polarization Peak Current Compositionally Graded Superlattice
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2008	\$99,916.00	Advanced Coating Technology
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2008	\$99,999.63	Integrated Production of Ultra Low Defect GaN Films
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2009	\$599,970.00	Integrated Production of Ultra Low Defect GaN Films
SVT Assoc. Inc.	Eden Prairie	Hennepin	NASA	2009	\$99,972.00	GaN Based Low Voltage Avalanche Photodiodes
SVT Assoc. Inc.	Eden Prairie	Hennepin	NSF	2009	\$149,122.00	Epitaxial Nanostructured AlGaIn for High Efficiency
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2009	\$99,910.00	Robust GaN Based Photocathodes
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2009	\$99,822.00	Advanced Coating Technology
SVT Assoc. Inc.	Eden Prairie	Hennepin	DOE	2009	\$99,826.00	High-Detectivity Very Long Wavelength Superlattice
Syntiron, LLC	Saint Paul	Ramsey	HHS	2006	\$200,462.00	Salmonella Vaccination with Iron-Regulated Membrane Proteins
Syntiron, LLC	Saint Paul	Ramsey	HHS	2007	\$466,235.00	Yersinia Membrane Proteins
Syntiron, LLC	Saint Paul	Ramsey	HHS	2008	\$394,607.00	Iron Regulated Proteins
Syntiron, LLC	Saint Paul	Ramsey	NIH	2006	\$145,605	Salmonella vaccination with iron-regulated membrane proteins
Syntiron, LLC	Saint Paul	Ramsey	NIH	2007	\$225,108	Yersinia membrane proteins as vaccine candidates
Syntiron, LLC	Saint Paul	Ramsey	NIH	2007	\$54,857	Salmonella vaccination with iron-regulated membrane proteins
Syntiron, LLC	Saint Paul	Ramsey	NIH	2008	\$185,787	Staphylococcus aureus iron-regulated proteins as vaccine candidates
Syntiron, LLC	Saint Paul	Ramsey	NIH	2008	\$241,127	Yersinia membrane proteins as vaccine candidates
Syntiron, LLC	Saint Paul	Ramsey	NIH	2008	\$265,148	Novel immunoprophylactic agents against Staphylococcus aureus
Syntiron, LLC	Saint Paul	Ramsey	NIH	2009	\$208,820	Staphylococcus aureus iron-regulated proteins as vaccine candidates
Syntiron, LLC	Saint Paul	Ramsey	NIH	2009	\$300,000	Novel immunoprophylactic agents against Staphylococcus aureus

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Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
T3 Scientific LLC	Arden Hills	Ramsey	NASA	2005	\$70,000.00	Novel Composite Membrane for Space Life Supporting System
T3 Scientific LLC	Arden Hills	Ramsey	NASA	2006	\$70,000.00	Novel Foul-Resistant Nano-Pervaporation Membrane
T3 Scientific LLC	Arden Hills	Ramsey	DOE	2008	\$100,000.00	Sulfur Resistant Ultrathin Dense Membrane
T3 Scientific LLC	Saint Paul	Ramsey	NSF	2009	\$150,000.00	Sub-10 nm Protective Coating
T3 Scientific LLC	Arden Hills	Ramsey	DOE	2010	\$100,000.00	High Surface Area to Volume Membrane
Third Wave Systems	Minneapolis	Hennepin	DOD, DLA	2007	\$99,944.00	High Quality High Productivity Composite and Multilayer Drilling
Third Wave Systems	Minneapolis	Hennepin	DOD, DLA	2009	\$968,926.00	High Quality High Productivity Composite and Multilayer Drilling
Third Wave Systems, Inc.	Edina	Hennepin	DOD, AF	2005	\$750,000.00	Enabling Materials Processing Technology
Third Wave Systems, Inc.	Edina	Hennepin	DOD, Navy	2008	\$2,869,746.00	High-Speed Machining of Thin-Web, Large Pocket Aircraft Components
Third Wave Systems, Inc.	Minneapolis	Hennepin	DOD, Army	2006	\$70,000.00	Innovative Computer-Aided Manufacturing
Third Wave Systems, Inc.	Minneapolis	Hennepin	DOD, Navy	2006	\$150,000.00	Improved Loaded Core Milling Process
Third Wave Systems, Inc.	Minneapolis	Hennepin	DOD, MDA	2007	\$99,992.00	Freeform Optical Systems
Third Wave Systems, Inc.	Minneapolis	Hennepin	DOD, MDA	2009	\$750,000.00	Freeform Optical Systems
Third Wave Systems, Inc.	Minneapolis	Hennepin	DOD, Navy	2008	\$70,000.00	conformal Sensor Window
Third Wave Systems, Inc.	Minneapolis	Hennepin	DOD, Navy	2008	\$70,000.00	Improved Extrusion and Milling Techniques
Third Wave Systems, Inc.	Minneapolis	Hennepin	DOD, DLA	2009	\$100,000.00	Low Cost Machining of Nickel Alloys
TLC Precision Wafer Tech. Inc.	Minneapolis	Hennepin	DOD, AF	2005	\$99,929.00	Novel Integrated X-Band and Ku-Band Voltage Controlled Oscillator
TLC Precision Wafer Tech. Inc.	Minneapolis	Hennepin	DOD, MDA	2006	\$99,999.00	Reconfigurable RF/Digital/Photonic Mix-Mode T/R MMICs Series
TLC Precision Wafer Tech. Inc.	Minneapolis	Hennepin	NASA	2007	\$99,932.00	Xband to Wband Doppler Radar
Twin Star Medical	Minneapolis	Hennepin	HHS	2005	\$2,152,851.00	Treatment of Cerebral Edema using Ventricular Therapy
Twin Star Medical	Minneapolis	Hennepin	NIH	2005	\$1,522,322	Treatment of Cerebral Edema using Ventricular Therapy
Twin Star Medical	Minneapolis	Hennepin	NIH	2006	\$49,763	Treatment of Cerebral Edema using Ventricular Therapy
Twin Star Medical	Minneapolis	Hennepin	NIH	2006	\$630,529	Treatment of Cerebral Edema using Ventricular Therapy
Twin Star Medical	Minneapolis	Hennepin	NIH	2008	\$410,962	Hollow Fiber Catheter for Drug Delivery into the Brain
Twin Star Medical	Saint Paul	Ramsey	HHS	2008	\$410,962.00	Hollow Fiber Catheter
United Science LLC	Center City	Chisago	NSF	2009	\$99,900.00	Selective Chemical Probes for Measurement of Flotation Collector
Wilson Wolf Man. Corp.	Arden Hills	Ramsey	HHS	2008	\$802,501.00	Islet Culture, Shipping and Infusion Device
Wilson Wolf Man. Corp.	New Brighton	Ramsey	HHS	2006	\$122,649.00	Highly Efficient Gas Permeable Cell Culture Devices

Note: SBIR/STTR Awards totaled from the following government agencies: DHS, DOC, DOD, DOE, DOI, DOT, ED, EPA, HHS, HUD, NASA, NIH, NIST, NRC, NSF, and USDA

Source: Small Business Administration Tech-Net; National Institute of Health

A. 7 (Continued) - SBIR/STTR Awards in the Minneapolis Saint Paul MSA, 2005 – 2010

Firm Name	City	County	Agency	Year	Award Amount (\$)	Purpose
Wilson Wolf Man. Corp.	Arden Hills	Ramsey	NIH	2005	\$510,760	Islet culture, shipping, and infusion device
Wilson Wolf Man. Corp.	Arden Hills	Ramsey	NIH	2005	\$62,500	Islet culture, shipping, and infusion device
Wilson Wolf Man. Corp.	New Brighton	Ramsey	NIH	2006	\$122,649	Highly efficient gas permeable cell culture devices
Wilson Wolf Man. Corp.	Arden Hills	Ramsey	NIH	2008	\$1,109,370	Islet culture, shipping, and infusion device
Wilson Wolf Man. Corp.	Arden Hills	Ramsey	NIH	2009	\$1,184,237	Islet culture, shipping, and infusion device
Wilson Wolf Man. Corp.	Arden Hills	Ramsey	NIH	2010	\$1,471,353	Islet culture, shipping, and infusion device
Zichrom Separations, Inc.	Andover	Anoka	HHS	2005	\$708,899.00	Surface Modified Zircornia as Chiral Stationary Phases
Zichrom Separations, Inc.	Andover	Anoka	NIH	2005	\$360,373	Surface Modified Zirconia as Chiral Stationary Phases
Zichrom Separations, Inc.	Andover	Anoka	NIH	2006	\$348,525	Surface Modified Zirconia as Chiral Stationary Phases

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