



**PUBLIC COLLEGE ENROLLMENT
IN MINNESOTA'S CHANGING
POPULATION PATTERN
1970-1985**

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Like many others who have reviewed higher education in Minnesota, we want to cite the wealth of basic data for analysis assembled by the staff of the Higher Education Coordinating Commission since 1968. Only with data such as that provided by HECC could this study have been undertaken. In particular, Mr. Richard Hawk, executive director of

HECC, and Mr. John Carson and Dr. Carl Yoder of the HECC staff spent several hours each searching out and explaining data relevant to the study.

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The authors, of course, are solely responsible for the contents of the report.

BACKGROUND OF THE STUDY

This study was stimulated mainly by two documents which appeared during 1971.¹ *Meeting the Challenge*, the report and recommendations to the 1971 session to the legislature from the Minnesota Higher Education Coordinating Commission (HECC), was published in January; *Toward 1985 and Beyond* a report from the University of Minnesota Senate Committee on Resources and Planning, came out in June.

The two reports carefully documented and emphasized major issues in higher education planning in Minnesota.

POLICY REPORTS

Meeting the Challenge called for expanding capacity and spreading higher education opportunities more widely in the state. It urged the development of a higher educational institution "... within 20 miles of all major concentrations of population ...", expansion of reciprocity with neighboring states and more arrangements like the Tri-College University at Fargo-Moorhead, development of Metropolitan State College, and it cited Rochester as an ideal location for a four-year university campus. The report also called for enlarging the range of programs offered at all institutions — increasing the programs at campuses in sparsely populated areas, expanding occupational as well as academic programs at the Junior Colleges, giving greater emphasis to occupational programs of more than two years at the State Colleges and University campuses. It urged greater cooperation between Junior Colleges and Area Vocational-Technical Institutes (AVTIs), with development of plans for eventual combination of those two sets of campuses in the non-metropolitan areas of the state. It

¹*Meeting the Challenge* (Report to the 1971 Legislature), St. Paul: Minnesota Higher Education Coordinating Commission, January 1971.

Toward 1985 and Beyond, Minneapolis: University of Minnesota Senate Committee on Resources and Planning, June 1971.

asked for enlarged financial aids to increase the mobility of students — their ability to attend the "schools of their choice" — and also to benefit the disadvantaged population. It called for the development of a comprehensive statewide plan for coordinated adult and continuing education, with the state assuming some direct financial support.

Toward 1985 and Beyond made a series of related recommendations to the faculty and administration of the University. Develop "... problem-oriented inquiry and teaching programs that address critical social problems ..." and "... issues of public policy ..."; emphasize programs on the Twin Cities campus which are unique in the context of the state's higher educational opportunities; credit as prerequisites "... the widest possible variety of student achievements ..." and "... provide flexibly scheduled requirements ..."; integrate continuing education with other instruction; decentralize the University organizationally into units of about ten thousand students; also, further decentralize state higher education within the Twin Cities metropolitan area through the creation of a new four-year college, in addition to the Junior Colleges; seek increased freedom of student movement among different campuses and programs; support and participate in the State College system's "common market"; and periodically review faculty performance against "stated expectations" (presumably based on the institutional and educational goals emphasized by the report).

Finally, both documents called for more and better data on enrollment, faculty, floor space, student and faculty characteristics, and institutional performance.

These recommendations were made against a background of anticipated very large enrollment increases over the coming ten to fifteen years, roughly from 1970 to 1985. The University Senate report called for 1985 ceilings on enrollment: 48,000 in the Twin Cities, 12,000 at Duluth. Those

ceilings represented a 10 percent increase in fifteen years at the Twin Cities, a 115 percent increase at Duluth. The report called, in addition, for a new 10,000-student University campus, presumably at Rochester.

THE ENROLLMENT QUESTION

The HECC *Eighteenth Annual Survey of Enrollments* reported the total numbers of students in 1980 which were anticipated by each of the cooperating institutions in the fall of 1971.² These figures amounted to 1970-1985 enrollment increases of 26 percent for the State Colleges, 45 percent for the University campuses, 33 percent for all four-year public institutions.

Meanwhile, there were data which cast doubt on these projections. It had been known for a decade that the Minnesota birth rate — following the national trend — had begun a steep and continuous decline in 1960. This will be reflected, for the state as a whole, in a declining number of 18-year-olds beginning in 1978. Also, the Minnesota Department of Health published its revised projections, based on the 1970 census, of Minnesota population by five-year age groups for each county for five-year intervals to the year 2000.³ These projections are most useful and least doubtful to the late 1980s; children in the 1985 college-age cohort were already born at the time of the 1970 census. Finally, the percent of high school graduates who entered either two- or four-year academic programs had risen very sharply in the years 1967-69. But it had levelled from 1969 to 1970 and dipped from 1970 to 1971. One could interpret the curve as a signal that trends up to 1968, when extrapolated, yielded long-term projections which were too high, that perhaps the 1967-69 jump in the going rate from high school to college was an anomaly which would be compensated by a subsequent anomalous dip.

In short, demographic trends indicated a profound impact of the birth rate decline coming in the late 1970s. The geography of both the state's population and the campus locations suggested that the impact would be unevenly

²*Eighteenth Annual Survey of Minnesota College and University Enrollments*, St. Paul: Minnesota Higher Education Coordinating Commission, November 1971.

³*Minnesota Population*, Minneapolis: Minnesota Department of Health, Section of Vital Statistics, March 1972.

distributed over the state both spatially and chronologically. There were suggestions that any further rise in the college going rate might be less than what was generally expected and not enough to offset the impact of population decline in the college-age group.

Hence there was the possibility that the policy formulations of HECC and the University Senate Committee report should be placed against enrollment assumptions which are drastically different for the state as a whole and also vary substantially from one campus location to another. (More recent data, especially enrollments for the fall of 1972, have focused widespread attention on this topic.)

That situation stimulated the authors of this report to join with seven other students at the University of Minnesota in a seminar, offered jointly in the Department of Geography and the School of Public Affairs in the winter and spring quarters of 1972, to explore the geographic relationships between enrollments and population distribution in Minnesota.

This study is the product of the seminar and additional research by Arnold Alanen and Thomas Mortenson, two members of the seminar, during the summer of 1972.

The study first describes the statewide trends in numbers of high school graduates, college-age population, and enrollments in colleges and other tertiary educational institutions.⁴

⁴Throughout this study, the following terms and definitions are used:

Higher Education: post-high school instruction normally taken following the completion of high (secondary) school or equivalent, of collegiate character, including post-baccalaureate.

Tertiary Education: differs from "Higher Education" in that vocational schools instruction is included, but post-baccalaureate instruction is not. Follows *primary* and *secondary* education.

Post-Secondary Education: includes both areas of above.

Academic: applies to those campuses or programs of the four-year colleges or two-year junior colleges.

Collegiate: used synonymously with "Academic."

Meaning of initials:

MDACR — Minnesota-Dakota Association of College Registrars
NCACR — North Central Association of College Registrars
UMACR — Upper Midwest Regional Association of Collegiate Registrars

BIR — Bureau of Institutional Research, University of Minnesota

HECC — Minnesota Higher Education Coordinating Commission

Then it describes the geographical variation of potential student populations and campus enrollments and the flow of students from each county to each campus in 1970. Finally, enrollments are projected for each campus studied, on the basis of the flow characteristics and county projections of high school and college-age populations, for 1975, 1980, and 1985. The results are substantially lower than the enrollments assumed in the 1971 reports. Certain recommendations —

those most related to the size and location of future enrollments — from the 1971 reports are reviewed in the light of the lower projections.

The study and the projections focus on the public four-year institutions. The report touches on the junior colleges lightly, and private colleges and area vocational-technical institutes only incidentally. The graduate and post-baccalaureate professional schools are not included.



LAKWOOD STATE JUNIOR COLLEGE was established in White Bear Lake to serve the northern suburbs and high school areas on the north side of St. Paul. Fall 1972 enrollment was 2,097 students. Much of the physical plant of Lakewood is still under construction in this photo. (Photo taken May, 1971. Courtesy of Minnesota Highway Department.)



ROCHESTER STATE JUNIOR COLLEGE is the oldest public junior college in Minnesota. In 1915, the year it was established, Minnesota had three of the nineteen existing public junior colleges in the United States. (The other two, at Cloquet and Faribault, closed in 1918.) In 1972 enrollment reached 2,327 students, or more than twice the size of any other non-metropolitan state junior college. This new campus has been built since 1968. (Photo taken May, 1971. Courtesy of Minnesota Highway Department.)



WILLMAR STATE JUNIOR COLLEGE in Kandiyohi County was established in 1961 as a community college. The superintendent of Willmar public schools, Philip Helland, under whose administration the community college was created, became chancellor of the State Junior College System in 1964. The Willmar Area Vocational-Technical Institute — now separated from the junior college — is located adjacent to the junior college campus. Current junior college enrollment is 694 students, and the area vocational-technical institute enrolled 1,104 students as of fall term, 1972. (Photo taken May, 1971. Courtesy of Minnesota Highway Department.)

TRENDS IN TERTIARY EDUCATION ATTENDANCE IN MINNESOTA

As of the fall of 1971, the Minnesota Higher Education Coordinating Commission reported that there were 183,376 students enrolled at all levels in public and private, collegiate and occupational, and two-year, four-year, and university institutions in Minnesota. About one out of every eighteen Minnesotans age 18 and over was a post high school student in some institution and program (Figure 1).

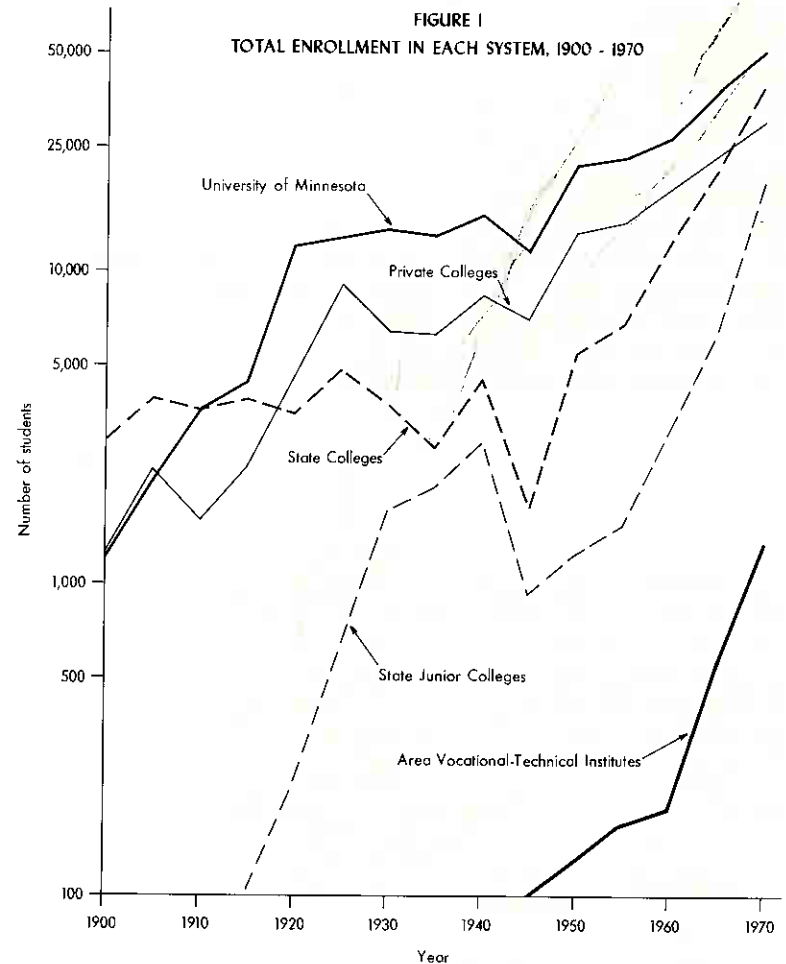
This enormous aggregation of individuals is the product of three basic factors. First is the size of the market — the number of people in the pool to be served by the tertiary educational resources available in Minnesota. Second is the tendency of individuals in this pool to voluntarily enroll themselves in one of Minnesota's 188 tertiary educational institutions. This tendency is called the "tertiary entrance rate" or sometimes the college going rate or post-secondary entering rate. Finally, the tendency of individuals to persist as students beyond initial enrollment — the "retention rate" or student flow — aggregates successive cohorts of students into a generational mix. This general conceptualization of enrollments may be expressed as follows:

$$\text{Enrollment} = \text{Market Population} \times \text{Entrance Rate} \times \text{Retention Rate}$$

Tertiary enrollment with a given trend is therefore the product of three separate components. An understanding of the trends of these three basic components of enrollments permits us to understand the past and the present, and to project future enrollments with some degree of understanding.

THE HIGH SCHOOL GRADUATE POPULATION

Minnesota's market population for tertiary educational services and programs is most closely tied to the number of



Data from Reports of the U.S. Commissioner of Education; U.S. Department of the Interior, Bureau of Education; Bureau of Institutional Research, University of Minnesota; and HECC.

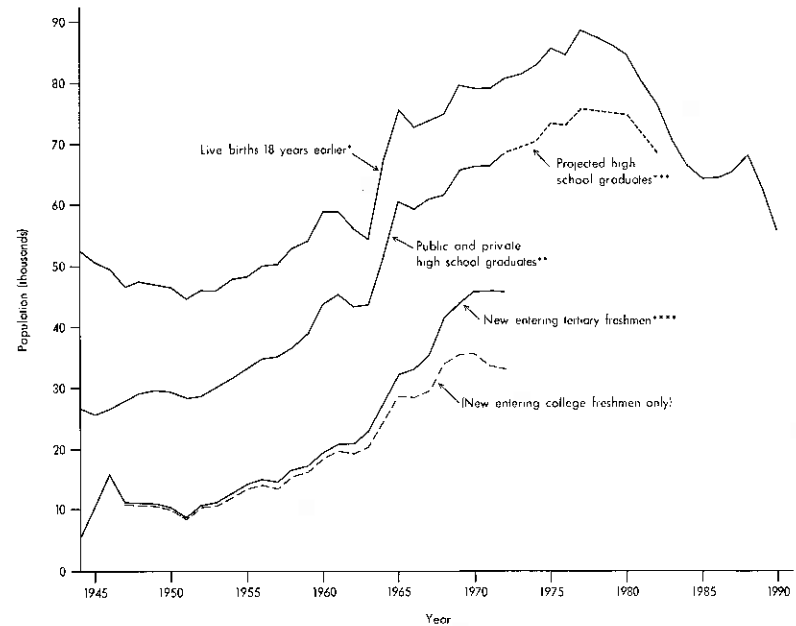
people who are born in the state and graduate from Minnesota high schools. Beginning in 1890 the State Board of Health recorded the number of births occurring here. Eighteen years later these numbers are reflected in similar numbers of high school graduates and new entering tertiary freshmen. This relationship is shown in Figure 2. As the number of live births fluctuates upward or downward from year to year, so too do the numbers of high school graduates and new entering freshmen 18 years later. Therefore, we can project, with some degree of certainty, what the number of high school graduates and new entering freshmen market population will look like 18 years hence. Because 1972 live birth data are available for Minnesota, a rough estimate of the number of high school graduates in 1990 is now possible. Precise estimates of high school graduates through 1982 used in this study were provided by Robert Rustad, doctoral candidate in Educational Administration at the University of Minnesota.

The trends shown in Figure 2 reflect major changes in the population structure of Minnesota — changes with enormous long-range consequences for the location of institutions, levels of public subsidy for operations and capital improvements, and decisions of high school graduates.

The trends, readily identifiable from Figure 2, include the following:

- The era between 1938 and 1945 produced a moderate annual increase in the number of live births in Minnesota, from 50,000 in 1938 to 51,400 in 1945. Eighteen years later these children graduated from high school and entered college in the same general pattern. In 1956 (1938 plus 18 years) 34,300 students graduated from high school, and of these 15,100 entered tertiary education. In 1963, 43,700 of those born in 1945 graduated from high school and 22,700 entered tertiary educational institutions.
- The return of the veterans of World War II resulted in a surge in live births, from 54,500 in 1945, to 67,300 in 1946, to 75,500 in 1947. Eighteen years later these children graduated from high school and went on to college with equally dramatic results. The number of public and private high school graduates increased sharply from 43,700 in 1963, to 51,400 in 1964, to 60,700 in 1965. The number of new entering tertiary

FIGURE 2
AGE STRUCTURE OF MINNESOTA POPULATION, HIGH SCHOOL GRADUATES,
AND NEW ENTERING TERTIARY FRESHMEN, 1944 - 1990



Sources:
 * Live births Minnesota Department of Health, Section of Vital Statistics.
 ** High school graduates, Minnesota Department of Education, Statistics and Research Section.
 *** Projected high school graduates Robert Rustad, University of Minnesota.
 **** New entering tertiary freshmen: 1944-1955 college data from Upper Midwest Regional Association of Collegiate Registrars; 1956-1967 college data from Bureau of Institutional Research, University of Minnesota; 1968-1972 data from MECC; Area vocational-technical institute data prior to 1965 supplied by each institution.

freshmen increased from 22,700 in 1963, to 27,300 in 1964, to 32,400 in 1965. The subsequent pause in the increase in numbers of high school graduates and new entering tertiary freshmen in 1966 was the result of a slackening in the number of births 18 years earlier. But the resurgence of freshmen enrollments from 1967 to 1970 was greater than the earlier birth rate curve would have suggested.

- This pattern suggests that the relatively slow and steady increases in the number of live births in Minnesota that occurred between 1948 and 1959 should yield — 18 years later — a similar slow and steady increase in the total number of high school graduates and new entering tertiary freshmen in



WORTHINGTON STATE JUNIOR COLLEGE in southwestern Minnesota was established in 1936. In 1964 control over and support for Worthington J.C. was transferred from the Worthington School District to the State Junior College System created by the 1963 Minnesota Legislature. Current enrollment is 618 students. (Photo taken May, 1971. Courtesy of Minnesota Highway Department.)



NORMANDALE STATE JUNIOR COLLEGE in Bloomington is the largest state junior college with 3,380 students in 1972. Established in 1968, by the following fall Normandale had become the largest junior college in Minnesota. The college serves south Minneapolis and serves southwest suburban communities of Richfield, Bloomington, and Burnsville on the south and east to St. Louis Park, Hopkins, and Minnetonka on the west. (Photo taken May, 1971. Courtesy of the Minnesota Highway Department.)



ANOKA-RAMSEY STATE JUNIOR COLLEGE in Coon Rapids is built on the banks of the Mississippi River. The college was established in 1965 – the first under the State Junior College System created by the 1963 Legislature. Current enrollment is 2,160 students. (Photo taken May, 1971. Courtesy of Minnesota Highway Department.)

Minnesota between 1966 and 1977. In fact this is indeed occurring, except for the bulge in the late 1960s and the dip in high school graduates entering college now (a phenomenon to be noted at several points later in this study).

- Beginning in 1960 the total number of live births in Minnesota began to drop sharply. In 1959 – the peak year – 88,300 infants were born in Minnesota. By 1965 this number had dropped to 70,900. In 1967 64,300 were born, and in 1971 the total number of live births in Minnesota was 62,600 – the lowest number since 1945. (A preliminary estimate for 1972 is about 56,000.) Eighteen years after these births were recorded, tertiary entrance patterns will be affected in a pattern similar to what has occurred in the past. The number of high school graduates in Minnesota will peak in 1977 at about 76,000, then decline slowly to about 75,000 in 1980. Then, following the birth curve set eighteen years earlier, the number of high school graduates will drop to 68,600 by 1982, and more later. In all likelihood, the number of high school graduates in Minnesota in 1990 will be below any total since 1963. The size of the potential college population beyond 1990 will be determined this year, and next, and in the years following by the decisions and acts of couples now in Minnesota.

ENTRANCE RATES

Not all infants born in Minnesota reach adulthood here. A few die, others leave, and some are replaced by new in-migrants. Of those who are born and remain in the state, most – but not all – will graduate from high school. Of those who graduate from high school, most – now about 66% – will enter tertiary education. It is this latter tendency to enter tertiary education after graduation from high school that is called the “tertiary entrance rate.” This is measured by the ratio of new fall term freshmen entering the University, state college, state junior college, private college, and vocational institute systems, divided by the total number of public and private high school graduates in Minnesota for any given year.

The tertiary entrance rate in Minnesota has increased substantially since 1951, and particularly between 1967 and

1968. The tertiary entrance rate in Minnesota increased from 31.2% in 1951 to 46.6% in 1961. Then, between 1961 and 1966 the rate increased to 55.3%, and between 1966 and 1970 to 69.5%. In 1971 the tertiary entrance rate for Minnesota dropped, for the first time since 1959, to 68.9%, and again in 1972 to 68.4%. The cause of this substantial increase after 1951 is a complex mix of enabling factors on the part of the student, and encouragement factors on the part of public and institutional policy. Some dimensions of this mix of factors are described below.

The Decision to Enter Tertiary Education

Unlike the transition from primary to secondary education, the transition from high school to tertiary education is voluntary. High school graduates experience a complex set of cultural, socioeconomic, religious, and spatial factors which, in interaction, lead to a voluntary decision whether or not to continue their education, in what form to continue it, and where such education will take place. At present about two out of three high school graduates do decide to continue their education, but seek different types of educational opportunities in different places. The specific determinants of individual decisions, and their interaction, are now under study at the University of Minnesota. Although the precise results of this study are not yet available, a few general comments on the determinants of tertiary educational entrance can be made.

All of the following appear to contribute to the high school graduate's decision to more or less voluntarily continue his studies in tertiary education: increasing levels of family income (especially for girls), increasing levels of scholastic ability, increasing proximity to a tertiary educational institution, increasing levels of parental education, the presence of a compulsory military obligation (for boys), decreasing opportunities for employment, and others. The reverse of the above situations would contribute negatively to the high school graduate's decision whether and where to continue his or her education.

An enormous difference exists between trends in college entrance rates for boys and girls graduating from Minnesota's public and private high schools (Figure 3). Over the seventeen year time span from 1956 to 1972 during which data have been collected, the rate at which boys graduating from high school have entered college has *decreased* by 1.6%. During the

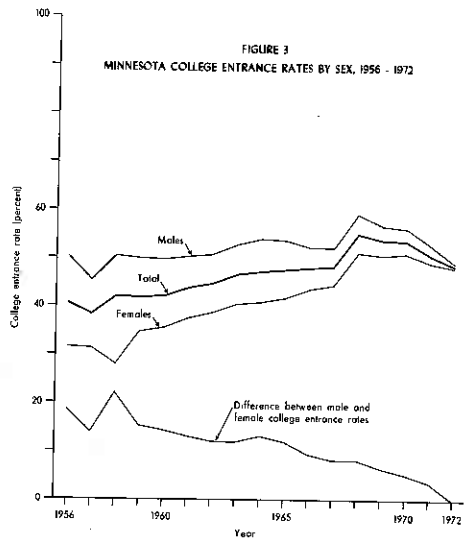


FIGURE 3
MINNESOTA COLLEGE ENTRANCE RATES BY SEX, 1956 - 1972

Sources: High school graduates from Minnesota Department of Education
New college freshmen from Bureau of Institutional Research, University of Minnesota
1956-1967 and MECC (1968-1972)

same period the rate for girls has *increased* by 16.6%. Between 1956 and 1972 the college entrance rate for boys decreased from 50.1% to 48.5%, while the rate for girls increased from 31.7% in 1956 to 48.4% in 1972. The difference between the two rates has steadily decreased, from a maximum spread of 22.3% in 1958, to .1% in 1972. In effect all of the 7.8% increase in total college entrance rates between 1956 and 1972 is the result of increases in the number and rate at which girls graduating from high school have gone on to college. The rate for boys has declined slightly since 1956.

When college entrance rates by sex for each of the five collegiate systems in Minnesota are compared for the interval between 1956 and 1972, it becomes clear that the state college system and the public junior colleges have accommodated the increasing share of female enrollments (Figures 4, 5).

Which Kind of Campus Students Attend

The 66,500 graduates of Minnesota's 574 public and private high schools in 1970 could choose from among 188 tertiary educational institutions in Minnesota to continue their studies. 46,000 of them chose to do so on one of the four campuses of the University, six campuses of the state college system, 18 campuses of the state junior college system, 22

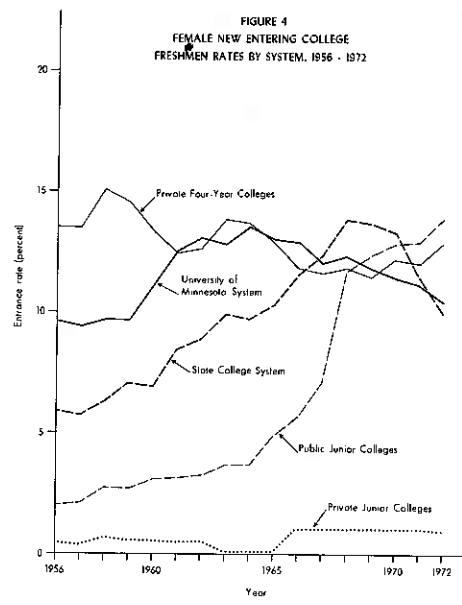


FIGURE 4
FEMALE NEW ENTERING COLLEGE
FRESHMEN RATES BY SYSTEM, 1956 - 1972

Sources: High school graduates from Minnesota Department of Education
New college freshmen from Bureau of Institutional Research, University of Minnesota
(1956-1967) and MECC (1968-1972)

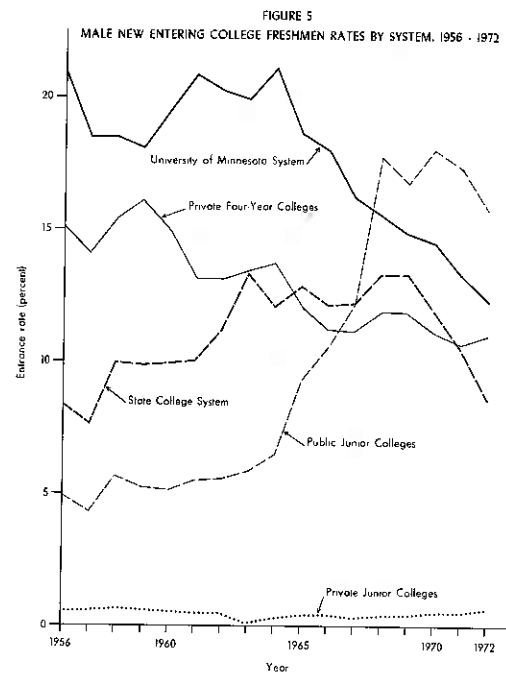


FIGURE 5

MALE NEW ENTERING COLLEGE FRESHMEN RATES BY SYSTEM, 1956 - 1972

Sources: High school graduates from Minnesota Department of Education
New college freshmen from Bureau of Institutional Research, University of Minnesota
(1956-1967) and MECC (1968-1972)



BEMIDJI STATE COLLEGE opened in 1919. The 89 acre campus is located on the west shore of Lake Bemidji. Nineteen of the 25 buildings on the campus have been built since 1955. Current enrollment is 4,570. (Photo courtesy of Bemidji State College.)

private four-year college campuses, five private junior college campuses, or 28 area vocational-technical schools existing at that time.

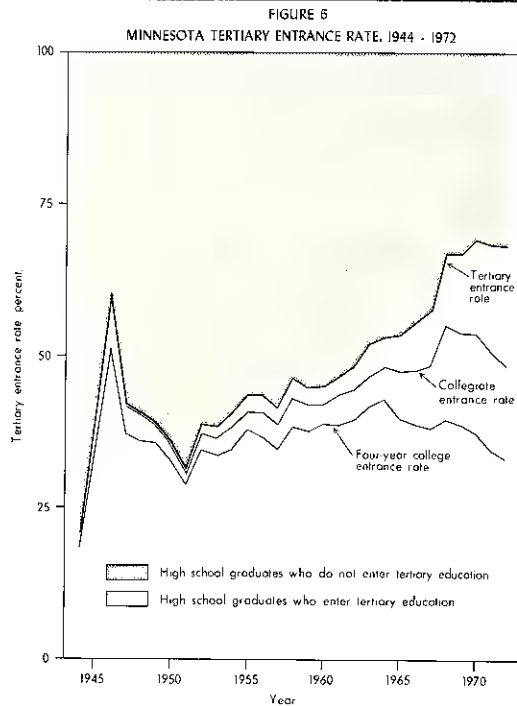
Distinct patterns of attendance reflect background characteristics of the student (cultural, religious, socioeconomic, spatial, ethnic) and characteristics of the institution they attend (admissions criteria, cost of attendance, location, particular religious affiliation, programs offered). Although the precise relationship between all these factors is not known, the general outline of these patterns can be estimated.

Most high school graduates going on to tertiary education will attend the institution nearest their home. This is particularly true if their educational plans are not clear at the time a decision must be made. Further, most of those continuing their education will choose among alternatives on the basis of the cost of attending different institutions. Thus public institutions, and in particular the lowest cost public institutions, have attracted most of the increment in enrollments since 1965 in Minnesota. These basic determinants have been modified by a variety of institutional factors such as religious orientation, especially Lutheran and Catholic in Minnesota, and special program offerings not available elsewhere which are especially attractive to the high school graduate. Finally, admissions criteria which select among applicants on the basis of high school achievement and potential scholastic performance may preclude the nearest, or least expensive, or otherwise most attractive alternative considered by the high school graduate, and channel him into some institution other than his first choice.

Available data on entrance patterns to tertiary education in Minnesota appear in the following graphs. It is clear from Figure 6 that until about 1964 most of the tertiary educational opportunities available to high school graduates were provided by four-year institutions: the University campuses in the Twin Cities, at Duluth and Morris; the five state college campuses at Winona, Mankato, St. Cloud, Moorhead, and Bemidji; and the twenty private four-year colleges. In 1964 81% of those graduating from high school who entered tertiary education entered one of these four-year institutions. Nineteen percent entered two-year institutions.

Beginning in 1965 the greatest increases in the number and rate of new entering tertiary freshmen occurred in the newly organized state junior college system and the rapidly emerging

area vocational-technical institutes operated by local school districts. By 1968 the percentage of high school graduates going on to tertiary education and entering four-year institutions had dropped to 61% — 39% were then entering two-year junior colleges and area vocational-technical schools. By 1972 the percentage entering two-year institutions had risen to 51% of the total continuing their education beyond high school, and this trend continues.



Sources: High school graduate data from Minnesota Department of Education; New entering freshmen data from Upper Midwest Regional Association of College Registrars (1944-1955); Bureau of Institutional Research, University of Minnesota (1956 - 1967); and HECC (1968-1972).

Several additional major trends in tertiary entrance patterns are worth noting. First, the rate at which high school graduates have continued their education in Minnesota collegiate institutions has increased substantially in the last two decades, from 31% in 1951 to 55% in 1968. Since 1968 this rate has declined steadily to the rate of 48% in 1972. Finally, the rate at which these high school graduates have entered four-year institutions increased between 1951 and 1964 from 29% to 43% of all such graduates, and has declined steadily

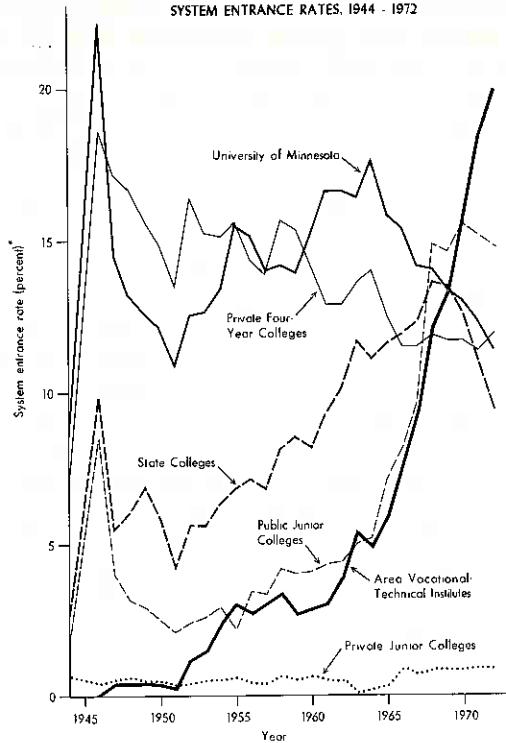


WINONA STATE COLLEGE is the oldest of the state colleges. In 1858 the "First State Normal School at Winona" was established. In 1921 the state normal schools became the State Teachers College System and the Legislature authorized the awarding of baccalaureate degrees. In 1956 Winona State Teachers College became Winona State College. Current enrollment is 3,888 students. (Photo taken August, 1972. Courtesy of Winona State College.)



SOUTHWEST STATE COLLEGE in Marshall opened in 1967 on a 216 acre site donated by the people of the community. The current investment in land and buildings is approximately \$43,000,000. Fall 1972 enrollment was 2,548 students. (Photo taken fall, 1971. Courtesy of Southwest State College.)

FIGURE 7
SYSTEM ENTRANCE RATES, 1944 - 1972



*System % = New entering fresh, fall term/total Minnesota public and private high school graduates

since to 32% in 1972 as eight new public junior colleges, two new private junior colleges, and fifteen new area vocational-technical institutes were opened and provided alternative opportunities.

The six major tertiary educational systems for which entrance data on new freshmen are available have grown differentially. Figure 7 shows the following important trends in new admissions.

- The rate at which high school graduates have entered Minnesota's private four-year colleges declined almost steadily between 1946 and 1966, from a peak of 18.6% of all Minnesota high school graduates in 1946 after World War II, to 11.5% in 1966. During the last seven years the private four-year college entrance rate has remained about constant at 11.4% to 11.9%.

- The rate at which Minnesota's high school graduates have entered the University system increased between 1951 and 1964, from 10.9% in 1951 to 17.6% in 1964. This rate has since declined steadily to 11.4% of the 1972 high school graduates.
- The rate at which high school graduates have entered state colleges increased significantly and steadily between 1951 and 1968, from 4.2% of the total high school graduates in 1951, to 13.6% in 1968. Since 1968 this rate has declined sharply to 9.4% in 1972.
- The public junior college entrance rate increased slowly from 1951 (2.1%) to 1964 (5.2%). Then, beginning in 1965 at the time junior colleges operated by local school districts were incorporated into the state system, this rate increased sharply to 14.8% in 1968. Since 1968 this rate has remained about constant at near 15%.
- The area vocational-technical school entrance rate increased slowly between 1956 and 1965, from 2.7% to 5.8% of all high school graduates. Since 1965 this rate has increased substantially each year to 20.0% in 1972.
- Private junior colleges do not enroll significant numbers of Minnesota high school graduates — less than 1.0% of the total pool. Only two — St. Mary's in Minneapolis and Golden Valley Lutheran — enroll more than a few students.

The trends in entry rates into different systems have been very largely determined by federal and state policy with respect to the creation of new institutions in new places, and funding their operations at levels which have permitted or not permitted growth to occur. Those policies, in a larger sense, were responses to a crisis — a 38% increase in the annual number of Minnesota high school graduates in two years.

During the interval between 1956 and 1971 the legislatures of Minnesota created eight new junior colleges (and two more were created by local school districts), two new state colleges, and three new campuses of the University. Additionally, local school districts established twenty-five new area vocational-technical institutes. Most of these new institutions have been

established in communities not previously served by a nearby public institution. The effect of these new institutions has been to provide educational opportunity to market populations not previously served. The new opportunities have been mainly occupational programs in area vocational-technical institutes, and collegiate programs in state colleges and junior colleges.

Further, increasing levels of public support have permitted growth as measured by increasing enrollments among public institutions in general, and among public two-year institutions in particular. The decision of the 1963 Legislature to assume total state responsibility for management and financing of public junior colleges, previously operated by local school districts, permitted infusion of new resources. The results were growth of established institutions and opening of new ones. Also, federal support for two-year training or shorter courses for specific occupations has facilitated spectacular growth in the number and size of area vocational-technical institutes.

These factors, together with record numbers and growing average affluence of high school graduates, have resulted in the very large gains in numbers and entry rates of new entering tertiary freshmen.

RETENTION RATES

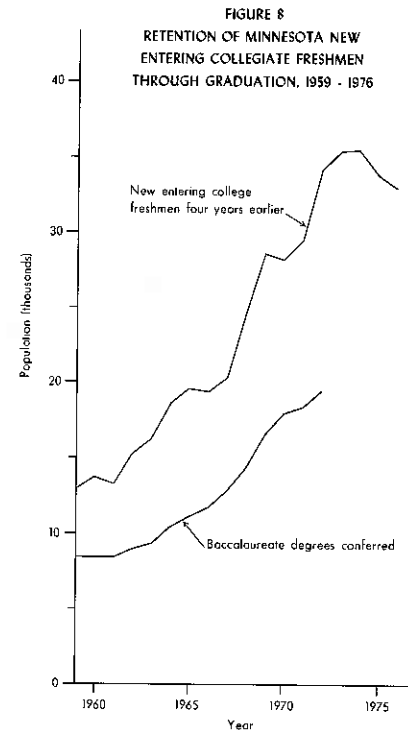
Some students drop out before they graduate, a few graduate on schedule, and some take more time to complete their program of studies than the program calls for. This general phenomenon is called retention, and it is a significant determinant of institutional and total enrollments.

A Period of Increasing Retention

One very general description of recent trends in the retention of students in Minnesota collegiate programs can be drawn from available data on the total number of baccalaureate degrees conferred each year, divided by the total number of new entering freshmen four years earlier (Figure 8). Over the period for which these data are available, this estimated retention rate has ranged roughly between 56% and 63%. This is to say that the number of baccalaureate degrees conferred in any given year in Minnesota divided by the number of new entering college freshmen four years earlier has been about 60%. Although no trend is evident in this data, the establish-

ment and expansion of public junior college opportunities in Minnesota during this period may have reduced an existing trend toward increased college retention among students. Presumably, many new students entering collegiate institutions during this period were individuals whose scholastic performance in high school, predicted achievement in college, family resource limitations, and educational horizons would not previously have enabled them to enter a collegiate institution. These students now obtain two years of collegiate instruction not previously available to them.

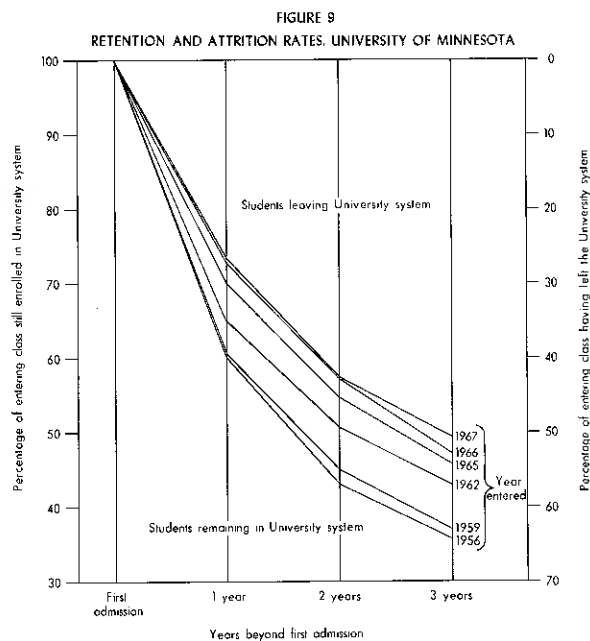
Data on the progress of individual students through a given four-year program of institutional instruction provide another better measure of retention. These data are not usually available. However, the Office of Admissions and Records at the University of Minnesota has monitored the retention of freshmen classes admitted to the University system in the fall terms of 1956, 1959, 1962, 1965, 1966, and 1967. For



Source: Bureau of Institutional Research, University of Minnesota (1959-1967) and HECC (1968-1972)

example, for the freshman class admitted to the University in 1956, 60% were still enrolled in the University one year later. 40% had dropped out. Two years after first admission, 43% were still enrolled. And three years later – the senior year for many of those still enrolled – 36% were still enrolled. By that year 64% had left the University system. Most who dropped out would not return later. Four years after first admission and one quarter after the members of this class would have graduated had they progressed through their academic program on schedule, 23% were still enrolled, suggesting that few students graduate on schedule.

Figure 9 reinforces the idea that the rate of retention of students through four years of study has increased significantly between 1956 and 1967. For example, for the freshman class admitted in 1956, 36% were still enrolled three years later. For the class entering in 1962 43% were still enrolled three years later. And three years after the class entering in 1967 began studying, 49% were still enrolled. Apparently this increase in retention of students through four years of study in



Source: University of Minnesota Office of Admissions and Records



MOORHEAD STATE COLLEGE was established in 1885. The Fall 1972 enrollment of 4,781 students is housed in 37 buildings on the Moorhead Campus. (Photo taken spring, 1968. Courtesy of Moorhead State College.)



ST. CLOUD STATE COLLEGE, established in 1869, is the second largest state college with a fall 1972 enrollment of 9,179 students. St. Cloud is the only public college campus whose full-time undergraduate enrollment is expected to increase between 1970 and 1985 in this study. (Photo taken July, 1972. Courtesy of St. Cloud State College.)

the University system is the result of increasing selectivity among applicants for admission, improved student services, and the relaxation of institutional controls on students, such as more sensible grading practices on the part of the faculty and greater freedom in life-style choices.

The percentage of students still enrolled in the University system four years after admission — one year after scheduled graduation — has remained constant at about 20% to 23% over the time period for which data are available. This was as true for the class admitted in 1956 — where 23% were still enrolled four years later — as it was for the class admitted in 1966, also 23% still enrolled four years after first admission. Although retention through the senior year appears to be increasing in the University system, retention beyond the scheduled four years has not changed over the years for which such data are available. Most of the increase in retention appears to be concentrated on the other end of the time line — dramatically improved retention during the first year of University studies.

Causes of Retention Poorly Known

The circumstances of new entering college freshmen that led them to enter college are much the same as those that determine their retention in college once they have enrolled. They include both student background and the environment of the institution, and external influences such as war, job availability, and the like. Knowing this one might suspect that, like declining college entrance rates since 1968, retention rates may no longer be increasing but may be now decreasing. In fact there is some preliminary evidence from University of Minnesota enrollment reports and other data that this is occurring. Since 1969 the total system enrollment has remained about constant. The number of students dropping out of the University each year before graduation, however, has increased from 6,900 during the 1969-70 academic year, to 7,400 during the 1970-71 year, to 7,600 during the 1971-72 year. The percentage of dropouts to the total enrollment has thus increased from 13.7% in 1969-70 to 14.8% in 1971-72.

Research on the causes of retention and attrition is not yet complete enough to draw any specific conclusions. Nor, in fact, are statewide data complete enough to describe fully the phenomena that are now occurring. To be sure, some observations are possible. Students who drop out of college are commonly involved in marriage, employment, military or other service, or transfer to another educational institution. The reasons they cite for dropping out include lack of funds, discouragement by low grades, changed plans, moving to another place, or dissatisfaction with aspects of the institution where the student studied. The characteristics of students who persist in their programs and institutions are similar to those of students who enter a given institution. They include academic, scholastic, or other special ability, previous performance, economic status of the student's family, work load undertaken while studying, psychological health and adjustment, and interests of the student.

Nevertheless, the range of variables determining both entrance and retention rates has not yet been defined, nor is any derived definition likely to serve well over a long period of time. Further, the interaction among these causal variables — institutional characteristics, state and federal policy and programs, student socioeconomic characteristics — is not well enough understood to permit accurate and reliable explanation

of the phenomena now occurring. There may be a social revolution underway that is reflected in some of the trends described here. The college entrance rate and the retention rate among students enrolled in collegiate institutions in Minnesota began to drop about 1969. This followed decades of increasing rates in both entrance and persistence, and it was preceded by an extraordinary burst of new enrollments in 1968. We lack understanding of the cause of this behavior, and we lack the perspective to identify it as a long-term change or short-term disturbance. The lack of understanding and perspective is reason for caution in talking about future enrollments.

TOTAL TERTIARY ENROLLMENTS

The numerical end result of numbers of births, numbers of high school graduates, tertiary entrance rates, and retention rates is the total enrollment in tertiary educational institutions.

Since 1935 total tertiary enrollments in Minnesota have increased substantially each year, with the exception of the chaotic period caused by World War II between 1940 and 1951 (Figure 10). The data in Table 1 include tertiary enrollments for the University, state colleges, private four-year colleges, public junior colleges, private junior colleges, and area vocational-technical institutes. Enrollments in these institutions constituted about 85% of total tertiary enrollments in 1971. Major tertiary enrollment categories not included, for lack of reliable historical data, are extension, hospital programs in x-ray technology and nursing, and private proprietary schools.

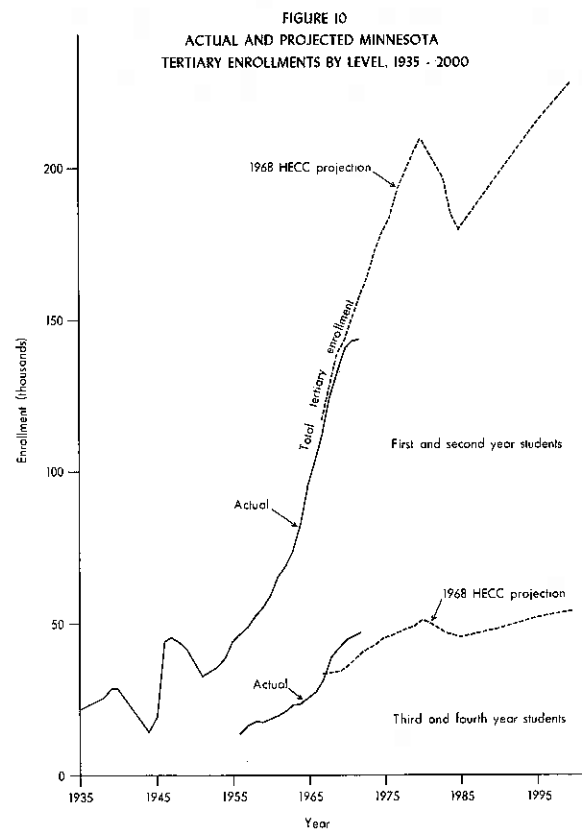
Annual increases in total tertiary enrollments have averaged about 6,200 per year since 1956. In 1935 there were 24,500 students enrolled in tertiary programs and institutions in Minnesota. By 1956 this total had doubled, to 49,000, and by 1963 — just prior to an enormous increase in enrollments — the total was 75,200. Between 1963 and 1971, in just eight years, total tertiary enrollments in Minnesota nearly doubled to 144,700 students. In 1972, growth of 109 additional students indicated that a plateau in enrollments had been reached.

As we have noted previously, the increases between 1952 and 1971 were the combined result of a dramatic increase in

population, a significant increase in the entrance rate and increased retention through four years of collegiate study.

The growth in tertiary enrollments has been shared neither equally between all systems nor evenly through the years. In 1935, for example, tertiary enrollments in the University and private four-year colleges constituted 79% of all tertiary enrollments in Minnesota. In 1956 these two systems still held 76% of the total tertiary enrollment. By 1972, however, University and private college enrollment in Minnesota was down to 47% of the state total — despite substantial growth in both systems during the fifteen year interval between 1956 and 1972.

Enrollment growth since 1956 has been centered primarily in the state college system, state junior college system, and



Sources: See Table 1

TABLE 1: SUMMARY OF TERTIARY EDUCATIONAL ENROLLMENTS IN MINNESOTA INSTITUTIONS BY SYSTEM AND BY LEVEL, 1935, 1938-1940, AND 1944-1972

Year	University System	State College System	Private 4-Year Colleges	Public Junior Colleges	Private Junior Colleges	Area Vo-Tech Institutes	Total First 2 Years	Total Last 2 Years	Total Tertiary Enrollment	Change From Prev. Year	Primary Data Source
1935	10,980	2,751	6,182	2,091	215				22,219		
1938	12,497	3,514	7,835	1,583	dna						MDACR
1939	12,699	4,117	8,176	1,682	dna						MDACR
1940	12,676	4,227	8,356	2,758	235				28,252		
1944	7,617	1,525	4,456	729	290				14,617		J.M.Bly
1945	9,546	1,779	6,742	889	314				19,270	+ 4,653	
1946	22,878	4,724	12,764	3,421	649				44,438	+ 25,168	NCACR
1947	23,527	4,151	14,695	2,661	278	89			45,401	+ 963	NCACR
1948	22,105	4,681	15,106	1,746	241	118			43,997	- 1,404	UMACR
1949	19,820	5,435	14,690	1,596	190	139			41,870	- 2,127	UMACR
1950	16,686	5,057	13,434	1,274	220	142			36,813	- 5,082	UMACR
1951	14,013	3,963	13,578	995	210	96			32,855	- 3,958	UMACR
1952	14,436	4,232	13,868	1,102	211	516			34,365	+ 1,510	UMACR
1953	14,777	4,567	13,615	1,263	243	637			35,102	+ 737	UMACR
1954	15,805	6,315	13,935	1,428	301	1,104			38,888	+ 3,786	UMACR
1955	18,594	6,837	15,136	1,606	342	1,528			44,043	+ 5,155	UMACR
1956	20,615	7,842	15,317	1,934	380	1,469	32,221	13,867	46,088	+ 2,045	BIR
1957	20,754	8,187	15,638	2,159	349	1,641	32,268	16,460	48,728	+ 2,640	BIR
1958	21,076	9,576	16,660	2,656	453	1,870	34,666	17,625	52,291	+ 3,563	BIR
1959	20,957	11,419	17,507	2,886	481	1,779	37,592	17,437	55,029	+ 2,738	BIR
1960	22,470	12,714	18,085	3,365	502	1,891	40,371	18,656	59,027	+ 3,998	BIR
1961	24,752	14,664	18,859	3,982	526	2,072	45,383	19,472	64,855	+ 5,820	BIR
1962	26,284	16,299	18,861	4,112	518	2,570	47,701	20,943	68,644	+ 3,789	BIR
1963	27,308	18,313	19,560	4,461	130	3,599	50,464	22,907	73,371	+ 4,727	BIR
1964	30,261	20,869	22,002	5,415	191	3,865	58,942	23,661	82,603	+ 9,232	BIR
1965	33,436	24,370	23,560	7,677	278	5,546	69,714	25,153	94,867	+ 12,264	BIR
1966	34,934	26,234	24,137	9,362	867	8,163	76,236	27,461	103,697	+ 8,830	BIR
1967	36,667	29,731	24,767	11,836	919	8,748	81,292	31,376	112,668	+ 8,971	BIR
1968	38,045	32,471	25,935	15,361	1,130	11,401	85,326	39,017	124,343	+ 11,675	HECC
1969	40,230	34,691	26,512	17,544	1,139	13,435	91,683	41,868	133,551	+ 9,208	HECC
1970	40,707	36,189	26,785	19,949	1,205	15,969	96,219	44,585	140,804	+ 7,253	HECC
1971	40,981	35,489	26,514	22,082	1,313	18,357	98,985	45,751	144,736	+ 3,932	HECC
1972	39,982	32,638	27,563	22,289	1,431	20,939	97,925	46,917	144,842	+ 109	HECC

area vocational-technical institutes. Between 1956 and 1970 enrollments in the state college system increased by four and one-half times, from 7,800 to 36,200. But the most spectacular growth has occurred in two-year institutions: public junior colleges and area vocational-technical institutes. Between 1956

and 1971, enrollment in public junior colleges increased by over eleven times. And during the same period enrollment in area vocational-technical institutes increased by about 13 times. Enrollment in two-year institutions grew from 8% of the tertiary total in 1956, to 31% of the total in 1972.

Until 1966 not only did total tertiary enrollments increase each year, but the numerical increase also increased each year. Between 1956 and 1957, the increment in tertiary enrollments was 1,337 additional students. Between 1960 and 1961 the increase was 5,800 additional students. Between 1964 and 1965 12,300 additional students were added. Following 1965 the annual increment in enrollment over the previous year's total remained high, at about 9,000 additional students per year. Then, between 1970 and 1971 this rate of increase dropped sharply — to 4,300 additional students — and between 1971 and 1972 the total increased by 106 additional students (.07%).

What of the future? Will enrollments in tertiary education continue to grow at rates like those of the past decade? Clearly they will not. The total growth is likely to be zero. Some systems, particularly area vocational-technical institute enrollment, are likely to experience continued growth in the immediate future. Other systems, such as state junior colleges and private four-year colleges, are likely to stabilize. And finally, the public four-year systems of the state colleges and University may well decline in tertiary enrollment in the immediate future. Even the conservative projections in the following pages will not be reached without an immediate, sharp upturn in college entry rates.

In 1968 the Minnesota Higher Education Coordinating Commission attempted to project tertiary enrollments by level through the year 2000. These projections, which appear on Figure 10, are based on several assumed conditions and a statement of public policy which are now due for reexamination. The first assumed condition is that birth rates after 1970 would resume upward growth. Recent data indicate that this assumption needs to be reevaluated. The second assumed condition, with significant policy, appropriations, and enrollment implications, is that 85% of the state's population age 18 to 21 should be enrolled in tertiary education by 1985. Declining college entrance rates, and stable tertiary entrance rates since about 1968, suggest that this objective will not be



MANKATO STATE COLLEGE was established in 1866 and is now the largest state college with 10,923 students in the fall of 1972. The college has facilities on two campuses in Mankato — the older, lower campus shown in the photograph, and a newer, upper campus built largely since 1960. (Photo courtesy of Mankato State College.)

achieved. What is likely to occur in tertiary enrollments now appears to be something well below HECC's 1968 enrollment projections. This suggests that public and institutional policies related to anticipated growth are due for reexamination.

REGIONAL PATTERNS

Vivid regional variations characterize the layout and operation of higher education in Minnesota. They are the products of the geographic pattern of population, campus locations, and the flow of students from where they attend high school to where the tertiary educational opportunities are offered. All of these patterns have changed dramatically in the twentieth century, especially in the past two decades, and the flow patterns are likely to change further in the next fifteen years.

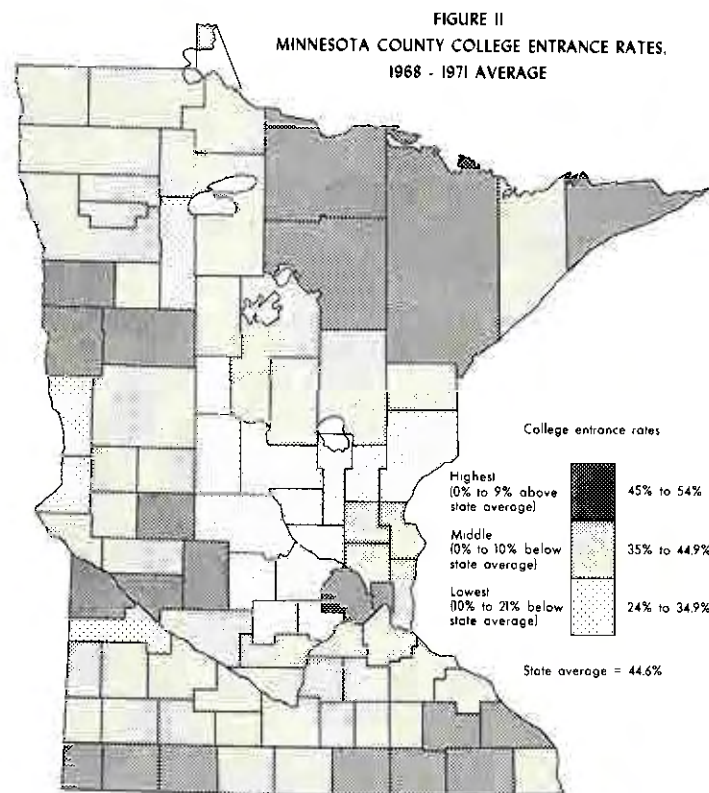
SOURCES OF STUDENTS

Student origins reflect the long-term population growth pattern of the state. The major growth region lies within the zone of daily commuting, branch plants, and vacation homes tributary to the Twin Cities metropolis (Figure 12). It is the area of longest, strongest, and most steady population and economic growth in the Upper Midwest and an integral part of the national urban system.⁵ Beyond the major growth region, in the nonmetropolitan zone of the state, population growth is confined to isolated, medium-sized centers of employment and their commuter districts, and it is inherently more sporadic over the years. Outside the major growth region, although nonfarm population is increasing in almost all counties, that increase continues to be more than offset by farm population

⁵See J.R. Borchert and D.D. Carroll, *Minnesota Land Use and Settlement 1985*, Minneapolis: University of Minnesota, for the Minnesota State Planning Agency, 1970, pp. 12-13; *Minnesota Population and State Planning*, Minneapolis: University of Minnesota, for the Minnesota State Planning Agency, 1968; and J.R. Borchert, *Projection of Population and Highway Traffic in Minnesota*, St. Paul: University of Minnesota Departments of Agricultural Economics and Geography, 1963. These studies document the persistent, fundamental nature of the state's population distribution pattern.

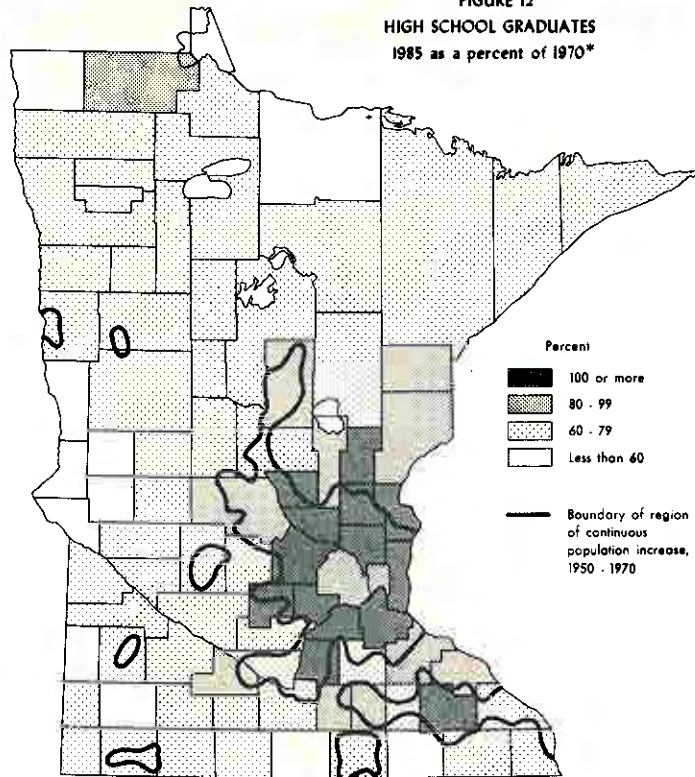
decline; hence a net decrease in population continues in most counties.

Student origins also continue to reflect differences in many other characteristics of the population, in addition to sheer numbers and growth rates. Comparison, in Figure 11, of



Source: HECC and C.E.R. to adjacent non-Minnesota institutions from college registrars and student directories.

FIGURE 12
HIGH SCHOOL GRADUATES
1985 as a percent of 1970*



*Based on population projections of Minnesota Department of Health, 1972
Data from J. R. Borchert and D. D. Carroll, *Minnesota Land Use and Settlement 1985*,
University of Minnesota and Minnesota State Planning Agency, 1970

central Minnesota with other rural areas suggest that culture is a factor. The high attendance rates from the Twin Cities and most other counties with large, nonmetropolitan trade centers no doubt reflect the effect of income on regional student origins. The effect of spatial accessibility is only feebly suggested by the map, although it is generally assumed to be of great importance.

In the coming fifteen years the geographic pattern of student origins will change somewhat in response to regional differences in the timing of the end of the post-World War II population boom. The birth rate decline set in earlier in the nonmetropolitan zone, where out-migration was stronger and the average age of the population greater. Onset of the decline

was later in the metropolitan growth zone because of the continuing in-migration and retention of young families. Thus, by 1985 the number of high school graduates in many outstate counties will be less than two-thirds the number in 1970. In the outer ring of metropolitan commuter counties the number will have increased substantially (Figure 12). High school facilities will be under-used in the one region, in urgent need of expansion in the other; and the situation will be reflected in the origin of students on the tertiary education campuses.

THE PUBLIC CAMPUSES AND THEIR SETTING

The nine state college and University four-year campuses are simply the largest part of a very large and heterogeneous family. In all, 188 post-high school educational institutions operate in Minnesota (Table 2). Sixty-two are public, including

TABLE 2: MINNESOTA TERTIARY EDUCATIONAL INSTITUTIONS,
1971

	Public	Private	Total
Two Years or Less			
Vocational-Technical Institutes	32	1	33
Technical Colleges	2		2
Proprietary Schools		51	51
Hospital Schools		34	34
Junior Colleges	18	5	23
Sub-Total	52	91	143
Three-Year			
Diploma Nursing Schools		12	12
Sub-Total		12	12
Four-Year			
Liberal Arts Colleges	1	18	19
Comprehensive Colleges	8		8
Specialized Institutions		5	5
University Campus	1		1
Sub-Total	10	23	33
Total Tertiary Educational Institutions	62	126	188



UNIVERSITY OF MINNESOTA/DULUTH was, until 1947, a part of the State Teachers College System. Originally, this was a state normal school established in 1902. Fall 1972 enrollment was 5,488 students. (Photo taken 1972. Courtesy of University of Minnesota.)

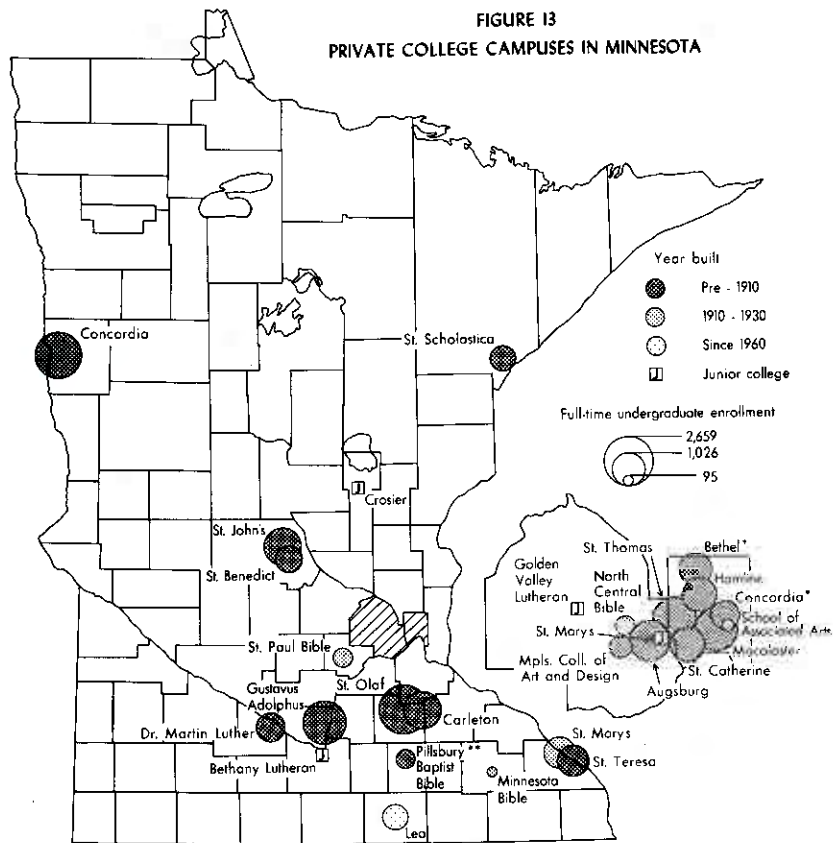


UNIVERSITY OF MINNESOTA/MORRIS opened in 1960 as a four-year liberal arts college. Fall 1972 enrollment reached 1,763 students, drawn largely from outside Stevens and adjacent counties. (photo taken 1972. Courtesy of University of Minnesota.)



UNIVERSITY OF MINNESOTA/ST. PAUL CAMPUS was purchased in 1881-1882 as an agricultural experiment station, and collegiate level classes were first offered there in 1891. Within its 700 acres is a campus enrolling 3,700 students in the Colleges of Agriculture, Forestry, Home Economics, Biological Sciences, and Veterinary Medicine. (Photo taken 1972. Courtesy of University of Minnesota.)

FIGURE 13
PRIVATE COLLEGE CAMPUSES IN MINNESOTA



*Bethel and Concordia (St. Paul) were junior colleges until 1947 and 1963 respectively.

**Pillsbury Baptist Bible was an academy until 1957.

Data from HECC

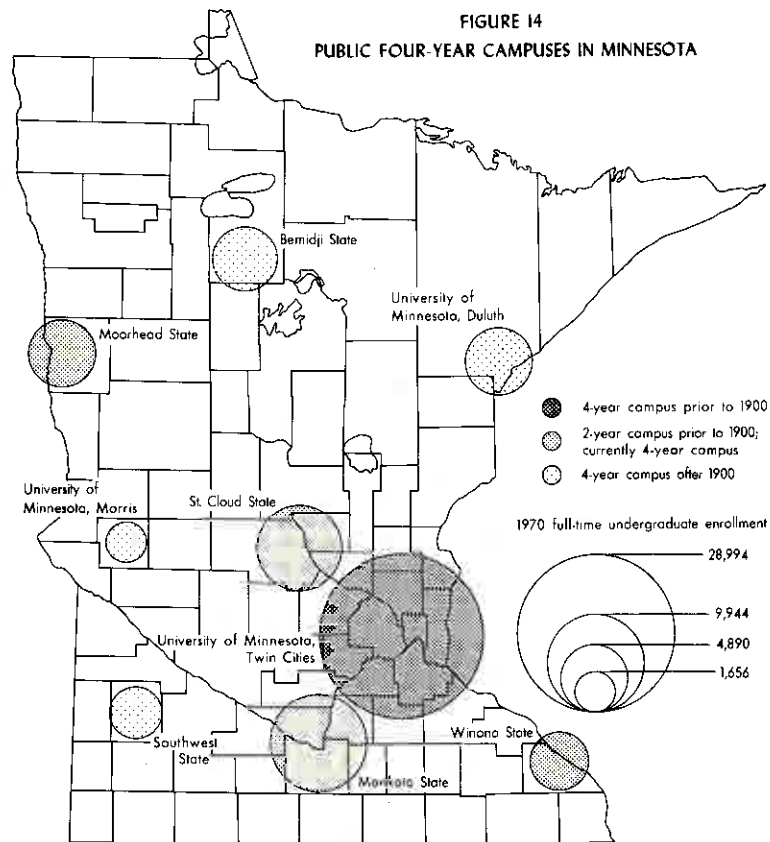
the junior colleges and area vocational-technical institutes as well as the four-year colleges. Among the four-year college campuses eighteen are private.

Most of the private colleges were established before World War I. They have been generally characterized by comparatively slow growth and small size (Figure 13). The public system has become larger and more sophisticated over the years. The University Twin Cities campus was the first to offer four-year degree programs (Figure 14). The state colleges, including what is now the University campus at Duluth, began

as two-year normal schools before 1900. In 1921 they became four-year teachers colleges; and they added liberal arts, graduate and limited professional programs, as state colleges, in 1957. The University branches offering four-year programs, at Morris and Duluth, were also created after World War II — one from the preexisting Duluth State Teachers College and the other from a University-run agricultural high school and experiment station.

The junior college and technical campuses are generally newer still. A few outstate municipalities established junior

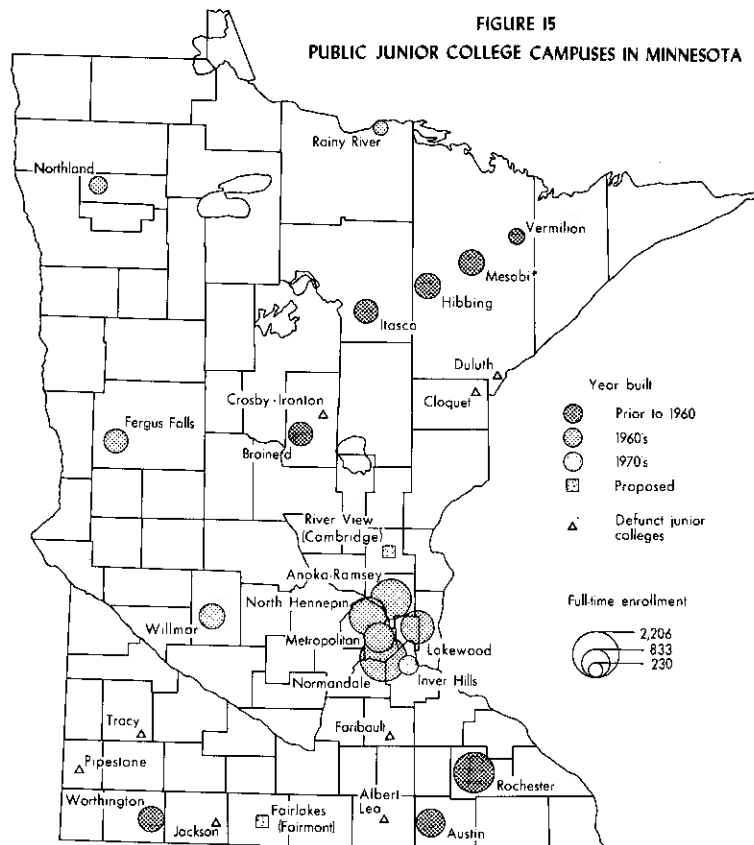
FIGURE 14
PUBLIC FOUR-YEAR CAMPUSES IN MINNESOTA



Data from HECC

colleges, mainly in the 1910s and 1920s. The state system, established by the 1963 Legislature, incorporated the nine existing institutions, expanded them, combined two, and established ten new ones (Figure 15). Major impact of the development of the state system was in the Twin Cities metropolitan area. A few area vocational-technical institutes can also trace their origins to municipal action in the late 1940s or early 1950s. But most have been opened since the great expansion of federal aids, state administered, in the 1960s (Figure 16).

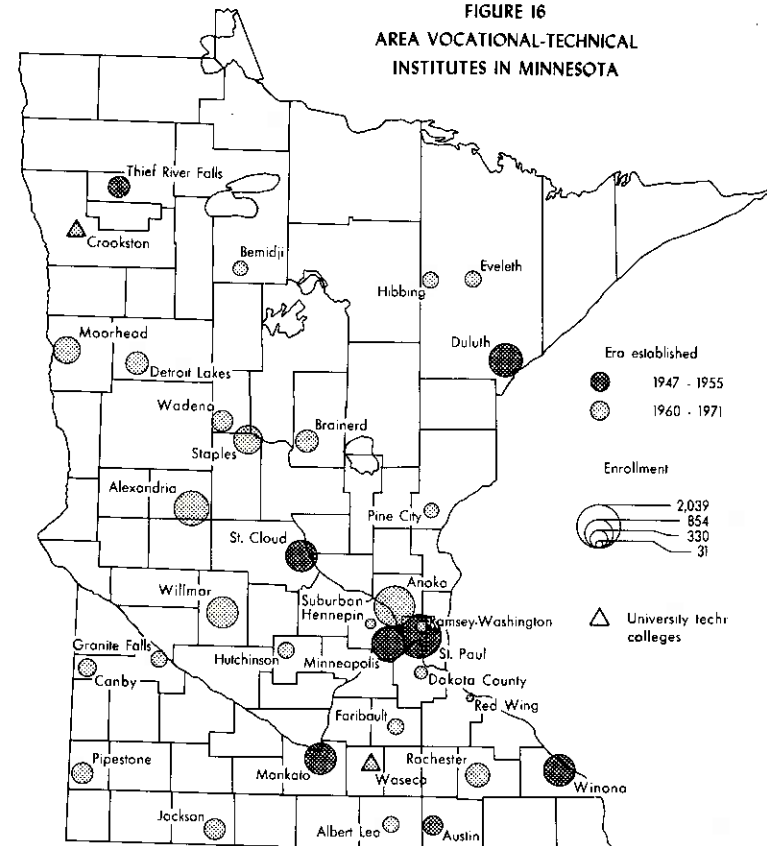
FIGURE 15
PUBLIC JUNIOR COLLEGE CAMPUSES IN MINNESOTA



* Eveleth and Virginia Junior Colleges merged to form Mesabi State Junior College in 1967.

Data from HECC

FIGURE 16
AREA VOCATIONAL-TECHNICAL
INSTITUTES IN MINNESOTA



Data from HECC

In summary, the historical development of the tertiary education establishment in Minnesota begins with the state University, whose Twin Cities campus and enrollment grew to national and international stature and, also, to great size commensurate with its metropolitan location and monopoly of most public collegiate offerings. This was accompanied by a later, gradual effort by the state to replicate relatively low cost or less specialized collegiate offerings in dispersed locations. Teacher training came first, then four-year liberal arts and



UNIVERSITY OF MINNESOTA/MINNEAPOLIS has a campus spanning the Mississippi River. Although established by an act of the 1851 Territorial Legislature, collegiate classes did not begin until 1869. Collegiate units based here enrolled 38,097 students in the fall of 1972 and included Liberal Arts, Institute of Technology, Education, Business Administration, Health Sciences programs in medicine, medical technology, nursing, public health, dentistry and dental hygiene, pharmacy, and physical and occupational therapy, University and General Colleges, Graduate School, and the Law School. (Photo taken 1972. Courtesy of University of Minnesota.)

basic sciences in the state colleges, and still later the further replication of lower division liberal arts programs in the junior colleges. Recent recognition of the need for a broader range of post-high school training – specialized, more brief, and much different in content from traditional liberal arts courses – has led to the AVTIs.

Thus a statewide system has evolved – coordinated but not unified; with a wide range of offerings; with widespread accessibility from every part of the state; with a hierarchy of programs, offering entry-level work at many places, advanced work in a few places. The physical plant for the total system is impressive, indeed, as the accompanying pictures indicate.

THE HIERARCHY TODAY

The structure of the public system today is outlined in Table 3. It consists of four sets of distinctive higher educational service centers below the graduate school.

Distinctive Educational Service Centers

The vocational-technical schools specialize in courses of varying length and shifting subjects, which are designed to meet important and current manpower needs and only coincidentally provide the prerequisites for traditional collegiate courses. The two-year technical campuses of the University at Waseca and Crookston are included in this group on the basis of their program categories as cataloged by HECC.

The lower division academic campuses are operated by both the junior colleges and the four-year institutions. They offer basic arts and science courses, and credits are mutually transferrable. At the junior colleges (including the University's General College) and the state colleges, lower division academic offerings are accompanied by numerous terminal-vocational programs. Thus the line between the vocational-technical and lower division academic campuses is somewhat blurred and may well become more so.

The upper division academic campuses provide major offerings in the arts and sciences plus selected professional courses, notably business and education. These offerings characterize all of the four-year campuses to varying extent — least the University branch at Morris, which is essentially a liberal arts college.

Upper division professional-technical offerings are concentrated almost entirely at the University's Twin Cities campus. Enrollment is in Technology, Agriculture, Forestry, Home Economics, and certain Health Sciences such as Medical Technology, Physical and Occupational Therapy, and Nursing, and Biological Sciences.

Thus the four-year academic campuses operate programs at three different levels in the hierarchy — lower division academic, upper division academic, and upper division professional-technical.

Service Areas

For each campus, at any given level in the hierarchy, there is a part of the state that is closer to that campus than to any

TABLE 3: MEAN NUMBER OF PROGRAM GROUPS
(Based on U. S. Office of Education Classification)

Type of Program Class of Institution	Terminal Vocational-Technical	Lower Division Academic (Transferable)	Upper Division Academic	Upper Division Professional Technical
Area Vocational-Technical Institutes ¹	19+	0	0	0
Junior Colleges ²	7-	4-	0	0
State Colleges ³	4-	5-	35-	3+
University of Minn. Twin Cities ⁴	1	6	63	29

¹Category includes University of Minnesota Technical Colleges at Crookston and Waseca.

²Category includes University of Minnesota General College.

³Category includes University of Minnesota campuses at Duluth and Morris.

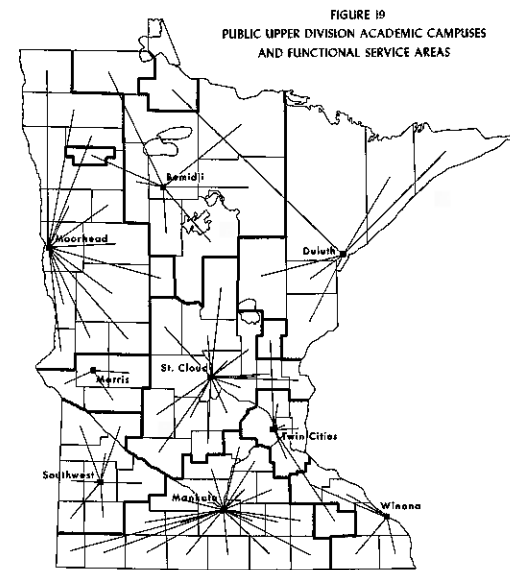
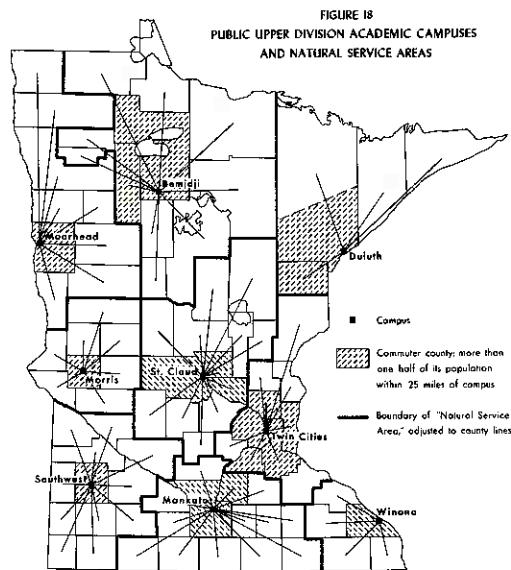
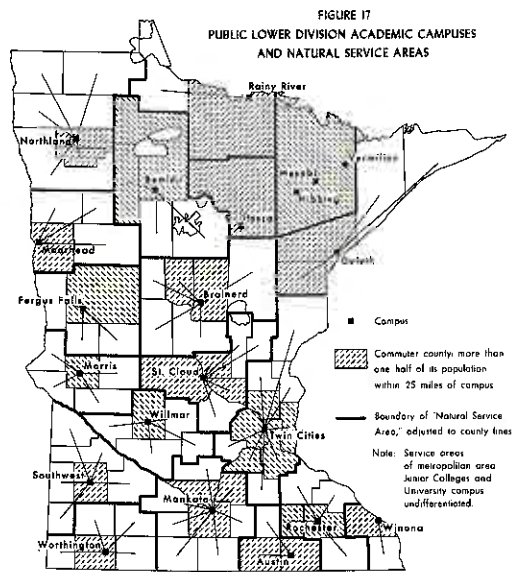
⁴Excludes General College.

Source: Tabulated from *Program Inventories of Area Vocational School, Colleges, and Universities in Minnesota*, St. Paul: Minnesota Higher Education Coordinating Commission, February, 1970.

other campus offering programs at the same level. That part of the state, in this study, is called the *natural service area* of that particular campus. It is the area from which high school graduates would gravitate to the given campus for the type of program it offers, if their behavior were governed by distance-economy alone.

It is noteworthy that the concept of "uniqueness" of program cannot be divorced from the concept of the natural service area. At each level in the hierarchy the programs offered on each campus are unique to its natural service area. Thus evaluation of a program for its uniqueness must include the question: Unique in what region or service area?

Natural service areas, their boundaries adjusted to county



Source: HECC

lines, are shown in the maps in Figures 17 and 18. Service centers for the public lower division academic areas may be either the junior colleges, state colleges, or University of Minnesota campuses. Educational service centers for the public upper division academic natural service areas include the state colleges and four-year campuses of the University. The natural

service area for the upper division professional and technical campus (University-Twin Cities) is not shown, since it is simply the entire state.

Although there is a strong tendency for each campus to dominate the flow of high school graduates from its own natural service area, there are exceptions. Figure 19 shows the

actual dominant, or functional, service areas for the upper division academic campuses. Notable discrepancies include the penetration of the older Moorhead and Mankato colleges into the natural service areas of newer campuses at Morris and Southwest State College; penetration of the University-Twin

Cities natural service area by Mankato in the southwest counties, Winona in the southeast, St. Cloud in the north, University-Duluth in the northeast; and strong penetration of Rochester, within the Winona natural service area, by the upper division academic program at the University-Twin Cities.

TABLE 4: NUMBER OF MINNESOTA FULL-TIME STUDENTS MIGRATING TO STATE FOUR-YEAR COLLEGES IN 1970

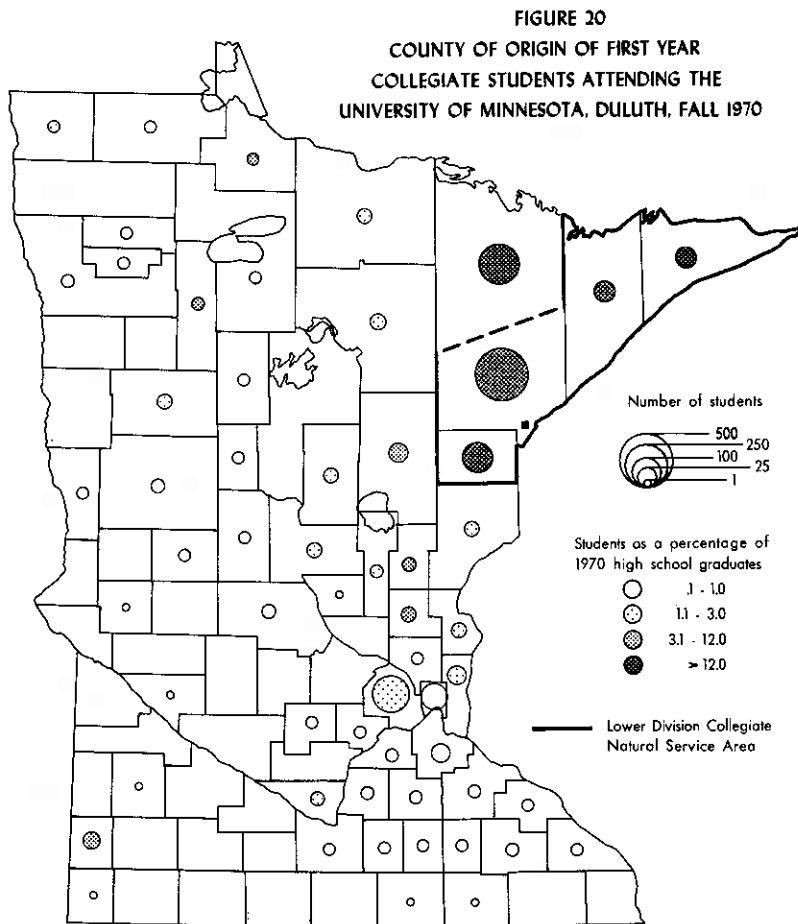
Campus Destination	From Natural Service Area		Beyond Natural Service Area		Full-time Minnesota Total
	From Local Commuter Counties	Remainder of Nat. Serv. Area	From Twin Cities Commuter Counties	From Rest of State	
UM-Duluth N %	2,198 46%	859 18%	788 17%	915 19%	4,760 100%
Bemidji N %	647 16%	767 19%	925 23%	1,667 42%	4,006 100%
Moorhead N %	1,107 27%	1,010 25%	346 9%	1,599 39%	4,062 100%
UM-Morris N %	153 9%	361 22%	330 20%	788 48%	1,632 100%
St. Cloud N %	1,452 18%	1,251 16%	2,998 38%	2,155 27%	7,856 100%
Southwest N %	510 19%	832 30%	479 17%	921 34%	2,742 100%
Mankato N %	1,852 23%	2,232 27%	2,521 31%	1,594 19%	8,199 100%
Winona N %	779 26%	736 25%	884 30%	568 19%	2,967 100%
Sub-Total	8,698 24%	8,048 22%	9,271 26%	10,207 28%	36,224 100%
UM-TCC Collegiate N %	18,037 79%	417 2%		4,321 19%	22,775 100%
Professional N %	2,691 57%	1,992 43%			4,683 100%
Total N %	29,426 46%	10,457 16%	9,271 15%	14,528 23%	63,682 100%

THE FLOW OF STUDENTS IN 1970

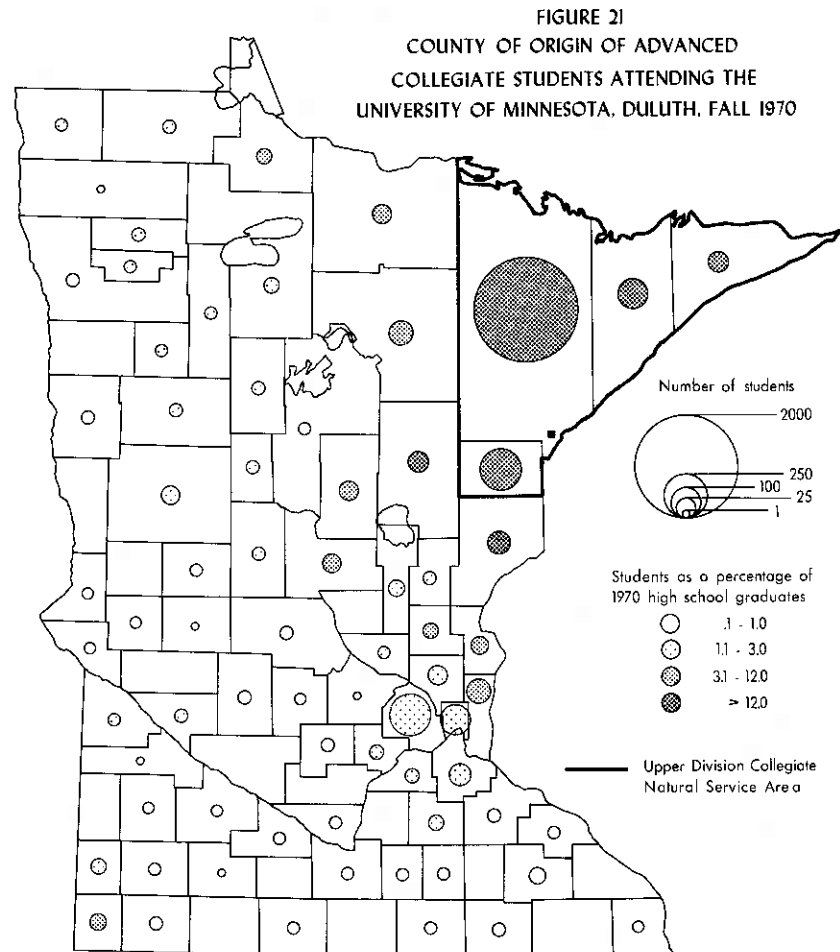
The accompanying maps (Figures 20-38) and Table 4 show student origins for each four-year campus in 1970. Tables A-1 and A-2 in Appendix A show the actual percent of high school graduates who migrated from each county and each natural service area to each public campus in 1970.

Eight main points emerge from the maps.

- There is a strong tendency for each campus to dominate its natural service area but also to make its strongest external penetration in counties neighboring the natural service area. Students who do not go to the nearest campus tend to go to the next-nearest.

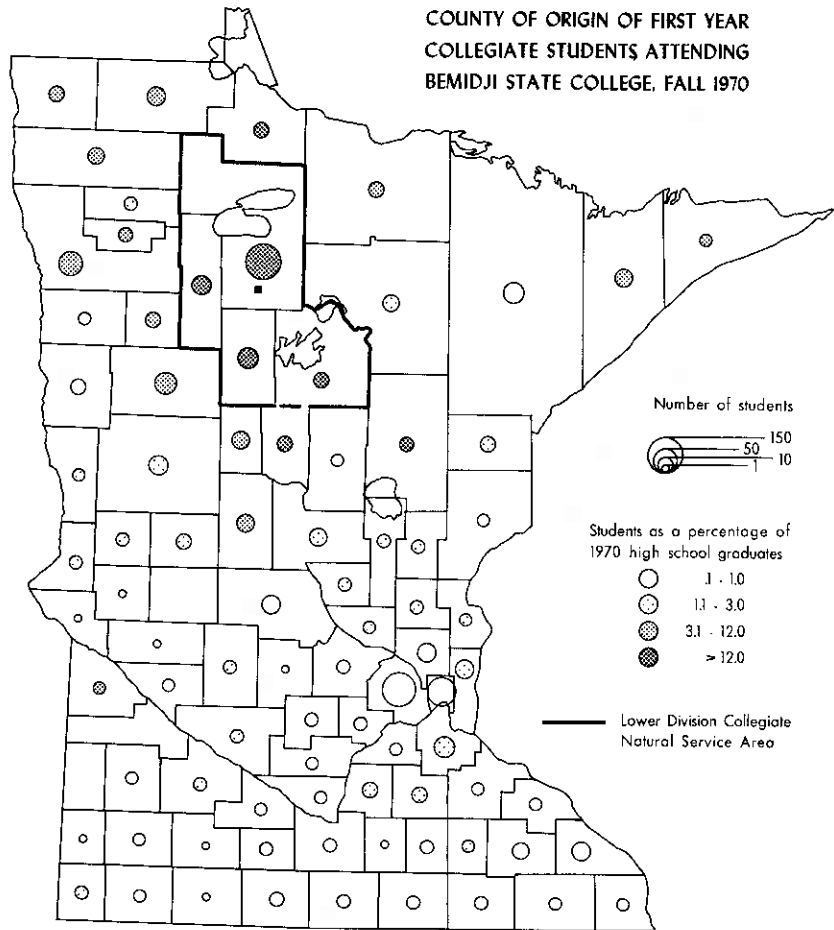


Data from HECC



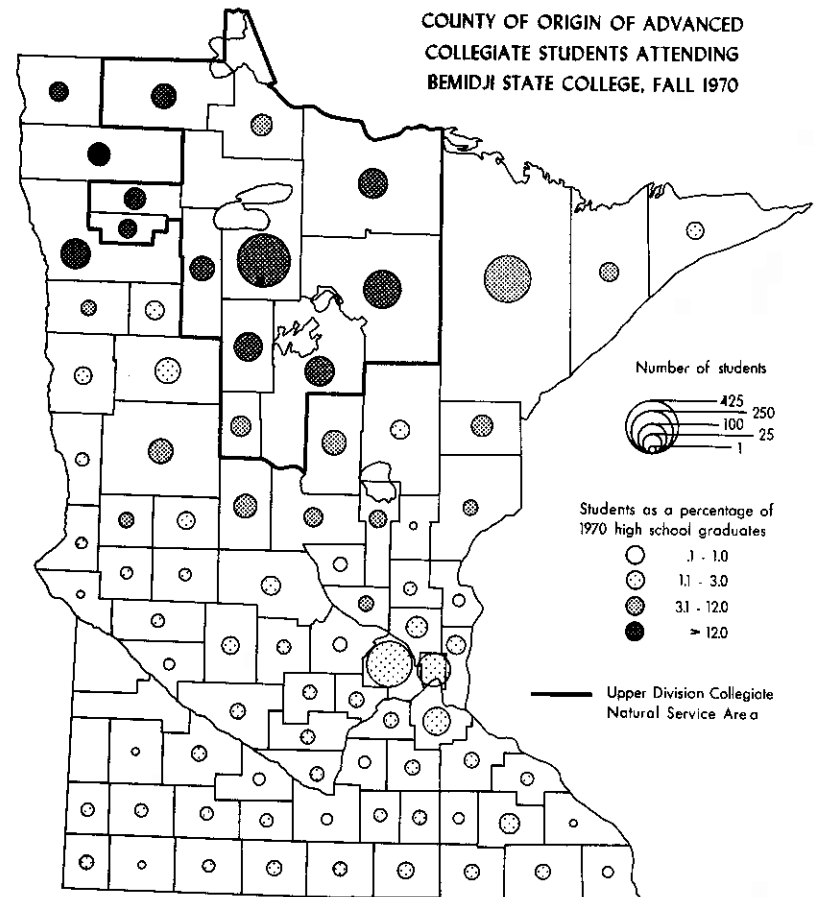
Data from HECC

FIGURE 22
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING
BEMIDJI STATE COLLEGE, FALL 1970



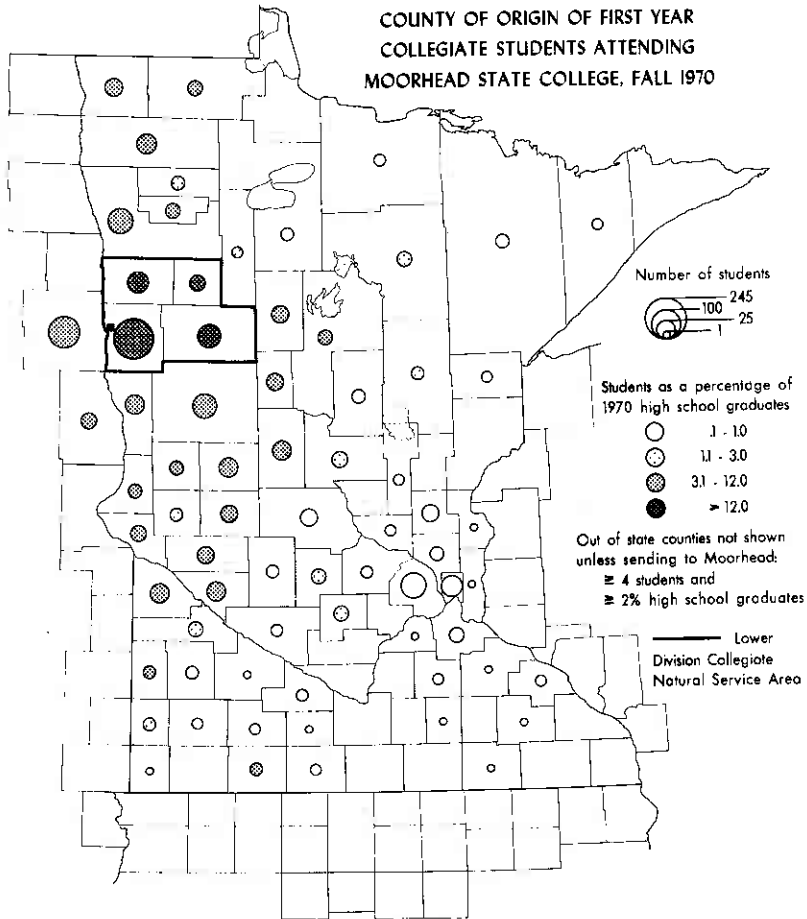
Data from HECC

FIGURE 23
COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING
BEMIDJI STATE COLLEGE, FALL 1970



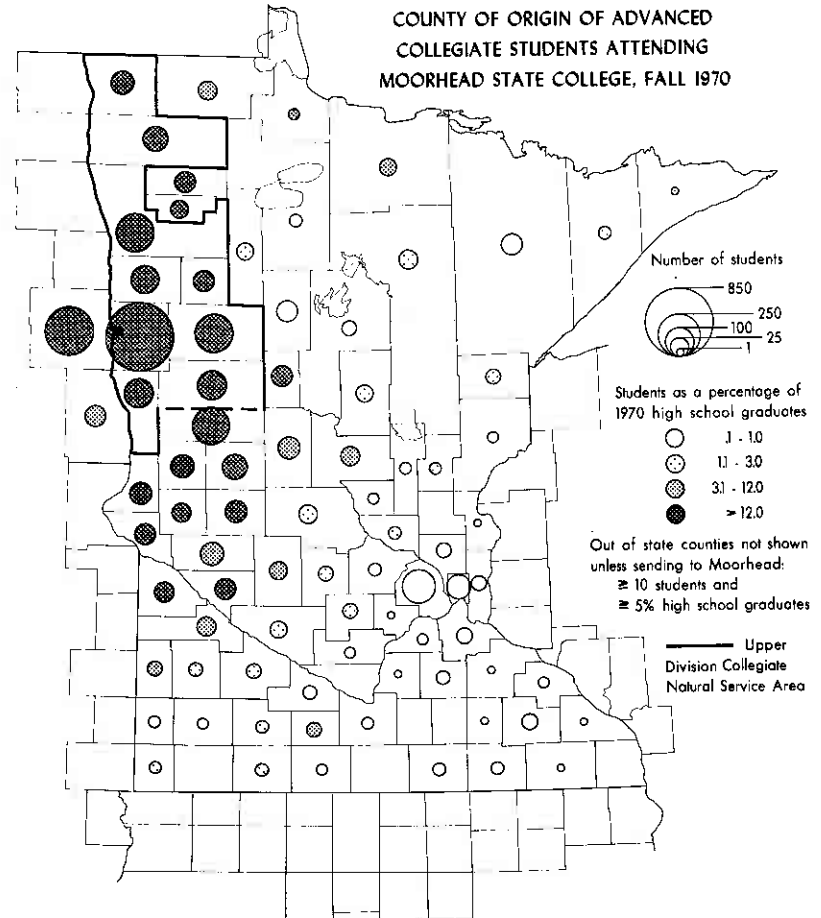
Data from HECC

FIGURE 24
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING
MOORHEAD STATE COLLEGE, FALL 1970



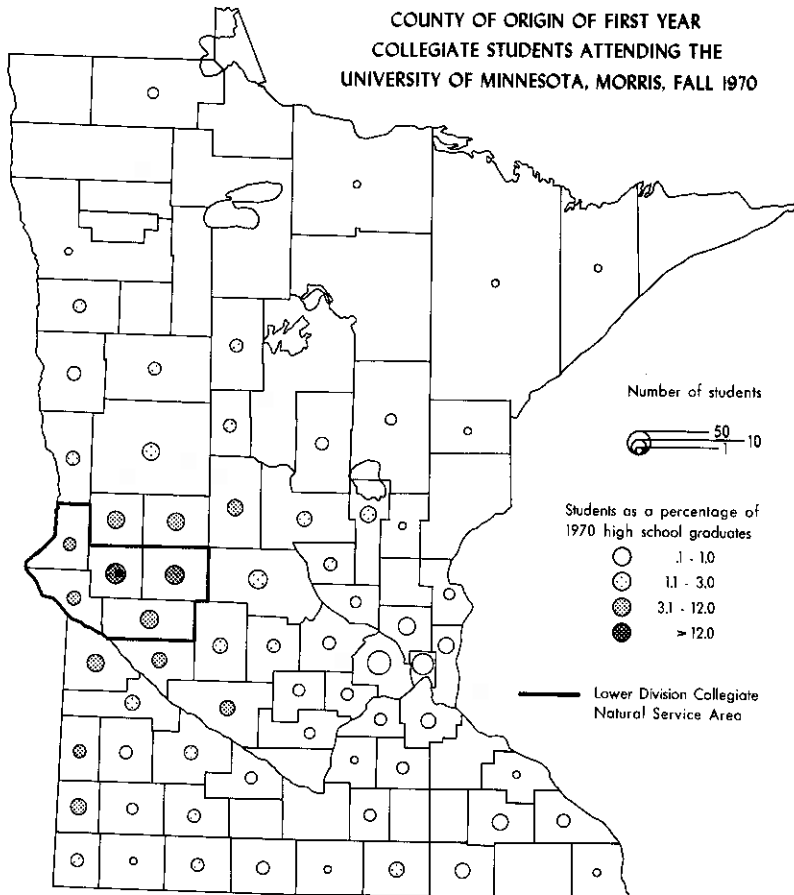
Data from HECC and North Dakota Superintendent of Public Instruction

FIGURE 25
COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING
MOORHEAD STATE COLLEGE, FALL 1970



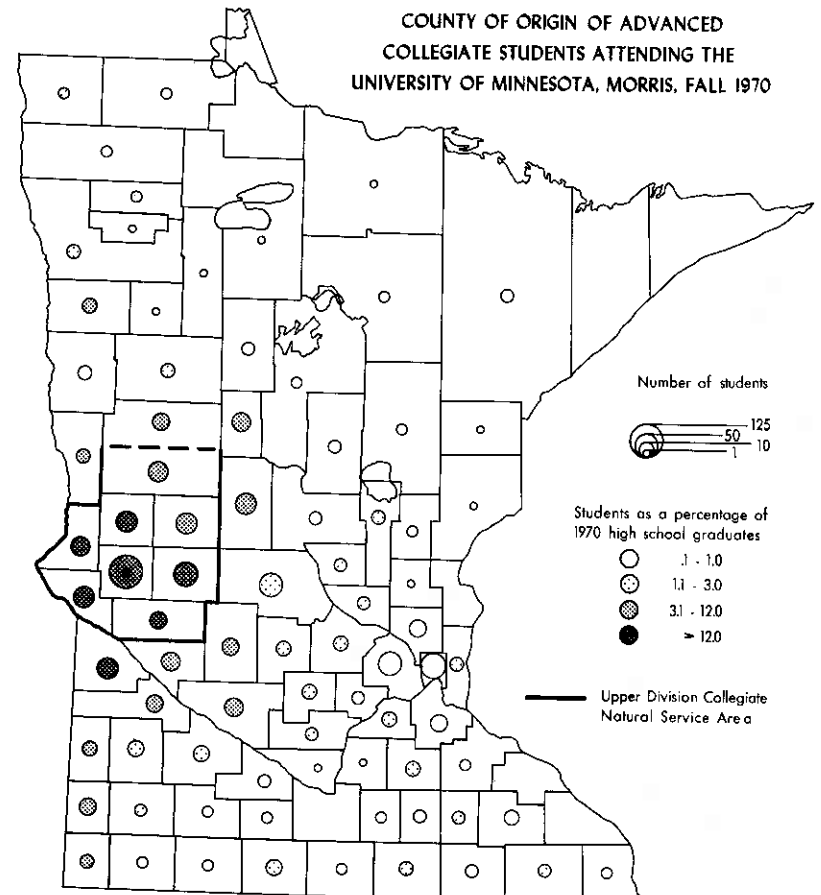
Data from HECC and North Dakota Superintendent of Public Instruction

FIGURE 26
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING THE
UNIVERSITY OF MINNESOTA, MORRIS, FALL 1970



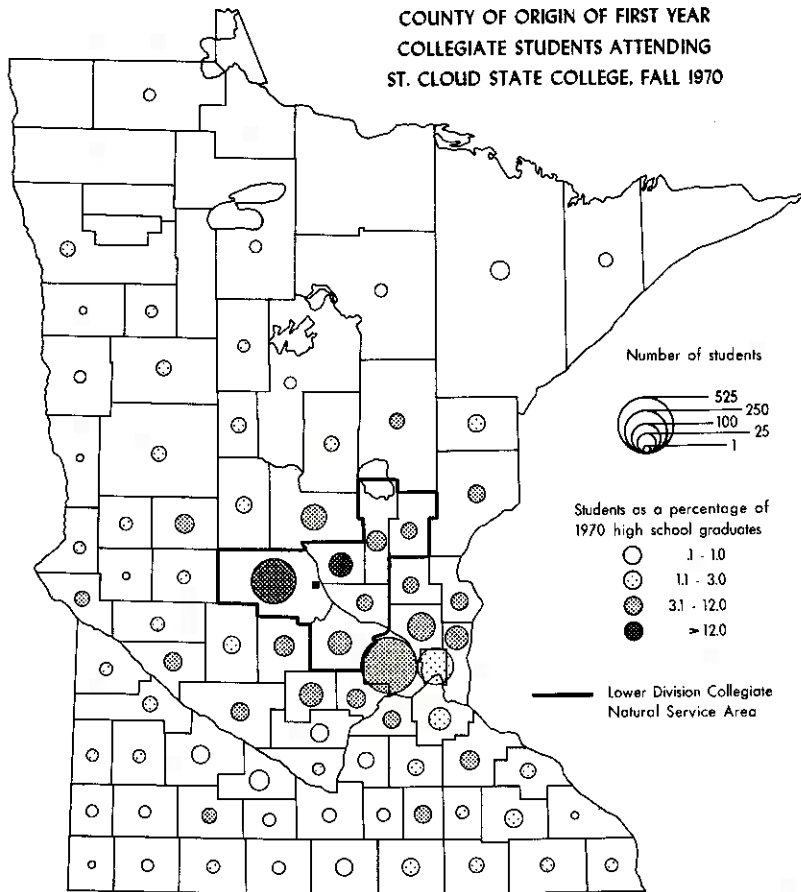
Data from HECC

FIGURE 27
COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING THE
UNIVERSITY OF MINNESOTA, MORRIS, FALL 1970



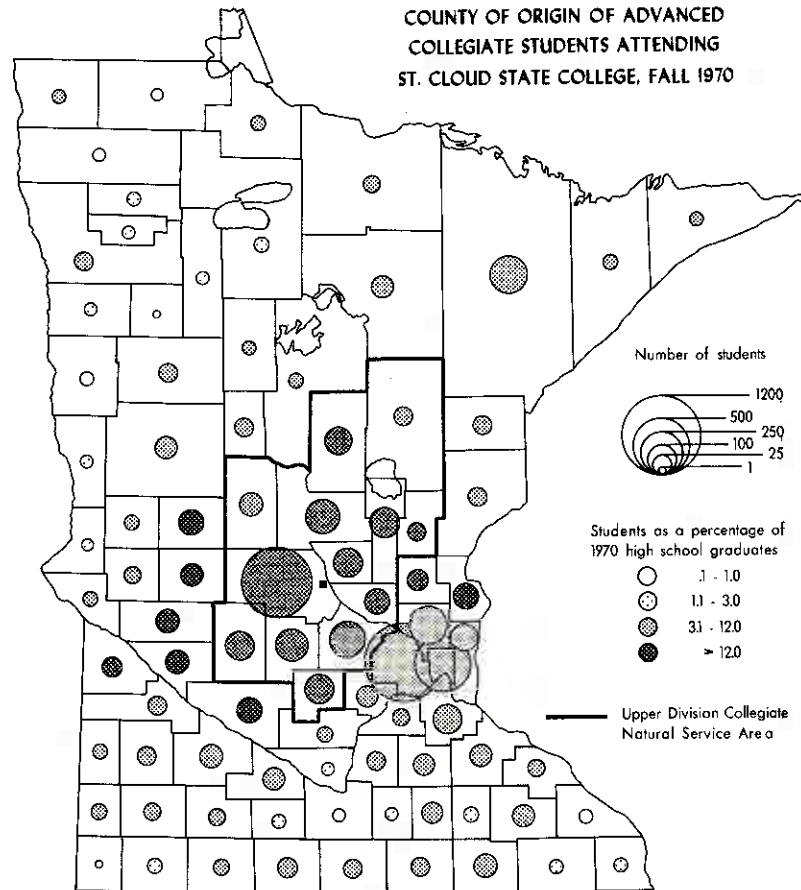
Data from HECC

FIGURE 28
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING
ST. CLOUD STATE COLLEGE, FALL 1970



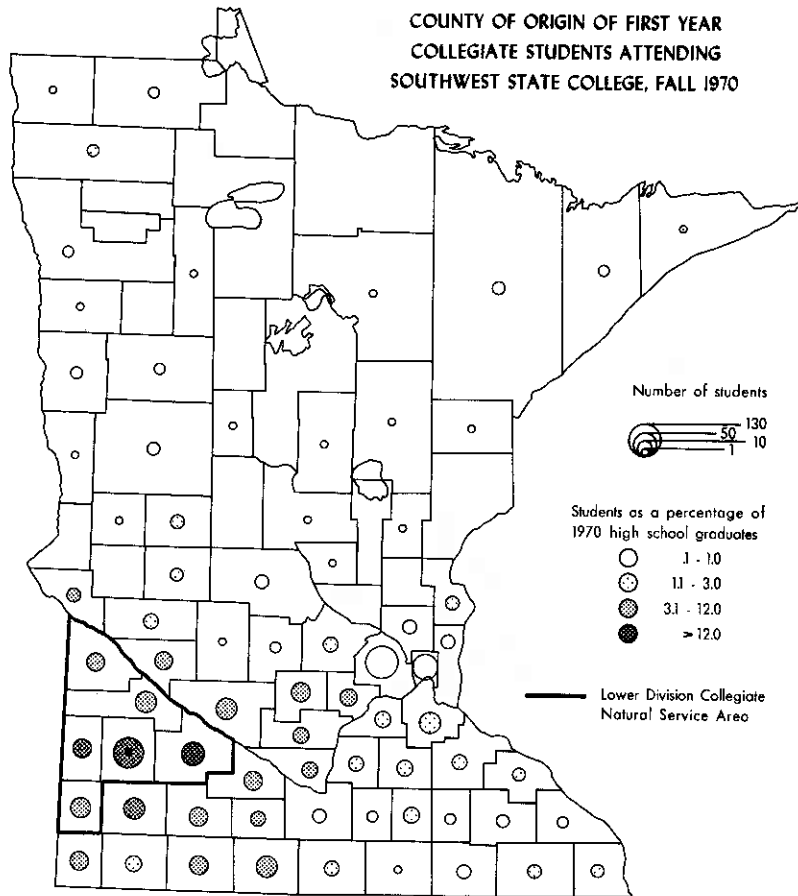
Data from HECC

FIGURE 29
COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING
ST. CLOUD STATE COLLEGE, FALL 1970



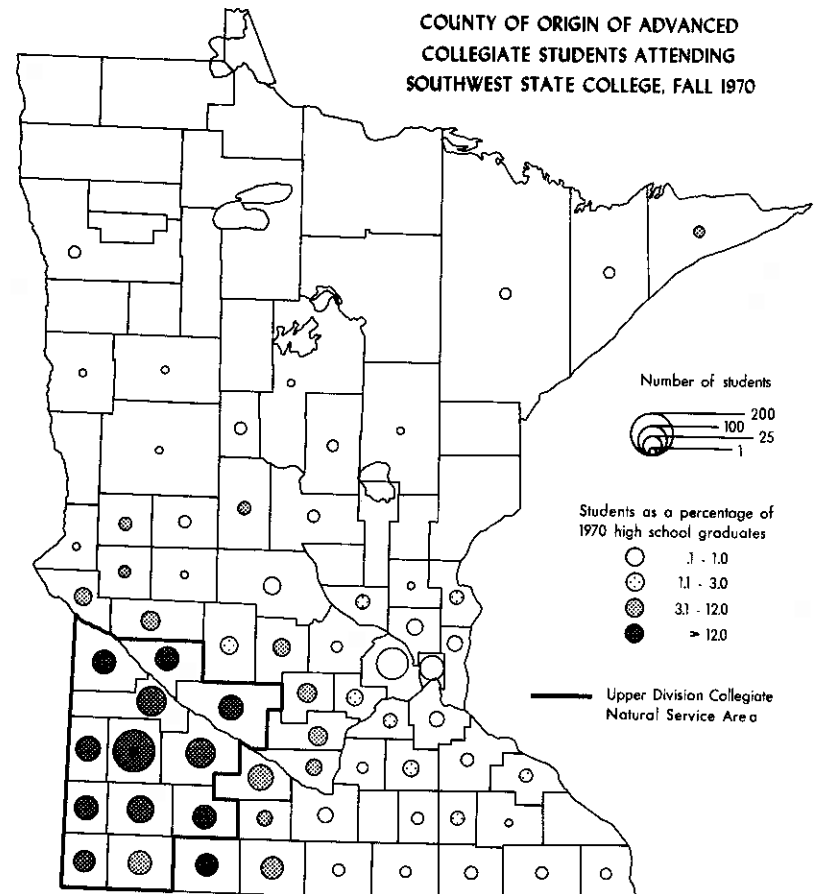
Data from HECC

FIGURE 30
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING
SOUTHWEST STATE COLLEGE, FALL 1970



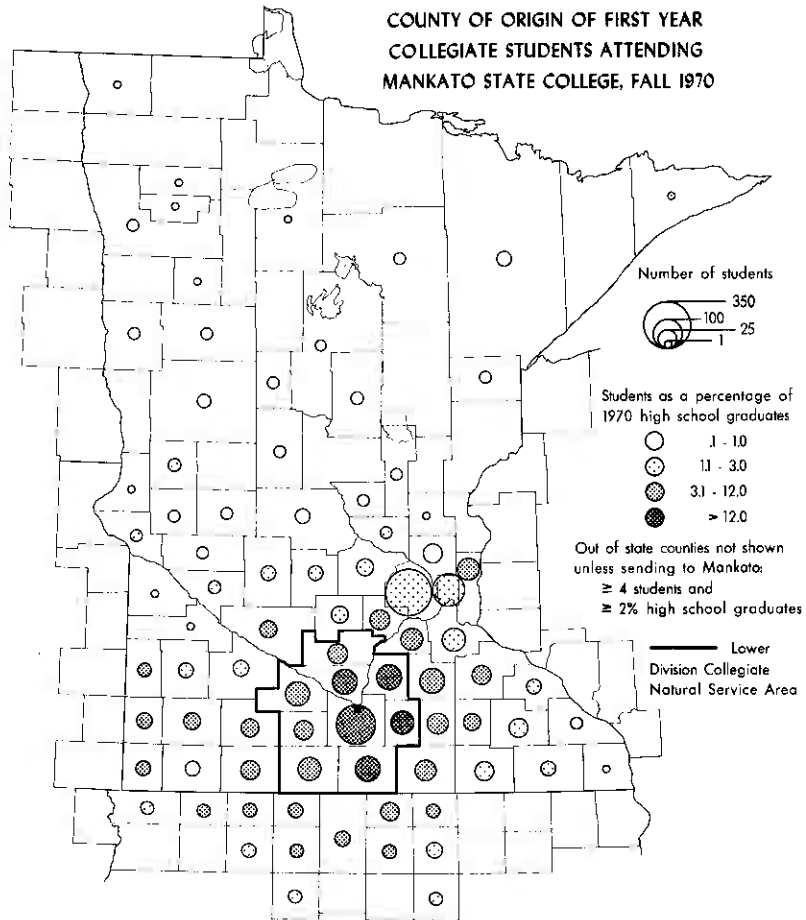
Data from HECC

FIGURE 31
COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING
SOUTHWEST STATE COLLEGE, FALL 1970



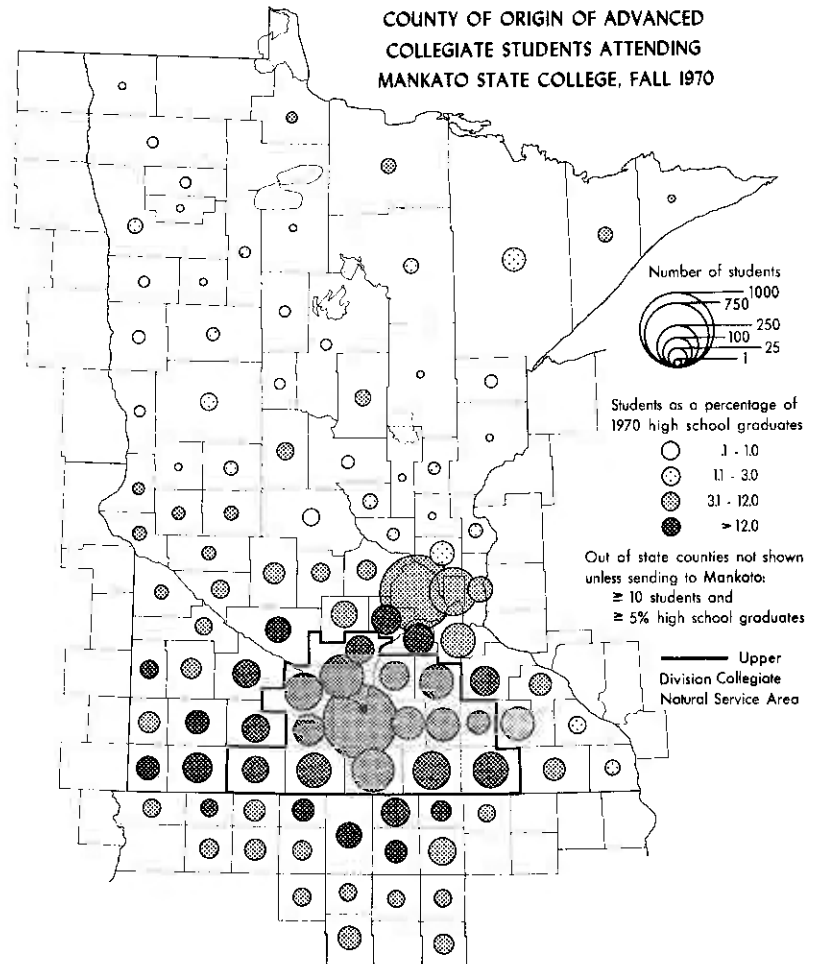
Data from HECC

FIGURE 32
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING
MANKATO STATE COLLEGE, FALL 1970



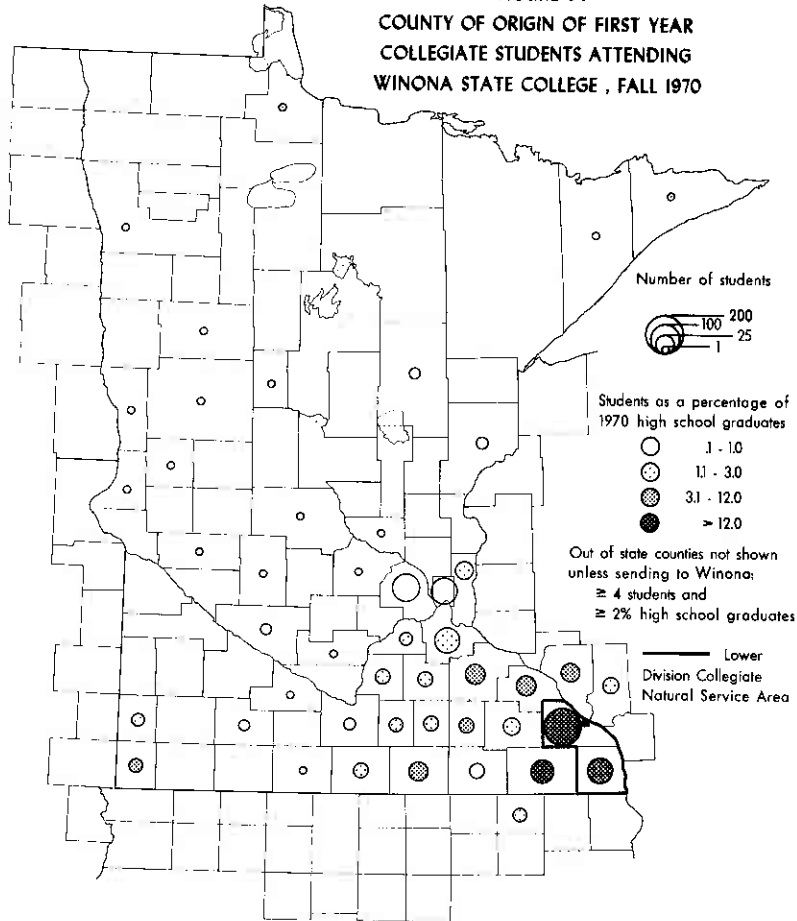
Data from HECC; Mankato State College Directory; and Iowa Department of Public Instruction

FIGURE 33
COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING
MANKATO STATE COLLEGE, FALL 1970



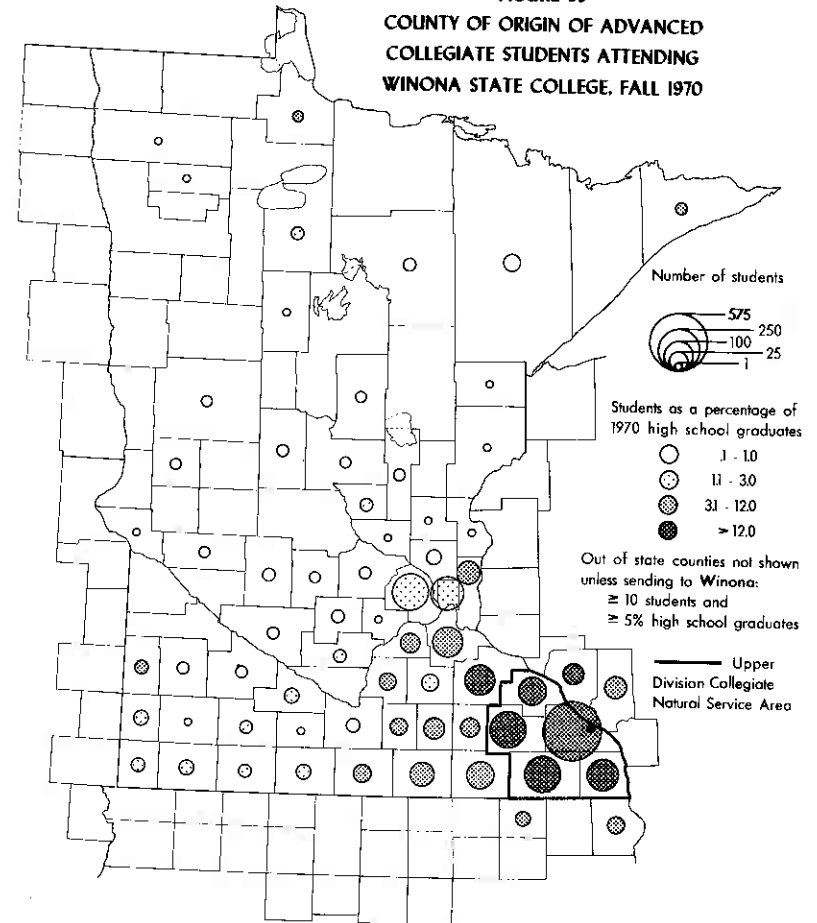
Data from HECC; Mankato State College Directory; and Iowa Department of Public Instruction

FIGURE 34
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING
WINONA STATE COLLEGE, FALL 1970



Data from HECC; Computer Services Center, Winona State College; Wisconsin Department of Public Instruction; and Iowa Department of Public Instruction

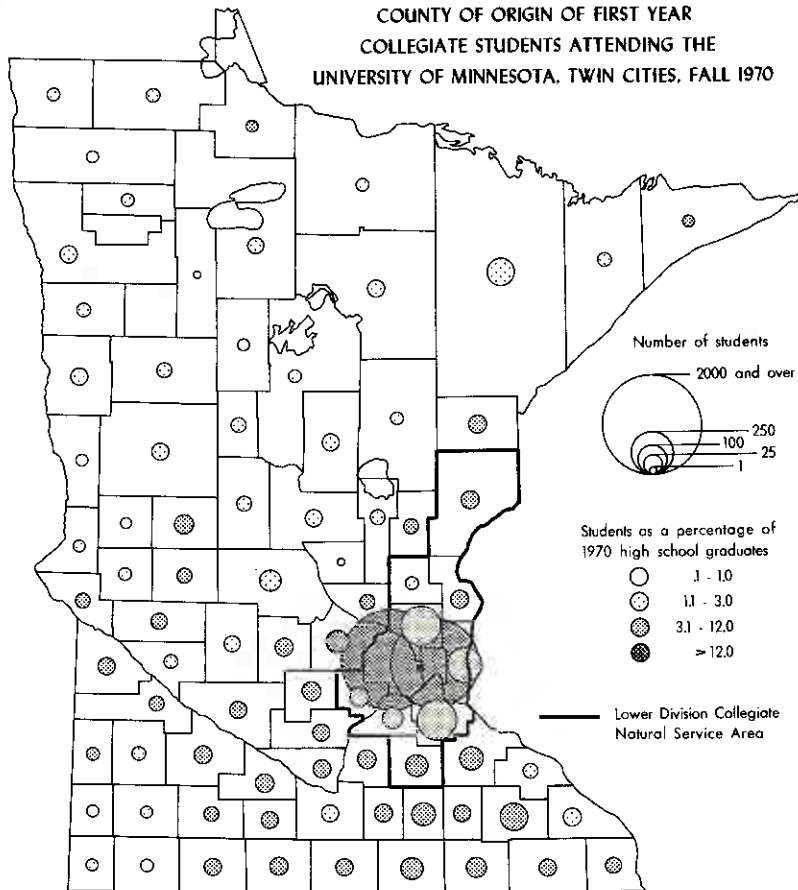
FIGURE 35
COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING
WINONA STATE COLLEGE, FALL 1970



Data from HECC; Computer Services Center, Winona State College; Wisconsin Department of Public Instruction; and Iowa Department of Public Instruction

FIGURE 36

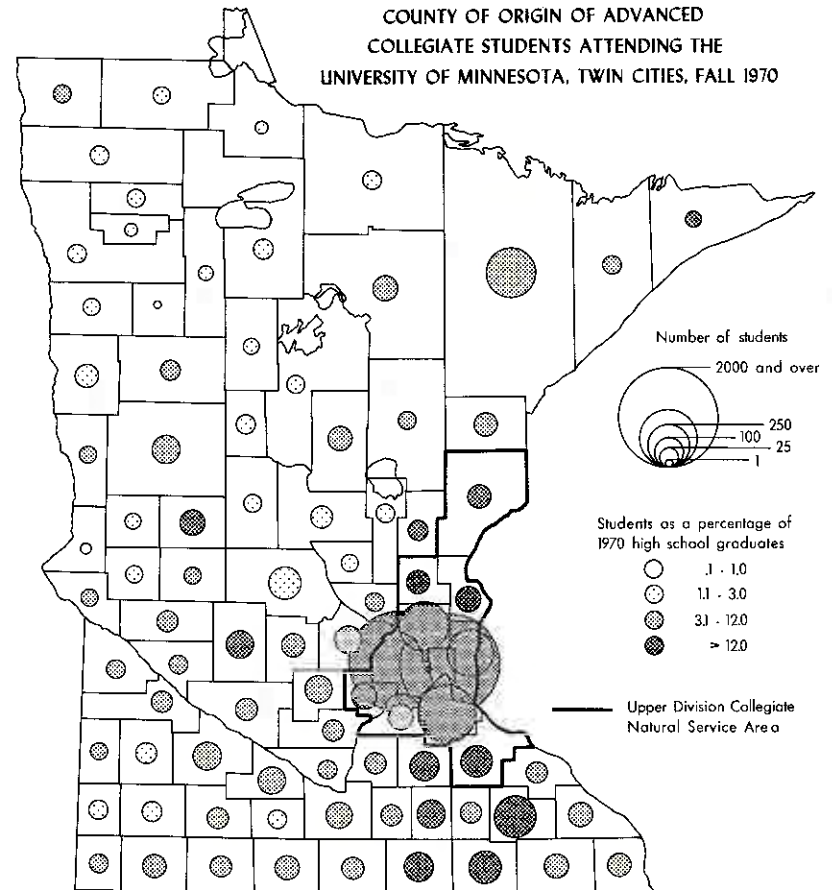
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING THE
UNIVERSITY OF MINNESOTA, TWIN CITIES, FALL 1970



Data from HECC and University of Minnesota President's Biennial Report, 1969-1971

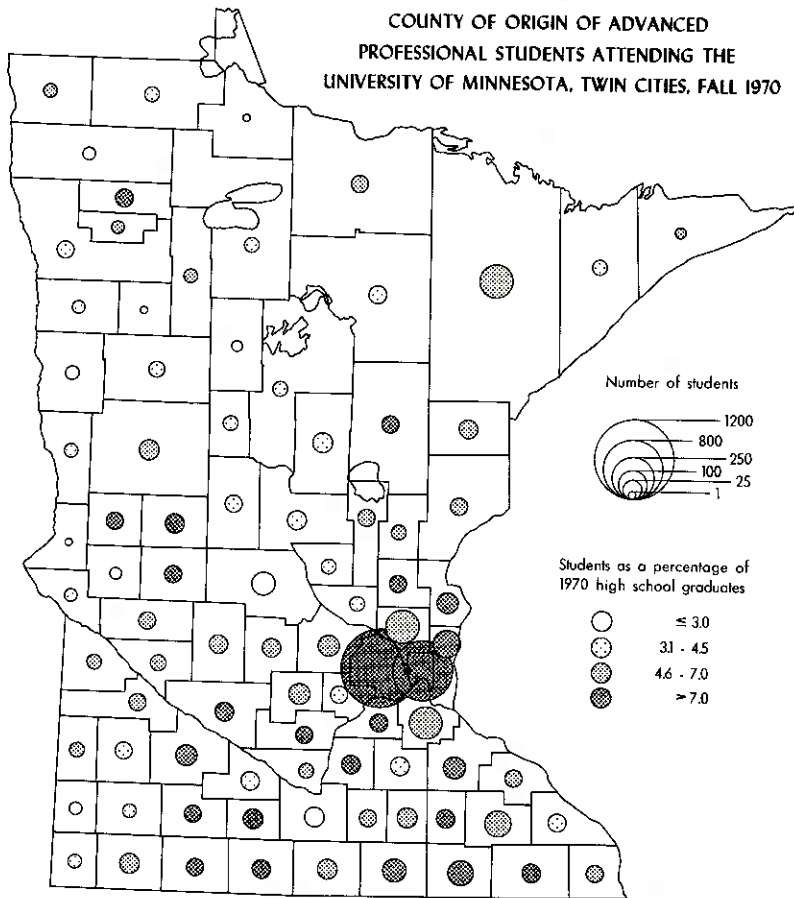
FIGURE 37

COUNTY OF ORIGIN OF ADVANCED
COLLEGIATE STUDENTS ATTENDING THE
UNIVERSITY OF MINNESOTA, TWIN CITIES, FALL 1970



Data from HECC and University of Minnesota President's Biennial Report, 1969-1971

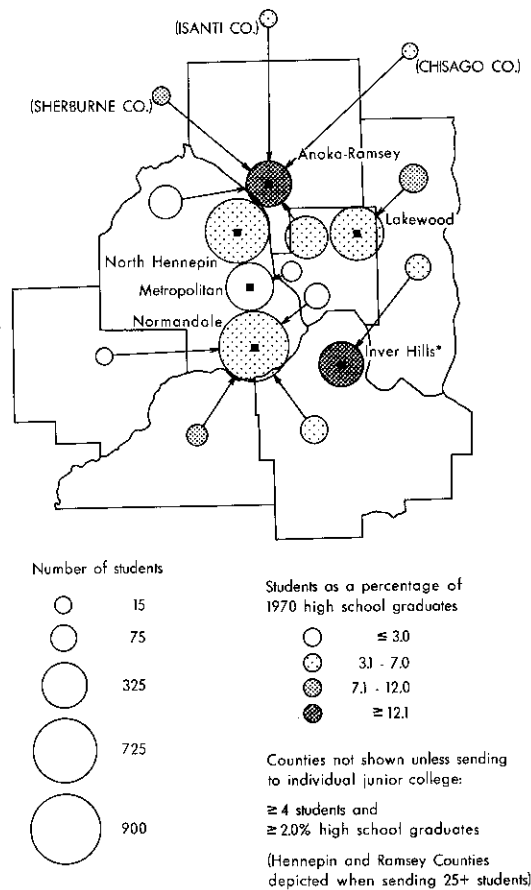
FIGURE 38
 COUNTY OF ORIGIN OF ADVANCED
 PROFESSIONAL STUDENTS ATTENDING THE
 UNIVERSITY OF MINNESOTA, TWIN CITIES, FALL 1970



Data from HECC and University of Minnesota President's Biennial Report, 1969-1971

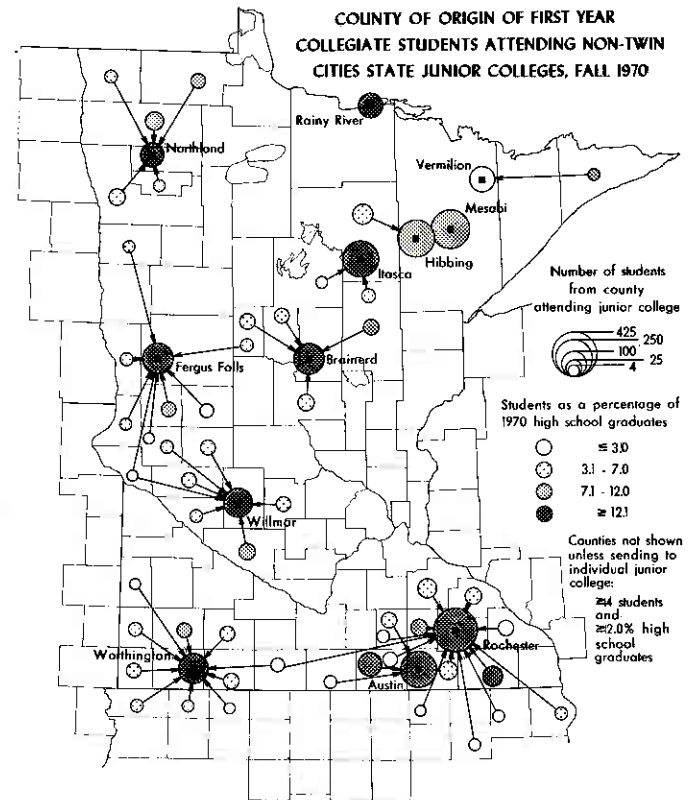
- The presence of a local junior college greatly reduces the number of students who migrate to a four-year campus in their first year of college. But the effect is mainly limited to the county in which the junior college is located. If a student goes outside his local county, he is likely to go to a four-year campus although it is farther than the junior college.
- Each outstate campus attracts a relatively small percent of Twin Cities metropolitan high school graduates, but the number is a relatively large part of each student body.
- Larger schools attract larger percentages of the high school graduates from distant counties than smaller schools do. Is the reason the attraction of somewhat more diverse programs? Of a larger campus with a wider range of extracurricular activity? The maps suggest that the larger schools are larger because their local markets are larger, then draw more from distant markets because they are larger. Size begets more size.
- Mankato State College, to a significant extent, compensates for Iowa's meager number of teacher training campuses and lack of decentralized public educational opportunity. Moorhead State College draws strongly from the Fargo side of the metropolitan area, apparently complementing North Dakota State University. The pattern suggests the potential strength of the Tri-College University.
- Use of the University-Twin Cities upper division professional-technical programs by high school graduates from nonmetropolitan Minnesota is very uneven at any given distance from the Twin Cities. The effect of neighboring universities in the Dakotas is apparent in the border counties. But other variations must reflect differences in recruiting, local culture, or short-term economic considerations. For example, it appears that high school graduates from Mankato or St. Cloud are more likely to remain and pursue an Education or Liberal Arts program locally, yet graduates from

FIGURE 39
COUNTY OF ORIGIN OF FIRST YEAR COLLEGIATE STUDENTS ATTENDING
STATE JUNIOR COLLEGES IN TWIN CITIES AREA, FALL 1970



*1971 data for Inver Hills
 Data from HECC

FIGURE 40
COUNTY OF ORIGIN OF FIRST YEAR
COLLEGIATE STUDENTS ATTENDING NON-TWIN
CITIES STATE JUNIOR COLLEGES, FALL 1970



Data from HECC, Worthington and Rochester State Junior College Recorders,
 and Iowa Department of Public Instruction

neighboring counties are more likely to migrate to the University-Twin Cities to pursue a professional or technical degree.

- Although each nonmetropolitan campus serves a very large share of the students from its local natural service area, it draws at least an equally large number from the rest of the state. For each student from its local area, there is another from elsewhere in Minnesota. Thus the number of students who migrate to a more remote campus equals the number who migrate to the nearest one. The maps and tables suggest that a combination of desire to "get away from home," lure of actual or perceived superiority of program offerings, and differences in admission standards are as important as proximity in drawing the full range of students to a particular campus. The largest group of students migrating beyond their local service area go from the Twin Cities to the nonmetropolitan campuses. Seventeen to thirty-eight percent of all nonmetropolitan four-year public college student bodies (excluding Moorhead) come from the Twin Cities.
- The University-Twin Cities campus is the most dependent on its local service area for its campus population. Although the total population is about equally divided between the metropolitan and nonmetropolitan parts of the state, the number of Twin Cities metropolitan students going to outstate campuses is twice as great as the number of outstate students who migrate to the University-Twin Cities campus. It is apparent that the size of the University-Twin Cities campus is simply the result of the size of the population in its natural service area.
- Figures 39 and 40 indicate the spatial access pattern for Fall, 1970, new entering freshmen in the six metropolitan and twelve outstate public junior colleges. Clearly, first year enrollments in state junior colleges are drawn from a far smaller natural service area than are first year enrollments in the state's nine public four-year colleges.

In summary, for any given program, there is a strong tendency for students to migrate or commute to the nearest campus. In fact, there is some tendency to attend the nearest campus even if it means limiting one's choice of programs. There is also a strong tendency to migrate to a campus other than the nearest one, especially to the next-nearest. This strong regionality of attendance pattern, coupled with regional differences in population growth rates and age composition, means that population changes are having uneven effects on enrollments on the different campuses.

PROJECTED EFFECT OF POPULATION CHANGES ON ENROLLMENT

Table 5 shows the number of full-time student enrollments on each four-year public campus through 1985, if the sheer number of high school graduates in the state turns out to be the key variable over the next thirteen years. Details of the projection procedure appear in Appendix A. There are three assumptions of particularly great importance: (1) no change in 1970 college-going rates for high school graduates from each county in the state; (2) no change in enrollment persistence for first- to fourth-year students, and (3) no change in the 1970 ratio of out-of-state students to Minnesota students at each campus.

The procedure was to estimate the number of high school graduates, based upon the age-specific population projections from the Minnesota Department of Health, for each county for 1975, 1980, and 1985. From these estimates, using the above assumptions, the number of high school graduates from each county who will attend college at each of the four-year campuses in 1975, 1980, and 1985 were calculated.

Projected Enrollments to 1985

Tables 6-14 indicate a general tendency for the end of the post-World War II population boom to be reflected in

TABLE 5: TOTAL FULL-TIME UNDERGRADUATE ENROLLMENT, 1970, 1975, 1980, AND 1985

	<u>Full-time Enrollments</u>				<u>Net Change, 1970-85</u>	
	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>Numerical</u>	<u>Percent</u>
Bemidji State College	4,449	4,770	4,628	3,822	- 627	- 14%
Mankato State College	9,944	10,517	10,056	8,937	- 1007	- 10%
Moorhead State College	4,793	5,061	4,686	3,614	- 1179	- 25%
Southwest State College	2,833	3,019	2,815	2,339	- 494	- 17%
St. Cloud State College	8,203	9,466	9,333	8,263	+ 60	+ 1%
Winona State College	3,374	3,630	3,701	3,224	- 150	- 4%
U of M – Duluth	4,887	5,261	4,926	4,106	- 781	- 16%
U of M – Morris	1,656	1,777	1,665	1,470	- 186	- 11%
U of M – Twin Cities	32,031	35,496	36,885	31,828	- 203	- 1%

declining enrollments in the late 1970s and early 1980s.

The decline in college-age populations will directly effect enrollment earliest and relatively greatest outside the major growth region of the state, relatively least and latest in the metropolitan area and neighboring campuses. 1985 enrollments of full-time students could be up to twenty-five percent below those of 1970.

An increasing share of the enrollment on nonmetropolitan campuses is likely to come from the metropolitan commuter counties if enrollments on those campuses are to be sustained at or near the 1970 level.

The University-Twin Cities campus will draw an ever greater share of its students than it draws now from the adjacent metropolitan commuter zone.

TABLE 6: MANKATO STATE COLLEGE, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	1852	1729	1660	1483
Remainder of Upper Division Natural Service Area	2232	2362	2142	1745
Twin Cities Commuter Counties	2321	2658	2849	2640
Remainder of State	1594	1947	1729	1665
Out-of-State	<u>1945</u>	<u>1821</u>	<u>1676</u>	<u>1404</u>
Total	9944	10,517	10,056	8937

TABLE 7: ST. CLOUD STATE COLLEGE, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	1452	1574	1670	1477
Remainder of Upper Division Natural Service Area	1251	1437	1500	1334
Twin Cities Commuter Counties	2998	3394	3583	3291
Remainder of State	2155	2663	2188	1839
Out-of-State	<u>347</u>	<u>398</u>	<u>392</u>	<u>322</u>
Total	8203	9466	9333	8263

TABLE 8: UNIVERSITY OF MINNESOTA – MORRIS, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	153	133	109	81
Remainder of Upper Division Natural Service Area	361	381	309	251
Twin Cities Commuter Counties	330	438	469	420
Remainder of State	788	799	754	699
Out-of-State	<u>24</u>	<u>26</u>	<u>24</u>	<u>19</u>
Total	1656	1777	1665	1470

TABLE 10: WINONA STATE COLLEGE, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	779	698	698	595
Remainder of Upper Division Natural Service Area	736	819	882	807
Twin Cities Commuter Counties	884	981	1057	952
Remainder of State	568	695	627	511
Out-of-State	<u>407</u>	<u>437</u>	<u>437</u>	<u>359</u>
Total	3374	3630	3701	3224

TABLE 9: MOORHEAD STATE COLLEGE, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	1107	1022	962	810
Remainder of Upper Division Natural Service Area	1010	1176	1068	681
Twin Cities Commuter Counties	346	375	390	357
Remainder of State	1599	1734	1593	1276
Out-of-State	<u>731</u>	<u>754</u>	<u>673</u>	<u>490</u>
Total	4793	5061	4686	3614

TABLE 11: SOUTHWEST STATE COLLEGE, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	510	489	453	380
Remainder of Upper Division Natural Service Area	832	889	766	603
Twin Cities Commuter Counties	479	520	548	494
Remainder of State	921	1024	961	794
Out-of-State	<u>91</u>	<u>97</u>	<u>87</u>	<u>68</u>
Total	2833	3019	2815	2339

TABLE 12: BEMIDJI STATE COLLEGE, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	658	666	648	518
Remainder of Upper Division Natural Service Area	827	934	908	697
Twin Cities Commuter Counties	923	1017	1064	987
Remainder of State	1696	1783	1663	1362
Out-of-State	<u>345</u>	<u>370</u>	<u>345</u>	<u>268</u>
Total	4449	4770	4628	3832

TABLE 13: UNIVERSITY OF MINNESOTA – DULUTH, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
Local Commuter Counties	2198	2299	2068	1696
Remainder of Upper Division Natural Service Area	859	916	807	634
Twin Cities Commuter Counties	764	879	934	853
Remainder of State	939	1032	997	829
Out-of-State	<u>127</u>	<u>133</u>	<u>120</u>	<u>94</u>
Total	4887	5261	4926	4106

TABLE 14: UNIVERSITY OF MINNESOTA – TWIN CITIES, FULL-TIME UNDERGRADUATE ENROLLMENT

<u>Source Area</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>
<u>Collegiate, Years 1-4</u>				
Local Commuter Counties	18,037	20,157	21,386	18,546
Remainder of Upper Division Natural Service Area	417	514	581	531
Remainder of State	4,321	4,653	4,481	3,803
Out-of-State	<u>3,782</u>	<u>4,187</u>	<u>4,236</u>	<u>3,408</u>
Sub-Total	26,557	29,511	30,684	26,288
<u>Professional, Years 2-4</u>				
Local Commuter Counties	2,691	2,991	3,264	3,024
Remainder of State (Natural Service Area for Professional Schools)	1,992	2,140	2,095	1,821
Out-of-State	<u>791</u>	<u>854</u>	<u>842</u>	<u>695</u>
Sub-Total	5,474	5,985	6,201	5,540
Total	32,031	35,496	36,885	31,828

Table 15 projects full-time and total state junior college enrollments for 1975, 1980, and 1985. The method employed for these projections was similar to that employed for projecting enrollments in state four-year institutions. Estimated enrollments for the authorized state junior colleges at Fairmont and Cambridge are also included.

Projected Enrollments Compared with Carnegie Commission Recommendations on Institutional Size

The Carnegie Commission on Higher Education, in its 1971 report, recommended maximum and minimum sizes for four classes of institutions (Table 16). The sizes were measured

TABLE 15: MINNESOTA JUNIOR COLLEGE ENROLLMENTS: 1970-1985

	1970	1975	1980	1985	$\Delta\%$ 1970-1985		1970	1975	1980	1985	$\Delta\%$ 1970-1985
Austin						Mesabi (Virginia)					
Total Full Time	833	846	784	600		Total Full Time	658	731	625	465	
With Part Time	975	990	917	702	-27.9	With Part Time	781	867	741	551	-29.3
Brainerd						Vermilion (Ely)					
Total Full Time	537	600	562	421		Total Full Time	263	290	250	185	
With Part Time	640	697	652	489	-21.6	With Part Time	302	333	287	212	-29.6
Fergus Falls						Anoka-Ramsey (Coon Rapids)					
Total Full Time	525	530	462	343		Total Full Time	1729	1652	1679	1444	
With Part Time	601	607	529	393	-34.6	With Part Time	2360	2253	2290	1970	-16.4
Itasca (Grand Rapids)						Inver Hills (Inver Grove Heights)					
Total Full Time	531	501	415	309		Total Full Time	740	1472	1513	1306	
With Part Time	599	565	468	349	-41.8	With Part Time	979	1946	2000	1726	+75.7
Northland (Thief River Falls)						Lakewood (White Bear Lake)					
Total Full Time	309	398	364	274		Total Full Time	1109	1120	1150	992	
With Part Time	370	476	436	328	-11.3	With Part Time	1599	1614	1657	1429	-10.5
Rainy River (International Falls)						Metropolitan (Minneapolis)					
Total Full Time	230	230	193	131		Total Full Time	872	883	911	785	
With Part Time	324	324	272	184	-43.0	With Part Time	1434	1452	1498	1290	-10.0
Rochester						Normandale (Bloomington)					
Total Full Time	1742	1953	2010	1653		Total Full Time	2206	2213	2274	1963	
With Part Time	2320	2697	2673	2198	-5.1	With Part Time	2862	2870	2949	2546	-11.0
Willmar						North Hennepin (Osseo)					
Total Full Time	674	653	589	462		Total Full Time	1554	1568	1607	1389	
With Part Time	788	763	688	540	-31.4	With Part Time	2012	2031	2081	1799	-10.6
Worthington						Fairlakes (Fairmont)					
Total Full Time	661	642	544	414		Total Full Time	-	496	365	300	
With Part Time	766	743	630	479	-37.3	With Part Time	-	580	427	351	-39.5
Hibbing						River View (Cambridge)					
Total Full Time	664	736	630	467		Total Full Time	-	370	414	399	
With Part Time	741	821	703	521	-29.6	With Part Time	-	430	484	467	+7.8

by numbers of students enrolled. The Commission's numbers cannot by any means be taken as dictum. But their size ranges were based on some empirical research on costs of education and feasibility of different programs at different institutions.

Table 16 shows that seventeen of the twenty-seven public two-and four-year institutions in Minnesota were below the Commission's recommended minimum size in 1971; and

projected enrollments from this study put twenty-three of twenty-eight below the minimum by 1985. Most of the nonmetropolitan institutions are below the minimum, and the metropolitan university is above the maximum.

The numerous small campuses have been created in an effort to place higher education opportunities physically close to people in all parts of the state, although the natural service

areas of these campuses, in many cases, have been comparatively small and, in some cases, declining in population. In some cases also there probably has been an assumption that to locate a higher educational institution in a place is to plant the seeds of regional economic growth. On the other hand, the very large size of the metropolitan university reflects a lack of dispersal or decentralization of facilities within the metropolitan region until the suburban junior colleges were established in the late 1960s and early 1970s, notwithstanding the decentralization, to suburban locations, of all other service facilities throughout the period of rapid metropolitan expansion following World War II.

If the Carnegie Commission recommendations are sound, they suggest that widespread dispersal outside the major growth zone of the state may have sacrificed economies of scale, diversity of program, or both, on the majority of small campuses. And late, partial decentralization within the metropolitan region might have permitted diseconomies of size to develop at the University-Twin Cities.

Possible Effects on Floor Space Use

The existing data on physical plant at each campus are taken from reports to the Legislative Building Commission. They lack precision and strict comparability, but they are the only available means to estimate, even in approximate terms, the physical implications of the projected enrollment declines.

Table 17 indicates that the results of the projected declines would not be uniform, and in general they would not be disastrous. Generally they would permit a return to the student densities, per unit of instructional floor space, which characterized the years immediately following the enrollment bulge of World War II veterans. There would be new opportunities to create student study space, for example.

At the extremes, state college campuses in the western part of Minnesota, where the population declines — both actual and projected — are greatest, would have a space surplus by any standards the state's collegiate institutions have known. On the other hand, St. Cloud and the University branches would be as

TABLE 16: COMPARISON OF CARNEGIE COMMISSION RECOMMENDATIONS ON MAXIMUM AND MINIMUM INSTITUTIONAL ENROLLMENTS WITH ENROLLMENT OF COMPARABLE MINNESOTA TYPES, 1972 ACTUAL AND 1985 PROJECTED

ⁿ Carnegie Commission Recommendations on Size Institutional Type	Comparable Minnesota Institutional Type		Minnesota Colleges in 1972			Minnesota Colleges in 1985			
	Minimum	Maximum	Below Minimum	Within Range	Above Maximum	Below Minimum	Within Range	Above Maximum	
Community Colleges	2000	5,000	Public Jr. Colleges	13	5	0	18	2	0
Liberal Arts Colleges	1000	2,500	Liberal Arts*	6	11	1	***	1***	***
Comprehensive Colleges	5000	10,000	State Colleges**	4	2	1	5	2	0
University Campuses	5000	20,000	University	0	0	1	0	0	1
				<u>23</u>	<u>18</u>	<u>3</u>	<u>23</u>	<u>5</u>	<u>1</u>
				52%	41%	7%	79%	17%	3%

*Includes Morris

**Includes Duluth

***Projections for private liberal arts colleges not made in this study

ⁿ*New Students and New Places, Policies for the Future Growth and Development of American Higher Education*, Carnegie Commission on Higher Education, McGraw-Hill, Hightstown, New Jersey, October, 1971, pp. 5-8. See also: "Issues in the Study of Optimal Size of Collegiate Institutions," unpublished paper available from the author, by Tom Mortenson, June, 1972.

TABLE 17: ESTIMATED NET FLOOR SPACE IN PUBLIC FOUR-YEAR CAMPUSES 1950, 1960, AND 1985¹

	1950		1960		1972		Instructional Per Capita Floor Space 1985, assuming no further building & 1970-1985 projected change in enrollment	Difference from 1972 Mean for 9 Campuses	Difference from 1950 Mean for 6 Campuses
	Total Sq. Ft.	² Sq. Ft./Per Cap#	² Total Per Cap#	² Total Per Cap#					
Mankato									
Instructional	110,585	74	323,360	65	974,990	89	88	- 8	-10
Non-Instructional	40,000	27	199,910	40	630,300	58	57	-11	+27
St. Cloud									
Instructional	72,490	42	257,465	74	793,860	86	77	-19	-21
Non-Instructional	48,000	28	152,780	44	510,910	57	50	-18	+20
Winona									
Instructional	63,895	109	135,895	104	374,150	96	97	+ 1	- 1
Non-Instructional	31,800	54	71,950	55	233,715	60	61	- 7	+31
Moorhead									
Instructional	117,500	176	168,260	109	421,110	88	105	+ 9	+ 7
Non-Instructional	15,500	23	78,895	51	398,810	83	99	+31	+69
Bemidji									
Instructional	50,140	87	135,400	87	376,370	95	92	- 4	- 6
Non-Instructional	10,000	17	99,930	65	437,200	110	107	+39	+77
Southwest									
Instructional					392,589	154	151	+55	
Non-Instructional					241,015	95	93	+25	
UM – Twin Cities									
Instructional	2,111,180	101	2,287,100	90	4,585,910	110	106	+10	+ 8
Non-Instructional	587,920	28	1,790,485	71	2,203,429	53	51	-17	+21
UM – Morris									
Instructional			³ 56,810	60	120,514	68	79	-17	
Non-Instructional					91,463	52	60	- 8	
UM – Duluth									
Instructional	dna	dna	³ 244,800	61	425,815	78	91	- 5	
Non-Instructional	dna	dna			257,858	47	47	-13	

¹ Does not include athletic or physical education facilities. Data derived from Reports to Minnesota Legislative Building Commission (1971-1972), University of Minnesota Office of Space Programming and Management, and University of Minnesota Housing Office.

² All students – full-time and part-time first week, fall quarter of given year. 1985 ratio of total enrollment to full-time enrollment assumed to be same as ratio for 1970.

³ 1963 Data.

TABLE 18: ESTIMATED NET FLOOR SPACE BY STATE JUNIOR COLLEGE CAMPUS IN 1972 AND 1985

State Junior Colleges	Estimated Net Floor Space 1972 ¹	Actual Total Enrollment 1972 ²	1972 Per Capita Floor Space	Projected Total Enrollment 1985	1985 Per Capita '72 Floor Space*	Change In Per Capita Floor Space, 1970-1985
Anoka-Ramsey	116,550	2,160	54	1,970	59	+ 5
Austin	77,730	927	84	702	111	+27
Brainerd	52,430	565	93	489	107	+14
Fergus Falls	56,105	590	95	393	143	+48
Hibbing	68,960	671	103	521	132	+29
Inver Hills	73,925	1,313	56	1,726	42	- 14
Itasca	63,275	512	124	349	181	+57
Lakewood	64,240	2,097	31	1,429	45	+14
Mesabi	73,525	706	104	551	133	+29
Metropolitan	59,235	2,254	26	1,290	46	+20
Normandale	127,490	3,380	38	2,546	50	+12
North Hennepin	121,580	2,478	49	1,799	68	+19
Northland	37,190	385	97	328	113	+16
Rainy River	34,195	272	126	184	186	+60
Rochester	127,120	2,327	55	2,198	58	+ 3
Vermilion	35,140	340	103	212	166	+63
Willmar	59,690	694	86	540	111	+25
Worthington	60,270	618	98	479	126	+28
TOTAL	1,308,650	22,289	59	17,706	74	+15
Fairlakes	—	0 0	—	351	?	?
River View	—	0 0	—	467	?	?

¹ Data from Minnesota State Junior College Board. Includes all facilities except circulation space.

² HECC

* Assumes no additional construction after 1972.

crowded as the average of all four-year public campuses today.

Instructional space is used much more intensively in the University system than in the other systems, according to a HECC 1970 survey.⁸ For example, in the morning and midday hours, University space was 70 to 80 percent utilized. Hence, if the data in Table 17 were corrected for differences in space utilization rates, the per capita floor space for the University system would be about twenty percent less than that shown.

⁸ *Facilities in Minnesota Higher Education*, St. Paul: Minnesota Higher Education Coordinating Commission, July 1970, p. 84, Table 50.

Meanwhile, noninstructional floor space per student — mainly in dormitories — typically has doubled during the past decade (Table 17). With no additional building, the ratio of dormitory space to student population is likely to remain essentially unchanged or to further increase by 1985, under the terms of projections in this report. Recent changes in student life-style have further softened the market for dormitory accommodations.

State junior college floor space in 1972 has been reported by the State Junior College Board (Table 18). These data suggest that greater institutional size, measured by enrollment,

leads to decreased per capita floor space requirements. For example, in 1972 the seven junior colleges located in the metropolitan area and Rochester had an average enrollment of 2,200 students, and per capita net floor space use was 45 square feet per student. The remaining eleven outstate junior colleges averaged 570 students each, and per capita net floor space was 98 square feet per student — twice the average for junior colleges located in growth centers.

By 1985 the existing difference will widen. The metropolitan area junior colleges plus Rochester will average 53 net square feet per student, while the eleven remaining junior colleges will average 128 — assuming no additions to the junior college physical plants. (See Figure B.1 in Appendix B.)

Effects of New Campuses

Two new campuses tentatively have been committed to be added to the junior college system, at Fairmont and Cambridge.⁶ The Fairmont campus will serve a declining natural service area with about 1,000 high school graduates in 1970. The majority of students attracted to the new campus will be either youth who otherwise would not have attended college or students who would have entered Mankato State College and will transfer there if they continue beyond the first or second year. The Cambridge campus will serve a growing natural service area with about 900 high school graduates in 1970. Effects on existing campuses will be divided between St. Cloud State College and Anoka-Ramsey State Junior College. Enrollment projections for these proposed new junior college campuses are placed in the context of projections for others in the system in Table 15.

Among new campuses which have been recommended but not authorized, or fully debated, the one which would have the greatest impact on present student migration patterns is a University at Rochester.⁷

Table 19 indicates the impact this would have, given the assumptions and procedure used for projecting enrollments for

⁶ Fairlakes was a designation by the 1967 Legislature. Cambridge was selected by the State Junior College Board in 1970 after the 1969 Legislature had authorized it to select one site from a list of five.

⁷ Bond, Richard R., et al, *Consultant's Report, Region Nine and Ten Study for the Minnesota Higher Education Coordinating Commission*, Greeley, Colorado, September 20, 1972, and studies cited in footnote 1.

the existing campuses. Three additional assumptions were made: (1) the local natural service area drawing power was assumed to be either (a) indicated by the present lower division enrollment at Rochester Junior College or (b) equivalent to the drawing power of Mankato State College in its natural service area — either procedure produces about the same total number of students; (2) the drawing power from the Twin Cities area and the rest of the state was assumed to be double that of the University-Duluth because of the difference in distance from the state's population centers to Rochester compared with Duluth; and (3) drawing power outside Minnesota was assumed to be equal to that of the University-Duluth.

The result of the projection is an enrollment of about 6,400 full-time students in 1985, roughly half from the natural service area, one-fourth from the Twin Cities commuter area, and one-fourth from the rest of the state.

Existence of the new campus would reduce enrollments at other campuses by competing for students from the rest of the state and also by retaining students in the Rochester area who now go elsewhere (Table 19). The largest numerical shift of students would be about 2,400 from the University-Twin Cities. The largest percentage shifts would be about 20 percent of the Winona student body and about 12 percent of the Mankato student body to the Rochester campus.

TABLE 19: POTENTIAL IMPACT OF A FOUR-YEAR UNIVERSITY OF MINNESOTA-ROCHESTER (UMR)

Campus	Actual 1970 Enrollment	Potential Shift to UMR	% Potential Change	Potential Enrollment Given UMR	
				1970	1985
UM — Twin Cities	32,000	-2,400	- 7	29,600	29,600
UM — Morris	1,600	- 100	- 7	1,500	1,400
UM — Duluth	4,900	- 400	- 7	4,500	3,800
Mankato	9,900	- 1,200	-12	8,700	7,900
Winona	3,400	- 700	-20	2,700	2,600
St. Cloud	8,200	- 100	- 1	8,100	8,200
Other State Colleges	11,700	- 100	- 1	11,600	9,700
Rochester J. C.	1,700	-1,700	}	6,900	6,400
UM — Rochester	0	+6,700			

(Enrollments shown to nearest 100)

Effects of Modifying Other Assumptions

If the college going rate of high school graduates were increased, the enrollment projections would rise. The attendance rate might well increase to the level that prevailed during the Vietnam escalation. That could raise the college going rate from about 54 percent to about 55 percent during the period of projection. The result would be approximately a one percent increase in projected 1985 enrollments.

An increased retention rate (reduced dropout rate) would also raise the projections. Retention rate, overall, could plausibly rise one percentage point per year and reach 65 percent by 1985. The result would be to increase the projected enrollments by about 11 percent.

There could well be a change in the drawing power and actual service regions of different campuses. These changes could be the result of assistance to private colleges, increased recruiting by the University within its natural service area in the Twin Cities, alteration of student aids – to cite only three examples.

Alanen, in a doctoral thesis now in preparation, has postulated the following variations from the assumptions of the original projections in this study and has estimated their combined effect.

- An increase in college going rates to bring all Minnesota counties up to at least the present state mean, without decreasing the rate for any county now above the mean.
- An increase in retention rates.
- An increase in mobility – that is, a 15 percent increase in the number of students going outside their resident natural service area to college (a result, for example, of increased aids paid directly to students).
- A slightly reduced share of high school graduates from the Twin Cities commuter counties attending St. Cloud and Mankato because of the drawing power of Metropolitan State College.

As a result of these changed assumptions, the 1985 projections increased from zero to 30 percent over those shown in Table 5. Increases were least in the Twin Cities metropolitan area, most in the parts of the state with the lowest college attendance rates for high school graduates (Figure 11).

In any case the full-time undergraduate 1985 projections remain below 1970 actual enrollment levels, except for St. Cloud and Morris. When possible increases in part-time enrollments are considered, St. Cloud, Winona, Duluth and the Twin Cities campus could show gains over 1970. This, of course, is a reflection of the larger number of potential part-time adult students who reside in the state's largest metropolitan areas.

Effects of Increasing Part-Time, Continuing Enrollments

A HECC survey obtained complete statewide data on adult and continuing education by the higher education institutions for the academic year 1968-69.⁹ The survey showed 81,000 individual enrollments in 3,100 credit courses that year. Average enrollment per class was about twenty-seven.

It is useful to compare this attendance with the number of people in the state who could be considered potentially in the market.

In 1970 the number of people in Minnesota who were age 25 or over and had one to three years of college education was 237,000 (Table 20). There were nearly 1.99 million people age twenty-five or over, 1.58 million in the 25-64 age bracket. Thus adults with some exposure to college numbered 11.5 percent of the total population aged twenty-five and over, 14.5 percent of the 25-64 group. It appears that such people will certainly number ten to twenty percent of the 25-64 age group from now on.

At an average of two credit courses per year a continuing education student might complete a degree – or attain some equivalent level of satisfaction from continuing study – in twenty years. To reach one-half of the college-exposed population with two courses per year would take about 6,200 courses rather than the 3,100 offered in 1968-69, at the given average class size. To reach ten percent of the 25-64 age group with two courses per year and the same class size would demand more than 12,000 courses.

Thus a two- or four-fold increase in the number of offerings is plausible, perhaps. Whether such enrollments

⁹*Continuing Education in Minnesota* (Extension, Continuing Education, and Community Services in Minnesota Post-Secondary Education Institutions, 1968-1969), St. Paul: Minnesota Higher Education Coordinating Commission, December 1970.

TABLE 20: PERSONS 25 AND OVER WITH ONE TO THREE YEARS OF COLLEGE BY MINNESOTA COUNTY, 1970

County	Number as a % of total +25		County	Number as a % of total +25		County	Number as a % of total +25		County	Number as a % of total +25	
	Number	year olds		Number	year olds		Number	year olds		Number	year olds
Aitkin	602	9.0%	Fillmore	1,319	10.3	Mahnomen	186	6.3%	Rice	2,073	10.2
Anoka	7,733	11.2	Freeborn	2,119	10.2	Marshall	721	9.9	Rock	534	8.6
Becker	1,377	10.4	Goodhue	2,204	11.3	Martin	1,487	10.6	Roseau	428	6.8
Beltrami	1,521	12.4	Grant	457	9.9	Meeker	1,029	9.7	St. Louis	14,550	12.0
Benton	869	8.8	Hennepin	77,428	15.3	Mille Lacs	703	7.9	Scott	1,425	9.3
Big Stone	476	10.3	Houston	956	10.3	Morrison	1,057	7.7	Sherburne	963	10.9
Blue Earth	3,463	14.4	Hubbard	709	11.3	Mower	2,619	11.1	Sibley	499	5.5
Brown	1,317	8.7	Isanti	727	8.3	Murray	543	8.0	Stearns	3,924	9.3
Carlton	1,206	8.0	Itasca	2,098	10.9	Nicollet	1,475	12.4	Steele	1,403	9.7
Carver	1,275	8.8	Jackson	710	8.8	Nobles	1,319	10.6	Stevens	648	11.6
Cass	988	9.5	Kanabec	419	7.7	Norman	599	9.8	Swift	667	8.9
Chippewa	1,003	11.5	Kandiyohi	1,796	10.5	Olmsted	7,030	16.4	Todd	852	6.9
Chisago	993	10.3	Kittson	482	11.9	Ottertail	2,547	9.4	Traverse	356	9.9
Clay	2,914	13.7	Koochiching	625	6.9	Pennington	710	9.9	Wabasha	923	9.6
Clearwater	354	7.6	Lac Qui Parle	681	10.2	Pine	755	7.7	Wadena	606	9.0
Cook	151	7.5	Lake	616	8.9	Pipestone	633	8.9	Waseca	968	10.6
Cottonwood	802	9.3	Lake of the Woods	224	10.2	Polk	1,978	11.6	Washington	4,437	11.3
Crow Wing	2,098	10.8	Le Sueur	1,031	8.9	Pope	654	9.8	Watonwan	572	7.5
Dakota	9,199	14.3	Lincoln	360	7.5	Ramsey	29,515	12.0	Wilkin	643	8.4
Dodge	710	10.0	Lyon	1,036	8.5	Red Lake	266	9.5	Winona	2,529	11.3
Douglas	1,256	9.8	McLeod	1,199	7.8	Redwood	1,137	10.1	Wright	1,684	7.1
Faribault	1,144	9.5				Renville	1,124	9.3	Yellow Medicine	810	9.8
									TOTAL	238,228	

Source: U.S. Bureau of the Census, Census of Population: 1970 *General Social and Economic Conditions* Final Report PC(1)-C25 Minnesota, (Washington: U.S. Government Printing Office, 1972)

materialize depends upon at least three important factors.

- Motivation - What offerings are contemplated? Are courses now offered drawing no more students because of publicity, medium, or interest?
- Accessibility - Ninety percent of the courses in the survey were offered on the campuses of the institutions, in counties where only sixty percent of the population lives.

- Subsidy - Most of the courses are priced above regular day-school instruction because they are not integrated with the day-school teaching or do not otherwise receive state subsidies.

If these and other problems are resolved and potential enrollments materialize, it is still possible, perhaps likely, that some large share will be reached off campus through the use of new media or new organization.

SUMMARY

The impact of the end of the population boom will produce a drop in Minnesota college enrollments in the late 1970s and early 1980s, even in growth areas of the state, unless there are compensating new developments not now in evidence.

- Even assumptions of relatively strong increases in college going rate of high school graduates and student mobility leave projected 1985 enrollments at or below 1970.
- The recent declines in college attendance rates, for the college-age population, are not related to the birthrate decline. They do follow a period of exceptionally rapid increase in collegiate enrollments from 1966 to 1969.
- All campuses might experience a temporary increase above present levels before the population-induced decline gets in.
- Enrollment declines might be offset by increases in adult and continuing education. On the nonmetropolitan campuses the declines might also be offset by increased recruiting of students from the Twin Cities area, resulting potentially in enrollment declines at metropolitan area collegiate institutions.
- Enrollment declines would create surplus instructional space by recent standards. On the other hand, they will result in a return to normality by the standards of the early 1950s on most of the nine campuses.

POLICY RE-EXAMINED

- Expansion of physical capacity does not appear to merit high priority except for selected programs and, possibly, selected locations where continued migration to the metropolitan growth zone will sustain a growing market.
- The enlargement of programs at campuses in sparsely populated areas, and any notion of creating some kind of campus within twenty miles of all residents of the main settled area of the state, are policies inconsistent with the fundamental forces shifting the state's population. Some junior colleges already exist in natural service areas in which the 1985 number of potential enrollees is too small even to sustain an acceptable high school.
- The fact that a growing majority of Minnesota public collegiate campuses fall outside the Carnegie Commission recommended size range deserves attention. To be sure, the Carnegie Commission range should not be interpreted rigidly; and its failure to fit this state may be nothing more than a reflection of the unusual rural-metropolitan mix that in many ways has given Minnesota some of its social and economic strengths. Yet the fact may also indicate need for change. The report of the University Senate Committee on Resources and Planning makes numerous references to decentralization within the University-Twin Cities. Given the permanence of the physical plant, decentralization of the Twin Cities campus at this stage will have to be accomplished mainly through organizational changes. For the same reason, aggregation of resources of small outstate campuses will have to be accomplished by organizational changes.
- The idea that placing a new institution of higher education in a town or region is an instrument of economic growth should at least be questioned and probably rejected in future policy consideration. The new campus will help the local community to the extent that it provides new basic income from state and student expenditures there. But the experience of more than a century at – for example – Bloomington, Indiana; Columbia, Missouri; or Iowa City indicates that even a major university is not enough to generate a major city. And the experience of Boston, the Twin Cities, or Los Angeles – as examples – suggests that there is great value for a university in day-to-day interaction with a great city. Analysis of the data and assessment of popular goals might conceivably lead to a future policy to encourage employment and population dispersal to a few selected and ordained non-metropolitan growth centers. A planned dispersal of higher education investment probably would accompany such a policy. But educational dispersal as an attempted regional growth stimulant should not move unilaterally ahead of a much more comprehensive state or federal program of regional development.
- Financial aids probably increase student mobility. Increased mobility – especially for metropolitan area students – is probably one of the two or three main ways to achieve greater utilization of many non-metropolitan campus facilities. Hence high priority should be given to the development of financial aid programs from a utilitarian as well as a humanitarian point of view.
- A second main way to close the gap in use of facilities is through increasing the motivation of youth toward collegiate education. The emphasis of *Toward 1985 and Beyond* on "critical social problems," "issues of public policy," and crediting "the widest possible

variety of student achievements" is probably a recognition of this need.

Yet, the number of problems and occupations is innumerable. It is doubtful if a stable educational system can be mainly in the business of problem-solving and occupational training. The demand will surely be articulated again for general educational programs.

There is not yet spelled out, however, a clear relationship between problem-oriented studies and the need for a modern, revitalized liberal education. Americans have an information overload — more facts than we know what to do with. The need continues to grow for a basic framework of knowledge upon which to sort and relate the mass of facts. The educational problem is to describe that basic framework of knowledge in a way that meets both scholarly criteria and the public need for a general education. The faculty research to back up that kind of teaching program would almost certainly have an emphasis on social problems and policy issues which are both persistent and pervasive.

Hence the curricular changes which the Senate Committee was seeking to outline are perhaps the most fundamental and elusive response to declining enrollment.

- A possible third means of maintaining utilization of faculty and facilities is to increase the amount of continuing education — to increase the number of students by stretching out the time to attain any given level of certification and trying to serve a much wider cross section of the post-high school population. The potential market for such an effort does appear to be large. But to serve the latent need, the effort will require changes in financing, course offerings, and media. The result may well be that the existing faculties, facilities, and allocations of legislative support funds will need drastic modification in order to do the job. Planning and programming for such changes should be under way.
- Coordination among the five systems of higher educa-

tion campuses is even more urgent under assumptions of austerity or nongrowth than it is under the earlier postulates in order to utilize existing facilities, acquire necessary new equipment, staff the basic and applied programs, and avoid spreading resources so thinly that the state eventually fails to do what has kept it in the forefront — provide an abundance of high-quality manpower in many fields together with a generally well-educated citizenry. In fact, the state now has the physical components of a fully developed system of tertiary campuses.

- The role of the major metropolitan-centered growth region in the future of Minnesota's higher education needs searching and open appraisal. It is striking that the projections show all nonmetropolitan campuses increasingly dependent on the metropolitan area for their supply of students, not to mention their tax support base. Without statewide coordination one might yet see different state institutions or systems mounting independent and competing recruiting programs to attract metropolitan area students whom the state would subsidize to go to nonmetropolitan campuses.
- The need for more, better and more accessible management data is self-evident.

In summary, the enrollment outlook, assessed from this point in time, indicates that among the major recommendations for higher education produced in recent years, highest priority should go to those which emphasize:

- Coordination of campuses by region and by type of program and, where needed, redefinition of institutional missions.
- Integration of continuing education into the regular academic program, with appropriate changes in staff, offerings, and financing.
- Financial aids to students, distributed in a manner commensurate with trends described in this report as well as statewide goals for tertiary education.
- Increasing the ability of faculty to modify and reorganize courses and curricula.

APPENDIX A: PROJECTING TERTIARY COLLEGIATE ENROLLMENTS

Method

The projections of total Minnesota and national higher educational enrollments made by the Minnesota Higher Education Coordinating Commission and the Carnegie Commission on Higher Education respectively are useful at a macro level for making generalized statements and policies about higher education. They are not useful in describing the impact of enrollment change on specific institutions, and as such miss the importance of great variations between enrollment changes in different institutions at different points in time. The projections made in this study attempt to supplement such deficiencies with respect to the undergraduate enrollment in Minnesota public collegiate campuses. Total undergraduate enrollments for collegiate and professional programs are recorded for the fall of 1970, and projected with the aid of age-specific county population projections supplied by the State Board of Health to 1975, 1980, and 1985.

The following sections of this appendix first describe the methodology used to project undergraduate enrollments, illustrated by the application of this methodology to the Twin Cities campus of the University. The basic data for all calculations of projected four-year campus enrollments is included in the table. The methodology is then critiqued.

Spatial analysis: The first step in the projection of future Twin Cities campus undergraduate enrollments was to determine the spatial origins of students in some recent base year. For reasons related to the availability of census and enrollment data, 1970 was selected. For the following purposes, undergraduate enrollment was divided into five groups in recognition of spatially significant patterns of institutional selection and transfer.

The five groups for the University-Twin Cities campus were:

- a. First year students, in all programs.

- b. Second, third, and fourth year students in collegiate programs (e.g. Liberal Arts, Education, Business, and General College) which are characterized by their low degree of uniqueness within the state system of public higher education.¹
- c. Second, third, and fourth year students in professional programs (e.g. Agriculture, Forestry, and Home Economics, Institute of Technology, Biological Sciences, and Nursing) which are characterized by their high degree of uniqueness within the state system of public higher education.¹
- d. Nonresident students, at all levels, including both other U.S. and foreign.
- e. Part-time students.

The sum of these five groups yields total undergraduate enrollment for the University's Twin Cities campus.

For each of these groups, a set of factors describing the origin of University undergraduates as of 1970 was derived. Basic data were supplied by the Minnesota Higher Education Coordinating Commission's detailed enrollment reports. The five sets of factors were:

- a. First year enrollment:

$$\sum_{i=1}^{87} a = \frac{\text{New Entering Freshmen at UM/TCC as of Fall, 1970}}{\text{Minnesota High School Graduates in 1970}} \quad (i)$$

Separate "a" values for each Minnesota county were calculated for the 1970 base year for each public collegiate institution (Table A-1).

¹See *Toward 1985 and Beyond, A Report From the University of Minnesota Senate Committee on Resources and Planning*, especially pages 121-125, and Appendix B, pages 130-142, for further discussion of the concept of uniqueness.

TABLE A-1: "a" FACTORS BY COUNTY AND BY PUBLIC TWO-YEAR AND FOUR-YEAR CAMPUSES, 1970

Service Area Counties	Campus									
	Bemidji	Mankato	Moorhead	St. Cloud	Southwest	UMD	UMM	UM-TC	Winona	Total
Northland J.C.										
Pennington*	2.0	.4	2.7	0	0	.8	0	2.0	0	7.9
Red Lake*	6.2	.9	7.1	0	0	.9	0	0	0	15.1
CCST	3.3	.5	4.1	0	0	.8	0	1.4	0	10.1
Kittson	8.1	.6	11.0	.6	.6	1.7	0	2.3	0	24.9
Marshall	4.5	0	3.8	0	1.1	0	0	1.0	0	7.3
Polk	7.3	.1	10.7	1.6	.3	.9	.2	2.8	.2	24.1
Roseau	8.5	0	3.6	0	.8	.8	.4	2.8	0	16.9
RCST	6.8	.2	8.0	.8	.6	.8	.33	2.4	.08	19.3
Total	6.1	.3	7.2	.6	.5	.8	.17	2.2	.06	17.4
Rainy River J.C.										
Koochiching*	3.1	0	0	0	0	2.5	.3	1.4	0	7.3
Lake of the Woods	15.6	0	0	0	0	3.1	0	4.7	1.6	25.0
Total	5.0	0	0	0	0	2.6	.23	1.9	.2	10.0
Bemidji S.C.										
Beltrami*	34.4	.2	.9	.5	0	.7	0	3.0	0	39.7
Clearwater*	17.2	0	1.6	0	.8	4.7	0	.8	0	25.1
CCST	30.5	.2	1.1	.3	.2	1.6	0	2.5	0	36.4
1/2 Cass	14.9	.7	3.4	.7	0	.7	0	1.7	0	22.1
Hubbard	16.8	0	7.3	1.6	0	1.0	2.1	1.0	0	29.8
RCST	16.0	.3	5.6	1.2	0	.9	1.17	1.3	0	25.7
Total	25.1	.2	2.8	.7	.1	1.3	.44	2.0	0	30.8
Itasca J.C.										
Itasca*	1.7	.1	1.1	.7	0	2.6	0	2.2	0	8.4
Hibbing-Mesabi-Vermillion J.C.										
1/3 St. Louis*	.8	.2	.2	.9	.03	18.1	0	2.0	0	22.2
UMD										
2/3 St. Louis*	.8	.2	.2	.9	.07	18.1	0	2.0	0	22.3
Carlton*	1.7	.5	.3	2.8	.2	18.8	.2	3.1	0	27.6
CCST	.9	.3	.2	1.2	.1	18.2	.03	1.0	0	21.9
Cook	3.5	1.8	0	0	1.8	14.0	0	5.3	1.7	28.1
Lake	8.4	0	.4	2.7	.8	14.0	.4	2.3	.4	29.4
RCST	5.7	.3	.3	2.2	1.3	14.0	.3	2.9	.6	27.6
Total	1.4	.3	.2	1.3	.2	17.9	.05	1.2	.06	22.7

TABLE A-1 Cont.

Service Area Counties	Campus									
	Bemidji	Mankato	Moorhead	St. Cloud	Southwest	UMD	UMM	UM-TC	Winona	Total
Moorhead S.C.										
Clay*	.9	.2	27.4	.2	.3	0	.7	1.9	0	31.6
Becker	10.5	.5	13.8	2.4	.5	2.2	1.1	3.0	.2	34.2
Mahnomen	8.5	.8	22.4	1.6	0	0	0	0	0	33.3
Norman	1.0	0	16.3	.5	.5	0	2.5	3.0	0	23.8
RCST	7.4	.4	16.1	1.7	.4	1.1	1.3	2.4	.1	30.9
Total	3.8	.3	22.3	.9	.4	.2	.9	2.1	.06	31.0
Fergus Falls J.C.										
Otter Tail*	2.6	.7	6.6	1.1	.6	.8	1.9	2.0	.1	15.4
Wilkin	1.4	0	11.5	.9	.5	.9	2.8	.9	.5	19.4
Grant	2.1	2.6	3.7	2.1	.5	0	7.8	.5	.5	19.8
Douglas	2.0	0	5.4	5.8	1.2	.4	3.4	5.4	0	23.6
RCST	1.9	.6	6.5	3.9	.9	.4	4.2	3.3	.2	21.9
Total	2.2	.6	6.4	2.5	.8	.6	3.0	2.7	.2	19.0
Brainerd J.C.										
Crow Wing*	.8	.6	1.0	1.6	.2	1.8	.8	2.6	.2	9.6
1/2 Cass*	14.9	.7	3.4	.7	0	.7	0	1.7	0	22.1
CCST	3.5	.7	1.4	1.4	.1	1.6	.6	2.4	.1	11.7
Aitkin	20.9	0	2.0	4.4	.5	10.8	1.0	2.0	0	41.6
Morrison	2.3	0	2.0	10.1	.2	1.2	1.7	2.1	.2	19.8
Todd	3.4	.7	6.3	2.5	0	.7	3.2	2.3	0	19.1
Wadena	5.2	.3	4.5	2.9	.3	1.0	1.3	2.6	.3	18.4
RCST	3.2	.3	3.7	5.9	.2	2.2	1.9	2.2	.1	18.6
Total	3.3	.4	3.0	4.5	.2	2.0	1.5	2.3	.1	17.3
UMM										
Stevens*	.5	.9	1.9	.5	0	.5	13.5	2.3	0	20.1
Big Stone	.5	1.6	6.2	4.1	3.1	0	3.6	4.7	0	23.8
Pope	0	1.0	8.9	2.6	2.6	0	12.5	5.2	0	32.8
Swift	.3	.6	4.6	2.1	2.8	0	6.4	3.7	.3	20.8
Traverse	2.8	.7	4.9	1.4	0	0	3.5	1.4	.7	15.4
RCST	.7	.9	6.0	2.7	2.4	0	6.6	3.9	.2	22.3
Total	.7	.9	5.1	2.2	1.9	.09	8.2	3.6	.2	20.9

TABLE A-1 Cont.

Service Area Counties	Campus									
	Bemidji	Mankato	Moorhead	St. Cloud	Southwest	UMD	UMM	UM-TC	Winona	Total
Rochester J.C.										
Olmstead*	.9	1.9	.1	1.4	.4	.5	.9	6.2	1.1	13.4
Dodge*	2.0	5.4	0	1.4	.7	.7	0	5.1	3.7	19.0
CCST	1.1	2.5	.1	1.4	.3	.5	.7	6.0	1.6	14.2
Fillmore	.5	2.8	0	1.8	1.6	0	.2	4.7	14.1	26.3
Goodhue	.5	3.9	.1	3.7	1.6	1.0	.1	6.7	4.4	21.8
Wabasha	.8	3.0	.5	2.7	1.1	.5	.3	2.7	7.9	19.5
RCST	.5	3.4	.2	3.0	1.5	.6	.3	5.2	7.8	22.5
Total	.8	2.9	.1	2.2	.9	.5	.6	5.6	4.5	18.1
Winona S.C.										
Winona*	0	.4	0	.1	.3	.3	.6	2.8	28.7	33.2
Houston	.5	.3	0	1.3	1.3	0	.3	3.1	15.4	22.2
Total	.2	.4	0	.6	.7	.2	.5	2.9	24.0	29.5
Austin J.C.										
Mower*	.4	2.9	.1	1.2	.8	.1	.8	3.1	.9	10.3
Freeborn*	1.06	6.4	0	3.0	.2	.2	1.3	6.7	4.4	23.2
CCST	.6	4.3	.1	1.9	.5	.1	1.0	4.6	2.3	15.4
Steele	.9	6.2	.2	3.1	2.2	.6	0	8.6	1.7	23.5
Total	.7	4.8	.1	2.2	1.0	.2	.8	5.6	2.1	17.5
Mankato S.C.										
Blue Earth*	.5	24.0	0	.7	.6	.2	0	1.8	.7	28.5
LeSueur*	2.9	18.4	0	3.7	2.6	.1	.3	6.6	2.1	36.7
Nicollet*	1.0	39.9	0	1.4	5.8	2.9	0	9.1	0	60.1
CCST	.7	24.9	0	4.5	1.8	.8	.1	5.9	.7	34.2
Brown	.5	8.7	.4	9.3	3.4	.2	.4	4.0	.3	19.2
Faribault	.9	13.7	0	3.0	1.8	0	.2	3.4	2.4	25.4
Martin	1.5	10.4	.4	1.0	7.8	0	1.0	4.0	.2	22.2
Sibley	.7	9.8	0	6.5	3.9	0	.6	4.9	.3	26.7
Waseca	.3	12.6	0	1.1	.6	.6	.8	6.0	2.0	24.0
Watonwan	1.5	9.3	.4	1.5	3.3	0	0	6.3	0	22.3
RCST	.8	10.7	.2	3.0	3.5	.1	.6	4.5	.8	25.0
Total	.8	16.0	.1	2.4	3.0	.4	.4	4.3	.8	28.5

TABLE A-1 Cont.

Service Area Counties	Campus									
	Bemidji	Mankato	Moorhead	St. Cloud	Southwest	UMD	UMM	UM-TC	Winona	Total
St. Cloud S.C.										
Stearns*	1.0	.5	.8	15.3	.3	.3	1.3	1.7	0	21.2
Benton*	1.6	.9	0	15.8	.3	.3	1.3	.3	0	20.5
Sherburne*	1.2	1.2	.8	4.8	0	0	.8	3.6	.4	12.8
CCST	1.1	.6	.7	14.4	.2	.3	1.3	1.8	.04	20.4
Kanabec	2.7	0	0	7.9	.7	4.7	0	6.0	0	22.0
Mille Lacs	1.3	.5	.5	7.4	0	1.5	3.0	2.3	0	16.5
Wright	.6	2.0	.4	7.6	1.5	.4	.7	13.7	.1	27.0
RCST	1.1	1.3	.4	7.6	.9	2.3	1.4	5.5	.08	20.6
Total	1.1	.8	.6	12.2	.5	.8	1.3	3.0	.05	20.4
Willmar J.C.										
Kandiyohi*	1.1	1.6	.9	2.9	.2	0	1.8	2.3	.2	11.0
Meeker	.2	2.2	1.8	6.4	.5	0	1.1	4.2	0	16.4
McLeod	.8	2.9	2.1	7.9	3.6	.5	.5	4.2	0	22.5
Chippewa	.7	1.8	8.6	6.8	6.8	.4	3.6	2.5	0	31.2
Renville	1.3	3.6	.6	4.5	7.1	0	3.4	3.9	.4	24.8
RCST	.8	2.9	5.6	6.7	4.3	.2	1.9	3.8	.1	26.3
Total	.9	2.6	4.5	5.8	3.8	.2	1.9	3.5	.1	23.3
Metro Region J.C.										
Anoka*	.9	.9	.3	3.2	.3	.7	.6	8.7	0	15.6
Dakota*	1.2	1.9	.3	1.6	1.4	.9	.4	8.9	2.4	16.8
Hennepin*	1.0	2.4	.4	3.6	.9	1.3	.3	19.5	.6	30.0
Ramsey*	1.0	1.7	.4	2.3	.9	.9	.4	18.5	.9	27.0
Scott*	.6	8.0	.2	3.5	2.3	.8	.6	6.8	1.2	24.0
Washington*	1.7	3.3	.1	3.6	.6	1.9	1.0	11.5	1.6	25.3
CCST	1.0	2.2	.4	3.1	.9	1.1	.4	16.8	.7	26.6
Carver	.2	5.8	0	4.3	3.2	.6	.6	5.1	0	19.8
Chisago	1.1	0	.3	6.3	2.1	2.8	.7	6.6	0	19.9
Isanti	1.7	.4	0	5.6	0	3.8	.4	1.7	0	13.6
Pine	.8	0	0	4.6	0	2.8	0	5.8	.9	14.9
Rice	1.1	8.5	.3	1.8	1.7	.6	.4	6.1	1.4	21.9
RCST	1.1	4.4	.1	3.9	1.7	1.6	.4	5.3	.6	19.5
Total	1.1	2.5	.4	3.4	1.0	1.2	.45	16.1	.7	26.9

TABLE A-1 Cont.

Service Area Counties	Bemidji	Mankato	Moorhead	St. Cloud	Southwest	UMD	UMM	UM-TC	Winona	Total
Southwest S.C.										
Lyon*	.6	1.5	.9	1.1	19.9	.2	.9	1.3	0	26.4
Lac Qui Parle	4.8	.4	9.6	1.8	9.2	0	6.6	6.6	0	39.0
Lincoln	0	4.0	3.5	1.2	13.1	0	3.5	3.5	0	28.8
Pipestone	.3	3.5	1.4	.8	8.1	3.8	3.5	.8	1.1	23.3
Redwood	1.3	3.0	.3	5.0	12.2	.3	1.5	4.8	0	28.4
Yellow Medicine	0	.3	2.5	2.5	10.3	0	2.5	3.1	0	21.2
RCST	.5	2.3	2.8	2.5	11.3	1.0	2.7	3.5	.3	26.9
Total	.5	2.1	2.3	2.1	13.7	.7	2.2	3.0	.2	26.8
Worthington J.C.										
Nobles*	.4	2.1	0	.6	2.5	0	.2	1.0	0	6.8
Cottonwood	.3	6.8	.7	3.7	7.8	0	1.4	3.1	.7	24.5
Jackson	.3	7.8	1.8	1.8	8.5	0	1.4	6.0	.4	28.0
Murray	.8	5.8	.8	.8	15.0	0	1.8	1.3	0	25.3
Rock	1.8	4.4	.4	.4	11.0	.4	1.8	1.3	3.1	24.6
RCST	.8	6.3	1.0	1.8	10.3	.1	1.3	3.1	1.0	25.7
Total	.7	5.0	.7	1.4	7.9	.07	1.0	2.4	.7	19.9

NOTES:

- * = County with greater than 1/2 1970 population 25 miles from campus (Commuter County).
- CCST = Commuter Counties Sub-Total.
- RCST = Remaining Counties Sub-Total ("non-commuter" counties within "Natural Service Area").

b. Total second, third, and fourth year enrollment:

$$\sum_{i=1}^{87} u = \frac{\text{Second, Third and Fourth Year Students at UM/TCC as of Fall, 1970}}{\text{Minnesota High School Graduates in 1970}} \quad (ii)$$

Again, separate "u" values for each Minnesota county were calculated as of 1970 for each public four-year campus (Table A-2). This "u" value represents an aggregate factor including both collegiate and professional enrollments for the University-Twin Cities. Because collegiate and professional programs draw enrollments from somewhat different geographic re-

gions (the collegiate more locally metropolitan, and the professional more statewide), this "u" factor was in turn distributed between collegiate and professional factors (u_c and u_p respectively), based on a separate analysis of the geographic origins of total annual Twin Cities campus enrollment by college. Therefore, $u = u_c + u_p$, (iii) for each Minnesota county. The proportion of collegiate and professional enrollment was estimated for the second, third, and fourth year levels based on total annual Twin Cities campus enrollment by college and county of origin for the entire 1970-1971 academic year.

TABLE A-2: "u" FACTORS BY COUNTY AND BY PUBLIC FOUR-YEAR CAMPUSES, 1970

Service Area Counties	Campus									
	Bemidji	Mankato	Moorhead	St. Cloud	UMD	UMM	UM-TC	Winona	Southwest	Total
Moorhead S.C.										
Clay*	1.6	.4	97.0	.7	.4	.8	5.8	.1	.1	106.9
Becker	1.6	1.1	56.5	7.3	1.4	1.9	11.1	0	.3	81.2
Kittson	12.3	.6	30.2	3.5	1.7	1.2	15.8	0	0	65.3
Mahnomen	2.0	.8	15.5	.8	1.6	.8	1.6	0	0	23.1
Marshall	15.0	.7	29.9	.7	.3	.7	9.1	.3	0	26.8
Norman	4.5	1.0	47.3	2.0	0	3.9	9.9	0	0	68.6
1/3 Ottertail	6.1	1.7	32.8	4.7	2.3	4.7	12.1	.1	.3	64.8
Polk	16.6	1.4	32.3	3.4	.8	1.1	9.2	.3	.5	65.6
Wilkin	1.4	.9	47.0	2.3	0	3.2	10.6	0	0	65.4
RCST	12.9	1.1	30.0	3.5	1.5	2.2	10.0	.2	.3	67.1
Total	9.6	.9	50.9	2.7	1.2	1.8	8.9	.2	.2	78.4
Bemidji S.C.										
Beltrami*	97.9	.2	1.1	1.8	2.5	.2	9.6	1.1	0	114.4
Clearwater*	43.0	1.5	11.7	1.6	1.6	.8	11.7	0	0	71.9
CCST	83.8	.5	3.5	1.8	2.3	.4	10.1	.9	0	103.3
Cass	32.9	.7	3.7	3.7	.7	.7	9.5	0	.3	52.2
Hubbard	48.6	1.0	16.8	3.7	2.6	.9	4.7	.5	1.0	79.8
Itasca	25.7	1.5	3.7	5.8	7.3	.3	10.9	.5	0	55.7
Koochiching	25.5	3.1	5.7	3.1	7.9	.3	11.0	0	0	56.6
Lake of the Woods	6.0	3.1	3.1	3.1	15.6	0	7.8	3.1	0	41.8
Pennington	14.1	.8	15.6	1.2	1.6	.8	16.0	.3	0	50.4
Red Lake	19.0	.9	17.7	1.8	2.7	.9	9.7	0	0	52.7
Roseau	24.0	0	11.3	0	2.0	.8	9.3	0	0	47.4
Wadena	10.0	.6	13.0	6.8	1.6	7.9	10.7	0	1.0	51.6
RCST	23.6	1.3	8.5	3.9	4.5	1.4	10.5	.3	.2	54.2
Total	34.8	1.1	7.6	3.5	4.1	1.2	10.4	.4	.2	63.3
UMM										
Stevens*	1.5	2.3	13.5	7.0	.5	57.6	7.9	0	1.4	91.7
Big Stone	.5	3.6	17.1	4.1	.5	17.1	11.9	.5	8.3	63.6
Douglas	2.8	1.4	16.9	12.7	.4	6.8	19.2	0	.6	60.8
Grant	4.5	.5	25.7	5.2	0	17.8	14.1	.5	2.6	70.9
2/3 Ottertail	6.1	1.7	32.7	4.7	2.3	4.7	12.2	.1	0	64.5
Pope	1.5	3.1	22.4	21.4	.5	29.0	19.3	0	2.1	99.6
Traverse	1.4	2.1	29.5	2.1	.7	16.9	2.1	0	.7	55.5
Swift	1.6	2.1	10.4	13.8	0	20.5	17.2	.6	11.0	77.2
RCST	3.3	1.9	22.5	9.9	.9	12.9	14.7	.2	.2	66.5
Total	3.1	2.0	21.7	9.7	.7	17.0	14.1	.2	3.0	68.7

TABLE A-2 Cont.

Service Area Counties	Campus									
	Bemidji	Mankato	Moorhead	St. Cloud	UMD	UMM	UM-TC	Winona	Southwest	Total
Mankato S.C.										
Blue Earth*	.2	100.9	.3	.4	.2	0	9.9	.9	1.0	113.8
Le Sueur*	.8	59.1	.3	6.1	0	.3	15.9	4.3	.6	87.4
Nicollet*	3.0	135.1	0	1.9	1.0	.5	15.9	0	6.3	163.7
CCST	.7	96.1	.3	1.9	.3	.1	12.1	1.1	1.0	113.6
Brown	.2	28.9	.9	6.3	.3	.6	16.3	1.2	9.6	64.3
Dodge	.6	16.9	.3	2.8	0	1.7	20.3	9.8	2.0	54.4
Faribault	1.2	55.1	0	4.9	0	.4	13.7	5.1	.6	81.0
Freeborn	2.2	31.6	.7	4.8	.5	1.2	25.3	8.7	.3	75.3
Jackson	1.1	25.2	1.8	4.3	0	.7	19.1	1.1	15.2	68.5
Martin	2.1	32.2	.4	6.2	.6	2.5	17.2	2.1	8.7	71.6
Mower	1.2	18.4	.5	4.9	.4	.5	20.0	8.6	.5	55.0
Rice	1.6	22.9	.8	5.2	1.4	1.3	18.1	2.5	1.7	55.5
Sibley	2.0	29.7	.7	5.2	0	1.6	17.6	1.6	9.5	67.9
Steele	1.3	27.7	0	7.3	.4	.7	22.0	6.8	.6	66.8
Watonwan	1.5	46.8	3.7	2.2	0	.7	17.8	.3	3.3	76.3
Waseca	1.1	39.5	0	1.4	.3	.6	13.8	4.6	0	61.3
RCST	1.3	29.7	.7	5.0	.4	1.0	18.7	4.5	3.6	64.9
Total	2.1	43.3	.6	4.3	.4	.8	17.4	3.8	3.4	75.8
UMD										
2/3 St. Louis*	8.8	1.2	1.0	4.9	54.0	.1	14.0	.3	.1	84.4
Carlton*	6.2	.8	1.3	4.4	40.1	.2	13.0	.2	0	66.2
CCST	8.3	1.1	1.0	4.8	51.4	.1	13.8	.3	.1	80.9
Cook	2.3	0	1.8	3.5	42.1	0	24.6	3.5	3.5	81.3
Lake	8.4	3.1	1.6	4.3	39.5	0	12.8	0	.8	70.5
1/3 St. Louis	8.8	1.2	.9	5.0	54.0	.13	14.1	.1	0	84.2
RCST	7.0	1.4	1.1	4.8	63.9	.1	14.3	.4	.2	93.2
Total	7.9	1.2	.9	4.8	51.3	.1	14.0	.4	.1	80.7
Winona S.C.										
Winona*	.1	2.2	.1	.9	0	0	11.1	85.0	0	99.4
Fillmore	2.2	10.6	.3	1.8	0	1.4	22.0	41.7	.8	80.8
Houston	.5	2.1	0	1.8	.3	.5	12.8	30.9	.5	49.4
Olmsted	2.2	11.0	1.0	3.2	1.0	.8	24.2	13.3	.2	56.9
Wabasha	1.1	11.7	.5	4.3	.5	0	13.8	24.1	1.1	57.1
RCST	1.8	9.8	.7	3.0	.7	.7	20.5	22.3	.5	60.0
Total	1.4	8.1	.5	2.5	.5	.6	18.5	36.0	.4	68.5

TABLE A-2 Cont.

Service Area Counties \ Campus	Bemidji	Mankato	Moorhead	St. Cloud	UMD	UMM	UM-TC	Winona	Southwest	Total
Southwest S.C.										
Lyon*	.2	5.9	1.1	4.8	.2	2.2	10.4	.6	72.5	97.9
Chippewa	.7	6.8	12.6	19.8	1.8	10.1	14.7	.4	21.6	88.5
Cottonwood	1.3	28.6	1.4	5.8	.3	.7	19.4	2.0	18.0	77.5
Lac Qui Parle	0	3.1	12.7	13.6	1.3	14.4	13.2	0	29.8	88.1
Lincoln	0	12.1	5.8	4.6	0	4.6	13.3	4.0	44.5	88.9
Murray	1.6	21.7	.8	7.5	.8	1.2	9.2	.4	35.8	79.0
Nobles	.2	20.9	0	2.3	.8	.41	14.7	1.8	10.3	51.4
Redwood	2.0	19.8	2.3	12.0	.3	3.0	19.5	.7	35.1	94.7
Renville	1.9	13.3	3.0	15.2	0	4.7	14.8	.6	13.7	70.2
Rock	3.6	19.3	1.3	.4	5.3	3.9	12.7	3.0	16.2	64.7
Yellow Medicine	0	4.4	6.9	6.9	.3	5.3	16.6	0	41.3	81.7
Pipestone	1.1	10.0	.8	3.5	3.0	3.8	8.7	2.1	20.1	53.1
RCST	.8	14.9	3.8	8.5	1.2	4.3	14.7	1.3	18.4	67.9
Total	.7	13.7	3.4	8.0	1.0	3.9	14.2	1.2	33.1	72.0
St. Cloud S.C.										
Stearns*	1.2	.8	1.3	44.7	.2	2.2	8.7	0	.6	59.7
Benton*	.2	2.8	.6	29.7	0	2.0	8.5	1.9	0	45.7
Sherburne*	3.3	1.2	2.0	27.6	1.2	2.0	14.0	.4	2.8	54.5
CCST	1.5	1.1	1.3	41.3	.3	2.1	9.2	.3	.8	57.9
Aitkin	1.2	.5	0	10.3	15.6	1.0	18.1	0	.5	47.2
Crow Wing	8.3	1.8	2.4	13.6	4.3	.8	13.6	.2	.3	45.3
McLeod	1.2	11.3	1.5	16.8	1.0	1.4	17.8	.6	3.9	55.5
Meeker	1.5	4.6	2.2	25.3	.2	2.4	15.8	.4	3.5	55.9
Mille Lacs	3.8	.3	.8	32.2	3.0	1.5	11.2	.8	0	53.6
Morrison	5.7	.8	3.4	24.1	3.1	.8	10.3	.3	.5	49.0
Kanabec	.6	2.0	0	13.9	2.6	.7	25.8	0	0	45.6
Kandiyohi	3.0	6.3	5.8	16.0	.7	3.1	19.1	.9	2.5	57.4
Todd	11.8	3.8	9.3	11.8	1.1	3.8	7.7	.7	1.4	51.4
Wright	.9	3.8	.6	27.3	.1	1.5	18.0	.4	3.2	55.8
RCST	4.4	4.0	2.9	20.3	2.4	1.8	15.0	.5	1.4	52.7
Total	3.4	3.0	2.3	27.8	1.6	1.9	13.0	.4	1.2	54.6

TABLE A-2 Cont.

Service Area Counties	Campus									
	Bemidji	Mankato	Moorhead	St. Cloud	UMD	UMM	UM-TC	Winona	Southwest	Total
UM - TC										
Hennepin*	2.2	7.0	1.0	8.3	1.7	.5	67.4	1.5	.9	90.5
Anoka*	1.6	2.1	.4	8.1	1.1	.6	29.6	.4	.5	44.4
Dakota*	3.0	6.4	.5	3.9	1.4	.8	28.8	3.6	.4	48.8
Ramsey*	2.0	4.5	.7	6.6	1.3	.8	53.9	1.7	.8	72.3
Scott*	1.5	22.2	.4	3.7	1.1	1.9	17.3	5.5	1.2	54.8
Washington*	2.0	.5	.8	7.0	3.9	1.3	34.3	4.3	.9	55.0
CCST	2.2	6.0	.8	7.3	1.6	.8	54.8	1.8	.7	76.0
Carver	2.0	18.8	.2	7.0	1.3	.8	16.2	.2	2.3	48.8
Goodhue	1.3	15.0	.1	6.1	.9	.3	22.3	15.2	.7	61.9
Isanti	1.7	.4	1.3	16.2	4.7	.9	22.2	0	.4	47.8
Pine	3.1	.3	.6	7.0	12.8	.3	19.3	.3	0	44.7
Chisago	1.0	2.4	.3	24.5	4.9	0	35.0	.7	2.1	70.9
RCST	1.8	10.6	.4	10.6	4.0	.4	22.0	5.4	1.1	56.3
Total	2.1	6.3	.8	7.5	1.7	.8	52.6	2.1	.8	74.6

NOTES:

* = County with greater than 1/2 1970 population 15 miles from campus (Commuter County).

CCST = Commuter Counties Sub-Total.

RCST = Remaining Counties Sub-Total ("non-commuter" counties within "Natural Service Area").

c. Nonresident enrollment:

$$x = \frac{\text{Nonresident Enrollment as of Fall, 1970}}{\text{Minnesota Resident Enrollment as of Fall, 1970}} \quad (\text{iv})$$

This constant factor was added to the total full-time Minnesota enrollment derived through equations (i) and (ii) above following the separate calculations for "u" and "a" for each Minnesota county in making longitudinal projections.

d. Part-time enrollment:

$$k = \frac{\text{Total Enrollment as of Fall, 1970}}{\text{Full-Time Enrollment, Fall, 1970}} \quad (\text{v})$$

This factor became a constant multiplier in making longitudinal projections.

The data used to calculate "a" and "u" values for the University's Twin Cities campus themselves, the data used to distribute "u" between "u_c" and "u_p", and the values of "u_c" and "u_p" themselves for each Minnesota county as of 1970, and the data sources, are noted in Table A-3 on the following pages.

TABLE A-3: DERIVATION OF a , u , u_c , AND u_p VALUES FROM 1970 CROSS-SECTIONAL ANALYSIS OF TWIN CITIES CAMPUS UNDERGRADUATE ORIGINS BY COUNTY

Minnesota County	1970 High School Graduates ¹	1970 New Entering Freshmen ²	a	1970 2nd, 3rd, and 4th Year Students ³	u	Total 1970-71 Enrollment		Percentage Distribution		u_c	u_p
						Coll. ⁴	Prof. ⁴	Coll. %	Prof. %		
Aitkin	204	4	2.0	37	18.1	23	23	50.0	50.0	9.0	9.0
Anoka	2,518	220	8.7	746	29.6	868	259	77.0	23.0	22.8	6.8
Becker	370	11	3.0	41	11.1	41	23	64.0	36.0	7.1	4.0
Beltrami	439	13	3.0	42	9.6	40	19	67.8	32.2	6.5	3.1
Benton	316	1	.3	27	8.5	18	14	56.3	43.8	4.8	3.7
Big Stone	193	9	4.7	23	11.9	28	12	70.0	30.0	7.6	3.2
Blue Earth	976	18	1.8	97	9.9	97	39	71.2	28.7	7.1	2.8
Brown	668	27	4.0	109	16.3	102	40	71.3	28.2	11.8	4.5
Carlton	607	19	3.1	79	13.0	77	43	64.2	35.8	8.3	4.7
Carver	531	27	5.1	86	16.2	95	32	74.8	25.2	12.1	4.1
Cass	295	5	1.7	28	9.5	28	15	65.1	34.9	6.2	3.3
Chippewa	278	7	2.5	41	14.7	44	19	69.8	30.2	9.3	5.4
Chisago	286	19	6.6	100	35.0	78	52	60.0	40.0	21.0	14.0
Clay	890	17	1.9	52	5.8	76	15	84.0	16.0	4.9	.9
Clearwater	128	1	.8	15	11.7	8	8	50.0	50.0	5.9	5.9
Cook	57	3	5.3	14	24.6	13	5	72.2	27.8	17.8	6.8
Cottonwood	294	9	3.1	57	19.4	46	30	60.5	39.5	11.7	7.7
Crow Wing	626	16	2.6	85	13.6	93	39	70.5	29.5	9.6	4.0
Dakota	2,497	221	8.9	719	28.8	828	254	76.5	23.5	22.0	6.8
Dodge	295	15	5.1	60	20.3	47	38	55.3	44.7	11.2	9.1
Douglas	496	27	5.4	95	19.2	90	53	62.9	37.1	12.1	7.1
Faribault	468	16	3.4	64	13.7	51	39	56.7	43.3	7.8	5.9
Fillmore	386	18	4.7	85	22.0	54	56	49.1	50.9	10.8	11.2
Freeborn	608	41	6.7	154	25.3	138	90	60.5	39.5	15.3	10.0
Goodhue	699	47	6.7	156	22.3	148	77	65.8	34.2	14.7	7.6
Grant	191	1	.5	27	14.1	10	17	37.0	63.0	5.2	8.9
Hennepin	14,330	2,803	19.5	9,657	67.4	13,069	2,376	84.6	15.4	57.0	10.4
Houston	382	12	3.1	49	12.8	38	31	55.1	44.9	7.1	5.7
Hubbard	191	2	1.0	9	4.7	9	3	75.0	25.0	3.5	1.2
Isanti	234	4	1.7	52	22.2	43	25	63.2	36.8	14.0	8.2
Itasca	758	17	2.2	83	10.9	81	33	71.1	28.9	7.8	3.1
Jackson	282	17	6.0	54	19.1	45	33	57.7	42.3	11.0	8.1
Kanabec	151	9	6.0	39	25.8	39	12	76.5	23.5	19.2	6.6
Kandiyohi	555	13	2.3	106	19.1	103	47	68.7	31.3	13.1	6.0
Kittson	172	4	2.3	26	15.8	20	10	66.7	33.3	10.5	5.3
Koochiching	354	5	1.4	39	11.0	27	23	54.0	46.0	6.0	5.1

TABLE A-3 Cont.

Minnesota County	1970 High School Graduates ¹	1970 New Entering Freshmen ²	a	1970 2nd, 3rd, and 4th Year Students ³	u	Total 1970-71 Enrollment		Percentage Distribution		u _c	u _p
						Coll. ⁴	Prof. ⁴	Coll. %	Prof. %		
Lac Qui Parle	228	15	6.6	38	13.2	29	23	55.8	44.2	7.4	5.8
Lake	258	6	2.3	33	12.8	29	12	70.7	29.3	9.0	3.8
Lake of the Woods	64	3	4.7	5	7.8	6	2	75.0	25.0	5.9	1.9
Le Sueur	347	23	6.6	55	15.0	44	43	50.6	49.4	8.0	7.9
Lincoln	173	6	3.5	23	13.3	19	14	57.6	42.4	7.7	5.6
Lyon	540	7	1.3	56	10.4	45	31	59.2	40.8	6.2	4.2
McLeod	619	26	4.2	110	17.8	101	58	63.5	36.5	11.3	6.5
Mahnomen	129	0	0	2	1.6	2	3	40.0	60.0	.6	1.0
Marshall	287	3	1.0	26	9.1	24	10	70.6	29.4	6.4	2.7
Martin	482	19	4.0	83	17.2	68	48	58.6	41.4	10.1	7.1
Meeker	455	19	4.2	72	15.8	56	45	55.4	44.6	8.8	7.0
Mille Lacs	394	9	2.3	44	11.2	37	32	53.6	46.4	6.0	5.2
Morrison	652	14	2.1	67	10.3	50	37	57.5	42.5	5.9	4.4
Mower	952	30	3.1	190	20.0	148	95	60.9	39.1	12.2	7.8
Murray	240	3	1.3	22	9.2	27	20	57.4	42.6	5.3	3.9
Nicollet	208	19	9.1	33	15.9	37	18	67.3	32.7	10.5	5.2
Nobles	484	5	1.0	71	14.7	48	38	55.8	44.2	8.2	6.5
Norman	203	6	3.0	20	9.9	16	11	59.3	40.7	5.9	4.0
Olmsted	1,331	82	6.2	322	24.2	350	114	75.4	24.6	18.2	6.0
Ottertail	895	18	2.0	109	12.1	89	55	60.0	40.0	7.3	4.8
Pennington	256	5	2.0	41	16.0	23	31	42.6	57.4	6.8	9.2
Pine	327	19	5.8	63	19.3	61	35	63.5	36.5	12.3	7.0
Pipestone	369	3	.8	32	8.7	33	10	76.7	23.3	6.7	2.0
Polk	640	18	2.8	59	9.2	55	34	61.8	38.2	5.7	3.5
Pope	192	10	5.2	37	19.3	20	31	39.2	60.8	7.6	11.7
Ramsey	7,849	1,453	18.5	4,232	53.9	5,829	1,217	82.7	17.3	44.6	9.3
Red Lake	113	0	0	11	9.7	6	6	50.0	50.0	4.9	4.9
Redwood	399	19	4.8	78	19.5	50	49	50.5	49.5	9.8	9.7
Renville	467	18	3.9	69	14.8	51	51	50.0	50.0	7.4	7.4
Rice	707	43	6.1	128	18.1	163	48	77.3	22.7	14.0	4.1
Rock	228	3	1.3	29	12.7	26	12	68.4	31.6	8.7	4.0
Roseau	248	7	2.8	23	9.3	17	12	58.6	41.4	5.5	3.9
St. Louis	3,826	77	2.0	538	14.0	472	250	65.4	34.6	9.2	4.8
Scott	513	35	6.8	89	17.3	85	59	59.0	41.0	10.2	7.1
Sherburne	250	9	3.6	35	14.0	39	16	70.9	29.1	9.9	4.1
Sibley	306	15	4.9	54	17.6	39	29	57.4	42.6	10.1	7.5
Stearns	2,044	34	1.7	177	8.7	163	87	65.2	34.8	5.7	3.0
Steele	545	47	8.6	120	22.0	128	59	68.4	31.6	15.0	7.0

TABLE A-3 Cont.

Minnesota County	1970 High School Graduates ¹	1970 New Entering Freshmen ²	a	1970 2nd, 3rd, and 4th Year Students ³	u	Total 1970-71 Enrollment		Percentage Distribution		u _c	u _p
						Coll. ⁴	Prof. ⁴	Coll. %	Prof. %		
Stevens	215	5	2.3	17	7.9	23	8	74.2	25.8	5.9	2.0
Swift	326	12	3.7	56	17.2	52	31	62.7	37.3	10.8	6.4
Todd	442	10	2.3	34	7.7	35	47	42.7	57.3	3.3	4.4
Traverse	142	2	1.4	3	2.1	7	2	77.8	22.2	1.6	.5
Wabasha	369	10	2.7	51	13.8	47	26	64.4	35.6	8.9	4.9
Wadena	308	8	2.6	3	10.7	29	19	60.4	39.6	6.5	4.2
Waseca	349	21	6.0	48	13.8	54	29	65.1	34.9	9.0	4.8
Washington	1,220	140	11.5	418	34.3	495	171	74.3	25.7	25.5	8.8
Watonwan	269	17	6.3	48	17.8	23	49	31.9	68.1	5.7	12.1
Wilkin	217	2	.9	23	10.6	20	10	66.7	33.3	7.1	3.5
Winona	686	19	2.8	76	11.1	78	38	67.2	32.8	7.5	3.6
Wright	684	50	13.7	123	18.0	134	72	65.0	35.0	11.7	6.3
Yellow Medicine	320	10	3.1	53	16.6	43	26	62.3	37.7	10.3	6.3
MINNESOTA	66,492	6,131	9.2	21,684	32.6	26,141	7,180	78.5	21.5	25.6	7.0

¹From *Number of Students Graduating from Minnesota Public and Parochial High Schools in 1969 and 1970 and Number and Percentage of High School Graduates Entering Colleges and Universities in Minnesota as Freshmen in the Fall of 1969 and 1970*, HECC, April, 1971, pp. 1-4.

²From *The Counties of Residence of Full-Time Entering Freshmen Enrolled in Minnesota Colleges and Universities, A Comparison: Fall Terms 1960, 1969, and 1970*, HECC, 1971, pp. 5-8.

³From *The Counties of Residence of Full-Time Undergraduate Students Enrolled in Minnesota Colleges and Universities, A Comparison: 1960, 1969, and 1970*, HECC, 1971, pp. 9-12. Second, third, and fourth year enrollments were calculated by subtracting full-time entering freshmen from the county totals of full-time undergraduates.

⁴From Table X-C of *Biennial Report, 1969-1971*, University of Minnesota. Table X-C is "Geographic Distribution of Students of Collegiate Grade Other Than Summer Session."

Future Projection: Given the spatial configuration of undergraduate Twin Cities campus enrollments as of 1970, projections of Minnesota population by county and age cohort through 1985 recently published by the State Board of Health were used to project institutional enrollment. The State Board of Health projections were made through 2000, but were not used beyond 1985 here since any such projections are based on estimates of birth rates which, as the Carnegie Commission pointed out, are little more than guesses. Through 1985, however, such a problem does not exist since students entering in that year have already been born and counted. Again,

separate projections of each of Minnesota's 87 counties' contribution to the three Minnesota enrollment classifications for the University's Twin Cities campus undergraduate population were made for 1975, 1980, and 1985. These equations are:

- a. First year enrollment projection:

$$E_1 = \sum_{i=1}^{87} agP \quad (vi)$$

where: g = high school graduates in county i as a

percentage of the population in that year,
and

$P_y = 1/5$ times the total 10 to 14 year old
population in county i in year $y - 5$.

The product of $g \times P = G$ which is the high school
graduates in county i in year y . This is a constant for
that county in any given year, and is used in the
following calculations as well.

- b. Second, third, and fourth year collegiate enrollment
projection:

$$E_c = \sum_{i=1}^{87} u_c G, \text{ for each county and year.} \quad (\text{vii})$$

- c. Second, third, and fourth year professional enrollment
projection:

$$E_p = \sum_{i=1}^{87} u_p G, \text{ for each county and year.} \quad (\text{viii})$$

- d. Total Twin Cities campus undergraduate enrollment
from Minnesota projected in any given year:

$$E_m = E_1 + E_c + E_p. \quad (\text{ix})$$

- e. Total full-time enrollment, adding nonresidents,
projected:

$$E = E_m + xE_m = E_m(1+x). \quad (\text{x})$$

- f. Total enrollment, adding part-time students, projected:

$$E_t = kE. \quad (\text{xi})$$

To balance wide fluctuations that appear in particular
county data as a result of unusual circumstances that may have
been present in 1970 (small numbers problems, largely), the
actual calculations for 1975 and 1980 were made by regions.
The data shown for 1970 are those reported to the Higher
Education Coordinating Commission by the institution, and
the data for 1985 were calculated by county.

The values for g and P for each Minnesota county used to
make enrollment projections by means of the preceding
formulas are shown in Table A-4 below.

TABLE A-4: VALUES OF g AND P FOR PROJECTING COUNTY CONTRIBUTIONS TO PUBLIC FOUR-YEAR CAMPUS UNDERGRADUATE ENROLLMENTS IN 1975, 1980 AND 1985

Minnesota County	970 ⁵	P65 ⁶	P70 ⁶	P75 ⁶	P80 ⁶	Minnesota County	970 ⁵	P65 ⁶	P70 ⁶	P75 ⁶	P80 ⁶
Aitkin	.99	207	251	212	134	Chisago	1.02	281	408	479	431
Anoka	.96	2,621	3,998	5,089	4,501	Clay	.84	1,062	979	881	689
Becker	.72	516	598	542	381	Clearwater	.82	155	175	169	123
Beltrami	.87	565	553	520	385	Cook	.86	66	75	65	45
Benton	.79	402	496	505	432	Cottonwood	.97	304	324	286	208
Big Stone	1.09	177	180	151	100	Crow Wing	.93	675	757	722	554
Blue Earth	.85	1,138	973	846	680	Dakota	1.18	2,123	1,734	2,360	2,343
Brown	1.19	562	657	596	460	Dodge	1.08	273	309	299	217
Carlton	1.02	597	669	615	553	Douglas	1.05	472	493	459	375
Carver	1.05	502	670	765	663	Faribault	.82	449	475	373	254
Cass	.97	304	359	350	237	Fillmore	.84	439	477	411	306
Chippewa	.90	308	332	280	210	Freeborn	.79	771	847	729	572

TABLE A-4 Cont.

Minnesota County	970 ⁵	P ₆₅ ⁶	P ₇₀ ⁶	P ₇₅ ⁶	P ₈₀ ⁶	Minnesota County	970 ⁵	P ₆₅ ⁶	P ₇₀ ⁶	P ₇₅ ⁶	P ₈₀ ⁶
Pope	.86	223	260	203	153	Isanti	.78	301	387	467	531
Ramsey	.88	8,914	9,683	9,010	7,696	Itasca	.90	846	867	711	524
Red Lake	.89	127	128	131	98	Jackson	.86	326	321	268	198
Redwood	.95	421	463	395	301	Kanabec	.84	203	229	220	222
Renville	1.04	451	503	419	302	Kandiyohi	.85	656	651	588	462
Rice	.77	918	883	827	671	Kittson	1.09	157	151	117	85
Rock	.93	246	270	218	169	Koochiching	.83	428	419	347	244
Roseau	1.03	240	265	256	198	Lac Qui Parle	.90	253	259	194	159
St. Louis	.82	4,650	4,794	4,067	3,015	Lake	.86	299	357	282	184
Scott	.99	578	817	977	851	Lake of the Woods	.82	78	90	74	48
Sherburne	.84	294	402	474	439	Le Sueur	.86	405	474	470	408
Sibley	.99	310	367	326	230	Lincoln	.94	184	182	157	98
Stearns	.96	2,133	2,251	2,243	1,818	Lyon	.97	557	534	473	369
Steele	1.02	535	615	578	442	McLeod	1.25	495	563	586	525
Stevens	.75	285	251	191	135	Mahnomen	.98	132	142	125	93
Swift	1.10	296	308	243	192	Marshall	.99	291	302	275	203
Todd	.91	484	519	466	349	Martin	.96	502	529	430	315
Traverse	.97	147	149	118	71	Meeker	1.00	394	410	382	295
Wabasha	1.07	346	342	370	346	Mille Lacs	1.37	287	346	352	274
Wadena	1.24	249	302	262	171	Morrison	1.06	617	691	620	490
Waseca	1.09	319	376	343	287	Mower	.90	1,059	1,066	835	603
Washington	.88	1,383	2,169	2,779	2,437	Murray	.77	312	318	238	155
Watonwan	.94	279	306	230	167	Nicollet	.39	539	505	486	399
Wilkin	.99	220	227	181	124	Nobles	.87	555	552	466	360
Winona	.73	943	843	807	659	Norman	1.02	198	207	179	132
Wright	1.02	667	933	1,081	974	Olmsted	.92	1,452	1,776	1,967	1,678
Yellow Medicine	1.03	310	338	279	189	Ottertail	.95	943	1,005	875	646
Goodhue	1.04	673	758	758	578	Pennington	.92	277	279	267	218
Grant	1.24	154	163	123	80	Pine	.98	334	370	360	269
Hennepin	.81	17,749	19,068	17,816	14,882	Pipestone	1.27	290	292	253	180
Houston	.90	427	427	378	320	Polk	.84	765	781	674	467
Hubbard	1.01	189	234	226	151						

⁵ The "g" factor for 1970 is the ratio of high school graduates from a given county to the population five years earlier, P₆₅, or one-fifth of the 10-14 year age group.

⁶ The "P" values are 1/5 times total 10 to 14 year old population in any given county five years earlier. These population projections appear in *Minnesota Population Trends, Estimates, Projections*, Minnesota Department of Health, Section of Vital Statistics March, 1972, pp. 132-218.

The enrollment projections for the Twin Cities campus of the University which appear in Table 14 of this study were derived by this method. However, due to a limitation in the methodology employed, the projections derived directly from this method overestimated 1975, and underestimated 1980 and 1985 enrollments indicated by the assumptions employed. The projections which appear in this report have been corrected for this limitation by factors of -.3% in 1975, +5.7% in 1980, and +15.8% in 1985. A description of the methodology limitation and derivation of these correction factors follows.

Source of Error

Our projection of enrollments consisted first of a geographical analysis of enrollment patterns in 1970, then this *pattern* was projected for future times with the aid of population projections made by the State Board of Health. The analysis of the 1970 pattern, by county, used to determine second, third, and fourth year enrollment projection factors employed the following formula:

$$u = \frac{\text{Second, Third, Fourth Year Enrollments in 1970}}{\text{High School Graduates in 1970}}$$

The "u" factors which resulted from the 1970 analysis were assumed to hold for 1975, 1980, and 1985. This would have meant that the rate of growth of high school graduates in 1975, 1980, and 1985 would have equaled the rate of growth in 1970. In fact we know that this will not be the case, especially in 1980 and 1985 (see Figure 2). The very sharp drop in live births in Minnesota from about 87,000 in 1960 to about 64,000 in 1967 will result in decreasing numbers of high school graduates 18 years later.

Derivation of a Correction Factor

If simple correction factors can be determined, then the study projections thus derived may easily be adjusted to reflect the nonsteady growth state between 1970 and 1985. The following will derive such factors for total Minnesota for 1975, 1980, and 1985.

Assumptions: There are two assumptions:

- The public *college going rate* in 1975, 1980, and 1985 will be the same as it was in 1972. 1968 HECC projections assume increases but the current evidence is highly persuasive to the contrary.
- Retention rates* in 1975, 1980, and 1985 will equal those of 1970.

Method: Due to availability of data, projected high school graduate data adjusted by means of the above two assumptions are used. Since only ratios are sought, from which the correction factors will be derived, this causes no problem. The ratios for 1970, 1975, 1980, and 1985 are calculated from this "u" factor formula cited above:

$$R = \frac{(\text{CER}) [(HSG_{Y-1}) (\text{Soph. Retention Rate}) + (HSG_{Y-2}) (\text{J.R.R.}) + (HSG_{Y-3}) (\text{S.R.R.})]}{\text{High School Graduates}_Y}$$

For Y's of 1970, 1975, 1980, and 1985,

where CER = .3516 (The Public College Entrance Rate calculated from the 1972 HECC Enrollment Report)

and SRR = .72 Retention rates to Sophomore, Junior and Senior Years (From the University)
 JRR = .58
 SRR = .50

In this case, "R" is very similar to "u". R for 1970, 1975, and 1980 are calculated as follows:

$$R_{70} = \frac{(.3516) [(65,858) (.72) + (61,964) (.58) + (61,461) (.50)]}{66,492} = .6032$$

$$R_{75} = \frac{(.3516) [(70,657) (.72) + (69,474) (.58) + (68,250) (.50)]}{73,232} = .6015$$

$$R_{80} = \frac{(.3516) [(75,439) (.72) + (75,746) (.58) + (75,954) (.50)]}{75,099} = .6377$$

To calculate R_{85} , data on high school graduates for 1982 to 1985 are needed. Rustad has projected Minnesota High School Graduates through 1982 only. Estimates of high school

graduates for 1983, 1984, and 1985 are therefore derived from a time series comparison of high school graduates to live births 18 years earlier. The derivation is shown in Table A-5 below.

TABLE A-5: DERIVATION OF ESTIMATED MINNESOTA HIGH SCHOOL GRADUATES FOR 1983-1985

Year	Live Births 18 Years Earlier	Minnesota High School Graduates	Ratio: HSG/LB (Y-18)
1985	64,331	57,165	.8886
1984	66,776	59,337	.8886
1983	70,898	63,000	.8886
1982	77,204	68,609	.8886
1981	80,522	71,997	.8935
1980	84,917	75,099	.8844
1975	85,550	73,232	.8560
1970	79,198	66,492	.8395
1965	75,468	60,663	.8038

The estimates of Minnesota High School Graduates for 1983-1985 derived above may now be used to calculate R_{85} :

$$R_{85} = \frac{(.3516) [(59,337) (.72) + (63,000) (.58) + (68,609) (.50)]}{57,165} = .6985$$

Values of Correction Factors: From these "R" ratios, which are only revised "u" factors reflecting changing inputs, the correction factor "m" is calculated as follows:

$$\frac{.6032}{1} = \frac{.6032}{m_{70}}, m_{70} = 1.0000$$

$$\frac{.6032}{1} = \frac{.6015}{m_{75}}, m_{75} = .9971$$

$$\frac{.6032}{1} = \frac{.6377}{m_{80}}, m_{80} = 1.0571$$

$$\frac{.6032}{1} = \frac{.6985}{m_{85}}, m_{85} = 1.1579$$

These m's are multipliers – correction factors for the study methodology enrollment projections for 1975, 1980, and 1985 at the second, third, and fourth years of collegiate

enrollment. They indicate that the methodology employed has overestimated 1975 enrollments by .29%, and underestimated 1980 and 1985 enrollments by 5.71% and 15.79% respectively at the second, third, and fourth year levels.

Discussion of Assumptions Used in Projections

Any particular enrollment – by level, institution, system, sex, race, college, or other classification – is the product of admissions times retention of those admitted:

$$(i) \text{ enrollment} = f(\text{admissions, retention}) = \text{admissions} \times \text{retention}$$

In turn, admissions by any of the above classifications is the product of the market population (high school graduates) times its tendency to enter tertiary education (tertiary entrance rate). This is a propensity, always less than or equal to one for any population, since education beyond high school is still voluntary.

$$(ii) \text{ admissions} = f(\text{high school graduates, tertiary entrance rate}) = \text{HSG} \times \text{TER}$$

The three basic data elements needed to determine an enrollment, therefore, are high school graduates, college entrance rate, and retention rate.

The enrollment projection method employed in this study to determine future enrollments in Minnesota's public collegiate institutions (six state colleges, three University branches and twenty junior colleges) involved two steps. First, a cross-sectional analysis of the spatial origins of students enrolled as of 1970 on each of these campuses was made. Then, enrollments on these campuses were projected to 1975, 1980, and 1985, by means of separate projections of college-age population in the areas from which these institutions drew their students.

This method holds all factors determining institutional enrollments constant except changes in the sizes of the college-age population in the region served by the institution. Among such factors which were held (assumed) constant in these projections were the following:

1. No new public institutions, especially four-year institutions, will be built in Minnesota through 1985.

2. The college going rate will remain constant through 1985 at its 1970 level.
3. The retention rate for those enrolled will remain constant at its 1970 level through 1985.
4. There will be no change between 1970 and 1985 in the pattern of counties from which public four-year institutions draw their enrollments.
5. The undergraduate populations of the public four-year institutions will retain through 1985 the age and ability profiles characteristic of their student populations as of 1970.
6. The ratio of full-time to part-time enrollment will remain constant between 1970 and 1985.
7. The ratio of residents to nonresidents will remain constant between 1970 and 1985.
8. There will be no significant change in the ratio of public college to private college tuition and required fees between 1970 and 1985.
9. Student financial aids – scholarships, loans, grants, etc. – will be made available to students in the pattern employed in 1970, and will increase at a rate which will not significantly alter assumptions 2 and 3 above.

Should any of these assumptions of constancy between 1970 and 1985 fail to hold, then enrollments at Minnesota's public four-year colleges and university will be altered. The form of such an alteration may be to simply increase or decrease total enrollments, or it may be to shift enrollments within a given total between institutions or both. In light of the obvious importance of these assumptions relative to the projections made, it is worthwhile making some general comments on the likelihood that they will hold up for the fifteen-year period between 1970 and 1985.

1. *No new public institutions:* The boom in enrollments is clearly gone and with it the rationale it provided for new institutions. However, in Minnesota, at least, an additional rationale exists: facilitating access to tertiary education for populations not yet served, particularly spatial access. Thus, public policy in Minnesota has fostered the establishment of numerous two-year and four-year institutions whose present and future size do not alone justify the creation of additional institutions and, perhaps in several areas, continued support of

such existing institutions. The trade-off made to facilitate greater spatial accessibility to tertiary education for populations not otherwise well served by existing institutions has been small institutional size which incurs such costs as lack of economies of scale, subminimal critical program, staff, and facilities mass, lack of program breadth, and lack of flexibility in resource use. Quite likely, such costs will no longer be willingly borne by Minnesotans, and in fact Representative Rodney Searle of Waseca has said that during the decade of the 1970s he thinks Minnesota will build only one, or at most two more public institutions. This may be a junior college for St. Paul, but less likely a University branch at Rochester. It is probable that this assumption will hold up with the two exceptions of Metropolitan State College and perhaps a junior college for St. Paul. The enrollment impact on other institutions of the former could be significant, but may not be if Metro continues to seek students from populations not presently served by existing institutions. This remains to be determined.

2. *Constant college entrance rate:* In 1968 the college entrance rate in Minnesota reached 55.0% after a steady seventeen-year increase. It has declined since then to 53.8% in 1969, 53.6% in 1970, 50.8% in 1971, and 48.4% in 1972. The trend – exclusive of the AVTI rate which is not only assuming the difference but appears to be attracting an additional element – is clearly declining at this time. The assumption of the study that the college entrance rate will remain constant at its 1970 level through 1985 might actually have inflated the future enrollments projected in this study.

3. *Constant retention rate:* Data on undergraduate retention rates in the University system for freshmen classes admitted between 1956 and 1968 indicate a very significant, constant, and apparently continuous increase in retention rates through 1968. This increase parallels the increase in the college entrance rate during this period. In fact Berdie² notes that the factors associated with the decision to enter tertiary education from high school are about the same as those determining

²Berdie, Ralph F., "Academic Progress and Persistence of Arts College Students," Student Life Studies, University of Minnesota. A speech delivered at the Annual Minnesota Statewide Testing Conference, Minneapolis, September 13, 1969.

student retention once enrolled. He identifies six factors: academic ability, previous academic performance, wealth, employment during period of study, personality, and interests. If in fact the same sets of variables determine both propensity to enter and propensity to persist, then the decline in the college entrance rate after 1968 portends something similar for the retention rate. At this point, without more reliable data for analysis, the assumption that the retention rate of 1970 will remain constant through 1985 appears to be reasonable.

4. *Constant spatial attendance pattern:* Between 1960 and 1970 there occurred enormous change in the numbers of counties within the functional service areas (Figure 19) of Minnesota's public four-year colleges and university. All institutions except the Twin Cities campus of the University expanded their areas. Southwest and Moorhead were the largest gainers, adding ten and nine counties respectively. The Twin Cities campus of the University was the only loser, losing 29.5 counties from its functional service area. In terms of population within these areas, the changes were not nearly as dramatic. Southwest established and Moorhead expanded their areas in regions of sharply declining population, while the Twin Cities campus retained the fastest growing counties within its functional service area. It seems likely that the general trend of outstate campuses carving increasing shares of their enrollments out of areas presently or formerly served by the Twin Cities campus will continue. The effect will be most noticeably felt in programs offered both by the University and the competing outstate colleges, and least felt on Twin Cities campus undergraduate professional enrollments, notably AFHE, CBS, IT, Health Sciences, and the like. At present the organizational survival of outstate campuses is dependent on attracting an increasing share of their enrollments from populations served in the past by the Twin Cities campus. Until these efforts produce a significant and negative effect on Twin Cities campus enrollments, the University is not likely to respond with an effective recruiting effort of its own.

5. *Constant age and ability profiles:* Although these are two distinct issues, substantial change in either the age or ability profiles of current enrollments will affect the study's projections. There is some current talk about providing collegiate programs for adult populations on a continuing education

basis. Should such programs receive significant public subsidies and institutional support, a substantial new market for institutional programs might be opened up. Enrollments would increase in proportion to public and institutional support for such programs.

Likewise should ability as measured by traditional criteria (HSR, MSAT) be altered for admission, new populations might be enticed into enrollments. The State College System, deeply concerned and seriously threatened by declining admissions since 1969, recently decided to offer lower division credit and advanced standing status to transfer students from AVTIs and to offer an external degree program to reach previously untapped markets. It remains to be seen if such policy and program shifts will indeed expand population markets beyond the high ability high school graduates of the past, and how significant such enrollments will become in institutional totals.

6. *Constant full-time to part-time ratio:* It is difficult to determine from available data if the ratio of full-time to part-time enrollments on college campuses is constant, a trend, or cyclical, due to the scarcity and doubtful accuracy of historical data. Such ratios may be a function of the state of the economy, draft deferments, or other variables. Reported data do suggest, however, that the proportion of students on the Twin Cities campus who are enrolled part-time has increased from 6.9% in 1966 to 9.8% in 1971. Such a trend is confirmed by student finances data that indicate a higher proportion of working students in 1969-70 than in 1965-66. If such a trend as an increasing proportion of part-time students is present, and *if* part-time enrollments are being drawn from a market population different than that of full-time enrollments, then the projections made by study's method will underproject actual enrollments in 1975, 1980, and 1985.

7. *Constant resident to nonresident ratio:* Few enrollment ratios are so constant over time as is the ratio of nonresidents to total enrollment on the Twin Cities campus of the University. For all students — including post-baccalaureate students — the percentage of total TCC enrollment which was nonresident of Minnesota was 15.1% in 1940, 16.0% in 1950, 15.1% in 1960, 13.6% in 1965, and 18.1% in 1970. Because most of the nonresident enrollment is concentrated in post-baccalaureate programs, if the TCC enrollment is shifted in

emphasis to these programs the trend observed since 1965 is likely to continue. Exactly what is occurring at the undergraduate level is not clear, but it is unlikely that the ratio has changed much or will change as long as nonresident tuition remains at two to three times the resident rate in public institutions in Minnesota. So far, reciprocity agreements with neighboring states cover too few students to make a noticeable impact on this ratio and the courts continue to support substantial resident/nonresident tuition differentials. The assumption appears to make sense at this time.

8. *Constant public to private tuition ratio:* The steadily increasing difference between public and private college tuition since about 1958 has encouraged a decreasing proportion of high school graduates to enter private colleges. In 1958 26.6% of all Minnesota high school graduates entered public colleges in Minnesota, while 16.4% entered private Minnesota colleges. By 1971 the percentages of high school graduates entering public colleges had increased to 38.6%, while the percentage entering private colleges had decreased to 11.4%. Under programs proposed by the Higher Education Coordinating Commission, Minnesota has recently undertaken student financial aid programs and authorized contracts with private colleges for the education of Minnesota residents that have the effect of reducing the differential costs of attendance between the public and private systems. The result is the intended shift of enrollments from the state college system to private four-year colleges. The potential impact of such

programs is not yet possible to measure, but may become significant on the margin in the future.

9. *Constant spatial pattern of student financial aids distribution:* To the extent the financial aids assist students to surmount economic and spatial barriers to access to tertiary education, the form, timing, and extent of such assistance will influence both propensity to enter and propensity to persist. The state offers state scholarships and grants-in-aid now, and is considering graduated tuition and a loan program, as well as expanded reciprocity, to remove such barriers. The federal government offers several types of loans, work-study, and other programs to assist students. Where such aid is targeted, admissions and retention factors will be affected. Overall levels will have a more general effect. But mere increases will not affect college entrance and retention rates unless such increases exceed the rate of inflation of institutional costs and aspirations of prospective students. Although increased student financial aid — both from state and federal sources — is on the way, whether it will be enough, come soon enough, and in palatable form to significantly increase overall or specific entrance and retention rates can only be guessed at now.

The number of constancy assumptions identified here in the projections made by the study methodology suggests the caution with which the projections themselves should be viewed, and the extent of their possible influence by institutional and public policy. It should be made clear, however, that if these assumptions hold true over the next 15 years, the projections reported in this study *will* result.

APPENDIX B: ADDITIONAL BASIC DATA FOR ENROLLMENT ANALYSIS

The following tables include data used in the construction of the graphs that appear in this report. Some additional data not included in the text is also included for use by others and

in any of the innumerable elaborations on themes mentioned in this report.

TABLE B-1: MINNESOTA LIVE BIRTHS AND BIRTHRATE PER 1000 POPULATION, 1920-1972

<u>Year</u>	<u>Number</u>	<u>Rate per 1000 Population</u>	<u>Year</u>	<u>Number</u>	<u>Rate per 1000 Population</u>	<u>Year</u>	<u>Number</u>	<u>Rate per 1000 Population</u>	<u>Year</u>	<u>Number</u>	<u>Rate per 1000 Population</u>
a. By Occurrence						b. By Residence					
1920	56,119	23.5	1936	47,644	18.1	1940	52,915	19.0	1956	82,859	25.6
1921	58,042	24.1	1937	48,006	18.1	1941	54,359	19.5	1957	85,959	26.3
1922	57,239	23.6	1938	50,018	18.8	1942	58,770	21.5	1958	84,924	25.6
1923	56,204	23.0	1939	50,228	18.8	1943	58,508	22.3	1959	88,333	26.2
1924	55,858	22.7				1944	56,113	21.6	1960	87,523	25.6
1925	53,756	21.7				1945	54,656	20.9	1961	86,310	24.9
1926	52,503	21.1				1946	67,266	23.9	1962	84,783	24.1
1927	50,940	20.3				1947	75,577	26.1	1963	80,250	22.7
1928	49,517	19.6				1948	72,780	24.8	1964	76,895	21.6
1929	46,713	18.3				1949	73,929	24.8	1965	70,810	19.7
1930	47,452	18.5				1950	75,078	25.2	1966	66,781	18.5
1931	46,870	18.2				1951	79,871	26.5	1967	64,532	17.6
1932	46,415	17.9				1952	79,185	26.1	1968	64,759	17.5
1933	44,540	17.1				1953	79,239	26.0	1969	65,961	17.6
1934	45,944	17.7				1954	80,890	26.0	1970	68,449	18.0
1935	45,955	17.5				1955	81,532	25.7	1971	62,498	16.2
									1972	56,494*	

Source: Minnesota Department of Health, Section of Vital Statistics

*Preliminary estimate

TABLE B-2: PUBLIC AND PRIVATE MINNESOTA HIGH SCHOOL GRADUATES, 1944-72; PROJECTIONS 1973-1982

<u>Year</u>	<u>Public High School Graduates</u>	<u>Private High School* Graduates</u>	<u>Total</u>	<u>Year</u>	<u>Public High School Graduates</u>	<u>Private High School* Graduates</u>	<u>Total</u>
1944	24,395	(2337)	26,732	1963	38,249	5534	43,783
1945	23,387	(2404)	25,791	1964	45,873	6518	52,391
1946	24,073	(2472)	26,545	1965	53,443	7184	60,627
1947	25,196	2540	27,736	1966	52,532	6929	59,461
1948	26,512	(2736)	29,248	1967	54,624	6791	61,415
1949	26,706	(2933)	29,639	1968	55,286	6678	61,964
1950	26,488	(2864)	29,352	1969	59,643	6215	65,858
1951	25,539	(2794)	28,333	1970	60,480	6012	66,492
1952	26,057	(2726)	28,783	1971	60,966	5594	66,560
1953	26,991	(3017)	30,008	1972	63,135	5070	68,205
1954	28,224	(3305)	31,529	1973			69,474
1955	29,654	(3500)	33,154	1974			70,657
1956	31,206	3695	34,901	1975			73,232
1957	31,837	3781	35,618	1976			73,082
1958	33,210	3889	37,099	1977			75,954
1959	34,609	4314	38,923	1978			75,746
1960	38,996	4631	43,627	1979			75,439
1961	40,210	5115	45,325	1980			75,099
1962	38,340	5263	43,603	1981			71,947
				1982			68,609

*Private High School Graduate Data 1944-1946 and 1948-1955 is estimated from enrollment data.

Source: 1944-1972 from Minnesota Department of Education, Statistics and Research Section; Projections 1973-1982 by Robert Rustad, doctoral candidate in Educational Administration, University of Minnesota.

TABLE B-3: MINNESOTA COUNTY FULL-TIME COLLEGE ENTRANCE RATES, 1968-1971

<u>Year</u>	<u>HSG*</u>	<u>NEF*</u>	<u>CER*</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>
<u>Aitkin</u>				<u>Big Stone</u>				<u>Cass</u>			
1968	211	62	29.4	1968	188	61	32.4	1968	255	101	39.6
1969	211	68	32.2	1969	188	57	30.3	1969	289	100	34.6
1970	204	87	42.6	1970	193	63	32.6	1970	295	103	34.9
1971	<u>217</u>	<u>76</u>	<u>35.0</u>	1971	<u>185</u>	<u>60</u>	<u>32.4</u>	1971	<u>294</u>	<u>94</u>	<u>32.0</u>
Total	843	293	34.8	Total	754	241	32.0	Total	1133	398	35.1
<u>Anoka</u>				<u>Blue Earth</u>				<u>Chippewa</u>			
1968	1914	816	42.6	1968	825	315	38.2	1968	280	137	48.9
1969	2258	864	38.3	1969	924	368	39.8	1969	303	153	50.5
1970	2518	827	32.8	1970	976	349	35.8	1970	278	124	44.6
1971	<u>2626</u>	<u>854</u>	<u>32.5</u>	1971	<u>1016</u>	<u>349</u>	<u>34.4</u>	1971	<u>272</u>	<u>105</u>	<u>38.6</u>
Total	9316	3361	36.1	Total	3741	1381	36.9	Total	1133	519	45.8
<u>Becker</u>				<u>Brown</u>				<u>Chisago</u>			
1968	383	187	48.8	1968	635	212	33.4	1968	273	109	39.9
1969	384	186	48.4	1969	671	219	32.6	1969	315	120	38.1
1970	370	163	44.1	1970	668	199	29.8	1970	286	96	33.6
1971	<u>425</u>	<u>147</u>	<u>34.6</u>	1971	<u>611</u>	<u>163</u>	<u>26.7</u>	1971	<u>282</u>	<u>100</u>	<u>35.5</u>
Total	1562	683	43.7	Total	2585	793	30.7	Total	1156	425	36.8
<u>Beltrami</u>				<u>Carlton</u>				<u>Clay</u>			
1968	391	166	42.5	1968	543	183	33.7	1968	737	345	46.8
1969	458	193	42.1	1969	565	205	36.3	1969	797	386	48.4
1970	439	197	44.9	1970	607	215	35.4	1970	890	380	42.7
1971	<u>415</u>	<u>187</u>	<u>45.1</u>	1971	<u>504</u>	<u>160</u>	<u>31.7</u>	1971	<u>787</u>	<u>334</u>	<u>42.4</u>
Total	1703	743	43.6	Total	2219	763	34.4	Total	3211	1445	45.0
<u>Benton</u>				<u>Carver</u>				<u>Clearwater</u>			
1968	263	79	30.0	1968	502	152	30.3	1968	158	45	28.5
1969	269	84	31.2	1969	473	156	33.0	1969	161	50	31.1
1970	316	88	27.8	1970	531	174	32.8	1970	128	41	32.0
1971	<u>287</u>	<u>77</u>	<u>26.8</u>	1971	<u>483</u>	<u>145</u>	<u>30.0</u>	1971	<u>145</u>	<u>28</u>	<u>19.3</u>
Total	1135	328	28.9	Total	1989	627	31.5	Total	592	164	27.7

*HSG = High School Graduates

NEF = New Entering College Freshmen

CER = College Entrance Rate in Percent

TABLE B-3 Cont.

<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>
Cook				Douglas				Grant			
1968	64	28	43.8	1968	461	175	38.0	1968	186	78	41.9
1969	70	35	50.0	1969	487	164	33.7	1969	180	70	38.9
1970	57	27	47.4	1970	496	174	35.1	1970	191	75	39.3
1971	<u>68</u>	<u>33</u>	<u>48.5</u>	1971	<u>503</u>	<u>177</u>	<u>35.2</u>	1971	<u>195</u>	<u>68</u>	<u>34.9</u>
Total	259	123	47.5	Total	<u>1947</u>	<u>690</u>	35.4	Total	<u>752</u>	<u>291</u>	<u>38.7</u>
Cottonwood				Faribault				Hennepin			
1968	297	102	34.3	1968	430	195	45.3	1968	13689	7586	55.4
1969	293	112	38.2	1969	447	193	43.2	1969	14287	7629	53.4
1970	294	109	37.1	1970	468	170	36.3	1970	14330	7731	53.9
1971	<u>297</u>	<u>88</u>	<u>29.6</u>	1971	<u>456</u>	<u>161</u>	<u>35.3</u>	1971	<u>14202</u>	<u>7148</u>	<u>50.3</u>
Total	1181	411	34.8	Total	<u>1801</u>	<u>719</u>	39.9	Total	<u>56508</u>	<u>30094</u>	<u>53.3</u>
Crow Wing				Fillmore				Houston			
1968	549	236	43.0	1968	401	199	49.6	1968	343	103	30.0
1969	587	259	44.1	1969	409	163	39.9	1969	329	92	28.0
1970	626	268	42.8	1970	386	187	48.4	1970	382	102	26.7
1971	<u>606</u>	<u>228</u>	<u>37.6</u>	1971	<u>395</u>	<u>150</u>	<u>38.0</u>	1971	<u>402</u>	<u>109</u>	<u>27.1</u>
Total	2368	991	41.9	Total	<u>1591</u>	<u>699</u>	43.9	Total	<u>1456</u>	<u>406</u>	<u>27.9</u>
Dakota				Freeborn				Hubbard			
1968	2106	786	37.3	1968	542	259	47.8	1968	196	75	38.3
1969	2379	874	36.7	1969	631	277	43.9	1969	189	81	42.9
1970	2497	1015	40.6	1970	608	292	48.0	1970	191	70	36.6
1971	<u>2597</u>	<u>988</u>	<u>38.0</u>	1971	<u>579</u>	<u>281</u>	<u>48.5</u>	1971	<u>199</u>	<u>67</u>	<u>33.7</u>
Total	9579	3663	38.2	Total	<u>2360</u>	<u>1109</u>	47.0	Total	<u>775</u>	<u>293</u>	<u>37.8</u>
Dodge				Goodhue				Isanti			
1968	274	117	42.7	1968	641	252	39.3	1968	223	81	36.3
1969	276	100	36.2	1969	671	266	39.6	1969	237	85	35.9
1970	295	94	31.9	1970	699	250	35.8	1970	234	74	31.6
1971	<u>289</u>	<u>104</u>	<u>36.0</u>	1971	<u>655</u>	<u>255</u>	<u>38.9</u>	1971	<u>247</u>	<u>98</u>	<u>39.7</u>
Total	1134	415	36.6	Total	<u>2666</u>	<u>1023</u>	38.4	Total	<u>941</u>	<u>338</u>	<u>35.9</u>

TABLE B-3 Cont.

<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>
Itasca				Koochiching				Lincoln			
1968	735	415	56.5	1968	347	166	47.8	1968	177	70	39.5
1969	734	411	56.0	1969	364	177	48.6	1969	183	68	37.2
1970	758	414	54.6	1970	354	149	42.1	1970	173	64	37.0
1971	<u>778</u>	<u>387</u>	<u>49.7</u>	1971	<u>363</u>	<u>145</u>	<u>39.9</u>	1971	<u>192</u>	<u>48</u>	<u>25.0</u>
Total	3005	1627	54.1	Total	1428	637	44.6	Total	725	250	34.5
Jackson				Lac Qui Parle				Lyon			
1968	288	128	44.4	1968	215	94	43.7	1968	525	212	40.4
1969	270	122	45.2	1969	235	109	46.4	1969	552	197	35.7
1970	282	114	40.4	1970	228	107	46.9	1970	540	183	33.9
1971	<u>248</u>	<u>114</u>	<u>46.0</u>	1971	<u>217</u>	<u>85</u>	<u>39.2</u>	1971	<u>495</u>	<u>170</u>	<u>34.3</u>
Total	1088	478	43.9	Total	895	395	44.1	Total	2112	762	36.1
Kanabec				Lake				McLeod			
1968	146	46	31.5	1968	227	86	37.9	1968	584	149	25.5
1969	156	54	34.6	1969	287	105	36.6	1969	586	166	28.3
1970	151	53	35.1	1970	258	89	34.5	1970	619	194	31.3
1971	<u>147</u>	<u>46</u>	<u>31.3</u>	1971	<u>281</u>	<u>100</u>	<u>35.6</u>	1971	<u>570</u>	<u>164</u>	<u>28.8</u>
Total	600	199	33.2	Total	1053	380	36.1	Total	2359	673	28.5
Kandiyohi				Lake of the Woods				Mahnomen			
1968	492	236	48.0	1968	65	35	49.2	1968	133	48	36.1
1969	513	258	50.3	1969	71	26	36.6	1969	151	50	33.1
1970	555	252	45.4	1970	64	22	34.4	1970	129	57	44.2
1971	<u>553</u>	<u>216</u>	<u>39.1</u>	1971	<u>78</u>	<u>25</u>	<u>32.0</u>	1971	<u>147</u>	<u>33</u>	<u>22.4</u>
Total	2113	962	45.5	Total	278	105	37.8	Total	560	188	33.6
Kittson				Le Sueur				Marshall			
1968	172	68	39.5	1968	343	138	40.2	1968	277	138	49.8
1969	153	64	41.8	1969	348	148	42.5	1969	282	118	41.8
1970	172	68	39.5	1970	347	156	45.0	1970	287	88	30.7
1971	<u>161</u>	<u>54</u>	<u>33.5</u>	1971	<u>355</u>	<u>158</u>	<u>44.5</u>	1971	<u>282</u>	<u>75</u>	<u>26.6</u>
Total	658	254	38.6	Total	1393	600	43.1	Total	1128	419	37.2

TABLE B-3 Cont.

<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>
Martin				Murray				Ottertail			
1968	475	223	46.9	1968	247	93	37.7	1968	823	366	44.5
1969	501	192	38.3	1969	281	104	37.0	1969	893	389	43.6
1970	482	188	39.0	1970	240	91	37.9	1970	895	367	41.0
1971	<u>541</u>	<u>175</u>	<u>32.3</u>	1971	<u>224</u>	<u>85</u>	<u>37.9</u>	1971	<u>850</u>	<u>343</u>	<u>40.4</u>
Total	1999	778	38.9	Total	992	373	37.6	Total	3461	1465	42.4
Meeker				Nicollet				Pennington			
1968	358	127	35.5	1968	189	164	86.8	1968	247	123	49.8
1969	418	133	31.8	1969	179	152	84.9	1969	244	98	40.2
1970	455	116	25.5	1970	208	158	76.0	1970	256	109	42.6
1971	<u>453</u>	<u>129</u>	<u>28.5</u>	1971	<u>205</u>	<u>132</u>	<u>64.4</u>	1971	<u>251</u>	<u>100</u>	<u>39.8</u>
Total	1684	505	30.0	Total	781	606	77.6	Total	998	430	42.3
Mille Lacs				Nobles				Pine			
1968	422	111	26.3	1968	446	217	48.7	1968	292	78	26.7
1969	415	102	24.6	1969	470	213	45.3	1969	312	80	25.6
1970	394	89	22.6	1970	484	208	43.0	1970	327	85	26.0
1971	<u>422</u>	<u>101</u>	<u>23.9</u>	1971	<u>469</u>	<u>205</u>	<u>43.7</u>	1971	<u>308</u>	<u>85</u>	<u>27.6</u>
Total	1653	405	24.4	Total	1869	843	45.1	Total	1239	328	26.5
Morrison				Norman				Pipestone			
1968	596	163	27.3	1968	160	76	47.5	1968	334	78	23.4
1969	584	172	29.5	1969	194	96	49.5	1969	355	105	29.6
1970	652	197	30.2	1970	203	84	41.4	1970	369	120	32.5
1971	<u>590</u>	<u>168</u>	<u>28.5</u>	1971	<u>174</u>	<u>54</u>	<u>31.0</u>	1971	<u>363</u>	<u>83</u>	<u>22.9</u>
Total	2422	700	28.9	Total	731	310	42.4	Total	1421	386	27.2
Mower				Olmsted				Polk			
1968	856	448	52.3	1968	1163	613	52.7	1968	749	286	38.2
1969	838	444	53.0	1969	1295	694	53.6	1969	725	300	41.4
1970	952	492	51.7	1970	1331	670	50.3	1970	640	265	41.4
1971	<u>947</u>	<u>437</u>	<u>46.1</u>	1971	<u>1325</u>	<u>598</u>	<u>45.1</u>	1971	<u>704</u>	<u>236</u>	<u>33.5</u>
Total	3593	1821	50.7	Total	5114	2575	50.4	Total	2818	1087	38.6

TABLE B-3 Cont.

<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>
<u>Pope</u>				<u>Rice</u>				<u>Sherburne</u>			
1968	242	96	39.7	1968	660	228	34.5	1968	183	76	41.5
1969	223	105	47.1	1969	749	263	35.1	1969	225	85	37.8
1970	192	100	52.1	1970	707	228	32.2	1970	250	69	27.6
1971	<u>195</u>	<u>57</u>	<u>29.2</u>	1971	<u>709</u>	<u>259</u>	<u>36.5</u>	1971	<u>284</u>	<u>81</u>	<u>28.5</u>
Total	852	358	42.0	Total	2825	978	34.6	Total	942	311	33.0
<u>Ramsey</u>				<u>Rock</u>				<u>Sibley</u>			
1968	7244	3565	49.2	1968	223	84	37.7	1968	254	98	38.6
1969	7841	3668	46.8	1969	214	88	41.1	1969	292	121	41.4
1970	7849	3865	49.2	1970	228	83	36.4	1970	306	99	32.4
1971	<u>7790</u>	<u>3538</u>	<u>45.4</u>	1971	<u>196</u>	<u>56</u>	<u>28.6</u>	1971	<u>290</u>	<u>91</u>	<u>31.4</u>
Total	30724	14636	47.6	Total	861	311	36.1	Total	1142	409	35.8
<u>Red Lake</u>				<u>Roseau</u>				<u>Stearns</u>			
1968	100	39	39.0	1968	211	84	39.8	1968	1939	616	31.8
1969	130	42	32.3	1969	207	83	40.1	1969	2129	676	31.8
1970	113	31	27.4	1970	248	75	30.2	1970	2044	610	29.8
1971	<u>121</u>	<u>50</u>	<u>41.3</u>	1971	<u>229</u>	<u>81</u>	<u>35.4</u>	1971	<u>2116</u>	<u>639</u>	<u>30.2</u>
Total	464	162	34.9	Total	895	323	36.1	Total	8228	2541	30.9
<u>Redwood</u>				<u>St. Louis</u>				<u>Steele</u>			
1968	399	161	40.4	1968	3784	1986	52.5	1968	495	208	42.0
1969	491	167	34.0	1969	3925	1954	49.8	1969	519	199	38.3
1970	399	152	38.1	1970	3826	1775	46.4	1970	545	199	36.5
1971	<u>453</u>	<u>140</u>	<u>30.9</u>	1971	<u>4117</u>	<u>1951</u>	<u>47.4</u>	1971	<u>551</u>	<u>239</u>	<u>43.4</u>
Total	1742	620	35.6	Total	15652	7666	49.0	Total	2110	845	40.1
<u>Renville</u>				<u>Scott</u>				<u>Stevens</u>			
1968	505	156	30.9	1968	434	215	49.5	1968	239	95	39.7
1969	471	179	38.0	1969	532	227	42.7	1969	245	104	42.4
1970	467	163	34.9	1970	513	206	40.2	1970	215	78	36.3
1971	<u>463</u>	<u>148</u>	<u>32.0</u>	1971	<u>555</u>	<u>195</u>	<u>35.1</u>	1971	<u>226</u>	<u>90</u>	<u>39.8</u>
Total	1906	646	33.9	Total	2034	843	41.5	Total	925	367	39.7

TABLE B-3 Cont.

<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>	<u>Year</u>	<u>HSG</u>	<u>NEF</u>	<u>CER</u>
Swift				Waseca				Wright			
1968	346	119	34.4	1968	300	100	33.3	1968	719	230	32.0
1969	368	138	37.5	1969	328	113	34.5	1969	699	196	28.0
1970	326	106	32.5	1970	349	128	36.7	1970	684	223	32.6
1971	341	103	30.2	1971	335	140	41.8	1971	664	216	32.5
Total	1381	466	33.7	Total	1312	481	36.7	Total	2766	865	31.3
Todd				Washington				Yellow Medicine			
1968	419	119	28.4	1968	1047	443	42.3	1968	320	110	34.4
1969	438	138	31.5	1969	1207	491	40.7	1969	311	112	36.0
1970	442	127	28.7	1970	1220	548	44.9	1970	320	87	27.2
1971	450	125	27.8	1971	1271	555	43.7	1971	351	101	28.8
Total	1749	509	29.1	Total	4745	2037	42.9	Total	1302	410	31.5
Traverse				Watonwan				MINNESOTA			
1968	120	49	40.8	1968	255	97	38.0	1968	61964	28001	45.2
1969	137	37	27.0	1969	268	101	37.7	1969	65858	28874	43.8
1970	142	37	26.1	1970	269	93	34.6	1970	66492	28682	43.1
1971	123	36	29.3	1971	242	80	33.1	1971	66560	27105	40.7
Total	522	159	30.5	Total	1034	371	35.9	Total	260874	112662	43.2
Wabasha				Wilkin							
1968	352	129	36.6	1968	199	61	30.7				
1969	395	138	34.9	1969	206	71	34.5				
1970	369	128	34.7	1970	217	66	30.4				
1971	379	114	25.1	1971	175	46	26.3				
Total	1495	509	34.1	Total	797	244	30.6				
Wadena				Winona							
1968	308	88	28.6	1968	624	315	50.5				
1969	299	97	32.4	1969	682	325	47.7				
1970	308	112	36.4	1970	686	301	43.9				
1971	268	95	35.4	1971	734	282	38.4				
Total	1183	392	33.1	Total	2726	1223	44.9				

Sources: High School Graduate Data from Minnesota Department of Education, Statistics and Research Section; College Entrance Data from Minnesota Higher Education Coordination Commission.

TABLE B-4: MINNESOTA COUNTY COLLEGE ENTRANCE RATES TO NEARBY NON-MINNESOTA INSTITUTIONS, 1971

County	1971 Attendance at Adjacent Out- of-State Institutions in Percent*	County	1971 Attendance at Adjacent Out- of-State Institutions in Percent*	County	1971 Attendance at Adjacent Out- of-State Institutions in Percent*	County	1971 Attendance at Adjacent Out- of-State Institutions in Percent*
Aitkin	.5	Fillmore	4.0	Marshall	7.4	Rock	9.7
Anoka	.3	Freeborn	1.7	Martin	3.3	Roseau	4.4
Becker	2.6	Goodhue	3.2	Meeker	.7	St. Louis	.7
Beltrami	.7	Grant	2.0	Mille Lacs	1.2	Scott	1.4
Benton	.7	Hennepin	.9	Morrison	.3	Sherburne	—
Big Stone	3.2	Houston	13.7	Mower	.6	Sibley	1.7
Blue Earth	.8	Hubbard	.5	Murray	3.6	Stearns	.5
Brown	1.5	Isanti	—	Nicollet	2.4	Steele	1.1
Carlton	1.2	Itasca	1.3	Nobles	4.5	Stevens	.4
Carver	—	Jackson	4.4	Norman	8.3	Swift	.9
Cass	—	Kanabec	—	Olmsted	.8	Todd	.7
Chippewa	4.0	Kandiyohi	1.1	Ottertail	1.9	Traverse	2.4
Chisago	.3	Kittson	6.2	Pennington	1.2	Wabasha	1.8
Clay	6.2	Koochiching	.5	Pine	1.0	Waseca	1.5
Clearwater	2.7	Lac Qui Parle	3.7	Pipestone	4.4	Washington	1.2
Cook	1.5	Lake	.3	Polk	5.8	Watonwan	1.7
Cottonwood	4.0	Lake of the Woods	—	Pope	3.6	Wilkin	1.7
Crow Wing	.3	Le Sueur	.6	Ramsey	.7	Winona	.5
Dakota	.5	Lincoln	6.8	Red Lake	1.6	Wright	.3
Dodge	2.1	Lyon	3.2	Redwood	4.6	Wadena	.7
Douglas	1.8	McLeod	.2	Renville	1.7	Yellow Medicine	1.7
Faribault	3.9	Mahnomen	.7	Rice	1.7	MINNESOTA	1.4

*Includes all public 4 year institutions within 75 miles of Minnesota border and all private and 2 year public institutions within 50 miles.

Sources: College registrars and student directories.

TABLE B-5: MINNESOTA COLLEGE ENTRANCE RATES TO MINNESOTA INSTITUTIONS BY PUBLIC FOUR-YEAR COLLEGE NATURAL SERVICE AREAS, 1968-1971*

Natural Service Area	Minnesota College Entrance Rates by N.S.A.				1968-71 Average	1968-1971 Net Change	Service Area	Minnesota College Entrance Rates by N.S.A.				1968-71 Average	1968-1971 Net Change
	1968	1969	1970	1971				1968	1969	1970	1971		
Bemidji State College N.S.A.	.4427	.4316	.4194	.4008	.4234	-.0419	Winona State College N.S.A.	.4713	.4540	.4440	.3873	.4370	-.0840
Mankato State College N.S.A.	.4295	.4159	.3965	.3909	.4077	-.0386	University – Duluth N.S.A.	.4943	.4743	.4435	.4515	.4648	-.0428
Moorhead State College N.S.A.	.4335	.4385	.4044	.3568	.4083	-.0767	University – Morris N.S.A.	.3776	.3692	.3606	.3342	.3605	-.0423
Southwest State College N.S.A.	.3815	.3863	.3708	.3291	.3671	-.0524	University – Twin Cities N.S.A.	.4964	.4739	.4796	.4501	.4745	-.0463
St. Cloud State College N.S.A.	.3269	.3261	.3210	.3079	.3204	-.0190	Total Minnesota	.4518	.4384	.4313	.4072	.4318	-.0446

*Note: Minnesota College Entrance Rate by Region =

$$\frac{\text{New freshmen in any Minnesota college from counties within region}}{\text{High School Graduates in counties within region}}$$

Source: Table B-3

TABLE B-6: MINNESOTA COLLEGE ENTRANCE RATES BY SEX, 1956-1972

Year	Public High School Graduates			Private High School Graduates			Total Public & Private High School Graduates			Full and Part-time New Entering College Frosh.			College Entrance Rates		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1972	31812	31323	63135	2386	2684	5070	34198	34007	68205	16820	16446	33024	49.18%	48.36%	48.42%
1971	30768	30198	60966	2635	2959	5594	33403	33157	66560	17559	16258	33817	52.56	49.03	50.80
1970	30562	29918	60480	2736	3276	6012	33298	33194	66492	18725	16937	35662	56.23	51.02	56.63
1969	29762	29881	59643	2918	3297	6215	32680	33178	65858	18649	16769	35418	57.06	50.54	53.77
1968	28045	27241	55286	3207	3471	6678	31252	30712	61964	18468	15686	34104	59.09	51.07	55.03
1967	27426	27198	54624	3199	3592	6791	30625	30790	61415	16008	13649	29657	52.27	44.32	48.28
1966	26465	26067	52532	3344	3585	6929	29809	29652	59461	15634	12838	28472	52.44	43.29	47.88
1965	27001	26442	53443	3474	3710	7184	30475	30152	60627	16262	12510	28772	53.36	41.48	47.45
1964	22651	23222	45873	3141	3379	6518	25792	26601	52391	13871	10871	24742	53.78	40.86	47.22
1963	19238	19011	38249	2679	2855	5534	21917	21866	43783	11533	8847	20380	52.62	40.46	46.54
1962	19040	19300	38340	2546	2717	5263	21586	22017	43603	10947	8471	19418	50.71	38.47	44.53
1961	19773	20439	40210	2436	2679	5115	22209	23118	45325	11132	8608	19740	50.12	37.23	43.55
1960	19053	19943	38996	2169	2462	4631	21222	22405	43627	10549	7905	18454	49.70	35.28	42.29
1959	17070	17539	34609	1936	2378	4314	19006	19917	38923	9492	6934	16426	49.94	34.81	42.20
1958	16265	16945	33210	1755	2134	3889	18020	19079	37099	9052	5315	15676	50.23	27.85	42.25
1957	15712	16125	31837	1805	1976	3781	17517	18101	35618	7915	5674	13589	45.18	31.34	38.15
1956	15301	15905	31206	1642	2053	3695	16943	17958	34901	8490	5697	14187	50.10	31.72	40.64

Sources: High School Graduates by sex from Minnesota Department of Education, Statistics Research Section; New College Freshman Data 1956-1967 from Bureau of Institutional Research, University of Minnesota, and 1968-1972 from Minnesota Higher Education Coordinating Commission.

TABLE B-7: MINNESOTA COLLEGE ENTRANCE RATES BY SEX AND INSTITUTIONAL TYPE, 1956-1972

	Total Two-Year Collegiate*			Total Four-Year			Total Public Collegiate			Total Private		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1972 N**	6220	5214	11434	10600	11232	21832	12823	11699	24522	3997	4747	8744
R**	.1819	.1533	.1676	.3099	.3302	.3200	.3750	.3440	.3595	.1168	.1395	.1282
1971 N	6289	4764	11053	11270	11494	22764	13807	11837	25644	3752	4421	8173
R	.1882	.1436	.1660	.3373	.3466	.3420	.4133	.3569	.3852	.1123	.1333	.1227
1970 N	6372	4664	11036	12353	12273	24626	14808	12504	27312	3917	4433	8350
R	.1913	.1405	.1659	.3709	.3697	.3703	.4447	.3766	.4107	.1176	.1335	.1255
1969 N	5853	4509	10362	12796	12260	25056	14612	12594	27206	4037	4175	8212
R	.1791	.1359	.1573	.3915	.3695	.3804	.4471	.3795	.4131	.1235	.1258	.1246
1968 N	5870	3971	9841	12598	11665	24263	14597	11653	26250	3871	3983	7854
R	.1878	.1270	.1588	.4031	.3798	.3915	.4670	.3794	.4236	.1238	.1296	.1267
1967 N	3937	2553	6490	12071	11096	23167	12474	9725	22199	3534	3924	7458
R	.1285	.0829	.1056	.3941	.3603	.3772	.4073	.3158	.3614	.1153	.1274	.1214
1966 N	3443	2070	5513	12191	10768	22959	12143	8966	21109	3491	3872	7363
R	.1155	.0698	.0927	.4089	.3631	.3861	.4073	.3023	.3550	.1171	.1305	.1238
1965 N	2958	1539	4497	13304	10971	24275	12453	8559	21012	3809	3951	7760
R	.0970	.0510	.0741	.4365	.3638	.4003	.4086	.2838	.3465	.1249	.1310	.1279
1964 N	1753	1027	2780	12118	9844	21962	10246	7197	17443	3625	3674	7299
R	.0679	.0386	.0530	.4698	.3700	.4191	.3972	.2705	.3329	.1405	.1381	.1393
1963 N	1301	835	2136	10232	8012	18244	8571	5785	14356	2962	3062	6024
R	.0593	.0381	.0487	.4668	.3664	.4166	.3910	.2645	.3278	.1351	.1400	.1375
1962 N	1310	836	2146	9637	7635	17272	7998	5559	13557	2949	2912	5861
R	.0606	.0379	.0492	.4464	.3467	.3961	.3705	.2524	.3109	.1366	.1322	.1344
1961 N	1340	847	2187	9792	7761	17553	8084	5599	13683	3048	3009	6057
R	.0603	.0366	.0479	.4409	.3357	.3872	.3839	.2421	.3018	.1372	.1301	.1336
1960 N	1224	847	2071	9325	7058	16383	7247	4753	12000	3302	3152	6454
R	.0576	.0378	.0474	.4394	.3150	.3755	.3414	.2121	.2750	.1555	.1406	.1479
1959 N	1119	657	1776	8373	6277	14650	6326	3903	10229	3166	3031	6197
R	.0588	.0329	.0456	.4405	.3151	.3763	.3328	.1959	.2628	.1665	.1521	.1592
1958 N	1154	662	1816	7898	5954	13860	6148	3588	9736	2904	3028	5940
R	.0640	.0346	.0489	.4382	.3120	.3735	.3411	.1880	.2624	.1611	.1587	.1601
1957 N	871	469	1340	7044	5205	12249	5340	3141	8481	2575	2533	5108
R	.0497	.0259	.0376	.4021	.2875	.3438	.3048	.1735	.2381	.1470	.1399	.1434
1956 N	937	463	1400	7553	5234	12787	5827	3170	8997	2663	2527	5190
R	.0553	.0257	.0401	.4457	.2914	.3663	.3439	.1765	.2577	.1571	.1407	.1487

Source: See Table B-5

*Includes Crookston and Waseca

**N = number of new entering freshmen

R = rate (New Entering Freshmen ÷ High School Graduates)

TABLE B-8: MINNESOTA COLLEGE ENTRANCE RATES BY SEX AND BY SYSTEM, 1956-1972

— NEW ENTERING FRESHMEN —

Year	University of Minnesota System			State College System			Public Junior College			Private 4-Year Colleges			Private Junior Colleges		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1972 N	4218	3558	7776	2977	3411	6388	5628	4730	10358	3768	4391	8159	229	356	585
R	.1233	.1045	.1140	.0870	.1003	.0936	.1646	.1390	.1519	.1101	.1291	.1196	.0066	.0104	.0085
1971 N	4473	3715	8188	3516	3823	7339	5818	4299	10117	3565	4031	7596	187	290	577
R	.1339	.1120	.1230	.1052	.1152	.1102	.1741	.1296	.1519	.1067	.1215	.1141	.0055	.0117	.0086
1970 N	4831	3808	8639	3963	4424	8387	6014	4272	10286	3735	4078	7813	182	355	537
R	.1450	.1147	.1299	.1190	.1332	.1261	.1806	.1286	.1546	.1121	.1228	.1175	.0054	.0106	.0080
1969 N	4864	3923	8787	4259	4551	8810	5489	4120	9609	3885	3816	7701	152	359	511
R	.1488	.1182	.1334	.1303	.1371	.1337	.1679	.1241	.1459	.1188	.1150	.1169	.0046	.0108	.0077
1968 N	4883	3782	8665	4172	4266	8438	5542	3605	9147	3737	3633	7370	134	350	484
R	.1562	.1231	.1398	.1334	.1389	.1361	.1773	.1173	.1476	.1195	.1182	.1189	.0042	.0113	.0078
1967 N	4975	3709	8684	3759	3812	7571	3740	2204	5944	3433	3611	7044	101	313	414
R	.1624	.1204	.1413	.1227	.1238	.1232	.1221	.0715	.0967	.1120	.1172	.1146	.0032	.0101	.0067
1966 N	5357	3840	9197	3635	3440	7075	3151	1686	4837	3361	3506	6867	130	366	496
R	.1797	.1295	.1546	.1219	.1160	.1189	.1057	.0568	.0813	.1127	.1182	.1154	.0043	.0123	.0083
1965 N	5677	3937	9614	3936	3124	7060	2840	1498	4338	3691	3910	7601	118	41	159
R	.1862	.1305	.1585	.1291	.1036	.1164	.0931	.0496	.0715	.1211	.1296	.1253	.0038	.0013	.0026
1964 N	5445	3603	9048	3129	2597	5726	1672	977	2669	3544	3644	7188	81	30	111
R	.2111	.1354	.1727	.1213	.0976	.1092	.0648	.0367	.0509	.1374	.1369	.1371	.0031	.0011	.0021
1963 N	4379	2805	7184	2921	2174	5095	1271	806	2077	2932	3033	5965	30	29	59
R	.1997	.1282	.1640	.1332	.0994	.1163	.0580	.0368	.0474	.1337	.1387	.1300	.0013	.0013	.0013
1962 N	4376	2881	7257	2426	1965	4391	1196	713	1909	2835	2789	5624	114	123	237
R	.2027	.1308	.1664	.1123	.0892	.1007	.0554	.0323	.0437	.1313	.1266	.1289	.0052	.0055	.0054
1961 N	4626	2906	7352	2239	1958	4197	1219	735	1954	2927	2897	5824	121	112	233
R	.2082	.1257	.1622	.1008	.0846	.0925	.0548	.0317	.0431	.1317	.1253	.1284	.0054	.0048	.0051
1960 N	4130	2499	6629	2022	1557	3579	1095	697	1792	3173	3002	6175	129	150	279
R	.1946	.1115	.1519	.0952	.0694	.0820	.0515	.0311	.0410	.1495	.1339	.1415	.0060	.0066	.0063
1959 N	3451	1938	5389	1877	1432	3309	998	533	1531	3045	2907	5952	121	124	245
R	.1815	.0973	.1384	.0987	.0718	.0850	.0525	.0267	.0393	.1602	.1459	.1529	.0063	.0062	.0062
1958 N	3329	1854	5183	1794	1211	3005	1025	523	1548	2775	2889	5672	129	139	268
R	.1847	.0971	.1397	.0995	.0634	.0809	.0568	.0274	.0417	.1539	.1514	.1528	.0071	.0072	.0072
1957 N	3240	1706	4946	1342	1044	2386	758	391	1149	2462	2455	4917	113	78	191
R	.1850	.0942	.1393	.0766	.0577	.0670	.0433	.0216	.0323	.1405	.1356	.1380	.0065	.0043	.0054
1956 N	3572	1730	5302	1422	1071	2493	833	369	1202	2559	2433	4992	104	94	198
R	.2108	.0963	.1519	.0839	.0596	.0714	.0492	.0205	.0344	.1510	.1354	.1430	.0061	.0052	.0056

Source: See Tables B-5 and B-9

TABLE B-9: MINNESOTA TERTIARY ENTRANCE RATES, 1944, 1946-1972

		1972			1971			1970			1969			1968		
		FT	PT	T	FT	PT	T	FT	PT	T	FT	PT	T	FT	PT	T
Total Minnesota High School Grads		68,205			66,560			66,492			65,858			61,964		
New Fall Term Entering Freshmen																
University	N	7776	—	7776	8188	—	8188	8639	—	8639	8787	—	8787	8665	—	8665
	R	.1140	—	.1140	.1230	—	.1230	.1299	—	.1299	.1334	—	.1334	.1398	—	.1398
State Colleges	N	6310	78	6388	7219	120	7331	8278	109	8387	8697	113	8810	8298	140	8438
	R	.0925	.0011	.0936	.1084	.0018	.1101	.1244	.0016	.1261	.1320	.0017	.1337	.1339	.0022	.1361
Public Junior Colleges	N	7515	2601	10116	8097	2020	10117	8233	2053	10286	8032	1577	9609	7743	1404	9147
	R	.1101	.0381	.1483	.1216	.0303	.1519	.1238	.0308	.1546	.1219	.0239	.1459	.1249	.0226	.1476
Total Public Collegiate	N	21601	2679	24280	23504	2140	25636	25150	2162	27312	25516	1690	27206	24706	1544	26250
	R	.3167	.0392	.3559	.3531	.0321	.3851	.3782	.0325	.4107	.3874	.0256	.4131	.3987	.0249	.4286
Private Four-Year Colleges	N	8106	53	8159	7564	32	7597	7719	94	7813	7639	62	7701	7327	43	7370
	R	.1188	.0007	.1196	.1136	.0004	.1141	.1160	.0014	.1175	.1159	.0009	.1169	.1182	.0006	.1189
Private Junior Colleges	N	579	6	585	567	10	577	517	20	537	488	23	511	460	24	484
	R	.0084	.0000	.0085	.0085	.0001	.0086	.0077	.0003	.0080	.0074	.0003	.0077	.0074	.0003	.0078
Total Private Colleges	N	8685	59	8744	8131	42	8174	8236	114	8350	8127	85	8212	7787	67	7854
	R	.1273	.0008	.1282	.1221	.0006	.1228	.1238	.0017	.1255	.1234	.0012	.1246	.1256	.0010	.1267
Total Collegiate	N	30286	2738	33024	31635	2182	33810	33386	2276	35662	33643	1775	35418	32493	1611	34104
	R	.4440	.0401	.4841	.4752	.0327	.5079	.5021	.0342	.5363	.5108	.0269	.5377	.5243	.0259	.5503
Area Voc-Tech Institutes*	N			13610			12068			10545			8743			7411
	R			.1995			.1813			.1585			.1327			.1196
Total Tertiary	N			46634			45878			46207			44161			41515
	R			.6837			.6892			.6949			.6705			.6699

FT = Full Time
 PT = Part-Time
 T = Total

N = Number
 R = Rate

TABLE 9-B Cont.

		<u>1967</u>	<u>1966</u>	<u>1965</u>	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>	<u>1958</u>	<u>1957</u>	<u>1956</u>
		<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>	<u>FT</u>
Total Minnesota High School Grads		61,415	59,461	60,627	52,391	43,783	43,603	45,325	43,627	38,923	37,099	35,618	34,901
New Fall Term Entering Freshmen													
University	N	8684	9197	9614	9048	7184	7257	7532	6629	5389	5183	4946	5302
	R	.1413	.1546	.1585	.1727	.1640	.1664	.1625	.1519	.1384	.1397	.1388	.1519
State Colleges	N	7571	7075	7060	5726	5095	4391	4197	3579	3309	3005	2386	2493
	R	.1232	.1189	.1164	.1092	.1163	.1007	.0925	.0820	.0850	.0809	.0669	.0714
Public Junior Colleges	N	5944	4837	4338	2669	2077	1909	1954	1792	1531	1548	1149	1202
	R	.0967	.0813	.0715	.0509	.0474	.0437	.0431	.0410	.0393	.0417	.0322	.0344
Total Public Collegiate	N	22199	21109	21012	17443	14356	13557	13683	12000	10229	9736	8481	8997
	R	.3614	.3550	.3465	.3329	.3278	.3109	.3018	.2750	.2628	.2624	.2381	.2577
Private Four-Year Colleges	N	7044	6867	7601	7188	5965	5624	5860	6175	5982	5741	4917	4992
	R	.1146	.1154	.1253	.1371	.1362	.1289	.1292	.1415	.1536	.1547	.1380	.1430
Private Junior Colleges	N	414	496	159	111	59	237	233	279	197	210	132	146
	R	.0067	.0083	.0026	.0021	.0013	.0054	.0051	.0063	.0050	.0056	.0037	.0041
Total Private Colleges	N	7458	7363	7760	7299	6024	5861	6093	6454	6149	5951	5049	5138
	R	.1214	.1238	.1279	.1393	.1375	.1344	.1344	.1479	.1579	.1604	.1417	.1472
Total Collegiate	N	29657	28472	28772	24742	20380	19418	19776	18454	16378	15687	13530	14135
	R	.4828	.4788	.4745	.4722	.4654	.4453	.4363	.4229	.4207	.4228	.3798	.4050
Area Voc-Tech Institutes*	N	5806	5542	3770	2549	2417	1671	1416	1248	1156	1216	1092	955
	R	.0945	.0932	.0621	.0486	.0552	.0383	.0312	.0286	.0296	.0327	.0306	.0273
Total Tertiary	N	35463	34014	32542	27291	22797	21089	21192	19702	17534	16903	14642	15090
	R	.5774	.5720	.5367	.5209	.5206	.4836	.4675	.4516	.4504	.4556	.4110	.4323

TABLE 9-B Cont.

		1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944
		T	T	T	T	T	T	T	T	T	T	T	T
Total Minnesota High School Grads		33,154	31,529	30,008	28,783	28,333	29,352	29,639	29,248	27,736	26,545	25,791	26,732
New Fall Term Entering Freshmen													
University	N	5154	4243	3818	3619	3079	3537	3732	3867	4010	5884		2324
	R	.1554	.1345	.1272	.1257	.1086	.1205	.1259	.1322	.1445	.2216		.0869
State Colleges	N	2245	1993	1673	1599	1182	1692	2038	1753	1530	2630		704
	R	.0677	.0632	.0557	.0555	.0417	.0576	.0687	.0599	.0551	.0990		.0263
Public Junior Colleges	N	717	888	781	708	603	721	857	950	1122	2255		514
	R	.0216	.0281	.0260	.0245	.0212	.0245	.0289	.0324	.0404	.0849		.0192
Total Public Collegiate	N	8116	7124	6272	5926	4864	5950	6627	6762	6662	10769		3542
	R	.2447	.2259	.2090	.2058	.1716	.2027	.2235	.2311	.2401	.4056		.1325
Private Four-Year Colleges	N	5128	5046	4561	4722	3817	4352	4655	4876	4763	4927		1898
	R	.1546	.1600	.1519	.1640	.1347	.1482	.1570	.1667	.1717	.1856		.0710
Private Junior Colleges	N	194	138	144	122	83	120	114	161	129	116		171
	R	.0058	.0043	.0047	.0042	.0029	.0040	.0038	.0055	.0046	.0043		.0063
Total Private Colleges	N	5322	5184	4705	4844	3900	4472	4769	5037	4892	5043		2069
	R	.1605	.1644		.1682	.1376	.1523	.1609	.1722	.1763	.1899		.0773
Total Collegiate	N	13438	12308	10977	10770	8764	10422	11396	11799	11554	15812		5611
	R	.4053	.3903	.3658	.3741	.3094	.3550	.3848	.4034	.4165	.5956		.2098
Area Voc-Tech Institutes*	N	1088	787	414	475	66	92	97	77	89			
	R	.0328	.0249	.0137	.0165	.0023	.0031	.0032	.0026	.0032			
Total Tertiary	N	14526	13095	11391	11245	8830	10514	11493	11876	11643			
	R	.4381	.4153	.3795	.3906	.3116	.3582	.3877	.4060	.4197			

Sources: High School Graduate Data from Table B-2; College Entrance Data from North Central Association of College Registrars, 1948-1955 from Upper Midwest Association of Collegiate Registrars, 1956-1967 from Bureau of Institutional Research, University of Minnesota, 1968-1970 from Minnesota Higher Education Coordinating Commission; Area Vocational-Technical Institute Entrance Data calculated as 65% of fall enrollments. 1947-1960, 1962, and 1964 reported to authors by individual institutions, and 1961, 1963, and 1965-1972 from Minnesota Higher Education Coordinating Commission.

NOTES:

1. Tertiary Entrance Rate =
$$\frac{\text{New Entering Fall College Freshmen}}{\text{Total Minnesota Public and Private High School Graduates}}$$
- *2. The AVTI Entrance Rate is calculated as 100 percent of first year enrollment plus 65 percent of total enrollment in established institutions.
3. New entering fall college freshmen include non-residents of Minnesota. The assumption accepted here is that in-migration equals out-migration for Minnesota, an assumption borne out over many years of study by USOE studies.

TABLE B-10: RETENTION OF MINNESOTA NEW ENTERING COLLEGIATE FRESHMEN THROUGH THE BACCALAUREATE DEGREE, 1959-1971

New Entering Collegiate Freshmen		Baccalaureate Degrees Conferred 4 Years Later		Retention Rate Through Four-Years
Year	Number	Year	Number	
1955	13,438	1959	8,510	.6332
1956	14,135	1960	8,460	.5985
1957	13,530	1961	8,449	.6244
1958	15,687	1962	8,945	.5702
1959	16,378	1963	9,253	.5649
1960	18,454	1964	10,428	.5650
1961	19,776	1965	11,160	.5643
1962	19,418	1966	11,882	.6119
1963	20,380	1967	12,690	.6226
1964	24,742	1968	14,296	.5778
1965	28,772	1969	16,792	.5836
1966	28,472	1970	18,038	.6335
1967	29,657	1971	18,673	.6290
1968	34,104	1972	19,507	.5719
1969	35,418			
1970	35,662			
1971	33,810			
1972	33,024			

Sources: New Entering Freshmen Four Years Earlier from Table B-6; Baccalaureate Degrees Conferred 1959-1967 from Bureau of Institutional Research, University of Minnesota, 1968-1972 from Minnesota Higher Education Coordinating Commission

TABLE B-11: NEW ENTERING FRESHMEN COHORT RETENTION RATES, UNIVERSITY OF MINNESOTA SYSTEM FOR CLASSES ENTERING FALL TERMS OF 1956-1959 AND 1962-1968

Class Entering Fall Term of:	Fall Frosh	Wntr Term Frosh	Spring Term Frosh	One Fall Term Later	Two Fall Terms Later	Three Fall Terms Later	Four Fall Terms Later
				Sophomores	Juniors	Seniors	1 Year Snr +
1956	100%	dna	dna	60%	43%	36%	23%
1957	100	dna	dna	62	46	35	20
1958	100	dna	dna	62	43	35	21
1959	100	dna	dna	60	43	37	22
1962	100	90	81	65	51	43	dna
1963	100	90	82	68	54	dna	dna
1964	100	92	83	68	51	41	20
1965	100	92	84	70	54	46	22
1966	100	92	85	73	57	47	23
1967	100	91	85	73	57	48	23
1968	100	91	84	72	57	48	23
1969	100	90	83	74	55	48	dna
1970	100	90	84	70	53	dna	dna
1971	100	90	82	69	dna	dna	dna

dna = Data Not Available

Source: Office of Admissions and Records, University of Minnesota.

FIGURE B.1
PER CAPITA NET FLOOR SPACE OF STATE JUNIOR COLLEGES
AT MAXIMUM ACHIEVED ENROLLMENT AND
1985 PROJECTED ENROLLMENT

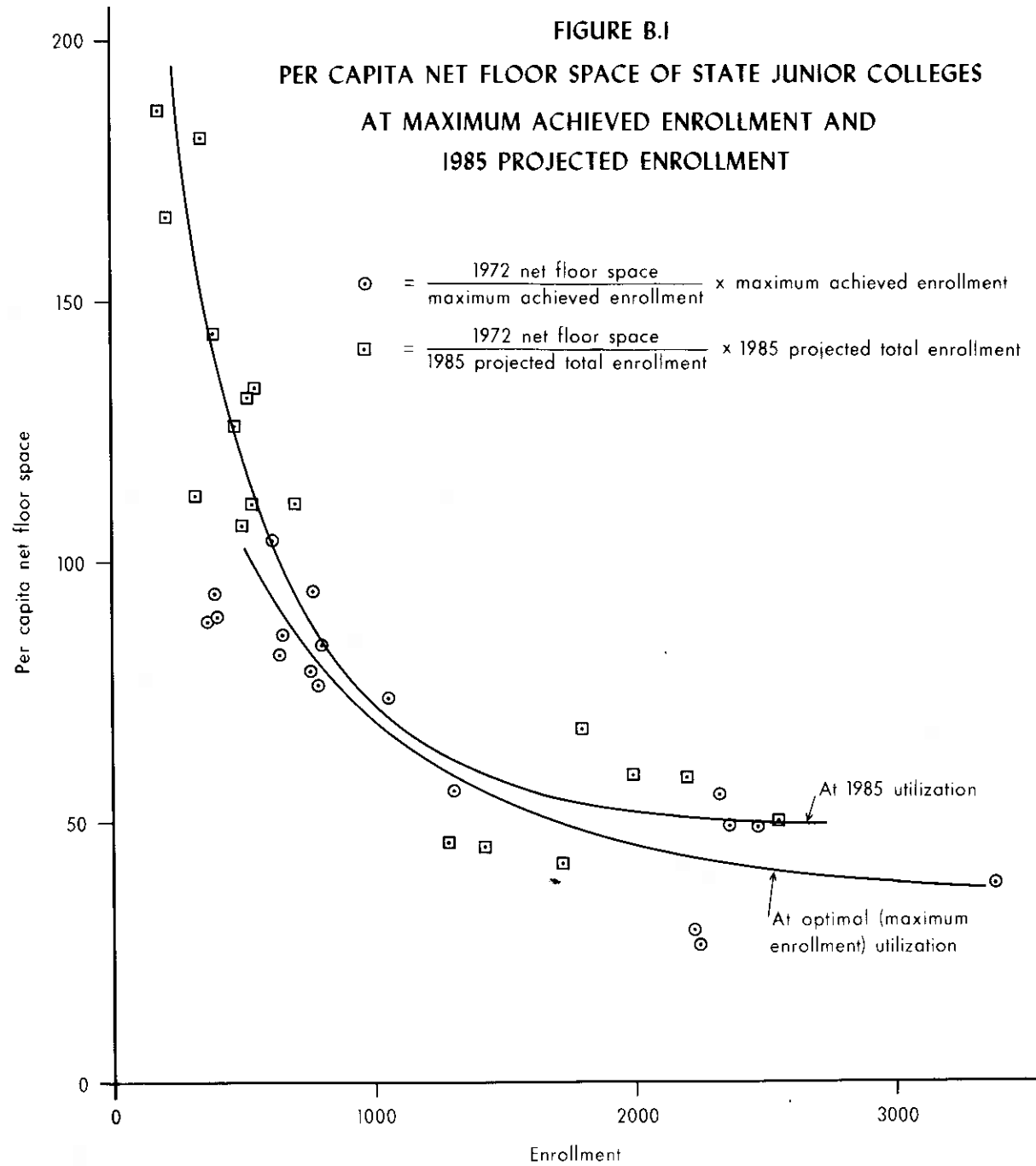


TABLE B-12: FALL TOTAL HEADCOUNT ENROLLMENT, 1967-1972, WITH ANNUAL PERCENTAGE CHANGE

Institution	1967	1968	Change:		1969	Change:		1970	Change:		1971	Change:		1972	Change:	
			N	%		N	%		N	%		N	%			
State Junior Colleges																
Anoka-Ramsey	1373	1853	480	35.0	2127	274	14.8	2360	233	11.0	2298	62	2.6	2160	138	6.0
Austin	973	975	2	.2	932	43	4.4	975	43	4.6	1058	83	8.5	927	131	12.4
Brainerd	472	494	22	4.7	535	41	8.3	640	105	19.6	622	18	2.8	565	57	9.2
Fergus Falls	539	572	33	6.1	602	30	5.2	601	1	.2	650	49	8.2	590	60	9.2
Hibbing	748	819	71	9.5	811	8	1.0	781	30	3.7	772	9	1.2	671	101	13.1
Inver Hills								435			979	544	125.1	1313	364	37.1
Itasca	562	590	28	5.0	610	20	3.4	599	11	1.8	563	36	6.0	512	51	9.1
Lakewood	575	1201	626	108.9	1093	108	9.0	1599	506	46.3	2222	623	39.0	2097	125	5.6
Mesabi	716	758	42	5.9	783	25	3.3	781	2	.3	771	10	1.3	706	65	8.4
Metropolitan	941	1019	78	8.3	1154	135	13.3	1434	280	24.3	1786	352	2.5	2254	468	26.2
Normandale		1386			2531	1145	82.6	2862	331	13.1	3180	318	11.1	3380	200	6.3
North Hennepin	1093	1417	324	29.6	1753	336	23.7	2012	259	14.8	2314	302	15.0	2478	164	7.1
Northland	299	338	39	13.0	379	41	12.1	370	9	2.4	396	26	7.0	385	11	2.8
Rainy River	190	288	98	51.6	369	81	28.1	324	45	12.2	363	39	12.0	272	91	25.1
Rochester	2039	2032	7	.3	2140	108	5.3	2320	180	8.4	2302	18	.8	2327	25	1.1
Vermillion	269	268	1	.4	258	10	3.7	302	44	17.1	396	94	31.1	340	56	14.1
Willmar	654	697	43	6.6	770	73	10.5	788	18	2.3	732	56	7.1	694	38	5.2
Worthington	647	654	7	1.1	697	43	6.6	766	69	9.9	678	88	11.5	618	60	8.8
TOTAL	12090	15361	3271	27.1	17544	2183	14.2	19949	2405	13.7	22082	2133	10.7	22289	207	.9
State Colleges																
Bemidji	4163	4463	300	7.2	4716	253	5.7	4780	64	1.4	4839	59	1.2	3970	869	17.9
Mankato	10290	11643	1353	13.1	12090	447	3.8	12363	273	2.3	12109	254	2.1	10923	1186	9.8
Metro														304		
Moorhead	4055	5033	978	24.1	5235	202	4.0	5310	75	1.4	5160	150	2.8	4781	379	7.3
St. Cloud	8147	9065	918	11.3	9557	492	5.4	10131	574	6.0	9965	166	1.6	9179	786	7.9
Southwest	509	1398	889	174.7	2206	808	57.8	3136	930	42.2	2985	151	4.8	2548	437	14.6
Winona	3302	3704	402	12.2	3877	173	4.7	4026	149	3.8	3988	38	.9	3888	100	2.5
TOTAL	30466	35306	4840	15.9	37681	2375	6.7	39746	2065	5.5	39046	700	1.8	36193	2883	7.3
University of Minnesota																
Minneapolis/St. Paul	39754	40899	1145	2.8	42884	1985	4.9	43545	661	1.5	43562	17	.0	41698	1864	4.3
Duluth	4919	5000	81	1.6	5580	580	11.6	5568	12	.2	5346	222	4.0	5488	142	2.7
Morris	1107	1264	157	14.2	1510	246	19.7	1716	206	13.6	1709	7	.4	1763	54	3.2
U. Tech. Coll. Crookston	310	371	61	19.7	441	70	18.9	418	23	5.2	513	95	22.7	660	147	28.7
U. Tech. Coll. Waseca											115			320	205	178.3
TOTAL	46090	47534	1444	3.1	50415	2881	6.1	51247	832	1.7	51245	2	.0	49929	1316	2.6
Private Junior Colleges																
Bethany Lutheran	228	243	15	6.6	204	39	16.0	207	3	1.5	214	7	9.5	215	1	.5
Corbett	65	72	7	10.8	65	7	9.7	58	7	10.8						
Crosier Seminary	73	63	10	13.7	55	8	12.7	37	18	32.7	29	8	21.6	38	9	31.0
Golden Valley Lutheran	227	239	12	5.3	240	1	.4	260	20	8.3	363	103	39.6	411	48	13.2
St. Mary's	545	528	17	3.1	575	47	8.9	643	68	11.8	707	64	10.0	781	74	10.5
TOTAL	1138	1145	7	.6	1139	6	.5	1205	66	5.8	1313	108	9.0	1445	132	10.1

TABLE B-12 Cont.

Institution	1967	1968	Change:		1969	Change:		1970	Change:		1971	Change:		1972	Change:	
			N	%		N	%		N	%		N	%			
Private Four-Year Colleges																
Augsburg	1754	1841	87	5.0	1786	55	3.0	1697	89	5.0	1616	81	4.8	1638	22	1.4
Bethel	1027	1211	184	17.9	1259	48	4.0	1104	155	12.3	1044	60	5.4	1139	95	8.1
Carleton	1376	1482	106	7.7	1450	32	2.2	1521	71	5.0	1498	23	1.5	1553	55	3.7
Concordia (Moorhead)	2335	2340	5	.2	2405	65	2.8	2360	45	1.9	2402	42	1.8	2439	37	1.5
Concordia (St. Paul)	739	742	3	.4	800	58	7.8	810	10	1.3	713	97	12.0	677	36	5.8
Dr. Martin Luther	592	609	17	2.9	628	19	3.1	800	172	27.4	732	68	8.5	676	56	7.7
Gustavus Adolphus	1782	1835	53	3.0	1883	48	2.6	1907	24	1.3	1918	11	.6	1941	23	1.2
Hamline	1244	1227	-17	-1.4	1272	45	3.7	1249	23	1.8	1274	25	2.0	1341	67	5.3
Lea	616	733	117	19.0	909	176	24.0	668	241	26.5	367	301	45.1	108	259	70.6
Macalester	1821	1971	150	8.2	1979	8	.4	2093	114	5.8	2097	4	.2	2012	85	4.1
Mpls. Coll. of Art & Design	380	383	3	.8	437	54	14.1	474	37	8.5	475	1	.2	466	9	1.9
Minnesota Bible	132	121	-11	-9.1	107	14	11.6	104	3	2.8	99	5	4.8	95	4	4.0
North Central Bible	409	445	36	8.8	481	36	8.1	466	15	3.1	475	9	1.9	461	14	2.9
Pillsbury														422		
St. Benedict	573	620	47	8.2	625	5	.8	736	111	17.8	927	191	26.0	1104	177	19.1
St. Catherine	1384	1300	-84	-6.1	1299	1	.0	1339	40	3.1	1344	5	.4	1459	115	8.6
St. John's	1476	1521	45	3.0	1538	17	1.1	1581	43	2.8	1604	23	1.5	1724	120	7.5
St. Mary's	1090	1117	27	2.5	1043	74	6.6	990	53	5.1	1052	62	6.3	1152	100	9.5
St. Olaf	2536	2563	27	1.1	2593	30	1.2	2674	81	3.1	2650	24	.9	2748	98	3.7
St. Paul Bible	405	362	-43	-10.6	399	37	10.2	415	16	4.0	409	6	1.5	407	2	.5
St. Scholastica	438	522	84	19.2	645	123	23.6	824	179	27.6	915	91	11.0	959	44	4.8
St. Teresa	1341	1311	-30	-2.2	1188	123	9.4	1046	142	12.0	987	59	5.6	1030	43	4.4
St. Thomas	2230	2344	114	5.1	2411	67	2.9	2430	19	.8	2488	58	2.4	2456	32	1.3
TOTAL	25825	26600	775	3.0	27137	537	2.0	27288	151	.6	27086	202	.7	28007	921	3.4
Area Vocational Technical Institutes																
Albert Lea					30			145	115	383.3	232	87	60.0	299	67	28.9
Alexandria	657	944	287	43.7	1051	107	11.3	1128	77	7.3	1205	77	6.8	1209	4	.3
Anoka	38	372	334	178.9	1020	648	174.2	1157	137	13.4	1650	493	42.6	1647	-3	-.2
Austin	327	355	28	8.6	323	32	9.0	327	4	1.2	378	51	15.6	466	88	23.3
Bemidji	136	136	0	.0	155	19	14.0	151	4	2.6	191	40	26.5	266	75	39.3
Brainerd	153	263	110	71.9	270	7	2.7	335	65	24.1	492	157	46.9	552	60	12.2
Canby	231	256	25	10.8	270	14	5.5	358	88	32.6	330	28	7.8	380	50	15.1
Dakota County											170			347	177	104.1
Detroit Lakes	229	210	-19	-8.3	280	70	33.3	387	107	38.2	467	80	20.7	515	48	10.8
Duluth	632	1052	420	66.5	975	77	7.3	1141	166	17.0	1164	23	2.0	1136	28	2.4
East Grand Forks														0		
Eveleth	106	128	22	20.8	128	0	.0	220	92	71.9	248	28	12.7	271	23	9.3
Faribault	222	241	19	8.6	252	11	4.6	262	10	4.0	265	3	1.1	327	62	23.4
Granite Falls	187	219	32	17.1	333	114	52.1	230	103	30.9	257	27	11.7	288	31	12.1
Hibbing	166	214	48	28.9	241	27	12.6	272	31	12.9	230	42	15.4	283	53	23.0
Hutchinson								471			246	225	47.8	295	49	19.9
Jackson	362	391	29	8.0	415	24	6.1	481	66	15.9	426	55	11.4	454	28	6.6
Mankato	236	571	335	141.9	848	277	48.5	977	129	15.2	974	3	.3	1066	92	9.4
Minneapolis	762	956	194	25.5	885	71	7.4	867	18	2.0	1063	196	22.6	813	-250	-23.5
Moorhead	244	348	104	42.6	490	142	40.8	656	166	33.9	731	75	11.4	876	145	19.8

TABLE B-12 Cont.

Institution	1967	1968	Change:		1969	Change:		1970	Change:		1971	Change:		1972	Change:	
			N	%		N	%		N	%		N	%			
Area Vocational Technical Institutes (Cont.)																
Pine City	134	139	5	3.7	139	0	.0	120	19	13.7	195	75	62.5	159	36	18.5
Pipestone	191	240	49	25.7	276	36	15.0	376	100	36.2	396	20	5.3	468	72	18.2
Ramsey-Washington County											105			700	595	566.6
Red Wing											31			45	14	45.2
Rochester	112	50	62	55.4	173	123	246.0	423	250	144.5	533	110	26.0	615	82	15.4
St. Cloud	444	600	156	35.1	746	146	24.3	956	210	28.2	1006	50	5.2	1186	180	17.9
St. Paul	1458	1586	128	8.8	1692	106	6.7	1946	254	15.0	2039	93	4.8	2150	111	5.4
Staples	355	398	43	12.1	440	42	10.6	461	21	4.8	468	7	1.5	483	15	3.2
Suburban Hennepin County											82			1059	977	1191.0
Thief River Falls	280	363	83	29.6	415	52	14.3	423	8	1.9	422	1	.2	445	23	5.5
Wadena	216	251	35	16.2	328	77	30.7	291	37	11.3	401	110	37.8	397	4	1.0
Willmar	554	675	121	21.8	680	5	.7	807	127	18.7	1003	196	24.3	1146	143	14.2
Winona	316	443	127	40.2	580	137	30.9	601	21	3.6	957	356	59.2	596	361	37.7
TOTAL	8748	11401	2653	30.3	13435	2034	17.8	15969	2534	18.9	18357	2388	14.9	20939	2582	14.1
Private Professional Schools																
Bethel Seminary								240			229	11	4.6	217	12	5.2
Luther Theological Seminary	529	565	36	6.8	480	85	15.0	435	45	9.4	422	13	3.0	418	4	.9
N.W. Luth. Theol. Sem.	144	130	14	9.7	165	35	26.9	167	2	1.2	183	16	9.6	172	9	6.0
St. Paul Seminary	229	133	96	41.9	147	14	10.5	126	21	14.3	107	19	15.1	110	3	2.8
United Theological Seminary	72	122	50	69.4	124	2	1.6	137	13	10.5	139	2	1.5	122	17	12.2
William Mitchell	374	347	27	7.2	368	21	6.1	491	123	33.4	560	69	14.1	664	104	18.6
TOTAL	1348	1297	51	3.8	1284	13	1.0	1596	312	24.3	1640	44	2.8	1703	63	3.8
TOTAL 4-YEAR COLLEGES*	102071	109069	6998	6.9	114792	5723	5.2	117863	3071	2.7	116749	1114	.9	113149	3600	3.1
TOTAL PROF. SCHOOLS	1348	1297	51	3.8	1284	13	1.0	1596	312	24.3	1640	44	2.8	1703	63	3.8
TOTAL 2-YEAR COLLEGES	13538	16877	3339	24.7	19124	2247	13.3	21572	2448	12.8	24023	2451	11.4	24714	691	2.9
TOTAL PRIVATE INST.	28311	29042	731	2.6	29560	518	1.8	30089	529	1.8	30039	50	.2	31155	1116	3.7
TOTAL PUBLIC INST.	97394	109602	12208	12.5	119075	9473	8.6	126911	7836	6.6	130730	3819	3.0	129350	1380	1.1
GRAND TOTAL	125705	138644	12939	10.3	148635	9991	7.2	157000	8365	5.6	160769	3769	2.4	160505	255	.2

*U.M. Crookston and Waseca included in 2-year college count only.

