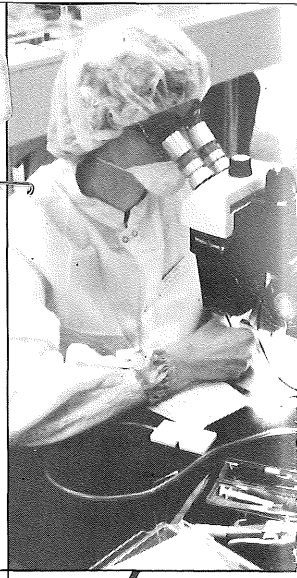
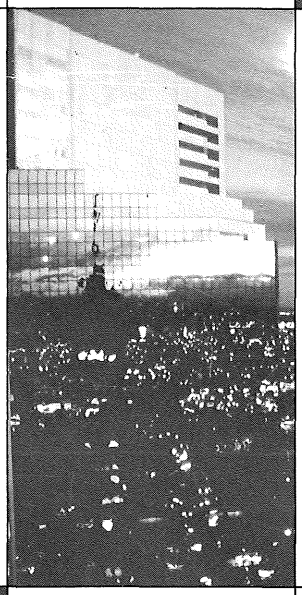
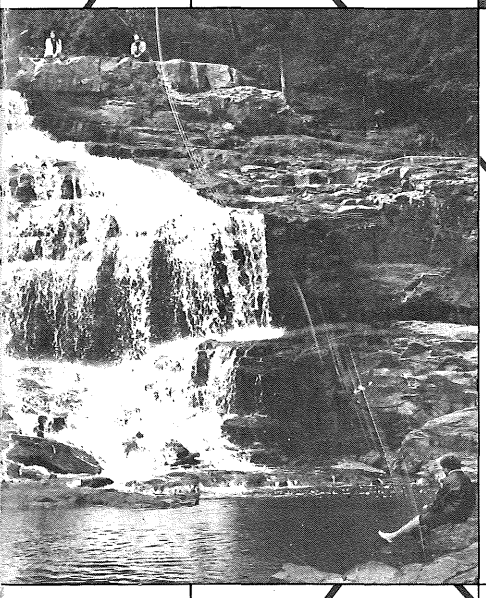
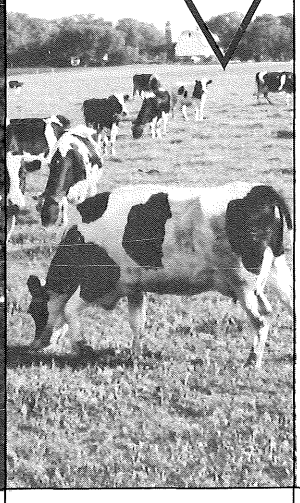
# Minnesota:
# A Strategy for Economic Development











Minnesota Department of Energy and Economic Development

# Minnesota: A Strategy for Economic Development

February 1985

MINNESOTA
Department of Energy
and Economic Development

# Introduction

A look at the history of Minnesota reveals a fascinating portrait of an evolving economy. From a time when furs were king and the waterway a road to prosperity, the economy has grown into a modern system exhibiting startling diversity. With components as disparate as agriculture and advertising, computers and tourism, professional sports and heavy industry, Minnesota's economy today contains both evidence of the past and clues to the future.

To study that economy is to find a universe of development and growth separating the 1980s from the days of Sibley and Kellogg. Small enclaves of hunters and farmers on the edge of a vast and beautiful wilderness were once the heart of Minnesota's fledgling economy; now the state has evolved into a progressive national leader on the cutting edge of technology.

For decades, Minnesotans were able to take evolutionary economic growth largely for granted. Blessed by resources and a hard-working populace, the state prospered. Personal income steadily increased. Unemployment consistently ranked below the national average during periods of national economic growth and decline. For the Gopher State, it seemed that an inevitably better future would always await.

The 1981-82 recession shattered this complacency and illuminated the need for an effective growth strategy. Older industries that once formed the bedrock of prosperity are declining. Certain areas of the state are suffering, while others prosper and grow. The residents of Minnesota have entered the 1980s confronting the uncomfortable fact that the state possesses industries and regions in depression, while booming vitality may be only a county, a building, or a street away.

Minnesota and the nation are in a new economic era. The old tried and true strategies of the past will not automatically produce new successes. Aggressive action must be taken to ensure a healthy future. What is needed today is a development strategy that is multi-faceted and flexible. It must be able to confront the challenge from other states while dealing with the additional pressures of international competition. To succeed, such a strategy must be well defined and carefully thought through.

This report is designed to help that process. It should not be taken as a final statement on the subject. Rather, it is an attempt to describe what is happening in the Minnesota economy and encourage reaction to and discussion about its recommendations. As a result of these reactions and discussions, the Department will submit an updated version of this document in January, 1986.

# Executive summary

This state's economy has experienced three significant transformations in the past 125 years. In the mid-19th century lumber was by far the largest industry and allowed the first large-scale accumulation of capital. As the 20th century progressed agriculture and agricultural processing rose to prominence. During and after World War II, industrialization continued and such sectors as manufacturing and mining rose in importance.

Today, as Minnesota moves toward the second half of the 1980s, the evolutionary process is continuing. For the fourth time in its history, this state is experiencing a major economic transition. For some sectors, it is a welcome change, opening the doors to prosperity and growth. For others, however, it is an ill wind that signals a dangerous future. Although the outcome of this transition is far from certain, several clear trends can be identified.

Employment in some manufacturing industries and mining is dropping, while the long decline in agriculture and agricultural processing continues. However, the state is demonstrating surprising growth in several manufacturing industries that are stagnant or declining nationally. These include machinery manufacturing, fabricated metals, and printing and publishing. Minnesota's instruments manufacturing industry is growing at three times the national rate.

Minnesota is paralleling the national shift toward service employment, with more than one of every three new jobs now being created found in the service sector. But it is also unique in the rate of its shift toward non-production employment—which includes management, clerical and engineering jobs—and in its concentration of white collar professional and technical jobs. Together, these trends are creating a more skewed income distribution with jobs increasingly clustered at the high and low ends of the wage scale.

The distribution of jobs and income in the state is also becoming more concentrated in a few metropolitan areas, as is economic growth. The Twin Cities metropolitan area and Rochester have prospered, with job and income growth well above the national average, while the economy of the rest of the state has generally been stagnant since 1977.

Several developments in international trade have serious implications for the Minnesota economy. Imports are threatening three of Minnesota's strongest manufacturing industries: instruments, machinery and fabricated metals. Although Minnesota remains a net exporter of these commodities, imports into the U.S. are growing faster than state exports and could dominate these sectors by the 1990s.

Imports of foreign steel, iron ore and automobiles continue to weaken the demand for taconite, causing a crisis in the economy of northeastern Minnesota. Severe competitive pressures on the export of Minnesota commodities to world markets are contributing to the serious problems facing the state's vital agricultural sector.

When studied closely, the recent trends in the Minnesota economy reveal reasons for both optimism and concern. Some signs of strength:

- Minnesota has had exceptional growth in several manufacturing industries, far outstripping the nation.
- Minnesota is increasingly a national education, health care, finance and insurance center.
- The state is maintaining a high concentration of professional, technical and craft workers, given the industry mix.

However, a great deal of concern must be directed toward other ominous developments:

- While employment and income is growing rapidly in the Twin Cities and Rochester metropolitan areas, the economy of the rest of state is much more stagnant.

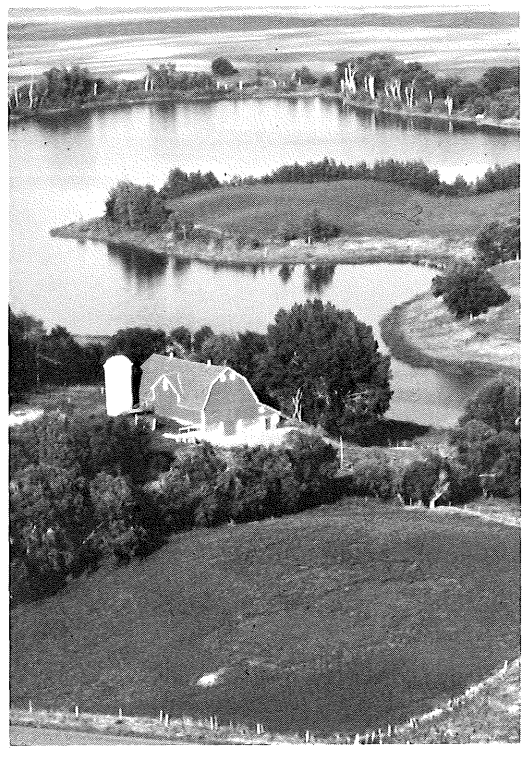
- Employment in Minnesota is becoming increasingly clustered in high and low wage jobs.
- The low wage structure of the expanding service industry is dampening total wage growth.
- Agricultural, food processing and mining industries are declining.
- Imports are encroaching on the markets of several manufacturing growth industries.

It is imperative to understand these trends and to develop policies that capitalize on economic strengths. A climate must be developed that nurtures strongly performing manufacturing industries, especially the high growth instruments, printing and publishing, fabricated metals, non-electrical machinery, and clay and glass products industries.

Policies that will encourage growth of high wage occupations and address the loss of moderate wage occupations and increasing concentration of workers in low paying jobs must be promoted. It is not enough to create any job; the concentration must be on creating employment which pays a living wage and has potential for growth.

The importance of the agricultural and food processing industries must be recognized. There is no more serious economic issue facing the state than the decline of these sectors. The reasons for the decline must be identified and vigorous action taken to stabilize the situation to the largest degree possible. The growing disparity in economic health between the Twin Cities-Rochester metropolitan areas and the rest of the state must also be addressed.

The current economic transition is not complete and the outcome is uncertain, yet on one point there is no debate. Minnesota brings to the situation the characterics it has displayed throughout the years: an abundance of natural resources and a creative, productive workforce. The future hinges on how these assets are used.



*The economic contrast between the Twin Cities-Rochester metropolitan areas and rural Minnesota is striking—and a cause for concern.*

*Throughout the state's history, agriculture and ag-related industries have played a vital role in the economy.*

# History of the Minnesota Economy

Since Minnesota's admission to the Union in 1857, its economy has evolved from a primarily rural base to a more urban and technical system. The early economy was based on natural resources, the "natural capital" with which the state was blessed by nature. Indeed, much of the foundation on which Minnesota has grown was built from resources that existed for thousands of years before the state was settled. Furs, lumber, the fertile soil and the ore beneath it—all played critical roles in the development of the state.

Today, although many of Minnesota's industries are still based on local natural resources—agriculture, food processing, mining, paper manufacturing, tourism—new industries have risen to fill the additional needs of a modern economy. Computer equipment, computer-based business services, printing and publishing, and other professional services have become the fastest growing sectors of the Minnesota economy.

## Early growth

Accompanying and stimulating the state's early development was a rapid rise in population. From 40,000 in 1855, the population jumped to 150,000 two years later, and to 439,000 in 1870. In a pattern that was to be repeated often, government stimulated early settlement and economic development by subsidizing land purchases. By 1858 over 4 million acres were bought with warrants issued to war veterans by the U.S. government. The 1862 Homestead Act resulted in over 7 million acres—about one-seventh of the state—being claimed by 1880. Railroads were issued land grants to help defray the cost of construction and in turn sold portions of the land along their routes to settlers. Such railroad land grants amounted to 25 percent of the state.

Between 1870 and 1890 the population tripled to 1.3 million. Much of this gain was the result of European immigration. In 1880, the foreign-born constituted over one-third of the state's population, outnumbering U.S. born people who migrated to Minnesota from other states. Immigrants tended to come in ethnic waves, Germans and Irish between 1850 and 1880, Scandinavians between 1870 and 1900, and Eastern Europeans after 1890.

After statehood, the first major industry was not agriculture, but lumber. The lumber industry, significant in itself, was critically important to later development because it was the first in the state to accumulate a large amount of capital, which later supported the growth of such industries as flour milling, railroads and banking.

The white pine, strong, light in weight, easy to cut, slow to decay, is a marvelously versatile wood that attracted the attention of numerous entrepreneurs. Often growing to a height of 160 feet with a diameter of 30 inches or more, white pines were found in every Minnesota county east of the Mississippi.

The first sawmill in the state was built in 1839; by 1870 there were over 200. Minneapolis, blessed with the water power of St. Anthony Falls, was the lumbering capital with 13 mills. The difficulty of transporting the heavy logs and finished lumber made river towns, such as Stillwater and Winona, early lumber centers.

The industry expanded dramatically after 1870, when the railroads extended lumber markets west to the developing prairie states. Minnesota white pine was used to construct thousands of farm buildings on the Great Plains, as well as the cities that sprang up on the new frontier, such as Bismarck, Wichita, Omaha and Sioux City. Minneapolis reached its peak output in 1899, producing 594 million board-feet, which made the city the world's leading lumber market.

Early agriculture in Minnesota can be summarized in one word: wheat. In 1860, 53 percent of the state's cultivated land was planted in wheat, a figure that rose to almost 70 percent in 1878. From 1890 to 1900 Minnesota was the top wheat producing state in the country.

There were several reasons for wheat's dominance. It was one of the few products with which a farmer could earn cash payments; the growth of the railroads increased the availability of markets; it required less soil preparation and cultivation than other crops; and it was well-suited to the mechanization of agriculture that was accelerating during those years.

Although production did not peak until 1902, by the 1870s the wheat belt in Minnesota was moving from the southeastern part of the state to the Red River Valley in the northwest. This was partly a reflection of the fact that wheat was essentially a frontier crop. As population density increased (as late as 1870, 80 percent of the state's population was still concentrated in the southeastern counties), land prices rose, requiring a greater return per acre than wheat could provide. The capital amassed through wheat farming enabled farmers to diversify, especially into dairy farming.

The wheat boom helped fuel another of Minnesota's early major industries, grain milling. Sparked by a technological development that greatly improved the quality of flour made from spring wheat, the industry grew quickly, from 81 mills in 1860 to 507 ten years later. By 1882, Minneapolis was the leading milling center in the country, a position it held for almost 40 years. Minneapolis mills served an international market. As early as the 1880s, one-third of its output, representing about 20 percent of total U.S. flour exports, went to foreign countries.

The importance of the lumber and flour milling industries in the state can be measured from the fact that as late as 1900, they accounted for 46 percent of the value of all capital invested in Minnesota industries, and for 48 percent of the value added by the state's manufacturing sector.

Another Minnesota resource-based industry with roots in the 19th century is iron mining. Ore was discovered on the Vermillion and Mesabi ranges in the mid-1880s. In 1901, 9 million tons of ore were shipped from the Mesabi, making it the greatest source of iron ore in the U.S. Ore shipments also greatly stimulated the expansion of the port of Duluth.

## 1900 to 1930

By the first decades of the 20th century, Minnesota industries were undergoing significant changes. The lumber industry declined rapidly after reaching its peak in 1905, when all the easily accessible stands of pine had been cut, and the industry shifted its focus to the virgin forests of the Pacific Northwest. Flour milling declined as new marketing methods and tastes reduced the demand for Minnesota's high-quality flour and changing freight rates favored milling centers in Buffalo and Kansas City.

Employment in agriculture peaked in 1920, although it continued to drop as a proportion of total employment, from 40 percent in 1890 to 30 percent in 1930. There was also a distinct shift in agricultural output. In 1910, crops accounted for 60 percent of Minnesota farmers' gross cash sales, with livestock and livestock products providing the rest. By 1930, the rapid increase in dairy farming reduced the field crop share of gross sales to 21 percent, while 79 percent came from livestock and livestock products.

The increase in livestock raising contributed directly to the growth of the South St. Paul Livestock Exchange, organized as a terminal market in 1897. By 1925, the Exchange ranked second in the U.S. in receipts of calves and hogs, and fourth in cattle, most of which originated in the upper tier states from Montana to Wisconsin. As a result, meat packing became a major Minnesota industry.

Although mining output continued to increase during this time to over 20 million tons per year, employment declined by 40 percent—a loss of over 7,000 jobs. By the mid-1920s, the quality of Mesabi ore had dropped so much that one-third of the ore had to be concentrated before being shipped.

Wholesale and retail employment added over 46,000 jobs during this period, a rise of 56 percent. Minneapolis had long been a wholesale distribution center for the north central region. In 1929, it ranked in the upper 10 percent of cities in wholesale sales per capita, with St. Paul in the upper 20 percent. Clerical occupations and professional services both doubled in size, adding 40,000 jobs each, and by 1930 each accounted for about 8 percent of total employment.

Although manufacturing and mechanical employment increased by 73 percent in these decades, it remained at about 20 percent of total employment, in contrast to about 30 percent at the national level. Although statistics are sketchy, it appears that major manufacturing sectors included food processing, iron and steel, and lumber and furniture, all natural linkages with the state's resource-based industries.

## 1940 to 1985

The Standard Industrial Classification system permits a more detailed analysis of the state's economy from 1940 on. The most striking statistic that emerges from a comparison of the state and national economies in 1940 is that manufacturing accounted for only one job in eight in Minnesota, compared with almost one in four for the nation as a whole.

The distribution of employment among manufacturing sectors was also different. Over 30 percent of Minnesota's employment was in food processing, compared with 10 percent nationally. Printing and publishing accounted for about 12 percent of all manufacturing jobs, almost twice the national level. Textiles and apparel employed over 18 percent of those in manufacturing nationwide, but only 8 percent in Minnesota. Metals employment was 15 percent and 10 percent, respectively.

The other side of Minnesota's low representation in manufacturing in 1940 was its higher concentration in agriculture, representing over 30 percent of employment, compared with less than 19 percent for the nation as a whole. Minnesota also outpaced the nation in the proportion of employment in services other than personal services, the largest portions of which were in the medical and educational fields.

As incomes rose and automobile ownership became more widespread, tourism also increased in the state. In 1939, the National Park Service estimated the total expenditures of tourists in Minnesota at $138 million.

The divergences between the state and national economies lessened as Minnesota became more urbanized. (The 1950 census indicated that, for the first time, a majority of the state's population lived in urban areas.) Agricultural employment dropped to 7.4 percent in Minnesota in 1970, compared with 3.4 percent nationally. Over 170,000 farmers had left the land since 1940.

The large decline in agricultural employment is, in part, a reflection of tremendous productivity increases resulting from increased mechanization and application of the fruits of scientific research. For example, between 1945 and 1958 corn yield per acre in Minnesota rose by 50 percent, and wheat yields by 60 percent.

Farming is more significant as a generator of personal income in the state than its employment figures indicate. In 1970, gross cash farm sales represented about 15 percent of total personal income, though this was half the proportion accounted for in 1945.

The employment gap in manufacturing had also narrowed by 1970, to 20.3 percent in Minnesota versus 24.4 percent in the U.S. The most dramatic increase in manufacturing employment in these years came in the non-electrical machinery sector, which added 54,000 jobs between 1940 and 1970, jumping from 8 to over 20 percent of manufacturing employment, twice the proportion

in the national economy. The bulk of this growth came in the computer industry, which grew from less than 200 employees in 1963 to 19,000 in 1972.

Computers accounted for one-third of all non-electrical machinery employment, with refrigeration and construction machinery representing an additional 25 percent. Agricultural machinery, which had accounted for 30 percent of this sector's employment in 1950, fell to 8 percent by 1972, as 2,700 jobs were lost, 40 percent of the 1950 total.

Other manufacturing developments in these years include a decline of 12,000 jobs in food processing employment between 1960 and 1970. This sector represented 15 percent of Minnesota's manufacturing employment in 1970, compared to 9 percent nationally.

Minnesota's paper industry doubled its employment to 23,600 jobs between 1960 and 1970, when it jumped to 7.8 percent of manufacturing jobs, more than twice the national proportion. Much of the increase came in pulp and paperboard mills, reflecting technological changes that permitted the use of aspen, one of Minnesota's most abundant tree species.

In 1970, Minnesota's printing and publishing industry was also more concentrated than the national average, representing 10.1 percent of manufacturing employment (30,600 jobs) versus 7 percent nationally.

Little structural change occurred in Minnesota's manufacturing sector between 1970 and 1975. Much of the growth that took place in the early part of the decade was lost in the 1975 recession. The largest change was a gain of 7,000 jobs in the paper industry, which accounted for most of the 10,500 employment increase in manufacturing in the first half of the decade.

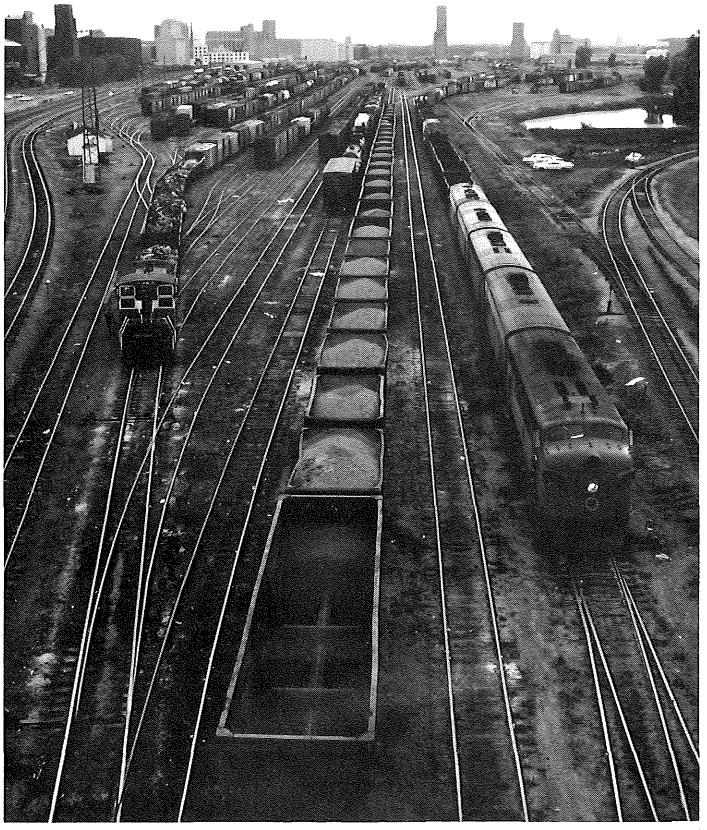
World War II demand for steel doubled mining employment to 15,800 between 1940 and 1950, and high demand kept employment at these levels through the 1970s. Changes did occur, however. By the mid-1950s, foreign ore imports, with ore contents of 65 percent or more—compared with about 52 percent on the Iron Range—were rising.

State-funded reseachers at the University of Minnesota had been studying methods to overcome the declining concentration of Mesabi ore. As a result, in 1956 a new technological process was introduced which produced taconite pellets, whose concentration levels, uniformity of size and porosity increased blast furnace productivity by 30 to 50 percent. Twenty years later, 75 to 80 percent of mining employment was associated with taconite production.

Although manufacturing grew strongly in the postwar years, service industries grew even faster. The two largest service fields, health and education, increased from 7 to 15.9 percent of total Minnesota employment between 1940 and 1975, accounting for over 230,000 jobs in the latter year.

Business services jobs increased 12-fold over this period, to 34,000. Computer and data programming services represent the largest portion of this sector, 28 percent in 1970 and, as a result of a classification change, 17 percent in 1975.

Other large service sectors in Minnesota are membership organizations (26,400 jobs in 1975) and hotels and other lodging (16,400) buoyed by the large tourism industry. The state Office of Tourism estimated tourist spending at $2.5 billion in 1980.



*Employment in transportation and utilities totals nearly 5 percent of Minnesota's jobs and 6.7 percent of wages.*

*Minnesota's manufacturing sector is exceptionally diverse, and includes many growing high technology and medical firms.*

# Trends in the Minnesota economy

## Recent Trends

The Minnesota economy employs approximately 2.1 million workers in more than 110,000 businesses and government units. Income from these jobs is about $30 billion each year. These jobs and businesses are generally grouped into 10 broad economic or industrial sectors: agriculture, mining, construction, manufacturing and high technology, transportation, communication and utilities, wholesale and retail trade, finance, insurance and real estate, services, and government. A look at the distribution of jobs and income in these 10 economic sectors shows the relative importance of these industries to the overall economy (Figures 1 and 2).

**FIGURE 1**
*Percent of total increase in private sector employment and private sector wage income in Minnesota, 1977-1981*

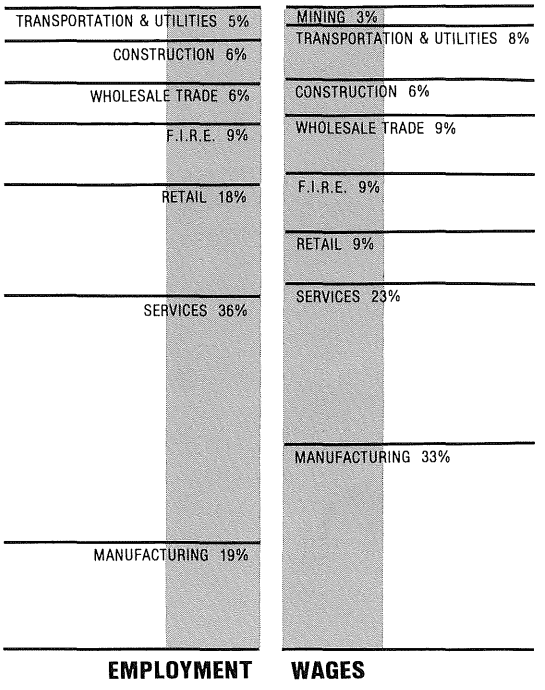
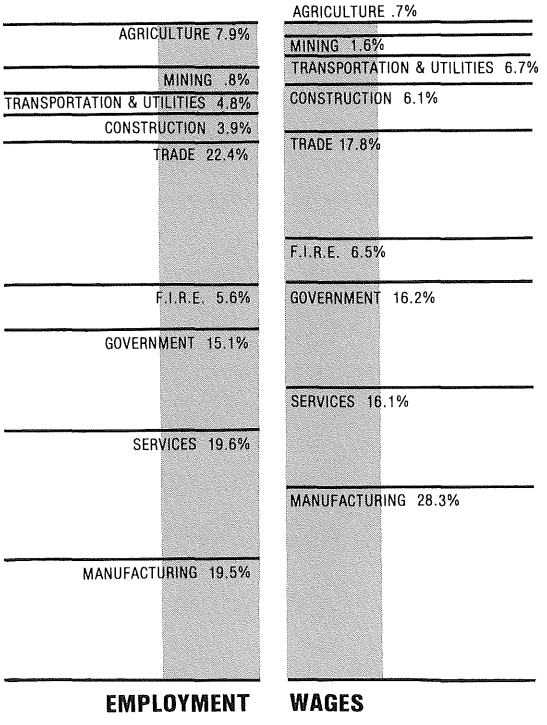



**FIGURE 2**
*Percent increase in total employment and total wage income in Minnesota, 1977-1981*




## Trade

Minnesota's largest employer is the wholesale and retail trade sector, providing 22 percent of all jobs and 16 percent of all wage income. Although this sector is the largest source of employment for the nation as well, it is even more important to Minnesota's economy, representing a 14 percent higher proportion of total employment than the national average.

Retail trade—which includes clothing, furniture and garden supply stores, among others—provides more than 16 percent of full-time and part-time employment but only 8 percent of the state's payroll, which indicates that wages in this sector are about half the state average. Eating and drinking establishments dominate the retail trade sector, in terms of jobs and wages, and contribute nearly 5 percent of all jobs in the state.

Employment in Minnesota's wholesale trade industry, including such activities as warehouse operations and wholesale food distribution, exceeds 6 percent of the work force. In contrast to retail trade, where wages are low, wages in the wholesale sector comprise 8 percent of the state's total payroll.

## Services and Tourism

Minnesota's service sector is comprised of a diverse array of industries including health, education, legal, business services, hotel and recreational establishments. The service sector is the state's second largest economic sector, representing 20 percent of jobs and 16 percent of total payroll. The service industry is more important to Minnesota's economy than it is to the nation as a whole, as it represents only 18 percent of total employment nationwide. Health care is the single largest service industry in Minnesota, providing more than 7 percent of total state employment and wages. The second largest service industry is business services, which includes such activities as photocopying, data processing, temporary employment and accounting services. Business services account for nearly 3 percent of the state's jobs and payroll.

Minnesota also has an especially high concentration, compared to the nation, of employment in education. Private education represents a 9 percent greater proportion of the state's employment than the nation as a whole.

Minnesota's tourist industry is largely a composite of services, such as recreation, hotels and museums, and is a key part of the state's economy. Generating more than 110,000 jobs and $900 million in payroll, it is the 9th largest industry in the state.

## Manufacturing

Nothing is more important to the Minnesota economy than its manufacturing base.

Minnesota's manufacturing sector is exceptionally diverse, with representation from virtually every manufacturing industry in the nation. Browse through the telephone directory and you'll find everything from food processing to heavy equipment to electronics. Manufacturing ranks third in the state in employment with 20 percent of all jobs. However, it is Minnesota's single most important source of wage income; nearly one in every three wage dollars earned comes from the manufacturing sector.

Five manufacturing industries—food products, primary metals, fabricated metals, machinery, and instruments—account for nearly 50 percent of the state's total manufacturing jobs and 13 percent of total wage income. The share of total employment represented by these manufacturing industries in Minnesota ranges from 33 to 69 percent higher than their national counterparts. Thus these industries are important to the state not only as a source of jobs and income but also because they form the foundation of the state's export base.

## High Technology

Manufacturing is also important because it includes the group of business activities collectively called "high-technology" industries. Using the definition established by the Brookings Institute, high technology alone provides 6 percent of the state's employment or approximately 130,000 jobs. (Other definitions indicate even higher levels of high technology employment in the state.) Wages in high technology industries represent 8.5 percent of the state's total payroll.

Six industries represent nearly 70 percent of the high technology jobs in the state. They are office and computing machines, with 31 percent of all high technology jobs; measuring and control devices, 11 percent; advanced weaponry and ammunition production, 8 percent; electronic components, 7 percent; construction machinery, 7 percent; and industrial machinery (including such products as industrial trucks, tractors and conveyors), 5 percent.

Minnesota is highly specialized in several of these industries. As compared to the nation, Minnesota has nearly 700 percent more employees in the weapons industry. There is a 300 percent higher concentration of workers in the business machines industry and nearly double the proportion of employees in the measuring devices industry. These areas of specialization are Minnesota's chief sources of high technology exports.

## Government

The public sector, including local, state and federal government, ranks fourth as a source of jobs and income in Minnesota. Approximately 16 percent of the state's employment is in government activities, 2 percent below the national level. More than 65 percent of these jobs are located in local government, which includes the public school system. This sector generates over 16 percent of the state's total wage income.

## Agriculture

More than 100,000 people are employed in Minnesota's agricultural sector, representing nearly 7 percent of the state's total employment. While not an extremely large sector in terms of jobs or wage income, farm products generate annual sales in excess of $5 billion. The agricultural sector is critical to the state because it provides a direct economic link with some of our most vital manufacturing industries, including food products, glass containers, and paper products. Thus, the secondary economic benefits created from our farm sector are much larger than those measured directly from that sector's jobs and payroll.

## Finance, Insurance, Real Estate

The finance, insurance and real estate sector represents nearly 6 percent of the state's jobs and wage income. Minnesota's finance sector has an unusually high concentration of employment in holding and investment companies and insurance services as compared to the nation, indicating that Minnesota serves regional capital markets.

## Construction

Minnesota's construction industries represent 4 percent of the state's total employment and, because of high wages, 6 percent of the total state payroll. Construction activity is important not only in terms of jobs and wages, but also because it indicates the level of capital investment occurring in the state. The proportion of total employment in this sector is roughly equal to the national level, indicating that we are adding to our capital stock at roughly the national rate.

## Transportation and Utilities

Transportation and utilities employment is nearly 90,000, which totals 5 percent of the state's total jobs and 6.7 percent of total wages. As a share of total employment, employment in these sectors is roughly equal to the national level.

## Mining

Mining represents about 1 percent of the state's work force. Because wages in this sector are twice the state average, it accounts for nearly 2 percent of wages. However, these numbers understate the importance of this sector. Mining is highly centralized, with 91 percent of all employment located in northeastern Minnesota. As a result, while a change in employment in that sector may have little effect on total state employment, it has drastic effects on both total employment and income in that region.

## Summary

Overall, Minnesota's economy is well-diversified, with significant representation in all sectors and in more than 90 percent of the nation's major industries. This diversity adds to the strength of the economy, insulating the state from the effects of a sharp decline in any single industry.

Minnesota's economy also demonstrates some unique areas of specialization. It shows particular strength in such industries as food products, printing and publishing, fabricated metals, machinery manufacturing, instruments manufacturing, education and health services and some finance industries. These areas provide important sources of export income to the state. It is important to note that while export income is primarily generated by manufacturing industries, agriculture and finance, certain service industries, such as education, also bring export income into the state.

In recent years the mix of industries and jobs in Minnesota has been shifting. While the long-term effects of this shift are yet to be determined, trends in industry and occupation mix, wage distribution and the effects of foreign trade can be identified.

# Emerging Trends

Since 1977, the number of jobs in Minnesota has increased by nearly 500,000. The distribution of these jobs among industries and occupational classifications, the effects on wages, and Minnesota's position in increasingly competitive international markets illuminate the economic transition that is now under way. This transition indicates both sources of optimism and areas for concern in the Minnesota economy.

## Shifts in the industrial mix

Like the nation, Minnesota's economy is becoming increasingly dominated by the service sector, in which nearly 40 percent of all new Minnesota jobs were created in recent years. In Minnesota, most of these new jobs are in health and business services industries. Legal and educational services, though smaller in absolute terms, have demonstrated remarkable growth in recent years—9 and 8 percent per year respectively as compared to less than 7 percent nationally.

This growth in educational services is especially remarkable given the decline in school age population over the same period. It is also important because it is one of the service industries that can create export income for the state.

While many service sector jobs, such as those in the legal services industry, are high paying, they are in general low wage jobs, even in Minnesota. Because of this, only a quarter of the real increase in wage income since 1977 can be attributed to this sector, in sharp contrast to the percentage of new jobs the sector represents.

The growth of national employment in manufacturing has slowed and in many instances declined, yet Minnesota's manufacturing sector has been the second largest source of job growth and the largest source of real wage growth over the past decade. The industry showing strongest growth is stone, clay and glass products, predominated by production of such products as fiber glass, sandpaper, and containers. Employment in this sector has grown at a rate of more than 9 percent per year in Minnesota in recent years, in contrast to a slight decline nationally. The instruments industry, producing such items as laboratory equipment, thermostats and other types of control and medical devices, has also grown more rapidly in Minnesota as compared to the nation (9 percent annually, as compared to 3 percent).

Other manufacturing industries showing particularly strong growth are printing and publishing, chemicals, plastics, fabricated metals and machinery. Growth in each of these industries outstripped that of their counterparts nationwide by at least 20 percent.

The manufacturing activities that collectively represent Minnesota's high technology industry have also grown rapidly in recent years, with employment increasing by 7 percent per year. As a result, high technology employment is holding an increasing share of Minnesota private sector employment, up from 7 percent of all jobs in 1977 to nearly 8 percent in 1982.

The sharpest growth has come in office/computing machines and measuring and control devices. Employment in the office and computing machines industry grew at a remarkable 12 percent per year, adding 13,000 jobs in only four years. Employment in measuring control devices doubled in the last four years to approximately 15,000 employees.

However, all segments of Minnesota's manufacturing sector have not prospered in recent years. Five industries have declined sharply: food processing, apparel products, paper products, primary metals, and transportation equipment manufacturing. In each case, Minnesota employment has dropped much more steeply than the industry as a whole has experienced.

The decline in the food products industry is an especially serious problem. Minnesota has been a national center for food products processing and production. It is the state's second largest manufacturing industry, representing 10 percent of manufacturing employment. Furthermore, many of the state's other manufacturing industries, such as clay and glass products, fabricated metals (containers) and paper products, are directly linked to food processing. A decline in this sector will surely effect them as well.

These trends are creating a highly concentrated manufacturing sector in Minnesota. Because manufacturing jobs have high wages and bring export income into the state, it is becoming increasingly important to nurture those industries in which we increasingly specialize, including instruments, clay and glass products, printing and publishing, chemicals, plastics, fabricated metals and machinery. It is also necessary to increase efforts to retain and add employees in declining industrial sectors.

Together, the retail and wholesale trade industries account for another 20 percent of new job creation. Like the service industry, this sector is dominated by low wage jobs. In retail trade, wages are roughly half the average amount for new Minnesota jobs. In contrast, new jobs created in wholesale distribution industries boasted wages that were twice as high as the average annual wage for new jobs.

The remaining 20 percent of new jobs were distributed among the finance, construction, transportation and utilities industries. Finance is becoming an increasingly important source of new jobs. While representing only 6 percent of total employment, it was the source of 10 percent of employment growth. Mining and agriculture are declining both as a proportion of total employment and in absolute terms. Agriculture alone has lost more than 15,000 jobs in recent years.

Thus, the mix of Minnesota industries is becoming more concentrated. The service, finance, and manufacturing sectors represent an increasing share of the state's employment. Moreover, the maufacturing sector itself is becoming more concentrated in a few key industries. Manufacturing growth industries include instruments, fabricated metals, printing, and clay and glass products. But the state's food processing industry, long a source of export income in the state, is declining. As the economy becomes more concentrated, the health of our growing industries is increasingly important to the state.

## Regional disparities

However, employment growth in these various industries did not occur evenly around the state. In fact, 80 percent of recent job growth occurred in the Twin Cities and Rochester. Since 1977, employment grew at a rate of 5 percent per year in the Twin Cities and Rochester but at only 2 percent per year in the rest of the state.

Furthermore, jobs in high wage industries, such as construction and manufacturing, grew even more rapidly in the metropolitan areas than in the rest of the state. Of the 47,000 new manufacturing jobs created between 1977 and 1981, all but 300 were created in the Twin Cities and Rochester metropolitan areas. In construction, the rate of job growth was 300 percent faster in those two areas than in the rest of the state. In fact, more than 50 percent of all jobs created outside the Twin Cities and Rochester were created in the low wage trade and service sectors.

The result of these trends is both a lower level of employment outside the Twin Cities-Rochester metro areas and increasingly disparate wages between these two zones. Unemployment in the rest of the state is 50 percent higher than in these two metropolitan areas. In some locations in rural Minnesota, the unemployment rate is up to three times the Twin Cities-Rochester level. Annual wage income is 25 percent lower outside these two metropolitan areas, and is growing at a 10 percent slower rate.

Clearly, the economic strength demonstrated in the Twin Cities and Rochester is not being shared by the rest of the state. With the continuing decline of the farm economy and mining industry, this disparity is likely to worsen in coming years.

## Shifts in the occupational mix

The occupational mix of the Minnesota workforce has also been shifting. The most significant trend is the increasing concentration of professional and technical workers, including a broad range of occupations from engineers and scientists to laboratory technicians and nurses. Historically, Minnesota's economy has had a higher concentration of professional and technical workers than the nation. In recent years, the proportion of workers employed in these occupations has increased 16 percent, to more than 18 percent of all workers.

This shift toward professional and technical employment has been caused almost entirely by the state's changing industrial mix. Expanding service sector industries (such as health, legal and education) and the finance sector are dominated by professional and technical employment. However, even in the manufacturing sector, the proportion of non-production workers is growing. Since 1977, the share of non-production workers has increased by 3 percent per year to 38 percent of all manufacturing employment.

Sales jobs also represent an increasing proportion of the state's work force. Workers in sales positions have increased from 6.5 to 7.1 percent of all jobs. The concentration of clerical jobs is increasing as well, up 7 percent as a proportion of all workers. However, in contrast to professional and technical occupations, this shift cannot be explained by our changing mix of industries. Rather, the difference can be attributed to the staffing patterns of Minnesota industries, which rely more heavily on sales and clerical personnel than does industry nationwide.

The proportion of workers in management and administrative positions has remained a fairly constant 11 percent of the state's jobs, about the level that would be expected given our industrial mix. Service jobs (janitors, garbage collectors, cooks, etc.) have also remained a

fairly stable 15 percent of the work force. Minnesota's concentration of service jobs is nearly 20 percent above the national average, given Minnesota's industrial mix.

(Service occupations are distinguished from the service sector. Service jobs are found in all sectors and include cooks, maids, dishwashers and waiters. In contrast, jobs in the service sector include a broad range of occupations, including doctors, lawyers and engineers.)

The proportion of blue-collar jobs has declined steadily in Minnesota in recent years. The proportion of skilled craft jobs has declined 6 percent. Semi-skilled jobs are down 9 percent while transportation occupations are down 18 percent, the number of unskilled laborers has dropped 16 percent, and farm worker employment is off 11 percent.

If Minnesota had followed national patterns, the increasing concentration of manufacturing, expansion of the service sector and the decline of mining would have resulted in an even sharper decline in the proportion of blue collar jobs. Here again, patterns within Minnesota industry are unique, showing a higher concentration of blue collar employment than the nation.

In general, then, the Minnesota workforce is shifting toward an even higher concentration of white collar occupations, with emphasis on technical and professional jobs, and away from blue collar, especially semi-skilled and unskilled, jobs.

**FIGURE 3**
*Manufacturing Jobs Growth in Minnesota, 1977-1981*

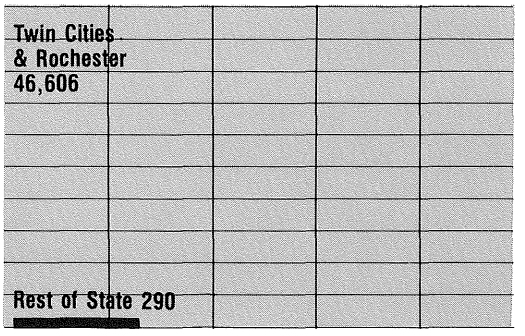
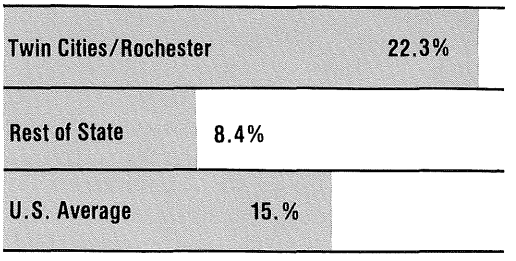
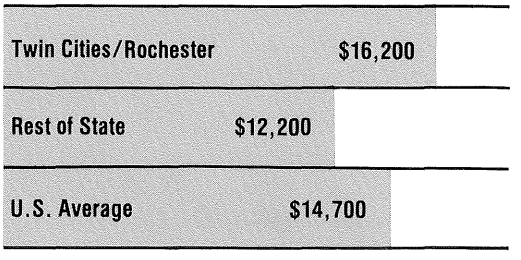



**FIGURE 4**
*Total Job Growth in Minnesota, 1977-1981*




*Average Wage Income in Minnesota, 1981*



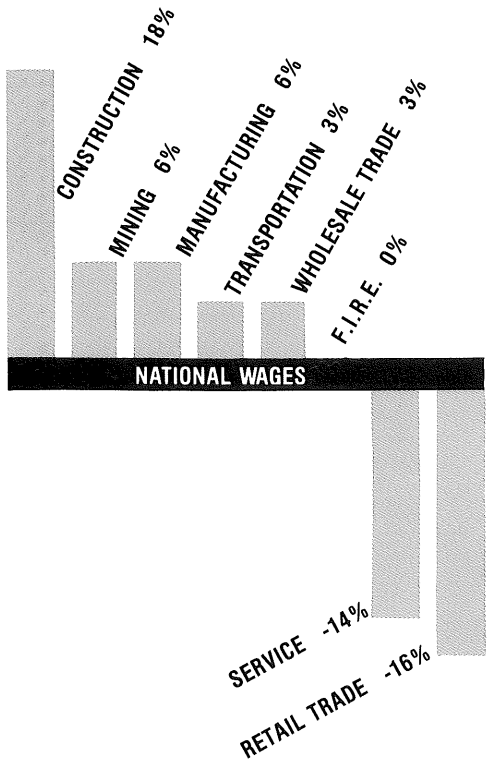
## Trends in wages

Minnesota's annual wage income per employee is approximately equal to the nation, averaging about $15,000 per year in 1981. When examining the distribution of wages more closely, however, clear differences from the nation emerge.

In high wage sectors, including mining, manufacturing, construction, transportation and finance, average Minnesota wages are significantly higher than the nation. Annual wages in high wage sectors are 8 percent higher than the nation, averaging approximately $20,000 per year in 1981.

In contrast, state annual wages are below the national average in low wage sectors, such as retail trade and services. In these industries, annual Minnesota wages are on average 15 percent below the nation's. These low wages are almost entirely due to the lower number of hours worked in these industries in Minnesota as compared to the nation.

**FIGURE 5**
*Percent difference between Minnesota and U.S. wages, 1981*




Two trends are likely to make the problem of workers clustered in very high and very low wage jobs worse in coming years. First, many of Minnesota's fastest growing industries are at opposite ends of the wage scale. Fast growing, low wage businesses include such service industries as health care and business service. Of the Minnesota industries that are growing faster than average, 60 percent of employment is concentrated in industries with below average wages.

But employment is also growing rapidly in certain high wage industries. For example, Minnesota's two fastest growing manufacturing industries, instruments and clay and glass products, had wages 40 percent above the state average and 10-20 percent above the national average for those industries.

Income gaps caused by job growth in high and low wage industries are also becoming more pronounced because wages are diverging. In the last four years, real wages in low wage industries declined by 2 percent per year while wages in high wage industries remained relatively constant.

In total, then, wages are becoming increasingly concentrated at the high and low ends of the wage scale. Jobs are growing in low wage, low skill service and retail sectors, and in high paid manufacturing industries. In addition, wages in these industries and occupations are diverging.

The effect of the expansion of low wage jobs and declining wages in those jobs has not been offset by growth of wages and jobs in other industries. As a result, Minnesota's wage income is now growing at a slower rate than the nation. Minnesota has a two tier economy with low wages increasingly pulling down overall wage levels in the state. No trend has more serious economic implications for Minnesota.

## Trends in international trade

Competition from foreign trade is critical for three key Minnesota sectors: mining, manufacturing and agriculture. While, overall, Minnesota is less dependent on export of its goods to other countries than is the nation, exports have been an increasing source of the growth in Minnesota's employment and output of goods. The share of employment in Minnesota that can be attributed to exports has grown at a rate of 2 percent annually in recent years to more than 5 percent of total private sector employment.

Currently, about 30 percent of total sales revenue in the agricultural sector is generated by exports. While direct imports of metal ore are not increasing, imports of finished metal products have seriously reduced demand for Minnesota taconite. At this time, imported metal products and ore together represent over 40 percent of total taconite production.

In manufacturing, Minnesota's machinery industry is the state's largest source of non-agricultural exports. Nearly 25 percent of shipments from the industry were for export markets. The food products industry is also a large Minnesota source of exports, representing 11 percent of total state exports.

In recent years, exports have accounted for an increasing share of output from key Minnesota manufacturing industries. In the fabricated metals industry the share attributed to exports has grown 6 percent per year. The share in the printing and non-electrical machinery industries attributable to exports has increased 5 percent per year in both cases. Exports have increased as a share of output from the clay and glass products industry by 8 percent per year.

Clearly, exports have expanded markets for Minnesota products. For example, over 50 percent of the growth in output in the instruments industry over the past 5 years is attributed to increased exports. However, growth in output is being slowed by increased imports into the U.S. and by non-U.S. imports of these goods by other countries.

Imports are encroaching on domestic markets for several key manufacturing industries more quickly than exports are expanding international markets for those industries. These sectors include instruments, where imports as a share of output grew 90 percent faster than exports; fabricated metals, where imports grew 30 percent faster than exports; and non-electrical machinery, where imports grew 90 percent faster than exports over the past several years. While these industries are currently still net exporters this situation could reverse by the 1990s.

These industries, demonstrating rapid growth and high wages, are extremely important to Minnesota's economy. In addition, employment in these industries is highly concentrated and loss of income from them will affect Minnesota more than the nation. Increasing erosion of international and national markets for these industries due to imports must be of serious concern for state policy makers.

*Minnesota is fortunate that policymakers have long maintained a commitment to quality education—a commitment that is critical as the age of high technology dawns.*

*Minnesota is relatively far removed from major national and international markets, making the need for a sound infrastructure critical.*

# Policies important to economic development

It is vital to have a clear understanding of what affects the economy of Minnesota before considering policies and programs designed to enhance growth. Policies that do not recognize economic realities are likely to encourage development of industries and businesses unable to survive in the existing economic environment.

Many of the major factors affecting a state's development opportunities have been examined in great detail by individuals, businesses and organizations examining the economic strengths and weaknesses of the 50 states. These factors can be grouped into two categories: those that are uncontrollable or can only be affected *indirectly* by state policies, such as the availability of natural resources and the quality of a work force; and those that are affected *directly* by state activities, primarily state taxation and regulatory policies.

It is important to begin a discussion of economic development policies with the understanding that these factors, or combinations of them, will always affect the development opportunities of each individual industry and business in a unique manner. For example, an industry that relies heavily on unskilled and semi-skilled labor, such as an assembly line manufacturing facility, may rate the cost of labor as its number one concern. However, a firm developing advanced computer systems would rate labor costs as a lower priority than the availability of a highly educated and skilled work force.

Because of such fundamental differences, it is necessary to know which industries are dominant when considering the formulation of an economic development strategy. It is equally important to have clearly defined long-term economic goals for the state that identify industries with the greatest potential for future economic growth.

The first step toward formulating effective development policies and programs is to identify the industries that have historically been dominant in Minnesota and the industries that have demonstrated significant growth trends during the past decade. With that knowledge in hand, policymakers must then move on to identification of the major factors affecting the general economic development opportunities of the state.

Knowing these components will facilitate any discussion of each factor's role in Minnesota's economic future and lead to general recommendations concerning the proper role state economic development and fiscal policies can play in promoting healthy growth. These policies must be designed to capitalize on elements with a positive impact on the economy and compensate for those with a negative impact.

# Key factors affecting economic development

Tax and regulatory policies should be the subject of close scrutiny by the citizens of Minnesota, simply because they are the issues affecting economic development that can be most easily changed by state government. However, other factors with the greatest impact on the future can only be indirectly affected by state fiscal policies. These include availability of natural resources, primarily energy resources; location of our state relative to major national and international markets; and investment capital accessible by our business community.

## Taxation and regulatory policies

During the past decade, there has been substantial discussion of the quality of Minnesota's business climate. Most of this public debate has focused on specific state policies perceived to have a negative effect. Some studies have concluded that state policies may not have as great an impact as other factors, but the attention given them is entirely legitimate, because these government-imposed expenses are the areas most easily controlled by state policymakers.

However, great care must be taken to recognize any hidden costs associated with reducing the state-caused expenses of doing business. It is possible that the effort to improve the situation may generate unexpected costs that reduce the effectiveness of the reform—or even result in a net deterioration of the business climate. For example, the highly productive Minnesota work force would eventually be damaged if the quality of education was lowered. It probably would be counter-productive, then, to reduce the amount of funds available for public education in an attempt to create a more favorable tax climate.

Tax rates will always be considered by any business selecting a site for location or expansion. A high tax state raises the direct operating costs of a business and invariably results in higher indirect costs, such as wages and construction costs of the plant itself. High taxes also tend to give the perception that a state is not concerned about its businesses and their needs.

States with high tax burdens must be able to offset that and other negatives with positive benefits important to the business community. Because a state's tax climate weighs heavily on business location decisions, it is imperative that close attention be paid to tax spending and policies. The hidden costs of both tax cuts and tax increases must be understood. A delicate balance must be achieved, ensuring quality public services while at the same time maintaining the lowest possible level of taxation. The need for balance is especially evident when the importance of these services to the future economy of the state, particularly in the areas of education and public infrastructure, is considered.

Minnesota has historically been a high tax and high spending state, a fact reflected in education and the infrastructure, where investment has been well above the national average. The high level of taxation required to support state services has been at a definite cost to the state economy. Many businesses have cited high taxes as the reason for declining to locate or expand in the state. In a report entitled, "Jobs and Taxes: The Effect of the Business Climate on Minnesota Employment," the Minnesota Tax Study Commission found evidence that high taxes result in fewer job opportunities in a state. The report noted that of all the various taxes, a high personal income tax is the greatest deterrent to employment growth. This fact is particularly disturbing because of Minnesota's excessive reliance on the personal income tax. Given this finding, the current determination to reduce personal income taxes is welcome.

## Other State Policies

In addition to state and local taxes, a number of other state policies impose direct costs on the business community, such as the regulation of industry to protect the public interest. In Minnesota, the regulatory effort includes environmental policies as well as unemployment insurance and worker's compensation. As with tax policies, it must be recognized that if the cost of these regulations becomes excessive, or if businesses view the regulatory process as capricious and unpredictable, especially when compared to other states, the result may be a loss of jobs.

Currently, worker's compensation costs in Minnesota's manufacturing sector are seventh highest in the nation. Minnesota worker's compensation costs for all industries are closer to the national average—ranking 21st in the nation—but they are the highest in the region. Although changes made by the 1983 Legislature have lowered these expenses, continued high costs in some sectors are likely to have an effect on some business location decisions.

The evidence is more mixed on the impact of state unemployment insurance costs. Minnesota's average unemployment insurance cost in the manufacturing sector is 17th highest in the nation, as measured by benefits paid per covered worker. When measuring benefits per dollar of payroll, Minnesota is even closer to the national average, ranking 23rd.

Other state regulations—hazardous waste disposal, for example—also impose costs. In all such cases, the state must protect its citizens while ensuring that the burden placed on business is justified. The costs and benefits of proposed or current regulations must be carefully weighed. Every effort must be made to create a stable regulatory environment to assure businesses that sudden changes in government regulation will not occur.

**FIGURE 6**
*Unemployment Insurance Costs*
*Benefits paid per covered worker*

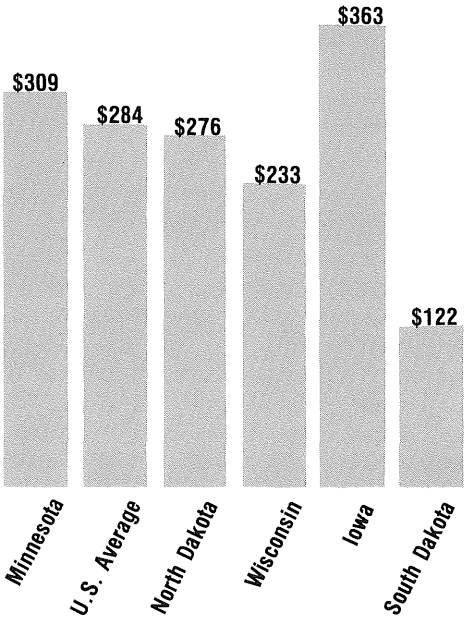
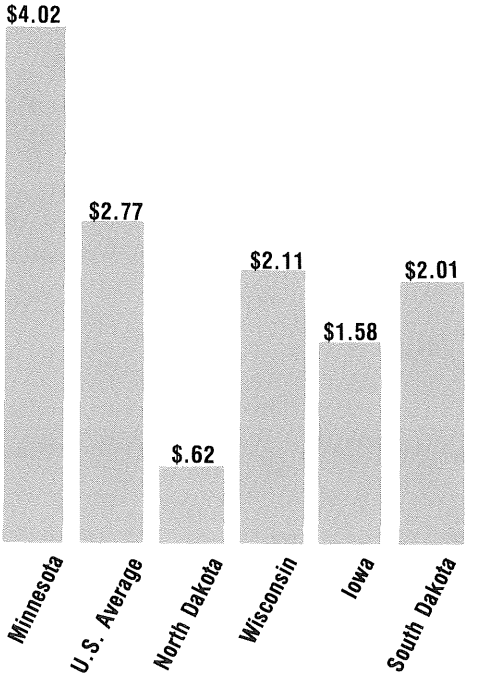



**FIGURE 7**
*Worker Compensation Costs*
*Manufacturing compensation costs per $100 of payroll*



## Availability of natural resources

A supply of natural resources for the production of goods and services and to sustain a growing population is essential to the economic future of Minnesota. An industry is much less likely to locate in a state without the natural resources necessary for the production of its goods or services. In addition, importing necessary natural resources results in a costly financial drain on the state's economy.

Fortunately, Minnesota is blessed with an abundance of the natural resources necessary to support a thriving economy. The fertile soil has helped create one of the world's largest agricultural industries. Farmers make a substantial contribution to our economy. A healthy agri-processing industry exists as a means of processing our agricultural commodities into marketable products. A combination of low commodity prices and high interest rates has created a crisis in agriculture, but it remains a vital element in the current economy.

Minnesota has more freshwater resources than any other state in the nation. An abundance of fresh water is a key asset to many industries, mostly wood products, paper and tourism. Minnesota's timber resources are more than sufficient to supply the paper, wood products and construction industries. In fact, the state is a net exporter of paper to the rest of the nation. The mineral resource industries, primarily iron ore and taconite, have historically been the driving forces of the northeastern Minnesota economy. Increased foreign competition has reduced the demand for taconite, but mineral resources will continue to play an important role well into the 21st century. The importance of agricultural, timber and taconite resources to the entire economy is magnified by the ability to export these resources to other states, thus bringing a constant flow of dollars into Minnesota.

Unfortunately, missing from a list of native natural resources are traditional energy resources. Prior to the OPEC oil embargo of 1973, Minnesota could afford to import these traditional fuels without causing a significant drain on the economy. However, now that the cost of natural gas and oil has increased 500 percent, continued reliance on imported fuels when it is not cost effective places Minnesota at a competitive disadvantage with energy-rich states.

To highlight the significance of this problem, consider that Minnesotans spend approximately $7 billion each year for their energy needs. Of that amount, at least $3.5 billion leaves the state only to increase the wealth of energy-rich states and nations. In other words, 6 percent of total gross state product is exported to supply energy. Continued reliance on others for energy needs will always cost Minnesota financial resources and jobs.

Many energy-rich states have capitalized on their abundance of energy resources to increase their revenue base, reduce the tax burden on their citizens and promote economic development. That fact was evident recently when 3M announced that it was going to expand its research and development division into Austin, Texas. In announcing their decision, 3M executives cited the quality of education offered at the University of Texas, and the absence of a personal and corporate income tax, as their primary reasons for selecting Austin.

A close look at the Texas economy reveals the two basic energy resource ingredients of its competitive advantage:

- Texas has been able to avoid imposing personal and corporate income taxes partially because of substantial income from severance taxes on oil and gas. During 1982, Texas collected slightly over $2 billion in oil and gas severance taxes. During that same year, Minnesota collected about $1.9 billion in individual and corporate income taxes. Between 1980 and 1982, Minnesotans paid over $50 million in oil and gas severence taxes to the State of Texas alone.
- In addition to these severance taxes, Texas generates substantial income from royalties paid by oil companies for the mineral rights to state lands. These royalties help fund the public higher educational institutions in Texas.

These examples clearly show that Minnesota is subsidizing the incentives used by energy-rich states to lure away firms. Minnesota state policies, therefore, should encourage development of alternative energy resources available within the state and encourage increased energy conservation. Such a strategy will reduce Minnesota's dependence on imported energy and make a substantial contribution to the overall economic development blueprint.

While the first objective must be to reduce energy dependence, the ultimate goal should be to use Minnesota expertise in energy conservation and alternative energy as an exportable asset. The technologies waiting to be developed will be needed in other states and nations and may make Minnesota the national leader in a growing new industry.

## Location

The location of any state, relative to major national and world markets, has a direct impact on the type of industries that will prosper there. As a general rule, products with a relatively small value-to-weight, or value-to-volume ratio must be produced very near their major market. A manufacturer of cement blocks, for example, would not locate in an area with little opportunity for construction projects, simply because the cost of transporting blocks to markets would make it impossible to sell them at a competitive price.

Minnesota is relatively far removed from major national markets. A number of the businesses which have left Minnesota in recent years have cited this fact as the primary reason for relocation. Many of these businesses have found it necessary to be close to the rapidly growing markets of the southern states in order to remain competitive. Because Minnesota cannot change its location, or the location of national and world markets, its future economic health will be increasingly dependent on industries which produce a product with a high value-to-weight or value-to-volume ratio. This is one explanation for Minnesota's success in the high technology and information industries.

## A quality work force: Vital to success

While natural resources and location are essentially unalterable factors, the availability of an educated, trained and productive labor force can and must be fostered by both public and private sectors. The importance of a quality, highly productive labor force cannot be overemphasized; *it is vital to the success of any economic development strategy.* Almost every business climate study ever done has indicated that the quality of the labor force—the human capital—is a key factor to consider when selecting a site for business location or expansion. States with higher than average labor costs must offset these higher expenses by offering businesses more productive workers.

Minnesota is well known for the quality of its labor force. A recent study found that Minnesota ranked seventh among all states in the productivity of its employees. When Ford Motor Company announced a $250 million expansion of its St. Paul assembly plant, Ford executives noted that it was one of its more productive plants—strong praise from a truly international giant. That record of high productivity was partially responsible for the decision to expand the St. Paul facility.

Minnesota's excellent work force is in part the result of the substantial commitment its citizens have made to quality education and training programs. This state has always ranked high in total expenditures for public education and the investment is paying handsome dividends. Minnesota has the highest high school completion rate in the nation. College entrance exam scores of Minnesota students are well above the national average.

Minnesotans realize that its industries need not only a well-educated work force, but a work force that can be easily trained to fill specific jobs. This state's vocational education system has always responded to the specific training needs of local industries. Over 81 percent of the graduates of Minnesota's vocational education system find employment in the field for which they were trained. This too is well above the national average. Most Minnesotans agree that the public funds spent to support elementary, secondary and post-secondary educational systems are by far the best investment that can be made in the state's future. The direct and indirect correlations between educational achievements and a growing economy have been clearly demonstrated.

Minnesota must continue to use its public and private resources for the further development of its human capital. Whether it be the quality of the teaching of basic skills in elementary schools or the need for the most advanced medical equipment at the University of Minnesota's medical school, the importance of the investments made in education and job training programs must be recognized.

## Investment capital: Prerequisite to economic growth

A prerequisite to sustained economic growth is access by businesses to affordable financing for new ventures as well as capital improvements and expansions of existing businesses. Not only is it important to have investment capital available, business leaders must also be willing to make the investments necessary to remain competitive. All too often, the inability of a specific business to remain competitive is a direct result of the inability or unwillingness of its owners to make investments in modernization.

Minnesota is fortunate to be the home of two of the nation's 20 largest financial institutions. The pool of funds available for business investments is one of the largest in the nation, estimated to total over $10 billion. Minnesota ranks fifth in the nation in the number of commercial and industrial loans per capita. *Inc. Magazine* also noted that Minnesota was one of the best states for availability of investment capital for small and medium businesses.

During the last decade, many private lenders have been unable to offer investment capital at terms needed by the majority of businesses. Particularly, the cost of long-term, fixed-rate financing has become prohibitive. Many businesses are unable to take the risks associated with variable rate business financing. In recent years, many states have seen the lack of affordable investment capital in the private sector and have attempted to fill the void with public dollars. These public pools of investment monies have demonstrated their value by enabling the expansion of businesses which would otherwise have been unable to do so.

In addition to providing a limited amount of long-term, fixed-rate financing, state governments must be careful to avoid policies that inhibit investments, or encourage inefficient investments by its business community. For example, a sales tax on building materials and capital equipment may inhibit productive investments in plant expansion and modernization.

## Needed: A sound infrastructure

Regardless of location, a state must have a well-developed and maintained infrastructure to allow businesses to move products and services to markets. The greater the distance to major markets, the greater the importance of a sound infrastructure.

Traditionally, the term infrastructure has been associated with such transportation systems as roads, bridges, railroads, airports and waterways. These components are still a major portion of any infrastructure, but the demands of modern economies are placing greater emphasis on other areas. In recent years, technological breakthroughs and innovations have increased the importance of communication networks. Increased awareness of hazardous and solid waste dangers, combined with higher levels of production by new and expanding industries, has required state and local governments to make major investments in adequate waste disposal systems. These communications and waste disposal systems are also key elements of a modern infrastructure.

Minnesota is very fortunate that public policymakers have always placed great emphasis on the maintenance of a quality infrastructure. While other states are allowing transportation systems and other components of their substructure to deteriorate, Minnesota has continued to make major investments in maintaining and upgrading these systems. Continued support for the maintenance and development of the infrastructure is essential to the health of the economy.

## A challenge for the present and future

A look at the factors influencing economic growth strongly suggests that Minnesota's excellent record in creating businesses and jobs is not accidental. Indeed, Minnesota's policymakers long ago identified the important ingredients—such as education, transportation, and infrastructure—and have made a superior commitment to developing these critical resources. As a result, they have been very positive elements in the encouragement of business growth and job creation.

However, these services have not been without cost. It is this cost, reflected in the high level of taxation on individuals and corporations, which is the largest obstacle to future economic growth. The challenge facing today's policymakers is to continue a strong commitment to the public services necessary to foster economic growth and simultaneously address areas of deficiency.

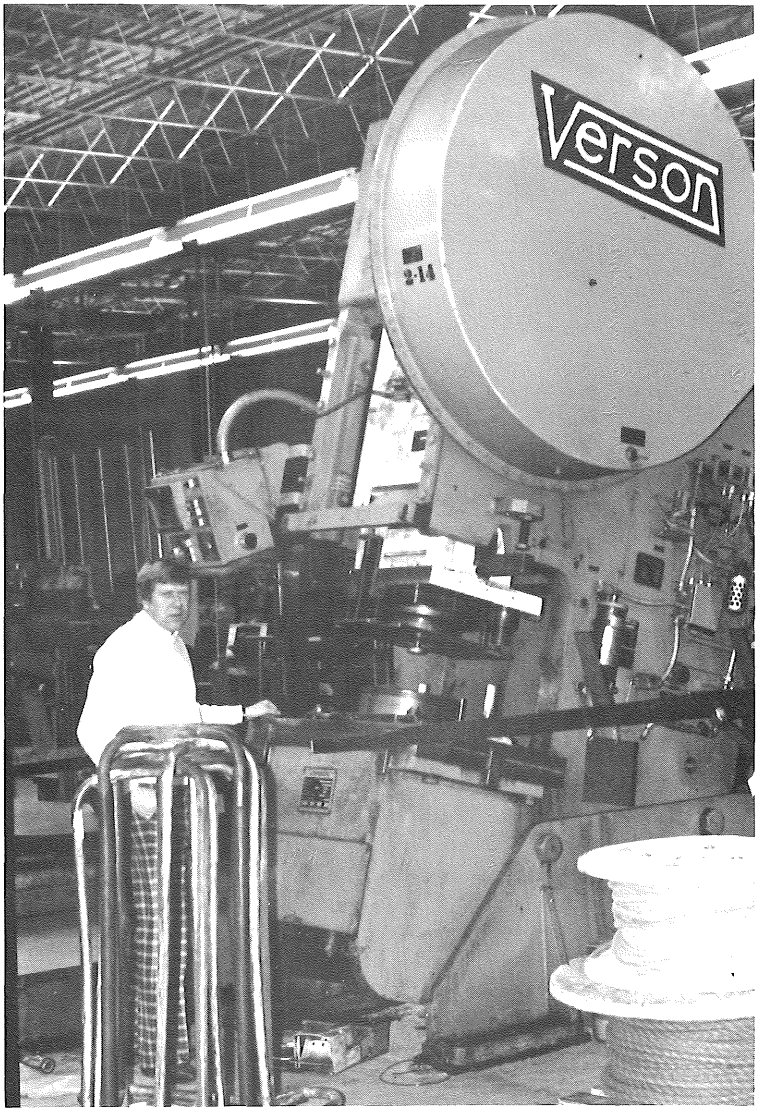
This challenge will not be easily met. Unlike some other states, Minnesota is no longer blessed with highly priced natural resources. Because of that, the state's ability to finance its development activities through severance, use, and other resource taxes is now quite limited. Additionally, the state's most valuable natural resource, its agricultural commodities, is underpriced, and the economy is suffering accordingly. As a result, it will be very difficult to maintain the necessary commitment to governmental activities important to the future economic well-being of the state while at the same time minimizing the costs to taxpayers and businesses.

A look at how other states are handling this extremely difficult challenge suggests that it will not be sufficient for Minnesota merely to pursue these goals; the state must continue to excel. Several states are vigorously supporting technical research, education and growth. Among them, Texas has committed more than $100 million in added support for science and technology in the University of Texas system; North Carolina has budgeted $40 million for a multi-university microelectronics center; and Michigan plans to spend over $100 million for major efforts in industrial technology, robotics and molecular biology.

These and other states are seeking what Arizona Governor Bruce Babbitt calls the most important single factor in promoting a healthy modern economy.

"State and local governments across the country have discovered scientific research and technological innovation as the prime force for economic growth and job creation," Babbitt said recently. Minnesota must strive to remain at the forefront of progressive states in the competition for the "prime force" or its economy will suffer.

*Minnesota's abundance of lakes, rivers, forests and wildlife have helped build a strong tourism industry that will continue to be a vital element of the state's economy for years to come.*




*State-financed business incentives help spur economic growth. Revitalizing a grain elevator in Dalton and relocating an out-of-state manufacturing facility to Ideal Security Hardware's St. Paul plant were possible because of financial incentives available from the Department of Energy and Economic Development.*

# A strategy for Minnesota's economic development

## Role of the Department of Energy and Economic Development

Although it is not as important or necessary to economic growth as some other elements previously discussed, there is an important, if limited, role for a state economic development department. In past years, Minnesota has not developed the kind of aggressive, well-organized economic development effort at the state level that many other competing states have achieved. This has changed in the last two years. The Governor and the 1983-84 Legislatures greatly strengthened the Department and for the first time provided it with some of the tools other states have been using very effectively to further their own development.

To carry out the Legislature's mandate, the Department has developed several programs. The goals:

- Establish a business outreach program that responds to the needs of businesses throughout the state, and that identifies problems and opportunities.
- Support existing local economic development efforts and help develop local initiatives in areas where they are not currently under way.
- Help provide small- and medium-sized businesses with affordable investment capital to encourage or enable them to expand in Minnesota.
- Act to prevent loss of jobs in sectors currently experiencing the greatest distress.
- Target special assistance and incentives to encourage economic development in areas of the state which are stagnant or in decline.
- Catalyze economic development opportunities in sectors which offer the greatest promise of growth and job development for the state.
- Effectively advertise and promote business opportunities within the state to businesses in and outside the state.
- Reduce dependence on other states and nations for energy resources.

## Business financing strategy

The availability of financial incentives is not the top priority for improving the general climate for business expansion, but it is significant in certain location decisions. Those situations comprise a small minority of all business expansions in a given year. In total, however, they make a very real difference in determining if the state experiences a net employment increase or decrease, particularly relative to other states.

These situations almost always involve competition with other states and businesses whose final decisions are sensitive to the availability of the right incentives. These businesses in most cases are manufacturing concerns, the very type of business with the most value to the state's economy in terms of wage levels and spinoff jobs—and also the type of business which Minnesota has recently been losing to other states.

The competitive pressures exerted by other states are most severe in greater Minnesota, the area outside of the Twin Cities metro region which has seen manufacturing employment stagnate in recent years. These are places where some of the other advantages which Minnesota offers may be of lesser value to businesses. Incentive financing programs cannot be a substitute for other improvements in the business climate, but they can aid areas of the state in need and be an important complement to an optimal state economic development strategy.

The resources at the Department's command are extremely limited and the demand for long-term, fixed-rate financing is very great. For this reason, the Department has designed and implemented financing programs that provide the greatest amount of economic benefit for the least cost to the state. These programs are used when incentive financing is needed to compete with other states to attract or retain a company.

The following criteria are used to realize maximum resource potential:

- The Energy and Economic Development Authority, the public board established to administer the financing programs, uses public funds to leverage additional private funds into a project. In no case can state dollars supply more than 50 percent of the total financing; in most cases, state participation is limited to 20 percent of the total package.
- The Authority's programs are primarily limited to financing fixed capital investments by an expanding business, specifically the purchase of land, buildings, or fixed equipment. The need for working capital, and funds for inventory and movable equipment, is great, but these investments are less likely to create good, long-term job opportunities and generally have a greater degree of risk.
- The Authority's programs are oriented toward businesses which can create jobs in the industrial sector. These jobs, in turn, generally create service related jobs. Moreover, industrial projects tend to utilize a skilled work force with a higher wage scale.
- The number of jobs to be created by a specific project is always a prime concern of the Authority when deciding if its participation is warranted. The Authority gives preference to those projects that have the highest ratio of jobs per public dollar invested.
- The needs of the community are always included in the Authority's decision to participate in a project. Recognizing the economic crisis in rural Minnesota, the Authority gives preference to projects that will create employment opportunities in small, economically depressed, rural Minnesota areas.

The Department and the Authority administer a number of loan programs designed to carry out its economic development objective. They are:

- Minnesota Fund Loan Program. Uses direct state appropriations to help finance up to 20 percent of a business's capital investments. The interest rate on these long-term, fixed-rate loans is set by the board on a case-by-case basis and is usually between 7 and 10 percent.
- Small Business Development Loan Program. Uses private funds raised through revenue bond sales for capital investment loans. These loans can finance up to 80 percent of capital investments, if the project meets federal requirements for tax exempt bond financing. The interest rate is approximately equal to the market rate of interest for securities of equivalent value at the time the bonds are initially sold. The effective interest rate on the Authority's first small business development loans was 11.73 percent.
- Opportunities Minnesota Incorporated (OMNI). A private corporation providing subordinated mortgage financing to businesses through the issuance of debentures. An OMNI loan cannot exceed 40 percent of the project cost and is guaranteed by the U.S. Small Business Administration. A private lending institution must finance 50 percent of the project cost. The program is staffed and administered by the Department of Energy and Economic Development.

- Economic Recovery Fund. Established by the 1984 legislature. It provides grants to cities, townships, or counties to be used directly on behalf of an economic development project, or is loaned to a new or expanding business. The flexibility of this program makes it a very effective incentive financing tool. Unlike the Department's loan programs, these loans can be used for working capital by the company.
- Enterprise Zone Tax Credits. Available to new or expanding businesses because of 1983 legislation. Twenty-four Minnesota cities now have $36 million in tax credits to offer as incentives for business expansion and job creation. These corporate income, sales, and property tax credits can be used either separately or together with the Department's loan programs as incentives for business growth. They are particularly effective in competition with other states.

## Business outreach strategy

Many businesses have difficulty finding the information vital to their survival and ultimate success. All too often, businesses are unaware of public and private programs designed to assist the business community. Even more disturbing are the problems caused when legitimate businesses are unaware of, or have difficulty complying with, federal, state and local regulations that affect their operations. Even though these regulations are generally necessary to protect the public interest, the state has an obligation to assist any business that may have a difficult time with the process.

Businesses often share the lack of information resources with local community leaders, who frequently do not have the knowledge and expertise necessary to help a business relocate or expand within their borders.

Recognizing the need to provide businesses and communities with the information and referrals necessary to stimulate local economies, the Department has established an extensive outreach program designed to provide most of the informational needs of Minnesota's businesses and communities. Three offices operate these outreach efforts, which have substantially improved the flow of vital information within the Minnesota business community.

They are the:

- Office of Project Management. Maintains a staff of finance specialists who assist businesses with their financing concerns. The specialists advise business owners and community development officials on the availability of public and private capital for expansion and renovation projects. Every project receives individual attention beginning with the first contact, and extending to the completion of all loan agreements. During fiscal year 1984, the Department's business finance specialists had over 1,800 personal contacts with businesses considering an expansion or renovation. They traveled over 57,000 miles in the state, making sure all localities had access to their resources.
- Small Business Assistance Office. Provides help in identifying and complying with the universe of regulatory, licensing and taxation policies of all units of government. The Office produces and distributes numerous brochures describing these policies as well as brochures containing information useful to the business. The Office also acts as a referral service to match the specific needs of a business with the appropriate public and private resources.
- Office of Resource Development. Provides information, technical assistance and training to community leaders wishing to further their economic development abilities. It administers the Community Development Corporation Grant Program and the state Enterprise Zone Program, which provides tax incentives to businesses expanding in economically depressed areas.

## Major industries strategy

A number of industries have been identified as having great potential for contributing to the future growth of Minnesota's economy. These industries primarily depend upon Minnesota's natural resources, its highly educated labor force, or some other characteristic sought by businesses within that industry. The department believes it is important to capitalize on the potential these special industries offer. In several cases, the Department has dedicated additional resources to help nurture those key industries.

- Agriculture has always been a vital component of the Minnesota economy, but it is critical to rural Minnesota. The current crisis in Minnesota agriculture is primarily a result of high interest rates and low commodity prices—two issues that are mostly the result of ill-advised federal policies.

  The Department has been considering programs designed to address the agricultural crisis and bolster the economies of rural communities. The Department understands that state resources are insufficient to resolve the problem, but there are policies that can be implemented to lessen its severity. The Governor's Council on Rural Development operates within the Department to advise the Governor on policies important to rural Minnesota. An Agri-Processing Loan Program is being implemented to develop additional markets for agricultural commodities and increase their value prior to export to other states and nations.
- Minnesota has always been known for its natural scenic beauty, an asset that has helped build one of the strongest tourism industries in the nation. The state of Minnesota has maintained an active tourism promotion effort for 36 years. Not only does this office coordinate the marketing of our tourist attractions throughout the state, nation, and Canada, it works directly with those businesses within the industry to handle their special needs.

The Governor and the 1983 Legislature significantly increased Minnesota's commitment to tourism. This expanded commitment has allowed a much more aggressive marketing effort, improved contacts with businesses in the tourism industry, allowed better access to the information resources of the Office and assisted local communities wishing to further develop their own tourism promotion programs. During fiscal year 1984, the Office distributed nearly 1.3 million brochures describing tourism in Minnesota and responded to nearly 300,000 direct inquiries from people seeking specific information on tourism.

- A well-educated work force has made Minnesota fertile ground for the development of high technology companies. Because of the potential of this rapidly growing sector, the Department has established the Office of Science and Technology, the Office of Computer Software/ Courseware Development and the Office of Medical and Biotechnology. These offices act as a state advocate for their respective industries. They also promote the use of advanced technologies within all sectors of the economy as well as the development of new products and processes using high technology.
- It is anticipated that staff members will be added in the near future to promote the growth of the furniture manufacturing industry and establish economic links with Canadian businesses. Minnesota is geographically well-situated for major U.S. operations of Canadian businesses.

## Marketing strategy

Every business day, hundreds of businesses throughout the world make decisions on the location of a future expansion, or the relocation of an existing facility. Many of these businesses, especially if they are not from Minnesota, are unaware of the advantages the state offers. These businesses are not likely to even consider Minnesota.

A successful marketing program can correct that problem and increase inquiries about business opportunities. Minnesota will not be successful in turning every business inquiry into an expansion or relocation project, but it can provide decision makers with the information needed to evaluate the state's opportunities. All of Minnesota's economic development efforts are useless if there is no communication with the people who need to know.

The economic development marketing plan is based on the work of a task force of 15 marketing and communications professionals from leading Minnesota companies. The objectives of the marketing efforts are:

- To encourage businesses from outside the state to settle here.
- To encourage Minnesota businesses to expand their Minnesota operations.
- To convince all Minnesota businesses that there is reason for optimism about the future of the Minnesota economy.

## Energy strategy

Energy is a vital component of economic activity and is essential to the daily activities of all Minnesotans. In total, Minnesotans spend about $7 billion per year for energy—an expenditure exceeded only by those for food and shelter.

It is unfortunate that many of our energy dollars are spent needlessly because of inefficient use of energy resources. It is even more disturbing that at least half of our energy dollars leave the state to enrich states and nations with large quantities of traditional energy resources. Every Minnesota energy dollar that leaves the state is one less dollar that could otherwise be spent on capital investments by business, improving educational systems, upgrading infrastructure or other activity that would contribute to economic growth.

A key element of Minnesota's strategy is to improve energy use efficiency and encourage the development of local energy resources. This two-pronged approach will reduce total energy costs and help slow the flow of energy dollars out of Minnesota. To succeed in this effort, the Department is carrying out work in four broad areas:

- Three energy audit programs are available to inform homeowners, businesses and public institutions how to improve energy efficiency.
- An extensive outreach effort disseminates information on energy saving ideas and technologies. Included in this effort is a program to provide energy information to students in Minnesota's elementary and secondary schools.
- Long-term, below-market, fixed-rate loan programs have been established for businesses and public institutions wishing to improve energy efficiency. In addition, the Department administers loans to businesses engaged in the production of alternative energy and energy conservation products and technologies.
- The Department supports research and development efforts for alternative energy resources and energy conservation and reports to the state on the benefits and drawbacks associated with these new sources and technologies.

## Economic development successes thus far

The economic development initiatives of the Governor and the Legislature and their implementation by the Department have already had a positive impact on the Minnesota economy. During the past 18 months, the Department's programs have helped 114 businesses expand in Minnesota using $13 million in public loans and $112.6 million in private funds. As a direct result of these expansions, 6,539 jobs have been created or retained. These jobs will have $86 million of direct economic impact on the state of Minnesota. In addition, these workers will pay $4.5 million per year to the state of Minnesota in personal income taxes.

Though the direct impact of these economic development programs is impressive, the indirect impact cannot be discounted. By using a statistical model of Minnesota's economy, it can be estimated that these 6,539 jobs have induced the creation or retention of an additional 6,122 service sector jobs in Minnesota, contributing an additional $80.5 million in economic activity and adding $4.2 million in income tax revenue to Minnesota's revenue base.

The total impact of Minnesota's economic development programs includes the creating and retention of 12,661 jobs, adding $166.5 million to Minnesota's economic base and increasing state income tax revenues by $8.7 million.

Not only have Minnesota's business assistance programs helped improve the state's economic future, the Department's energy programs have helped reduce Minnesota's dependence on imported energy resources. Since the Arab Oil Embargo of 1973, the state has been a leader in reducing its reliance on oil and natural gas. Between 1973 and 1983, Minnesota reduced its use of gas and oil by 27.1 percent compared to the overall U.S. reduction of 17.2 percent.

# Appendix I

The following are statistical tables compiled by the staff of the Department of Energy and Economic Development. These tables provide the primary data used to conduct the analysis presented in the "Trends" section of *A Strategy for Economic Development.*

# Appendix IA

# Minnesota Employment and Earnings/Basic Data

## TABLE 1

*Standard Industrial Classification Codes and the Corresponding Sectors*

**Agricultural services, forestry, fisheries**
07 Agricultural services
08 Forestry
09 Fishing, hunting, and trapping

**Mining**
10 Metal mining
11 Anthracite mining
12 Bituminous coal and lignite mining
13 Oil and Gas extraction
14 Nonmetallic minerals, except fuels

**Contract construction**
15 General contractors and operative builders
16 Heavy construction contractors
17 Special trade contractors

**Manufacturing**
20 Food and kindred products
21 Tobacco manufactures
22 Textile mill products
23 Apparel and other textile products
24 Lumber and wood products
25 Furniture and fixtures
26 Paper and allied products
27 Printing and publishing
28 Chemicals and allied products
29 Petroleum and coal products
30 Rubber and Misc. plastics products
31 Leather and leather products
32 Stone, clay and glass products
33 Primary metal industries
34 Fabricated metal products
35 Machinery except electrical
36 Electric and electronic equipment
37 Transportation equipment
38 Instruments and related products
39 Miscellaneous manufacturing products

**Transportation and public utilities**
41 Local and interurban passenger transit
42 Trucking and warehousing
44 Water transportation
45 Transportation by air
46 Pipelines, except natural gas
47 Transportation services
48 Communication
49 Electric, gas, and sanitary services

**Wholesale trade**
50 Wholesale trade-durable goods
51 Wholesale trade-nondurable goods

**Retail trade**
52 Building materials & garden supplies
53 General merchandise stores
54 Food stores
55 Automotive dealers & service stations
56 Apparel and accessory stores
57 Furniture and home furnishings stores
58 Eating and drinking places
59 Miscellaneous retail

**Finance, insurance and real estate**
60 Banking
61 Credit agencies other than banks
62 Security, commodity brokers and services
63 Insurance carriers
64 Insurance agents, brokers and service
65 Real estate
66 Combined real estate, insurance, etc.
67 Holding and other investment offices

**Services**
70 Hotels and other lodging places
72 Personal services
73 Business services
75 Auto repair, services and garages
76 Miscellaneous repair services
78 Motion pictures
79 Amusement and recreation services
80 Health services
81 Legal services
82 Educational services
83 Social services
84 Museums, botanical, zoological gardens
86 Membership organizations
89 Miscellaneous services

**NOTE:** This table has been provided for reference to sic codes which are shown instead of industry titles on most of the tables.

## TABLE 2

*Percent of Distribution of Employment and Payroll and Totals by Sector for Minnesota, 1981*

| | TOTAL EMPLOYMENT | % OF TOTAL | TOTAL PAYROLL | % OF TOTAL |
|---|---|---|---|---|
| Agriculture | 150.50 | 7.9 | 184,630 | .7 |
| Mining | 15.53 | .82 | 432,380 | 1.65 |
| Construction | 73.89 | 3.88 | 1,606,639 | 6.12 |
| Manufacturing Durable | 222.04 | 11.67 | 4,770,415.9 | 18.18 |
| Manufacturing Nondurable | 149.29 | 7.85 | 2,660,898.1 | 10.14 |
| Transport | 51.20 | 2.69 | 1,032,923 | 3.94 |
| Utilities | 35.52 | 1.87 | 734,450 | 2.8 |
| Wholesale | 113.02 | 5.94 | 2,166,246 | 8.26 |
| Retail | 313.80 | 16.49 | 2,490,338 | 9.49 |
| F.I.R.E. | 106.59 | 5.60 | 1,698,758 | 6.47 |
| Services | 372.23 | 19.56 | 4,213,146 | 16.06 |
| Government | 299.00 | 15.72 | 4,247,768 | 16.19 |
| TOTAL | 1,902.61 | 100 | 26,238,592 | 100 |

**SOURCE:** Employment and Earnings in states and areas, and 1982 census of agriculture

## TABLE 3

*Percent Distribution of Non-Agricultural Payroll for Minnesota and the U.S. by Industry*

| INDUSTRY SIC CODES | PERCENT OF TOTAL PAYROLL MINNESOTA | UNITED STATES | INDUSTRY SIC CODES | PERCENT OF TOTAL PAYROLL MINNESOTA | UNITED STATES |
|---|---|---|---|---|---|
| 7 | 00.24 | 00.27 | 50 | 05.48 | 04.95 |
| 8 | 00.02 | 00.02 | 51 | 03.66 | 03.06 |
| 10 | 01.78 | 00.20 | 52 | 00.74 | 00.54 |
| 14 | 00.09 | 00.20 | 53 | 01.30 | 01.38 |
| 15 | 01.83 | 01.73 | 54 | 01.74 | 01.99 |
| 16 | 01.72 | 01.72 | 55 | 01.73 | 01.84 |
| 17 | 03.75 | 03.47 | 56 | 00.52 | 00.63 |
| 20 | 03.05 | 02.20 | 57 | 00.52 | 00.54 |
| 22 | 00.16 | 00.86 | 58 | 02.12 | 02.13 |
| 23 | 00.20 | 01.07 | 59 | 01.58 | 01.52 |
| 24 | 00.90 | 00.79 | 60 | 01.86 | 01.94 |
| 25 | 00.28 | 00.54 | 61 | 00.83 | 00.77 |
| 26 | 01.29 | 01.11 | 62 | 00.67 | 00.73 |
| 27 | 02.72 | 01.83 | 63 | 01.87 | 01.84 |
| 28 | 00.71 | 01.77 | 64 | 00.89 | 00.69 |
| 29 | 00.20 | 00.36 | 65 | 00.81 | 01.06 |
| 30 | 00.85 | 01.02 | 66 | 00.03 | 00.03 |
| 32 | 01.02 | 00.96 | 67 | 00.47 | 00.26 |
| 33 | 00.63 | 02.24 | 70 | 00.61 | 00.79 |
| 34 | 03.22 | 02.57 | 72 | 00.74 | 00.66 |
| 35 | 07.00 | 04.36 | 73 | 02.62 | 03.60 |
| 36 | 02.30 | 03.17 | 75 | 00.47 | 00.60 |
| 37 | 00.57 | 03.71 | 76 | 00.32 | 00.43 |
| 38 | 01.98 | 01.08 | 78 | 00.09 | 00.25 |
| 39 | 00.40 | 00.51 | 79 | 00.52 | 00.62 |
| 41 | 00.27 | 00.22 | 80 | 07.99 | 06.97 |
| 42 | 02.12 | 02.05 | 81 | 00.86 | 00.92 |
| 44 | 00.16 | 00.37 | 82 | 00.86 | 01.18 |
| 45 | 01.29 | 00.99 | 83 | 01.00 | 00.69 |
| 47 | 00.21 | 00.29 | 84 | 00.02 | 00.03 |
| 48 | 01.86 | 02.63 | 86 | 01.00 | 00.88 |
| 49 | 01.49 | 01.56 | 89 | 01.33 | 01.79 |

# TABLE 4

*Percent Distribution of Non-Agricultural Employment for Minnesota and the U.S. by Industry*

| INDUSTRY SIC CODES | PERCENT OF TOTAL EMPLOYMENT MINNESOTA | UNITED STATES | INDUSTRY SIC CODES | PERCENT OF TOTAL EMPLOYMENT MINNESOTA | UNITED STATES |
|---|---|---|---|---|---|
| 7 | 00.27 | 00.36 | 50 | 04.15 | 03.96 |
| 8 | 00.01 | 00.02 | 51 | 03.07 | 02.70 |
| 10 | 00.96 | 00.13 | 52 | 00.94 | 00.70 |
| 14 | 00.05 | 00.15 | 53 | 02.74 | 02.61 |
| 15 | 01.52 | 01.58 | 54 | 02.96 | 03.06 |
| 16 | 00.76 | 01.11 | 55 | 02.25 | 02.22 |
| 17 | 02.74 | 03.01 | 56 | 01.16 | 01.26 |
| 20 | 02.64 | 01.98 | 57 | 00.72 | 00.73 |
| 22 | 00.19 | 01.07 | 58 | 06.92 | 06.07 |
| 23 | 00.29 | 01.64 | 59 | 02.84 | 02.56 |
| 24 | 00.84 | 00.87 | 60 | 01.97 | 02.07 |
| 25 | 00.27 | 00.62 | 61 | 00.81 | 00.80 |
| 26 | 00.90 | 00.85 | 62 | 00.28 | 00.34 |
| 27 | 02.36 | 01.69 | 63 | 01.60 | 01.64 |
| 28 | 00.54 | 01.22 | 64 | 00.82 | 00.63 |
| 29 | 00.11 | 00.21 | 65 | 01.19 | 01.33 |
| 30 | 00.83 | 00.96 | 66 | 00.04 | 00.04 |
| 32 | 00.73 | 00.80 | 67 | 00.35 | 00.19 |
| 33 | 00.48 | 01.46 | 70 | 01.40 | 01.47 |
| 34 | 02.42 | 02.12 | 72 | 01.25 | 01.27 |
| 35 | 05.14 | 03.23 | 73 | 03.36 | 04.13 |
| 36 | 01.95 | 02.62 | 75 | 00.59 | 00.74 |
| 37 | 00.46 | 02.37 | 76 | 00.33 | 00.43 |
| 38 | 01.45 | 00.86 | 78 | 00.17 | 00.27 |
| 39 | 00.44 | 00.56 | 79 | 00.96 | 00.96 |
| 41 | 00.60 | 00.35 | 80 | 09.03 | 07.40 |
| 42 | 01.64 | 01.64 | 81 | 00.67 | 00.73 |
| 44 | 00.05 | 00.28 | 82 | 01.69 | 01.74 |
| 45 | 00.59 | 00.57 | 83 | 01.98 | 01.40 |
| 47 | 00.23 | 00.29 | 84 | 00.04 | 00.04 |
| 48 | 01.29 | 01.80 | 86 | 02.19 | 01.64 |
| 49 | 00.92 | 01.03 | 89 | 01.12 | 01.34 |

# TABLE 5

*Average Annual Payroll Per Employee in 1977 and 1981 and Percent Change by Industry For Minnesota and U.S.*

| INDUSTRY SIC CODES | MINNESOTA | | | UNITED STATES | | |
|---|---|---|---|---|---|---|
| | 1977 | 1981 | PERCENT CHANGE | 1977 | 1981 | PERCENT CHANGE |
| 7 | 10,193 | 13,144 | 28.95 | 8,705 | 11,310 | 29.92 |
| 8 | 9,470 | 46,772 | 393.91 | 9,369 | 12,033 | 28.43 |
| 10 | 12,838 | 27,698 | 115.75 | 15,140 | 24,505 | 61.85 |
| 14 | 23,182 | 28,828 | 24.36 | 14,316 | 20,202 | 41.12 |
| 15 | 16,399 | 18,038 | 10.00 | 13,728 | 16,842 | 22.69 |
| 16 | 28,763 | 33,685 | 17.11 | 18,812 | 23,723 | 26.10 |
| 17 | 17,312 | 20,445 | 18.10 | 14,346 | 17,685 | 23.28 |
| 20 | 13,003 | 17,293 | 32.99 | 12,534 | 17,052 | 36.05 |
| 22 | 8,775 | 12,221 | 39.27 | 9,204 | 12,336 | 34.03 |
| 23 | 7,195 | 10,404 | 44.60 | 7,523 | 10,031 | 33.34 |
| 24 | 13,374 | 16,023 | 19.81 | 11,091 | 13,916 | 25.48 |
| 25 | 12,230 | 15,864 | 29.71 | 9,955 | 13,267 | 33.26 |
| 26 | 15,962 | 21,447 | 34.36 | 14,296 | 20,100 | 40.60 |
| 27 | 12,997 | 17,256 | 32.77 | 12,550 | 16,711 | 33.16 |
| 28 | 14,172 | 19,568 | 38.07 | 15,834 | 22,309 | 40.89 |
| 29 | 20,447 | 28,125 | 37.55 | 19,316 | 26,906 | 39.29 |
| 30 | 11,386 | 15,302 | 34.40 | 12,048 | 16,251 | 34.89 |
| 32 | 15,873 | 20,882 | 31.56 | 13,484 | 18,329 | 35.93 |
| 33 | 14,520 | 19,746 | 35.99 | 16,893 | 23,602 | 39.72 |
| 34 | 15,810 | 19,942 | 26.13 | 13,931 | 18,658 | 33.93 |
| 35 | 14,422 | 20,378 | 41.30 | 14,812 | 20,695 | 39.72 |
| 36 | 12,796 | 17,601 | 37.55 | 13,217 | 18,565 | 40.46 |
| 37 | 14,069 | 18,548 | 31.84 | 17,238 | 24,002 | 39.24 |
| 38 | 14,102 | 20,453 | 45.04 | 13,660 | 19,326 | 41.48 |
| 39 | 9,273 | 13,608 | 46.74 | 10,222 | 14,156 | 38.49 |
| 41 | 5,253 | 6,711 | 27.75 | 7,631 | 9,830 | 28.81 |
| 42 | 14,704 | 19,354 | 31.62 | 14,494 | 19,175 | 32.29 |
| 44 | 15,774 | 46,269 | 193.32 | 14,070 | 20,430 | 45.20 |
| 45 | 24,204 | 32,954 | 36.15 | 19,184 | 26,727 | 39.32 |
| 47 | 10,933 | 14,021 | 28.25 | 11,722 | 15,525 | 32.45 |
| 48 | 14,531 | 21,470 | 47.75 | 15,973 | 22,416 | 40.34 |
| 49 | 17,558 | 24,140 | 37.49 | 16,487 | 23,423 | 42.07 |
| 50 | 14,712 | 19,749 | 34.24 | 14,143 | 19,197 | 35.73 |
| 51 | 12,613 | 17,795 | 41.08 | 12,748 | 17,371 | 36.27 |
| 52 | 9,570 | 11,756 | 22.84 | 9,555 | 12,000 | 25.58 |
| 53 | 6,328 | 7,096 | 12.14 | 6,305 | 8,126 | 28.88 |
| 54 | 6,571 | 8,783 | 33.67 | 7,536 | 9,998 | 32.67 |
| 55 | 9,134 | 11,496 | 25.86 | 9,748 | 12,708 | 30.36 |
| 56 | 5,565 | 6,778 | 21.81 | 6,095 | 7,678 | 25.99 |
| 57 | 9,308 | 10,685 | 14.80 | 9,110 | 11,457 | 25.76 |
| 58 | 3,599 | 4,576 | 27.15 | 4,305 | 5,400 | 25.42 |
| 59 | 6,642 | 8,335 | 25.48 | 7,179 | 9,099 | 26.74 |
| 60 | 10,372 | 14,155 | 36.46 | 10,408 | 14,404 | 38.39 |
| 61 | 11,220 | 15,185 | 35.34 | 10,953 | 14,674 | 33.97 |
| 62 | 22,420 | 35,418 | 57.97 | 20,811 | 33,557 | 61.24 |
| 63 | 11,855 | 17,575 | 48.25 | 12,592 | 17,184 | 36.46 |
| 64 | 13,680 | 16,366 | 19.63 | 12,416 | 16,769 | 35.07 |
| 65 | 8,319 | 10,240 | 23.09 | 9,111 | 12,241 | 34.35 |
| 66 | 10,614 | 13,621 | 28.33 | 10,971 | 13,454 | 22.64 |
| 67 | 14,202 | 20,071 | 41.33 | 13,754 | 21,272 | 54.66 |
| 70 | 5,089 | 6,559 | 28.90 | 5,661 | 8,267 | 46.05 |
| 72 | 6,126 | 8,856 | 44.57 | 6,124 | 7,936 | 29.59 |
| 73 | 8,212 | 11,659 | 41.97 | 9,385 | 13,372 | 42.48 |
| 75 | 9,469 | 11,929 | 25.98 | 9,380 | 12,361 | 31.78 |
| 76 | 10,751 | 14,384 | 33.79 | 10,784 | 15,253 | 41.45 |
| 78 | 4,439 | 7,574 | 70.61 | 9,090 | 13,794 | 51.75 |
| 79 | 7,047 | 8,092 | 14.84 | 7,738 | 9,940 | 28.45 |
| 80 | 9,419 | 13,233 | 40.49 | 10,330 | 14,471 | 40.09 |
| 81 | 13,630 | 19,362 | 42.05 | 13,300 | 19,456 | 46.28 |
| 82 | 7,301 | 7,619 | 04.35 | 9,127 | 10,399 | 13.94 |
| 83 | 5,568 | 7,537 | 35.36 | 6,171 | 7,551 | 22.38 |
| 84 | 9,323 | 9,167 | -01.67 | 8,865 | 10,950 | 23.52 |
| 86 | 5,337 | 6,819 | 27.77 | 6,447 | 8,209 | 27.34 |
| 89 | 13,703 | 17,698 | 29.16 | 15,045 | 20,482 | 36.14 |

**SOURCE:** County Business Patterns, 1977 and 1981.

# Appendix IB

# Employment Growth and Measures of Industrial Specialization

## TABLE 6

*Percent Distribution of New Jobs and Total Job Growth in Minnesota by Sector, 1977-1981*

| | NEW JOBS 77-81 | PERCENT OF ALL NEW JOBS |
|---|---|---|
| Mining | 735 | .33 |
| Construction | 12,542 | 5.59 |
| Manufacturing | 46,896 | 20.88 |
| Transportation | 8,762 | 3.9 |
| Utilities and Communications | 2,974 | 1.32 |
| Wholesale Trade | 11,111 | 4.95 |
| Retail Trade | 38,432 | 17.11 |
| FIRE | 20,577 | 9.16 |
| Services | 82,553 | 36.76 |
| TOTAL | 224,582 | 100.00 |

**SOURCE:** County Business Patterns.

## TABLE 7

*Percent Distribution of Growth in Payroll and Total Payroll Growth in Minnesota by Sector, 1977-1981*

| | REAL INCREASE IN PAYROLL | PERCENT OF REAL INCOME |
|---|---|---|
| Agriculture | 14,768,295 | .26 |
| Mining | 165,424,230 | 2.89 |
| Construction | 323,116,840 | 5.63 |
| Manufacturing | 1,915,635,000 | 33.4 |
| Transportation, Utilities and Communications | 476,508,860 | 8.3 |
| Wholesale Trade | 515,601,360 | 8.99 |
| Retail | 519,092,500 | 9.05 |
| FIRE | 510,154,950 | 8.9 |
| Services | 1,294,427,600 | 22.57 |
| TOTAL | 5,734,729,635 | 100.00 |

**SOURCE:** County Business Patterns.

## TABLE 8

*Percent Change in Employment by Industry for Minnesota and the U.S., 1977-1981*

| INDUSTRY SIC CODES | NATIONAL GROWTH RATE 1977-81 | INDUSTRY SIC CODES | MINNESOTA GROWTH RATE 1977-81 |
|---|---|---|---|
| 89 | 50.37 | 89 | 45.13 |
| 81 | 38.90 | 62 | 44.86 |
| 83 | 37.07 | 32 | 43.05 |
| 73 | 33.47 | 38 | 40.79 |
| 62 | 33.34 | 81 | 40.56 |
| 82 | 29.69 | 73 | 38.55 |
| 80 | 27.83 | 82 | 36.44 |
| 76 | 27.06 | 83 | 33.67 |
| 7 | 25.38 | 67 | 32.88 |
| 61 | 23.35 | 79 | 30.38 |
| 64 | 23.27 | 61 | 29.19 |
| 58 | 22.78 | 80 | 27.42 |
| 79 | 21.93 | 76 | 27.19 |
| 15 | 21.81 | 60 | 26.84 |
| 17 | 20.97 | 70 | 25.40 |
| 45 | 20.65 | 64 | 24.62 |
| 60 | 20.40 | 58 | 24.22 |
| 70 | 19.84 | 45 | 24.01 |
| 50 | 18.68 | 30 | 23.79 |
| 48 | 17.15 | 50 | 21.75 |
| 49 | 16.94 | 17 | 21.47 |
| 75 | 16.37 | 63 | 20.48 |
| 35 | 16.13 | 28 | 20.42 |
| 65 | 15.79 | 27 | 20.12 |
| 54 | 15.34 | 15 | 19.40 |
| 59 | 14.96 | 35 | 19.21 |
| 36 | 14.45 | 56 | 18.55 |
| 38 | 14.11 | 57 | 17.97 |
| 16 | 14.03 | 59 | 17.71 |
| 52 | 13.82 | 34 | 17.58 |
| 44 | 13.49 | 22 | 17.06 |
| 27 | 11.94 | 7 | 16.68 |
| 51 | 11.54 | 86 | 16.63 |
| 86 | 11.36 | 54 | 16.27 |
| 56 | 11.09 | 75 | 15.89 |
| 29 | 10.66 | 72 | 13.95 |
| 67 | 09.89 | 65 | 13.46 |
| 63 | 09.66 | 25 | 12.43 |
| 57 | 08.41 | 16 | 12.12 |
| 14 | 07.78 | 29 | 11.15 |
| 42 | 06.83 | 48 | 10.07 |
| 72 | 05.96 | 49 | 10.05 |
| 25 | 04.69 | 51 | 10.03 |
| 34 | 04.44 | 41 | 09.75 |
| 53 | 03.81 | 52 | 07.00 |
| 41 | 03.11 | 36 | 06.47 |
| 30 | 02.79 | 53 | 03.46 |
| 28 | 02.64 | 10 | 03.32 |
| 10 | 00.36 | 42 | 03.00 |
| 26 | 00.29 | 24 | 02.65 |
| 32 | -00.23 | 14 | -02.15 |
| 37 | -00.99 | 55 | -06.25 |
| 20 | -01.00 | 66 | -06.54 |
| 66 | -02.59 | 20 | -07.08 |
| 24 | -03.50 | 33 | -07.79 |
| 33 | -04.03 | 44 | -13.21 |
| 39 | -05.18 | 26 | -13.31 |
| 23 | -05.25 | 37 | -18.75 |
| 55 | -05.91 | 39 | -27.79 |
| 22 | -09.29 | 23 | -28.04 |

**SOURCE:** County Business Patterns, 1977 and 1981.

## TABLE 9

*Percent Change in Employment Minnesota and the U.S. by Major Non-agricultural Sector, 1981-1983*

| | UNITED STATES | MINNESOTA |
|---|---|---|
| Mining | + 6.35 | −41.42 |
| Construction | −11.96 | −10.73 |
| Manufacturing | −11.32 | − 4.61 |
| Transportation, Utilities and Communication | − 3.89 | − 1.81 |
| Wholesale | + .54 | − 5.85 |
| Retail | + 1.43 | − .66 |
| Finance | + 9.65 | + 3.33 |
| Services | +15.24 | + 2.98 |
| Government | − 1.11 | − 4.85 |
| TOTAL | + .36 | − 1.90 |

**SOURCE:** Department of Economic Security and BLS, Employment and earnings.

# Appendix IC Estimates of Production Worker Employment in Minnesota

**NOTE:** *A production worker is any worker engaged in the production of a good including fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, watchman services.*

## TABLE 10

*Concentration of Production Workers in Minnesota Relative to the U.S. by Industry*

| INDUSTRY SIC CODES | 1977 | 1981 | PERCENT CHANGE |
|---|---|---|---|
| | NON-DURABLE | | |
| 20 | 1.0227 | 1.01 | − 1.2 |
| 22 | .8030 | .804 | + 0.7 |
| 23 | 1.0152 | .846 | −16.7 |
| 26 | n.a. | .905 | n.a. |
| 27 | 1.1335 | 1.09 | − 3.8 |
| 28 | .9866 | .971 | − 1.6 |
| 29 | 1.1587 | 1.205 | + 4.0 |
| 30+31 | .9502 | 1.009 | + 6.2 |
| | DURABLE | | |
| 24 | .9207 | .959 | + 4.2 |
| 25 | .9242 | .922 | − 0.2 |
| 32 | 1.0026 | 1.07 | + 6.7 |
| 33 | 1.0161 | 1.022 | + 0.6 |
| 34 | .9604 | .935 | − 2.6 |
| 35 | .7872 | .786 | − 0.2 |
| 36 | 1.0538 | 1.18 | +12.0 |
| 37 | 1.2255 | 1.279 | + 4.4 |
| 38 | .7879 | .886 | +12.5 |
| 39 | .8606 | .993 | +15.4 |

**NOTE:** A value of 1 indicates the proportion of production workers in Minnesota is equal to that of the nation. A value of 1.05 indicates the proportion is 5% higher than the nation.

# Appendix ID International Trade: U.S. & Minnesota Foreign Exports

## TABLE 11

*Change in National Demand for Manufactured Goods, 1977-1981*

| INDUSTRY SIC CODES | CHANGE IN U.S. MFG. OUTPUT | *CHANGE U.S. MFG. DEMAND |
|---|---|---|
| 20 | 9.8 | 9.7 |
| 21 | 8.7 | 8.0 |
| 22 | − 3.4 | 3.4 |
| 23 | − 5.2 | − 4.6 |
| 24 | −21.5 | −21.2 |
| 25 | 9.1 | 9.3 |
| 26 | 11.6 | 11.7 |
| 27 | 16.8 | 16.6 |
| 28 | 15.6 | 14.4 |
| 29 | − 9.0 | 8.5 |
| 30 | 18.9 | 18.5 |
| 31 | − 5.4 | 3.7 |
| 32 | − 7.0 | 6.9 |
| 33 | −12.3 | 11.3 |
| 34 | − .5 | − .49 |
| 35 | 16.0 | 13.9 |
| 36 | 23.8 | 23.9 |
| 37 | −12.4 | 42.4 |
| 38 | 5.0 | 4.7 |
| 39 | 51.1 | 58.5 |

***NOTE:** U.S. demand is estimated by taking U.S. output subtracting exports and adding imports.

**SOURCE:** Annual Survey of Manufacturers and U.S. Census, Foreign Trade Division.

## TABLE 12

*Exports as a Percent of Total U.S. Shipments*

| INDUSTRY SIC CODES | 1977 | 1978 | 1979 | 1980 | 1981 | PERCENT CHANGE 1977-81 |
|---|---|---|---|---|---|---|
| 20 | 03.8 | 04.2 | 04.5 | 04.7 | 04.8 | 26.3 |
| 21 | 07.0 | 07.7 | 09.1 | 09.0 | 09.6 | 37.1 |
| 22 | 03.5 | 03.5 | 04.7 | 05.3 | 04.6 | 31.4 |
| 23 | 02.3 | 02.5 | 03.3 | 03.5 | 03.3 | 43.5 |
| 24 | 05.5 | 05.2 | 07.1 | 07.8 | 06.5 | 18.2 |
| 25 | 01.4 | 01.6 | 01.7 | 02.1 | 02.7 | 92.9 |
| 26 | 04.7 | 04.4 | 04.9 | 06.4 | 05.9 | 25.5 |
| 27 | 01.4 | 01.5 | 01.5 | 01.6 | 01.7 | 21.4 |
| 28 | 09.0 | 09.8 | 11.8 | 13.0 | 12.0 | 33.3 |
| 29 | 01.4 | 01.4 | 01.4 | 01.4 | 01.8 | 28.6 |
| 30 | 03.9 | 04.1 | 04.7 | 05.7 | 05.6 | 43.6 |
| 31 | 03.5 | 04.0 | 04.7 | 05.2 | 05.0 | 42.9 |
| 32 | 03.3 | 03.4 | 03.6 | 04.2 | 04.4 | 33.3 |
| 33 | 02.8 | 03.8 | 07.0 | 08.6 | 06.2 | 121.4 |
| 34 | 05.0 | 05.1 | 05.1 | 06.0 | 06.4 | 28.0 |
| 35 | 17.6 | 17.2 | 18.0 | 21.1 | 21.3 | 21.0 |
| 36 | 10.0 | 11.2 | 11.7 | 12.7 | 13.1 | 31.0 |
| 37 | 11.3 | 12.0 | 12.9 | 15.7 | 16.2 | 43.4 |
| 38 | 15.6 | 15.8 | 17.1 | 17.4 | 17.4 | 11.5 |
| 39 | 08.2 | 09.5 | 11.0 | 11.6 | 10.1 | 23.2 |

**SOURCE:** U.S. Census, Foreign Trade Division and Annual Survey of Manufacturing, U.S. Department of Commerce, 1981.

## TABLE 13

*Imports as a Percent of Total U.S. Shipments*

| INDUSTRY SIC CODES | 1977 | 1978 | 1979 | 1980 | 1981 | PERCENT CHANGE 1977-81 |
|---|---|---|---|---|---|---|
| 20 | 03.5 | 03.7 | 04.1 | 04.1 | 03.9 | 11.4 |
| 21 | 00.5 | 00.5 | 00.5 | 00.8 | 01.5 | 200.0 |
| 22 | 03.7 | 04.3 | 04.0 | 04.3 | 04.9 | 32.4 |
| 23 | 10.9 | 13.4 | 13.7 | 14.3 | 15.2 | 39.4 |
| 24 | 08.5 | 09.2 | 09.4 | 07.7 | 07.8 | − 8.2 |
| 25 | 03.8 | 04.4 | 04.8 | 04.9 | 05.1 | 34.2 |
| 26 | 06.9 | 07.1 | 07.4 | 07.3 | 07.1 | 2.9 |
| 27 | 00.7 | 00.9 | 00.9 | 00.9 | 00.8 | 14.3 |
| 28 | 03.7 | 04.3 | 04.1 | 04.3 | 04.4 | 18.9 |
| 29 | 09.0 | 07.4 | 07.5 | 06.8 | 07.1 | − 21.1 |
| 30 | 05.5 | 05.4 | 05.6 | 05.8 | 05.9 | 7.3 |
| 31 | 24.7 | 36.2 | 38.1 | 34.5 | 37.0 | 49.8 |
| 32 | 03.9 | 04.6 | 04.8 | 04.9 | 05.2 | 33.3 |
| 33 | 09.8 | 11.8 | 11.4 | 13.5 | 14.4 | 46.9 |
| 34 | 03.0 | 03.8 | 03.7 | 03.8 | 04.1 | 36.7 |
| 35 | 05.8 | 07.4 | 07.8 | 07.9 | 08.1 | 39.7 |
| 36 | 10.8 | 11.9 | 11.6 | 12.0 | 13.4 | 24.1 |
| 37 | 11.5 | 12.9 | 13.1 | 16.0 | 16.1 | 40.1 |
| 38 | 09.6 | 11.1 | 10.6 | 10.6 | 11.7 | 21.9 |
| 39 | 17.5 | 21.1 | 21.0 | 21.8 | 24.5 | 40.0 |

**SOURCE:** U.S. Census, Foreign Trade Division and Annual Survey of Manufacturing, U.S. Department of Commerce, 1981.

# TABLE 14

*Estimate of Minnesota's Non-Agricultural Employment Attributed to Direct Exports by Sector*

| 1977 | EMPLOYMENT | EXPORT ORIENTED EMPLOYMENT | PERCENT |
|---|---|---|---|
| Total | 1235385 | 137617 | 11.1% |
| Ag Services | 3563 | 0 | 0 |
| Mining | 14798 | 11831 | 79.9% |
| Construction | 61345 | 105 | 0.2% |
| Manufacturing | 329428 | 49980 | 15.2% |
| T.P.U.C. | 71986 | 4733 | 6.6% |
| Wholesale Trade | 101910 | 8731 | 8.6% |
| Retail trade | 275367 | 23471 | 8.5% |
| F.I.R.E. | 86010 | 3703 | 4.3% |
| Personal Services | 57917 | 0 | 0 |
| Business Services | 58237 | 0 | 0 |
| Non Profit Services | 170516 | 35021 | 20.5% |

| 1981 | EMPLOYMENT | EXPORT ORIENTED EMPLOYMENT | PERCENT |
|---|---|---|---|
| Total | 1467347 | 153735 | 10.5% |
| Ag Services | 4137 | 0 | 0 |
| Mining | 15533 | 12227 | 78.7% |
| Construction | 73887 | 0 | 0 |
| Manufacturing | 375001 | 61149 | 16.3% |
| T.P.U.C. | 83722 | 3839 | 4.6% |
| Wholesale trade | 113021 | 8180 | 7.2% |
| Retail trade | 315484 | 22546 | 7.1% |
| F.I.R.E. | 106587 | 5141 | 4.8% |
| Personal Services | 69592 | 1227 | 1.8% |
| Business Services | 75523 | 0 | 0 |
| Non Profit Services | 218532 | 35223 | 16.1% |

**SOURCE:** County Business Patterns (1977-1981)

# Appendix IE Trends in Occupational Employment

## TABLE 15

*Distribution of Employment by Major Occupational Group for Minnesota and the U.S.*

| WORKERS | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|
| Professional and Technical | | | | | | |
| National % | 15.1 | 15.1 | 15.5 | 16.1 | 16.4 | 17.0 |
| State % | 15.8 | 15.9 | 15.4 | 15.8 | 17.4 | 18.3 |
| State Rank | 15 | 15 | 21 | 21 | 18 | 15 |
| Managerial and Administrative | | | | | | |
| National % | 10.7 | 10.7 | 10.8 | 11.2 | 11.5 | 11.5 |
| State % | 10.9 | 11.0 | 10.0 | 10.7 | 10.9 | 10.9 |
| State Rank | 24 | 22 | 38 | 33 | 28 | 29 |
| Sales | | | | | | |
| National % | 6.3 | 6.3 | 6.4 | 6.3 | 6.4 | 6.6 |
| State % | 6.5 | 7.3 | 7.0 | 6.3 | 7.3 | 7.1 |
| State Rank | 15 | 3 | 7 | 18 | 3 | 9 |
| Clerical | | | | | | |
| National % | 17.8 | 17.9 | 18.2 | 18.6 | 18.5 | 18.5 |
| State % | 16.3 | 16.5 | 17.6 | 17.8 | 17.6 | 17.5 |
| State Rank | 29 | 30 | 24 | 22 | 26 | 26 |
| Craft and Kindred Workers | | | | | | |
| National % | 13.1 | 13.1 | 13.3 | 12.9 | 12.6 | 12.3 |
| State % | 12.1 | 11.5 | 11.9 | 11.5 | 10.8 | 11.4 |
| State Rank | 39 | 45 | 46 | 43 | 44 | 39 |
| Operatives (except transport) | | | | | | |
| National % | 11.4 | 11.3 | 11.3 | 10.6 | 10.5 | 9.5 |
| State % | 7.8 | 8.7 | 8.9 | 7.9 | 8.3 | 7.1 |
| State Rank | 36 | 37 | 35 | 36 | 34 | 34 |
| Transport Equipment Operatives | | | | | | |
| National % | 3.8 | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 |
| State % | 3.9 | 3.9 | 4.2 | 3.4 | 3.0 | 3.2 |
| State Rank | 23 | 19 | 10 | 33 | 39 | 31 |
| Nonfarm Laborers | | | | | | |
| National % | 5.0 | 5.0 | 4.8 | 4.6 | 4.6 | 4.5 |
| State % | 4.4 | 4.4 | 4.1 | 3.6 | 3.9 | 3.7 |
| State Rank | 36 | 38 | 46 | 48 | 41 | 46 |
| Service Workers | | | | | | |
| National % | 13.7 | 13.6 | 13.2 | 13.3 | 13.4 | 13.8 |
| State % | 15.9 | 15.4 | 15.0 | 16.1 | 15.1 | 15.1 |
| State Rank | 4 | 3 | 6 | 3 | 7 | 13 |
| Farm Workers | | | | | | |
| National % | 3.0 | 3.0 | 2.8 | 2.8 | 2.7 | 2.7 |
| State % | 6.3 | 5.5 | 5.9 | 6.9 | 5.6 | 5.6 |
| State Rank | 11 | 11 | 12 | 8 | 10 | 11 |

**SOURCE:** BLS Geographical Profile of Employment (1976-1982).

# Appendix II

The following is a more detailed description of the Department of Energy and Economic Development's primary business incentive programs. These descriptions include guidelines used in determining the eligibility of a specific project for receipt of the incentive, the application process used by businesses and communities interested in these incentives and a summary of the number of projects that have made use of these incentives to date.

# Small Business Development Loan Program

## How the Loans Work:

These programs are dedicated to assisting small business expansion and energy related businesses in their start-up or expansion in Minnesota. Working capital loans will not be considered under this program.

Qualified businesses can apply directly to the Minnesota Energy and Economic Development Authority for the loans and will directly repay the Authority. Businesses will undergo normal loan application and approval procedures, including personal interviews and a thorough review of business plans. Applications will be evaluated partially on the benefits their proposed operation would have for Minnesota and its communities.

Recipients of the Small Business Development Loans will be expected to provide some equity investment in their proposed expansion or development projects.

The loans will be made available within 90 days of application for those who qualify.

## Minnesota Small Business Development Loans Offer:

- fixed interest rates below the rate paid by the federal government on its loans
- long-term commitments up to 20 years
- loan ceilings of up to $1 million per applicant

These loans were created to meet the unique needs of small businesses, needs which existing financial markets often find hard to meet. Most importantly, the loans will be available at rates which commercial lenders simply could not afford to offer. Minnesota is making an investment in its most important economic resource: small businesses and the employees and communities they sustain.

## How to Qualify:

Minnesota businesses, or businesses expanding into Minnesota, can qualify for the loans if they meet the Small Business Administration (SBA) definition of a "small business" (generally under 500 employees). The complete SBA guidelines and definitions are available from local SBA offices, bankers, or the Minnesota Department of Energy and Economic Development.

Once these qualifications have been met, special consideration also may be available for certain businesses. Guidelines are designed to encourage businesses which will have a favorable impact on economically disadvantaged areas of the State, which will create substantial numbers of new jobs, or which will help to employ minority or disadvantaged workers.

# Minnesota Fund
## July, 1983 - December, 1984

The direct loan program of the State of Minnesota provides fixed-interest rate, fixed-asset financing for new and existing businesses. Applicants deal directly with the Minnesota Department of Energy and Economic Development.

The fund's maximum loan amount is $250,000.

The programs offer financing for:
- land and building acquisition
- building construction
- renovations
- machinery and equipment

The amount of financing provided for any one project is determined on a case-by-case basis following a thorough analysis of all project elements, including project cost, financial statement analysis, and evidence of ability to repay the requested loan amount. The loan amount cannot exceed 20 percent of the total project cost.

Interest rates are negotiated between the state and the business; terms are 15 years for land and buildings, 7 years for machinery and equipment.

Minnesota Fund loans are intended to be the final contribution toward project financing and follow the commitments of other forms of private or public financing and required equity.

| | |
|---|---|
| Total Projects Completed July 83-Dec. 31, 1984 | 20 |
| Total State Program Dollars | 2,162,976 |
| Total Private Dollars Leveraged | 18,096,402 |
| Jobs Created | 457 |
| Jobs Retained | 640 |

Businesses also may qualify (under a special loan allocation) if they produce or propose to produce energy-related technology, alternative energy resources, or energy conservation products or services.

| | |
|---|---|
| Total Projects Completed July 83-Dec. 31, 1984 | 8 |
| Total Program Dollars | $6,594,000 |
| Total Private Dollars Leveraged | --- |
| Jobs Created | 174 |
| Jobs Retained | 232 |

# Economic Recovery Fund

The purpose of the Economic Development Grant Program is to provide financial incentives to stimulate private investments in business enterprise, thereby creating and retaining jobs for citizens of Minnesota. This program is not intended to substitute for conventional business financing techniques, nor is it to substitute for other government programs such as SBA, Urban Development Action Grants, or Minnesota Economic Development Authority Programs, which may be better suited to meet specific project needs. Rather, the Economic Development Grant Program is intended to be used in conjunction with other financing resources for incentive financing or for "gap" financing where alternative sources of public or private financing cannot reach a specific project.

Funding for the Economic Development Grant Program originates from two sources. The first source is the federal government, which provides funds through the Community Development lock Grant Program (CDBG) for the Minnesota Small Cities Development Program (SCDP). Approximately $3.3 million (15% of the total SCDP) is set aside for the Economic Development Grants. The second source of funding is the $6 million Economic Recovery Grant appropriation authorized by the 1984 State Legislature. The same rules, application process, and grant criteria apply to the Economic Development Grant Program regardless of the source of funds.

Applications for Economic Development Grants are accepted by the Department throughout the year, as long as funds are available. All applications for Economic Development Grants must meet at least one federal objective:

- Benefit to low and moderate income persons.
- Prevention or elimination of slums and blight.
- Alleviation of urgent community development needs which pose a serious threat to public health and safety.

In addition, applications for Economic Development Grants must meet at least two state objectives:

- Create or retain permanent or private sector jobs (minimum threshold is one job created or retained for each $20,000 grant requested).
- Leverage of private investment (minimum threshold is $1 of private fund leveraged for each $1 of grant funds requested).
- Increase the local tax base (minimum threshold is 50% increase in the value of the parcel involved).

The maximum amount of an economic development grant is $500,000; however, the Department encourages applications for no more than $250,000 in order to allow the program to reach more communities. Economic Development grants are normally made to support a business loan or to help finance needed public facilities that are in direct support of a business expansion or economic development projects. Business loans repaid to the applicant can be used to establish a revolving loan fund for future economic development projects in the community. The State Economic Recovery Act requires that loan repayment proceeds over and above $100,000 be returned to the State.

| | |
|---|---|
| Total Projects Completed July 83-Dec. 31, 1984 | 34 |
| Total State Program Dollars | $ 4,311,827 |
| Total Federal Dollars | 3,245,970 |
| Total Public Dollars | $ 7,557,997 |
| Total Private Dollars Leveraged | $74,255,715 |
| Ratio of Private Investment Dollars to Total Grant Dollars | 10.2:1 |
| Jobs Created | 1,871 |
| Jobs Retained | 2,241 |
| Total Grant Dollars Per Job Created/Retained | $1,677/job |

# Minnesota Enterprise Zone Program

The Minnesota Enterprise Zone Program is an economic development tool which provides tax reductions over a five year period for locating or expanding in a designated economically distressed area. In addition, certain "border" enterprise zones can offer tax credits to existing businesses as a means of retaining these businesses in these communities which share a border with another state. The Enterprise Zone Program is administered by the Minnesota Department of Energy and Economic Development. The Commissioner makes the final designation of Enterprise Zones with the advice of the Legislative Advisory Commission.

There are now 16 designated zones, including competitive (statewide) and border:

**Border City Zones**
Duluth
Moorhead
Breckenridge
Ortonville
Dilworth
East Grand Forks

**Competitive City Zones**

| | |
|---|---|
| Minneapolis | Crookston |
| St. Paul | Little Falls |
| Thief River Falls | Montevideo |
| Virginia/Mountain Iron | Mankato |

Hibbing, Aurora, Babbitt, Hoyt Lakes, and Silver Bay
Grand Rapids, Bovey, Deer River, and Bass Brook Township

State tax reductions available under the Enterprise Zone Program include:

- General sales tax exemptions for purchases of construction materials or equipment for use in the zone if the purchase was made after the date of application for the zone.
- A credit against an employer's income tax for additional workers employed in the zone, except construction workers, up to $3,000 per employer per year.
- An income tax credit for a percentage of the cost of debt financing to construct new or expanded facilities in the zone.
- A state-paid property tax credit for a portion of the property taxes paid by the owner of a new commercial or industrial facility, or a portion of the additional property taxes paid by the owner of an expansion of an existing commercial or industrial facility in the zone.

In addition to the state-paid credits available, a local zone community must make a local contribution, usually in the form of a local property tax reduction, for five years to each recipient of State tax credits.

## Governor's Council on Rural Development

The Governor's Council on Rural Development serves as a forum for identifying the priority rural development issues in Minnesota. The Council develops goals and strategies for addressing these issues through the use of technical and financial resources available from the interest from the Rural Rehabilitation Trust Fund (approximately $1,000,000 annually, that was established in the '30's through FmHA) and advocates for rural people within the state system.

The Council is made up of representatives from each of the thirteen development regions in the state. The majority of them are local elected officials who work constantly to provide solutions to local rural problems. They have a knowledge of rural issues and a good sense of what will work in rural communities. Along with their own expertise they have access to other rural resources and provide a link between state initiatives and local capability.

This grass roots capacity to identify rural development needs is intricately tied to GCRD's grant program. Working with three task forces—Small Business, Farm and Ag Land Preservation, and Value Added—technical experts develop concepts that provide an innovative approach to the identified rural development issue. Grants are awarded, and staff work closely with project managers to monitor the results of each grant. Since the grants are demonstration pilot projects the information gained is used as part of the Council's mandate to shape rural policy strategies. The Council works with all state agencies, as well as the Legislature, in shaping the state's approach to addressing rural issues.

## Tourism Loan Program Summary

The Tourism Loan Fund Program of the Minnesota Energy and Economic Development Authority is intended to provide loans to upgrade and improve Minnesota's small tourism businesses. This program would match loans by local banks, share credit risks, and provide for lower interest rates than are otherwise now available. The State's participation would be up to 50 percent with a maximum State investment of $50,000.

Persons, partnerships, firms, or corporations engaged in, and determined by the Authority to constitute a "Tourism Business" and "Eligible Small Business" are considered eligible borrowers for the purposes of the program. "Tourism Business" is defined in the regulations of the United States Small Business Administration (13 Code of Federal Regulations Part 121) as SIC 7011, services including hotels, motels, and tourist courts, and SIC 7033, trailering parks and camp sites for transients, with sales up to 3.5 million. A "Small Business" as defined in the regulations of the United States Small Business Administration (13 Code of Federal Regulations part 121) is considered an eligible business for the purposes of the program.

Tourism Loans will be approved by the Authority to existing tourist businesses in compliance with the procedures contained in the "Procedural Guide."

A Tourism Loan (Loan) may be used to provide interim or long-term financing for certain capital expenditures as provided in the Act including:

- Building construction and improvement costs
- Site preparation
- Equipment
- Construction costs
- Engineering costs
- Initial fee of guarantor, insurer or financial institution, other than the Authority, providing letters of credit, surety bonds or equivalent security
- Authority fees including application fees of the Authority
- Interest Costs during construction

Working capital loans or refinancing will not be eligible for financing under this loan program.

The interest rate of financial assistance from the Tourism Loan Program is three percentage points below a full faith and credit obligation of the United States government of comparable maturity, as of five working days before the closing or the Authority shall set interest rates at a negotiated rate after reviewing market rates and comparable sources of financing available to the applicant at the time the financial assistance is extended.

# Office of Software/ Courseware Technology Development

The Office of Software/Courseware Technology Development was established on July 1, 1984 as a result of action by the 1984 Legislature to encourage and support the growth of the computer software development industry in Minnesota. During its first year of operation, the initial goals of the Office focused on preparation of a comprehensive economic development program designed to foster the growth of the computer software development industry in Minnesota. Present and proposed services of the Office include the following.

These activities and services have been implemented or have been planned for July 1, 1984:

- Identification of existing computer software development companies in Minnesota and publication of a directory of Minnesota software development companies.
- Identification of independent software development consultants in Minnesota (e.g., programmers, analysts, documentation writers, and so on).
- Identification of services which the Office should provide to software development companies. (Personal visits have been conducted with approximately 60 companies to assess their needs.)
- Implementation of a loan program for eligible small software development companies.
- Assistance in identifying technical and business resources appropriate for small software development companies.
- Identification of the growing network of existing computer related programs, agencies, organizations, and so on, in both the private and public sectors.

In addition to the services and activities listed above, a variety of technical and financial services are proposed for the future. The extent of these services will be dependent upon legislative funding.

- Financial Services
  Expanded loan program for eligible software development companies.
  Assistance in identifying alternative sources of private capital.
- *Technical Assistance Services
  Assistance in developing business and marketing plans.
  Assistance in identifying appropriate referral sources.
  Assistance in resolving a variety of business-related concerns in areas such as legal, accounting, and so on.
  Seminars for producers and users of software.
  Research on software development strategies and tools.
  Clearinghouse to match potential software publishers with software development companies.
  Graduate programs in software development.
  On-line and print data bases of Minnesota software development companies and independent software consultants.
  Annual publication of the "Directory of Minnesota Software Development Companies".

*It is proposed that many of the technical assistance activities would be provided through an "Institute for Learning Technologies" and a "Division of Business Services", which would be located at the University of Minnesota. The activities available through the "Division of Business Services" would be coordinated with institutions and organizations which offer existing business services to small companies.

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