THE ENROLLMENT QUESTION
Minnesota Tertiary Education Attendance Patterns in Transition

Two documents appeared during 1971 which called for an expansion of higher education in Minnesota: *Meeting the Challenge*, the report and recommendations to the 1971 session of the legislature from the Minnesota Higher Education Coordinating Commission (HECC); and *Toward 1985 and Beyond*, a report from the University of Minnesota Senate Committee on Resources and Planning. *Meeting the Challenge* called for expanding the capacity of 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. *Toward 1985 and Beyond* made a series of related recommendations to the faculty and administration of the University, including the decentralization of the University organizationally into units of about ten thousand students; also, decentralization of state higher education within the Twin Cities metropolitan area through the creation of a new four-year college, in addition to the Junior Colleges.

These recommendations were supported by the HECC Eighteenth Annual Survey of Enrollments (1971), which reported the total numbers of students anticipated in 1980 by each of the cooperating institutions. These figures amounted to 1970-1985 enrollment increases of 26 per cent for the State Colleges, 45 per cent for the University campuses, 33 per cent for all four-year public institutions.

Meanwhile, it was known that the Minnesota birthrate — following the national trend — had been experiencing a continuous decline through the 1960's. This will be reflected, for the state as a whole, in a declining number of 18-year-olds beginning in 1978. (Fig. 1) The percentage of high school graduates who entered either two- or four-year academic programs had risen very sharply in the years 1967-69.

![Figure 1: Age Structure of Minnesota Population, High School Graduates, and New Entering Tertiary Freshmen, 1944-1990](image)

- *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***
- Area vocational-technical institute data prior to 1965 supplied by each institution.
But it had leveled from 1969 to 1970 and dipped from 1970 to 1971. In short, demographic trends indicated a profound impact of the birthrate decline coming in the late 1970's. Furthermore, the geography of both the state's population and the campus locations suggested that the impact would be unevenly 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.

A joint seminar was conducted in the Geography Department and the School of Public Affairs at the University of Minnesota in the winter and spring quarters to examine these apparent inconsistencies. As an outgrowth of that seminar, a report entitled "Public College Enrollments in Minnesota's Changing Population Pattern 1970-1985" was prepared by Thomas G. Mortenson, Arnold R. Alanen and John R. Borchert. This represents a summary of that report.

**TRENDS IN TERTIARY EDUCATION ATTENDANCE**

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 student in some tertiary institution and program.

Minnesota's market population for tertiary educational services and programs is closely tied to the number of children 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 consistently reflected in the numbers for high school graduates and new entering tertiary freshmen.

Based on these trends, it can be anticipated that 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 1989 will be below any total since 1963.

Of those who graduate from high school, most — now about 66 percent — will enter tertiary education. 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%. (Fig. 2)

An enormous difference exists between trends in college entrance rates for boys and girls graduating from Minnesota's public and private high schools. (Fig. 3) Over the seventeen year time span from 1956 to 1972, the rate at which boys graduating from high school have entered college has decreased from 50.1% to 48.5%. During the same period the rate for girls has increased from 31.7% to 48.4%. In effect all of the 7.8% increase in total college entrance rates between 1955 and 1972 is the result of increases in the number and rate at which girls graduating from high school have gone on to college.

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. In 1964, 81% of those graduating from high school who entered tertiary education entered one of the four-year institutions. Nineteen percent entered two-year institutions. By 1968 the percentage of high school graduates going on to tertiary education and entering four-year institutions had dropped to 61%, with 39% entering two-year junior colleges and area vocational-technical schools. By 1972 the percentage entering two-year institutions had risen to 51%, and this trend continues.

During the interval between 1956 and
1971 the legislatures of Minnesota created eight new junior colleges, two new four-year 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 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.

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. Over the period for which this data is available, this estimated retention rate has ranged roughly between 56% and 63%.

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 freshman classes admitted to the University in 1956. 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.

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.

TRENDS IN TERTIARY EDUCATION ENROLLMENTS

In 1935 there were 24,500 students enrolled in tertiary programs and institutions in Minnesota. By 1956 this total had doubled, and by 1963 the total reached was 75,200. In just eight years between 1963 and 1971, total tertiary enrollments in Minnesota nearly doubled to 144,700 students. In 1972, a total of 106 additional students suggested that a plateau in enrollments had been reached.

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

In the immediate future, area vocational-technical institutes are likely to experience continued enrollment growth, state junior colleges and private four-year colleges are likely to stabilize, and the public four-year systems of the state colleges and University are likely to decline in enrollment.

In 1968 the Minnesota Higher Education Coordinating Commission attempted to project tertiary enrollments by level through the year 2000. These projections are based on several assumed conditions. The first assumed condition is that birthrates after 1985 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 achieved. What is likely to occur in tertiary enrollments now appears to be

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**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 HECC (1968-1972).
something well below HECC's 1968 enrollment projections. This suggests that public and institutional policies related to anticipated growth are due for reexamination.

In the coming fifteen years the geographic pattern of student origins will change somewhat in response to regional differences and the timing of the end of the post-World War II population boom. In the non-metropolitan zone, where out-migration was stronger and the average age of the population greater, the birthrate decline set in earlier. 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 out-state 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. (Fig. 4)

High school facilities will be underused 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 FOUR-YEAR CAMPUSES

The nine state college and University campuses are the largest part of a very large and heterogeneous family. In all, 188 post-high school educational institutions operate in Minnesota. Sixty-two are public, including the junior colleges and area vocational-technical institutes as well as the four-year colleges. Among the four-year college campuses eighteen are private.

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 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.

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 5 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.

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.

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. Enrollments of full-time students in 1985 could be ten to thirty per cent below those of 1970.

Seventeen of the twenty-seven public two- and four-year institutions in Minnesota were below the Carnegie Commission's* recommended minimum size in 1971; and projected enrollments from

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this study put twenty-three of twenty-eight below the minimum by 1985. Most of the non-metropolitan institutions are below the minimum, and the metropolitan university above the maximum.

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.

State college campuses in the western part of Minnesota, where the population declines—both actual and projected—were 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 crowded as the average of all four-year public campuses today.

NEW CAMPUSES

Two new campuses tentatively have been committed to be added to the junior college system, at Fairmont and Cambridge. 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 and the University-Twin Cities.

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. The result of the projection is an enrollment of about 6,000 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. The largest numerical shift of students would be about 2,400 from the University-Twin Cities. The largest percentage shifts would be about 20 per cent of the Winona student body and about 12 per cent of the Mankato student body to the Rochester campus.

POLICY REEXAMINED

— Expansion of physical capacity does not appear to merit high priority except for selected programs and, possibly, selected locations.

— 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 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. 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 out-state campuses will have to be accomplished by organizational changes.

— The idea that placing a new institution of higher education in a town or region as an instrument of economic growth should at least be questioned and probably rejected in future policy consideration. 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 comprehensive state or federal program.

- Financial aids probably increase student mobility. Increased mobility — especially for metropolitan students — is probably one of the two or three main ways to achieve greater utilization of many non-metropolitan 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 college 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.

- 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.

- Coordination among the five systems of higher education campuses is more urgent under assumptions of austerity or non-growth than it is under the earlier postulates.

- The role of the major metropolitan-centered growth regions in the future of Minnesota's higher education needs searching and open appraisal. Projections show non-metropolitan campuses increasingly dependent on the metropolitan area for their support, not to mention their tax support base.

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:

- Statewide goals for tertiary education.

- 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.

- Increasing the ability of faculty to modify and reorganize courses and curricula.

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