



# 5

## ECONOMIC DEVELOPMENT

### *BACKGROUND INFORMATION*



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## INTRODUCTION

A strong, diversified economy in Madison and the surrounding region is critical to the well being of the residents of the City and Wisconsin. Madison’s unique economic advantages – a world-class research and teaching university, the center of State government, and a beautiful natural environment – have provided the City with strong roots from which to grow into an innovative, healthy, and sustainable “new” economy in the 21st century.

In today’s global economy of telecommunications and Internet markets, the location where businesses choose to start-up, or expand is still important, although for different reasons. Now and in the future, a community’s attractiveness to a talented and diverse workforce, ideas, and innovation, and its adoption of new technology will be the key factors in its economic success.

The City’s Comprehensive Plan is based on a clear understanding of the desired economic future for the City and the region, providing places and support for the location of economic activity while at the same time protecting and enhancing the quality of life so central to its competitive advantage.

## EMPLOYMENT

In 2000, the number of people aged 16 and older in the City of Madison that were a part of the labor force reached 128,050, approximately 73 percent of the total population. Of the 128,050 members of the labor force, 121,828 are considered part of the civilian population. Table 1 shows the number of employees working within each occupation category.

Occupation	Number of Employees	Percentage Employees
Management, professional, and related occupations	57,139	46.9
Service occupations	17,217	14.1
Sales and office occupations	31,276	25.7
Farming, fishing, and forestry occupations	243	0.2
Construction, extraction, and maintenance occupations	5,406	4.4
Production, transportation, and material moving occupations	10,547	8.7
Total	121,828	100

Source: U.S. Census 2000



A comparison of employment by major industry sectors for 1990 and 2000 and for Dane County and Madison is shown in Figure 1. The Services sector has the most employment, followed by the Retail Trade and FIRE (finance, insurance and real estate) industry sectors. The Services sector includes a broad range of economic activities; in Madison, the leading sub sectors are Health Care Services and Business Services. From 1990 to 2000, employment in Dane County’s Services sector increased 40.6 percent, and employment in Madison’s Services sector increased 34.6 percent. (Table 2)

From 1990 to 2000, employment in Dane County’s Manufacturing sector increased 138 percent, growing to about 10 percent of all County employment, while employment in Madison’s Manufacturing sector decreased by 1.4 percent. In part, this trend reflects the departure of Madison’s Manufacturing employment to other parts of Dane County and beyond. Even with the loss of employment, however, manufacturing is still an important sector of the City’s economy, as it comprises 8 percent of overall employment.

These employment trends are similar to many other urban areas in the country where services employment has been increasing more than other sectors and manufacturing employment has been decreasing over the past 10 to 15 years. Many manufacturing firms have been reducing positions as they are continuing to rely more heavily on computer technology for production, and they are also continuing to move jobs overseas to countries with lower labor costs.

**Figure 1 – City of Madison and Dane County Employment by Industry 1990 – 2000 (1990 & 2000 Census)**

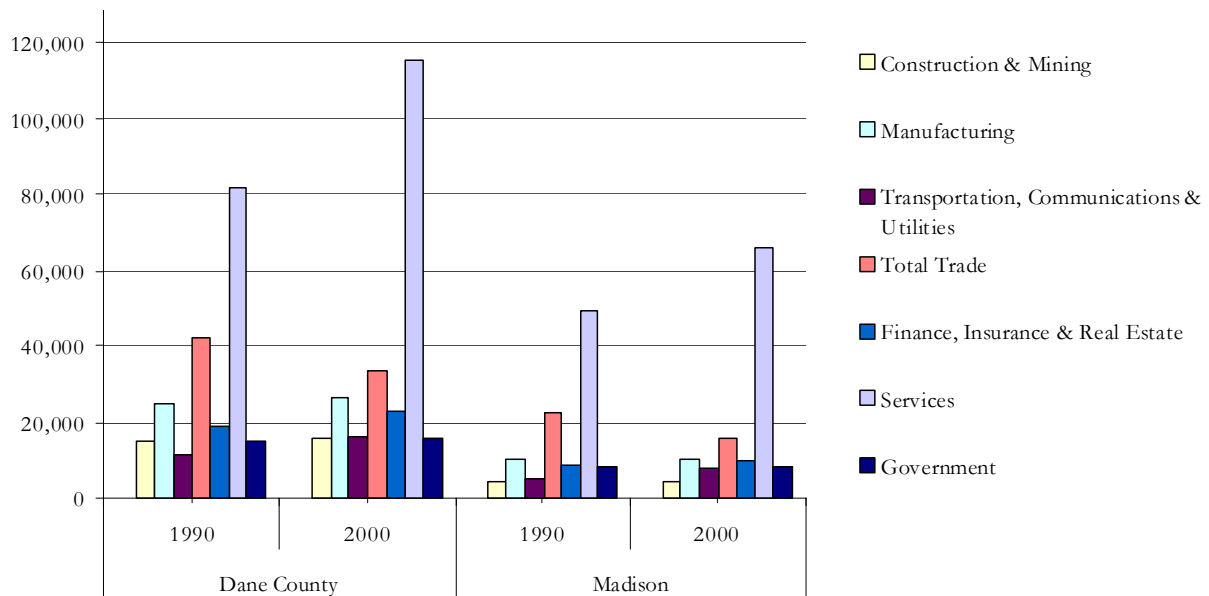




Table 2 – City of Madison and Dane County Employment by Industry

Industry Groups	Dane County					Madison				
	1990	% Total	2000	% Total	% Change '90-'00	1990	% Total	2000	% Total	% Change '90-'00
Construction & Mining	14,603	7.0%	15,572	6.3%	6.6%	4,272	3.9%	4,295	3.5%	0.5%
Manufacturing	11,100	5.3%	26,418	10.6%	138.0%	10,365	9.6%	10,221	8.4%	-1.4%
Transportation, Communications & Utilities	25,024	11.9%	15,988	6.4%	-36.1%	5,297	4.9%	7,775	6.4%	46.8%
Total Trade	42,232	20.1%	33,690	13.6%	-20.2%	22,254	20.6%	15,741	12.9%	-29.3%
Finance, Insurance & Real Estate	18,798	8.9%	22,755	9.2%	21.1%	8,795	8.1%	9,785	8.0%	11.3%
Services	81,483	38.8%	115,666	46.6%	42.0%	48,963	45.2%	65,917	54.1%	34.6%
Government	14,829	7.1%	15,975	6.4%	7.7%	8,338	7.7%	8,094	6.6%	-2.9%
Totals	210,059	--	248,064	--	--	108,284	--	121,828	--	--

Source: U.S. Census 1990 and 2000

Table 3 – City of Madison and Dane County Employment Projections: 2000-2030 (based on place of work)

	Employment			Forecast	Change		
	1980	1990	2000	2030	2000-2030 Amount	2000-2030 Percent	2000-2030 Annual %
City of Madison	N.A.	166,340	186,550	246,000	59,450	31.9%	1.06%
Dane County	170,000	231,000	285,000	382,600	97,600	34.3%	1.14%
City as % of County	N.A.	72.0%	65.5%	64.3%			

Source: U.S. Bureau of the Census, Wisconsin Department of Administration, Dane County Regional Planning Commission, and the Madison Area MPO.

Madison’s total employment is projected to increase by 31.9 percent from 2000 to 2030, compared to Dane County’s total employment, which is projected to increase by 34.3 percent.

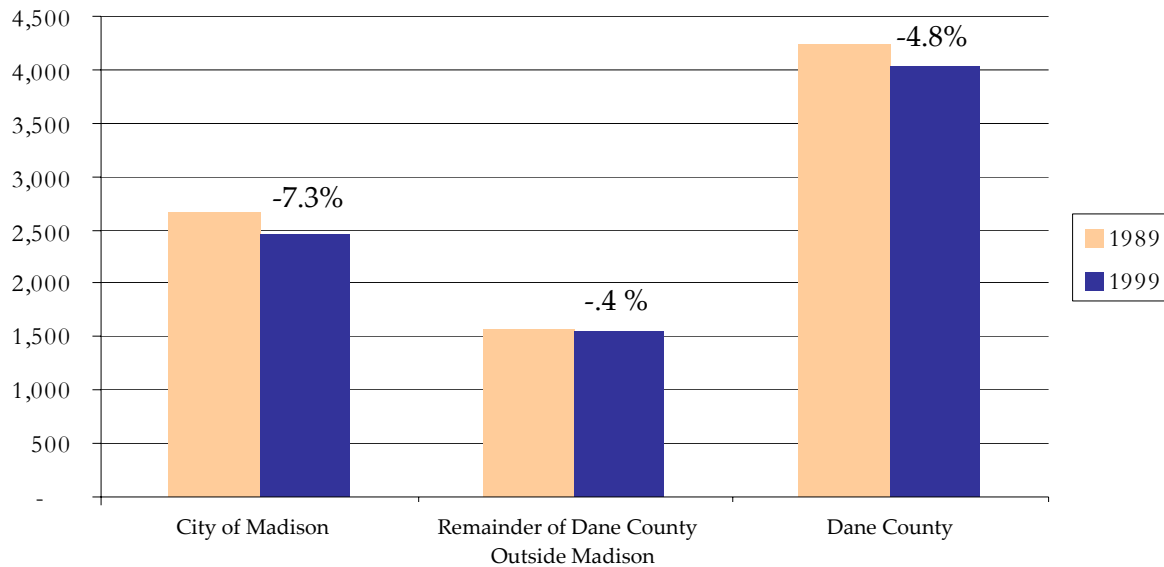


## INCOME

Median household income in Madison increased 42.6 percent between 1989 and 1999 compared to 78.2 percent between 1979 and 1989. In Dane County, median household income also increased substantially (78.6 percent) in the 1980s followed by a much smaller increase in the 1990s of 50.5 percent. In 2000, the median salary for male full-time, year-round workers in Madison was \$39,056, compared to \$30,062 for females.

Total personal income in Madison in 2000 was 14.93 billion dollars. This figure is predicted to increase steadily until at least 2007 to 21.64 billion dollars.

Figure 2 – City of Madison and Dane County Families Below Poverty Status 1989 – 1999 (2000 Census)



Between 1989 and 1999, the number of families below poverty status decreased for Madison, those areas in Dane County but outside of Madison, and all of Dane County. The most marked decrease was in Madison where the number of families below poverty status decreased by 7.3 percent.



## WORKFORCE

### SCHOOL ENROLLMENT AND EDUCATION LEVELS

In 2000, nearly 60 percent of Madison’s population enrolled in school was in college or graduate school. The elementary school population was the next largest with 22.0 percent of the total.

Residents 25 years and older in Madison and Dane County have more years of formal education beyond a high school degree compared to the State of Wisconsin and the nation. Nearly half (48.2 percent) of Madison’s population 25 years and older has a college degree compared to 40.6 percent in Dane County; 14.8 percent in the State of Wisconsin, and; 24.4 percent in the U.S.

**Table 4 – City of Madison School Enrollment - 2000**

Population 3 years and over enrolled in school	73,085	100.0
Nursery school, preschool	3,151	4.3
Kindergarten	1,929	2.6
Elementary school (grades 1-8)	16,102	22.0
High school (grades 9-12)	8,604	11.8
College or graduate school	43,299	59.2

Source: U.S. Census 2000

The high percentage of college educated adults in Madison and Dane County may in part be attributable to students from the University of Wisconsin who remain in Madison after graduation because they are able to find jobs in the area. Many new residents with college degrees are also relocating to Madison from other places to take high-tech jobs in area research parks as well as with the University and with State and City offices.

**Table 5 - City of Madison Educational Attainment – 2000**

Population 25 years and over	126,804	100.0
Less than 9th grade	3,685	2.9
9th to 12th grade, no diploma	5,934	4.7
High school graduate (includes equivalency)	22,974	18.1
Some college, no degree	23,447	18.5
Associate degree	9,707	7.7
Bachelor's degree	34,603	27.3
Graduate or professional degree	26,454	20.9

Source: U.S. Census 2000



## **MAJOR INDUSTRY SECTORS**

### **LOCATION QUOTIENT ANALYSIS**

A location quotient analysis is one tool for looking at the economic health and diversity of a local economy. By comparing the percent of local employment within an industry to the industry's percentage share nationally, it's possible to identify which industries are important to local economic activity and those industries that are not satisfying the area's local demand. The following equation is used in the analysis:

$$\text{Location Quotient} = \frac{(\% \text{ of local employment in industry } i)}{(\% \text{ of national employment in industry } i)}$$

Due to data suppression, the degree of detail required to assess this type of economic activity is not available at the City level so it must be done at a County level. A location quotient of 1.0 indicates that a community produces enough goods to satisfy local demand in an industry. Results above or below that standard indicate the degree to which the community imports or exports a good in an industry. The location quotient range above 0.75 and below 1.24 is oftentimes used as a more conservative indicator of economic self-sufficiency. Values that exceed 1.24 will then indicate that a community is likely exporting goods and those below 0.75 imply that a community is importing a good.<sup>1</sup>

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#### **<sup>1</sup> Limits of a Location Quotient Analysis**

- A location quotient that is above 1.24 or below 0.75 does not strictly mean that a community is exporting or importing a good or that levels of local demand are not accommodated. Factors such as excess local demand and local specialization need to be considered.
- Location quotients can mask a locality's productivity levels in each industry. Values will express production levels as a function of employment under the assumption that local levels of worker output are equivalent to national levels of worker productivity. It is more realistic to assume that worker productivity will range in many different levels of output.
- Location quotients can mask the level of simultaneous importing and exporting of goods that occurs between communities.

**RESULTS**

The results of Dane County’s location quotient analysis indicate that industries such as insurance carriers and related activities, retail trade stores, hospitals, and finance/insurance activities are large exporters of goods and services (see Table 6 below). Industries that meet local demand (generally with a location quotient at or close to 1.0) and those industries that import goods and services (generally location quotient below 0.75) are included in Appendix 1, at the end of this chapter.



Many business and trade conferences are held at the Alliant Energy Center of Dane County, as well as the Monona Terrace, and other local hotels and business centers.

**Table 6 – Dane County Export Industries, Location Quotient Analysis**

Industry	Location Quotient
Insurance carriers and related activities	2.98
Sporting goods, hobby, book & music stores	2.01
Nonstore retailers	1.94
Printing and related support activities	1.83
Hospitals*	1.73
Electronics and appliance stores	1.70
Furniture and related product mfg	1.61
Building, developing and general contracting	1.61
Finance and insurance	1.59
Transit and ground passenger transportation	1.54
Food manufacturing	1.49
Electrical equip, appliance and component mfg	1.48
Social assistance	1.43
Nursing and residential care facilities*	1.41
Religious, grantmaking, civic, prof and like organizations	1.37
Plastics and rubber products mfg	1.31

*Source: U.S. Census 2000; student intern analysis*



## ***INDUSTRY CLUSTER ANALYSIS***

Industry clusters are groups of industrial firms that share complementary roles. The firms involved in a cluster include specialized suppliers, product producers, service providers, supportive educational facilities, and the industry's corresponding institutions.

An industry cluster analysis serves as an important descriptor of Madison's current economic activity, an indicator of potential economic growth areas, and an additional factor for economic policy decisions.

Industry cluster analyses build off of the insights provided by economic indicators such as a location quotient analysis to further broaden our overall understanding of Madison's economic environment. Further, the analysis attempts to quantify the benefits created by the spatial proximity of supplementary and complementary industries, institutions, infrastructure, and resources. In this section, the industry cluster analysis results for Madison's metropolitan area are discussed with close attention given to competitive, high-growth industry clusters. Metropolitan Areas are made up of consolidated metropolitan statistical areas (CMSA) and primary metropolitan statistical areas (PMSA) and reflect population characteristics at the county level.

In 2002, the Harvard Business School released the results from their nation-wide Cluster Mapping Project, with data describing cluster activity in the City of Madison metropolitan area. The information described in this section is adapted from this study. Some of the major industry clusters highlighted in the study as important in Madison's metropolitan area are:

- Financial Services
- Prefabricated Enclosures
- Medical Devices
- Business Services
- Publishing and Printing
- Distribution Services
- Processed Food
- Heavy Construction Services
- Furniture
- Education and Knowledge Creation
- Building Fixtures, Equipment and Services
- Plastics
- Forest Products
- Information technology
- Construction Materials

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School. Copyright © 2002 President and Fellows of Harvard College. All rights reserved.



Three different economic activity indicators describe each industry cluster and can be viewed in Appendix 2, at the end of this chapter. These include each cluster's employment size, share of national employment in Madison's metropolitan area, and the change in that national share between 1990 and 2001. Employment size of each cluster is divided into four rating categories:

- 1 - Industry clusters with less than 2,500 employees,
- 2 - Industry clusters with 2,500 to 4,999 employees,
- 3 - Industry clusters with 5,000 to 9,999 employees, and
- 4 - Industry clusters with more than 10,000 employees.

The economic activity indicators in Appendix 2, at the end of this chapter, describe the different strengths and weaknesses of each cluster. While larger industry clusters contribute a higher portion of jobs to the local economy, high growth industry clusters offer insight to future growth areas in Madison's economy. Further, current industry cluster shares of the national economy show what industries have a regionally competitive advantage over other parts of the U.S.

As depicted in Appendix 2, Figure 1, clusters employ many people in the Madison metropolitan area. The location quotient analysis for Dane County shows similar findings to those from the industry cluster analysis. The sub-sector, *Insurance Carriers and Related Activities* has a location quotient of 2.98. The supplemental sub-sector industries of *Information and Data Processing Services* and *Real Estate* also resulted in high location quotients of 1.13. From the perspective of an industry cluster analysis, it makes sense that these industries would each have high overall location quotients. Each sub-sector industry supplements the growth of the other. As *Financial Services, Business Services, and Distribution Services* are important contributors to Madison's regional labor market, it is important that economic development effort be put forth to maintain or stimulate their future economic growth.

While the industry clusters *Furniture, Construction Materials, and Information Technology*, are overall lower sources of employment in the Madison metropolitan area, each cluster has shown a high amount of growth of their national share between 1990 and 2001. Each of these industry clusters has the potential to become larger economic contributors, should they continue to grow in the coming years. The location quotient results show that sub-sector groups such as *Furniture and Related Product Manufacturing, Building Material & Garden Equipment & Supply Dealers, Furniture and Home Furnishing Stores, Information and Data Processing Services, and Construction* each have location quotients above 1.0 with a healthy degree of economic activity.

The six industry clusters that currently hold the highest share of national employment are *Prefabricated Enclosures* (includes industries such as recreational vehicle, mobile home, truck, trailer, elevator, and refrigerator manufacturers), *Medical Devices*, *Financial Services*, *Processed Food*, *Building Fixtures & Equipment & Services*, and *Publishing and Printing*. The location quotient analysis shows similar results. The *Printing and Related Support Activities* sub-sector has one of the highest location quotients in Dane County, 1.94. The *Food Manufacturing* sub-sector also resulted in a high location quotient of 1.49. The analyses suggest that each of these industry clusters has important regional competitiveness and should be assessed for its potential as a specialized cluster within the Madison metropolitan area.

### ***EXISTING BUSINESS PARKS, INCUBATORS, HIGH TECHNOLOGY AND RELATED SERVICE COMPANIES***

Volume I [Maps 5-1](#) and [5-2](#) show the locations of existing business parks, incubators, high technology businesses and related service companies in the City of Madison and adjacent communities. The locations of businesses change frequently as the City continues to grow and businesses expand or locate in the Madison area.



*High Technology Industries*

### ***ASSESSMENT OF MADISON'S STRENGTHS AND WEAKNESSES IN ATTRACTING AND RETAINING BUSINESSES***

Madison is fortunate to have many local and regional assets that make it an attractive location for business to locate and grow.

#### ***PARTICULAR STRENGTHS INCLUDE:***

- Strategic regional location re: Chicago, Milwaukee, and Minneapolis
- The UW- Madison education, research and cultural engine
- Regional transit system/improvements
- Dane County Regional Airport
- Interstate system/highway network
- Power (electric/gas) for future growth and development; reliability of power



*Madison's strategic location in the midwest is aided by easy access to the Dane County Regional Airport and the Wisconsin Aviation local airport.*

- Fiber optics network
- Leading health care community
- Close proximity of agricultural production
- Highly educated, trained workforce
- MATC programs for technical training
- Facilities and infrastructure for innovation, technology transfer and commercialization, new business opportunities
- Diversity of locations [e.g. price, setting, amenities] for businesses with capacity for expansion
- Business incubators
- Strong metro/cultural amenities
- Quality of life / world class art and cultural facilities
- Highly ranked education system
- Social, professional, and business networks and strong civic participation
- Growing collaboration and cooperation between the private and public sectors



*Local health care facilities*



*Contact with agricultural and biology sciences*

Although Madison has many advantages, it also has many challenges to overcome to achieve its economic development potential. These challenges include:

- Workforce shortages
- Lower wages for professional jobs
- Declining affordability of housing
- Traffic congestion
- Energy reliability
- Ease of doing business
- Limited venture capital
- Lack of a coordinated, regional system for economic development and growth
- Limited national and global awareness of the City
- Demographic trends



*Business technology and wireless access are increasingly important to Madison businesses.*



## ***ECONOMIC DEVELOPMENT IMPLEMENTATION PROGRAMS***

The recommendations and policies of the Economic Development Plan can be implemented in various ways. There are numerous implementation programs and tools. The following list (in alphabetical order) of programs and tools are those that are available in the Madison area and frequently used:

- Alliant Energy. One of two utilities in the area, Alliant Energy offers location and real estate development assistance to businesses.
- Capital Ideas Technology Zone, City of Madison Office of Business Resources (OBA). This State High Technology Tax Credit Program encourages the location and expansion of high technology companies, which are making major private investments, and creating and retaining high-paying jobs. The program offers networking and employment, technical assistance, capital equipment, employee training, real estate acquisition, research and business start-up assistance.
- Center for Technology Transfer, Inc. (CTT). The CTT is a non-profit corporation that helps early-stage hi-tech companies introduce new technology through mentoring, providing intellectual property assistance and securing funding. The CTT offers networking and employment, technical assistance, capital equipment, real estate acquisition, research, and business start-up.
- City of Madison Office of Business Resources. This office provides a web based business information and referral service, assistance with city regulations and programs and project liaison on business locations and expansions.
- City of Madison Community Development Block Grant Program. This program provides grants and loans to not for profits to help businesses create jobs for lower income persons and increase the viability of micro enterprises.
- City of Madison Community and Economic Development Unit. This unit with the Planning and Development Department administers a capital revolving loan fund, Tax Increment Financing and coordination of Industrial Revenue Bond applications.
- City of Madison Planning and Building Inspection. These services include long-range plans, area plans, zoning and building code enforcement and education.
- Common Wealth Development. A community development corporation that offers financial assistance, youth training and management of two business incubators.
- Community Action Coalition. Provides technical assistance to micro-enterprises.
- Dane County Development Company, Inc. The Dane County Development Company, Inc. offers business finance resources for Dane County businesses. It offers technical assistance, capital equipment, employee training, real estate acquisition, research, business start-up and venture capital.



- Dane County Extension Office. The Extension office offers community and economic development education along with training, networking and employment, and technical assistance.
- Genesis Enterprise Center. The Genesis Enterprise Center is a South Madison business incubator with access to business networks and resources. It offers site/building space, networking and employment, and technical assistance.
- Greater Madison Chamber of Commerce. The Chamber is a business membership organization that serves the Greater Madison Area to lead enlightened economic growth and position the area as a globally competitive place to live, work, play and do business.
- Madison Area Technical College (MATC). MATC offers a full range of training and degree programs to prepare area residents for jobs offered by area companies. One very successful example is the Biotechnology Laboratory Technician Program. This is a two-year Biotechnology Technician Associates Degree Program at MATC. It offers training and education, networking and employment and technical assistance.
- Madison Area Technical College (MATC), Business Procurement Assistance Center. This Technical College Agency provides governmental contracting and marketing assistance along with training and education, networking and employment and technical assistance.
- Madison Development Corporation (MDC). The MDC provides business assistance and access to capital along with networking and employment, technical assistance, capital equipment, employee training, real estate acquisition, research, business start-up and venture capital.
- Madison Gas and Electric (MG&E). MG&E provides business and development services including site/facility searches, incubator support and business expansion support.
- Madison Enterprise Center. This East Madison business incubator offers access to business space, networks and resources along with site/building space, networking and employment, and technical assistance.
- Small Business Development Center (SBDC) and the Business Answer Line. The SBDC provides business planning, small business fundamentals, legal and tax information, human resource management, marketing, customer service, sales and web-based marketing.
- S.C.O.R.E. The Service Corp of Retired Executives provides one on one business consulting to entrepreneurs and small businesses.
- T.E.C. Incubator Center. This far-East-Side MATC-linked Madison business incubator with access to business space, networks and resources. The T.E.C. offers site/building space, networking and employment and technical assistance.
- University of Wisconsin-Biotechnology Center. This center offers research programs, education, and funds for biotech research, stimulates economic development, and develops public policy.

- U.W. E-Business Consortium. This U.W. based membership E-business consortium concentrates on supply chain management, web strategy and marketing, information security and other e-business issues. The consortium offers training and education, networking and employment and technical assistance.
- U.W. Office of Corporate Relations. The U.W. Office of Corporate Relations provides U.W. based business resources, entrepreneurship resources, research and development resources, human resources, and career center services.
- U.W. Technology Enterprise Cooperative (U.W. T.E.C.). The U.W. TEC is a U.W. wide partnership in technology, business and entrepreneurship to give students, faculty, corporations, and entrepreneurs the opportunity to start hi-tech businesses. The U.W. TEC offers training and education, networking and employment and technical assistance.
- U.W. Madison – College of Engineering- R & D and Technology Commercialization.

This office provides the primary contact point for business, industry and government to access technical capabilities in engineering. It provides training and education, networking and employment, and technical assistance.
- University Research Park, Inc. This unique research and technology park has the primary mission of encouraging partnerships between businesses and university researchers. The University Research Park I and II offers site/building space, networking and employment, and technical assistance.
- Venture Capital Sources. Thirteen companies offer a range of venture capital to Madison area businesses. Those based in Madison include Venture Investors, Advantage Capital, Baird Venture Partners, Capvest Venture and Wisconsin Angel Network.
- Wisconsin Alumni Research Foundation (WARF). The WARF helps the U.W. scientific community patent the discoveries of U.W. Madison researchers and helps license these technologies to leading companies worldwide.
- Wisconsin Biotechnology and Medical Device Association. This organization offers networking, employment services for biotech professionals, speakers and buying consortium. The Association also offers technical assistance and financial assistance for research.



*University of Wisconsin College of Engineering*



- Wisconsin Business Development Finance Corporation. The Wisconsin Business development Finance Corporation is a Small Business Association Certified Lender of 504, 7A and other creative financing solutions.
- Wisconsin Department of Commerce. This state agency provides business planning assistance, marketing data, access to capital, technical and training assistance, and a vast array of business networks. It also offers training and education, site/building space, networking and education, technical assistance and financial assistance for capital equipment, employee training, real estate acquisition, research, business startup, and venture capital. The Department has a division that provides permit, licensing, regulations, small business ombudsman, demographics, technology information and other data. WDOC also includes the following program assistance:
  - Bureau of Enterprise Development. This Bureau administers High-Tech Tax Credits, Industrial Revenue Bonds, and Community and Economic Development Zone Programs. The Bureau of Enterprise Development also offers networking and employment, and technical assistance, and financial assistance for capital equipment, employee training, real estate acquisition, research, and business start-ups.
  - Customized Labor Training Fund. This Fund assists companies that invest in new technologies and/or manufacturing processes that require customized, cutting-edge training for employees. The Customized Training Fund offers training and education, networking and employment and technical assistance, along with financial assistance for employee training.
  - Technology Development Fund (TDF). The TDF assists companies with research and development for technological innovations that have the potential to provide significant economic benefit to the state.
  - Technology Development Loan (TDL). The TDL assists businesses in bringing new technology to commercialization. It offers networking and employment, technical assistance, and financial assistance for real estate acquisition, and research.
  - International Division. The Division offers export assistance, introduces Wisconsin businesses to potential customers, distributors or partners, Trade Shows, international Business Culture Information, and Trade Financing Assistance.
  - Office of Science and Technology. Which provides a variety of services to firms in the science and technology fields, helping them to locate resources, capital, and research partners. The office also provides networking and employment and technical assistance, and financial assistance for capital equipment, employee training, real estate acquisition, research, business startup - and venture capital.
  - SBIR/STTR Outreach Office. SBIR and STTR Programs provide funding for higher risk, early-stage products and technologies. Projects are paired with sponsoring federal agencies.



- Women's Business Liaison. The Women's Business Liaison provides technical assistance to women entrepreneurs starting, expanding or relocating their companies inside the State of Wisconsin. The Women's Business Liaison also provides training and education, site/bundling space, networking and employment and technical assistance, and financial assistance for capital equipment, employee training, real estate acquisition, research, business start-ups, and venture capital.
- Wisconsin Department of Financial Institutions, Division of Corporate and Consumer Services (DFI). DFI helps companies incorporate their businesses and explains via several web resources the various types of ownership and management. DFI also offers financial assistance for capital equipment.
- Wisconsin Housing and Economic Development Authority (WHEDA). WHEDA offers neighborhood business revitalization, small business guarantees, and linked deposit loan subsidies. WHEDA also offers site/building space, networking and employment and technical assistance and financial assistance for capital equipment, real estate acquisition, research and business startups.
- Wisconsin Innovation Network (WIN) Foundation. WIN is a subsidiary membership organization of WTC. WIN offers technology-based technical assistance, business plan writing competition, hi-tech luncheons and a Life Science Venture Conference.
- Wisconsin Innovation Service Center (WISC). WISC performs new product and invention assessments and market expansion opportunities for innovative manufacturers, technology businesses, and independent inventors. WISC also offers networking and employment and technical assistance.
- Wisconsin Manufacturing Extension Partnership (WMEP). WMEP offers lean manufacturing, lean certifications, ISO certifications, value chain management and strategic repositioning. WMEP also offers networking and employment and technical assistance.
- Wisconsin Technology Council. This is the state's premier network association for hi-tech companies. It provides access to angel/venture capital, business consultants, university relations and business incubators. The Wisconsin Technology Council also offers site/building space, networking and employment and technical assistance, and financial assistance for research, business startups, and venture capital.
- Wisconsin Tech Search. This fee-based information outreach program of the Kurt F. Wendt Library offers document delivery and reference services to business and industry. On-line literature, patent and trademark searches are also available and the program also offers networking and employment and technical assistance.
- Wisconsin Women's Business Initiative. WWBIC has in office in Madison in which provides classes, technical assistance and micro-loans for women and others starting their own businesses.



## APPENDIX 1 – DANE COUNTY LOCATION QUOTIENTS

Location Quotients for Industry Sectors in Dane County		
Industry Code	Industry Code Description	Location Quotient
524	Insurance carriers and related activities	2.98
451	Sporting goods, hobby, book & music stores	2.01
454	Nonstore retailers	1.94
323	Printing and related support activities	1.83
622	Hospitals*	1.73
443	Electronics and appliance stores	1.70
337	Furniture and related product mfg	1.61
233	Building, developing and general contracting	1.61
<b>52----</b>	<b>Finance and insurance</b>	1.59
485	Transit and ground passenger transportation	1.54
311	Food manufacturing	1.49
335	Electrical equip, appliance and component mfg	1.48
624	Social assistance	1.43
623	Nursing and residential care facilities*	1.41
813	Religious, grantmaking, civic, prof and like organizations	1.37
326	Plastics and rubber products mfg	1.31
453	Miscellaneous store retailers	1.22
446	Health and personal care stores	1.17
533	Lessors of other nonfinancial intangible asset*	1.16
<b>55----</b>	<b>Management of companies and enterprises</b>	1.16
444	Bldg material and garden equip & supp dealers	1.16
<b>23----</b>	<b>Construction</b>	1.15
<b>81----</b>	<b>Other services (except public administration)</b>	1.14
514	Information and data processing services	1.13
531	Real estate	1.13
<b>95----</b>	<b>Auxiliaries (exc corporate, subsidiary and regional mgt)</b>	1.12
<b>54----</b>	<b>Professional, scientific and technical services</b>	1.11
442	Furniture and home furnishing stores	1.09
421	Wholesale trade, durable goods	1.09
713	Amusement, gambling and recreation industries	1.08
812	Personal and laundry services	1.08
<b>62----</b>	<b>Health care and social assistance</b>	1.07
235	Special trade contractors	1.06
<b>44----</b>	<b>Retail trade</b>	1.06

Source: U.S. Census 2000



Location Quotients for Industry Sectors in Dane County

Industry Code	Industry Code Description	Location Quotient
722	Food services and drinking places	1.05
562	Waste management and remediation services	1.02
<b>42----</b>	<b>Wholesale trade</b>	0.99
<b>72----</b>	<b>Accommodation and food services</b>	0.99
621	Ambulatory health care services	0.98
<b>53----</b>	<b>Real estate and rental and leasing</b>	0.97
339	Miscellaneous mfg	0.95
<b>71----</b>	<b>Arts, entertainment and recreation</b>	0.95
523	Security, commodity contracts and like activity*	0.93
<b>51----</b>	<b>Information</b>	0.93
511	Publishing industries	0.92
513	Broadcasting and telecommunications	0.89
441	Motor vehicle and parts dealers	0.88
452	General merchandise stores	0.88
448	Clothing and clothing accessories stores	0.88
445	Food and beverage stores	0.88
<b>31----</b>	<b>Manufacturing</b>	0.85
522	Credit intermediation and related activities	0.85
422	Wholesale trade, nondurable goods	0.85
492	Couriers and messengers	0.84
325	Chemical mfg	0.84
447	Gasoline stations	0.84
<b>22----</b>	<b>Utilities</b>	0.84
221	Utilities	0.84
334	Computer and electronic product mfg	0.83
<b>56----</b>	<b>Admin, support, waste mgt, remediation services</b>	0.76
561	Administrative and support services	0.75
512	Motion picture and sound recording industries	0.74
811	Repair and maintenance	0.72
333	Machinery mfg	0.71
721	Accommodation	0.71
234	Heavy construction	0.69
711	Performing arts, spectator sports, and related industries	0.66
484	Truck transportation	0.63
<b>48----</b>	<b>Transportation and warehousing</b>	0.60
532	Rental and leasing services*	0.58

Source: U.S. Census 2000



Industry Code	Industry Code Description	Location Quotient
321	Wood product mfg	0.57
331	Primary metal mfg	0.57
336	Transportation equipment mfg	0.56
332	Fabricated metal product mfg	0.53
<b>99----</b>	<b>Unclassified establishments</b>	0.51
<b>11----</b>	<b>Forestry, fishing, hunting, and agriculture support</b>	0.48
<b>61----</b>	<b>Educational services</b>	0.47
327	Nonmetallic mineral product mfg	0.43
322	Paper mfg	0.41
712	Museums, historical sites & like institutions	0.38
493	Warehousing & storage	0.32
313	Textile mills*	0.29
481	Air transportation	0.25
<b>487</b>	<b>Scenic and sightseeing transportation*</b>	0.20
<b>488</b>	<b>Transportation support activities</b>	0.18
<b>21-----</b>	<b>Mining</b>	0.16
314	Textile product mills	0.14
525	Funds, trusts, and other financial vehicles (part)*	0.14
486	Pipeline transportation*	0.09
316	Leather and allied product mfg*	0.08
315	Apparel manufacturing	0.02
312	Beverage and tobacco product mfg	0.01

Source: U.S. Census 2000

## **APPENDIX 2 - INDUSTRY CLUSTER ANALYSIS**

Industry cluster analyses build off of the insights provided by economic indicators such as a location quotient analyses to further broaden our overall understanding of Madison's economic environment. Further, the analysis attempts to quantify the benefits created by the spatial proximity of supplementary and complementary industries, institutions, infrastructure, and resources. In this section, the Industry Cluster analysis results for Madison's Metropolitan Area are discussed with close attention given to competitive, high-growth industry clusters. Metropolitan Areas are made up of consolidated metropolitan statistical areas (CMSA) and primary metropolitan statistical areas (PMSA) and reflect population characteristics at the county level.

In 2002, the Harvard Business School released the results from their nation-wide Cluster Mapping Project, with data describing cluster activity in the City of Madison Metropolitan Area. The information described in this section is adapted from this study. Some of the major industry clusters highlighted in the study as important in Madison's Metropolitan Area are:

- Financial Services
- Prefabricated Enclosures
- Medical Devices
- Business Services
- Publishing and Printing
- Distribution Services
- Processed Food
- Heavy Construction Services
- Education and Knowledge Creation
- Building Fixtures, Equipment and Services
- Plastics
- Forest Products
- Information technology
- Construction Materials
- Furniture



*Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School  
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Three different economic activity indicators describe each industry cluster. These include employment size, share of national employment in 2001, and change in national share between 1990 and 2001. Employment size of each cluster is divided into four rating categories: 1 (0- 2499), 2 (2500-4999), 3 (5000-9999), and 4 (10000+).

**Figure I – Industry Clusters**

Industry Cluster	Employment Size; Largest to Smallest 4, 3, 2, 1	2001 Percent Share of National Employment	Percent Change in National Share between 1990-2001
Financial Services	4	0.45	-4
Business Services	3	0.19	6
Distribution Services	3	0.27	20
Prefabricated Enclosures	2	0.90	93
Medical Devices	2	0.78	85
Publishing and Printing	2	0.30	44
Processed Food	2	0.35	8
Heavy Construction Services	2	0.24	54
Education and Knowledge Creation	2	0.17	57
Building Fixtures, Equipment and Services	1	0.33	-29
Plastics	1	0.24	-7
Forest Products	1	0.24	-4
Information Technology	1	0.17	143
Construction Materials	1	0.17	303
Furniture	1	0.16	647

*Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School Copyright ©2002 President and Fellows of Harvard College. All rights reserved.*

Each of the economic activity indicators in Figures 1 describes the different strengths and weaknesses of each cluster. While larger industry clusters contribute a higher portion of jobs to the local economy, high growth industry clusters offer insight to future growth areas in Madison’s economy. Further, current industry cluster shares of the national economy show what industries have a regionally competitive advantage over other parts of the United States.

As depicted in Figure 1, *Financial Services*, *Business Services*, and *Distribution Services* clusters employ large numbers of people. While all three clusters have relatively low percentage growth in the national share between 1990 and 2001 [*Financial Services* declined by 4%] they are each in the upper half of the industry clusters category of maintaining a healthy share of national employment.

The location quotient analysis for Dane County shows similar findings to those from the industry cluster analysis. The sub-sector, *Insurance Carriers and Related Activities* has a location quotient of 2.98. The supplemental sub-sector industries of *Information and Data Processing Services* and *Real Estate* also resulted in high location quotients of 1.13. From the perspective of an industry cluster analysis, it makes sense that these industries would each have high overall location quotients. Each sub-sector industry supplements the growth of the other. As *Financial Services*, *Business Services*, and *Distribution Services* are important contributors to Madison's regional labor market, it is important that economic development effort be put forth to maintain or stimulate their future economic growth.

While the industry clusters *Furniture*, *Construction Materials*, and *Information Technology*, are overall lower sources of employment in the Madison metropolitan area, each cluster's national share of employment has shown a high amount of growth between 1990 and 2001. Each of these industry clusters has the potential to become larger economic contributors, should they continue to grow in the coming years. The location quotient results show that sub-sector groups such as *Furniture and Related Product Manufacturing*, *Building Material & Garden Equipment & Supply Dealers*, *Furniture and Home Furnishing Stores*, *Information and Data Processing Services*, and *Construction* each have location quotients above 1.0 with a healthy degree of economic activity.

The six industry clusters that currently hold the highest share of national employment are *Prefabricated Enclosures*, *Medical Devices*, *Financial Services*, *Processed Food*, *Building Fixtures & Equipment & Services*, and *Publishing and Printing*. The location quotient analysis shows similar results. The *Printing and Related Support Activities* sub-sector has one of the highest location quotients (1.94) in Dane County. The *Food Manufacturing* sub-sector also resulted in a high location quotient of 1.49. The analyses suggest that each of these industry clusters have an important regional competitiveness and should be assessed for its potential as specialized clusters within the Madison metropolitan area.



Food Processing



**KEY INDUSTRY PROFILES**

<b><i>Finance and Insurance</i></b>		<b><i>NAICS Code: 52</i></b>
<b>Total Employment</b>	19,838	
<b>Total Establishments</b>	794	
<b>Average Annual Income</b>	45,647	
<b>Exporting Sectors</b>	Insurance Carriers and Related Activities	
	NAICS Code	524
	Sub-sector Employment	13,820 employees
	Average Annual Income	\$44,802
	Location Quotient	2.98
<b>Major Employers</b>	American Family Mutual Insurance Group	7,600 employees
	CUNA Mutual Group	5,000 employees
	Wisconsin Physicians Service	2,763 employees
	General Casualty	704 employees
<b>Wage Examples</b>		
<u>Occupation</u>	<u>Wage (mean hourly wage)</u>	
Financial managers	\$36.05/hour	
Financial analysts	\$33.72/hour	
Business and financial operations occupations	\$22.93/hour	
Office clerks	\$12.61/hour	
<small>Sources: Madison Department of Planning and Development, In Business Magazine, January 2003, and County Business Patterns 2001, U.S. Census, Bureau of Labor Statistics 2002.</small>		



<b>Retail Trade</b>		<b>NAICS Code: 44</b>
<b>Total Employment</b>	31,371 employees	
<b>Total Establishments</b>	1,829 establishments	
<b>Average Annual Income</b>	\$21,761	
<b>Exporting Sectors</b>	Sporting Goods, Hobby, Book and Music Stores	
	NAICS Code	451
	Sub-sector Employment	2,492 employees
	Average Annual Income	\$16,136
	Location Quotient	2.01
<b>Non-Store Retailers</b>	NAICS Code	454
	Sub-sector Employment	2,194 employees
	Average Annual Income	24,428
	Location Quotient	1.94
	Electronics and Appliance Stores	
	NAICS Code	443
	Sub-Sector Employment	1,439
	Average Annual Income	31,652
	Location Quotient	1.70
<b>Major Employers</b>	Pizza Hut	1,300 employees
	Woodman Food Stores	1,200 employees
	American TV of Madison	700 employees
<b>Wage Examples</b>		
<u>Occupation</u>	<u>Wage (mean hourly wage)</u>	
Food preparation workers	\$8.80/hour	
First-line supervisors/managers of retail sales workers	\$17.70/hour	
Retail salespersons	\$10.31/hour	



<b><i>Health Care and Social Assistance      NAICS Code: 62</i></b>		
<b>Total Employment</b>	30,990 employees	
<b>Total Establishments</b>	1,164 establishments	
<b>Average Annual Income</b>	\$33,759	
<b>Exporting Sectors</b>	Hospitals	
	NAICS Code	622
	Sub-sector Employment	17,500 employees
	Average Annual Income	\$34,216
	Location Quotient	1.73
<b>Major Employers</b>	University Hospital and Clinics	5,364 employees
	Meriter Health Services	3,192 employees
	Dean Health Systems, Inc.	2,158 employees
	St. Mary's Medical Center	2,071 employees
<b>Wage Examples</b>		
<u>Occupation</u>	<u>Wage (mean hourly wage)</u>	
Family and general practitioners	\$50.78/hour	
Medical and health service managers	\$33.73/hour	
Registered nurses	\$23.55/hour	
Medical secretaries	\$13.47/hour	
Sources: Madison Department of Planning and Development, In Business Magazine, January 2003, and County Business Patterns 2001, U.S. Census, Bureau of Labor Statistics 2002.		



<b><i>Manufacturing</i></b>		<b><i>NAICS Code: 31</i></b>	
<b>Total Employment</b>	27,166 employees		
<b>Total Establishments</b>	569 establishments		
<b>Average Annual Income</b>	\$41,840		
<b>Exporting Sectors</b>	<i>Plastics and Rubber Products Manufacturing</i>		
	NAICS Code	326	
	Sub-sector Employment	2,619 employees	
	Average Annual Income	\$40,443	
	Location Quotient	1.31	
	<i>Printing and related Support Activities</i>		
	NAICS Code	323	
	Sub-sector Employment	2,864 employees	
	Average Annual Income	\$36,462	
	Location Quotient	1.83	
	<i>Furniture and Related Product Mfg.</i>		
	NAICS Code	337	
	Sub-sector Employment	1,992 employees	
	Average Annual Income	\$33,780	
	Location Quotient	1.61	
	<i>Food Manufacturing</i>		
	NAICS Code	311	
	Sub-sector Employment	4,364	
	Average Annual income	\$47,984	
	Location Quotient	1.49	
<b>Major Employers</b>	Oscar Mayer Foods	2,700 employees	
	Covance Laboratories	1,100 employees	
	Marshall Erdman & Associates	950 employees	
	Madison Newspapers, Inc.	850 employees	



<b><i>Manufacturing continued</i></b> <span style="float: right;"><b><i>NAICS Code: 31</i></b></span>		
<b>Wage Examples</b>		
<u>Occupation</u>	<u>Wage (mean hourly wage)</u>	
Mechanical engineers	\$27.09/hour	
Sales representatives, wholesale and manufacturing	\$25.89/hour	
Machinists	\$16.66/hour	
Sources: Madison Department of Planning and Development, In Business Magazine, January 2003, and County Business Patterns 2001, U.S. Census, Bureau of Labor Statistics 2002.		

<b><i>Construction</i></b> <span style="float: right;"><b><i>NAICS Code: 23</i></b></span>		
<b>Total Employment</b>	14,826 employees	
<b>Total Establishments</b>	1,353 establishments	
<b>Average Annual Income</b>	\$44,410	
<b>Exporting Sectors</b>	Building, Developing and General Contracting	
	NAICS Code	233
	Sub-sector Employment	5,180 employees
	Location Quotient	1.61
<b>Major Employers</b>	Hooper Corporation	600 employees
	J.H. Findorff and Son	400 employees
<b>Wage Examples</b>		
<u>Occupation</u>	<u>Wage (mean hourly wage)</u>	
First-line supervisors/managers	\$29.41/hour	
Architecture and engineering occupations	\$25.03/hour	
Electricians	\$22.44/hour	
Construction laborers	\$17.49/hour	
Sources: Madison Department of Planning and Development, In Business Magazine, January 2003, and County Business Patterns 2001, U.S. Census, Bureau of Labor Statistics 2002.		



## **APPENDIX 3: OVERVIEW OF MADISON'S 1983 ECONOMIC DEVELOPMENT STRATEGY**

### **PRINCIPLES**

- All solutions to national economic problems will not be found at a national level. Local communities can and should devise solutions that fit their unique situations.
- Within limitations, local government can and should play an important role in economic development. The most appropriate role depends on the situation, but includes acting as a catalyst, facilitator, and direct provider of assistance.
- Local government, to the greatest extent possible, should use the resources of other segments of the community to carry out its strategies.
- An overall competitive advantage of Madison is its desirability as a place to live. Efforts to improve the local economy should be coordinated with other community development objectives to maintain the high quality of life in Madison.

### **GOALS**

- An economy that is resilient and responsive to changing conditions.
- Job opportunities and advancement potential for Madison residents.
- Community support for private business enterprise.
- A labor force that can take pride in its work and has the education and skills necessary for the jobs available.
- Community capacity to support and maintain the public services and facilities wanted and needed by citizens.

### **OBJECTIVES**

- Increase the number of private sector jobs for Madison area residents.
- Maintain Madison's diversified economic base and strengthen it by encouraging development of businesses in expanding industries.
- Maintain or expand employment in Madison's manufacturing sector.
- Improve the rate of Madison's business' survival and growth generally, and small business in particular.
- Increase local efforts to provide area residents with the education, training, and other assistance needed to do the jobs expected to be available in the community.
- Maintain the vitality of Madison's established commercial districts by improving the physical environment and supporting business development appropriate to a district's location.

**KEY RECOMMENDATIONS**

- Expand the City's existing program to encourage retention and expansion of Madison firms.
- Increase community effort led by the private sector to promote new enterprise development in Madison.
- Expand the City's business attraction program.
- Coordinate the community's vocational training programs with the specific needs of area businesses.
- Continue support for revitalization of Madison's older commercial and industrial districts.



*Job Training*



*Industry relies on freight infrastructure.*

**APPENDIX 4: CITY OF MADISON STRATEGIC MANAGEMENT  
SYSTEM GOALS AND STRATEGIES RE: GROWTH MANAGEMENT  
(ADOPTED 12-20-94)**

**GOAL**

Madison must be economically, socially, and culturally vibrant for the City and the region to thrive. To be vibrant and to maintain its vitality, Madison should share in the growth that is occurring in Dane County. This growth must be managed in such a way to balance our economic, social and environmental health and maintain a sustainable City.



*New growth in Madison*

Strategy: Reduce the disparity between the City and the suburbs through greater responsibility, and between the haves and have-nots through greater opportunity.

Objectives:

1. Direct the growth in Dane County to areas that have been planned for urban services.
2. Balance the distribution of owner-occupied and rental housing in the City of Madison.
3. Increase the availability of moderately priced housing in the City of Madison.
4. Amend the State law to change the way the MMSD boundaries are established

Strategy: Promote greater regional planning and collaboration, which includes a shared understanding and responsibility for social issues throughout the region.

Objectives:

1. Implement the City's adopted Peripheral Area Development Plan.
2. Enter into cooperative agreements with area communities for land use and service delivery.
3. Evaluate and determine the most effective mechanism for metropolitan (regional) transportation planning and implementation.
4. Educate citizens, policy makers and the media about current development trends and their impact on the City.

Strategy: Position the City to compete in the emerging global economy

Objectives:

1. Identify industries to capitalize on for future growth.  
(e.g. biological/genetic fields)
2. Develop employment and training opportunities for the un/under employed for emerging jobs
3. Develop economic development areas, such as industrial parks, enterprise zones and downtown infill.
4. Determine the unique characteristics of the region and prepare a marketing strategy based on Madison's advantages.



*Neighborhood Businesses on Lakeside Street*

Strategy: Use, protect, maintain and enhance our natural, cultural and historical resources to maintain Madison's unique qualities

Objectives:

1. Develop and market Madison as the cultural center of the region
2. Identify natural resources within the future growth areas
3. Develop a historic preservation plan for the City of Madison
4. Develop an awareness of regional air quality issues and their impact on the City.



*Yahara River Parkway*

## ***APPENDIX 5 - GROW WISCONSIN STRATEGIC GOALS***

- Retain and create high wage jobs
- Prepare workers for tomorrow's economy
- Add value in Wisconsin's economic base
- Create and unleash knowledge to build emerging industries
- Tap Wisconsin's Full Urban Potential (Milwaukee focus)
- Implement strategies regionally
- Lower regulatory burdens; keep standards high
- Build a world class infrastructure



*East Washington Avenue*