Northwest Minnesota Industry Cluster Study

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EXECUTIVE SUMMARY

Northwest Minnesota is a resource rich area with fertile farmland, significant forest resources, and a core industrial base. Comprised of the twelve most northwest counties in the state, it includes the cities of Bemidji, East Grand Forks, Crookston, and Thief River Falls. Using the resources of the Humphrey Institute of the University of Minnesota, Minnesota Extension Service, and the Minnesota Department of Economic Security, this study has looked at many of the strengths of the economy of the region as well as other facets of the region which can use further development. The primary focus has been to explore opportunities to strengthen workforce preparedness in the region by looking at strong “clusters” of industry that already exist in Northwest Minnesota.

In his book, The Competitive Advantages of Nations, Michael Porter argues that economic vitality is a direct product of the competitiveness of local industries. He describes four determinants that influence this competitiveness: 1) factor conditions, 2) home demand, 3) related and supporting industries, and 4) firm strategy, structure and rivalry. This is the framework that was used to conduct this study.

By examining concentrations of employment, a group of industry clusters were initially identified. Then, through consultation with a regional advisory council of economic development professionals and educators, four clusters were identified for the region: 1) recreation and transportation equipment, 2) value-added agriculture, 3) tourism, and 4) wood products. The primary research was conducted using focus groups and individual interviews with local business leaders to better understand the relationships amongst suppliers, buyers, workers, educators, infrastructure, and culture that interact within the economy. The following is a brief summary of the findings.

Factor Conditions

- Low labor costs and abundant open space to expand operations are seen as attractive features of the region.
- Many companies report regional skilled and unskilled labor shortages. Some have responded to labor shortages by creating education and training programs to help prepare employees to work in specific industries.
- Of primary concern to business owners was employees’ lack of “soft skills” – including communication, decision-making, work ethic, and teamwork.
- Many commented that “soft skills” education should be incorporated into K-12 curricula.

Home Demand

- Home demand is strong for recreation equipment, but for the other industries markets are statewide, national, or even international in scope.

Related and Supporting Industries

- Regional and state supplier networks are important.
- The transportation sector is a vital component of infrastructure for the region.
Firm Strategy, Structure and Rivalry

- While firms in the region do compete with each other, they benefit from the exchange of ideas.

- Firms are located in the region because of the abundant natural resources, the high quality of life, and because it is the home of many of the company founders.
I. THEORETICAL OVERVIEW

MICHAEL PORTER'S DIAMOND OF ADVANTAGE

The diamond of advantage model was developed by Harvard Business School Professor Michael Porter and it discusses economic development in a different way than policy makers have thought of in the past. In his book, *The Competitive Advantages of Nations*, Porter argues that economic vitality is a direct product of the competitiveness of local industries.\(^1\) Previously, economists discussed a region's comparative advantage as being based upon cheap inputs and low-cost labor. Porter contends that regions must develop a competitive advantage based on the ability to continually innovate. Innovations are based on the following four key elements:

1) **Factor conditions**, such as a specialized labor pool, specialized infrastructure, and sometimes selective disadvantages that drive innovation;

2) **Home demand**, or local customers who push companies to innovate, especially if their needs or tastes anticipate global or local demand;

3) **Related and supporting industries**, nationally competitive local supplier industries who create business infrastructure and spur innovation and spin off industries;

4) **Industry strategy, structure and rivalry**, intense rivalry among local industries that is more motivating than foreign competition and a local "culture" that influences individual industries’ attitudes toward innovation and competition.

In addition to these areas, the Porter approach includes the roles of the government and chance. Historical accident and/or government actions tend to play significant roles in the early development or location of local industrial clusters.

Figure 1. Michael Porter Diamond of Advantage

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\(^1\) Industry clusters are geographic concentrations of competitive firms in related industries that do business with each other and that share needs for common talent, technology, and infrastructure. These regional clusters are the source of jobs, income, and export growth within a region.
INDUSTRY CLUSTERS IN MINNESOTA

Porter maintains that all four components of his diamond of advantage model are responsible for the continuous innovation that allows industries to compete in the global economy. However, after conducting cluster analyses on 17 different industries in four regions of Minnesota, SLPP researchers maintain that all four components do not have to be located within geographic proximity to make feedback mechanisms among firms effective.

Porter conducted his research in the late 1980s and utilized agglomeration theories developed within the field of geography two to three decades earlier. Since that time, advances in transportation and telecommunications mean that firms within an industry do not necessarily need to be in close physical proximity to one another. Demand does not have to be "home demand," and related and supporting industries do not have to be in proximity to offer effective supplies and services. Companies can keep in touch with customers via fax, communicate complex machinery specifications to suppliers via the internet, and deliver goods just-in-time via overnight express service. Linkages among an industry's firms are still important, but those feedback mechanisms have evolved into a different form since Porter's research.

With the advent of improved telecommunications and transportation, Porter's factor conditions of a sophisticated labor pool, relevant training, and sufficient infrastructure have become the most crucial elements of an industry's ability to thrive in the knowledge-based economy. In 16 of the 17 industries studied by SLPP, factor conditions of workforce and training were their primary concern.

As companies and the employees that work within an industry physically congregate, two dynamics may occur that lend to the vitality of the entire industry. Employees may be encouraged to specialize in their skills, thereby forming a highly qualified labor pool. Depending upon the culture of the industry, workers may move from firm to firm and thereby lead to a cross pollination of ideas. For example, in the Silicon Valley of California, the length of time an employee will work for one firm averages 18 months. Such rapid turnover can play havoc for human resource departments, but the cross-pollination of ideas among companies makes the entire industry more vibrant.

Long-term education and shorter-term continuous training are also key to an industry's ability to remain innovative. Industries stress the importance of a solid K-12 education coupled with post-secondary experience. Many companies spoke of the need for "just-in-time" training on specific topics particular to their operations or industry. Most companies have designed in-house training or have turned to outside consultants for short and medium term training. Almost every industry across the state expressed concerns about their local K-12 education system and few feel completely satisfied with the post-secondary and public training options.

II. NORTHWEST MINNESOTA REGIONAL PROFILE

This study defined the following twelve counties as the Northwest region: Kittson, Roseau, Lake of the Woods, Beltrami, Hubbard, Clearwater, Mahnomen, Norman, Red Lake, Pennington, Polk, and Marshall. The western edge of the region includes the Red River Valley, which consists of very fertile agricultural land. The eastern part of the region is made up mostly of forests, lakes, and wetlands.
This region is second in land area only to the Northeast region of the state, yet it is Minnesota’s least populated area. The Minnesota State Demographer’s Office estimated that the population of the region was 162,848 in April, 1996. This was approximately 3.0 percent of the total population of Minnesota.

Population Estimates: Region and State
(Minnesota State Demographer’s Office: April 1, 1996)

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2 Minnesota State Demographer’s Office, April 1, 1996.
According to 1990 census data, the largest cities in the region are Bemidji (11,245), East Grand Forks (8,658), Crookston (8,119) and Thief River Falls (8,010). Beltrami County (which includes Bemidji) has the largest population in the region, with approximately 37,932 residents. Additionally, many communities in the region have relatively elderly populations. In 1995, in ten of the twelve counties in northwest Minnesota, the percent of the total population over age of 65 was higher than the statewide figure of 12.4 percent (1996).

According to 1990 census data, the population of Northwest Minnesota lags behind the state as a whole in its level of formal educational attainment. The chart below indicates the highest level of educational attainment by individuals over age 25 in the region, the state, and the nation. For example, in Northwest Minnesota, 9.3 percent of the population has attained a bachelor's degree as its highest level of educational attainment, compared to 14.6 percent statewide. This same general pattern holds across all educational attainment levels.

The following graphs show the percentage of people employed by industry sector in Northwest Minnesota and in the state as a whole. The percentages of the labor force who work in government and manufacturing in the region are slightly higher than in the state, while the percentages who work in services, finance, trade, transportation, and construction are slightly higher in the state than in the region. The largest employment sector in Northwest Minnesota is the services sector, which employs 24.4 percent of the region's labor force.

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7 ES-202 (Minnesota Department of Economic Security) 1996.
Regional Percentage Employed by Industry Sector
ES-202, Minnesota Department of Economic Security, 1996

Statewide Percentage Employed by Industry Sector
(ES-202, Minnesota Department of Economic Security, 1996)

Average wages in Northwest Minnesota are significantly lower than average wages for the state across all industry sectors. The greatest discrepancy is in the trade sector, which includes both wholesale and retail trade. Average weekly wages in this sector are $264.98, lower than in any other industry sector in the region. The highest wages in the region are paid in the construction and the transportation sectors, which pay average weekly wages of $558.03 and $560.41, respectively.⁸

The unemployment rate in Northwest Minnesota also is much higher than the unemployment rate in the state and the nation. In April 1998, the region's unemployment rate was 5.7 percent, compared to 2.7 percent in the state and 4.1 percent nationwide. As displayed graphically below, this trend has been constant throughout the eight years, as the unemployment rate in Northwest Minnesota has consistently exceeded the statewide and nationwide rates. The highest regional unemployment rate was in 1991, when unemployment peaked at 8.7 percent. The regional unemployment rate fell to its lowest level of 6.5 percent in 1995.9

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Average Annual Unemployment Rate: 1990-1997
(Minnesota Department of Economic Security, Labor Force Data)

Average Unemployment Rate: April 1998
(Minnesota Department of Economic Security, Labor Force Data, April 1998
Data is not Seasonally Adjusted)
III. RECREATION AND TRANSPORTATION EQUIPMENT

INDUSTRY OVERVIEW

The recreation and transportation equipment industry in Northwest Minnesota includes an array of final goods manufacturers with some associated supplier firms and retailers. Examples of final goods manufactured in this region include buses, snowmobiles, jet skis (and other watercraft), all-terrain vehicles, and track conversions for four-wheel drive vehicles.

Regional manufacturing job growth is expected to be stronger in the Northwest region than in any other region of the state, and is projected to add 5,300 new jobs by 2005. Significant job gains are anticipated in the transportation equipment and fabricated metal product industries, among others. The regional transportation equipment industry employs an average of 3,566 workers, at an average weekly wage of $486.40 (significantly higher than the average weekly wage of $400.52 for the region as a whole). Analysts anticipate an increase in demand for boats, personal watercraft, and snowmobiles as baby boomers move into their peak earning years and their disposable income rises, which may spur future growth in this industry.

FACTOR CONDITIONS

- Recreation and transportation equipment firms locate in Northwest Minnesota because of employees' strong work ethic, a corporate culture which encourages employees to "live the product," low labor and transportation costs, and abundant open space to expand operations.
- The concentration of recreation and transportation equipment companies in Northwest Minnesota has helped create a pool of workers with specialized skills. However, many companies still report regional skilled labor shortages, and some have responded by creating education and training programs to help prepare employees to work in the industry.
- A number of recreation and transportation equipment companies have their own websites, yet most are just beginning to use the internet as a tool for marketing and communication.

Company representatives noted a wide variety of advantages to locating plants in Northwest Minnesota. Most commonly cited was the strong work ethic that exists among employees in the region, and a number of recreation equipment firms (Polaris Industries, Arctic Cat) commented on the importance of a corporate culture, which encourages employees to "live the product." Other employers noted that their companies benefited from the inexpensive labor force in the region, from the availability of open space into which companies could expand their operations, and from low transportation costs.

Workforce Issues

The concentration of recreation and transportation equipment companies in Northwest Minnesota has helped create a pool of workers with specialized skills. Company representatives reported that the skills most valuable to the industry include welding, inventory control, material requirements planning, applied technologies, blueprint reading, measuring, polymer technologies, painting, machining, computer training, marketing, and sales. There is a

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10 "Northwest Minnesota Employment Outlook to 2005," Minnesota Department of Economic Security
11 Minnesota Department of Economic Security; covered employment and wages, second quarter 1997, data available for Kittson, Roseau, Marshall, Polk, Pennington, Red Lake, and Norman counties only
12 "Northwest Minnesota Employment Outlook to 2005," Minnesota Department of Economic Security
strong need for employees with prior training in these areas, yet all companies reported a regional shortage of workers with these skills. These skills are likely to become even more important in the future: a recent study conducted by the Minnesota Department of Economic Security noted that several medium and large-sized firms in Northwest Minnesota are interested in expanding, which will increase demand for semi-skilled and skilled manufacturing production workers and skilled tradepersons.\textsuperscript{13}

In order to address the workforce shortages, many companies have launched in-house training programs. Examples include training in production (New Flyer of America), painting (New Flyer of America, Polaris Industries), welding (Arctic Cat), and blueprint reading and measuring (Team Industries). Of particular interest, Team Industries opened up its own training center last year and pays new employees while they go through 6-8 weeks of training for their new positions. In addition, company representatives commented on the need for more employees with mid-level management skills. A number of companies are working to develop management skills at the production level, and to promote individuals to management positions from inside the companies.

A number of company representatives commented that high schools, technical colleges, and the University of Minnesota-Crookston are not providing students with the training necessary to work in the recreation and transportation equipment industry. In general, company representatives feel that education is too theoretical and needs to focus more on training people for jobs in the region. A specific concern raised was the "generality" of business education at UM-Crookston and its emphasis on agriculture rather than applied technologies.

Another concern raised by many members of the advisory council to the study was the number of young people who leave the area permanently following high school. While some members felt that this was characteristic of all young people (and not region-specific), others noted that students might believe that good educational and job opportunities are scarce in the region. Some companies in the recreation and transportation equipment industry have responded by launching efforts to help qualify students for positions in local firms, and to offer them incentives to remain in the region. For example, Stenberg's Welding and Fabrication has agreed to try to hire high school graduates who are in the top 10 percent of their classes and to pay them $50 more than the usual starting salary. The goal is that in 3-5 years, these new hires will replace less motivated employees.

Approximately two years ago, Polaris Industries, Marvin Windows, and Solvay Pharmaceuticals launched a partnership with Northwest Technical Colleges to create Northern Lights University, a program designed to provide area employees with post-secondary education and training to better prepare them to work in regional industries. Using space loaned from the local Lake of the Woods, Roseau, Warroad, and Badger school districts, this program offers master's degrees in Business Administration and Curriculum and Instruction, an associate arts degree in Manufacturing Engineering Technology, an associate of applied science degree in Business Administration, and certificates in Management and Business Micro Computing. However, many individuals who take classes through the program are not pursuing advanced certificates or degrees. While most evening courses are taught in-person by college faculty, Northern Lights University recently began to offer other courses through interactive television, the internet, and by correspondence. The partnership has since expanded, and now includes Bemidji State University, Moorhead State University, and

\textsuperscript{13} "Worker Shortages in Minnesota," Minnesota Department of Economic Security, Research and Statistics Office, November 1997
Northland Community Technical College in Thief River Falls. Approximately 90-95 percent of 
the students who have come through the program work at Polaris, Marvin, or Solvay.

In addition, some companies have begun to explore ways to recruit skilled workers from 
outside of Northwest Minnesota. For example, Polaris Industries uses headhunters to recruit 
engineering students from colleges in other regions. Through satellite-based technical training, 
these engineers can move to Northwest Minnesota and still further their education.

Telecommunications

A number of companies interviewed (including Polaris Industries, Arctic Cat, and Mattracks) 
have websites, however these firms are just beginning to expand their use of the Internet as a 
tool for marketing and communication. A number of company representatives reported that 
they are beginning to use e-mail, although most is internal and use is restricted to management. 
Some companies (Stenberg’s Welding and Fabrication, Team Industries) plan to put in 
dedicated lines to speed communication between facilities.

HOME DEMAND

- Home demand is important to the recreation and transportation equipment industry,  
  particularly to those companies that produce snowmobiles, watercraft, and all-terrain 
  vehicles.

The State of Minnesota boasts 15,400 miles of snowmobile trails, representing the importance of 
home demand to companies that manufacture winter recreational vehicles. In addition, both 
Polaris Industries and Arctic Cat also produce personal watercraft (among other vehicles), and 
the wealth of lakes throughout the state ensures that demand does not stagnate during the 
summer months. One company representative estimated that approximately 2/3 of the 
snowmobile market is in the United States (with the remaining 1/3 in Canada), and most sales 
are concentrated in Minnesota, Wisconsin, and Michigan. Other transportation equipment 
companies (New Flyer of America, Mattracks) relied less on local demand for their products. 
Both these companies sell products throughout the United States and Canada, and Mattracks is 
expanding its efforts to increase demand for its track conversions worldwide. Of note, one 
reason that New Flyer of America chose to locate its company in Crookston (relatively near 
Winnipeg, its corporate headquarters) was its need to satisfy many U.S. municipal regulations 
requiring that cities purchase American-made vehicles.

RELATED AND SUPPORTING INDUSTRIES

- All companies commented on the importance of regional and state supplier networks,  
  estimating that the majority of their inputs come from Minnesota, Wisconsin, and Manitoba. 
- Only 13 percent of inputs to the recreation and transportation equipment industry are 
  produced in the twelve-county region.

All companies commented on the importance of regional and state supplier networks. For 
example, Arctic Cat’s suppliers include approximately 180 vendors throughout Minnesota 
(although Japan-based Suzuki Motor Corporation, which supplies engines to Arctic Cat, is its 
primary supplier in terms of total cost). Stenberg’s Welding and Fabrication receives 
approximately 80 percent of its parts from Polaris Industries in Osceola, Wisconsin, and from 
Ryerson, Inc. in Minneapolis. Approximately 26 percent of its products are provided to the

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International Snowmobile Manufacturer’s Association, Winter 1996.
Polaris plants in Roseau and Spirit Lake, and the remainder are supplied to 16 other companies with the majority going to the Specialty Equipment Company in Minneapolis (which manufactures automatic car washes) and to Integrated Systems Manufacturing in Phoenix, Arizona (which manufactures deep-fat fryers). Although the majority of suppliers to the New Flyer of America plant in Crookston are located in Winnipeg, the primary suppliers in terms of total cost are located in Minnesota. Polaris Industries noted in its 1997 annual report that it plans to increase domestic engine production at its plant in Osceola and at its joint venture plant with Fuji Heavy Industries in Hudson, Wisconsin. Polaris also announced plans to build a plastic injection-molding facility adjacent to it Roseau, Minnesota assembly plant in order to increase in-house component production and efficiency (currently, these components are supplied by a number of companies outside of the twelve-county region).15

The Minnesota Department of Economic Security (DES) recently conducted an input-output analysis of industries in northwest Minnesota, including the recreation and transportation equipment industry. The DES found that of the total value of inputs to the recreation and transportation equipment industry ($564.41 million), only 13 percent ($75.19 million) are produced within the twelve-county Northwest region of the state.16 This may indicate a significant niche market, which could be filled by new supplier firms. However, this analysis was based on the total cost of inputs to the industry, and not on the total quantity of inputs supplied. Most engines, the priciest input, are manufactured outside of the state, which may skew the DES findings. In addition, this analysis may not capture inputs to the industry which are produced in-state (but outside of the twelve-county region), or in neighboring communities in North Dakota and Manitoba.

FIRM STRATEGY, STRUCTURE, AND RIVALRY

- While firms in the region do compete with each other, they also benefit from the exchange of ideas.
- Many recreation and transportation equipment companies -- including Arctic Cat, Polaris Industries, and Mattracks -- were founded in the twelve-county region, and remain there, at least in part, because of the companies' and owners' historical commitment to the region.

Arctic Cat and Polaris reported that their primary competition in snowmobile manufacturing is with each other and with Bombardier (in Canada). Competition is greater in other product lines. Stenberg's Welding and Fabrication commented that the exchange of ideas between local competitors is often helpful.

It is interesting to note that many of the companies interviewed were founded in the twelve-county region of Northwest Minnesota, and remain there, at least in part, because of the companies' and owners' historical commitment to the region. Polaris Industries was founded in 1956 by three local entrepreneurs -- Ed Hetteen, Allen Hetteen, and David Johnson. The company originally produced only snowmobiles (then called snowmachines), and expanded to all-terrain vehicles in 1985 and to watercraft in 1991.

Ed Hetteen also founded Arctic Cat in 1963. Arctic Cat went bankrupt in 1980, until some local investors from Thief River Falls bought the rights to the company and some of its buildings and reopened production in 1983. Production was expanded to personal watercraft in 1992 and to all-terrain vehicles in 1995.

16 Implan Input-Output analysis conducted by the Minnesota Department of Economic Security.
The owner of Mattracks, Glen Brazier, is from Greenbush (in Roseau County), and constructed the plant in nearby Karlstad because of his commitment to the area and accessibility to transportation facilities. The unique product manufactured by Mattracks (track conversions for four-wheel drive vehicles) actually was invented by Brazier’s 11-year old son, who drew a picture of a truck with tracks instead of tires and asked his father, "Can we build something like this?"

GOVERNMENT

- While important partnerships exist between government and recreation/transportation equipment firms, some company representatives noted specific local and state government actions that they fear will negatively affect their operations.
- Members of the advisory council to the study commented that the state should tailor its education to better meet the skilled employment needs of the region.
- Some advisory council members remarked that government regulations and benefit programs in Minnesota should be comparable to those in the Dakotas.

Companies’ relationships with state and local government are generally positive. For example, the Mattracks representative noted that Minnesota Product Innovation in Moorhead, a state-federal partnership that provides assistance to small businesses, has granted funding to Mattracks for development of a new promotional video. Tim DeJong of Polaris Industries commented on his support of the City of Roseau’s recent creation of a Tax Increment Financing District, as this makes production in the area more economical. However, some company representatives expressed concerns that the state had tried to take Highways 89 and 11 off the state highway lists, which would have led to a decline in road quality.

Members of the advisory council to the study commented that the state should increase its investment in education and should promote educational opportunities that are more appropriate to the skilled employment needs of the region. In addition, some council members noted the disparity in federal Environmental Protection Agency regulations and in social benefits between the Dakotas and Minnesota. Some expressed concern that this disparity might encourage companies and families to locate in other states.

IV. VALUE-ADDED AGRICULTURE

INDUSTRY OVERVIEW

The value-added agriculture industry in Northwest Minnesota is a large and integral part of the economy in the region. With an output of over one billion dollars in 1995, the sector consists of a wide variety of firms that are of vastly different sizes. They include meat, grain, sugar beets, dairy, and seed producers that process mostly local inputs to increase value before they are exported from the region. The largest firm interviewed employs over 470 people and the smallest consisted of eight people.

Many of the businesses are drawn to the region to take advantage of locally grown crops and livestock. A number of the firms are member-owned cooperatives that process the grain, sugar, or livestock that is produced by members. These organizations capture the economic benefits of processing the raw agricultural commodities into finished or intermediate goods. An excellent example of this is American Crystal Sugar. For 25 years the cooperative has allowed the

17 Implan Input-Output analysis conducted by the Minnesota Department of Economic Security.
sugarbeet producers in the region to earn greater returns from their crops. Over 2000
grower/shareholders supply beets to five production facilities and create other jobs in
the region. One detriment to locating in the region is that the area is far away from major
population centers which translates into high shipping charges.

FACTOR CONDITIONS

- Several companies have trouble getting employees at any skill level from within the region.
- Quality of workforce has seen some deterioration over time.
- Increasingly, employees lack “soft skills” coming out of high school.
- Colleges and technical schools are responsive to the needs of the business community.

Workforce Shortages

Many of the workforce shortages that plague the value-added agriculture industry in the region
are closely linked to the low unemployment rate that Minnesota and the United States are
currently experiencing. Because of this, many firms find it hard to place people in entry-level
positions as well as in skilled positions within the industry. These include harvest and
production workers, supervisors, as well as qualified truck drivers. Business representatives
interviewed for the study mentioned that they have seen the quality of the workforce diminish
over time. Some of this can be attributed to the relatively low level of unemployment as many
“hard to employ” workers make up a large part of the remaining labor pool. This problem is
also exaggerated in the agricultural sector because of the immediacy of demand for seasonal
employees at harvest times.

As welfare-to-work programs are implemented, it is becoming apparent that there are special
needs that must be addressed. Julie Larson, Manager of Human Resources at Lamb-
Weston/RDO in Park Rapids, is on a grant administration board sponsored by the McKnight
Foundation, to explore the needs of welfare-to-work programs. The three primary problems
that the board cites are the lack of day care, transportation, and work readiness skills. Work
readiness range from punctuality to working well with other employees. A lack of this skills can
make on-the-job training significantly more difficult. Additionally, increased automation in
many jobs has led to some people being unqualified to fill open positions.

Because of the shortage of workers, firms are actively recruiting potential employees from
within the region and from as far away as Texas. Many companies are increasing the amount of
advertising that they do to attract workers. Some companies, such as Northern Pride of Thief
River Falls, offer incentive bonuses to current employees for recruitment of new employees.
Lamb-Weston/RDO also assists employees by providing transportation to and from work. This
has been part of a strategy to be more worker friendly and “personable” with employees so as
to increase retention rates.

Workforce Training

Traditionally, training in the value-added sector has been on-the-job learning that is generally
plant- or job-specific. Even with increasing amounts of automation, a significant portion of the
training continues to be done on the job. The only requirement for this style of training is that
new employees be willing to learn. One resource that has been a valuable asset to the region is
the “farmer engineer.” Several firms mentioned that these employees have a strong background
in problem solving, which is useful in all employment situations.
Many of the business representatives interviewed perceived that the technical and four-year colleges in the area are doing a good job in overall training. The colleges are reported to be very responsive to the needs of business. Specifically, the new program at UM-Crookston in Agricultural Production is seen as a good step forward in creating a strong base of local management personnel in the region.

**Use of Telecommunications**

No problems were mentioned in this specific area. Some companies use on-line services to respond to customers and sell products. Phil Hebert, Vice-President of Sales for D&D Commodities in Stephen, states that the use of the internet facilitates interaction with its largest customer, Wal-Mart.

**HOME DEMAND**

- Producers of value-added products in the region are meeting a national and international demand.

Home demand for finished products has not driven local production. Producers in the area supply the nation and the world with goods. There is, however, a strong spirit of regional entrepreneurship that has spurred innovation. An excellent regional example is the Northern Food and Dairy with a facility in Fosston. The company started in Alexandria in 1987 as a dairy processor. Now it has diversified into working with grains and flavorings. The Fosston location produces roll dried molasses and clear soluble fiber. Roll dried molasses is used as a flavoring agent for candies and other food items. Clear soluble fiber is a dietary fiber used in hospitals, among other uses. These are sold to manufacturers in the state as well as to buyers as far away as Japan.

**RELATED AND SUPPORTING INDUSTRIES**

- Suppliers of raw agricultural materials are in or near the region.
- The transportation sector is a vital component of the value-added industry.

Large suppliers of inputs for the region’s value-added companies are in the local and regional area. According to the Implan Input-Output Analysis of the industry, close to 40 percent of the dollar value of gross inputs come from the region ($292.7 million). This calculation excludes any suppliers who might be just outside of the twelve-county region. Some suppliers radiate up to 300 miles away, but most are smaller than that, usually within 100 miles. Because of the nature of agricultural production, there are generally a large number of small suppliers to the companies that do the value-added production. D&D Commodities estimates that 60 percent of its inputs come from local farmers or regional grain elevators.

Capital equipment suppliers generally are not in the region, however. Equipment originates from across the nation and sometimes from foreign sources. According to Blayne Doty, Agricultural Manager for American Crystal Sugar in Crookston, the company buys a substantial amount of sugarbeet processing equipment from Dakota Machine.

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18 This is information from an interview conducted on January 26, 1998. The Fosston facility has subsequently closed as of March 1, 1998. The products are still being processed in the company’s Alexandria facility.
19 Implan Input-Output analysis conducted by the Minnesota Department of Economic Security.
Most of the value-added product is exported to all parts of the United States and the world. A good portion of inputs are transported by trucking companies to the processing sites. Trucking and rail are both used to distribute products after processing. American Crystal Sugar uses rail extensively to ship its finished product and seems satisfied with the service. On the other hand, companies that ship smaller volumes by rail say that due to changes in the industry, it is sometimes difficult to acquire adequate service. But Russ Christianson of Northern Pride reports that with sufficient preplanning, rail works 90 percent of the time. Others report that some small elevators have had bad experiences with the railroads.

**FIRM STRATEGY, STRUCTURE, AND RIVALRY**

- Capturing the economic return from processing has been a driving force in innovation.

Competition among firms is not a strong factor in spurring the value-added industry to grow in the region. The structure and incentive for growth is caused more by a desire to capture profits that are realized in processing basic agricultural goods. American Crystal Sugar Corporation was bought from a private interest by growers in 1974. The farmers organized to have more control over the processing of their crops, resulting in more profits being retained in the region.

Another example of commodity groups working together in the region is the United Spring Wheat Processors. The organization is made up of over 3000 farmers in Minnesota and the Dakotas who are interested in adding value to their crop by creating a cooperative structure to benefit from processing. After looking at several options, each member contributed $5000 to start the organization. Gray Lee, the former Vice-President of Marketing for Cargill, was hired as the Chief Executive Officer to head the organization. United Spring has done extensive market evaluation and feasibility studies to determine the best course of action. An additional $11 million was then raised. The first plant to produce frozen bread dough is scheduled to be built this fall in Atlanta, Georgia. This plant is being built with no debt and a second facility is proposed for start-up in three years. Some of the original work on the feasibility of the producers group and market possibilities was aided by the Agricultural Utilization Research Institute (AURI) as well as the Initiative Fund.

The structure of the sector has led to the rise of groups such as AURI, which assists entrepreneurs along the process of developing new products. AURI offers many services to its clients including financial and technical services, feasibility studies, as well as working as an intermediary to direct clients to other funding agencies, such as the Northwest Minnesota Foundation. Also, D&D Commodities reported that they have received help from Initiative Fund loans. AURI also has started to work proactively in promoting its services. AURI is reaching out through trade shows and examining markets for potential regional expansion. This work has been accomplished through commodity groups, producers, educators, and economic development professionals. AURI is funded by the State of Minnesota.

There are many strong examples of value-added agriculture happening in the region, and there are significant opportunities for continued growth. With careful planning and analysis of markets, this can be accomplished.

**GOVERNMENT**

- While there are generally strong relations with government, there is some concern about not being competitive with North Dakota.
Most companies reported strong relationships with local and state governments. The Northwest Region Development Commission was mentioned as a useful government agency. There is some concern among a few firms that the competition with North Dakota is a battle that the region is losing. While many firms did not see this as a problem, others felt that some state regulations, especially those enforced by the Minnesota Pollution Control Agency, are too severe to be competitive with the neighboring state. Another competitive disadvantage mentioned is that taxes for doing business are also higher in Minnesota than in North Dakota.

Also of significant concern to sugarbeet producers, as well as the region, is the continuation of the federal sugar program. The program's main feature is an import subsidy. According to Mark Weber, Executive Director of the Red River Valley Sugarbeet Growers Association, the program is a necessary response by domestic producers to foreign competition, which is heavily subsidized. The current program is scheduled to expire in 2002 and there is some concern that it will not be reauthorized, which could have a negative effect on producers. It is feared that younger farmers, as well as more leveraged producers, would be dramatically affected and possibly pushed out of business. Another reason that Weber says the safety net is necessary is that producers only grow sugarbeets in one out of three or four years. In the rotation years they produce crops of wheat and barley, which are often not profitable crops in the region.

V. TOURISM

INDUSTRY OVERVIEW

Close to 800,000 tourists visited the twelve-county region in 1995. This figure does not include international tourists -- including Canadian tourists -- who visit Minnesota each year. In that year, the domestic tourism industry in Northwest Minnesota employed over 4500 workers, and generated approximately $240 million in gross receipts. The average weekly wage of employees in the hotels and lodging industry in Northwest Minnesota (including lodging managers, hotel desk clerks, and maids and housekeeping cleaners) is $256.40, as compared to an average weekly wage for all regional industries of $393.71. These wages do not include benefit packages, although many businesses do provide benefits to full-time and some part-time employees.

Four casinos are located in the region: River Road Casino, Lake of the Woods Casino, Red Lake Casino (Red Lake Band of the Chippewa) and Shooting Star Casino (White Earth Band of the Chippewa). The Shooting Star Casino is the largest employer in Mahnomen and the Red Lake Casino is the largest employer in Red Lake, while Lake of the Woods Casino is the second-largest employer in Warroad and the River Road Casino is the seventh-largest employer in

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21 Travel and Tourism Statistics for Minnesota's Tourism Regions and Northcentral/West Counties, Minnesota Office of Tourism, Research Unit, September 1997.
24 Calculated from Minnesota Department of Economic Security, average wages for covered employment, Second Quarter 1997. Results were weighted by 1995 county population estimates (U.S. Bureau of Census). Data is for 26 counties -- including the 12-county region.
Thief River Falls. These casinos employ approximately 1200 people and pay an average weekly wage of $290.50.

The Minnesota Office of Tourism, with offices in Brainerd and Thief River Falls, serves the twelve-county area. Staff in these offices provides both technical and financial assistance in marketing and infrastructure initiatives. In addition, tourism businesses in some parts of the region have found it beneficial to work together to promote product offerings and share resources. Three tourism associations presently represent regional business owners -- the Riverland Association (Pennington, Red Lake, and Polk counties), the Borderland Trail Association (Lake of the Woods and Roseau counties, and some of Kittson county), and the Gateway Association (Kittson and Marshall counties).

**FACTOR CONDITIONS**

- Business representatives noted many advantages to locating in Northwest Minnesota, including access to beautiful natural resources, the benefit of both a summer and winter tourist season, and the location of the region as a crossroads for tourism from both Canada and the United States.
- Some business owners also noted the drawbacks to locating in Northwest Minnesota, including expensive and infrequent transportation services and harsh winter conditions.
- Some business representatives expressed concern about labor shortages due to rapid turnover and competition with other industries in the region.
- Of primary concern to business owners was employees’ lack of “soft skills” – including communication, decision-making, work ethic, self-esteem and teamwork. Many commented that “soft skills” education should be incorporated into K-12 curricula.
- Business leaders urged an expansion of partnerships between businesses and schools in order to help steer students into the tourism industry.
- Three Northwest Minnesota tourism associations are currently developing a joint website, and many resorts have their own websites.

Business representatives commented on the many advantages of locating hotels, resorts, campgrounds, and other recreational attractions in Northwest Minnesota. These include access to bountiful “woods, waters, and wilderness,” and the advantage enjoyed by few regions of the country of having both a summer and a winter tourist season. Canadian and American tourists pass through Northwest Minnesota on their way to other regions, drawing many tourists who might not otherwise travel to Northwest Minnesota. In addition, both the Red Lake and White Earth Chippewa reservations are located in the twelve-county region, allowing the development of a casino industry on tribal land.

However, some business owners also commented on the drawbacks of locating in Northwest Minnesota. Air service is infrequent and expensive (main airports are located in Thief River Falls, Bemidji, and Park Rapids, although the region also is serviced by the airport in East Grand Forks), and there is no passenger bus service to many parts of the region. The roads in many parts of the region are in disrepair. In addition, harsh winter conditions sometimes interfere with tourist traffic.

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Workforce Issues

Concern about labor shortages was expressed by some, but not all, of the business representatives interviewed. Some representatives commented that they are unable to compete for workers with large employers in the region (such as Polaris Industries and Marvin Windows), which offer employees higher wages, flexible hours, and better benefits packages. In addition, many representatives noted that a significant portion of their employees is high school students. As a result, many businesses suffer from rapid turnover as students may work only seasonally and often leave the region after graduation.

Many concerns were expressed by business representatives and members of the advisory council regarding the lack of "soft skills" training curriculum at the elementary and secondary school levels. "Soft skills" include communication, decision-making skills, human relations, organizing, work ethic, self-esteem, teamwork, and other transferable skills important to employees in any field. An example of a "soft skills" curriculum is the National 4-H "Wild Over Work" ("WOW") K-12 curriculum, which is not yet being used in the school systems. This curriculum is designed to help children develop an awareness of the range of career options available to them, an understanding of themselves as future employees, a vision of their career options, and attitudes of respect and appreciation toward all workers and their contributions to society. In addition to these soft skills, some business representatives commented that high school students should receive better software training (particularly in the use of IBM-compatible software) and internet skills.

Other business representatives urged that high schools, community colleges, and universities invite local business leaders to teach classes and give special presentations to students. Industry representatives believe that school-to-work programs should be designed to help steer high school students into the tourism industry, and recruitment for the University of Minnesota-Crookston hospitality program should begin at the junior high level in order to keep students in the region following high school. To strengthen ties between schools and employers, business leaders also commented on the value of partnerships between businesses and educational institutions in the area. For example, the Baudette/Lake of the Woods Chamber of Commerce sponsored an interactive video conference with the Council on Hotel, Restaurant, and Institutional Education (CHRIE) and with Lake of the Woods school district, which provided technology and space.

Telecommunications

Three tourist associations (Riverland Association, Borderland Trail Association, and Gateway Association) are currently developing a joint website, which should be running by early Summer 1998. Many businesses in the region -- particularly resorts -- also have their own websites. Members of the advisory council to our study commented that developing and refining a technology infrastructure is crucial to ensuring the region's future competitive advantage.

HOME DEMAND

- Most tourists to Northwest Minnesota come from greater Minnesota, Manitoba, and the Grand Forks and Fargo metropolitan areas.
- A number of recent Canadian government actions could hinder tourism to the Northwest Angle (on the Northwest side of Lake of the Woods).

By definition, most tourist businesses do not rely primarily on local demand for their services. The River Road Casino outside Thief River Falls was the only business that reported significant local demand, as Marketing Director Max Lussier estimated that approximately 92 percent of business comes from within a 40-mile radius.

The region draws many tourists from Canada (particularly Manitoba), especially to the northern counties. Business representatives estimate, however, that most tourism is from greater Minnesota (including the Twin Cities), and the Grand Forks and Fargo metropolitan areas. Some businesses reported that summer tourists come from a greater diversity of places than winter tourists.

Some resort owners fear, however, that a number of recent Canadian government actions, could hinder tourism to the region -- particularly to the twelve resorts located in the Northwest Angle on the northwestern side of Lake of the Woods. First, in Fall 1997, the Canadian government closed the nearby Cyclone Island customs station (the American customs station located on nearby Oak Island was closed a few years ago). American visitors to the Northwest Angle who plan to stay in U.S. resorts now must buy a remote area border-crossing permit if they are going to visit Canada. However, the closest place to buy a permit is at the Rainy River customs station near Baudette -- approximately 100 miles from the Northwest Angle.

In addition, in early 1998, the Canadian government banned visitors staying at U.S. resorts from taking any walleye or sauger from Canadian-held portions of the Lake of the Woods. This raised further problems for resorts in the Northwest Angle, which are located very close to Canadian waters. Northwest Angle resort owner Celeste Colson commented that this ban was due to the actions of a local branch of the Ontario Ministry of Natural Resources (MNR), and because of the geographic isolation of the area, the Canadian federal government did not realize that this was a problem. Colson also argued that studies conducted by biologists from both sides of the border found that fisheries in the areas in dispute are not stressed, contrary to the claims of the local MNR. Tourism professionals in the region are currently working with Members of the U.S. Congress, the Immigration and Naturalization Service, and the Canadian national government to help ease these restrictions.

RELATED AND SUPPORTING INDUSTRIES

- Most business representatives make an effort to use primarily local suppliers.

Most business representatives make an effort to use primarily local suppliers (Northwest Minnesota and Northeast North Dakota). One casino representative noted that this is particularly important in the gaming industry, which tends to have a “black eye” in the local communities.

FIRM STRATEGY, STRUCTURE, AND RIVALRY

- Business owners interviewed disagreed on whether there are enough tourists to the region to warrant opening new facilities to service large events.
- The existence of three regional tourism associations reflects significant cooperation among businesses in the region.

One business representative commented that there are not enough facilities (e.g., hotels and restaurants) in the twelve-county region to service large events. Others commented, however, that there are not enough tourists to warrant new entry and that existing businesses could
accommodate more customers. The existence of the three regional tourism associations demonstrates that there is significant cooperation among tourism businesses in Northwest Minnesota with the goal of generating more tourism to the region.

GOVERNMENT

- With a few exceptions, business representatives reported that their partnerships with government agencies are limited but generally positive.
- A number of state agencies – including the Minnesota Office of Tourism and the Minnesota Department of Trade and Economic Development – have provided professional and financial assistance to the Northwest Minnesota tourism industry.

Although business representatives reported that partnerships with government are limited, most viewed their relationships with government agencies as generally positive. However, one casino representative commented that while his establishment’s relationship with local government has been strong, its efforts to open a new casino on non-tribal land in the region has been blocked by the state’s delay in approving the proposal.

In 1997, the Minnesota Office of Tourism (part of the Minnesota Department of Trade and Economic Development) provided approximately $50,000 in Partnership Assistance to organizations in the twelve-county region. These matching funds were used to market outside of Minnesota through efforts such as attendance at sport, travel, and trade shows and participation in consumer advertising initiatives. Of note, several years ago, three communities of the Northwest Gateway Association partnered with the Minnesota Department of Trade and Economic Development (DTED) and its Star City Program. This program helped link businesses in the region with the resources they need. Minnesota DTED provided professional and financial support.

VI. WOOD PRODUCTS

INDUSTRY OVERVIEW

The wood products industry in Northwest Minnesota had an output of over $465 million in 1995.28 It provides a very diverse array of manufactured products to regional, national, and some international buyers. These products include oriented-strand board (OSB), manufactured homes, containers, moldable mat board, windows, cabinets, and hockey sticks.

Many of the businesses in this industry are located in Northwest Minnesota because of the resource of wood and derivative wood products from the area. But other owners or founders are from the immediate area and are located in the region for that reason. As one businessman stated, he “would not live or work anywhere else.”

FACTOR CONDITIONS

- A large number of the firms interviewed did have a problem with recruiting new employees, but not all firms had this problem.
- Many companies stated they need people with “soft skills” (communication, teamwork, some managerial expertise) which they feel are lacking in the general workforce.

28 Implan Input-Output analysis conducted by the Minnesota Department of Economic Security.
• Though it is not the exclusive means of training employees, on-site training is a common thread throughout the industry.

**Workforce Shortages**

The industry in Northwest Minnesota has a wide range of severity in worker shortages. A large number of the firms that were interviewed did have a problem with recruiting new employees, but this is not inclusive of all companies. Other firms stated that they had no problems attracting new employees and attributed that to several factors. Jack Velzen, Wood Products Division Training Coordinator for Potlatch, stated that the company receives many applications for each position opening available. He attributed this to the above average compensation and benefits package that the company offers. Another possible reason is proximity to population centers. At least one of Potlatch’s facilities is near Bemidji, which is a population center for the region. Other factors mentioned by companies that limit the severity of worker shortages were the desirability of work conditions and hours that their companies offered versus other firms in the area. Roger Christian, Sr., Secretary/Treasurer of Christian Brothers, Inc., stated that his company had few problems recruiting workers because Christian Brothers is a relatively small company and the shifts are strictly days, which is attractive to many potential employees.

Large employers with small population bases, such as Marvin Windows and Doors, have been dramatically affected by the shortage of workers. Rick Trontvet, the Director of Human Resources for Marvin, said that the company is facing a very dry labor market. Marvin faces shortages for both entry-level and skilled positions. The situation is dramatic for Marvin which, because of its size and location, makes Warroad a true company town. Marvin employs a total of 4,500 people with 3,300 of those jobs in Warroad, the company headquarters. The entire population of the town is just slightly more than half of that at 1,840.

To overcome labor shortages, companies are implementing various strategies. Firms are actively recruiting employees through various channels such as Job Service and job fairs. Some are encouraging their current employees to recruit through the use of cash incentives. Marvin has developed an entire campaign called *Careers Begin at Marvin*, emphasizing that entry-level positions are not a dead end in the company and that there are many chances for advancement within the company after appropriate training.

A handful of companies responded that they experienced labor shortages in specific job categories. These areas included “skilled trades” such as welders, computer operators, industrial mechanics, engineers, and electricians. Marvin has been using a summer internship placement program to recruit future employees from the hard sciences, human resources, and information systems.

**Workforce Training**

Training in the industry is handled in several different ways. On-site training is a common thread throughout the industry, particularly with job specific tasks being learned. Other positions require more formal schooling or management training, which takes place either at the plant facilities or in institutional settings. Several companies, including Marvin, Potlatch and Georgia-Pacific, have established programs that provide continuing education to employees on-site. Employees find the development of distance learning very encouraging and useful in this largely rural region.

Some firms have training relationships with local technical and community colleges. In general, the schools have been supportive of working closely with business. An excellent example of
this is the Northern Lights consortium that was formed by Polaris, Marvin Windows, and Solway Pharmaceuticals. Classes are offered on-site at the plants for programs that can include up to four year degrees.\textsuperscript{29}

Potlatch has also developed a program in its Minnesota Wood Products Group for managerial development in conjunction with Itasca Community College and Bemidji State University. The Managerial Development program is intended to improve overall job performance with a flexible and individually-based curriculum provided on-site or at a nearby location. Many mediums are used for instruction, including interactive television and various computer applications. Academic credit is available through the Minnesota college and university system.\textsuperscript{30}

Georgia-Pacific has also teamed with Northwest Technical College to create an ISO-9000 partnership. The College has provided personnel and consultants to train employees on-site. The objective is to create a body of employees who will in the future do all of the training of other workers. This process is further facilitated by a more permanent training curriculum that is being created.

The Occupational Development Center, Inc. (ODC) in Thief River Falls offers an interesting approach to workforce training. ODC was founded to do workforce training. The company’s mission is to train people with disabilities for employment, which is largely in its facilities. The ODC has nine divisions that employ 1000 people with disabilities and 250 other employees. Many people stay on with the company, but others are placed in positions with other firms in industry.

The shortage of “skilled trade” personnel continues to be problematic. Several sources stated that there are no regional training programs for industrial mechanics and electricians. To compensate, companies either recruit employees from other companies or are conducting apprenticeship programs. These programs encourage the process of internal promotion.

In conjunction with other training programs, some firms are relying more on just in time (J.I.T.) training for employees. This meets immediate demands that arise from new working environments. Safety concerns are particularly important issues, which J.I.T. addresses well.

Many companies stated that they need people with “soft skills” (communication, teamwork, some managerial skills) which they feel are lacking in the general workforce. There is a general feeling that the educational system (mostly K-12) does not do a sufficient job of teaching the skills of: 1) managing people, 2) finance, and 3) communication skills with coworkers and the general public.

Several of the aforementioned training programs were done in conjunction with the Minnesota Job Skills Partnership, which provides funding for on the job training through technical colleges.

\textsuperscript{29} For a more detailed discussion of this program refer to the Recreation and Transportation Equipment Industry section.

\textsuperscript{30} Potlatch Corporation Wood Products Group Managerial Development Curriculum.
Telecommunications

The infrastructure was not a particular concern to any companies that were interviewed. Several of the larger companies use intra-corporation networks to communicate via email.

HOME DEMAND

- Most demand for wood products from the region is from the Upper Midwest.

Much of the demand for wood products produced in Northwest Minnesota is not within the region. The demand for finished products is concentrated in the Upper Midwest. Many of the larger companies that are located in the region (Marvin, Potlatch, and Georgia-Pacific) are suppliers of intermediate and finished good to the nation and the world. Nationally based Potlatch and Georgia-Pacific have branches in the region to take advantage of the natural resources.

RELATED AND SUPPORTING INDUSTRIES

- Many of the wood inputs to the industry are from other regions of the United States and Canada.

The forest resources in the area are what originally attracted many of the companies to the region, and has helped to keep them in Northwest Minnesota. The Implan Input-Output Analysis shows that regional based inputs account for just over 40 percent of total inputs to the industry. Not all of the wood that is used for manufacturing in the region is from the region, much of it is imported from Canada or the West Coast. For example, Marvin receives its supply of ponderosa pine from Oregon. The Occupational Development Center uses seven to eight million board feet annually. The supply comes primarily from 12 mills, of which 11 are in Minnesota and one is in Canada. The mills are generally within 200 miles of the facility using the materials. ODC would prefer to not use the Canadian supplier, but there is a shortage of the specific cut of wood that it needs from more local mills. The solid ash that Christian Brothers uses for hockey sticks comes largely from Pennsylvania.

Many companies comment that wood is inexpensive to import from Canada because the Canadian government subsidizes much of the industry. There is an ever-increasing demand for the natural resources in the state and this can foster some conflict of interest between the companies in the region and the management of the public resources. Potlatch owns some of the land from which it harvests wood, but much of the resource is from public lands. The decrease in stock of the northern forests is a serious concern for the industry.

Overall, companies said that the road system in the region is adequate and does receive improvement when it is seen as necessary for a strong business environment. This is mostly requested by businesses which need the improvements. Railroad infrastructure and management did not receive good marks in the region. Many companies are unable to use rail because the track is not there or is no longer serviced. Others that do have the infrastructure available commented that service is not very reliable and must be planned far in advance if it is to be utilized at all.

31 Implan Input-Output analysis conducted by the Minnesota Department of Economic Security
FIRM STRATEGY, STRUCTURE, AND RIVALRY

• Firms are located in the region for the natural resources as well as because it is home to many of the founders.

There is not a large amount of competition among regional firms, with the possible exception of local wood supply. The outputs are so diverse that direct rivalry is not at the forefront of structuring business.

Marvin was originally founded as a lumber company as well as a grain and seed elevator (which is still run by the company). In the late 1930s there was a growing demand for windows for barns in the region. Demand was also enhanced by government contracts during World War II. Meeting this small niche demand has blossomed into a company that is one of the three largest providers of premium windows in the country.

Christian Brothers was founded in 1964 by Hal Bakke and Bill and Roger Christian in the wake of the brothers’ participation on the gold metal winning United States hockey team. One of the founding principles was to make “hockey sticks by hockey players.”32 The company has grown from there to employing 40 employees and being rated the number one stick in the United States in terms of service.

The Occupational Development Center was originally founded in 1976 by the parents of six persons with disabilities. Since that time the base in Thief River Falls has spun-off several divisions into the region. In specific instances, the new operations have been created to internally produce a part that was previously purchased from outside. This job creation has led to a concentration of people with disabilities in the area because of the excellent work training that is available.

GOVERNMENT

• Business-government relations are generally excellent in the industry.

Most companies commented that they have good or excellent relationships with the government on a local and state level. Respondents seemed to be more than willing to be “good business citizens” and did not feel overburdened. One respondent had a very independent attitude toward the government and felt strongly that there is “no free lunch” and is skeptical of using any government programs.

Larry Eukel of Homark Company in Red Lake Falls suggested that the company could benefit from relaxed allowances for width requirements on roads. The need is to increase their competitiveness with other businesses in surrounding states. Minnesota is more strict than surrounding states and Homark cannot manufacture a product of a standard width in the industry to compete with other companies because of those restrictions.

VII. RECOMMENDATIONS FOR THE NORTHWEST REGION

Recommendations for the Region

1. Continue to promote innovation and entrepreneurship in the region.

Innovation in creating and operating businesses is a necessity for rural regions that do not have high hopes of attracting large, already existing firms to the area. Because of this, it is essential to promote home-grown enterprises and entrepreneurship among the population of the region. There are many ways to proceed and there are already strong examples in the region.

A report from The Aspen Institute Rural Economic Policy Program sites five “tools and resources that entrepreneurs need.” They include:

- The widespread availability of capital in the hands of investors and financiers who know what they’re doing with it.
- A support structure of private-sector service providers such as accountants and lawyers who are sophisticated enough to meet the needs of forward-thinking clients.
- An environment that encourages spinoffs from established businesses and research institutions.
- An educational system, from elementary school through the post-secondary system, that stimulates and prepares entrepreneurs.
- A ‘culture’ that values and celebrates entrepreneurship.

These steps would go a long way in promoting new growth in the region to create quality jobs that people are interested in holding. It must also be stressed that entrepreneurs are not only dealing in high technology industries, but in products and services that are innovative and find new niches in existing markets. This needs to be a public process that ripples through the entire economy of the region.

2. Focus attention on livable wage issues and the needs of low wage workers.

There are several levels of production positions that do not provide a sufficient income to adequately support a family. Some of these problems can be alleviated by exploring statewide issues of earned income tax credit programs, childcare availability, training, and transportation. These ideas, along with focusing on increasing compensation, may help retain good young people in the region who have promise to develop in the work atmosphere.

3. Redesign educational curricula, in both K-12 and higher education, to provide students with the skills they will need to work in regional industries.

Representatives of many of the industries surveyed commented that schools are not providing students with the skills most needed by companies in the region. For

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manufacturing industries, the primary needs are for employees who possess technical skills (such as welding, blueprint reading, painting, machining, and computer training) and for workers with leadership skills who can be moved into management positions. For the tourism industry, the primary need is for employees with "soft skills," which include communication, decision-making skills, human relations, organizing, work ethic, self-esteem, and teamwork. "Soft skills" also are important to all other industries surveyed.

There are a number of ways in which schools could provide students with better preparation in these areas. Primary and secondary schools could integrate technical, leadership, and "soft skills" training into their curricula, with particular emphasis on developing students' work ethic, self-esteem, and communication skills at a very young age. In addition, schools could expand their partnerships with businesses in the region by developing mentoring and apprenticeship programs for teenagers and by bringing industry representatives into the classroom to teach students about opportunities in their fields. These efforts may encourage students to stay in the region after high school graduation. At the post-secondary level, universities and community colleges can expand their technical course offerings and can invite more professionals into the classroom to lecture about their work.

4. Continue to develop the region's transportation and telecommunications infrastructure.

The government should continue to invest in improving and, where necessary, expanding transportation networks in the region which link Northwest Minnesota with the rest of the state and with neighboring areas. Future efforts should focus on keeping roads in good condition, ensuring that air service to the region is frequent and affordable, and expanding bus and rail service to communities in Northwest Minnesota. In addition, many company representatives commented on the importance of expanding the telecommunications infrastructure to facilitate transactions between staff at different plants, to help businesses communicate with each other, and to market products to national and international markets.

VIII. METHODOLOGY

HOW THE INDUSTRY CLUSTERS WERE IDENTIFIED

By definition, an industry cluster consists of a group of local industries that are closely linked by local supply networks, local customer networks, common labor markets, and access to technical expertise. The initial portion of the project was devoted to selecting four of the most competitive and successful industry clusters in Northwest Minnesota. Focusing on industry clusters that give Northwest Minnesota a competitive advantage will help economic development professionals better understand the strengths and challenges of the local economy and better focus on economic development factors that may foster continued growth for the region. An advisory board made up of professionals in the region and researchers from the Humphrey Institute collaborated to identify the top four highly concentrated and competitive industries.

Data Sources and Definitions

The Department of Economic Security (DES) provided ES202 employment and wage data at one and two- and three-digit Standard Industrialization Code (SIC) level. The ES202 data is developed from information collected from state employers covered under the Minnesota
Reemployment Compensation Law. Results cover a twelve-county area (Economic Development Regions 1 and 2).

The location quotient is an important indicator of regional specialization. It is a ratio of the industry's local share of employment to its national share of employment. If a region's location quotient in a particular SIC code is equal to one, the region's industrial output equals national production and is assumed to be just satisfying local demand. If the location quotient is less than one, the regional industry produces less than the national average and indicates a regional lack of self-sufficiency. Finally, if a region's location quotient is greater than one, the regional industry produces at a level greater than the national average. Location quotients greater than one generally indicate that the area exports a particular good or service and most likely serves a market beyond the immediate region.

This study focused on industries within Northwest Minnesota with high location quotients and location quotients that increased over time. To identify industries with high levels of regional concentration, industries were ranked by both the 1995 location quotient and the change in location quotient from 1990 to 1995. If the 1995 location quotient surpassed the 1990 location quotient, the industry grew in regional concentration and was deemed as having growth potential.

While the location quotient is a quick and effective method to measure industry concentrations, it has its limitations. Location quotients are relatively easy to calculate from ES202 data. But location quotients reflect only a point-in-time picture of the past and do not convey information beyond the local-national relationship. Reliance on employment data has limitations because it can give a misleading picture of competitiveness. Employment data readily exists for certain industries while other industries offer scarce or nonexistent labor counts. Average wages provide another dimension of an industry's income generating activity and offer a rough indication of how employers value workers' skills, education, and experience. But since average wage calculations combine full and part time labor, wage differentials may reflect differences in the number of hours worked rather than differences in wage rates.

The Center for Economic Development at the University of Minnesota Duluth conducted the Minnesota Regional Manufacturing/Technology Opportunity Assessment: Northwest Region research project in 1996. Dr. Richard W. Lichty and his research team analyzed the economic base of six regions in the state of Minnesota for Minnesota Technology, Inc. Some of the data from the University of Minnesota Duluth are included in the appendix.

Dr. Lichty used employment data covered by social security taken from the detailed Department of Commerce, County Business Patterns series. Current state regulations concerning data privacy restrict the Department of Economic Security from providing employment and location quotient information beyond the three-digit level for counties and even regions. To deal with such limitations, Dr. Lichty filled in disclosure omissions through an estimation procedure developed at the University of Nebraska. This estimation procedure creates location quotient and employment information for specific four digit SIC code industry subsectors. Subsector data provides researchers, businesses, and economic development practitioners more detailed information to target those industries experiencing competitive advantage losses or gains.

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25 "Exports" from the region.
Initial Industry List

Using location quotient calculations to evaluate growth and concentration, the team of individuals from the Department of Economic Security, the Department of Trade and Economic Development, and the Humphrey Institute identified nine industries as being the most successful and competitive industries in the region. The initial nine industries selected were:

- Recreational transportation equipment
- Wood products
- Electrical goods, harnesses\textsuperscript{36}
- Farm and garden machinery
- Aluminum foundries (castings)\textsuperscript{37}
- Food processing
- Sugar and confectionery products
- Agriculture\textsuperscript{38}
- Tourism\textsuperscript{39}

From this initial list, the advisory council decided upon the final four industries to be analyzed. After the Humphrey Institute research team presented the nine statistically strong industries, the advisory council used their regional knowledge and expertise to narrow the initial nine industries down to four. The final four industry clusters are:

- Recreation and Transportation Equipment
- Value-added Agriculture
- Tourism
- Wood Products

ANALYSIS OF THE FOUR INDUSTRY CLUSTERS

Company leaders of area industries were invited to participate in focus groups and individual interviews. Because of low focus group participation rates in some industries, the research assistants conducted phone and in-person interviews with company representatives. While the focus groups helped stimulate discussion among leaders, individual interviews allowed for greater depth into the particular concerns of a company.

Focus group sessions for all four industries were conducted in November of 1997 with supplementary interviews conducted the following months.

Qualitative Research

The industry clusters study used a combination of qualitative research approaches including focus groups and individual interviews. Focus groups are a particularly successful method for gathering information on an industry. Because focus groups are defined in a variety of ways, the following is an explanation of the ways in which the method was used in the industry clusters study.

\textsuperscript{36} Includes snowmobile inputs.
\textsuperscript{37} Also includes snowmobile inputs.
\textsuperscript{38} This industry was not identified through the location quotient analysis because LQs do not capture this sector well.
\textsuperscript{39} This sector was also not identified by the LQ analysis.
Using the Focus Group Approach

There exist many different definitions of what focus groups consist of. The following definitions contain the core elements of a focus group and how they were utilized in this study:

- The group is an informal assembly of target persons whose points of view are requested to address a selected topic.
- The group is small, usually 6-12 members, and is relatively homogenous.
- A trained moderator(s) with prepared questions sets the stage and induces participants' responses.
- The goals of a focus group are to elicit perceptions, feelings, attitudes, and ideas of the participants about a selected topic.
- Focus groups do not generate quantitative information that can be projected to a larger population.

The Industry Cluster Study selected the focus group/individual interview approach because focus groups provide a planned and structured environment while still allowing for a flexible environment that encourages interaction among participants on certain topics. Focus groups add synergism and stimulation by creating excitement about a topic. They can create a chain reaction to data gathering as responses elicit additional comments and responses from others. Focus groups further provide a feeling of security because they often create a comfortable surrounding which encourages candid responses. Finally, focus groups create an atmosphere of spontaneity because participants are not required to answer every question so their responses are usually genuine (Hess, 1968).

Focus group interviews are also compatible with the key assumptions of the qualitative paradigm (Vaughn, 1996).

- In the “nature of reality” multiple views of reality can exist. This is a foundational aspect of the focus group process, in fact, in educational research, multiple opinions and perspectives are desired.
- The interaction between the moderator and the respondents as well as between the respondents themselves are recognized for having the potential to add depth and dimension to the knowledge gained.
- The nature of truth statements is such that truth is influenced by perspective. The focus group interviews attempt to gather a deeper understanding of perceptions, beliefs, attitudes, and experiences from multiple points of view and to document the context from which those perceptions and so forth were derived.

Researchers in this study found that focus groups and interviews enabled the collection of substantial information about participants’ thoughts and feelings on the particular topic of interest. Focus groups further assume that people are valuable sources of information. Researchers gain insights into the topic by listening to participants’ words and expressions to communicate their experiences. Some researchers have even provided evidence that focus groups can yield more accurate information about what participants really think than other research methods.

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For the purpose of this study, the focus group/interview method was used to identify key concerns of primary stakeholders, and validate those concerns against the everyday experiences. Researchers gathered and utilized information to pilot knowledge, assist in better understanding certain constructs, and to generate hypotheses. Researchers used focus group responses to test initial ideas for hypotheses, research issues, and research designs (Vaughn, 1996).

INDUSTRY CLUSTERS STUDY PROCESS

Identify Industries and Firms (June 1997 – October 1997)

1. Get Location Quotients (LQs) from DES.
2. Analyze LQs at SLPP using additional information from Dr. Lichty’s study.
3. Construct a regional advisory council for the study (including people from state and local development agencies, educational professionals, and other organizations in the region with a development focus).
4. Present LQ data and analysis to the Advisory Council in September.
5. Advisory Council selects the four industries for the region.
6. Research assistants begin to identify firms in the industry using the recommendations of the advisory council and available data and statistics.

Gathering the Data (October 1997 – May 1998)

7. Begin to accumulate the qualitative information from the firms (focus groups and interviews).
8. Analyze information; identify trends in the industry.
9. Present findings to the Advisory Council and elicit policy recommendations.
10. Incorporate Advisory Council feedback and recommendations.
11. Researchers write industry summaries.
12. Solicit feedback from study participants on the industry summaries and incorporate feedback.

Presenting Conclusions (May –June 1998)

13. Assemble full industry clusters report.
14. Present findings to groups and organizations.
IX. CONTRIBUTORS TO THE NORTHWEST INDUSTRY CLUSTERS STUDY

Core Team, State and Local Policy Program, Humphrey Institute of Public Affairs

Rebecca Skelton, Research Assistant (Recreation and Transportation Equipment, Tourism)
Joshua Warner, Research Assistant (Value-Added Agriculture, Wood Products)
Margaret Bau, Research Fellow
Lee W. Munnich, Jr., Senior Fellow and Director

Additional State and Local Policy Program Contributors

Libby Starling, Twin Cities Industry Clusters and Financial Services Industry Cluster
Audrey Moore, Education Industry
Laurie Berkowitz, Southeast Minnesota Industry Clusters
Russ Devlin, Twin Cities Industry Clusters
Jennifer Clark, Southwest Minnesota Industry Clusters
Neal Young, Southwest Minnesota Industry Cluster

Special Contributors

Ed Valencia, Regional Labor Market Analyst, Minnesota Department of Economic Security
Greg Bergman, Regional Labor Market Analyst, Minnesota Department of Economic Security
Oriane Casale, Research and Statistics Office, Minnesota Department of Economic Security
Ray Cross, President, Northwest Technical College

RECREATION AND TRANSPORTATION EQUIPMENT

Focus Group Participants

Tim DeJong, Plant Manager, Polaris Industries
James Russ, Corporate Training, Team Industries
Terry Blount, Vice-President of Human Resources, Arctic Cat
Darcy Wagner, Logistics Coordinator, New Flyer of America
Luis Alvarado, Production Supervisor, New Flyer of America
Woodie Cousins, General Plant Manager, Stenberg’s Welding and Fabrication

Additional Formal Interviews

Deana Westberg, Office Manager, Mattracks

Other Contributors

Warren Keller, Director, Warroad Community Education
Paul James, Marketing Communications Manager, Arctic Cat
Heather Hauschild, Media Relations Coordinator, Arctic Cat
Anthony Fichter, Corporate Procurement, Polaris Industries
Marlys Knutson, Marketing Communications Manager, Polaris Industries
VALUE-ADDED AGRICULTURE

Focus Group Participants

Blayne Doty, Agricultural Manager, American Crystal Sugar
Lori Ann Hartel, Administrative Assistant, Minnesota Barley
Tom Jorgens, President, MetaDynamics
Ron Klinge, Quality Systems Manager, Dahlgren and Company
Julie Larson, Human Resources Manager, Lamb-Weston/RDO
Jim Stordahl, Extension Educator, Minnesota Extension Service

Additional Formal Interviews

Ray Bisek, Extension Educator, Minnesota Extension Service
Russ Christianson, General Manager, Northern Pride
Phil Hebert, Vice-President of Sales, D & D Commodities
Jerry Heikens, Administration and Public Relations, Northern Food and Dairy, Inc.
Richard Nelson, Agricultural Management Division Chair, University of Minnesota-Crookston
Steve Ostergarden, Beekeeper, Bauer Honey
David Vipond, Burch Farms
Mark Weber, Executive Director, Red River Valley Sugarbeet Growers Association

TOURISM

Focus Group Participants

David Bergman, Travel and Tourism Representative, Minnesota Office of Tourism
Nancy and Jim Thomasson, Owners, The Inn at Maple Crossing, Mentor
Joanne Ballard, Owner, Ballard’s Resort, Baudette
LuAnn Hennum, Assistant Manager, Sportsman’s Lodge, Baudette
Jacki Hennum, Sportsman’s Lodge, Baudette
Veda Lankey, General Manager, Days Inn, Roseau
Dave Burris, General Manager, Best Western Inn, Thief River Falls
Diane Brumwell, President, Voyageur’s View Campground, Red Lake Falls
Al Walker, Uncle Bill’s Drive-In, Red Lake Falls
Audrey Fritze, Director, Park Rapids Area Chamber of Commerce
Diane Morey, Business Loan Specialist, Headwaters Regional Development Commission
Margaret Braaten, Extension Educator, Mahnomen County Extension Office
JoAnn Andringa, Farmer/Community Leader, Crookston

Additional Formal Interviews

Jane Sindelir, Director, Lake of the Woods Tourism Bureau
Shirley Rydberg, Chairperson, Northwest Gateway Association
Celeste Lavalla, President, Borderland Trail Association
Lana Flaten, Marketing and Promotions, Lake of the Woods Casino, Warroad
Max Lussier, Marketing Director, River Road Casino, Thief River Falls
Other Contributors

Linda Limback, Director of Research, Minnesota Office of Tourism and University of Minnesota Tourism Center
Art Adarte, Research and Consumer Marketing, Minnesota Office of Tourism
Matthew Robinson, Vice-President, Marquette Advisors
Dean Johnson, Clerk Administrator, City of Mahnomen
Celeste Colson, Owner, Jake's Northwest Angle, Angle Inlet

WOOD PRODUCTS

Focus Group Participants

Larry Eukel, Manager of Sales and Marketing, Homark Corporation
Peter Lavallier, Chief Executive Officer, Occupational Development Center
Jack Velzen, Wood Products Division Training Coordinator, Potlatch Corporation

Additional Formal Interviews

Roger Christian, Sr., Secretary/Treasurer, Christian Brothers Hockey Sticks
Art Tranby, President, Northern Woodwork Inc.
Rick Trontvet, Director of Human Resources, Marvin Windows and Doors
Gary Wilson, Plant Manager, Georgia-Pacific Corp.

Other Contributors

Dentley Haugesag, Economic Development Specialist, Minnesota Department of Trade and Economic Development
VALUE ADDED AGRICULTURE

Additional Formal Interviews

Mood Roderick

Additional Formal Interviews

Tourism

Past Group Participants

Additional Formal Interviews

Jane Sanders, Director, Lake of the Woods Tourism Bureau
Shirley Rydberg, Chairperson, Northwoods Gateway Association
Carlota Lavada, President, Presque Isle Golf Association
Lana Peter, Marketing and Promotions, Lake of the Woods Cottage Association
Max Greiner, Marketing Director, River Road Casino, Third Avenue Casino
X. NORTHWEST INDUSTRY CLUSTERS ADVISORY COUNCIL

Kristin Anderson, Superintendent, Fertile-Beltrami Schools
Duane Arens, Minnesota Department of Economic Development
Pat Balstad, Market, Minnesota Workforce Center-Crookston
David Bergam, Travel and Tourism Representative, Minnesota Office of Tourism
Greg Bergman, Regional Analyst, Minnesota Department of Economic Security
Margaret Braaten, Extension Educator, Mahnomen County Extension Service
Sue Brorson, Associate Professor, Division of Management, University of Minnesota-Crookston
Jacey Clauson, University of Minnesota Extension Service
Ruth Edevold, Executive Director, Northwest Minnesota Foundation
Lenetta F. Jourdain, Director, Red Lake Employment and Training Program
Dan Erkilla, Associate Director, University of Minnesota Tourism Center
Karl Frigaard, Economic Development Planner, Northwest Regional Development Commission
Steve Haaven, Manager, Wild Rice Electric Power Company
Mark Hanson, Tribal Economic Development, White Earth Reservation Tribal Council
Leon Heath, Executive Director, Northwest Regional Development Commission
Brett Hoerner, Student, University of Minnesota-Crookston
Kari Howe, Business and Community Representative, Northwest Region, Minnesota
   Department of Trade and Economic Development
Dean Johnson, Clerk Administrator, City of Mahnomen
Glenice Johnson, Pennington County Extension Service
Tom Jorgens, President, MetaDynamics, Inc.
Robert Kleven, Multifamily Housing/Community Programs Specialist, United States
   Department of Agriculture-Rural Development
Francis Koehnstedt, Rural Development Manager, United States Department of Agriculture-
   Rural Development
Diane Kolstoe, Chair, Red Lake County Economic Development Corporation
Linda Limback, Director of Research, Minnesota Office of Tourism and University of Minnesota
   Tourism Center
Toni Merdan, Senior Economic Officer, Congressman Collin Peterson
Craig Molstad, Economic Development, City of Warren
Barbara Muesing, Director of Outreach and Collegiate Program Leader, Minnesota Extension
   Service
Jerry Nagel, Director, Red River Trade Corridor, University of Minnesota-Crookston
Richard R. Nelson, Director, Agricultural Management, University of Minnesota-Crookston
Julie Olson, Director, Convention and Visitors Bureau, Thief River Falls Chamber of Commerce
Shari Olson, Dean, Custom Training and Continuing Education, Northland Community and
   Technical College
John Olstrom, Executive Director, Headwaters Regional Development Commission
Brent Sorenson, General Manager, Agricultural Utilization Research Institute

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Don Stewart, Community Development Director and Zoning Administrator, City of Thief River Falls
Barbara Oseth, Extension Educator, Polk West County Extension Service
Bill Peterson, Professor of Mathematics, University of Minnesota-Crookston
Todd Peterson, City Planner, City of Roseau
Joan Reitmeir, Principal Secretary Northwest District, University of Minnesota Extension Service
Jim Richter, Executive Director of the Economic Development Housing Authority, East Grand Forks
Christo Robberts, Program Director, Agricultural Management, University of Minnesota-Crookston
Donald G. Sargeant, Chancellor, University of Minnesota-Crookston
Gayle Schuster, Assistant to the Director, Red River Trade Corridor, University of Minnesota-Crookston
Holly J. Smith, Managing Consultant, Northwest Indian Opportunities Industrial Center
Kari Thompson, Director, Crookston Development Authority
Michael Triplet, Director, Ada Economic Development Authority
Dean Vikan, Economic Development Director, Fosston Economic Development Authority
Scott Wilson, Director, Kittson County Economic Development
Jeannine Windels, Executive Director, Crookston Area Chamber of Commerce
Deborah Zak, Northwest District Director, University of Minnesota Extension Service
XI. FOCUS GROUP/INTERVIEW QUESTIONS

INDUSTRY CULTURE AND FIRM STRATEGIES

When and where was your company founded? What were their initial products or services? Why did your firm initially locate in the region? What keeps your firm in the region?

What part of your firm is located in the area? (Headquarters? R&D? Manufacturing? Sales?)

WORKFORCE

What workforce skills are crucial to the success of your firm?

Where do most of your workers come from (professional, semi-skilled, unskilled)?

What workforce skills are plentiful in the region? What skills are in short supply? What is your firm doing to overcome workforce shortages or employee skill gaps?

TRAINING

Where do your workers acquire their initial training? Where do you turn for continuing training?

Are local educational and training institutions fulfilling your workforce development needs? What are their strengths and weaknesses?

How much interaction occurs between your firm and the local K-12 school system, technical colleges, and four year colleges (curriculum design input, mentoring, internships)?

SUPPLY, DEMAND, COMPETITION, INFRASTRUCTURE

Are your suppliers located locally, regionally, nationally, or internationally?

About what percent of your demand is local, regional, national, and international?

Where are your competitors located? (local, regional, national, international)

What types of infrastructure (telecommunications, roads, rail, air, utilities) are important to your business and industry?

How is your relationship to local and state government agencies?

* (From your company or industry perspective) What one piece of advice would you give to the education and economic development community?