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# **MAINTAINING MINNESOTA'S EDUCATIONAL ADVANTAGE**

## **Preliminary Findings on Future Needs and Issues for Higher Education in Minnesota**

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Prepared for:

**The MSPAN Project  
Minnesota Higher Education  
Coordinating Board**

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## PREFACE

### Background on the Project

This is the first report of the Minnesota Higher Education Coordinating Board's (HECB) MSPAN Project (Minnesota Postsecondary Access and Needs Project). It has been prepared by SRI International with the assistance of its subcontractor, MGT of America, and a number of special consultants.

The MSPAN Project is a major examination of the current conditions and changing needs for postsecondary education among residents in Minnesota's urban population corridor from St. Cloud to Rochester, including the Minneapolis-St. Paul metropolitan area. The project is the first phase of a statewide assessment of need. The second phase of the project will address the needs of residents in the remaining areas of the state. This assessment of need is being carried out by the HECB in response to a request from the Minnesota state legislature, which has recognized the need to carefully examine the future of higher education in the state.

The assessment includes both an analysis of current conditions and future needs and the identification and analysis of alternative strategies for meeting those needs in the future. This initial report presents preliminary findings regarding the analysis of current conditions and future needs and identifies a range of prospective strategies for further examination. It is intended to provide the best available information and insights on changing needs so as to stimulate informed dialogue among the public, the higher education community, and governmental decision-makers.

The report is designated a working draft because it should be seen as part of an ongoing and not yet completed process of gathering the best available information and perspectives on higher education in the state. As directed by the authorizing legislation, the report focuses its analysis and findings on the urban corridor where almost two-thirds of Minnesotans reside; but because much of the information and useful comparative data on higher education is available only on a statewide basis, the report contains considerable statewide data and information. Also, many of the issues raised regarding the corridor apply equally to the state as a whole.

A second report, due in January 1989, will provide the analysis of an agreed-on set of strategies. A final report, due in February 1989, will synthesize this report and the strategies report into a coherent document for use by the HECB, the legislature, and other state policymakers.

## SRI's Perspective on the Project

There are many ways to approach a project of this sort, particularly in light of the short time in which it is to be conducted (approximately 4 months). Some would limit the analysis to the current issues of the day--the Rochester question, the proposed merger of the community colleges and the technical institutes, the University's Commitment to Focus initiative. Others would take a strongly quantitative approach, emphasizing the acquisition and manipulation of large volumes of new data.

Before initiating any new research in the project, SRI purposefully consulted with state, governmental, and educational leaders to develop a firm sense of the needs of the state and the policy issues most deserving of attention. As a result of this process, SRI concluded that Minnesota would not be well served by a project limited to a few selected issues or a project simply dedicated to more data.

Such approaches would provide too limited a perspective for the state. Thus, as illustrated throughout the report, SRI has attempted to provide a broader view and, we hope, a more useful way of looking at higher education. We emphasize what we have found to be dramatic changes in the environment for higher education in Minnesota and raise questions about whether the particular kind of higher education system and planning process that the state has developed--and that served it so well in the past--are suitable for the ever-changing and more demanding new environment the state will face in the future.

We have attempted to look at the overall system of higher education in Minnesota (public and private, 2-year and 4-year, graduate and undergraduate), rather than focus on the individual pieces. We do analyze the most frequently discussed current issues--and many others that are not discussed but need to be--but we do so within this larger framework, not as isolated topics. We have gathered substantial amounts of new data, both quantitative and qualitative, but we have found the state and the HECB to be already relatively data-rich. Thus, we have attempted to add understanding and insight on the dynamic higher education situation in Minnesota, not simply to produce reams of new data and tables.

In this way, we hope that we can add substantial value to the important debates about the future of higher education in Minnesota over the coming months.

## Research Conducted to Date

This report is the result of research, data collection, and analysis that SRI and its subcontractor and consultants have conducted over approximately the past 3 months. The research framework and data collection plan are shown in Appendix A. A full description of SRI's research plan was submitted to the HECB and approved in September 1988, and is available from the board.



In general, we have relied heavily on existing data at the HECB and other state agencies, supplementing it with an array of new data collection activities where necessary: more than 50 interviews with state leaders and individuals knowledgeable about higher education issues, major surveys of recent high school graduates and adult students, a special analysis of programs and capacity, two "futures" roundtables, and 12 focus groups involving more than 110 people in the Twin Cities, St. Cloud, and Rochester areas. Our research and data-gathering activities were organized to give us information on the changing environment for higher education, the demand for higher education services, and institutional capacity and programs to respond to the changing demand.

To examine the changing environment, we have:

- Reviewed existing data from the state demographer and planning agency, the HECB's surveys of students' education plans, and the analyses of the Minnesota economy undertaken by SRI in a separate project for the Greater Minnesota Corporation.
- Secured additional information through a series of structured interviews and two discussion roundtables with state and educational leaders, conducted focus groups involving more than 50 students and counselors and more than 30 employers, and incorporated questions about higher education in the annual Minnesota Fall Survey.

To review the changing demand for education in the state, we have:

- Examined existing HECB enrollment and participation data, state demographic projections, HECB's surveys of students' education plans, and various HECB special studies (e.g., enrollment projections).
- Collected additional information through a survey of some 900 adult students, conducted a survey of a cohort of 1,500 recent high school graduates, and gained insights from the series of focus groups noted above.

To review the existing capacity and program mix in the state, we have:

- Analyzed existing systems-level capacity data and HECB program information bases.
- Gained additional information from interviews with institutional and systems representatives and conducted a special survey of all systems' and institutions' capacity and program availability.

The research phase of the MSPAN project is mostly complete, but some aspects of the data gathering will not be completed until January (e.g., results of the Minnesota Fall Survey, complete capacity and program data from the University of Minnesota and several private institutions). Additional information will be incorporated into future reports as it becomes available, but this is not expected to fundamentally change the findings reported in this report.

The results of our major new research activities--the focus groups, the survey of adult students, and the survey of recent high school graduates--are incorporated throughout the report and summarized in the appendices attached to this report. More detailed technical appendices will be developed and provided to the HECB at a later date.

### Project Sponsorship and Management

This project is sponsored and administered by the HECB. Kathleen Kies is the Acting Executive Director of the HECB. Nancy Bunnett is the project officer. A project working group consisting of representatives of the various systems of higher education in Minnesota has provided ongoing oversight and advice to the project team throughout the project.

SRI International (formerly Stanford Research Institute) is the prime contractor. Marian Stearns is the project supervisor. Tom Chmura is the project director, and Paul Butler-Nalin is the deputy project director. Other principal SRI staff include John Melville and Debra Shaver.

MGT of America is SRI's primary subcontractor. Kent Caruthers has led the capacity and program analysis. Ray Thompson has directed the adult survey and focus groups. SRI has also employed four consultants: Lewis Mayhew of Stanford on institutional issues, Monica Manning of Minnesota on the changing environment, James Hearn of the University of Minnesota on the high school student follow-up survey, and Caroline Turner of the University of Minnesota on minority student issues.

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Clearly, many people have contributed to this project, but SRI takes full responsibility for the analysis conducted and the findings presented in this report. The project team hopes that this report will help the citizens and policymakers of Minnesota to understand better the changing needs for higher education in the state and begin to show which new strategic directions are most appropriate for the state to help preserve and build on the special quality of life Minnesota enjoys today.

## HIGHLIGHTS

### Context

- By virtually all measures of quality of life, economic vitality and civic culture, Minnesota is a success story among American states.
- Most observers would agree that higher education has been an especially critical element in Minnesota's social, economic and civic achievements and will be even more critical in its future.
- Without question, the state's higher education strategy and mix of institutions have served it well in the past.
- This project assesses how well positioned Minnesota's higher education system and planning processes are to meet Minnesota's growing and changing educational needs in the future.

### The MSPAN Project

- This project is called the MSPAN project--Minnesota Postsecondary Access and Needs Project.
- The project is being carried out by the Higher Education Coordinating Board at the request of the state legislature.
- It is intended as a major examination of current conditions and changing needs for postsecondary education among residents in Minnesota's urban population corridor from St. Cloud to Rochester, including the Twin Cities.
- The principal purposes of the project have been to:
  - Understand emerging issues in changing environment
  - Analyze changing needs and future demands for higher education
  - Assess capacity for meeting changing needs and future demands
  - Identify and analyze alternative strategies
- This report is the first report of the MSPAN project which presents the results of the research and analysis conducted to date on the changing environment, changing needs and current capacity. A second report in January will review alternative strategies.
- It purposefully attempts to provide the state with a broader view and hopefully more useful way of looking at higher education, rather than simply focusing on a few select issues or collection of data.

## Background on Higher Education

- Minnesota has a well-educated state population with very high levels of participation in higher education (4th highest per capita in the nation).
- The state has a six-part system with students distributed as follows:

The U of Minnesota (23%)	Technical institutes (14%)
State U's (21%)	Private colleges (19%)
Community Colleges (19%)	Private career schools (4%)
- The state provides high levels of financial support to higher education on a per capita basis (10th in the nation), but only average per student expenditures (25th) because of the high levels of postsecondary participation.
- The state operates a particularly strong and well-financed student financial aid program. And, higher education's share of the state budget has been increasing in recent years, from 15.5% in 1981 to 19% today.

## Changing Environment

- The environment in which Minnesota operates higher education is undergoing dramatic and in many ways unprecedented change, with considerable implications for higher education in the future.
- Demographic changes--steady population growth (fastest in the upper Midwest), concentrated in the urban corridor, aging of the population and labor force, substantially more minorities.
- Economic changes--a strong economy in the urban areas with an increasingly sophisticated advanced manufacturing and advanced service base, heavily dependent on well-educated population for their competitiveness.
- Social issues--a growing number of urban social problems in the Twin Cities, concerns about decline in the quality of the K-12 system in the state.
- Educational developments--a growing number of educational providers beyond the traditional institutions (particularly corporate providers, spending about \$1 billion annually), an expanding array of learning technologies available to institutions.
- Changing Values--evidence that Minnesotans are placing an even increased importance on the value of postsecondary education, preference for collegiate over technical education, stronger emphasis on quality of higher education being emphasized by employers and students, especially adults (choosier customers).

- Competition from other states--several other states have made massive new investments in higher education, closing the gap somewhat with Minnesota in recent years.

### Desired Characteristics for Higher Education

- Given this dynamic environment, what characteristics should the region's higher education enterprise possess? Against which criteria should it be measured?
- Minnesota has implicitly had a set of traditional criteria:
  - Quality
  - Access
  - Affordability
  - Efficiency
  - Individual choice
- These criteria remain important but need to be reconsidered in light of the changing environment (e.g., access no longer simply means geography, for adults it also means time and location of courses).
- In addition, to effectively respond to the changing environment, the state needs to add a set of more contemporary criteria:
  - Institutional diversity
  - Responsiveness to rapidly changing needs
  - Orientation to growing numbers of adults
  - Active links with employers
  - Accountability for performance and responsiveness

### Looking At Higher Education as a Total System

- Minnesota needs to take a holistic view of its higher education enterprise--public and private, graduate and undergraduate, upper division and lower division, two-year and four-year.
- SRI has analyzed Minnesota institutions according to their Carnegie classifications and their differing educational roles and styles.
- The state has a particular mix of institutions which restrict its ability to effectively and efficiently meet its full range of postsecondary educational needs.
- The U--plays multiple roles, is the state's only research university, the state land grant and flagship, the major undergraduate resource in Twin Cities, urban university, etc.
- A gap in the middle of the higher education spectrum exists--no Carnegie-classified doctoral institution, no science and technology

institution, no urban university, no large private institution, no highly market-responsive private institution.

- State U's--primarily undergraduate focused, limited graduate programs, relatively underdeveloped compared to their counterparts in other states.
- Private colleges--mostly small, focused on liberal arts, except St. Thomas which is increasingly involved in professional programs for adults.
- Two-year institutions--a relatively large number of community colleges and technical institutes (TIs).

#### Issues Raised from a System-Wide View

- Minnesota is unusually dependent on the U for multiple roles, many of which are not well suited for a research university striving to be among the top 5 public research universities in the nation.
- There are strong opportunities for research-oriented graduate and discipline-focused undergraduate education at the U which meet needs in the urban corridor (except Rochester).
- Compared to other states, there are relatively weak opportunities for applications-oriented graduate education (e.g., late in developing a part-time MBA, limited continuing education for engineering).
- There are plenty of continuing education courses, but a limited number of continuing education programs for part-time students and older students.
- The Twin Cities area lacks an urban-oriented institution and has weak traditional public undergraduate education alternatives to the U.
- There is a clear lack of advanced technical education resources in Rochester; and there are clearly inadequate undergraduate education resources in St. Cloud, with no community college and an enrollment cap at St. Cloud State.
- As a whole, the urban corridor is best served at the lower division of undergraduate education by the community colleges and TIs.

#### Changing Demand for Higher Education

- The demand for higher education throughout the corridor is considerable, growing and heterogeneous.
- There have been significant increases in enrollment at time when there were projected declines.

- There is a remarkably high participation rate by high school graduates, with a decidedly growing preference for collegiate education.
- The largest increases have occurred at the state U's, community colleges, and private colleges, with modest declines at the U and the TIs.
- There is substantial growth in the number and proportion of adult students (now 40% of total) with most reporting plans to attend higher education throughout their working career.
- There has also been substantial growth in part-time students (now 30% of total), and increasing numbers of women and minorities in higher education.
- There is also a substantially greater amount of transfer activity by students within higher education, especially in the Twin Cities.

#### Limitations of Capacity to Meet Changing Needs

- Minnesota institutions are actively attempting to respond to increasing demands for higher education.
- But, most public campuses are tight on existing facilities and experiencing equipment obsolescence, exceeding national norms; and most public campuses have high student/faculty ratios, exceeding national norms.
- Capital expansion is not matching enrollment growth, and there are no major plans for capital or program expansion.
- Although there are plenty of courses, there are very few complete program offerings for adults and part-time students.
- There is a clear lack of a middle tier institution in the Twin Cities, with resulting gaps in applications-oriented graduate programs.

#### Summary of Concerns

- Higher education will unquestionably be an increasingly critical factor in Minnesota's future social and economic success; the state's future and its higher education enterprise are inexorably linked.
- Minnesota currently has a "pretty good" higher education system today; it ranks well on traditional criteria, but only so-so on more contemporary criteria such as responsiveness and institutional mix.
- But, "pretty good" isn't good enough to meet even more demanding challenges in the future; Minnesotans cannot afford to be complacent

about their higher education enterprise, as Minnesota's "educational advantage" is threatened.

- The environment is changing--with demand for more and different kinds of education, from more and different kinds of students.
- The capacity to respond to changing and growing needs is limited due to lack of excess capacity and inadequate mix of existing institutions.
- Minnesota clearly needs to develop more and different kinds of capacity to maintain its historic "educational advantage".
- Recognizing the size and breadth of growing demand, the state needs to think broadly and creatively about new strategies to meet these needs--moving beyond old structures and processes.

#### Potential Strategies for the Future

- New State Policies and Practices
  - Financial incentives to encourage responsiveness
  - Leverage state funds with private resources
  - Changed reward systems to encourage responsiveness
- New Roles for HECB
  - Monitoring changing environment
  - New performance and accountability mechanisms
  - Business/higher education forum
- Better Use of Existing Institutions
  - Implement "Commitment to Focus" at the U
  - Expand use of 2+2 arrangements
  - Facilitate articulation and transfer
  - Develop new roles for Metro St
  - Strengthen State U's
  - Take advantage of current/potential capacity at private colleges
  - Expand presence of St. Cloud and Mankato St in Twin Cities
  - Use alternative delivery mechanisms
- Develop New Structures
  - An urban-oriented state university in Twin Cities
  - A private science and technology institution
  - A university center/graduate center in Rochester
  - Private, adult-oriented continuing education institution
  - Expanded community college capacity (St. Paul, St. Cloud)
  - Public/private technical training institute



### Next Steps in the Project

- HECB needs to identify which of the potential strategies identified should receive further analysis.
- A report on alternative strategies will be developed by SRI and submitted in mid-January.
- The final project summary report will be developed by SRI and submitted in early February.

## I INTRODUCTION

### The Historic Role of Higher Education in the Minnesota Success Story

In the Book of America: Inside the 50 States Today, Neal Peirce wrote: "Search America from sea to sea and you will not find a state that has offered as close a model to the ideal of the successful society as Minnesota." By virtually all measures of quality of life, economic vitality, and civic culture, Minnesota is seen as a success story. In light of what many analysts see as a shift to a "bicoastal economy," the accomplishments of Minnesota are particularly significant, especially in the upper Midwest.

Peirce notes that "few states have exceeded Minnesota in the quality and extent of the education offered in its schools and colleges." He and most other observers of the Minnesota scene give substantial credit to education (including higher education, particularly the distinguished history of the University of Minnesota) as a critical element in Minnesota's social and economic achievements. Clearly, Minnesota has enjoyed an "educational advantage" over other states.

Over the years, Minnesotans have taken strong advantage of their state's educational resources. By most measures, Minnesota ranks well in education--possessing a well-educated population, the lowest high school dropout rate in the United States, high participation rates in postsecondary institutions, and a relatively high level of state support for higher education on a per capita basis (although only an average level of per student support).

The specific contributions of higher education are too numerous to mention--ranging from the emergence of the Twin Cities as a center of technology and medicine to the revitalization of the Iron Range in the 1960s and 1970s as a result of taconite processing (developed at the University of Minnesota), as well as the historic roles of the agricultural extension service in the state's rural areas and the steady production of teachers, businesspeople, and professionals of all sorts to meet the state's human resource needs.

### Old Structures, New Challenges

In spite of higher education's historic contributions to the state, it is critical to understand that this is in many ways an era of unprecedented change for Minnesota and other states. Although Minnesota has long been considered a leader in higher education, other states--particularly in the Midwest and South--have worked aggressively in recent years to narrow the gap.

Minnesota industry is experiencing new and vigorous competition from other states and foreign lands for the goods and services it produces. Employers are demanding better-educated workers, with broader problem-solving and communication skills and the capacity for lifelong learning.

The state's demographics are changing substantially: steady population growth, dramatically increasing numbers of minorities, and aging of the population. And the Twin Cities, long seen as a model of successful urban life, are now experiencing new kinds of urban problems and stresses once thought to be limited to older eastern and midwestern cities.

Enrollments are up in a period when declines were once predicted, with more adult and part-time students than ever before. Yet, problems in the K-12 system are raising issues about the quality of students entering college in the state. Thus, new demands are being placed on its higher education institutions: educate welfare participants, retrain working adults, help solve the new urban problems, play a role in regional economic development (e.g., with the Greater Minnesota Corporation).

All these changes, described in more detail in succeeding sections, bring into focus the key question in this project: how well positioned are Minnesota's higher education system and planning processes to meet the growing demand for educational services and the future educational challenges of the state and particularly its urbanized corridor?

Historically, Minnesota's implicit higher education strategy has been to focus on the huge, multidimensional University of Minnesota in the Twin Cities, the largest single university campus in the nation. The U, as it is called, has been asked to play a number of diverse (even conflicting) roles-- as the state's flagship university, its only research or doctoral-level university, its land grant institution, the major undergraduate institution in the Twin Cities, an open access institution, its primary urban institution.

The state's strategy has also focused on providing an accessible network of 7 state universities, 18 community colleges, and 30 technical institutes around the state and on tapping the capacities of an impressive network of small, high-quality private liberal arts colleges in Minnesota.

In recent years, access and affordability have been heavily stressed with the development of additional 2-year institutions to serve most Minnesotans within 35 miles of their home, and with the development of a model financial aid program. In addition, through an effort called Commitment to Focus, attention has been given to the need for the University of Minnesota to strengthen its research and graduate-level capacity and move to the ranks of the top five public universities in the nation.

Historically, state higher education planning and coordination were fairly straightforward. The population was homogeneous. Needs were rather stable. Employment and occupational patterns were easily understood. Enrollments were fairly predictable, based on the projected plans of a selected cohort of high school students. Students were nearly all between 18 and 24 years of

age, were white, and went to school full time. It was assumed that postsecondary education for most would end after the initial period of postsecondary education.

In this context, the appropriate role for higher education planning and coordination in the state was to promote the basic values of quality, affordability, access, and choice. It was reasonable to adopt a laissez-faire, even reactive approach to meeting needs, letting individual institutions respond as they saw fit and focusing attention primarily on ensuring the quality and adequacy of their responses. There was no particular need to be proactive, to work at identifying changing needs, or to encourage entrepreneurship or responsiveness to those needs.

### Questions for the Future

Most would agree that this particular higher education strategy and approach to planning has served Minnesota relatively well in the past. This report will assess how well the structure of higher education that Minnesota has built will be able to serve Minnesota in the future. It seeks to help Minnesotans answer these core questions:

- How is the external environment changing and what implications do these changes have for higher education?
- What kinds of educational needs are emerging and likely to emerge in the future as a result of this changing environment?
- How well positioned is the state to meet these changing needs for higher education in the state?
- Will the structures and processes that have evolved historically continue to serve the state well as they are or with only incremental changes?
- Or will new challenges require more fundamental new directions within the state's higher education enterprise?

To address these core questions, this report will review the changing environment and new demands being placed on higher education (Section III), identify the characteristics a higher education enterprise ought to have to respond to this changing environment (Section IV), examine the current structure and mix of institutions in the state (Section V), analyze changing patterns of demand (Section VI), assess current conditions of capacity and program availability (Section VII), specify outstanding issues and concerns (Section VIII), and identify potential strategies to address future needs (Section IX).

Before proceeding to the analysis of the changing environment, however, it is necessary first to provide some basic background on higher education in Minnesota (Section II).

## II OVERVIEW OF HIGHER EDUCATION IN MINNESOTA

Minnesotans over the years have developed an impressive higher education enterprise, which, by and large, has served the state and its citizens well and, as noted above, helped provide the state with a critical element of its comparative social and economic advantage.

Before reviewing the results of SRI's research on the changing environment for higher education, future needs, and current conditions, it is appropriate to provide a brief profile of Minnesota's higher education enterprise. This section of the report is drawn heavily from the HECB's recently developed profile of higher education.

### A Vision for Higher Education

The HECB in 1987 adopted a statement of vision for Minnesota's postsecondary education system, which reads as follows:

Recognizing that education is vital to Minnesota's future, Minnesota public and private post-secondary education promotes the dignity and worth of every individual by providing diverse educational opportunities to those who seek them. Minnesota strives to assure accessible, high quality post-secondary education that results in more effective, productive, contributing citizens in a world of many cultures, rapid change, and unexplored dimensions.

### The Public and Private Systems of Higher Education

Minnesota has an extensive system of postsecondary education, with four public and two private systems in operation. As a result of recent efforts delineating their missions, the roles of the various systems are becoming clearer.

The six systems are:

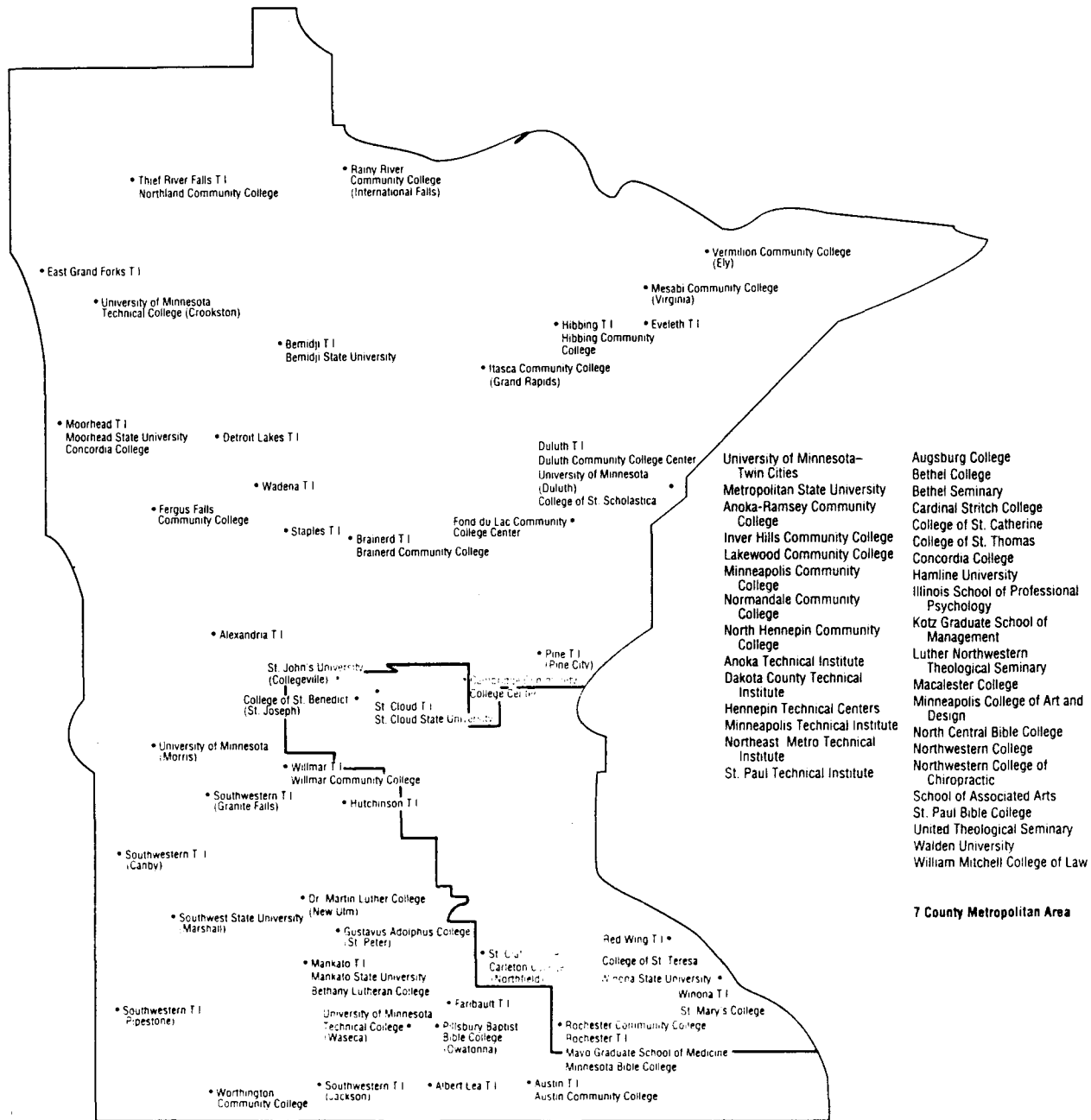
- The University of Minnesota--the state's land grant institution, which engages in undergraduate instruction, most of the state's graduate education and research, and public service. It is the state's only public doctorate-granting institution and the only comprehensive public 4-year institution in the Twin Cities. Its main campus in the Twin Cities is said to be the largest single campus in the country, and it offers what may be the largest number of programs of any university in the nation. It also operates a 4-year campus in Duluth and Morris and 2-year campuses in Waseca and Crookston. Only the Twin Cities campus is located in the urban corridor defined for this study.

- The State University System--seven state universities, which primarily offer undergraduate education and selected graduate programs (particularly in education). Most of these institutions evolved from state teachers' colleges. St. Cloud and Winona State Universities are in the urban corridor, along with Metropolitan State, an adult-oriented upper-division institution in the Twin Cities. Mankato State is just outside the corridor but provides services to residents of the corridor.
- Community College System--a network of 18 2-year institutions, which offer 2-year associate degrees, lower-division undergraduate education designed for transfer to 4-year institutions, career programs such as nursing, and other programs of short courses, workshops, and seminars. The community colleges perceive themselves as special resources for the continuing education of adults and the provision of community service offerings. Seven of these institutions are located in the urban corridor, six of which were founded in the 1960s to accommodate burgeoning enrollments in that decade.
- Technical Institutes--a network of 30 technical institutes on 34 campuses, which offer career training in a wide variety of technical fields. Hundreds of programs are offered that can be completed in 2 years or less. The TIs also are active in training and retraining employees of many Minnesota businesses. Most of these institutions now offer associate of applied science degrees in selected fields and are paired with neighboring community colleges or state universities for their liberal arts coursework. Ten of these institutions are located in the urban corridor.
- Private liberal arts colleges and universities--27 4-year colleges offering baccalaureate and graduate degrees, 1 private 2-year college, and 7 private professional schools. These include some of the finest small liberal arts colleges in the nation. Twenty-six 4-year private colleges and professional schools are located in the urban corridor.
- Private career colleges--160 private schools offering programs in such fields as business, cosmetology, and electronics. Most of these institutions are located in the urban corridor, but these institutions have not been a focus of the MSPAN study.

Figure 1 shows the locations of postsecondary institutions in Minnesota and the urban corridor.

### Institutional Governance

The University, the State University System, the Community Colleges, and Technical Institutes each have their own statewide governing boards. The TIs are administered through local school districts. The private institutions each typically have their own governing boards.



SOURCE: SRI International — based on data from HECB

FIGURE 1 MAP OF INSTITUTIONS IN MINNESOTA AND URBAN CORRIDOR

The Minnesota Higher Education Coordinating Board consists of 11 members named by the governor; 10 are lay citizens and one is a student.

The board is charged with representing the state's interests in ensuring an efficient, effective postsecondary system. Its functions are:

- Coordination of all public and private postsecondary education to prevent unnecessary duplication of programs and services.
- Development of plans to meet the educational needs of citizens.
- Review of the plans of the public postsecondary systems of higher education before submission to the legislature.
- The conduct of educational policy studies and the making of recommendations of public higher education policies to the governor, legislature, and governing boards.
- Maintenance of statewide information on postsecondary education in the state.
- Administration of certain statewide programs, including the state's student financial aid programs.

Compared with its counterparts in other states, the HECB is relatively weak. Its role is one of coordination rather than governance.

### Selected Facts about Higher Education

Table 1 provides selected comparative data on higher education in Minnesota, and Table 2 provides relevant data on the state's individual systems of higher education. These help to provide an overall profile of the state's higher education enterprise.

The following are highlights from these statistics:

- Minnesota's citizens have a very high rate of participation in postsecondary education. In 1987, a statewide survey indicated that an all time high of 79% of high school juniors planned to continue their education the first year after high school. About 90% of Minnesota students pursue some form of postsecondary education within 5 years of completing high school. Thus, in 1986 Minnesota's enrollment relative to the state's population was the fourth highest in the nation (see Figure 2).
- In spite of the decline in the numbers of high school graduates, enrollment in the state's postsecondary institutions have experienced increasing enrollments in recent years. This increase is due both to increasing interest among high school students and particularly the return of many adults for training and education in postsecondary institutions. Enrollment increased 25% between 1978 and 1987, much more than the population increased during that period.



Table 1

## STATE OF MINNESOTA HIGHER EDUCATION DATA

	<u>Total</u>	<u>National Rank</u>
<b>Demographics</b>		
Population	4,246,000	21
Percentage minority	3.3	45
Percentage adults with HS degree	73.1	14
Percentage adults with college degree	17.4	19
<b>Students</b>		
Enrollment	226,556	14
Percent of new students enrolling in home state	84.0	31
Percent minority students	4.2	47
Average SAT scores--verbal	472	20
Average SAT scores--math	531	9
Average ACT	20.2	3 (of 28)
<b>Degrees Awarded</b>		
Less than 4-year	10,260	16
Bachelor's	20,229	16
Master's	3,463	29
Doctorate	577	20
Professional	1,580	16
<b>Finance</b>		
State operating funds	\$815,000,000	13
2-Year change in higher ed expenditures	16.0%	13
State funds per capita	--	10
State funds per student	--	25
Public 4-year tuition and fees	\$1,814	8
Public 2-year tuition and fees	\$1,229	4
State spending on need-based aid	\$60,000,000	8

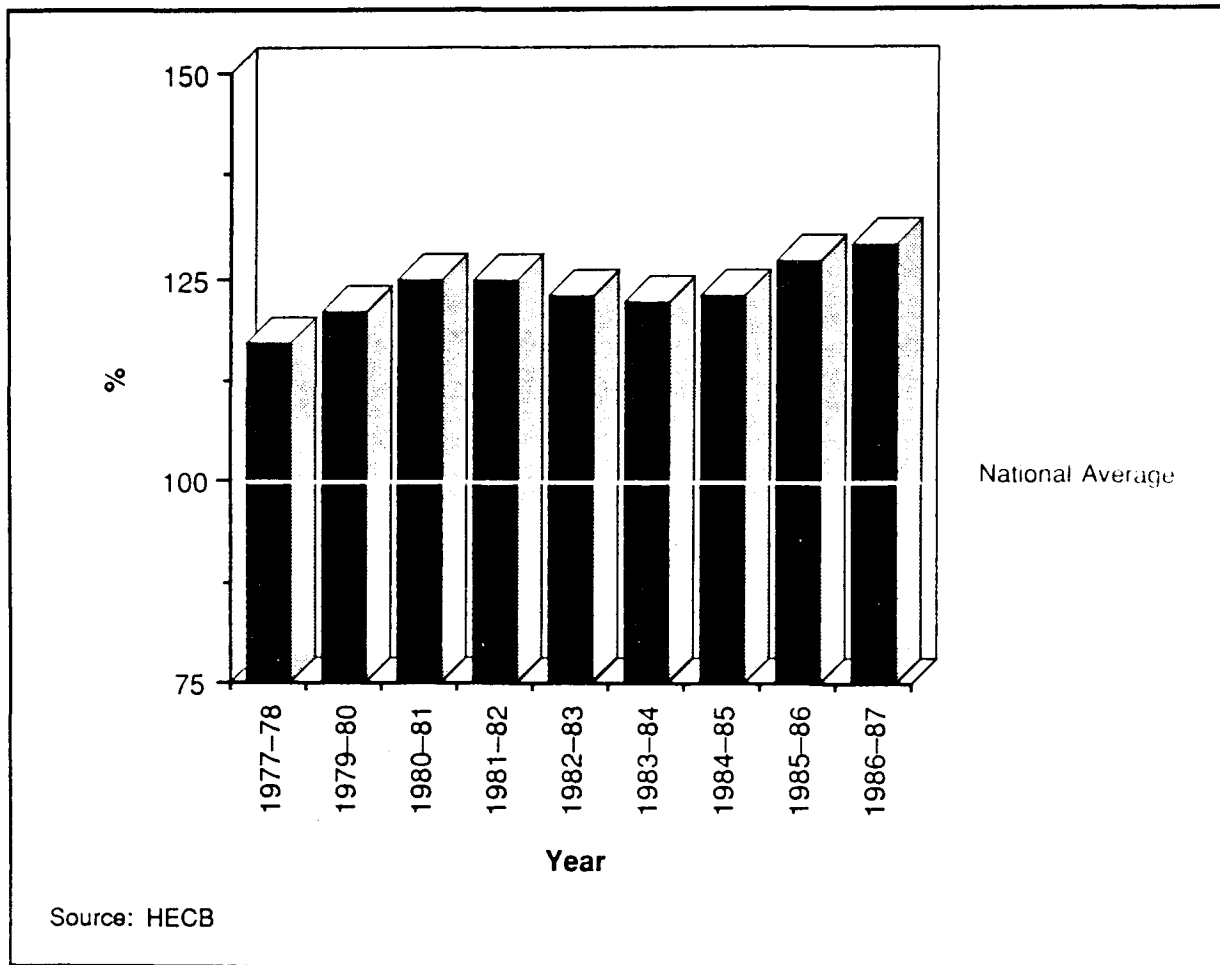
Sources: Population, enrollment, state funds--Almanac of the Chronicle of Higher Education, September 1, 1988.  
 Adults with degrees, SAT scores, state expenditures--Digest of Education Statistics, 1987.

Table 2

## HIGHER EDUCATION SYSTEMS DATA

<u>System Characteristics</u>	<u>University of Minnesota</u>	<u>State Universities</u>	<u>Private Colleges &amp; Professional</u>	<u>Community Colleges</u>	<u>Technical Institutes</u>	<u>Private Vocational</u>
Total Enrollment	55,924	52,257	47,054	45,787	33,630	9,324
New Entering Freshmen	6,839	8,981	8,787	16,933	17,617	3,758
Part-Time	33.4%	24.6%	19.9%	56.9%	8.9%	10.1%
Female	46.9%	54.8%	55.3%	60.7%	42.9%	54.1%
Minority	6.2%	2.4%	4.2%	4.1%	7.6%	NA
Nonresident Alien	4.0%	1.2%	2.3%	0.7%	0.2%	NA
Minnesota Residents	80%	86%	70%	98%	93%	90%

Source: SRI International, based on data from HECB

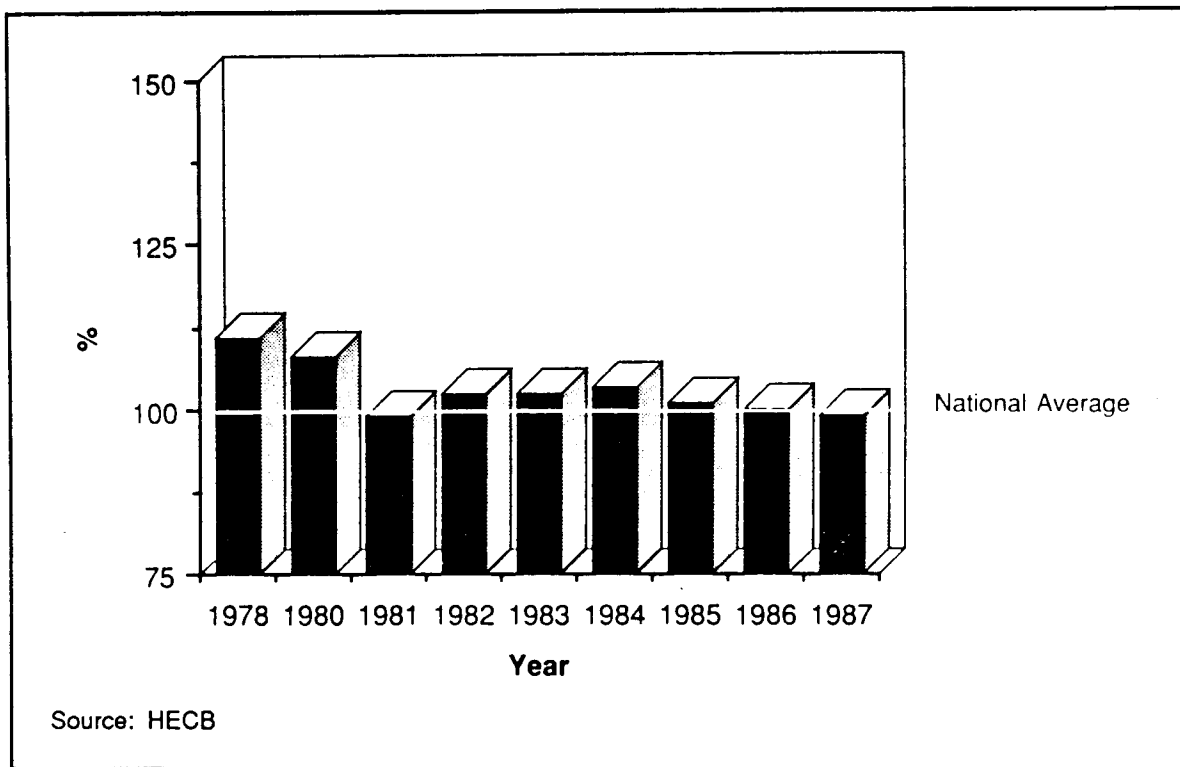


**FIGURE 2 PUBLIC ENROLLMENT PER 1000 RESIDENTS AS PERCENTAGE OF NATIONAL AVERAGE (1978-1987)**

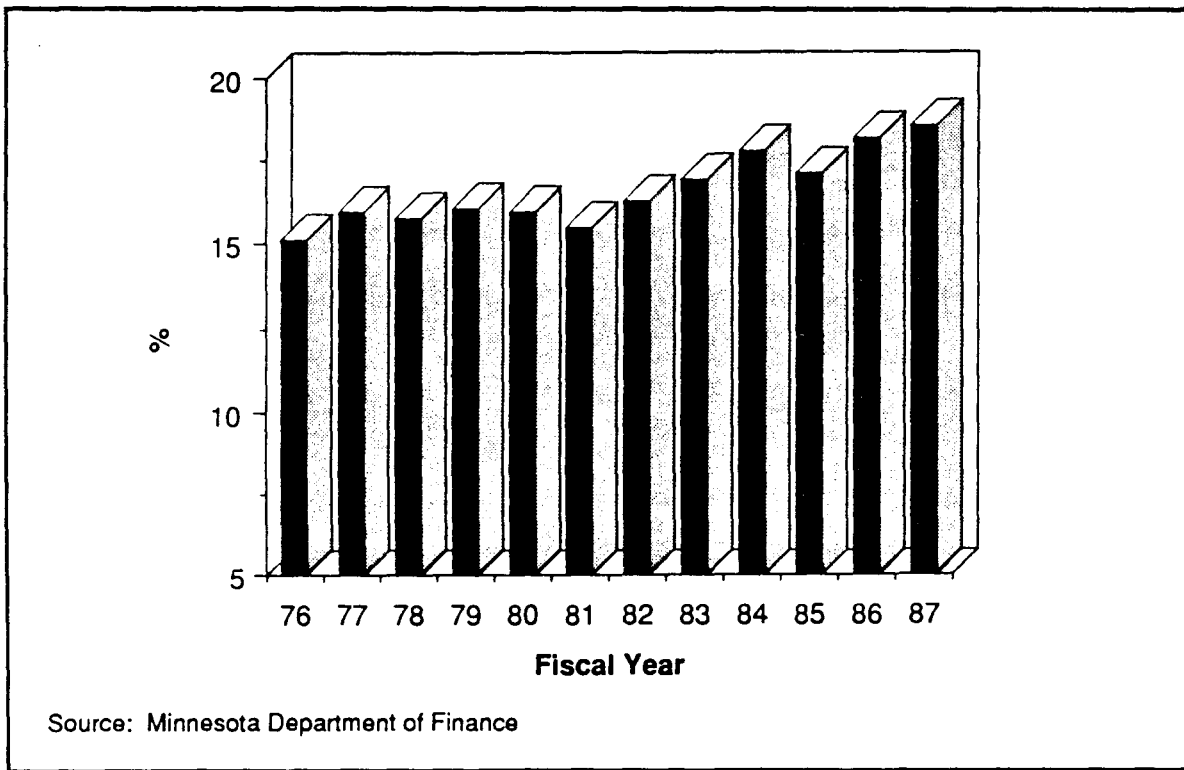
- Currently, about 23% of postsecondary students attend the University; 21% are at a state university, 19% at a community college, 14% at a technical institute, 19% at a private college or professional school, and 4% at a private vocational school. Recent trends and future projections suggest strong enrollment growth at the state universities and community colleges, and to a lesser extent at the private colleges, with declining or stable enrollments at the U and the TIs.
- Enrollment in postsecondary institutions is becoming more diverse, with more older students (25% adults in 1986 vs. 17% in 1976) and part-time students (29% in 1987 vs. 11% in 1971). There is also evidence of somewhat higher proportions of women in the enrollments and fairly rapidly increasing proportions of minorities.
- Minnesota is a well-educated state. In 1980, 36% of adults had at least 2 years of college and 23% had at least 4 years; projections for the year 2000 indicate that 50% will have completed 2 years of college work and 35% will have had 4 years.
- Minnesota operates an innovative, need-based financial aid program to help ensure that all residents have an opportunity to attend postsecondary education institutions that best meet their needs. The program has grown 170% between 1983 and 1988, from \$24 million to \$65 million. It ranks as one of the best-funded programs in the nation.
- Minnesota provides high levels of financial support to higher education on a per capita basis (ranking 10th among the states in effort), and Minnesota ranks 6th nationally in the average size of its annual capital budget for higher education. However, because of the high levels of postsecondary participation, the state provides only average levels of support per student [ranking 25th] (see Figure 3).
- Higher education has an increasing share of the state budget, up from 15.5% in 1981 to 19% in 1989. Minnesota's private sector has also been generous toward higher education, as evidenced by the University of Minnesota's recently conducted campaign, which generated over \$300 million in private contributions, the largest campaign ever for a public university (see Figure 4).

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Given this background on higher education, it is useful to proceed to an examination of the changing environment for higher education in Minnesota and the implications of these changes for the kind of higher education system described above.



**FIGURE 3 APPROPRIATIONS AND TUITION REVENUE PER STUDENT AS PERCENTAGE OF NATIONAL AVERAGE (1978-1987)**



**FIGURE 4 POSTSECONDARY EDUCATION EXPENDITURES AS PERCENTAGE OF MINNESOTA GENERAL FUND EXPENDITURES FISCAL YEARS 1976-1987**

### III CHANGING ENVIRONMENT

Although there is widespread recognition that we live in an ever-changing, dynamic environment, how these changes in the macroenvironment affect the demand for and delivery of educational services is often not fully appreciated. Some changes are perhaps understood in general terms, but their specific implications for higher education have not been thought through; other changes and trends may not be fully appreciated.

The key changes in the environment for higher education in Minnesota are summarized in Table 3 and described below, with emphasis on the implications of these changes for the state's overall system of higher education.

#### Population Growth

- According to data compiled by the state demographer, Minnesota's overall population is growing at a steady rate. Its growth was 4.2% between 1980 and 1987. Although this was slower than the national growth of 7.4%, it was the fastest-growing state in the upper Midwest during this period and the fastest-growing of all Midwest states during the 1986-1987 period (see Figure 5).
- The large majority of this population growth is occurring in the urban corridor of concern to this study, while the rural areas of the state have been losing population since 1983 (reflecting a national trend). What rural growth has been occurring is concentrated in areas near the metropolitan areas, not in what is considered Greater Minnesota (see Figure 6).
- More specifically, within the corridor, the population growth has been occurring in the suburban and outlying areas of the metropolitan areas of Minneapolis-St. Paul, Rochester, and St. Cloud.
- The St. Cloud MSA (at 11.2%) was the fastest-growing MSA over the period 1980-1987, with the Rochester MSA (9.2%) and the Twin Cities MSA (7.8%) also reporting strong growth.
- Since 1983, however, the Twin Cities has been the fastest-growing MSA in the state, and the seven fastest-growing cities in Minnesota are all Twin Cities suburbs. Recent data from the Metropolitan Council indicates that the Twin Cities is the fastest-growing major metropolitan area in the so-called Frostbelt (from the Midwest to the Northeast), recently growing at a rate comparable to Phoenix, Arizona. The Twin Cities is clearly solidifying its role as a regional center for the upper Midwest.

Table 3

CHANGING ENVIRONMENT FOR HIGHER EDUCATION  
IN MINNESOTA'S URBAN CORRIDOR

<u>Old Environment</u>	<u>New Environment</u>
Stable population	Steady population growth
Homogeneous population	Culturally diverse population
Resource-based economy	Advanced-manufacturing/service-based economy with sophisticated needs
Lack of social problems	Inner-city-type social problems
Strong K-12 system	Increasing K-12 difficulties
Most college students age 18-24	Almost half over age 25
Nearly all students full-time	Most student growth in part-time
Education in classroom	Array of learning technologies
Education provided by schools	Growing array of educational providers
Education stops at 25	Lifelong learning
Minnesota as education leader	Competition from other states
Focus on access	Concern with quality
Stable, predictable education needs	Dynamic educational environment

Source: SRI International



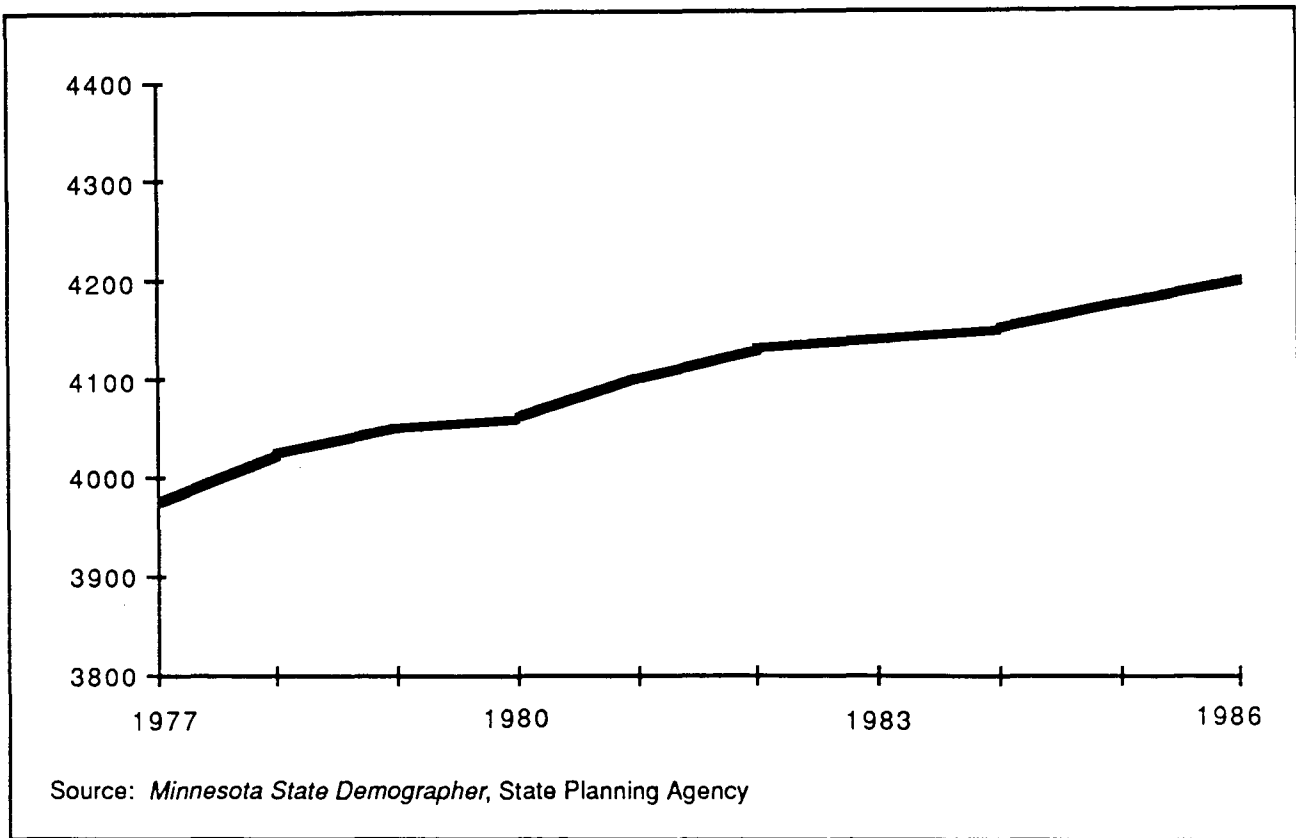
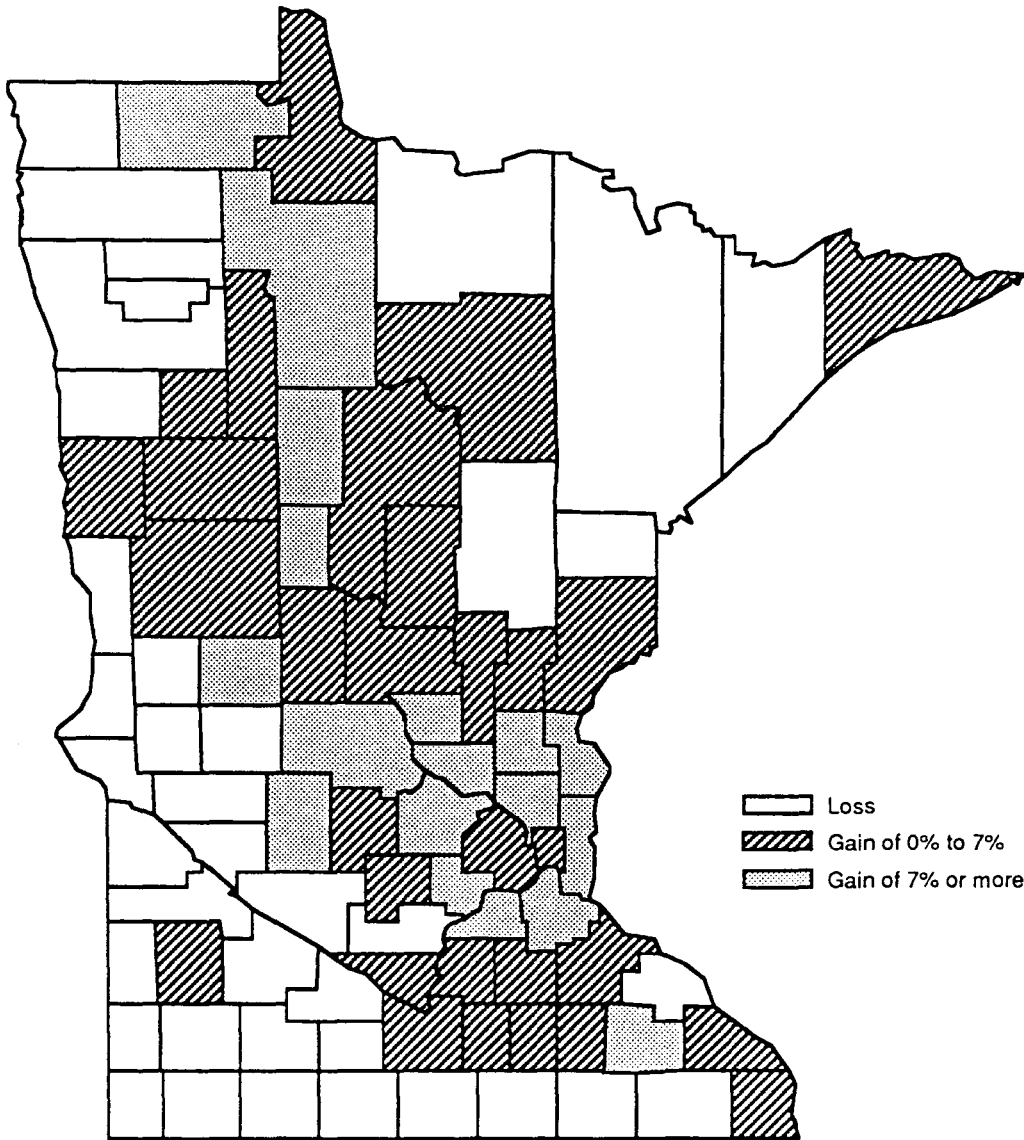


FIGURE 5 STATE POPULATION GROWTH (1977-1986)



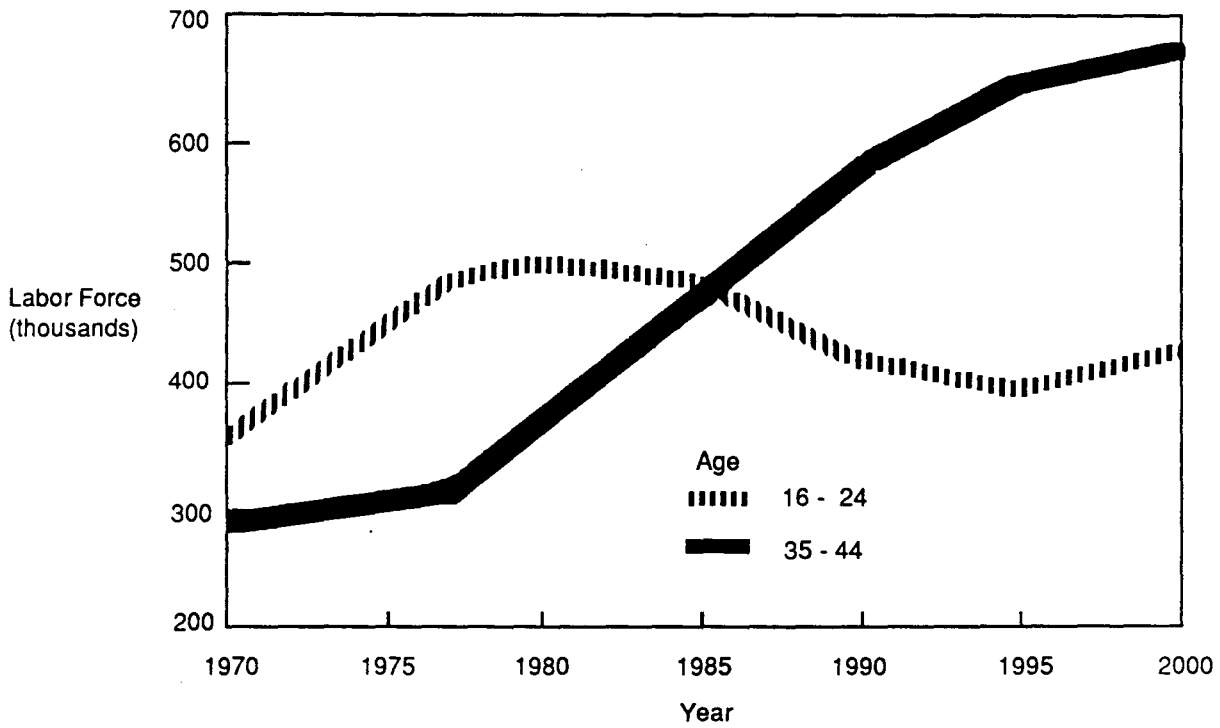
SOURCE: *Minnesota State Demographer, State Planning Agency*

**FIGURE 6 POPULATION CHANGE BY COUNTY**

- Thus, the obvious implication for higher education is increased demand for urban-oriented educational services in the state's three major metropolitan areas, but especially in the Twin Cities.

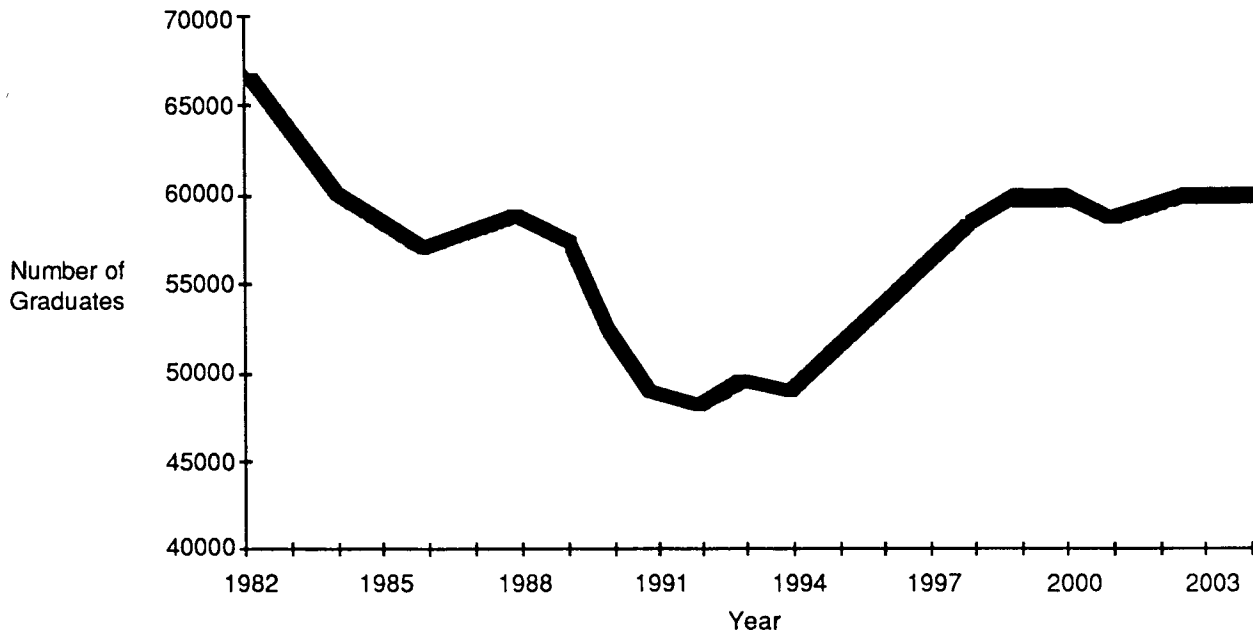
### Age and Ethnicity Changes

- As the state's population grows, it is changing in important ways. State projections show a definite aging of the population (as is the case nationally) and an aging of the labor force (see Figure 7).
- The number of students graduating from Minnesota's high schools is projected to decline through the mid-1990s but then the number of high school graduates pick up fairly dramatically after 1995 as the children of the baby-boom generation reach college age (see Figure 8).
- Thus, it is possible that higher education institutions in Minnesota will have a stable or slightly declining number of traditional-age students in their enrollments in the near term, but they should pick up substantially again in the mid-1990s. At the same time, because of economic reasons described below, the demand in both the near and long terms among adult students is likely to increase.
- Although still small, Minnesota's minorities are the most rapidly growing part of the population and have been growing rapidly since 1980. Between 1980 and 1985, the state demographer estimates that the white population grew about 2% while the nonwhite population grew more than 30%.
- Minorities still make up only about 4% of the state's population, but they account for about 30% of the state's population growth since 1980. Asians are the fastest-growing group, as a result of both high birth rates and immigration, especially of Southeast Asian refugees. Blacks are also growing at a fast rate. Hispanic and Indian populations appear to be growing more slowly than Asians and blacks, but still at much faster rates than whites.
- Available data also suggest that, except for Indians, minorities are heavily concentrated in the Twin Cities. Minority students accounted for 43% of enrollment in Minneapolis K-12 schools and 37% in St. Paul in 1986, and the rates of minority increases in the schools are even faster than their increases in the population because of their relatively younger age profile.
- Planners in the Twin Cities estimate that about half of the cities' poor people are minorities, and there is growing evidence of serious social problems in this population, such as high illegitimate birth rates and increasing welfare rates.



Source: Minnesota State Planning Agency

**FIGURE 7 AGING OF LABOR FORCE (1970-2000)**



Source: Minnesota State Planning Agency

**FIGURE 8 HIGH SCHOOL GRADUATES IN MINNESOTA (1982-2004)**

- These trends suggest new challenges for colleges in education in Minnesota (particularly those serving the Twin Cities), as well as a likely increased demand among minorities for postsecondary education opportunities. To the extent that these students may not be adequately prepared for college-level work (because of social and economic difficulties), this will be a new challenge for higher education institutions to bear.

### Economic Growth and Employment Demand

- Minnesota has an unusually strong economy, which has performed well despite major downturns in the regional and national economies over the past decade. In fact, it has one of the strongest economic records of any state not located on either the Atlantic or Pacific coast. It is a unique success story in the middle of America during a time when many economists see the emergence of a bicoastal economy.
- Over the past decade, Minnesota has had an unemployment rate has typically been 1% to 2% below the national average (in fact, there are reports of labor shortages in some sectors) (see Figure 9). Minnesota's per capita income has been about 2.4% higher than the U.S. average for each year during the past decade, except for 1983 (see Figure 10).
- Although most new-firm formation and business growth have been in the Twin Cities area, a substantial number of high-growth and export-oriented firms are growing in the St. Cloud and Rochester metropolitan areas as well.
- The key to the economy's success has been the result of a well-diversified economy, which in recent decades has successfully made the shift from its historical resource base to higher-value-added manufacturing (e.g., computers) and advanced services (e.g., financial and business services) (see Figure 11).
- In its recent study for the Greater Minnesota Corporation, SRI identified as the state's key driving sectors: agriculture and food processing, mining, forest products, computers and advanced manufacturing, health services, and business services (see Figure 12).
- While other states' economies may depend on such factors as location or natural resources, Minnesota's evolving economy and industry mix is especially dependent on the intellectual power of a well-educated citizenry. Its particular kind of service and manufacturing industries are rely heavily on human resources, technology, and innovation.
- This special kind of economic base is especially reliant on a high-quality education system at all levels, but particularly at the postsecondary level for the managerial and technical talent needed to fill jobs and the continuing education and retraining needed to keep workers from becoming obsolete.

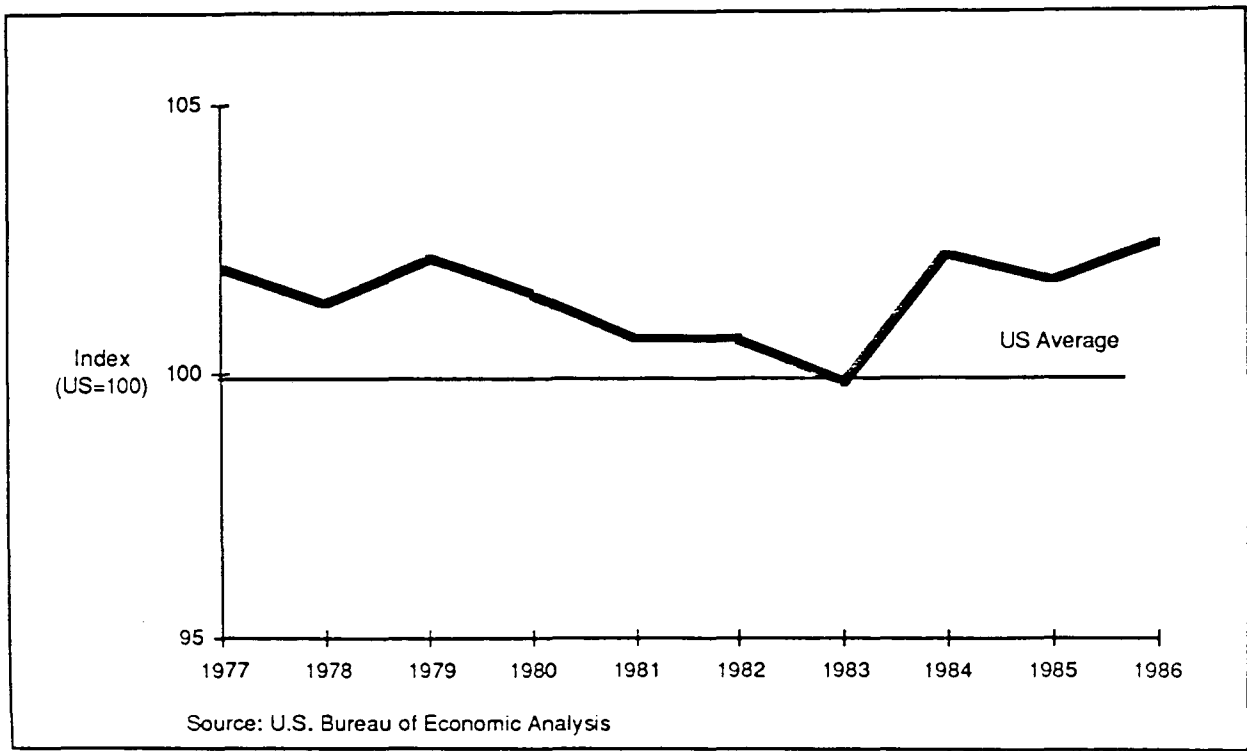


FIGURE 9 PER CAPITA PERSONAL INCOME IN MINNESOTA  
RELATIVE TO THE UNITED STATES (1977-1986)

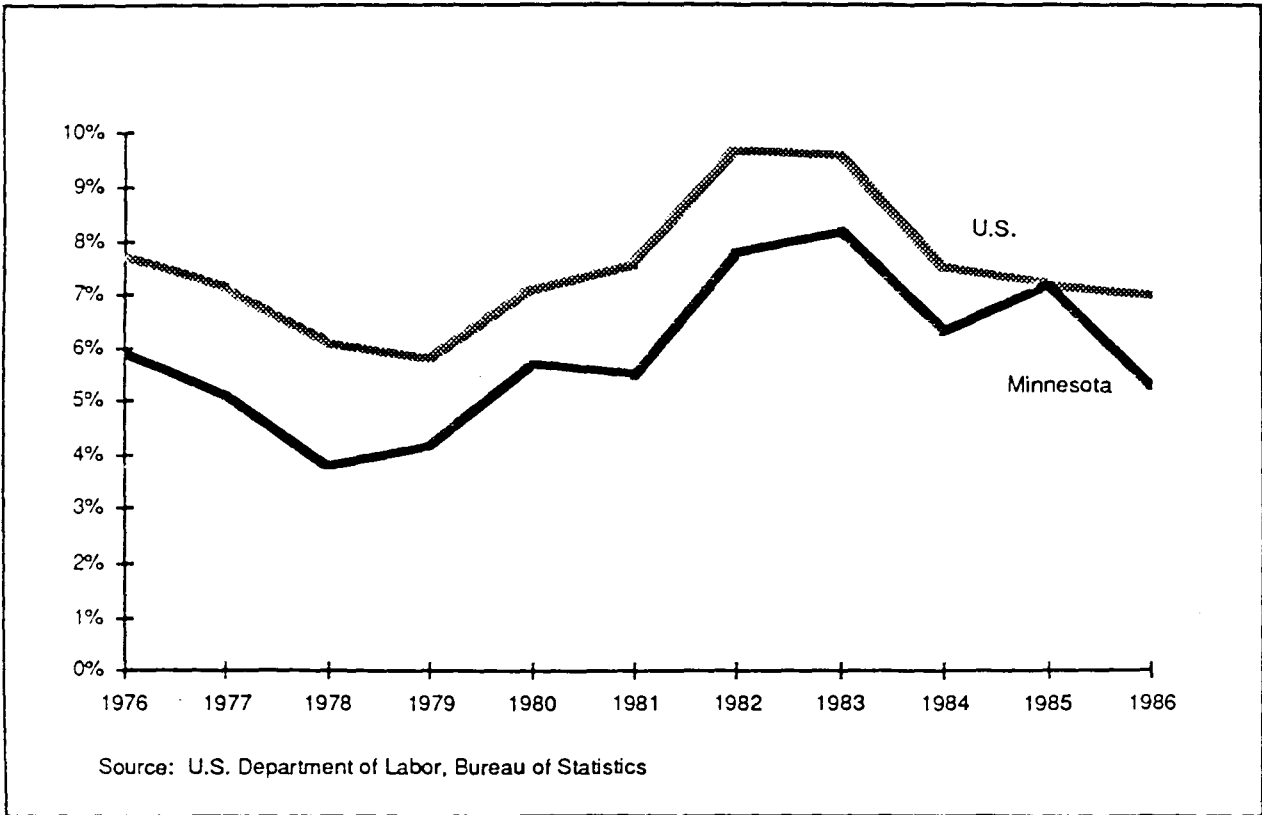


FIGURE 10 UNEMPLOYMENT RATE IN MINNESOTA AND THE UNITED STATES (1976-1986)



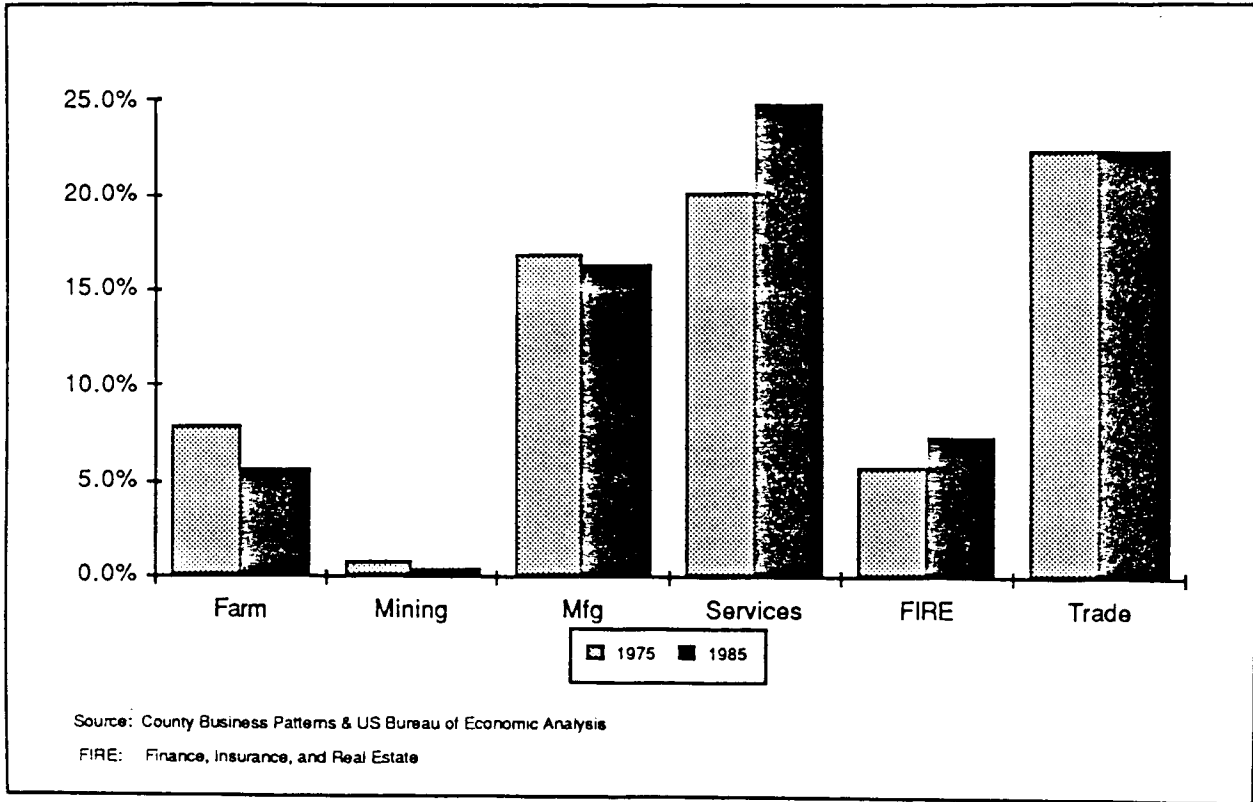


FIGURE 11 CHANGING STRUCTURE OF MINNESOTA'S ECONOMY--  
 TOTAL EMPLOYMENT (1975-1985)

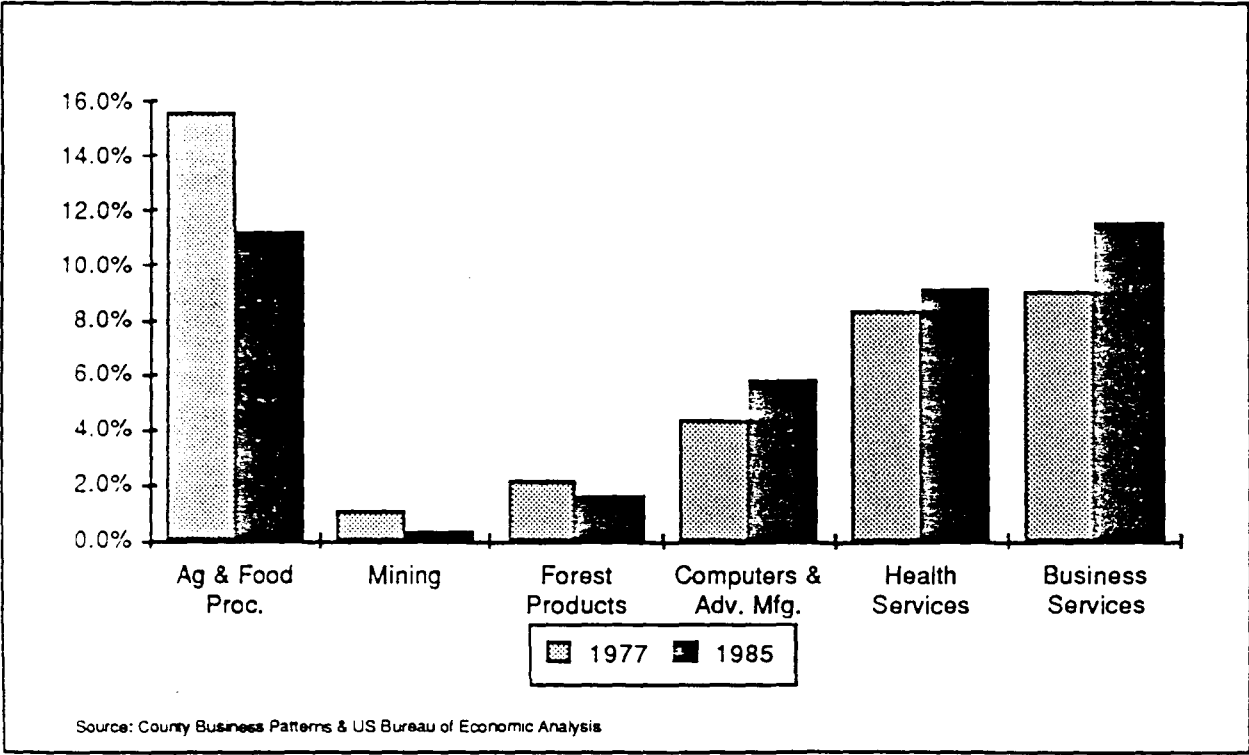


FIGURE 12 MINNESOTA'S DRIVING SECTORS' SHARE OF TOTAL EMPLOYMENT (1977, 1985)

- Even the state's traditional industries have been aided by higher education--as evidenced by the mining industry's revival in the 1970s as the result of the University of Minnesota's research on taconite processing and the agricultural sector's historic reliance on the University's agricultural research and extension programs.
- But Minnesota is decidedly a high-tech state. Its fastest-growing industries include scientific and engineering instruments, electronic components, and medical instruments. The computer industry has more than five times the share of employment in Minnesota that it has in the nation as a whole. With only 1.7% of the nation's population, Minnesota has 2.85% of the nation's high-tech labor force, and its rate of growth in high-tech employment is more than twice the national average.
- This kind of economy has unusually strong needs for high-quality and accessible science, engineering and technical education, technical training, continuing technical education, and retraining from the state's postsecondary institutions. In a highly competitive national market for such talent, Minnesota has difficulty attracting talent from out of state and needs to rely on individuals educated in the state. This need is especially acute for small and medium-size firms.
- The sophisticated kind of industries in Minnesota have particularly demanding needs for high-quality postsecondary education. When industries such as Minnesota's operate in highly competitive, fast-moving international markets, they not only need a steady supply of engineers, but engineers and technicians who are well trained in the latest concepts by technologically current faculty and on the latest equipment, and who have access to high-quality continuing education resources.
- Moreover, employers throughout virtually all of Minnesota's industries, not just high tech, report that demand is for better-educated and well-rounded workers who have received a rigorous education and developed strong communication and problem-solving skills as well as the traditional basic skills. Recent surveys by metro area chambers of manufacturers, for example, cite the shortage of skilled labor as their top area of concern.

### Social and Urban Issues

- With rapid population growth and increasing cultural diversity, the Twin Cities are beginning to look less distinctive than they once did and more like their counterparts in the East and Midwest. They also are beginning to experience more of the inner-city type of problems that Minnesotans may have once thought could be avoided here.
- As indicators of these problems, recent New York Times article was headlined "Rise in Poverty is Grim Side of Minneapolis Boom," while

the Star Tribune ran a front page story this summer titled "Minneapolis Officials See Growing Underclass."

- The Twin Cities appear to be experiencing growing levels of welfare dependency, teen-age pregnancy, crime, infant mortality, and hard-core poverty. Although the number of poor people is growing only modestly, their problems are becoming more severe.
- This situation raises important urban issues for higher education in the training and development of professionals in the helping professions (e.g., social work, health), public administration, teaching, and the like. Many other urban centers have benefited substantially from urban universities that are specifically oriented to the special needs of urban populations (e.g., UMass-Boston, Temple in Philadelphia, Cleveland State), but Minnesota currently lacks such an institution.

### K-12 Education

- Minnesota historically has had a strong K-12 education system, as evidenced by the lowest dropout rate in the country, relatively high test scores, and very high participation rates in postsecondary education.
- However, recent studies of the K-12 system, such as that undertaken by the Citizens League in 1982 and that commissioned by the Minnesota Business Partnership in 1984, raise concerns about Minnesota's K-12 system--declining test scores, growing employer dissatisfaction with the skills and work attitudes of new employees, and increasing percentages of young people feeling unchallenged and unfulfilled by their high school experience.
- The Business Partnership study also found disturbing evidence of deficiencies among Minnesota's students' capacity for higher-order skills--reasoning, critical thinking, and problem-solving--precisely the skills that are so critical for Minnesota to maintain its historic economic advantage over the rest of the Midwest.
- The implications of this situation for higher education include the need for colleges to provide sharply expanded levels of remedial coursework. Schools of education need to train new teachers and upgrade existing ones better and to play a more active role in school reform. Finally, under the state's Postsecondary Enrollment Options Program, high school students are now eligible to take courses at public and private institutions, adding some measure of increased demand for higher education services.

### Delivery of Educational Services

- While the number and type of Minnesota's traditional higher education institutions and their means of providing educational services has

not changed much in recent years (Metro State is the one exception), there has been a veritable explosion of alternative providers and methods outside the traditional institutions.

- Corporate education is the largest hidden system of postsecondary education in the United States, spending some \$60 billion annually, according to the Carnegie Foundation. Assuming that Minnesota corporations spend a proportionate share of this amount (and given the knowledge-intensive nature of Minnesota industry, it is likely to be much higher), Minnesota spends an estimated \$1 billion on corporate education which is potentially more than the state spends on postsecondary education. It was recently estimated by the Minnesota Business Partnership that about \$250-\$300 million was spent by Minnesota firms on remedial employee education alone.
- Moreover, private training, consulting, conference/seminar, and related businesses make up one of the fastest-growing industries in the nation. There is evidence of growth in these educational providers in Minnesota, too.
- The need for employers to spend large sums on remediation and their willingness to turn to nontraditional institutions may be evidence of deficiencies within Minnesota's traditional educational system. The overall expenditure figures for corporate education and training give ample testimony to the growing need for adult education, upgrading, retraining, and lifelong learning.
- Not only are these alternative private and corporate providers growing, they are often leaders in the use of new educational technologies and teaching methods--such as satellite distribution (uplink/downlink), computer-aided education, interactive video, and various forms of self-paced instruction. Such alternatives have increasingly been demonstrated as more cost-efficient and, for certain purposes, more effective forms of educational delivery.
- For example, some Minnesota companies have begun using National Technological University (a satellite network of engineering schools around the country). 3M recently negotiated an arrangement with the University of North Dakota involving a new videotape delivery system as a means of pursuing and completing a baccalaureate degree in engineering on site. IBM's Rochester plant receives courses from IBM corporate headquarters in New York.
- Use of such technologies in Minnesota's traditional postsecondary institutions is spotty. A number of task forces are examining the potential for increased use of such educational technologies. Given the need for more cost-effective and efficient means of delivering educational services and their successful use in industry, it would appear that educational technology has an untapped potential here for Minnesota. In the area of educational technology, Minnesota's traditional institutions could learn greatly from some of the state's more progressive corporate educators.

## Changing Views of Higher Education

- Minnesotans have long valued higher education, and there is considerable evidence that they now think it is more important than ever. Although they are proud of the higher education system they have built, with changing needs and changing lifestyles they are being more critical and demanding of it than in the past. Recognizing the importance of education in today's society but also fearing heavy education-related debts, parents and students are becoming choosier customers and consumers of higher education.
- Interviews with major employers and business associations (e.g., the High Technology Council) and the results of several employer focus groups indicate growing levels of concern about the state of higher education in Minnesota--in the rigor of the education provided, success in achieving high graduation rates, the currency of the technology being taught (whether at IT in the U or in the labs of the Technical Institutes), and the degree of responsiveness from higher education institutions to industry's changing needs.
- Similarly, students in focus groups--especially those at the U--expressed concern about the quality of the education they were receiving, the capacity of their faculty (and lack of contact with senior faculty at the U), the currency of their equipment, the overcrowding of their facilities, and the adequacy of counseling.
- The growing number of adult students, both in focus groups and through a special survey of 900 current adult students, while expressing overall satisfaction with the educational opportunities, articulated concerns with the lack of sensitivity to special adults needs. As the so-called nontraditional student now becomes a large portion of the enrollment (e.g., 40% of students are now over 25 years of age), their needs cannot simply be met through special programs but need to be incorporated in everything the institutions do--from scheduling courses to providing financial aid.
- Recent surveys by the HECB of the plans of high school juniors indicate a strong preference for collegiate over vocational education (61% vs. 17%). The adult-student survey conducted as part of this project also indicated a growing interest in collegiate rather than vocational education and strong interest in returning to school again in the future after current educational programs are completed (84%).

## Competition for Minnesota

- Minnesotans have long prided themselves on the high levels of support that they have provided for higher education. But there is a danger of self-deception here. It is true that Minnesotans spend a high level per capita for higher education (10th in the nation), but the expenditures per student are quite average (25th in the nation) because of the high levels of participation in the state's higher education system.

- This is not a healthy situation for a state whose economy and population are so dependent on high-quality higher education. Average is not good enough for a state that seeks to use higher education to maintain a competitive advantage for itself.
- Moreover, although Minnesota does rank high on some measures such as per capita spending, other states--especially in the Midwest and South--are quickly closing the gap. Such states have begun to recognize the importance of higher education to their economic and social success and, in many cases, have made unusually large investments in higher education in recent years.
- The perceptions of the decline in the ranking of the U vis-a-vis other public universities can be attributed at least partly to the efforts of other states to upgrade their state universities (e.g., Texas). Thus, Minnesota can hardly afford to rest on its laurels in the highly competitive higher education marketplace.

#### Responsiveness to Change

- Given the dynamics of the changing environment highlighted above, how well is Minnesota positioned to respond to change?
- At present, the state has what would have to be considered a bottoms-up, laissez-faire approach to addressing new needs. The initiative for new programs, for example, typically arises from an individual institution (or, more likely, a department within an institution) that identifies a need, develops a response, and then secures system approval and finally HECB approval. Under this arrangement, the HECB is in a policing and regulatory role, examining unnecessary program duplication.
- There is no organized proactive means for scanning the changing environment to identify new educational needs or delivery opportunities. Nor can Minnesota be said to have a climate that particularly encourages responsiveness to changing needs. There is, for example, no targeted program of incentives to encourage institutions to develop new programs, as is found in some other states, such as New Jersey.

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In sum, Minnesota has a very dynamic and, in many ways, rapidly changing environment with all kinds of implications for higher education: more demand for educational services, demands for higher-quality and different services, demands from different kinds of students (older, more minority, more part-time), increasing kinds of providers and means of delivery, and increasing competition in the higher educational marketplace from other states.

All of this raises questions about Minnesota's ability to maintain its "educational advantage." The next section identifies a set of key characteristics that Minnesota's higher education enterprise will need in the future.

#### IV DESIRED CHARACTERISTICS FOR THE CORRIDOR'S HIGHER EDUCATION ENTERPRISE

Given the dynamic environment Minnesota finds itself in today and considering the traditional values that Minnesotans have given to higher education, what characteristics should the region's higher education enterprise possess? Against which criteria should it be measured?

Minnesota has long had, at least implicitly, its own set of criteria-- traditional values such as quality, access, affordability, efficiency, and choice--which it has promoted through various state policies and investment decisions. These criteria remain critically important, but today they need to be reconsidered and viewed in light of the changing environment described above. Moreover, Minnesota needs to give new attention to additional criteria that reflect new societal forces and educational realities.

SRI proposes a set of 10 characteristics, combining both traditional and more contemporary criteria, that the corridor's higher education enterprise should be measured against:

- Quality--This refers to the rigorous kind of education that provides Minnesotans with the knowledge and skills they need to develop as individuals, as citizens, and as workers in an advanced, technology-oriented economy. Quality has long been a desired goal for Minnesota, but international economic competition is inducing employers to be even more demanding of the education provided their workers (e.g., technicians trained more broadly than in just one narrow technology). Career-minded adults returning to school are similarly more demanding than their traditional-age counterparts. Thus, quality takes on a more serious and competitive meaning than in the past. Although objective measures for assessing quality are generally lacking, more emphasis on monitoring and evaluation is clearly in order to promote accountability in achieving quality objectives.
- Access--This refers to access of students to educational opportunities. In populist Minnesota, one aspect of access has meant access to the state's flagship university, the U. In recent years, access has taken on geographic connotations with implicit state policies ensuring that most Minnesotans have some kind of educational institution within 35 miles of their home. Today and in the future, access also must relate to the needs of students with special educational needs (e.g., immigrants with weak English language skills) and adults requiring access to continuing education and lifelong learning opportunities (with needs to learn at different



times, different places such as at work, and possibly in different ways more suited to adult learners).

- Affordability--This refers to the ability of individuals to pay the increasingly high cost of higher education. Minnesota operates a large, affordable public system of higher education and has what is considered a model, need-based program of financial aid to promote affordability. But until very recently, programs such as financial aid have been oriented to the traditional-age, full-time student. With the increase in older and part-time students, affordability also needs to reflect their special needs as well.
- Efficiency--Given the high cost of higher education and limits on the state's resources, higher education services need to be delivered in an effective and cost-efficient manner. This has long been a state interest, as evidenced by the continuing concern with avoiding duplication. Today, however, efficiency may also involve consideration of alternative educational methods and technologies, as well as redistribution of students within the overall higher education enterprise (e.g., away from high-cost institutions like the U and toward more cost-effective institutions like the community colleges).
- Individual choice--This refers to the ability of students to choose among a variety of different kinds of institutions (public and private, research and liberal arts, 2-year and 4-year). Minnesota's financial aid program has been an important tool in expanding Minnesotan's choice to private institutions as well as public. With the growing numbers and diversity of students, choice will continue to be an important factor in the future.
- Institutional diversity and full coverage of the range of educational needs--Related to choice is the concept of institutional diversity. Diversity is a principal characteristic that has made America's higher education system the envy of the world. A diversity of institutions enables institutions to provide full coverage for the range of educational needs that are emerging (from technical training to postgraduate studies, part-time as well as full-time, adult as well as traditional-age students). A diverse set of institutions also enables each to play the roles for which it is best suited. But, overall, Minnesota has a somewhat unbalanced mix of institutions--with only one research university (on which it depends for many educational services), no institutions classified as doctoral universities, and comprehensive institutions that are relatively undeveloped compared to comparable institutions in other states, but with quite strong liberal arts colleges. Thus, the state needs to be concerned about its coverage of the full range of needs and the appropriateness of individual institutions to meet particular needs.
- Responsiveness to changing needs--with the rapid pace of technological developments and occupational change, a system of higher

education requires the capacity to respond continually to changing needs--not just in volume, but in scope and types of programs. Not all institutions should or could respond to every new need. But, collectively, a state needs a mix of institutions and policies and practices that encourage responsiveness, flexibility, and adaptability in today's educational environment.

- Orientation to both traditional age and adult students-- Historically, enrollment projections, state educational policies, institutional practices, course scheduling procedures, style of teaching, financing formulas, financial aid mechanisms, faculty reward systems, etc., have been oriented to traditional-age, full-time students. Today, so-called nontraditional students constitute almost 50% of the student body. Thus, special programs will no longer suffice. Rather, in all its practices, policies, and structures, Minnesota's higher education system needs to be assessed in terms of how well it meets the needs of older and part-time students as well.
- Active links with employers--Employers have long had a general interest in the quality of higher education. But with increased international competition and the fast-moving pace of technological change, there is a growing need for the business community to have close links with the educational process, particularly in the areas of technical training and the professional programs like business and engineering. Without strong and vital ties, there is every reason to fear that Minnesotans will not be getting the kind of relevant and up-to-date instruction that new careers in the state will require. And Minnesota industry runs the risk of falling behind competitors in states which have such ties.
- A proactive posture toward identifying and meeting educational needs and encouraging institutional accountability--In the past, when educational requirements were more stable and needs more predictable, a laissez-faire approach to educational planning sufficed. But today it is likely that important new needs will not be met in a timely and effective manner if the state is not actively working to identify such needs and taking steps to ensure that they are met. The requirement here is not for a centralized planning and control mechanism, but rather for a more proactive attitude and an environment (possibly even special incentives) conducive to responsiveness. This environment should include mechanisms for measuring institutional performance and for encouraging institutional accountability in meeting identified needs--e.g., surveys of graduate and employer satisfaction, use of student outcome measures.

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As we begin to focus more explicitly on Minnesota's higher education enterprise, it will be useful to keep this range of desirable characteristics in mind. The next section of the report will examine Minnesota's higher education enterprise as a total system. Succeeding sections will examine changing patterns of demand and compare them with current conditions of capacity and program availability.

## V LOOKING AT MINNESOTA'S HIGHER EDUCATION ENTERPRISE AS A TOTAL SYSTEM

Most discussions and debates about higher education in Minnesota focus on the institutional level, or at best the systems level. Too often, policymakers fail to look across the full range of institutions within their state and to consider their state's higher education enterprise as a whole--public and private, undergraduate and graduate, 4-year and 2-year.

It is especially critical for Minnesota to take a systemic view of higher education in order to understand the strengths and weaknesses of its particular set of institutions, because the state has a rather unusual mix of institutions and has been unusually dependent on the University of Minnesota to provide a diversity of educational services. It is also useful for Minnesota to develop a better sense of itself compared with other states facing similar higher education challenges.

### Examining Minnesota's Institutions by Carnegie Classification

One standard way of looking at the structure of the higher education system of the state is to examine institutions according to their Carnegie classification. The Carnegie classification of higher education groups American colleges and universities on the basis of their missions and educational functions. It was developed originally by Dr. Clark Kerr for the Carnegie Commission on Higher Education in 1973. It was most recently updated in 1987 by the Carnegie Foundation for the Advancement of Teaching.

The key categories are defined as below. Minnesota institutions in the urbanized corridor are identified by category in Table 4.

- Research Universities I--institutions that offer a full range of undergraduate and graduate degree programs, give high priority to research, award at least 50 Ph.D.s each year, and receive annually at least \$33.5 million in federal support.
- Research II--similar to research I universities, except that they receive annually between \$12.5 and \$33.5 million in federal support.
- Doctoral I--institutions that offer a full range of undergraduate programs and graduate degree programs through the doctorate degree, with at least 40 Ph.D. degrees awarded annually in five or more academic disciplines.

Table 4

**INSTITUTIONS IN THE URBAN CORRIDOR  
BY CARNEGIE CLASSIFICATION**

CARNEGIE CLASSIFICATION	PUBLIC	PRIVATE
Research I	University of Minnesota	—
Research II	—	—
Doctoral I	—	—
Doctoral II	—	—
Comprehensive I	Mankato State St. Cloud State Winona State	St. Thomas
Comprehensive II	—	Augsburg Bethel St. Catherine St. Benedict
Liberal Arts I	—	Carleton Hamline Macalester St. John's St. Olaf
Liberal Arts II	Metro State	Concordia St. Teresa Northwestern Col St. Mary's
Two-Year Institutions	Community Colleges Technical Institutes	Vocational schools
Specialized	—	W. Mitchell (Lab) Mayo (Med)

Source: The Carnegie Foundation for the Advancement of Teaching

- Doctoral II--institutions that offer a full range of undergraduate programs and graduate degree programs through the doctorate degree, with at least 20 Ph.D. degrees awarded annually in one discipline or 10 or more Ph.D. degrees in three or more disciplines.
- Comprehensive I--institutions that offer undergraduate programs and in most cases graduate programs through the master's degree, with more than half their undergraduate degrees awarded in two or more occupational or professional disciplines (e.g., business, engineering). Also, a minimum of 2,500 students.
- Comprehensive II--similar to comprehensive I universities, except their enrollments are between 1,500 and 2,500 students.
- Liberal Arts I--highly selective, primarily undergraduate colleges that award more than half their baccalaureate degrees in the arts and sciences.
- Liberal Arts II--less selective, primarily undergraduate colleges that award more than half their baccalaureate degrees in the arts and sciences, as well as colleges with fewer than 1,500 students that award fewer than half of their degrees in liberal arts but are too small to be considered comprehensive.
- Two-year institutions--community, junior, and technical colleges that offer certificate or degree programs through the associate's degree.
- Specialized institutions--such as seminaries, independent medical and law schools, schools of art and music, corporate-sponsored institutions, and the like.

In analyzing Table 4 and comparing Minnesota with other states and national averages, certain findings stand out:

- Minnesota has only one research university (the University of Minnesota), whereas other comparably sized states either have two public research universities (e.g., Washington, Alabama) or have a major private institution in addition to a public research university (e.g., Maryland with Johns Hopkins, Missouri with Washington University, Louisiana with Tulane, Tennessee with Vanderbilt). Wisconsin is the only other state of Minnesota's approximate size or larger that has just one research university.
- Nationally only 13% of students attend a research I level university; in Minnesota, 23% do. This implies that the state is using the most expensive kind of institution to educate an unusually large percentage of its population. Moreover, the state is having this education provided in the most expensive location possible, the Twin Cities.

- In spite of recent controversies surrounding the University of Minnesota and its apparent vulnerabilities at this point in its history, the U is a most impressive institution. It is one of the nation's leading research universities, and it ranks high on a number of national assessments and on a variety of qualitative and quantitative measures. It ranks 7th in the total amount of R&D conducted among American universities, and has many individual departments and professional schools ranked among the best in the nation.
- A key issue the state needs to face is whether it is reasonable and appropriate to ask the University to effectively perform all the educational functions assigned to it: become a premier public research university, serve as a landgrant, be the only traditional public undergraduate institution in the Twin Cities, meet the Twin Cities' growing urban needs, provide open access to Minnesotans, etc.
- Minnesota has no doctoral-level institutions. Most states of similar size have one or two such institutions. More than 18% of students nationwide attend such an institution, but none in Minnesota. As a result, there is a major drop in educational capacity from the University of Minnesota to the state universities at the comprehensive level. This can be seen in the state's relatively modest ranking in master's degrees awarded, compared to its higher rankings in all other degree levels (refer back to Table 1). This gap in the middle of the higher education spectrum in the state also shows up in the relative absence of practitioner-oriented graduate programs in the corridor and the lack of advanced technical programs in Rochester.
- Minnesota's state universities tend to be closer to their original teachers' college school tradition, compared with other states where the state universities have often developed into more comprehensive institutions of larger size and with stronger graduate (and even Ph.D.) programs. Only fairly recently, for example, have a few state universities begun offering engineering programs, in spite of their clear importance and shortages in the field in Minnesota.
- The urban corridor includes Metro State, a unique upper division, state university focused on the needs on nontraditional, typically adult students. It has no campus, provides credit for college-level learning experience outside the classroom, and offers flexible schedules and alternative learning strategies geared to its nontraditional student body.
- On the other hand, the urban corridor and the state as a whole lack a number of specific kinds of institutions found in the mix in other urban corridors and states. For example, it lacks the kind of urban-oriented, highly responsive comprehensive institutions found in most urban centers. There is no traditional urban institution like UMass-Boston or Cleveland State with an explicit mission to focus on the needs of the urban center. Such institutions are the type that would be well suited to help the Twin Cities deal with their increasing urban problems.

- The corridor also lacks a private science and engineering institution with close ties to industry like those that were developed in the 19th century in most major eastern and midwestern cities--MIT in Boston; Worcester Polytechnic Institute in Worcester, Massachusetts; Polytechnic University of New York City; Rensselaer in upstate New York; Stevens in New Jersey; Drexel in Philadelphia; Carnegie-Mellon in Pittsburgh; Case Western in Cleveland; and the Illinois Institute of Technology in Chicago. Such institutions typically play key roles in meeting the needs for scientific and engineering talent in their regions.
- Finally, it lacks the kind of private, highly responsive, market-driven university, such as Golden Gate in California or Nova in Florida, that is geared solely to the changing needs of working professionals.
- On the other hand, the state and region are unusually strong in the number of selective liberal arts colleges. The region can boast of some of the finest private liberal arts colleges in the nation (e.g., Carleton, Macalester).
- Minnesota also has a relatively large proportion of 2-year institutions (more than half its institutions, compared with about a third nationally) and a high number of 2-year students (about a third in Minnesota vs. a quarter nationally). It is also unusual in its separation of technical institutes from its community colleges. An issue of concern, given industry's need for more broadly trained technicians, will be the TI's capacity to meet that need under Minnesota's unique governance arrangements (with a state board and control by local school districts and separation from the community colleges).

### Examining Minnesota's Institutions by Educational Roles

Beyond the formal Carnegie classifications, it is useful to probe more deeply into the various institutions in terms of the educational roles they play in Minnesota. Table 5 represents a framework developed by SRI that attempts to determine which institutions are meeting the range of higher education needs in Minnesota's urban corridor.

The table is organized into five categories:

- Postgraduate studies
- Graduate education
- Upper-division undergraduate education
- Lower-division undergraduate education
- Other.

Within the major categories, distinctions are made among the different types of education provided. Within graduate education, there is a distinction between research- and applications-oriented degree programs.

- Research-oriented degree programs, primarily offered at the University of Minnesota, are those that are more theoretical and academic in perspective. The university's MBA program is of this type.
- Applications-oriented programs are those that are more responsive to the needs of working practitioners in a field. St. Thomas' part-time/weekend MBA program is an example of this type.

Within undergraduate education, it is useful to distinguish among research- and professional-oriented undergraduate education, the more general comprehensive kind of education, and traditional, resident-based liberal arts education.

- Research-oriented undergraduate education, primarily offered at the University, refers to the kind of education that is departmental and discipline-focused, and oriented to high-ability students who are most likely to pursue graduate and professional education. It is often characterized by large lecture courses, use of graduate teaching assistants, and lack of personal attention, since faculty in research universities tend to be concerned with and rewarded for their research interests than their teaching.
- The more general, inter-disciplinary kind of education is that offered by the University at General College or the College of Liberal Arts, by the state universities or comprehensive private institutions such as St. Thomas, and by community colleges at the lower-division level. This kind of undergraduate education is more oriented to students of average to above-average ability and tends to be more teaching-oriented than a research university setting.
- The traditional, residential-based liberal arts education, such as that offered at institutions like Hamline or Macalester, is often the most rigorous (and expensive) kind of undergraduate education. It is typically characterized by smaller class size, more personal attention, and a strong, teaching-oriented faculty.
- Also, within the lower-division undergraduate category is vocational and technical education. This is occupationally oriented training. In Minnesota's case, this kind of education is offered largely by the technical institutes and, to a lesser extent, by the community colleges (in certain fields, such as nursing) and the private proprietary institutions.
- Finally, there is the nontraditional, alternative kind of adult-oriented, campus-without-walls, upper-division undergraduate education provided by Metro State.



Table 5

**INSTITUTIONAL ROLES BY LEVEL  
OF EDUCATION PROVIDED**

LEVEL OF EDUCATION	PUBLIC	PRIVATE
<u>Post-graduate studies</u>	University of Minnesota	—
<u>Graduate Education</u>		
Research-oriented	University of Minnesota	—
Applications-oriented	State Universities (ed, bus)	St. Thomas (bus, ed) Hamline (law, ed) Mitchell (law)
<u>Upper Division</u>		
Research-oriented	University of Minnesota	—
Comprehensive	University of Minnesota State Universities	Several privates
Liberal Arts	—	Several privates
Nontraditional (adults)	Metro State	—
<u>Lower Division</u>		
Research-oriented	University of Minnesota	—
Comprehensive	University of Minnesota State Universities Community Colleges	Several privates
Liberal Arts	—	Several privates
Vocational/Technical	Community Colleges Technical Institutes	Proprietary schools

Source: SRI International

This framework helps to illustrate a number of important findings about Minnesota's particular mix of higher education institutions.

- As noted above, the state is uniquely and heavily dependent on the U to meet a variety of educational services--ranging from postgraduate studies and graduate-level degrees to research-oriented, comprehensive, and open-admission-style (in the past at General College) undergraduate education, as well as continuing and part-time education particularly for adults (not to mention community-college-level work at some of its outlying campuses). States like California, Michigan, and Texas, which ask their leading public research university to be a national research university, typically do not expect it to carry out these other potentially inconsistent missions as well. Faculty rewarded on research criteria simply cannot be expected to give strong priority to undergraduate or continuing education, public service, or meeting special urban needs.
- Given its incredible diversity of programs, the U provides comprehensive coverage for postgraduate studies and research-oriented graduate programs. Most of the need for such education is in the Twin Cities, where the U is located. One problem area is a lack of coverage for Rochester, which has more advanced educational needs because of its special economic base (IBM, Mayo) but no research-oriented institution to help meet them.
- As the capacity analysis will indicate, however, the urban corridor is not well covered in the applications-oriented graduate programs of growing concern to employers and individuals making career transitions of one sort or another. This is illustrated in the field of business: the Twin Cities was one of the last metropolitan areas to get a part-time/weekend, practitioner-oriented MBA program. Such a program did not fit within the increasing research orientation at the U, but was eventually developed by St. Thomas.
- There are similar needs today for part-time continuing education in areas such as engineering and science, but unfortunately no institution has been encouraged or is permitted to step into this gap left by the U with its ever-increasing research orientation. St. Thomas, lacking an engineering school, has begun to address some of these needs with programs in software studies and manufacturing science, but it cannot address the full range of needs in these specialized fields. 3M, frustrated by its inability to get continuing engineering education needs met in Minnesota, recently negotiated an agreement with the University of North Dakota.
- Similarly, there is concern that as the U increasingly pursues its research orientation, the opportunities for the other more applications-oriented programs will inevitably decrease. Will the U's college of education choose to focus on meeting the Twin Cities' needs for teachers able to work in an inner-city, culturally diverse environment, or it will seek to develop a more research-oriented program? Will its public administration programs be oriented to the

professional development needs of state and local government employees, or will they seek an ever-increasing research orientation?

- It is likely, and appropriate given the U's objective of being one of the nation's top five public research universities, that the choices will be made in favor of research orientation rather than local responsiveness. In some cases, entrepreneurial private institutions, such as St. Thomas in education and business and William Mitchell in law, may pick up the slack. In other cases, they may not. This represents an important educational deficiency for the state and particularly the Twin Cities area.
- At the undergraduate level, the U appears most effective in providing research- and discipline-oriented undergraduate education for high-ability students who often have graduate-school ambitions and who can learn effectively in spite of the U's intimidation factor (e.g., huge lecture halls, long registration lines, graduate teaching assistants).
- Historic difficulties within the U's General College and concerns expressed by numerous students and counselors in project focus groups, however, raise serious questions about the priority given by the U to undergraduate students of more average ability and students with special educational needs. The U's historically low graduation rates (reportedly the lowest among Big 10 institutions) is further evidence of concern about undergraduate education in the corridor and particularly the Twin Cities.
- Moreover, although several institutions provide continuing education and the U provides continuing education and extension to some 40,000 individuals, only a handful of programs are available that would enable an individual to get a degree on a part-time basis. With the U's increasing research emphasis, as articulated by Commitment to Focus, the College of Continuing Education and Extension is making a transition from being student demand driven to faculty-resource driven, leaving an even larger gap in the continuing education market. The U fears it simply would not have the resources needed to meet an expected huge demand for part-time degree courses. Unfortunately, Minnesota lacks the breadth of other institutions to fully pick up the slack in this area.
- In the Twin Cities, students who are not comfortable with the style or quality of undergraduate education at the U currently have no traditional 4-year public university alternative. Thus, students in the area commute to St. Cloud; move away from home to attend college; attend a community college, TI, or private institution; or attend Metro State at the upper-division level (for adults who appreciate that kind of educational alternative).
- In the Rochester/Winona area, Winona State and Rochester CC are increasingly adept at meeting undergraduate needs in nontechnical areas. But the Rochester region lacks an institution that can meet

the more advanced technical needs at the upper division and graduate levels that have been identified and documented in the region. To date, the U has not satisfactorily responded to the upper-division and continuing education needs of this area (especially in the technical fields), although plans are being developed to initiate some kind of program in the future.

- In St. Cloud, there is a more generalized need for "more" higher education, especially at the undergraduate level and in continuing education. St. Cloud is clearly overcrowded, and there is no community college in that area.
- In terms of the mix of institutions, the urban corridor appears best covered at the lower division of undergraduate education, especially because of the geographic dispersion of the community colleges and the technical institutes. Growth in the community colleges, however, indicates the potential need for either more institutions or expansion in existing capacity--particularly to meet the needs in St. Paul and St. Cloud, which have no community college. The other major issue at the lower-division level is the growing demand for more broadly trained technicians rather than narrowly trained vocational ed students. The challenge is for the TIs to move beyond their traditional role in meeting these needs, and it appears that many have begun to do so.

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Given this systemic look at Minnesota's higher education enterprise, the succeeding sections provide analysis and findings on the urban corridor's changing patterns of demand and current conditions of capacity and program offerings.

## VI CHANGING DEMAND FOR HIGHER EDUCATION

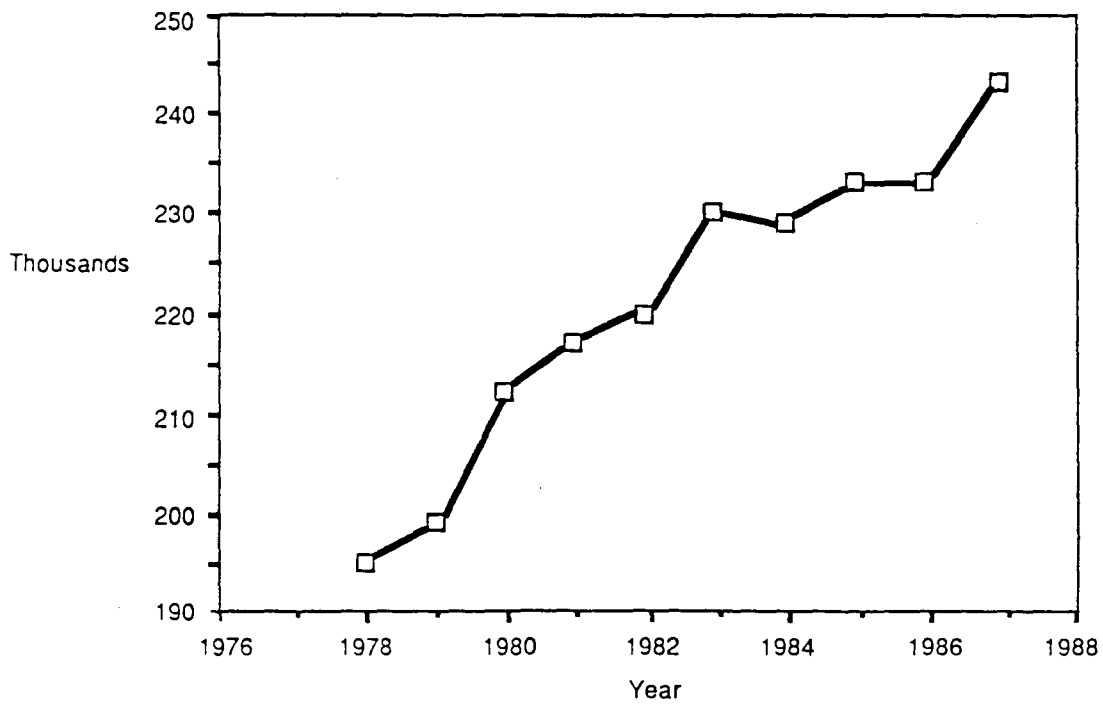
This section summarizes the major research findings pertaining to recent and emerging trends in the demand for postsecondary education in the urban corridor.

As appropriate, we distinguish between the postsecondary education needs of the Twin Cities and the communities of St. Cloud and Rochester or Winona. Unless otherwise noted, our observations about postsecondary demand in the population corridor pertain equally to the parts of the corridor and to the whole. Statistics for "today" or "now" refer to 1987, the most recent year for which data are available.

### Overall Major Enrollment Trends

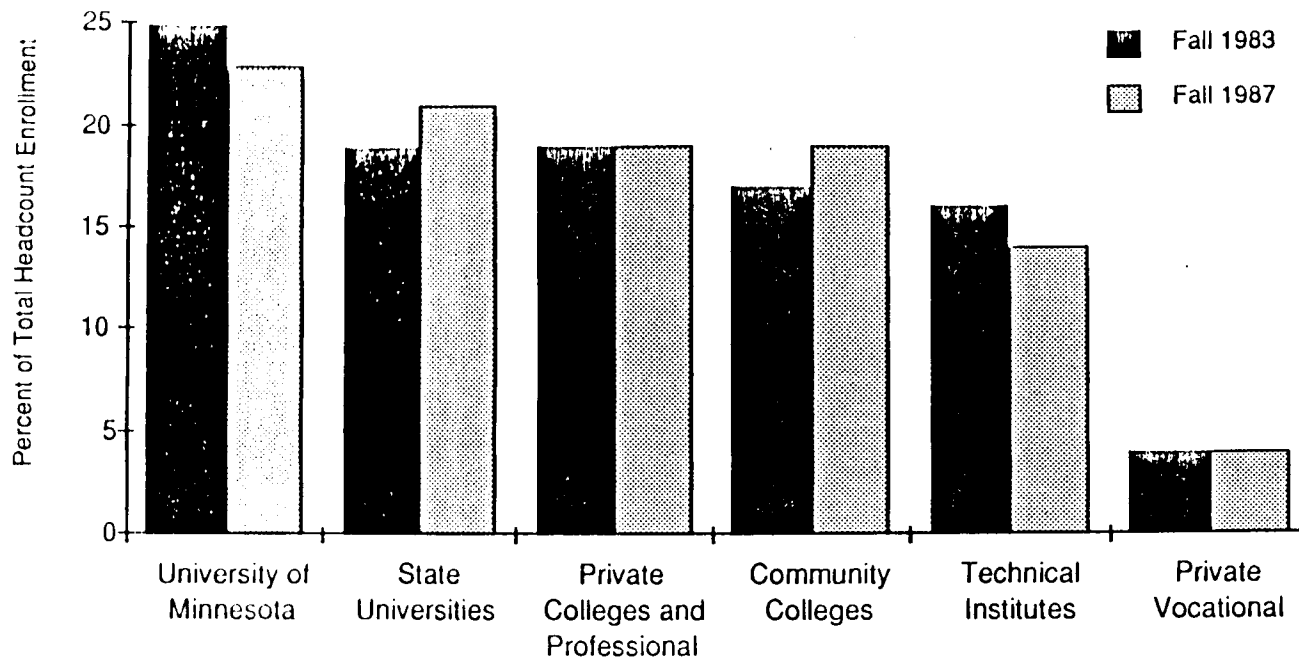
#### Total Enrollment

- Minnesota's postsecondary institutions now serve about 14,000 more students than 5 years ago. Five years ago total headcount enrollment was 230,000; in 1987 it was approximately 244,000 students (see Figure 13).
- In the past 5 years, postsecondary headcount enrollments have changed dramatically, increasing by 20% at the community colleges and the state universities and by 10% at the private colleges and professional schools, while decreasing at the technical institutes, the private vocational schools, and the University of Minnesota.
- Today there are substantially more students enrolled at the state universities (+8,600 students), at the community colleges (+7,400) and at the private colleges and professional schools (+3,900) than 5 years ago. At the same time, fewer students are now enrolled at the continuous programs of the technical institutes (-3,500 students) and at the University of Minnesota (-2,000) than 5 years ago.
- Today, for every 100 students enrolled in a Minnesota postsecondary institution, 23 are at the University of Minnesota, 21 at a state university, 19 at a community college, 19 at a private college or professional school, 14 at a technical institute, and 4 at a private vocational school. Despite changing headcount enrollments, the proportion of students attending the various types of postsecondary institutions in the state 5 years ago was roughly the same as it is today (see Figure 14).



Source: HECB

**FIGURE 13** GROWTH IN MINNESOTA POSTSECONDARY EDUCATION HEADCOUNT ENROLLMENT (Fall 1978-1987)



Source: SRI International, based on data from HECB.

**FIGURE 14 MINNESOTA POSTSECONDARY EDUCATION  
HEADCOUNT ENROLLMENT BY TYPE OF INSTITUTION,  
(1983, 1987)**

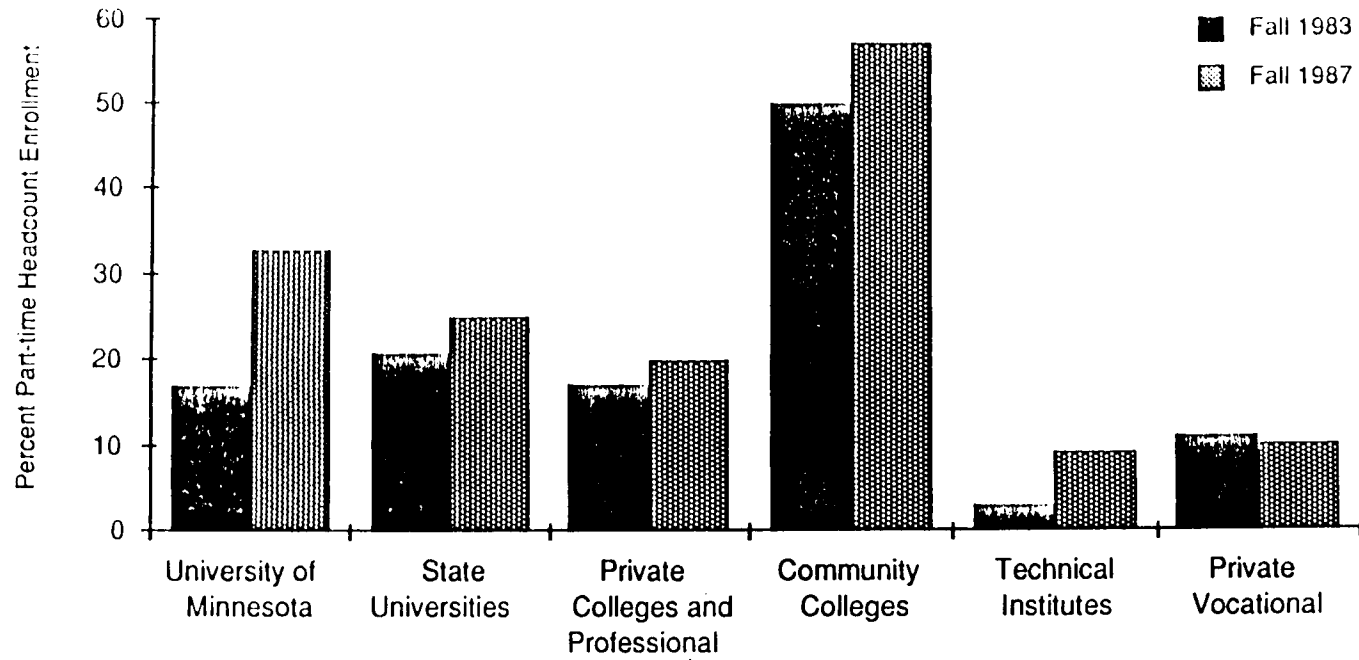
## Full-time and Part-time Students

- In all, 71,000 part-time students are now enrolled in Minnesota. About 61,000 part-time students attend Minnesota's public postsecondary institutions and another 10,000 attend private institutions.
- In the past 5 years, the proportion of part-time students has increased substantially in all types of institutions, except in the private vocational schools. Today, Minnesota's postsecondary institutions serve 23,000 more part-time students and 9,000 fewer full-time students than 5 years ago.
- Part-time students now constitute about 30% of the total postsecondary enrollment in Minnesota. Almost two-thirds of the students in Minnesota's community colleges, one-third of the University of Minnesota's students, one-fourth of the state universities' students, and one-fifth of the students at private colleges and professional schools are enrolled part-time. More than 26,000 are enrolled in community colleges; almost 19,000 part-time students are enrolled at the University of Minnesota; an additional 13,000 are at the state universities and about 3,000 more at the technical institutes (see Figure 15).
- Today the University of Minnesota has almost twice as many part-time students (about 19,000) as it had 5 years ago. Over the past 5 years, the number of full-time students has dropped from approximately 48,000 to 37,000.

## Gender and Ethnicity

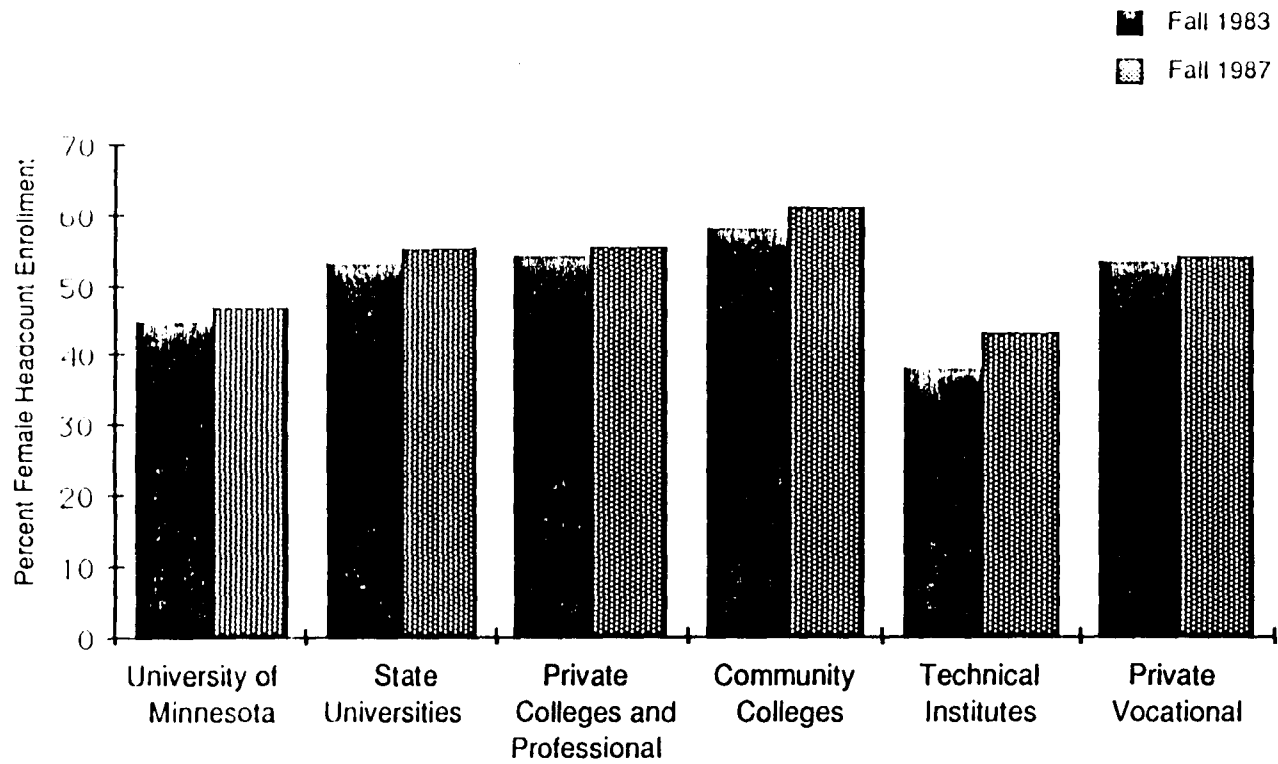
- Minnesota currently enrolls more than 128,000 female students and almost 116,000 male students in postsecondary institutions (Fall 1987). Whereas the total number of male students enrolled in postsecondary institutions is about the same as it was 5 years ago, today there are almost 16,000 more female students enrolled in postsecondary institutions than 5 years ago. Female students outnumber male students by almost 13,000 and account for 53% of the total postsecondary enrollment in the state.
- About 61% of the students at Minnesota's community colleges are female; about 55% are female, at the state universities, private colleges, and private vocational schools. Female students constitute 47% of the total enrollment at the University of Minnesota and 43% of the enrollment at the technical institutes. In the past 5 years, the proportion of female students has continued to grow in all types of institutions (see Figure 16).
- In the past 5 years, the number of minority students enrolled in postsecondary institutions increased by about 2,000 students. In Fall 1983, there were about 9,450 minority students enrolled in Minnesota postsecondary education; by Fall 1987, there were about 11,300. In Fall 1988, the number of minority students exceeded 12,000. In addition, approximately 5,000 nonresident alien students are now enrolled in Minnesota institutions.





Source: SRI International, based on data from HECB.

**FIGURE 15 MINNESOTA POSTSECONDARY EDUCATION  
FULL-TIME AND PART-TIME ENROLLMENT BY TYPE OF INSTITUTION,  
(1983, 1987)**



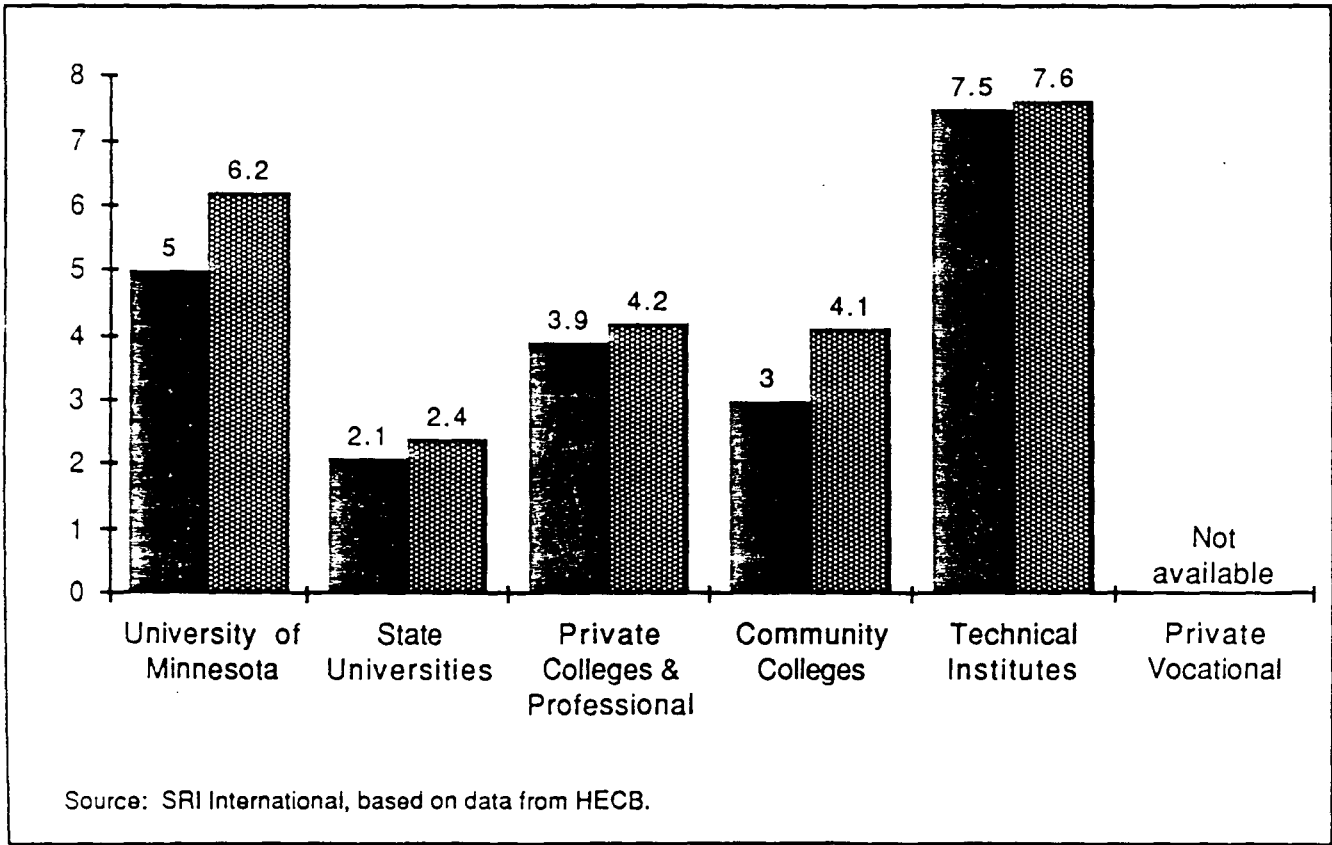
Source: SRI International, based on data from HECB.

**FIGURE 16 MINNESOTA POSTSECONDARY EDUCATION  
FEMALE ENROLLMENT BY TYPE OF INSTITUTION,  
(1983, 1987)**

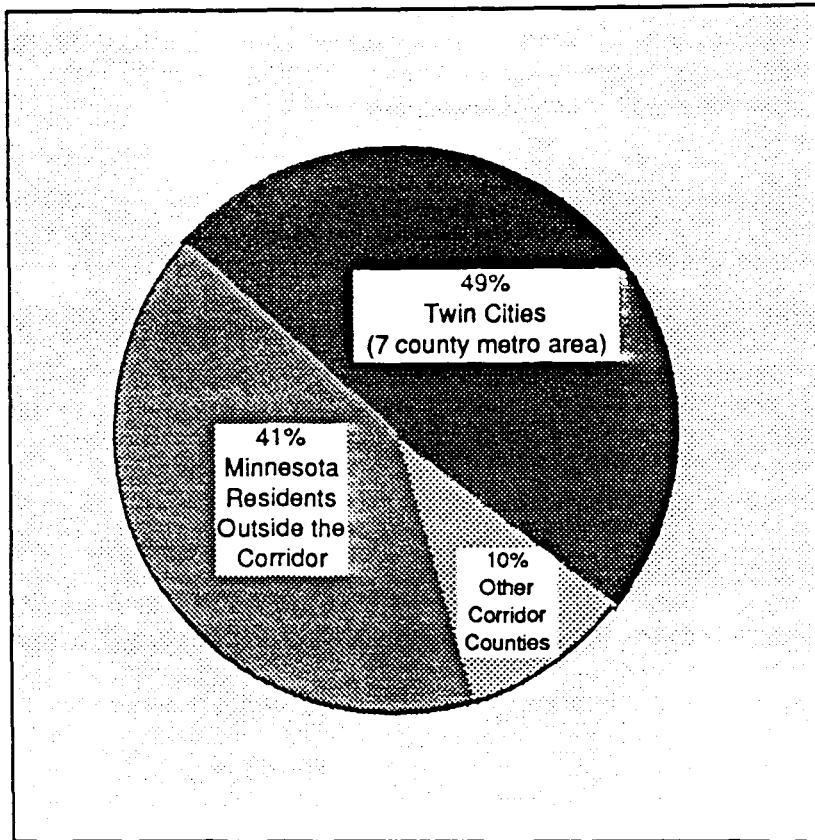
- The proportion of minority students in all sectors of postsecondary education has increased over the past 5 years. Overall, minority students account for about 5% of total headcount enrollment; another 2% of total enrollment is resident alien students.
- In Fall 1987, the University of Minnesota enrolled the largest number of minority students, about 3,500 (6.2% of its regular student enrollment--excluding extension). The technical institute system accounted for an additional 2,650 minority students (7.6% of its total enrollment); and the community colleges and the state universities reported about 1,900 and 1,300 minority students, respectively. Minnesota's private colleges and professional schools also enrolled about 2,000 minority students (see Figure 17).
- Both HECB enrollment data and the results of our focus groups on minority student issues strongly suggest that, despite the increasing numbers of minority students admitted to postsecondary education in Minnesota over the past several years, those minority students who do avail themselves of postsecondary schooling tend to be concentrated in a few institutions within each system. According to focus group participants, many minorities may not find supportive environments in Minnesota's postsecondary institutions.
- The Minnesota State Department of Education reports that nearly half of the K-12 enrollment in the Minneapolis school district (the largest in the state) and a substantial proportion of the enrollment in the St. Paul school district are minority students, many economically and educationally disadvantaged.
- Coupled with the recent revelation that nearly half of all black high school students and over one-quarter of Hispanic students drop out without graduating from high school (based on cumulative dropout rates from 9th through 12th grade) as reported by the governor's Task Force on Minorities in the Twin Cities, these trends indicate a serious deterioration in the historically high achievement levels of public secondary education in the Twin Cities and portend serious challenges for postsecondary education in the immediate future.

#### New Entering Freshmen

- In spite of projected enrollment declines, today there are about 5% more new entering freshmen in Minnesota's postsecondary institutions than 5 years ago--63,000 new entering freshmen in Minnesota in the fall of 1987. About half of new entering freshmen who are Minnesota residents come from the Twin Cities; half from Greater Minnesota. The population corridor accounts for about 60% of new entering freshmen who are Minnesota residents (see Figure 18).



**FIGURE 17 MINNESOTA POSTSECONDARY EDUCATION  
MINORITY ENROLLMENT, BY TYPE OF INSTITUTION  
(1983, 1987)**



Source: SRI International, based on data from HECB

FIGURE 18 COUNTY OF RESIDENCE OF MINNESOTA RESIDENTS WHO ARE NEW ENTERING FRESHMEN, FALL 1987 (approximately 50,000 students)

- The community colleges and the technical institutes each enroll about 17,000 new entering freshmen students, the state universities and the private colleges each approximately 9,000, the University of Minnesota about 6,800, and the private vocational schools about 3,800.
- Today, the state universities, the community colleges, and the technical institutes enroll more new entering freshmen than each did 5 years ago; but, in the case of the technical institutes, the number of continuing students has declined, resulting in an overall decrease in total enrollment over the past 5 years. The University of Minnesota now enrolls about 1,000 fewer new entering freshmen. The private vocational schools enroll about 400 fewer entering freshmen. The private colleges enroll about the same number (-300) of new entering freshmen as 5 years ago but are doing a better job of retention, so that overall enrollments are up.

## Attendance Patterns

### Transfer Students

- Transfer activity among the various institutions in Minnesota is substantially greater today than 5 years ago. Today, more than 12,000 students per year transfer from one institution to another; 5 years ago, yearly transfers among institutions were substantially fewer--less than 4,000 (estimated).
- About one-fourth of all the transfers involve community college students moving on to 4-year institutions. About half of the transfers from the community colleges enroll at a state university; 30% enroll at the University of Minnesota; and another 15% continue their studies at a private college in the state. In addition, more than 1,000 students now transfer among the state universities, the University of Minnesota, the technical institutes, and private colleges. An additional 1,500 students transfer from the technical institutes; the majority of technical institute transfers enroll in another technical institute.
- About 1,700 students transfer to a Minnesota postsecondary institution from a postsecondary institution in one of the reciprocity states (Wisconsin, North Dakota, South Dakota, Iowa). Another 1,400 students transfer into Minnesota from all other states. The extent of transfers from Minnesota to other states is not known.
- Virtually all of the transfer activity among postsecondary institutions results from residents of the Twin Cities (seven-county) metropolitan area. Students who transfer tend to be older than the traditional college student. Over half of all the transfer students are between the ages of 21 and 24, and most of the rest are older. Fewer than 4% are between the ages of 18 and 21. Male and female students are equally represented among the transfers. About 90% of all transfers involve academic rather than vocational students. The

percentage of minority postsecondary students who transfer is substantially higher than the percentage of white, non-Hispanic students.

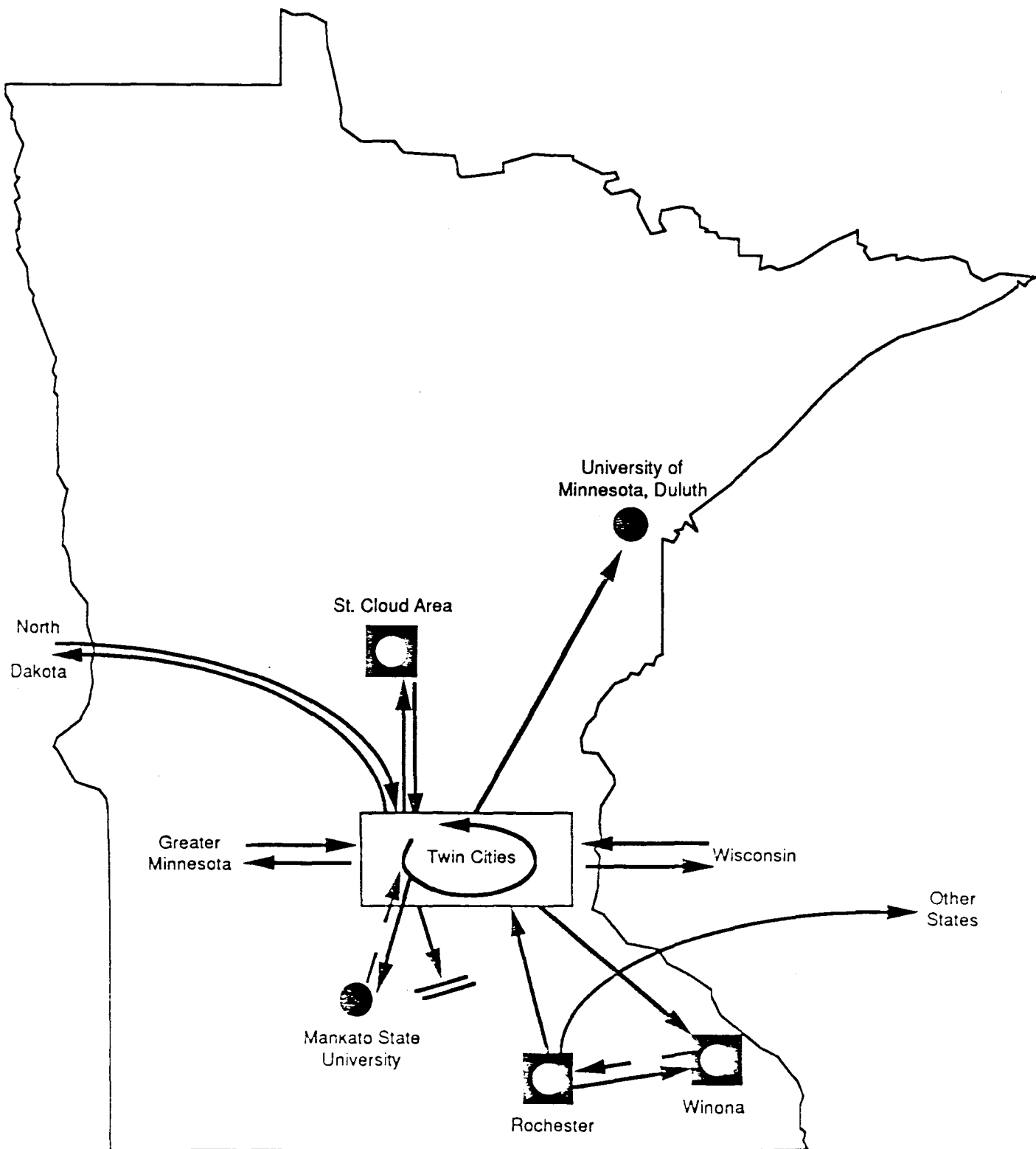
- This increased level of transfer activity increases the importance of effective articulation agreements among the systems and the need for effective counseling, a point that received a surprising degree of concern in project focus groups.

### Institutions Attended

- A dramatic change has taken place in the postsecondary attendance patterns of Minnesota residents. These changes are evident in the slight decline in the number of students attending the University of Minnesota and the substantial decrease in the number of students enrolled in the technical institutes, compared with 5 years ago, and in the significant increases in the number of students enrolling in the state universities, the community colleges, and the private colleges and professional schools in the past 5 years. Over the past 5 years, Minnesotans have tended to enroll more in academic than in vocational programs--slightly less at the University of Minnesota and considerably more at the state universities, the community colleges, and the private colleges and professional schools.
- As the largest population center of the state and the location of the University of Minnesota's main campus, of Metropolitan State, of 6 community colleges, five technical institutes, 21 private colleges and professional schools, and scores of private vocational schools, the Twin Cities metropolitan area is both the source and the destination of many postsecondary students in the state (see Figure 19).

### The University of Minnesota

- At the University of Minnesota, the Twin Cities campus currently has about 44,000 full-time students, the University of Minnesota at Duluth about 7,000 students, and the other campuses fewer than 2,000 students each (Fall 1987).
- At the University of Minnesota (Twin Cities), 65% new entering freshmen come from the seven-county metropolitan area; fewer than 1% from St. Cloud or from Rochester. Almost 70% of the new entering freshmen at the University of Minnesota (Twin Cities) and 56% of all the new entering freshmen enrolled at the University of Minnesota system-wide are residents of the population corridor. About 20% of the students who enroll at the U of M, Duluth come from the Twin Cities; 25% from the population corridor.



Source: SRI International, based on from HECB

**FIGURE 19 MAJOR FLOWS OF STUDENTS AND POST-SECONDARY SERVICES IN/OUT OF THREE URBAN CENTERS IN MINNESOTA**

— Students  
 - - Extension programs



## The State Universities

- For the state universities, in the past 5 years the largest increases in enrollment have occurred at institutions in the corridor-- St. Cloud (+3,300), Metropolitan (+1,500), Winona (+1,500), and Mankato (plus +1,200). At Bemidji, total enrollment is about the same as it was 5 years ago. Of the seven state universities, only Mankato and St. Cloud have more than 15,000 students. The other five campuses have less than half that number of students. The enrollment of Metropolitan is mostly part-time, and does not include any lower-division (freshmen or sophomore) students (Fall 1987).
- Twenty-seven percent of the new entering freshmen in the state universities are residents of the Twin Cities (seven-county) area. Residents of the seven-county metro area and of the St. Cloud to Rochester population corridor account for the following proportions of the new entering freshmen at the Minnesota state universities:

<u>Institution</u>	<u>Seven-County Area</u>	<u>Population Corridor</u>
Bemidji	18%	22%
Mankato	36%	46%
Moorhead	8%	11%
St. Cloud	36%	66%
Winona	23%	42%
Southwest	9%	14%
Metropolitan	Not applicable	Not applicable

- Residents of the Twin Cities seven-county metro area constitute about a third of the total enrollment of both Mankato and St. Cloud. Mankato's enrollment, more so than St. Cloud's, reflects enrollment in courses offered through extension in the Minneapolis area. About one-quarter of Winona State's total enrollment is residents of the Twin Cities; almost 20% of Bemidji's enrollment is Twin City residents.
- Today, the total enrollment at St. Cloud exceeds 17,000; at Mankato it is 15,500 students; Winona serves 5,400 students; and Metro State has 3,750 in its upper division and in a limited number of graduate programs.

## The Community Colleges

- For the community colleges the most dramatic changes in the past 5 years have been the substantial increase in the number of part-time students and the continuing increase in the number and proportion of female students. Compared with 5 years ago, the community colleges today enroll 7,000 more part-time students.
- All community colleges in the corridor have experienced increases in enrollments in the past 5 years. The largest increases have occurred at Normandale (+1,400 students), Inver Hills (+800), and Lakewood (+450). Also, North Hennepin and Rochester each serve about 300 more students today than 5 years ago. The largest community college enrollments are at Normandale (over 8,000), North Hennepin (5,300), Anoka-Ramsey including Cambridge Center (over 5,100), Lakewood (4,800), Inver Hills (4,500), Rochester (over 3,500), and Minneapolis Community College (3,100).
- In the Twin Cities, the community colleges tend to enroll students from their own local areas. Community colleges outside the metropolitan areas of the state tend to enroll students from a wider geographic region in proximity to the particular community college campus.
- Of the community colleges in the seven-county metro area, the proportion of new entering freshmen whose county of residence is in the metro area are: Anoka-Ramsey CC (68%); Inver Hills CC (85%); Lakewood CC (87%); Minneapolis CC (96%); Normandale CC (92%); and North Hennepin CC (88%).
- For the remainder of the community colleges, i.e., those located outside the seven-county metro area, only Arrowhead-Vermilion CC draws a significant proportion of its new entering freshmen (13%) from the Twin Cities area.
- Sixty-three percent of the 1,200 new entering freshmen enrolled at Rochester CC come from the Rochester metropolitan area; the remainder come from the surrounding area.
- There are approximately 200 residents of St. Cloud enrolled as new entering freshmen in various community colleges, notably at Anoka-Ramsey CC and North Hennepin CC, with some also enrolled at Clearwater-Brainer CC and Wilmar CC.

## The Technical Institutes

- For the 30 technical institutes, the past 5 years have been characterized generally by a steady decline in total headcount enrollment in continuous programs. A greater proportion of the students now at the technical institutes are attending part-time, and a greater proportion are females than 5 years ago. Still, over 90% of the students enrolled in the technical institutes are attending full-time and 57% are male students.

- About 25% of the students designated as new entering freshmen in the technical institute system reside in the Twin Cities (seven-county) area. Thirty-seven percent of the new entering freshmen in the TIs are from the population corridor; 63% are from outside the population corridor.
- Five technical institutes serve a significant number of new entering freshmen from the Twin Cities metro area: Anoka TI (444 students, 65% of its new freshmen enrollment), Dakota County TI (737 students, 79%), Minneapolis TI (312, 98%), Northeast Metro TI (1,544, 83%), St. Paul TI (873, 74%).
- The St. Cloud area is served primarily by the St. Cloud TI, which enrolls about 600 of the 750 new entering freshmen from that area. The remainder of new entering freshmen from St. Cloud are enrolled in various TIs, notably at Alexandria TI (49 new entering freshmen from the St. Cloud area, 8% of its new entering freshmen enrollment), Anoka TI (54 students, 8%), and Willmar TI (30 students, 4%).
- The Rochester area, in addition to the well-publicized efforts documenting the need for and interest in upper-division and applied biomedical and technical graduate/research programs, has some needs distinct from those typically characterized as Mayo and IBM interests, primarily served by the Rochester Technical Institute. The Rochester TI has--and plans to continue--links with many of the smaller firms in the Rochester area, especially to provide broader technical education.

#### Private Colleges and Professional Schools

- When aggregate enrollment in private 4-year and 2-year colleges and private professional schools are considered together, total enrollment in private collegiate institutions in Minnesota exceeds 47,000 students (Fall 1987). Five years ago, total enrollment was about 43,000. Thus, enrollment in this private sector of postsecondary education has increased by 9% in the past 5 years.
- Relative to the total enrollments of the four public systems, private colleges and professional schools educate about as many students as the community colleges, or only about 5,000 fewer students than the state universities.
- As a group, Minnesota's private colleges and professional schools today enroll about as many full-time students as are at the Minnesota State Universities, and 1,500 more full-time regular students than are enrolled at the University of Minnesota.
- Of the private colleges and professional schools, St. Thomas is the only institution that enrolled more than 5,000 students throughout the past 5 years. Its current enrollment (Fall 1987) is about 8,200 students. The next-largest private college is St. Olaf with an

enrollment of 3,100. In the past 5 years, some individual institutions in this category have experienced substantial changes in enrollments (some up, some down), relative to their size. A number of 2-year institutions have closed in the past 5 years as a result, and St. Theresa in Winona has recently announced its closing.

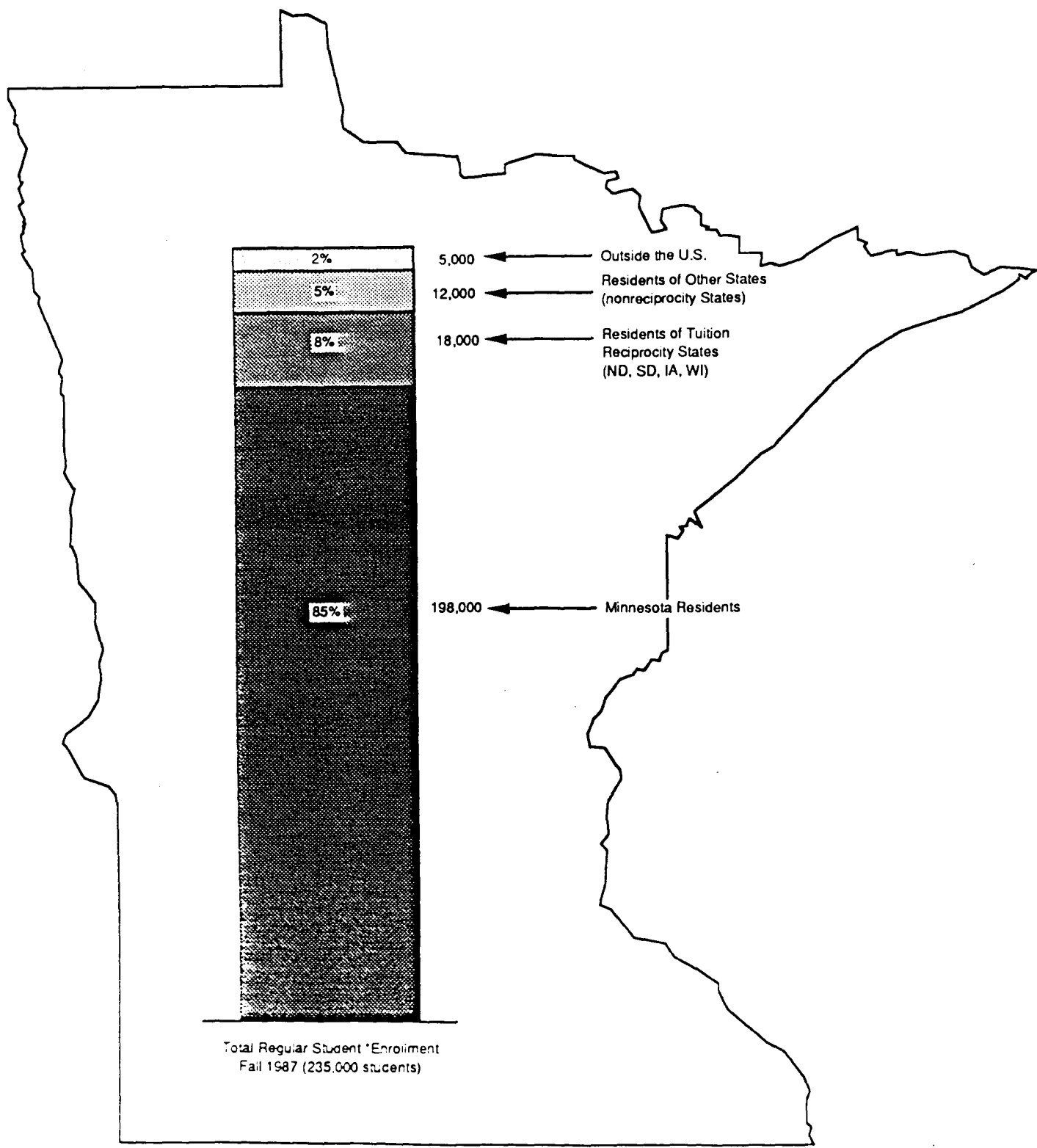
### Private Vocational Schools

- Private vocational schools account for about 4% of the total postsecondary enrollment in the state, a relatively small proportion of the total postsecondary enrollment in Minnesota.
- The most distinctive feature of the private vocational schools is their relatively small size compared with any other type of postsecondary institution in Minnesota. Only four serve more than 500 students. Of the 61 private vocational schools in the state, 16 reported fewer than 50 students in Fall 1987.

### Tuition Reciprocity and Attendance Patterns

As a means of expanding student choice, Minnesota has tuition reciprocity agreements with four neighboring states: North Dakota, South Dakota, Wisconsin, and Iowa (certain institutions). Through these reciprocity agreements, Minnesota residents who attend a public postsecondary institution in a reciprocity state will be charged the in-state tuition rate (rather than out-of-state tuition, which is significantly higher). Similarly, residents of the four neighboring states attending a public institution in Minnesota pay in-state tuition in Minnesota.

- Of Minnesota's total postsecondary enrollment, approximately 85% are in-state residents; 15% are from outside Minnesota--about half of those are from the reciprocity states (see Figure 17).
- About 10,000 Minnesota residents attend postsecondary institutions in the four reciprocity states, while approximately 18,000 students from reciprocity states enroll in Minnesota.
- It is speculated that recent tuition increases in Wisconsin may increase the number of Wisconsin residents who enroll in Minnesota. Apparently, Wisconsin has established enrollment limits at the Wisconsin institutions closest to Minnesota: Stout, Eau Claire, and River Falls. Any significant changes in the reciprocity arrangements between Minnesota and its neighboring states would have an impact on Minnesota residents or Minnesota's postsecondary institutions. The impact of reciprocity on postsecondary demand and attendance in Minnesota bears close watching.



Source: SRI International, based on data from HECB

**FIGURE 20 RESIDENTIAL ORIGINS OF MINNESOTA'S POSTSECONDARY STUDENTS**

• Excludes University of Minnesota continuing education, and extension, or summer session students, not also enrolled as regular students in the fall quarter.

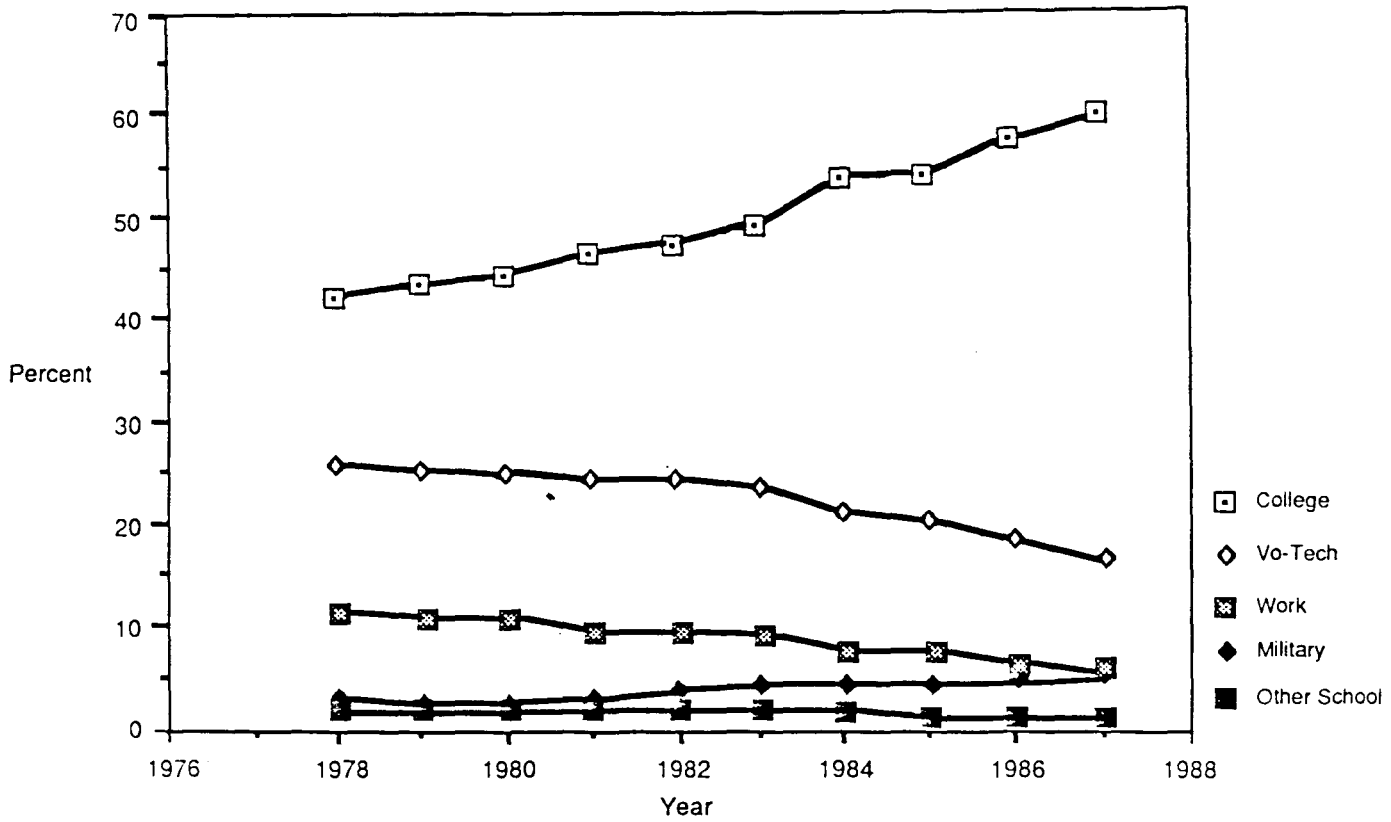
- The net loss in total enrollments vis-a-vis reciprocity states is a cause for concern to some educators and policymakers in Minnesota. The current tuition reciprocity arrangements may provide both advantages and disadvantages for Minnesota. It does seem clear that Minnesota lacks the kind of comprehensive, applied technical programs and close industry- education linkages exemplified by the University of Wisconsin--Stout.

### High School Student Participation

- In general, the participation rate of high school graduates is remarkably high throughout the state, as it has been for years. Data on high school students who do not subsequently participate in postsecondary education is virtually nonexistent. This is a problem in every state, not just Minnesota. However, there are indications that high school students in some areas are not participating in postsecondary education to the extent that the majority of Minnesota's high school students do.
- According to information from our focus group discussions and from discussions with educators and civic and community leaders conducted at the beginning of this project, there is cause for concern regarding the condition of elementary and secondary education in certain school districts, especially in parts of the Twin Cities. This greatly affects the postsecondary opportunities of high school students in those districts and the quality of students entering postsecondary institutions.
- Information from the HECB Post-High School Planning Program indicates a growing preference for collegiate rather than vocational education. Those preferences are reflected in recent enrollment patterns. Focus group discussions with employers further reinforce the need for more comprehensive lower-division postsecondary education, as has been offered in the community colleges and is beginning to be offered in more technical institutes (see Figure 21).

### High-Ability Students

- Over all, Minnesota does a remarkable job of enrolling recent high school graduates in postsecondary education. It is a well-known fact that a very high proportion of Minnesota high school graduates participate in postsecondary education. This is especially true of high-ability students in the state. Our recently completed survey of high school graduates indicates that 98% of high-ability students (top 10% on verbal and math ability combined) attended a post-secondary institution within a year of graduation. Remarkably, 95% of a more random sample of high school graduates (from the top three-fourths on ability) also reported attending a postsecondary institution.



Source: Minnesota Post-High School  
Planning Program/HECB

**FIGURE 21 POST-HIGH SCHOOL PLANS OF MINNESOTA  
HIGH SCHOOL JUNIORS (1978-1987)**

- Virtually all the recent high school graduates surveyed, regardless of ability, indicated that they enrolled in a postsecondary institution full-time. Only 10 of 1,200 respondents (fewer than 1%) said they were attending less than half-time.
- Seventy percent of Minnesota's high-ability high school graduates attend postsecondary institutions in the state, compared with about 75% of a more random sample of students surveyed.
- Of the high-ability students from Minnesota who attend college outside the state, fewer than half attend an institution in a contiguous state (in North Dakota, South Dakota, Iowa, or Wisconsin). This compares with about 66% of the random sample of high school students who attended an institution outside of Minnesota.

### Older Students and Adult Learners

- Forty percent of the Minnesota total postsecondary enrollment consists of "older" students age 25 or older; nearly 100,000 students are over the age of 24. The average age of Minnesota's older students is 34. Excluding graduate and professional students 25 years of age and older, who account for about 20,000 students, there are about 80,000 so called "adult learners." In addition, some 40,000 students are enrolled in extension and continuing education courses at the University over the course of an entire year. According to sources at the U, approximately 10,000 students also attend day school. In all, this amounts to an additional 7,500 full-time equivalent students. The vast majority of these students are "adult learners."
- Today, students over the age of 24 account for over 20% of all the new entering first-time students each fall. About one-fourth of all older students in Minnesota, enroll primarily in vocational or technical training; three-fourths are enrolled primarily in academic courses of study. Nearly 60,000 older students are classified as continuing students; over 13,000 are new to the institution in which they enroll; over 9,000 are readmitted students (who interrupted their studies); and over 7,000 are undergraduate transfers.
- Overall, the proportion of male and female students above the age of 24 is similar to the proportion of males and females in the entire postsecondary enrollment in the state. However, the distribution of older students by gender varies greatly among the types of institutions in the state. A higher and growing proportion of the community college enrollments and, to a slightly lesser extent the enrollment of the state universities, are female, part-time students over the age of 24. Even at the technical institutes, where the proportion of male to female students (60/40) is the reverse of what it is at the community colleges, the proportion of older, part-time students, especially females, has increased substantially in the past 5 years.



- Ninety-three percent of the enrollment of older students in the entire state of Minnesota is accounted for by residents of the Twin Cities (seven-county) metropolitan area. (Note: This includes graduate and professional enrollment, most of which takes place in the Twin Cities.)
- Based on our survey of adult students, there are strong indications that the recent substantial increase in adult participation, which some have suggested may be only a short-lived phenomenon in response to a number of economic or social factors, reflects a fundamental change (an intensification, if you will) in people's views about the importance of education to their economic well-being. Rather than a temporary period of increased demand for further education on the part of adults, we expect the higher postsecondary participation rates of people 25 years and older to continue if not expand in the future.
- Almost 70% of the adults currently attending postsecondary institutions indicated that they expect to return to school in the future, and three out of four of the adults surveyed indicated that they would be seeking degrees when they go back to school. According to our survey of adult students, the vast majority of adult demand is career-oriented.
- Of the adults surveyed who are currently enrolled in postsecondary education, one-fourth expect to attain a 4-year degree; another half aspire to a graduate or professional degree.
- Adult students rated the following factors as very important in selecting a school: quality of faculty, class schedules that allow for employment, the availability of courses in their area of interest, being able to apply courses to the degree, convenience to home, and low-cost tuition.
- In general, the adult students surveyed expressed positive feelings about the quality of education available generally in their area, and also felt positively about the variety of programs and courses offered. They expressed mixed feelings about student support services (for adults) and about the affordability of education in their area. There was a strong consensus about the importance of education beyond high school in getting and keeping a good job in Minnesota.
- The adult participants surveyed in the St. Cloud and Rochester areas were somewhat less favorable in their assessment of the availability, variety, and quality of programs available to adults in their areas than were residents of the Twin Cities.

## Projected Enrollment

- Recent estimates from the U.S. Department of Education suggest that the next 10 years will be a period of slight decline in total post-secondary enrollment nationally. Total enrollment is expected to decrease about 3% overall from 12.6 million students in 1988 to an estimated 12.2 million in 1997, with the expected decrease mostly attributable to a decline in the number of full-time students across all sectors.
- In Minnesota there are strong indications that postsecondary enrollment trends, especially in the population corridor, are likely to increase and run counter to the national trend in the next 10 years. The latest HECB projections indicate that statewide total headcount enrollment is expected to continue to increase (slightly) through next year, to decline about 4% until 1994-95, and then to resume gradual growth in the latter half of the next decade. Independent projections from the four public systems, while differing somewhat in detail from MHECB's projections, generally support the view that overall enrollments will increase rather than decrease in the next 10 years.
- Historically, HECB projections have done a good job of anticipating the level and changes in traditional student enrollment, but recently, with the unexpected increase in older, nontraditional students, HECB projections failed to predict the substantial increase in older students' demand and have tended to be lower than actual enrollment. Because of the growing importance of adult demand in the corridor, this suggests that total headcount enrollment in the corridor may, in fact, not level off over the next several years as HECB suggests, and that it may increase at an even a greater rate once the size of the 18- to 21-year-old cohort again increases after 1994-95.
- In our view, the sum of the evidence on emerging trends in postsecondary demand suggests that Minnesota may be substantially underestimating the growing needs of older and part-time students, especially in the Twin Cities metropolitan area. (The extent to which Minnesota is prepared to respond to the changing needs in the population corridor is discussed in the next chapter on institutional capacity and program availability.)

## Implications

Overall, the impression that emerges from the information we were able to collect and review about demand is as follows:

- The demand for postsecondary education throughout the corridor is considerable, growing, and heterogeneous. What we would expect from our analysis of the changing environment is indeed being translated into new demands for higher education services in Minnesota.

- Today, in Minnesota as elsewhere, there are two distinct groups of people enrolled in postsecondary institutions with unique educational needs: traditional students, recent high school graduates in their late teens and early twenties, mostly attending full-time and working part-time; and nontraditional students, over 24 years of age, many returning to school after years in the workforce or in the home, and others continuing their education and training to upgrade their skills or obtain advanced degrees.
- The growing adult demand for postsecondary education is evident throughout the corridor and is obviously largest in the Twin Cities area (particularly in the western and southwestern part of Minneapolis and in St. Paul), but it is also strongly apparent in the Rochester area and is growing in the St. Cloud area and along the interstate north of the Twin Cities. The evidence in Minnesota, supported by the experience of other leading states, strongly suggests that adults today view education as a life-long process, and that the extraordinarily high adult demand in the urban corridor will continue. This trend implies greater pressure for better course and program scheduling, counseling, and support services, and a growing need to revise curricular content to meet the particular needs of older students while maintaining the quality of education for traditional students.
- The shift from predominantly full-time attendance to an increasing proportion of part-time students has affected virtually every postsecondary institution in the corridor and is most evident in the community colleges, where there are now more part-time than full-time students. Perhaps the most striking evidence of how pervasive this shift from full-time to part-time study has been in recent years is to be found at the University of Minnesota, where the drop in the number of full-time students is matched by a corresponding increase in part-time students. This trend implies that systems will need to serve greater numbers of students in the near future, but that FTE enrollment increases will be more moderate. Changes in funding allocations and capital appropriations may need to be considered in order to keep pace with the projected increases. This also raises concerns about the overall quality of the education provided to part-time compared with full-time students.
- The recent and projected growth in size of Minnesota's minority populations in the Twin Cities brings with it new challenges and opportunities for Minnesota's postsecondary education system. Some of the challenges are already apparent today, at the University of Minnesota or in some of the technical institutes, for example, as they are pressing in the K-12 public schools in the Twin Cities. Some of the opportunities are evidenced in the increasing numbers of minority students participating in postsecondary education, with particularly strong increases in minority enrollments at state universities this year. This trend implies a growing need for postsecondary institutions to address "urban" issues, to train new teachers for multiethnic, multiracial city schools, and to develop

effective outreach programs in neighborhoods and K-12 districts, to maintain access but also improve persistence and degree completion in postsecondary education.

- In sum, the implications for the population corridor as a whole are that there will be greater demand for postsecondary education in certain areas of projected high population growth in suburban areas, while at the same time there is a growing need to respond better to the changing demand for postsecondary education in areas of sustained demand but relatively slower growth in the urban areas. The implications for the different parts of the corridor are unique and distinct:
  - For the Twin Cities, this implies greater pressure to develop a more effective "urban" postsecondary education system that is responsive to a population that is increasingly place-bound, time-bound, a mix of older and younger students, and rapidly becoming culturally more diverse.
  - For the St. Cloud area (and along the interstate north from the Twin Cities), current population projections imply further increase in demand, especially for general lower-division education.
  - For the Rochester area, this implies a continuing demand for both graduate-level and broader and more up-to-date technical and lower division education.
- There is growing demand for collegiate rather than vocational education, yet the need for up-to-date, technical lower-division training also exists. This fact implies an expansion of capacity in academic programs, as well as a broadening and upgrading of vocational curriculum--processes that have already begun. Coupled with increased transfer activity among institutions and systems, there is a pressing need to make courses within similar program areas more complementary, a need to monitor better the quality of education earned in the course of attending several institutions, and a better system of shared (transcript) information to monitor student progress and degree completion.
- The dynamic nature of today's postsecondary demand implies a need for better monitoring of trends and an improved ability to forecast major changes (witness the furor over recent HECB enrollment projections). Because the demand is much more heterogeneous today, managing postsecondary education requires better information than in the past. The strategic planning processes of the systems are a step in the right direction, but macro-level policy analysis is also needed.

The dramatic changes in postsecondary demand that have taken place in recent years in Minnesota signal that Minnesota's postsecondary needs are now more heterogeneous and much more dynamic than they were in the past. Better information is needed to understand that demand, to anticipate and plan for

change, and to manage the state's system of postsecondary education more effectively to meet that demand. To assess Minnesota's capacity to deal with present and projected demand, the next section provides a synopsis of our analysis of institutional capacity and program availability.

## VII CURRENT CAPACITY AND PROGRAM AVAILABILITY

This section of the report considers the capacity of current postsecondary institutions in the corridor to expand their services to meet the needs of the area's population. As a first step, we sought to identify excess capacity within current institutions to serve greater numbers of students, especially the so-called "nontraditional" student, with a minimum investment of new resources. We also considered the capacity of current institutions to respond to identified needs through building on current strengths.

Our concept of capacity is built on several factors. Obviously, physical capacity (buildings and equipment) is a major component, but we also considered staffing levels, reputation, policies, and supporting services that are required to attract and to serve new or existing populations (see Table 6).

Another major component of an institution's capacity is the inventory of programs that it offers (see Table 7). Since prior approval of the HECB is now required to offer additional programs, the program capacity of corridor institutions is a shared responsibility of the individual institutions and the state.

The analytic approach included an invitation to all postsecondary education institutions in the corridor to provide capacity-related information. Due to the project's tight time constraints, many institutions (including the U and several private and proprietary institutions) did not respond in time to be included in this analysis. Accordingly, our assessment is not complete at this point. We believe, however, that the general findings accurately portray educational capacity in the corridor.

### Overall Assessment of the Population Corridor

With several exceptions, postsecondary educational capacity across the corridor follows a fairly similar pattern:

- Most campuses are relatively tight on facilities when compared with national norms. Significant increases in enrollment will require additional facilities.
- Most campuses also have already high student-faculty ratios for their respective types of institutions. Few additional students could be served with current staff.

**Table 6**

**CAPACITY OF MINNESOTA POSTSECONDARY  
INSTITUTIONS COMPARED TO NATIONAL NORM**

<b>Capacity Measure</b>		<b>University</b>	<b>Two-Year</b>	<b>Four-Year</b>
Gross square feet per FTE student	Minn	N/A	162	55
	Norm	250	175	80
Student-faculty ratio	Minn	N/A	24	28
	Norm	15	17	22

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N/A = University of Minnesota data unavailable at time of report.

Sources: Area comparisons derived from facilities planning guidelines used in 21 states.

Student-faculty ratios derived from funding formulas used in 25 states.

Table 7

**SUMMARY OF PROGRAM AVAILABILITY**  
**Summary of Programs Offered and (Total Degrees Granted), by Region**

Programs (CIP)	Twin Cities Area						St. Cloud Area						Rochester Area					
	Cart	Assoc	Bac	Mast	Doc	Prof	Cart	Assoc	Bac	Mast	Doc	Prof	Cart	Assoc	Bac	Mast	Doc	Prof
Agriculture (01, 02, 03)	7 (144)		15 (314)	11 (94)	9 (55)		1 (3)		1 (1)				2 (19)					
Architecture and environmental design (04)	2 (32)		4 (146)	1 (23)					1 (4)									
Area and ethnic studies (05)			23 (54)	1 (3)	1 (4)				2 (2)									
Business (06, 07, 08)	115 (2081)	27 (319)	33 (2227)	9 (728)	2 (18)		9 (357)	1 (11)	12 (628)	1 (15)			13 (277)	6 (127)	3 (254)	2 (8)		
Communications (09, 10)	3 (85)		15 (526)	2 (43)	2 (10)		1 (18)		3 (76)					1 (10)	1 (34)			
Computer and information sciences (11)	6 (227)	2 (40)	7 (276)	1 (29)	1 (5)				2 (43)						1 (57)			
Consumer and maintenance services (12)		8 (321)	2 (65)	2 (50)									2 (98)		1 (37)			
Education (13)	2 (37)		46 (615)	44 (691)	6 (89)				18 (357)	11 (81)					13 (141)	9 (56)		
Engineering (14, 15)	30 (870)	2 (15)	11 (859)	10 (152)	8 (59)		4 (92)	2 (7)	4 (110)				2 (92)	3 (38)	1 (6)			
Foreign languages (16)			38 (180)	6 (10)	5 (9)				9 (38)									
Health (17, 18)	41 (1325)	20 (569)	17 (591)	28 (360)	6 (29)		5 (78)		9 (100)	1 (7)			8 (223)	3 (191)	4 (121)	9 (19)	1 (1)	
Home economics (19, 20)	18 (559)		19 (160)	2 (16)	1 (2)								2 (44)					
Industrial arts (21)																		
Law (22)				1 (1)		3 (669)												
Letters (23)			19 (417)	5 (28)	5 (20)		1 (1)		4 (130)	1 (4)					2 (13)	1 (3)		
Liberal arts and general studies (24)	9 (298)	14 (1499)	3 (19)	2 (61)				1 (81)	2 (64)				2 (56)	2 (177)	1 (9)			
Library and archival sciences (25)			1 (1)	2 (90)						1 (9)								
Life sciences (26)			20 (423)	13 (62)	15 (77)				4 (81)	1 (3)					1 (16)	1 (1)	2 (2)	
Mathematics (27)	2 (5)		10 (211)	2 (14)	2 (8)				5 (45)						1 (10)			
Military sciences (28, 29)																		
Multi-interdisciplinary studies (30)			14 (899)	2 (16)	1 (2)				6 (56)	1 (7)								
Parks and recreation (31)			3 (38)	1 (13)					1 (36)						1 (14)			
Personal and social development (32, 33, 34, 35, 36, 37)																		
Philosophy, religion and theology (38, 39)	5 (50)		33 (350)	3 (57)	2 (3)	1 (46)			7 (19)	2 (25)		1 (18)	1 (17)		3 (18)			
Physical sciences (40, 41)	1 (23)		25 (330)	4 (35)	6 (38)				7 (49)									
Pre-professional (42)																		
Psychology (43)			11 (477)	2 (11)	2 (27)				3 (118)	2 (14)					2 (28)			
Public affairs and services (44)	2 (44)	5 (142)	10 (110)	5 (38)	1 (3)				5 (109)				2 (42)	1 (3)	3 (26)			
Social sciences (45)	1 (7)		59 (1283)	8 (56)	7 (43)				17 (205)	1 (2)					4 (48)	1 (1)		
Trade and industrial (46, 47, 48, 49)	111 (3082)	4 (29)	1 (4)				14 (291)						14 (274)					
Visual and performing arts (50)	3 (106)		46 (373)	5 (64)	4 (16)		1 (4)		11 (82)	1 (6)					2 (17)	1 (1)		

Source: SRI International based on data from HECB



- The responding systems all report significant levels of planning activity. Most of this is in response to state laws that require the biennial development of strategic plans for each public postsecondary system. This law emphasizes the need for mission differentiation across the systems. Interestingly, the law does not mandate any sort of environmental scanning to identify changing needs and opportunities.
- All public campuses report efforts to serve nontraditional students, primarily through offering evening courses. Nonetheless, the relative ability of evening and weekend bachelor's and graduate programs in the corridor is limited in comparison to other urban areas.
- No public institution (with the known exception of the University of Minnesota TC campus and, more recently, St. Cloud State University) reported using enrollment ceilings.
- Compared to national averages, Minnesota produces significantly fewer degrees at the bachelor's and master's levels in engineering (61% and 68% of the national averages, respectively). Disciplines where Minnesota produces more than the average proportion of graduates include agriculture and health at the graduate levels. At the master's level, for instance, both are about twice the national rate. See Table 8.

Despite these important similarities across the corridor, the Twin Cities area is markedly different from both the St. Cloud and Rochester areas in terms of postsecondary education capacity. The Twin Cities:

- Have the only significant concentration of advanced graduate and professional offerings.
- Have the greatest concentration and range of private higher education opportunities.
- Lack applied graduate programs in many areas that are found elsewhere in Minnesota and, especially, in other metropolitan areas of its size.

Current plans by the University of Minnesota to limit enrollments in selected programs will further distinguish the Twin Cities profile on educational capacity from the range of program offerings and institutional capacity typical of most metropolitan areas its size, as well as those available elsewhere in the corridor.

#### Twin Cities Area

The Twin Cities area has the greatest overall educational capacity of the three areas that comprise the corridor. However, implementation of planned enrollment reductions at the University, along with growing educational needs

Table 8

PERCENTAGE DISTRIBUTION OF DEGREES BY DISCIPLINE  
MINNESOTA VS. NATIONAL AVERAGE

	<u>Bachelor's</u>		<u>Master's</u>		<u>Doctor's</u>	
	U.S.	Minn.	U.S.	Minn.	U.S.	Minn.
Agriculture	2.3	2.3	1.6	3.1	3.8	10.4
Business	23.9	20.4	23.2	22.3	34.1	3.5
Communications	4.3	4.6	1.3	1.2	0.7	1.9
Computer Science	3.9	3.5	2.5	0.9	0.8	1.0
Education	9.1	11.8	26.8	28.0	21.7	17.3
Engineering	9.6	5.8	7.4	5.1	9.8	11.5
Foreign Languages	1.0	1.5	0.6	0.3	1.3	1.7
Health	6.6	6.2	6.1	12.1	3.6	5.7
Home Economics	1.6	1.4	0.8	0.6	0.8	0.4
Letters	3.5	3.7	2.1	1.4	3.8	3.8
Life Sciences	4.0	4.2	1.8	2.2	10.4	14.9
Mathematics	1.6	1.7	1.0	1.1	2.1	1.5
Philosophy/Religion	1.3	2.6	1.9	3.0	4.9	2.3
Physical Sciences	2.4	2.7	2.0	1.5	10.3	7.2
Psychology	4.1	4.0	3.0	2.4	8.8	5.1
Public Affairs	2.5	3.1	6.0	4.5	1.4	0.6
Social Sciences	9.4	9.7	3.7	2.6	8.7	8.1
Visual/Performing Arts	3.8	3.6	3.1	2.6	2.1	3.0
All Other	5.1	7.3	5.1	5.1	2.3	1.1

Source: National Center for Education Statistics, U.S. Department of Education.

of nontraditional students, call into question the capacity of other current institutions to absorb the additional student load. Approximately 40 institutions provide services within the Twin Cities area. Except for the University, the institutions have relatively little capacity to offer research-oriented graduate training. In fact, about half of the institutions offer lower-division instruction only, although some 2+2 arrangements are being considered. Our major observations about each responding sector follow:

#### University of Minnesota

- The University of Minnesota is the Twin Cities' largest and most comprehensive university. It serves 45,703 FTE students with 2,938 FTE faculty. The resulting student-faculty ratio of 16:1 is slightly high for this type of institution. Although exact square footage information was not available, the University reports that it is already operating at above normal capacity levels and will need additional physical resources to offer programs at the desired level of quality.
- The University offers an extraordinarily wide range of programs, reportedly the largest number of programs of any institution in the country. Baccalaureate, master's, and doctoral degrees are available in virtually every field of study. Interestingly, the University also has offered certificate programs in 26 fields of study along with several associate degree programs (now being phased out). This was a relatively unusual practice for a major research university, especially one that is located in a large metropolitan area.

#### State University System

- The State University is represented by two institutions in the Twin Cities. Metropolitan State serves nontraditional students in a variety of leased or borrowed locations, but does not occupy a typical college campus. Mankato State offers several off-campus programs and courses on the south side of the Twin Cities, but also in an atypical setting. Given the limited curricular offerings of the two institutions, adequate equipment is available.
- Metropolitan State's offerings are confined to three fields of study: business, health, and multidisciplinary studies. Mankato offers programs in business, education, health, and public affairs. Both institutions cater to nontraditional students by offering extensive evening courses and programs with no enrollment caps.

#### Community Colleges

- The six community colleges in the area are hindered by limited facilities and sometimes obsolete equipment. The student-faculty

ratios for the six colleges average nearly 29:1--a rate that is comparable to those of other community colleges in the state, but somewhat higher than those of similar colleges in other states. Their average of 53 gross square feet per full-time equivalent (FTE) student also trails space standards used by other states for facilities planning. The community colleges provide special services for nontraditional students and do not enrollment caps.

- The community colleges in the Twin Cities offer a typical range of associate degree and certificate programs. Importantly, the colleges offer courses and programs in many locations beyond their main campuses and offer evening programs for nontraditional students.

### Technical Institutes

- The seven technical institutes also report limited facilities and equipment. Although they experience lower student-faculty ratios (average about 16:1) and more gross square feet per student (207 gsf/FTE) than the community colleges, this mostly reflects programmatic differences, i.e., the extensive use of teaching laboratories. The institutes strive to maintain their reputation for providing high-quality technical education while also attempting to serve nontraditional students.
- The technical institutes offer programs at both the associate degree (jointly with community colleges) and certificate levels. Not surprisingly, the programs are concentrated in business, health, and technical areas.

### Private Colleges

- No private college in the Twin Cities responded to the request for capacity information in time for inclusion in this version of the report.
- Program offerings of the private colleges are mostly at the baccalaureate level, but master's programs are available in business, education, and related areas. Doctoral and professional programs are offered in law and religion.

### St. Cloud Area

In contrast to the Twin Cities, the St. Cloud area has a much more limited capacity in postsecondary education. Only two institutions--St. Cloud State University and St. Cloud Technical Institute--represent the public sector. Overall capacity in private higher education is similarly limited in the area.

## State University System

- St. Cloud State University is perhaps the most fully developed of the State University campuses. In fact, the campus is so well developed that excess capacity is almost nonexistent. Space (about 158 gsf/FTE versus formula norms in other states in the 175 gsf/FTE range) is at such a premium that scheduling further daytime classes is very difficult. Vacant land for parking and building expansion is also very limited. Its student-faculty ratio (about 25:1) significantly exceeds the 19:1 recommended by the legislature and practices in other states. St. Cloud State University tries to reach out to nontraditional students. However, it has been forced to begin limiting program enrollments this year.
- The program offerings of St. Cloud State are typical compared with those of comprehensive colleges in other states, but perhaps are somewhat limited at the graduate level, with offerings concentrated in business, education, and the social sciences. In contrast to the University of Minnesota, St. Cloud State offers no certificate programs and associate programs in only three areas. Numerous programs are available in the evenings.

## Community Colleges

- No community colleges operate in the St. Cloud area.

## Technical Institutes

- St. Cloud Technical Institute shares several capacity-related characteristics with its neighboring state university campus. It caters to nontraditional students, does not limit program enrollments, and enjoys a reputation for high-quality technical education. It also is similar in having a higher-than-average student-faculty ratio (18:1 versus 16:1 elsewhere in the corridor). Further, the institute is more crowded than its sister institutions (175 gsf/FTE versus 208 gsf/FTE).
- The technical institute offers programs at both the certificate and associate degree levels. Business, trade and industrial, engineering technology, and health are the major areas of study.

## Private Colleges

- No private college in the St. Cloud area responded to the request for capacity information in time for inclusion in this version of the report.
- The two private colleges in the area offer programs, mostly at the baccalaureate level, that span most major disciplines except engineering. Master's and professional programs are available in religion.

## Rochester Area

Capacity across all levels and sectors is quite limited in the immediate Rochester area. When Winona is included as part of the area, the capacity profile is somewhat better. The broader area includes Winona State University, Rochester Community College, two technical institutes, and several private colleges.

### State University System

- Winona State University (about 40 miles from Rochester) represents the State University System in the area. Winona reports that it, too, suffers from shortages of faculty, facilities, and equipment. Although its overall 184 gsf/FTE is comparable to similar institutions nationally, classroom utilization is quite high. Likewise, the student-faculty ratio of 24:1 exceeds both the legislatively recommended 19:1 and national norms for this type of university. Winona State attempts to serve the nontraditional student by offering both evening and off-campus classes.
- Winona State offers one certificate program, two associate programs, and a fairly complete range of baccalaureate programs. At the graduate level, its offerings are limited to the master's level and most are in the education discipline. Many programs are offered off-campus and in the evening.
- Also, Winona State shares a 2+2 program with Rochester Community College, which currently serves 1,000 FTE students and more than double that in headcount. A range of programs are offered leading to undergraduate degrees, and master's degrees are offered in business administration, nursing, and counselor education.

### Community Colleges

- Rochester Community College is the second-largest postsecondary institution in the region, and the largest in the immediate Rochester area. Like Winona State, the community college has increasingly obsolete equipment, limited facilities (64 gsf/FTE), and a relatively high student-faculty ratio (27:1). RCC also reaches out to nontraditional students and avoids the use of enrollment limits for its programs.
- The community college offers programs at both the certificate and associate degree levels, primarily in business, health, and general studies. Very few programs are available in the evening. Rochester Community College shares a 2+2 program with Winona State.

### Technical Institutes

- The region has technical institutes in both Winona and Rochester. Although equipment is reportedly in short supply, the institutes have more typical student-faculty ratios (15:1 and 16:1, respectively). With 282 gsf/FTE, Winona Tech appears to have sufficient space for expanded enrollment. Rochester Tech reports 175 gsf/FTE (about average for this type of school). The schools offer high-quality programs to both traditional and nontraditional students and exercise no enrollment limits.
- The technical institutes in the Rochester area offer both certificate and associate-level programs. Business, health and trade, and industrial are the most popular areas of study.

### Private Colleges

- No private college in the Rochester area responded to the request for capacity information in time for inclusion in this version of the report.
- Private higher education in the Rochester area is limited to specialized schools. Accordingly, only small numbers of degrees have been awarded in such disciplines as health, life sciences, and religion. Notably, the area's only doctoral programs are available in the private sector.

### Implications

- Overall, Minnesota's postsecondary institutions, public and private, are working hard at responding to the rapidly changing demands of the population corridor. In terms of accommodating the growing numbers of people interested in postsecondary education, Minnesota's institutions are doing a commendable job. In terms of offering the kinds of programs and education that match the needs of the population today and in the future, there is room for improvement.
- According to the strategic planning documents from the four public systems, capital expansion is not matching enrollment growth in the corridor area. In the Twin Cities, for example, there is little, if any, excess capacity in the public postsecondary institutions now serving the area to meet the growing adult demand. In St. Cloud, the state university is overcrowded and facilities, faculty, and staff are at the limit; the technical institute is also crowded and there is no community college. In the Rochester area, even considering courses offered by Winona State University, capacity is quite limited across all levels.
- There are serious concerns about obsolete equipment and facilities especially in the applied sciences and technical fields (e.g., at the Institute of Technology at the University). All public systems fall short of national norms for capacity.

- Despite an increasing number of evening courses offered, very few complete programs are offered at times convenient to adults, in the evening or on weekends.
- In the Twin Cities area, unlike most metropolitan areas its size, there are no middle-tier institution and, consequently, only a limited range of master's and doctoral-level programs (especially of the type oriented to practitioners).
- Besides programs already approved, such as the undergraduate composites engineering program at Winona State, the systems report no new plans for major program expansion.



## VIII SUMMARY FINDINGS OF KEY ISSUES AND CONCERNS FOR THE CORRIDOR

### Competing Views on Higher Education in Minnesota

Observers of higher education in Minnesota can reasonably reach two views about the needs for higher education in its urban corridor and how well structured the state's higher education system and planning process are to meet future educational challenges.

One view would posit that, compared with most other states, higher education is in relatively good shape in Minnesota. It has an outstanding public research university and six systems of higher education that work reasonably well. The state has supported higher education well on a per capita basis, and there are many areas of outstanding quality throughout the state's higher education enterprise. In short, some observers would say that the situation is "pretty good." And they would be right.

In SRI's view, however, "pretty good" isn't good enough for Minnesota. Higher education has clearly played a critical role in helping Minnesota achieve the special kind of social and economic success it has enjoyed over the years. For higher education to continue to play that role in what will clearly be an even more challenging future, it needs to be among the best systems in the nation, providing a wide array of high-quality educational services and effectively responding to the growing and diverse educational needs of Minnesota and its citizens.

Clearly, as demonstrated in Section III, the environment for higher education in Minnesota is changing dramatically: more demand for educational services by an education-hungry citizenry, demands for higher quality and different services by choosier educational consumers, demands from different kinds of students (older, more minority, more part-time), increasing kinds of providers and means of delivery, and increasing competition in the higher educational marketplace from other states.

As shown in Section VI, the changes in the environment are clearly being translated into new demands for higher education, as evidenced by substantially increasing enrollments in higher education at a time when conventional wisdom predicted a substantial decline. Unfortunately, as indicated in Section VII, there is little excess capacity within the corridor's systems of higher education; moreover, the analysis has raised serious questions about the appropriateness of the mix of institutions in Minnesota to respond to changing and growing needs.

All of this analysis suggests that Minnesotans cannot afford to be complacent about their higher education enterprise. It is too critical to the state's future and too vulnerable to a future decline in quality and responsiveness for Minnesotans to be satisfied with the status quo.

## Comparing Minnesota Against Desired Characteristics

Section IV outlined a series of characteristics that the state's higher education enterprise should be measured against in today's environment. They combined some of the traditional criteria Minnesota has long used--quality, access, affordability, efficiency, and individual choice--with an additional set of criteria reflecting new societal forces and educational realities--institutional diversity, responsiveness to changing needs, orientation to both traditional-age and adult students, links with employers, and accountability.

Minnesota does fairly well against traditional criteria, but less well against more contemporary measures such as responsiveness.

- Overall, Minnesota does have a strong higher education enterprise, and it does fairly well on most of the traditional kinds of criteria, but it shows need for improvement when measured against the more contemporary factors or when contemporary perspectives are placed on the traditional factors.

Although the overall quality of higher education has historically appeared satisfactory, the rigor and quality of higher education is a growing concern for both students and employers in today's more demanding environment.

- There is considerable quality in many areas of Minnesota's higher education enterprise, but the issue of quality has been repeatedly raised by students and especially employers in focus groups, individual interviews, special surveys, etc. The concern is with the rigor of the education provided to meet employers' needs for better-educated, more well-rounded employees and particularly adult students' needs for effective career-related education. Inadequate levels of funding in some systems and overburdened capacity at particular institutions are clearly a problem affecting quality.

Minnesotans have excellent geographic access to higher education, but still need to work at accommodating new kinds of students.

- Minnesota has done an outstanding job of providing geographic access for its citizens, but the analysis in this study has raised questions about accessibility for the increasing number of minorities, adults, and part-time students (who have special needs for programs offered at different times and different places, and with different learning approaches, that are not always well met), as described in more detail below.

Minnesota is a national leader in attempting to make higher education as affordable as reasonably can be expected.

- Minnesota's financial aid program is a model for the nation, and, although public tuition rates are relatively high, they are still a bargain for most Minnesotans. It is difficult to imagine the state doing very much more in this area, except to increasingly open up the

financial aid program to nontraditional students, as it has begun to do.

Minnesota has little program duplication, but it may not be using its educational institutions in the most cost-effective manner.

- Minnesota offers its residents a wide range of programs, and there is a relatively small amount of unwarranted duplication in program offerings. In fact, the state may at times be overzealous in attempting to avoid program duplication and fail to distinguish sufficiently among different types of programs (e.g., research- vs. applications-oriented graduate programs).
- Minnesota tends to use its research university, which is located in its most costly city, to provide an unusually large array of educational services, when lower-cost institutions could be providing some of these services just as well and in some cases better. Minnesota institutions also have not yet scratched the surface of utilizing cost-efficient new educational technologies.

Minnesota's higher education policies do an excellent job of promoting individual choice.

- Minnesota, through its financial aid, reciprocity agreements, and other higher education policies, appears to be doing as much as reasonably can be expected to promote individual student choice.

Minnesota has an unbalanced system of higher education that asks the University of Minnesota to play conflicting roles and lacks both middle-tier institutions and many of the specialized, highly responsive institutions found in other urban areas.

- A region needs a diversity of institutions to be able to respond to a diversity of needs. Otherwise, individual institutions will be forced to play roles for which they are not well suited or needs will simply not be met. Both situations are found in the urban corridor.
- The U has traditionally been asked to be "all things to all people" and has evolved into a form of educational conglomerate. Many of its roles appear to be conflicting, and it is playing roles for which it is not well suited and which seriously constrain its priority mission as the state's only research university. At the same time, many needs (e.g., continuing education programs for engineers) are clearly going unmet because the U and other institutions lack the resources, the capacity, or the orientation to meet them.
- Moreover, given the particular mix of the state's institutions, Minnesota has gaps in the middle of the higher education spectrum because its state universities have been kept relatively undeveloped and its private colleges are strongest in undergraduate liberal arts programs. This mix results in a number of shortcomings in areas such as applied, practitioner-oriented master's programs and in technical fields such as engineering and science.

- In addition, Minnesota specifically lacks some of the more specialized institutions, such as an urban university in the Twin Cities or a science and technology institute closely linked to industry. This lack inhibits the responsiveness and ability of higher education to cover the full range of emerging needs.

Minnesota institutions are striving to be responsive in a variety of ways, but are not keeping up with the pace of change.

- A number of obviously good-faith attempts are being made to meet the changing educational demands of Minnesota's citizens: more oriented to adults, part-time students, more minorities, etc. But, in aggregate, Minnesota's higher education system's ability to respond is constrained by limits on institutional capacity (e.g., overcrowding) and by the inadequate institutional mix described above. Moreover, there is clear room for improvement in the flexibility and adaptability that some institutions show in responding to changing needs and a need to develop new incentives or subsidies to encourage responsiveness.

Adult students still need to try to fit into a higher education system largely oriented to traditional-age students.

- As evidenced by student focus groups and the results of an adult-student survey, Minnesota has not yet satisfactorily responded to the rapid increase in the number of adult, part-time, and other nontraditional students. This is true in spite of the fact that adult students have exceeded one-third of the student population already and are the growing part of student enrollments.
- Higher education in the state has tended to deal with the needs of adults and other nontraditional students through special programs, rather than making the fundamental kind of systemic and institutional changes needed in program design, scheduling, teaching approaches, counseling, financial aid policies, etc.

Minnesota employers report a weak state of industry-university collaboration in Minnesota.

- Although the Minnesota business community clearly recognizes the critical role that higher education has played in the state's economic success, there is strong concern--as evidenced in private interviews, meetings with business associations, and employer focus groups--about the relatively weak state of industry-university collaboration (especially at the U and in critical areas such as engineering and business), compared with the level of such collaboration in other competitor states.

Minnesota lacks a proactive posture for addressing changing needs and ensuring accountability for meeting them.

- Minnesota has taken a laissez-faire approach to meeting changing needs, relying on institutional initiative to develop new programs. This approach may have worked reasonably well in the past, when needs were more stable and predictable; it is not working well now and is not likely to in the future.
- Minnesota lacks a regular means of scanning the environment to learn about unmet needs and a mechanism such as other states have to encourage institutions to meet identified needs and hold them accountable for doing so.

Geographic Considerations

In addition to the cross-cutting kinds of issues raised above about the corridor and state as a whole, it is important to highlight specific concerns for the three metropolitan areas within the corridor, since they each have a distinct set of needs.

The multifaceted demand for higher education in the Twin Cities is growing and is not likely to be well met by current institutions.

- The key issues in the Twin Cities include: a growing demand for undergraduate education due to simple population growth; the lack of a traditional public undergraduate alternative to the U for those intimidated by or otherwise dissatisfied with the kind of undergraduate education provided by the U; the relative lack of applications-oriented graduate level programs; the lack of a strong set of programs oriented to the increasingly critical urban issues being faced by the Twin Cities; and a need for more and improved continuing education opportunities (structured programs, not just courses) for adult students.
- There are limits to how well existing institutions will be able to meet these needs because of the increasing research orientation and planned undergraduate cutbacks at the U; the lack of a true urban-oriented university in the Twin Cities with a mission to focus on urban populations and problems; the special orientation of Metro State, which limits its capacity to address traditional areas of need and which makes it an unsatisfactory alternative for individuals seeking a more traditional educational setting; and the lack of a private university (with the exception of St. Thomas and possibly Hamline) with the capacity and orientation to address such needs.

The demand for higher education in Rochester is of a more specialized nature.

- The "problem" in Rochester has long been a matter of debate in Minnesota. The analysis in this study suggests that the critical unmet need is for more advanced, upper-division and graduate-level technical programs to respond to the special nature of the Rochester economic base. It is not clear how this need can be met without establishing a new institutional vehicle in Rochester, be it a new institution or the university center proposal made earlier this year by Rochester's community leadership.
- Other needs in Rochester for lower-division education should be able to be met by enhancements at the community college, the technical institute, and a growing presence by Winona State University in the undergraduate, nontechnical fields.

The demand for higher education in St. Cloud is growing and exceeding the capacity of existing institutions.

- St. Cloud does not appear to have the more specialized kinds of needs found in Rochester. Rather, it primarily needs more capacity for undergraduate and continuing education at both the lower and upper divisions.
- All evidence suggests that St. Cloud State is overcrowded already, and the region lacks a community college, making it difficult to see how new demand will be met without significant expansions in current capacity.

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In sum, the bottom line of SRI's analysis is this:

- Higher education is a critical factor in Minnesota's social and economic success, and Minnesota needs one of the best higher education systems in the nation to maintain its special quality of life and its social and economic vitality.
- The environment for higher education in Minnesota is changing dramatically and resulting in a demand for more and different kinds of higher education services, from more and different kinds of students.
- At present, Minnesota's capacity to respond to changing and growing needs is being severely tested, both because of the lack of excess capacity within the state's existing system of higher education and because of an unsatisfactory mix of institutions in Minnesota, which limits institutional responsiveness to changing needs.

- Minnesota needs to develop more and different kinds of capacity to respond to growing demands for educational services and to maintain its "educational advantage" in the country. But, given the realities of resource constraints, the state needs to be creative in the strategies it adopts to meet these needs.
- In considering potential strategies, the state needs to think broadly and creatively--about how to make better use of private institutions as well as public, about new kinds of institutions that currently do not exist in the state, about using state leadership and policies as well as new structures to meet changing needs, and about how to create a positive environment that encourages responsiveness to change.

Table 8 contrasts the implicit strategy for higher education that currently exists in Minnesota with elements of a potential new strategy. The final section of the report identifies an initial range of potential options that the state might consider in addressing these needs.

Table 9

**POTENTIAL NEW STRATEGIC DIRECTIONS  
FOR HIGHER EDUCATION IN MINNESOTA**

**Current Strategy (Implicit)**

Assign multitude of educational responsibilities to the U.

Limit research and Ph.D. focus to the U; maintain state universities as largely undergraduate institutions.

Provide access through state universities, community colleges, and TIs.

Tap privates for liberal arts education.

Deal with adults, part-timers, minorities through special programs.

Promote affordability and choice through strong financial aid program.

Maintain current mix of institutions.

Adopt laissez-faire approach to identifying and meeting new needs.

No policy on links with employers.

Define efficiency in terms of avoiding program duplication.

Lack of measures for performance and accountability mechanisms.

**Potential Future Strategy**

Assign education responsibilities to institutions best suited to meet specific needs; follow through on Commitment to Focus at the U.

Encourage privates and allow state universities to develop research and graduate capacity to meet needs not met by the U.

Relate access to institutional capacity to meet particular needs; use 2+2 as means of expanding access.

Encourage existing privates to expand breadth of programs (e.g., technical fields) and explore creation of new private institutions.

Change basic institutional policies and practices to meet needs of changing student base.

Continue model financial aid program.

Encourage diversity and fill in gap in the middle by strengthening state universities and encouraging development of private institutions.

Take proactive approach to meeting needs; use incentive funds to encourage development of needed new programs.

Provide encouragement, incentives for links to industry, improved communication linkages.

Reconsider use of high-cost research university to carry out roles that could be done by less costly institutions.

Develop new measures of performance; install accountability mechanisms.



## IX POTENTIAL STRATEGIES

In response to the preceding analysis and the issues and concerns identified above, it seems useful for the state to consider a variety of alternative strategies. In general, the state needs to consider strategies that respond to the increasing demand for higher education services in the state and that enable Minnesota's higher education system to be more responsive to the changing societal forces and needs of individuals in the state. It needs, in effect, to build a system that more completely meets the criteria presented in Section IV and the issues raised in Section VIII.

Such strategies can be usefully considered in four areas:

- New state policies and practices.
- New proactive roles for the Higher Education Coordinating Board.
- Enhancement or better use of existing institutional structures.
- Development of new institutional structures.

Listed below are a range of initial options in each of these categories to be considered in addressing the needs and changing environment described above. The list of options is longer than can be adequately analyzed in the next phase of the MSPAN project; and some options may even be inconsistent with one another because they are not all mutually exclusive. But it is SRI's view that the state is best served at this point in the project by considering this full array and then narrowing the list appropriately to those options that appear of greatest interest and promise to Minnesotans.

Following consultation with the Higher Education Coordinating Board and staff, the Higher Education Advisory Committee, and the Project Working Group, a final set of options will be selected for further analysis.

### New State Policies and Practices

The state needs to consider new state policies and practices that are more responsive to the dynamic environment higher education now finds itself in, especially the shift toward more adult and part-time students.

- New funding mechanisms to encourage responsiveness in identified need areas--such mechanisms might include seed monies or challenge grants (in effect, venture capital for new education initiatives) to encourage high-quality responses to emerging higher education needs.

- Leveraging of state funds with private-sector resources--to provide a catalyst to the private sector to develop institutions or programs that meet needs which are in their self-interest.
- Systemic or institutional incentives to promote responsiveness--such as new rewards or incentives to encourage faculty to participate in continuing education, to encourage faculty to link with employers, etc.
- New financial aid mechanisms--increased use of financial aid for older and part-time students.

#### New Proactive Roles for the Higher Education Coordinating Board

In the new environment described above, the state Higher Education Coordinating Board needs to move from its current laissez-faire/reactive role to a more proactive role to ensure that changing educational needs are being met.

- Development of a formal mechanism for monitoring and reconnaissance (e.g., environmental scanning) of changing educational needs and potential new educational delivery mechanisms in the corridor.
- Development of incentive mechanisms by the Higher Education Coordinating Board to encourage institutions to respond to identified needs--including use of incentive funds or contracting with private institutions to meet identified needs, as noted above.
- Development of new measures of performance and new mechanisms to ensure institutional accountability--such as student outcome measures, surveys of graduates and employers (as the state of Washington has recently begun doing).
- Further research on special topics raised by the changing higher education environment--such as alternative state funding policies to reflect increased numbers of part-time and adult students, improved counseling for part-time and adult students.
- Establishment of a statewide business/higher-education forum under the auspices of the Higher Education Coordinating Board--as an ongoing mechanism for promoting closer linkages between the higher education institutions and systems and the employer community.

#### Enhancement/Better Use of Existing Institutions

There are a variety of ways that the state can make better use of its existing institutional capacity. Key measures include:

- Implementation of the basic thrust of the Commitment to Focus initiative to upgrade the quality and sharpen the focus of the mission at the U. However, this must include not only cutbacks in

undergraduate enrollment and strengthening of graduate and research programs, but also explicit efforts to strengthen the quality of undergraduate education and hard-nosed decisions on which marginal programs need to be eliminated (e.g., using early retirement packages for faculty in selected fields).

- Formalized and increased use of 2+2 arrangements between community colleges and 4-year institutions--whereby community college credits are readily transferable to 4-year institutions and a 4-year institution may offer upper-division courses on a community college campus (e.g., as Mankato State is doing with Normandale Community College and as Winona State is doing with Rochester Community College).
- Facilitating articulation and transfer among institutions--particularly for adults and older and part-time students. This has been done between the community colleges and the state universities already, but needs to be expanded between the community colleges and the University and between the TIs and other systems to enable more students to begin their collegiate careers in a 2-year institution and then easily transfer up.
- Definition of a new role for Metro State--to enable it to develop more traditional and a fuller range of undergraduate and graduate programs to meet the needs of the Twin Cities.
- Strengthening the state universities as comprehensive universities or even doctoral institutions--by encouraging them to provide a broader array of practitioner-oriented graduate offerings and removing restrictions on their offering of doctoral degrees on a selective basis (e.g., to meet regional needs not met by the U).
- Taking better advantage of private college capacity--either by supporting efforts by private institutions to increase capacity (e.g., subsidizing an engineering program at a private institution) or by stimulating private institutions to fill niches in the educational market (e.g., providing seed monies for a new program).
- Increasing the presence of St. Cloud and Mankato State Universities in the Twin Cities--especially in the technical fields where there is no existing expertise outside of the U.
- Expanded use of alternative delivery mechanisms (e.g., new educational technologies, satellite transmission, distance education, self-study)--particularly for outlying areas of the urban corridor and Greater Minnesota and building on some of the technological advances already being employed by some of the state's corporate education programs.
- Consolidated governance of the community colleges and the technical institutes at the state level to help ensure the capacity of the TIs to provide the broader kind of technical education and training being demanded in today's marketplace.

## Development of New Structures

Finally, the state should explore new structural options, including the following:

- Establishment of a new state university in the Twin Cities--a 4-year urban university oriented to the needs of the urban area (e.g., as UMass-Boston, UMissouri-St. Louis, or UT-San Antonio have done effectively), either as a new institution or as an upgrading of an existing community college.
- Development of a new science- and technology-focused institution in the Twin Cities/Rochester corridor--potentially a new private institution (perhaps subsidized with state seed monies), particularly at the Rochester end, to help meet identified educational needs in the Rochester area and to provide a counterpoint to the U.
- Development of a new university center or graduate center in the Rochester area--perhaps modeled after the university center in Tulsa, Oklahoma to meet the legitimate needs for upper-division and advanced technical education in the Rochester area that cannot be met by Winona State and are unlikely to be well met by the U.
- Development of a Golden Gate type of university in the Twin Cities--a private, highly responsive, market-driven institution having close links to industry and focusing on adult-oriented continuing education programs.
- Development of new 2-year institutional capacity--through either new public institutions (e.g., a community college in St. Cloud and/or St. Paul) or expansion of existing institutions to meet the growing demands of an expanding population and the changing demands (e.g., more college-oriented, less vocational) of citizens in the corridor.
- Establishment of a new public-private technical training institute (e.g., a public-private technical training center for a group of 2-year institutions in the Twin Cities supported by a consortium of the region's high-technology industry and the state) to meet the growing demands for broader and more sophisticated technical training and retraining.

Following agreement with the Higher Education Coordinating Board on the specific alternatives to be investigated further, SRI will proceed to analyze each in terms of the immediate and long-range steps and costs of implementation, the intended results of improved postsecondary opportunities available to Minnesota residents, and the effects on institutions, state policies, and intersystem relationships.

The report on alternative strategies will be presented in mid-January; the final summary report is due in late January/early February.

## FOCUS GROUP SHEET

### Project MSPAN

- o MGT of America, Inc. conducted twelve focus groups for Project MSPAN in the Twin Cities area during the week of November 14, 1988.
- o The 111 participants were categorized in 12 focus groups as follows:
  - 11 business representing the high tech/manufacturing industry sector
  - 8 retail/small business representatives from the Twin Cities
  - 6 businesses representing health, finance, and insurance sectors
  - 13 business representatives from Rochester
  - 10 business representatives from St. Cloud
  - 10 students from Rochester
  - 8 students from St. Cloud
  - 16 students in the Twin Cities area
  - 10 minority students
  - 10 professionals who work with minority students
  - 9 professionals who work with students in the Twin Cities area
- o The focus groups were held at St. Cloud State University, Rochester Community College and two professional facilities, Focus Market Research, Inc., and Rockwood Research, Inc. in the Twin Cities.
- o MGT provided the moderator for each focus group and each discussion ran for approximately 2 hours.

## GENERAL FINDINGS OF FOCUS GROUPS (MSPAN)

- o Too much isolation between school, faculty and business; more communication is needed to increase shared knowledge and concerns of students.
- o Counseling services for students that will guide their skills and training towards appropriate job openings and career paths.
- o Internships and cooperative work assignments are desired by both students and businesses. Businesses would like to have graduates with experience in a field, while students want to apply their coursework as job preparation.
- o Quality of education is a concern. Businesses prefer updated curriculums that fit their needs; students often question instructors' teaching ability, knowledge of subjects, and motivation.
- o Continued education is a growing need for non-traditional students and both a requirement and tool in training assistance for businesses.
- o There is a need to share resources between schools.
- o Marketing of continued education and specialty training courses needs to focus on mass advertising.
- o Support services such as childcare, stress management, and advisory assistance are needed for non-traditional students.
- o Incentives to return to school are desired by employees, help previous students further their education; yet are hindered by government regulations diminishing the number of programs offered by businesses.
- o Creating flexible class schedules during evenings and weekends would benefit non-traditionals especially those who work.

## Business Group Findings

- o Increased interaction between faculty and businesses could enable the following:
  - a better understanding of private sector needs
  - help faculty design courses to better meet the needs of businesses
  - provide employers with needed technical assistance
  - increase faculty visibility in the business community
  - provide faculty with professional interaction in their field
  - encourage and promote research and service linkages
- o Businesses prefer well-rounded, broad-based educated employees which help training flexibility and meet changing job requirements.
- o Besides looking for potential employees with general knowledge within a field, businesses want students to be taught communication skills, leadership skills, and management skills as well as specific training in job related tasks.

## Student Group Findings

- o Too much isolation between students and their faculty at highly populated institutions, mainly in their first two years.
- o Credit transfers are difficult to obtain for those having just enough money to attend school.
- o TTs image is not as good as other postsecondary level schools.
- o More emphasis in currently attractive and retaining traditional students than non-traditional. This includes course schedules, financial aid, course offerings, and other support services.
- o Non-traditional methods of course delivery are needed.
- o Schools have not kept pace with the growing demand for continuing education.



## Minority Group Findings

- o Racial make up of institutions at the faculty and administrative level need to change to serve as incentives and role models for minority students.
- o Higher education needs to be made more attainable for minorities and the retention rate increased.
- o The corridor population growth needs to be examined in terms of minority mix so that educational institutions in that area can prepare for future demographic changes. This includes changes in accessibility courses offered, and the local students' needs.
- o Minority students prefer to be taught, counseled, and follow the footsteps of other minorities.
- o Support services targeting minorities are needed. Such services would provide new student orientation and counseling.
- o Course content and offerings focusing on minority issues and interests need to be increased.

ADULT STUDENT SURVEY  
SAMPLE INFORMATION

	<u>Total Number of Adult Students (Est.)*</u>	<u>Completed Interviews</u>	<u>Maximum Sampling Error (95% Confidence)</u>
Total Survey	36,570	925	± 3.3%
University of Minnesota	12,779	311	± 5.6%
State University System	8,917	275	± 6.0%
Community College System	14,874	255	± 6.2%
Technical Institute System	2,637	84	**

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Note: \* Estimates of Adult Students (25 and older) are only for schools participating in the survey.

\*\* This group was not a statistically selected random sample of the population.

MSPAN ADULT STUDENT SURVEY

GENERAL FINDINGS

o Desired educational attainment level

- 27% 4 year degree
- 49% grad/prof degree

o Reasons for that level

- 20% self-fulfillment
- 20% advancement
- 15% money, prestige
- 14% marketability
- 10% sufficient educational goal

o Return to school in future

- 69% yes
- 15% maybe

o Reasons attend ... currently                      ...future

- |                   |     |     |
|-------------------|-----|-----|
| - gen educ/persnl | 25% | 35% |
| - enter new field | 28% | 11% |
| - job advancement | 19% | 25% |
| - seek degree     | 13% | 9%  |

o Reasons not attend in future

- |               |     |
|---------------|-----|
| - no need     | 33% |
| - no time     | 18% |
| - no interest | 17% |
| - age         | 10% |
| - have degree | 9%  |
| - cost        | 7%  |

o Enroll at institution in future

- |                      |     |
|----------------------|-----|
| - a state university | 31% |
| - U of Minn. (TC)    | 29% |

- U of Minn (other) 8%
- Community College 8%
- Private College 6%
- Public TI 7%

o Most (75%) will be degree seeking students when they go to school in the future.

o Coursework/Programs of interest are predicted to include:

- business/management 26%
- computer science 12%
- sociology/human rel. 11%
- education 10%
- psychology 10%

o Schools percieved best for adults

- U of Minn. 40%
- Metro State 13%
- St. Thomas 12%
- Winona State 9%
- St. Cloud St. 8%

o Survey respondents rate the following factors as very important when selecting a school:

- quality of faculty 89%
- class schedules that allow work 87%
- classes meet interest 87%
- apply courses to degree 84%
- convenience to home 73%
- low cost tuition 69%

o Percieved barriers to education

- financial/costs 29%
- time constraints 20%
- class availability 8%

o Survey respondents expressed:

- positive feelings about the quality of education provided in their area.
- similar views (positive) about the variety of programs and courses offered.
- mixed feelings about student support services.
- positive, yet not too strong about how these area opportunities have met their personal education and training needs.
- mixed feelings regarding the affordability of education in their area.
- a college education is viewed as very useful in getting or keeping a good job in Minnesota than a vocational/technical education.

SCHOOLS PARTICIPATING IN  
THE ADULT STUDENT SURVEY

The following schools provided lists of adult students for the survey:

- o University of Minnesota
- o State Universities:
  - Metro State
  - St. Cloud State
  - Winona State
- o Community Colleges:
  - Inver Hills
  - Lakewood
  - Minneapolis
  - Normandale
  - North Hennepin
  - Rochester
- o Technical Institutes:
  - Anoka
  - Dakota County
  - Faribault
  - Northeast Metro
  - St. Paul

Highlights of MSPAN  
Minnesota High School Cohort Follow-Up Survey  
of Postsecondary Behavior and Attitudes

<u>Selected Attitudes and Student Behaviors</u>	<u>Random Sample</u> (n = 706 respondents)	<u>High Ability Sample</u> (n = 649 respondents)
<u>Application Behavior</u>		
Applied	98 percent	99 percent
Applied to more than one	59 percent	64 percent
Applied outside MN	44 percent	51 percent
<u>Attendance Behavior</u>		
Attended since HS	95 percent	98 percent
Attended more than once	16 percent	12 percent
<u>Attendance Destinations</u>		
In MN	-75 percent	70 percent (more frequently U of M and private colleges)
Not MN: In ND, SD, IA, WI	-66 percent (of <u>Not</u> MN)	<50 percent (of <u>Not</u> MN)
<u>Attendance Choice</u>		
Attend first-choice	22 percent (of attenders)	22 percent (of attenders)
Why not first-choice	too expensive or not accepted	too expensive or not accepted
<u>Attendance Distances</u>		
Greater than 500 miles	8 percent (of attenders)	14 percent (of attenders)
Average miles (<500)	94 miles	107 miles
<u>Attendance Time</u>		
Full-time	96 percent	98 percent
Less than half-time	Only 6 respondents!	Only 4 respondents!
<u>Tuition Attitudes</u>		
Tuition not important	24 percent	21 percent
Somewhat important	48 percent	38 percent
Very important	29 percent	29 percent
Think tuition is high or moderate	75 percent	75 percent
Receiving financial aid	63 percent	71 percent
Have job other than work study	48 percent	42 percent
Non-Attenders	5 percent	2 percent
Policy Question 1: Will Tuition Rises Match Rises in Student Aid?		
Little or no confidence in state policy	64 percent	65 percent
Policy Question 2: When Learned About Financial Aid?		
9th grade or earlier	11 percent	13 percent
10th or 11th grade	61 percent	64 percent
12th grade or never	28 percent	23 percent
Policy Question 3: Loans and Work-Study Preference?		
Work-study	61 percent	62 percent
Loans	34 percent	34 percent
Either	5 percent	4 percent

Selected Comments on the Frequency Results  
for the High-Ability (HA) Sample of the Cohort Survey

J. Hearn  
December 2, 1988

- o Applications Behavior: As expected, the great majority of HA students (98.6%) applied to an institution. About two-thirds (63.5%) applied to more than one institution, and 51.2% applied to an institution outside of the State.
- o Attendance in General: Only 2.0% (13 out of 649 HA respondents) reported they had not attended any postsecondary institution since high school. Only 11.7% reported having attended more than one institution since high school, compared to 16.4% among the general sample.
- o Attendance Destinations: About 70% of the HA attenders (actually 444/636, or 69.8%) remained in the State. Of the 192 who did not, fewer than one-half (83/192) attended in a contiguous state, making this group geographically more mobile than those in the general sample. Of the 444 who attended a school in Minnesota, 179 attended the University of Minnesota, 57 a branch of the State U. system, 155 a private college, 41 a community college, and 7 a vo-tech or business college, and 5 some other kind of institution. Compared to the general sample, the U of M and the private colleges were far more frequent choices among this group, as would be expected.
- o Reasons for Choice: Only 21.6% (140) of the 649 HA respondents (or 22.0% of the 636 attenders) did not attend their first-choice institution. Of reasons for not attending a first-choice institution, 57 reported it was too expensive, 48 reported not being accepted, 11 reported receiving better financial aid elsewhere, and 30 reported miscellaneous other reasons. Fewer than ten respondents gave each of the other possible responses suggested on the survey form.
- o Attendance Distances: 88 of the 636 HA attenders (13.8%) reported attending a school more than 500 miles from their home. Of the attenders who attended within 500 miles, the average distance was 107 miles.
- o Attendance Level: Of the 636 HA attenders, 623 (98.0%) attended full-time. Only 4 reported attending less than half-time.
- o Tuition Attitudes: Of the 636 HA attenders, 134 (21.1%) said tuition was "not important" in their decision to attend their institution, 318 (50.0%) said it was "somewhat important", and 183 (28.8%) said it was "very important". These percentages suggest only slightly higher sensitivity to tuition than in the general sample. Also like the general sample, about three-fourths (74.5% or 474/636) thought that their institution's tuition level was "moderate" or "high". Since the choice data suggest that these HA folks are attending higher-cost institutions than folks in the general sample, it's intriguing that their perceptions are similar. From some perspectives, therefore, even *relatively* lower-cost institutions are "high" in tuition level.
- o Financial Aid: Well over half of the HA attenders (452/636, or 71.1%) were receiving aid for attendance, other than parental support.
- o Work: About two-fifths of the HA attenders (265/636, or 41.7%) had a paying job other than a work-study position, during their attendance.
- o Non-Attenders: There were so few high-ability non-attenders (13 people) that analysis of this group makes little sense.



## Frequency Results for the High-Ability Sample

J. Hearn

December 2, 1988

Page Two

- o Policy Question on Tuition Rises: As a whole, little confidence was shown in the state policy of attempting to match tuition rises with comparable rises in student aid for needy students. A total of 163/649 (25.1%) expressed "no confidence", and 260/649 (40.1%) expressed only "slight confidence", for a total of 423/649, or 65.2%. Thus, as in the general sample, nearly two-thirds of the HA respondents showed little or no confidence that tuition increases were not going to be burden for needy students.
- o Policy Question on Learning About Financial Aid: The modal period for HA students learning about financial aid seemed to be in the tenth or eleventh grade, the same period as in the the general sample. In those years, 64.1% reported learning of aid. Only 83 (12.8%) reported learning of it in the 9th grade or earlier (the target years for recent state policy on aid information dissemination). The remaining 23% either learned of aid in the twelfth grade, claimed to have never learned of it, or did not respond.
- o Policy Question on Loans and Work-Study Programs Preferences: The results for the HA respondents directly reflect those of the general sample. Almost everyone (about 96%) had a firm opinion in favor of loans or work-study, but there was no overwhelming preference for work-study (61.8%) or for loans (34.1%). As before, it seems people are either loan adherents or work-study adherents. They show little flexibility.

Selected Comments on the Frequency Results  
for the Random Sample of the Cohort Survey

J. Hearn  
December 2, 1988

- o Applications Behavior: The great majority of students (97.7%) applied to an institution. Somewhat surprisingly, 59.1% applied to more than one institution, and 43.6% applied to an institution outside of the State. These proportions are lower than those for our high-ability sample, but not as *much* lower as I would have expected. In other words, Minnesota's *typical* (or at least typical top 70%!) high school graduates seem to act much like the high-ability students elsewhere, attending at high rates and applying to a surprisingly large number of schools.
- o Attendance in General: Only 4.7% (33 out of 706 respondents) reported they had not attended any postsecondary institution since high school. Interestingly, 16.4% reported having attended more than one institution since high school.
- o Attendance Destinations: Nearly three-fourths of the attenders remained in the State. Of those who did not, approximately two-thirds (95/161) attended in a contiguous state. Of the 512 who attended a school in Minnesota, 151 attended the University of Minnesota, 128 a branch of the State U. system, 117 a private college, 72 a community college, and 31 a vo-tech or business college.
- o Reasons for Choice: Only 21.1% (149) of the 706 respondents (or 22.1% of the 673 attenders) did not attend their first-choice institution. Of reasons for not attending a first-choice institution, 61 reported it was too expensive, 37 reported not being accepted, 11 felt it was too far from home, and 42 reported miscellaneous other reasons. Fewer than ten respondents gave each of the other possible responses suggested on the survey form.
- o Attendance Distances: 52 of the 673 attenders (7.7%) reported attending a school more than 500 miles from their home. Of the attenders who attended within 500 miles, the average distance was 94 miles.
- o Attendance Level: Of the 673 attenders, 644 (95.7%) attended full-time. This is a striking finding, I think. Only 6 reported attending less than half-time; that's less than 1%.
- o Tuition Attitudes: Of the 673 attenders, 163 (24.2%) said tuition was "not important" in their decision to attend their institution, 322 (47.8%) said it was "somewhat important", and 187 (27.8%) said it was "very important". About three-fourths (75.2% or 506/673) of the respondents thought that their institution's tuition level was "moderate" or "high", respectively.
- o Financial Aid: Well over half of the attenders (426/673, or 63.3%) were receiving aid for attendance, other than parental support.
- o Work: Strikingly, nearly half of the attenders (325/673, or 48.3%) had a paying job other than a work-study position, during their attendance.
- o Non-Attenders: There were so few non-attenders (33 people) that analysis of this group makes little sense, but financial security, pursuing other interests, and not being able to afford the preferred school were the leading reasons given for non-attendance. About half reported that their parents were willing to support their attendance, and about half (18/33, or 54.5%) reported that having more financial aid would have led them to attend.

Frequency Results for the Random Sample

J. Hearn

December 2, 1988

Page Two

- o Policy Question on Tuition Rises: As a whole, little confidence was shown in the state policy of attempting to match tuition rises with comparable rises in student aid for needy students. A total of 173/706 (24.5%) expressed "no confidence", and 275/706 (39.0%) expressed only "slight confidence", for a total of 448/706, or 63.5%. Thus, nearly two-thirds of these respondents showed little or no confidence that tuition increases were not going to be burden for needy students.
- o Policy Question on Learning About Financial Aid: The modal period for learning about financial aid seemed to be in the tenth or eleventh grade, years in which 61.3% reported learning of aid. Only 76 (10.7%) reported learning of it in the 9th grade or earlier (the target years for recent state policy on aid information dissemination). The remaining 28% either learned of aid in the twelfth grade, claimed to have never learned of it, or did not respond.
- o Policy Question on Loans and Work-Study Programs Preferences: The results here are quite interesting. Almost everyone (about 95%) had a firm opinion in favor of loans or work-study, but there was no overwhelming preference for work-study (60.8%) or for loans (34.0%). It seems people are either loan adherents or work-study adherents. Only a handful are flexible in their preference. This would seem to suggest that policies and aid-offices which allow individualized attention to these clearcut student preferences could potentially help lower attrition and foster more satisfaction among attenders.

**APPENDIX D**

**HIGHLIGHTS OF MSPAN**  
**CAPACITY AND PROGRAM AVAILABILITY**

## Capacity in the Minnesota Population Corridor

### St. Cloud Area

- o Capacity is very limited in this area of the corridor
- o Number of F.T.E. students in this area second highest in the corridor for schools reporting
- o Fewest total number of public post-secondary educational institutions
- o No schools have policies to cap enrollments
- o All schools cater to nontraditional students by offering some evening classes
- o All schools maintain a quality reputation
- o Extreme shortage of state university facilities and equipment
  - o Very difficult to schedule additional daytime hour classes in the state system, but night and weekend classes could be used to expand capacity by 1900 F.T.E students
- o Ratio of F.T.E. students to F.T.E. faculty low (25) compared to average of other schools of the same type in the corridor (32.5) but high compared to the state legislature recommendation of a ratio of 19.
- o Square footage allocated per F.T.E. student (158 ft) appears average (162 ft) for state institutions in the corridor
- o Serious parking problem as well as severely limited space for classroom and residence hall expansion
- o No community colleges serving this area
- o Shortage of vocational technical facilities and equipment
  - o Ratio of F.T.E. students to F.T.E. faculty high (18) compared to average of other schools of the same type in the corridor (15.9)
  - o Square footage allocated per F.T.E. student (175 ft) appears slightly below average (208 ft) for vocational institutions in the corridor

## Rochester Area

- o Capacity is somewhat limited in this area
- o Second highest number of public post-secondary educational institutions in the population corridor
- o Fewest number of F.T.E. students in total within the corridor
- o No schools have policies to cap enrollments
- o All schools cater to nontraditional students by offering some evening classes
- o Extreme shortage of state university facilities and equipment
  - o Classroom utilization ranges from 81% to 100%
  - o Classes are too large; shortage of both equipment and faculty
  - o Maintains a quality reputation
  - o Ratio of F.T.E. students to F.T.E. faculty low (24) compared to average of other schools of the same type in the corridor (32.5) but high compared to the state legislature recommendation of a ratio of 19.
  - o Square footage allocated per F.T.E. student (184 ft) appears slightly above average (162 ft) for state institutions in the corridor
- o Community college facilities and equipment in this area are very limited and obsolete
  - o Ratio of F.T.E. students to F.T.E. faculty low (27) compared to average of other schools of the same type in the corridor (28.4)
  - o Square footage allocated per F.T.E. student (37 ft) appears above average (33.8 ft) for community colleges in the corridor
- o Shortage of vocational technical facilities and equipment
  - o Average ratio of F.T.E. students to F.T.E. faculty (15.5) about equal to average of other schools of the same type in the corridor (15.9)
  - o Average square footage allocated per F.T.E. student (228 ft) in this area appears slightly above average (208 ft) for vocational institutions in the corridor

## Twin Cities Area

- o No major capacity problem in this area
- o Highest number of public post-secondary educational institutions in the population corridor
- o Largest number of F.T.E. students in total within the corridor
- o No capacity information submitted by University of Minnesota
- o No shortage of facilities and equipment for state university system in this area
  - o Metropolitan State provides services but does not have its own campus; buildings are leased
  - o Mankato State provides services to a number of corridor residents but the main facilities are located outside of the corridor
  - o State system maintains a quality reputation
  - o No state schools have policies to cap enrollments
  - o All state schools cater to nontraditional students by offering some evening classes
- o Community college facilities and equipment in this area are limited and obsolete
  - o Ratio of F.T.E. students to F.T.E. faculty (28.7) about equal to average of other schools of the same type in the corridor (28.4)
  - o Square footage allocated per F.T.E. student (33.6 ft) appears equal to average (33.8 ft) for community colleges in the corridor
- o Shortage of vocational technical facilities and equipment
  - o Average ratio of F.T.E. students to F.T.E. faculty (15.7) about equal to average of other schools of the same type in the corridor (15.9)
  - o Average square footage allocated per F.T.E. student (207 ft) in this area appears equal to average (208 ft) for vocational institutions in the corridor
  - o Maintain reputation of quality
  - o No policies to cap enrollments
  - o Cater to nontraditional students by offering some evening classes

ANALYSIS OF INSTITUTIONAL CAPACITY  
FOR POST-SECONDARY SCHOOLS IN THE MINNESOTA POPULATION CORRIDOR

REGION	INSTITUTION	F.T.E. STUDENT	TOTAL SQ. FOOTAGE	SQ. FT./ F.T.E.	F.T.E. FACULTY	F.T.E. STUDENT/ F.T.E. FACULTY
ST. CLOUD	St. Cloud State	14,093	2,220,332	158	569	25
	St. Cloud Tech.	1,765	308,795	175	98	18
ROCHESTER	Winona State Univ.	6,285	1,156,021	184	257	24
	Rochester C. C.	3,963	147,448	37	146	27
	Rochester Tech.	995	173,950	175	62	16
	Winona Tech.	543	153,379	282	37	15
TWIN CITIES	William Mitchell College of Law	1,117	64,000	57	32	35
	Univ. of Minn.	40,650	Not submitted		Not submitted	
	Metropolitan State	2,055	N/Appl	N/Appl	36	57
	Mankato State	Not Available		Not Available		
	St. Paul Bible Coll.	670	71,666	107	Not Available	
	Anoka-Ramsey C. C.	5,255	155,598	30	205	26
	Inver Hills C. C.	3,993	140,247	35	189	21
	Minneapolis C. C.	3,609	140,542	39	149	24
	Normandale C. C.	7,998	227,946	29	223	36
	North Hennepin C. C.	5,311	183,982	35	163	33
	Lakewood C. C.	4,541	144,859	32	142	32
	Anoka Tech. Inst.	1,681	314,797	187	118	14
	Dakota Cty. Tech.	2,089	514,682	246	129	16
Red Wing Tech.	470	137,780	293	30	16	
Hennepin Techn.	4,090	814,723	199	251	16	
Minneapolis Tech.	2,424	544,428	225	157	15	
St. Paul Tech.	3,255	464,514	143	203	16	
Faribault Tech.	553	87,559	158	33	17	



## AVAILABILITY.

GOAL: To determine whether academic and vocational areas are adequately covered, i.e. whether program offerings in related fields are offered at the right level to build on strengths and quality of training required in particular fields of endeavor.

- o Types of programs offered
- o # graduates
- o To what extent are alternative delivery systems, (telecommunications and articular arrangements) in use?
- o Corporate policies and programs existing to provide or encourage/discourage employees to continue their education.
- o Size/composition of population within commuting distance of institutions.
- o What geographic areas are not in commuting range?
- o Commuting patterns
- o Off campus extension sites.

## TWIN\_CITIES\_AREA

- o Both the U and Private 4-year schools offer certificate programs.
- o Professional degree opportunities are limited.
- o Bacc and Masters opportunities offered by State Univs. in the Twin Cities area are extremely limited.
- o Program offerings of Community Colleges and other 2-yr. institutions in this area are not very broad, considering the number of institutions.
- o Technical Institutes have very large enrollments in Trade and Industrial, Business, Health and Engineering fields.
- o Mankato operates a total of 30 off-campus sites in Southern Minnesota and in the Twin Cities. The main campus is located 83 miles from the Metro Area. 67% of the students served are from outside the service area.
- o Metro State serves non-traditional students with courses in evenings and on weekends and has a variety of individualized programs.
- o Evening and weekend opportunities are limited.
- o Off campus programs are limited.
- o Mankato's proposed program additions for 1989-95:
  - Geology (Bac.)
  - Toxicology (Bac.)
  - Industrial Chemistry (Bac.)
  - Statistics (Masters)
  - Computer Science (Masters)
  - Electrical Engineering (Masters)
  - Computer Engineering (Bac.)
  - Microbiology (Bac.)
  - Plant Science (Bac.)
  - Mechanical Engineering (Masters)

## ST.\_CLOUD\_AREA

- o This area is projected to have large population growth.
- o 63% of students served are from outside the service area.
- o Few Doctorate degree opportunities and no Professional degree opportunities.
- o State U has added some Bac programs but Master's degree opportunities are limited.
- o Evening and weekend program degree opportunities are most prevalent in this area for Bac and Mast.
- o Off campus program opportunities are limited.
- o Proposed new programs for 1989-95:
  - Biotechnology (B)
  - Computer Science (M)
  - Electrical Engineering (M)
  - Software Engineering (B)
  - Electronic Engineering Technology (B)
  - Biochemistry (M)
  - Earth Science Education (M)
  - Physic. Optics (M)
  - Chemistry (M)
  - Manufacturing Engineering (M)
  - Technology (M)

## ROCHESTER\_AREA

- o 53% of students served are from outside the service area.
- o Doctorate degree opportunities are very limited and Professional degree opportunities not available.
- o State University has added some Bac programs but Master's degree opportunities are limited.
- o Graduate counts are not very high.
- o Winona State has 6 off campus sites.
- o Winona State has lots of interaction with regional science and technology firms.
- o Winona State operates on-site Bac and Mast's programs for several businesses.
- o Winona State has a practicum program with local businesses in Computer Science.
- o Departments of Physics and Geology interact with regional industry on a regular basis.
- o Winona State has several 2+2 programs with Rochester Community College.
- o Evening and weekend degree opportunities are limited.
- o Off campus programs are most prevalent in this area.
- o Proposed new programs at Winona for 1989-95:
  - Water Resources (B)
  - Environmental Interpretation (B)
  - Computer Science (M)
  - Engineering Technology (B)
  - Ceramics Engineering (B)
  - Molecular Biology (B)

### OVERALL ITEMS OF INTEREST

\*\*The greatest majority of students commute 0-10 miles, based upon reporting institutions. Approximately 67% fall into this category compared with 20.1% in the 10-25 mile category, 9.5% in the 25-50 mile category and 2.9% in the over 50 miles category.

\*\*Rochester Community College reported that 50% of students travel 25 to over 50 miles. This is a significantly larger percent than any other school reporting. The next closest being Inver Hills and Lakewood Community Colleges reporting 15%.

\*\*Community Colleges have significant numbers of off campus extension sites and offer services required by non-traditional students, such as child care, services and programs at night, etc.

\*\*State Univs. and many Comm. Colleges offer 2yr curriculum prerequisites in math and science for the 4yr Engineering Program.

\*\*State Univ. system accepts the AA degree from the Comm. Coll as fulfilling general education requirements at State Universities.