# Minnesota Horizons

sponsored by the:

MINNESOTA STATE LEGISLATURE
MINNESOTA STATE PLANNING AGENCY
COMMISSION ON MINNESOTA'S FUTURE

# MINNESOTA HORIZONS

A Legislative Symposium

January 14, 15, 16, 1975

Live on Minnesota Public Radio

Video taped for Midwestern Educational Television
Rebroadcast January 14, 15, 16, 21, 22, 23, 1975

St. Paul Technical-Vocational Institute
235 Marshall Avenue, St. Paul, Minnesota

Co-sponsored by the:

MINNESOTA STATE LEGISLATURE
MINNESOTA STATE PLANNING AGENCY
COMMISSION ON MINNESOTA'S FUTURE

## foreword

The Minnesota Legislature typically faces a multiplicity of complex, inter-related issues and problems. By necessity, extensive discussion on most issues is limited to the committees of the House and Senate. Seldom does the Legislature, as a group, have the opportunity to be briefed on the status of the State — its people, its economy, its natural and man-made environments. This symposium was an opportunity for the individual legislator to participate in a comprehensive review of where we are as a state; what data foretells important trends or developments; and what significant issues are confronting Minnesota and how these issues can be addressed.

The public has shown a significant interest in how government operates and makes decisions. The public needs to be informed about important issues and would like the opportunity to participate in the process through which those decisions are reached. Thus, the sessions were video taped for rebroadcast over the Midwestern Educational Television network and were broadcast live on Minnesota Public Radio.

MINNESOTA HORIZONS was sponsored by the Minnesota State Legislature, Minnesota State Planning Agency and the Commission on Minnesota's Future. This symposium was partially supported by grants from the Bemis Foundation; Dayton Hudson Foundation; Hill Family Foundation and the Intergovernmental Personnel Act, U.S. Civil Service Commission.

Legislative leadership in planning and reviewing the material presented in MINNESOTA HORIZONS was provided by Senator Nicholas D. Colemen, Senate Majority Leader; Senator Robert O. Ashbach, Senate Minority Leader; Representative Martin O. Sabo, Speaker of the House; Representative Henry J. Savelkoul, House Minority Leader; former Senator Harold Krieger and Representative AubreyDirlam. Additional leadership was provided by the following members of the MINNESOTA HORIZONS Task Force: Senator Hubert H. Humphrey, III; Senator William G. Kirchner; Representative William N. Kelly; Representative Rodney N. Searle; Gerald Christenson, State Planning Agency; Bruce MacLaury, Commission on Minnesota's Future; Victor Arnold, State Planning Agency; Dean Honetschlager, State Planning Agency, Edward Hunter, State Planning Agency.

# MINNESOTA HORIZONS

Live on MINNESOTA PUBLIC RADIO:

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| 9:00 am – 12:30 pm | | January 14, 15, 16, 1975 |
| KSJN-FM | (91.1) | St. Paul/Minneapolis |
| KSJR-FM | (90.1) | Central Minnesota |
| KCCM-FM | (91.1) | Fargo-Moorhead |
| KRSW-FM | (91.7) | Marshall/Worthington |
| KLSE-FM | (91.7) | Rochester/Winona |

ALSO Live on:

| | | |
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| KUMD-FM | (89.1) | University of Minnesota, Duluth |
| WCAL/KUOM-AM | (770) | University of Minnesota, Minneapolis |

Video taped for rebroadcast on MIDWESTERN EDUCATIONAL TELEVISION:

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|---|---|---|
| 8:00 pm – 9:30 pm | | January 14, 15, 16 and 21, 22, 23, 1975 |
| KTCA-TV | (Ch. 2) | St. Paul/Minneapolis |
| KWCM-TV | (Ch. 10) | Appleton |
| WDSE-TV | (Ch. 8) | Duluth |
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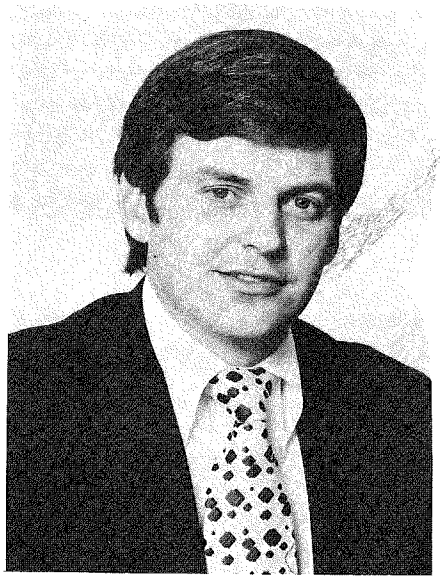
| KFME-TV | (Ch. 13) | Fargo/Moorhead* |
| KGFE-TV | (Ch. 2) | Grand Forks* |

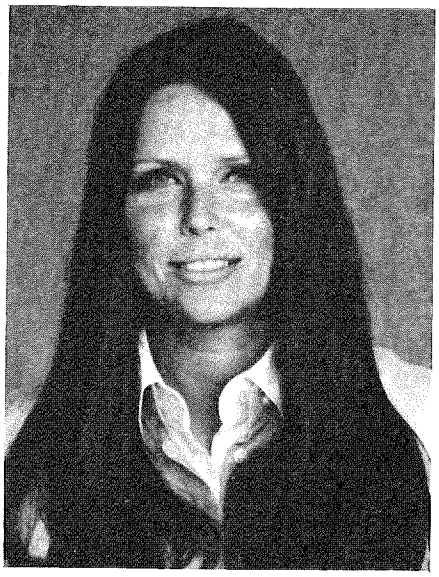
*January 15 and 22 broadcasts 10:00 pm – 11:30 pm

# MINNESOTA HORIZONS SPEAKERS...



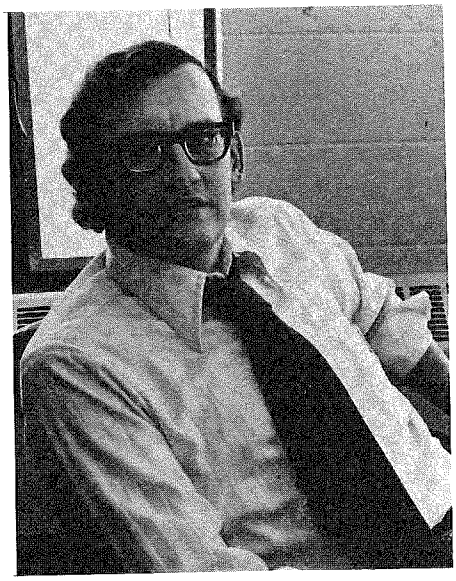
## DR. VICTOR L. ARNOLD

Director, Development Planning, Minnesota State Planning Agency since 1973. Executive Director, Commission on Minnesota's Future. Formerly: Assistant Professor of Public Affairs and Director of Continuing Education in Public Affairs, University of Minnesota. Program Director, Minnesota Environmental Decision-Making Project. Marine Resource Economist, University of Wisconsin, Marine Studies Center.



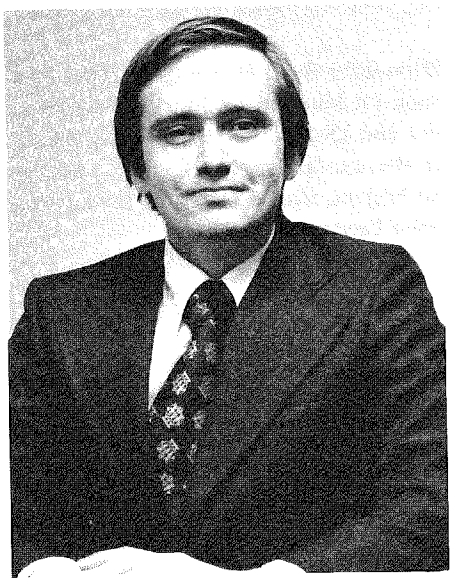
## JANE BELAU

Chairperson, Governor's Council on Developmental Disabilities. Chairperson/Convenor, National Caucus of State Developmental Disabilities Chairpersons and Planners. Co-Chairperson, Minnesota Coalition of and for Handicapped Persons. Member, County Welfare Board. Member, National Advisory Board for Developmental Disabilities, Technical Assistance System. Formerly: Minnesota Corrections Authority. Consultant, Comcunications & Organizational Relationships, Development Disabilities Technical Assistance Systems, University of North Carolina.



## DR. JOHN E. BRANDL

Director, School of Public Affairs and Professor of Public Affairs, University of Minnesota, since 1969. Formerly: visiting Professor of Public Policy and Public Administration, University of Sydney, 1973. Deputy Assistant Secretary for Education Planning, Department of Health, Education and Welfare, Washington, D.C. 1968-69. Visiting lecturer, Department of Economics, University of the Philippines, 1968. Director of Educational Program in Systematic Analysis; Assistant Professor of Economics; Research Associate, Institute for Research on Poverty, University of Wisconsin, 1967-68.



## DR. RICHARD BROEKER

Planning Director in charge of implementing Minnesota's 1973 Human Services Act. Part-time faculty member at University of Minnesota and Hamline University. Formerly: Chairman 1972-73 Minnesota Comprehensive Welfare Reform Project. Program Chairman 1972 Minnesota Welfare Conference. State Coordinator 1971 Minnesota Action Congress on Unemployment, Health and Welfare. President 1973-74 Minnesota Social Services Association. President 1970-72 National Association of Social Workers-Minnesota Chapter. Vice President, Minnesota Conference on Social Work Education 1970-72.

## DR. GERALD W. CHRISTENSON

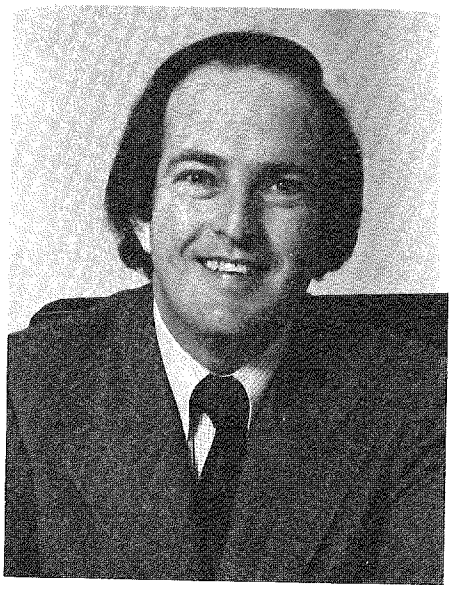
Director of Minnesota State Planning Agency, appointed 1971. Chairman, Minnesota Environmental Quality Council. Vice Chairman, Minnesota Housing Finance Agency. Formerly: Executive Director of President's Council on Youth Opportunity under former Vice President Hubert Humphrey. Administrative Assistant to Congressman Joseph Karth. Chairman, Social Studies Department, Mounds View High School.

## RUSSELL W. FRIDLEY

Director, Minnesota Historical Society since 1955. Chairman, Minnesota Humanities Commission, since 1970. Quetico-Superior Foundation Board of Trustees. Formerly: President American Association for State and Local History 1966-68. National Advisory Council on Historic Preservation 1967-70. American Heritage Board of Trustees 1967-69.

## DEAN HONETSCHLAGER

Director, Human Resources Planning, Minnesota State Planning Agency. Formerly: Minnesota public school teacher, counselor, and project administrator. Aided with a federally financed five state regional educational research and development laboratory.

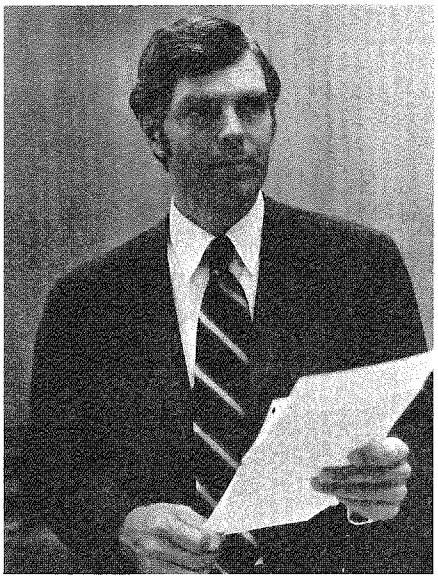


## A. EDWARD HUNTER

Deputy Director, Minnesota State Planning Agency since 1969. Chairman, State Manpower Council. President, Minnesota Chapter, American Society of Public Administration. Formerly: Acting Director, 1970-71, Minnesota State Planning Agency. Director, Human Resources, Minnesota State Planning Agency. Director, Research and Planning, Minnesota Department of Employment Security. Visiting Lecturer in Industrial Relations, University of Minnesota.

## RAY L. LAPPEGAARD

Vice President, Human Resources, Hoernor Waldorf Corporation. Formerly: Commissioner of Highways, State of Minnesota, 1971-74. Vice President, Stanton Associates, Inc., 1969-71. Director, Organization Planning, Toro Manufacturing Corporation 1967-69. Commissioner of Administration, State of Minnesota, 1966-67. Commissioner of Corrections, State of Minnesota 1965-66. Deputy Commissioner, Department of Public Welfare, State of Minnesota 1955-59. Vice President, Twin City Monorail Company, 1959-63.

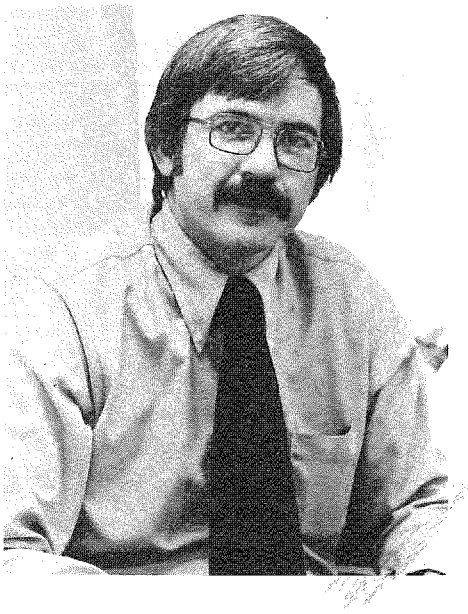


## DR. BRUCE K. MACLAURY

President, Ninth Federal Reserve Bank of Minneapolis. Chairman, Upper Midwest Council. Co-Chairman, Commission on Minnesota's Future. Member: Guthrie Theater Board of Directors, Consultative Council University of Minnesota Business School, North Star Research and Development Institute, Council on Foreign Relations in New York. Formerly: Deputy Undersecretary of the U.S. Treasury, 1969. President, Upper Midwest Council 1972-73. Vice President, Foreign Department, New York Federal Reserve Bank, 1968.

## DR. PHILIP M. RAUP

Professor, Agriculture and Applied Economics, University of Minnesota. Formerly: member of Panel of Experts on Land Tenure and Settlement, Food and Agriculture Organization, U.N., Rome, Italy, 1966-72. Guest Professor, Institute of Foreign Agriculture, Technical University of Berlin, 1963-64 and 1966-68. Consultant, Economic Development Institute, International Bank for Reconstruction and Development, Washington, D.C. Technical Secretary, Land and Water Use, Subcommission, European Commission on Agriculture, Rome, Italy, 1960-61. Consultant, Land and Water Development Division, Food and Agriculture Organization, U.N., Rome, Italy, 1960-61. Extensive travel and study outside of U.S.



## HARRY A. REED

Director, Transportation Planning, State Planning Agency since 1971. Coordinator, National Transportation Needs Study. Secretary, State Interdepartmental Transportation Task Force. Responsibility for administering State Public Transit Grant Programs. Formerly with Control Data Corporation, Regional Planning Agency in Cleveland, Ohio and the U.S. Department of Transportation.

## HAZEL H. REINHARDT

Minnesota State Demographer, Minnesota State Planning Agency. Formerly: Director, Laboratory for Applied Population and Community Analysis, University of Wisconsin-Extension. Demographic Consultant, Southeastern Wisconsin Regional Planning Commission. Consultant, Department of Administration, State of Wisconsin. Professor, Institute of Environmental Studies, University of Wisconsin.

## JOSEPH E. SIZER

Director, Environmental Planning Division, Minnesota State Planning Agency, appointed 1968. Formerly: Technical Services Administrator, Minnesota State Planning Agency. Industrial Economist, Department of Economic Development, Marketing Analyst, Department of Agriculture, Florida A & M University.

## DR. JAMES J. SOLEM

Director, Office of Local & Urban Affairs, Minnesota State Planning Agency, appointed 1971. Formerly: Executive Director, Minnesota State Urban Affairs Council. Director, Urban Research, State Planning Agency. Assistant Professor, Political Science; staff member, Center for Community & Metropolitan Studies; Extension Specialist in Urban Government, University of Missouri, St. Louis. Research Director, Ramsey County League of Municipalities. Member, Minnesota League of Municipalities. Teaching and Administrative Assistant, Department of Political Science, University of Minnesota. Budget and Program Analyst, U.S. Department of Agriculture. Administrative Assistant to Director of Minnesota Property Tax Division.

## VERNON SOMMERDORF, M.D.

Family practitioner, St. Paul. Chairman, State Comprehensive Planning Advisory Council. Member, State Medical Association. Formerly, member House of Representatives, Minnesota State Legislature.

# POPULATION AND SETTLEMENT PATTERNS IN MINNESOTA

**POPULATION: PAST, PRESENT, FUTURE**
by Hazel H. Reinhardt

**WHAT DO THE POPULATION CHANGES MEAN?**
by Gerald W. Christenson

**Note:**

All visuals for above presentations are included in Appendix at the end of this section.

# POPULATION AND SETTLEMENT PATTERNS IN MINNESOTA

## POPULATION: PAST, PRESENT, FUTURE

by Hazel H. Reinhardt

Demographic projecting, it has been said, requires three qualities: historical perspective, current information, and a sense of humor. We hope to demonstrate that the projections we present today contain at least the first two qualities.

There are four characteristics of population: size, rate of change, composition, and distribution. We intend to look at all four as they relate to the past, the present, and the future.

When people think of population, they usually think of simple numbers, yet size is not such a simple concept. For example: while the state has shown a continual increase in numbers, the increase has not been the same for all counties and municipalities. Between 1940 and 1970, only one county, Stevens, had a stable population size, 26 had continuous growth, 27 continuous decline, but 33 counties fluctuated in size. The pattern for municipalities was even more dramatic. Only 93 places continually lost population from 1940-1970, while 229 gained. However, 496 places fluctuated in size.

One reason we may miss these subtleties is that we are more aware of the number of housing units than of population size. The relationship between number of occupied dwelling units and total population was tenuous at best during the 1960's, when 20% of Minnesota's counties lost population but gained in number of occupied housing units. In other words, the number of persons per household decreased. Ottertail County is a striking case. There, population decreased by 6%, but occupied housing units increased by 4%.

The second characteristic of population, change, is inevitable, but the speed with which it occurs influences our ability to cope with it effectively. For Minnesota, the rate of growth has varied from its years of settlement, when the rate was rapid, to the 1950's, when it was also rapid.

While the state's fluctuations have always been in rate of growth, many counties and places have fluctuated between growth and loss. A community that increases in size, and then declines, is caught in a squeeze both as it grows and as it declines.

Numerous small places have changed rapidly. However, the change in Minneapolis has also been dramatic. The city had 90,000 more residents in 1950 than it did in 1970. Or, put another way: a population almost the size of Duluth moved out.

These illustrations prompt us to ask, how and why does population change? First, let's address the "how." Three phenomena account for all population change. These are deaths, births, and migration. Very rapid changes in population size are usually caused by migration, while both births and deaths have a slower, but more constant effect.

More births than deaths result in what is called *natural increase*. More deaths than births is known as *natural decrease*. Natural increase, a characteristic of Minnesota's population, has been responsible for most of the population growth in the state.

Migration means that individuals or families move from one area to another for a variety of reasons. Obviously, not all individuals consider the same things important; and what is important to the young may become unimportant later in life. Thus, many persons move several times during their lives. Classic reasons for moving include economic opportunities, nearness of relatives and friends, and a pleasant environment.

Since 1910, more people have moved out of Minnesota than have moved in. During the 1960's, the net number leaving was 25,000, or less than 1% of the population. Age has an important effect on migration. During the 1960's, most who left were between 20 and 24 years of age; neither was Minnesota the choice of persons over 45. Most in-migrants were 30-34 years of age, with families.

Within Minnesota, not all areas have been equally attractive. The attraction of various counties to persons of different ages during the 1960's is instructive. The 20-24 year age group migrated to the Twin Cities metro area, or to counties with colleges or universities. The 25-29 year old migrants concentrated in the Twin Cities metro area and surrounding counties, or the Rochester area. The 30-34 year olds moved to almost every area of the state. Persons 65 and over also tended to locate in all parts of the state, except the far north.

The way in which population changes — births, deaths, and migration — and the speed with which it changes affect noticeably the third and fourth characteristics of population: composition and geographical distribution.

Composition refers to the characteristics of individuals in the population: age, sex, race and ethnicity, marital status, level of education, occupation and income, to name the most important. These elements are important, because they are keys to understanding the demand for goods and services, both public and private.

Of all these characteristics, age is the most important, especially for planning, since it has the greatest effect on demand for services. Age is also important because all the components of population-change — births, deaths, and migration — are closely linked to it. Age and income are also closely linked.

The impact of age on the community can be illustrated by

watching an individual move through his life cycle. As an infant, his impact is largely upon his parents. The community simply provides his place of birth. However, once he begins school, his impact on the community is much greater. Not only does the community provide the school, but also many of his recreational facilities. By the time he reaches adulthood, he needs housing of his own, transportation, further education, a job, different recreational opportunities, and he now participates as a full-fledged citizen by voting.

During the middle years of life, he contributes far more than he demands of the community. This age group generates a large portion of revenue, and many offer time and talents to community affairs. After retirement, many continue to give of their time and talents, but their reliance on Social Security, or other retirement income, makes them dependent on the economic well-being of the younger age groups.

As the demands created by the life cycle indicate, the proportion in the population of one age group to another is critical. When we consider that the 20-64 age group generates most of the revenue, the proportion of the young and the old to those in that middle group becomes a measure of taxpayer burden. Since 1940, that burden has steadily increased. By 1970 there were 1,031 young and old for every 1,000 aged 20-64. A "taxpayers' revolt" becomes understandable in this light.

The income of families is as important for government as age. Income levels have implications for tax policies. The old adage "you can't get blood from a turnip" is applicable here. On the other hand, the level of family income indicates generally how much social welfare programs are likely to cost.

Finally, let's consider geographical distribution. Like population size, distribution never seems to please everyone. Sometimes it pleases no one. Concern with the physical environment has increased our awareness of population distribution, many conflicts over land use ultimately revolve around it.

Population density, or number of persons per square mile, is a common way of expressing distribution. Minnesota, with 48 persons per square mile, averages ten persons fewer than the nation as a whole, which averages 58.

Density within Minnesota is naturally greatest in the larger urban areas. However, higher density is also evident along parts of the Mississippi, Minnesota and St. Croix River Valleys.

Another way to think of population distribution is in terms of concentration. In 1940, 26 counties around the Twin Cities were needed to constitute 50% of Minnesota's population, while in 1970, only eight counties were required to make up this 50%.

Population distribution wouldn't receive the attention it does, if it did not affect the cost of delivering goods and services. This cost differential is even more dramatic when important compositional characteristics of the population are seen by their geographic distribution. The geographic distribution of the two most important compositional factors — age and income — is most instructive. In 1950, the proportion of persons over 65 was more or less evenly distributed throughout the state. The highest percentage was 14 in Chisago county, while the lowest percentage was seven in Clay county. By 1970, quite another picture had evolved. The over-65 age group had been unequally distributed. The range in percentages was 19% in Aitkin county to 3% in Anoka county.

The other important compositional characteristic — income — also is not distributed evenly over the state. In fact, geographical distribution of income worsened between 1950 and 1970. In 1950, 19 counties had median family incomes 30% or more below the state median. By 1970, 23 counties fell into this category. This uneven geographical distribution of income is one of the reasons many local areas must put forth such great tax efforts to provide services comparable to other areas.

Up to this point we have looked at the characteristics of population in an historical perspective. Now let's turn our attention to the present. Current information is in the form of population estimates, generated from various, rather high-quality data symptomatic of population.

Population estimates for 1974 indicate that nearly 4 million persons reside in Minnesota. The rate of change between 1970 and 1974 was 2.9%. Thus, the population of Minnesota is increasing, but at a rate slower than that of the 1960's. Most of this growth was accounted for by natural increase. However, for the first time in 30 years, Minnesota experienced net in-migration. This change in pattern is part of one occurring all over the country. For example: several northern and western rural states have become in-migration areas after years of exporting people.

The most recent estimates for Minnesota counties are for July, 1973. The change in population patterns at the county level between 1960-70, and 1970-73, is as dramatic as that occurring in the rest of the nation. Between 1960-70, 44 of Minnesota's 87 counties lost population, but from 1970-73 only 16 counties experienced loss; 13 of these 16 lost population in both periods. With the exception of St. Louis and Norman counties, these loss-counties are in the southwestern part of the state. Hennepin, Ramsey and Nicollet counties were growth-counties in the 1960's. Thus far, in the 1970's, they have been loss-counties. The 31 counties which made the transition from loss to growth in the 1970's are located primarily in the north, northwest, and west. Almost all these counties are adjacent to ones which grew during both periods.

Another way of looking at this change in growth patterns is to look at counties which grew faster than the state: 52 of the 87 counties did so during the early 1970's. These counties form a diagonal band running from the southeast to the northwest. Counties with growth, but at a rate slower than the state, are scattered, forming no patterns. The 16 counties showing population loss are primarily in the southwestern part of the state with the notable exceptions of three metropolitan counties: Hennepin, Ramsey, and St. Louis.

Analyzing this population change in greater detail, we see that 22 counties grew at a rate more than three times that of the state. These rapid-growth-counties surround Hennepin and Ramsey counties and form a band extending first north, and then northwest to the Canadian border at Lake of the Woods. Douglas county is the only rapid-growth-county not adjacent to another one. The rapid growth in Lake of the Woods county has been documented by a special census.

The obvious question is: what caused this change in population patterns between the 1960's and 1970's? Unfortun-

ately, we are unable to give a definitive answer to that question. However, we can examine how this change came about, and by so doing, offer some possible reasons for its occurence.

For the first time since we have kept records, four counties — Aitkin, Norman, Grant and Lac Qui Parle — recorded more deaths than births. Births and deaths were equal in 12 additional counties, located primarily in the north and west. This phenomenon, known as natural decrease, occurred in counties in other states earlier in this century. Natural decrease results from a population composed largely of older persons; hence more deaths than births. Populations weighted heavily by older persons are the result of substantial out-migration in the past, and the low fertility rates since the late 1960's accentuate the weighted age structure.

To have growth along with natural decrease, a county needs sufficient in-migration to balance the excess of deaths over births. In fact, Aitkin county, which experienced natural decrease between 1970-73, was a rapid-growth-county. During that same period, Cass, Hubbard, Clearwater, Lake of the Woods, Kittson, and Ottertail counties had neither natural decrease nor increase, yet they also were rapid-growth-counties. However, in Norman, Traverse, Big Stone, and Yellow Medicine counties natural decrease was accompanied by population loss.

Thus, natural decrease does not mean a county's population will necessarily decline.

We have looked at natural decrease counties, but most counties have natural increase. However, this does not assure them of population growth: 12 counties with natural increase, for example, lost population between 1970-73. With the exception of Hennepin, Ramsey and St. Louis counties, they were located in the southwestern part of the state.

The difference between natural increase or decrease and population gain or loss leads us to the role migration played in the trends of population change between 1970-73. Between 1960-70, 65 counties experienced net out-migration. From 1970-73, only 26 counties fell into that category. Besides Hennepin, Ramsey and St. Louis, the net out-migration counties are primarily located in the southwest, with a few along the western border of the state and two in the central part of the state.

The rapid net in-migration counties are located to the west, north and northwest of Hennepin and Ramsey counties. Twenty-four counties experienced net out-migration in both 1960-70 and 1970-73. Again, we see these counties are located in the northeast, west, and southwest. The 41 counties with net out-migration in the 1960's, but net in-migration in the 1970's, are primarily located in the northwest, north central, west central, and southeast. Only six counties — Olmsted, Blue Earth, McLeod, Hennepin, Benton and Clay — had net in-migration from 1960-70, but net out-migration from 1970-73.

Thus, we can conclude that the change in population trends detected in the 1970's is the result of changes in net migration patterns. But we still have not answered the question, why this change occurred.

An analysis of non-agricultural job growth between 1970-73 indicates that the rate of growth in jobs in outstate Minnesota was twice as great as in the seven-county metro area: 75% of new investments between 1970-73 were made outstate. This growth in outstate jobs occurred almost totally in manufacturing. Thus, job growth undoubtedly explains some of the observed changes.

Still another possible reason for the change is the growth in jobs located in the outer-ring around the Twin Cities. This condition increases the commuter range and may explain the rapid population growth in such counties as Chisago and Isanti. The attraction of this more distant commuter range may also be less expensive land.

The nature of some jobs may have contributed to this new pattern of change. Persons who travel as part of their work may make the open country or smaller towns their homes. In the Alexandria area, sales as an occupation accounts for twice the proportion of the employed as in the total state.

The 1960's trend of those 65-and-over to redistribute themselves to rural and amenity counties shows no signs of abating.

Obviously, the pattern of population change since 1970 is different from the pattern of the last 30 years. So what will the future look like?

First, let me say population projections are not predictions. Projections are the result of making assumptions or judgments about the future levels of births, deaths, and migration. Once these judgments have been made, the population projection simply works out present and future relationships. For example, given the present age structure of Minnesota, how many deaths or how many births should be expected? How many migrants will there be?

The usefulness of population projections lies in their ability to focus concern where it should be focused on the components of change likely to produce the greatest future variations in the population. The greatest service any projection can offer is to enhance our awareness of possible options and to provide insight into which "doors" should, or should not be closed.

Population projections are not for all time. Once there is evidence the assumptions made concerning births, deaths, or migration are not being realized, new projections must be made. Thus, a system of monitoring current population change is essential for sound projections.

With these considerations in mind, population projections have been made, with the following assumptions considered as being in the range of the reasonable or possible. First, the current rates of mortality will continue into the future. Second, migration at the state level will not fall below the levels of 1960-70, when slight out-migration was present, or rise above the levels estimated to be present from 1970-74, when slight in-migration was present.

The difference between these two migration rates accounts for 124,000 persons during the years from 1970 to 2000. This difference is distributed over all age groups. Thus, for all practical purposes, either of these rates could be used. However, we selected the rate of the most current experience, 1970-74, to be used in our most reasonable projection.

Finally, we considered three levels of fertility. The highest level we considered projects that females will average 2.1 children at the end of their childbearing years.

This fertility rate is commonly called the replacement rate. Five years ago, this rate was considered low, today it appears

high. Our middle fertility level averages 1.9 children per female at the end of childbearing. Minnesota reached this fertility rate in the early 1970's. The lowest rate considered averaged 1.5 children per female at the end of childbearing. While this rate seems low, other industrialized nations have experienced fertility at this level, although never for a sustained period of time.

These fertility rates account for larger deviations in the population projections. The difference between the 1.9 and 2.1 fertility assumptions is 234,000 persons by the year 2000. The 1.5 fertility yields 233,000 fewer persons than the 1.9 level by the end of the century. These differences, however, are concentrated among the young only. Nonetheless, the curve of the expected birth pattern is the same for each of the levels. Fertility is easy to monitor, since we know the number of births expected under each assumption, and the Minnesota Department of Health publishes the number of live births annually.

From our alternatives, we selected the assumptions we believe most reasonable, given the vantage point of 1975. The projection, assuming current mortality, a fertility average of 1.9 children, and slight net in-migration, results in a population of 4,653,000 for Minnesota in the year 2000. The 1980 population would be 4,077,000 persons, while in 1990 it would be 4,422,000, under these assumptions. This projection, as you will note, points to a slowing of population growth in Minnesota for the rest of the century.

The rate of change would slow from 11.5% in the 1960's to 7.1% in the 1970's, up slightly to 8.5% in the 1980's, and then down to 5.2% in the 1990's. This slowing of growth is the result of the decline in projected fertility. Thus, its most immediate practical impact will be in the number of children going to elementary schools.

The most interesting aspect of this projected change is the faster rate of growth in the 1980's. This results from the baby boom. Even if the females born from 1947 to 1960, have a low fertility rate, their numbers are so large, they will produce a "mini baby boom." Under the 1.9 fertility assumption, live births are expected to average around 56,600 for 1970-75, rise to about 71,500 between 1980 and 1990, then drop to about 60,700 between 1995 and 2000.

The age structure of Minnesota will change drastically during this projection period. The proportion of the population under age 20 could decrease from 40% to 29% between 1970 and 2000. The proportion of persons over age 65 should remain quite stable – around 11%.

The impact of this change in age structure becomes evident when we think of persons between 20 and 64 years of age as generating most of our tax revenues, and persons under 20 and over 65 as benefiting from special expenditures on their behalf.

In 1970, for every 1,000 persons in this middle group, there were 1,031 persons under 20 and over 65. By 2000, there should be 656 old and young for every 1,000 persons 20-64 years of age. This change results from the projected low fertility and the maturing baby boom generation.

No discussion of population projections is complete without addressing the distribution of population. Migration, the force that plays such an important role in distribution, will not contribute significantly to the state's total population. However, migration will redistribute population within the state.

The question that comes to mind is: "what per cent of Minnesota's population will live in the Twin Cities area?" (For purposes of our discussion we will define the Twin Cities area as the seven-county metro area.)

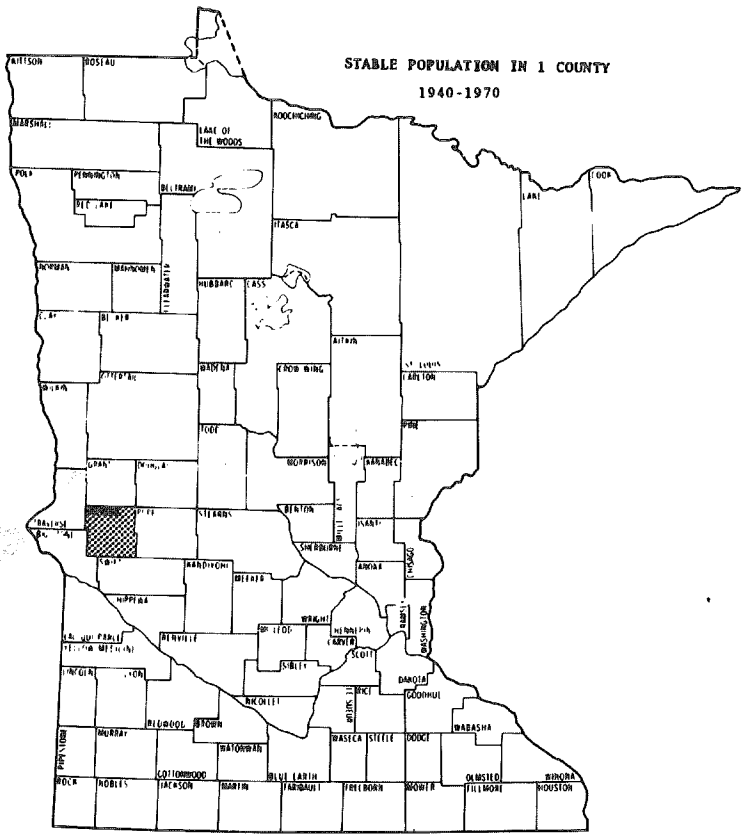
This metro area should continue to have about 50% of the state's population, the figure being the product of the most current migration rates (1970-73). We should not ignore the out-migration affecting metro schools, especially the rapid out-migration in the core cities and the first ring of suburbs. St. Louis Park is a case in point. Enrollments there declined by 17% between the fall of 1969 and the fall of 1973: 71% of this decline was due to out-migration. On the other hand, we should not ignore the enrollment growth in many outstate districts due to in-migration. Districts near the metro area, such as North Branch in Chisago county and Buffalo in Wright county have grown rapidly. More distant districts such as Walker in Cass county, Hill City in Aitkin county, and Alexandria in Douglas county have also grown. In-migration stabilized the enrollments in the Lake of the Woods district.

Motor vehicle registrations and the filing of income tax returns at both the federal and state level support a change in migration patterns. Social Security and Medicare data show the migration of persons 65 and over.

Employing the migration rates present in the 1960's would produce some startling inconsistencies with the current estimates. In Aitkin county, for example, the migration rates of the 1960's would produce a projection for 1975 showing 2,000 fewer people than estimated present in July, 1973.

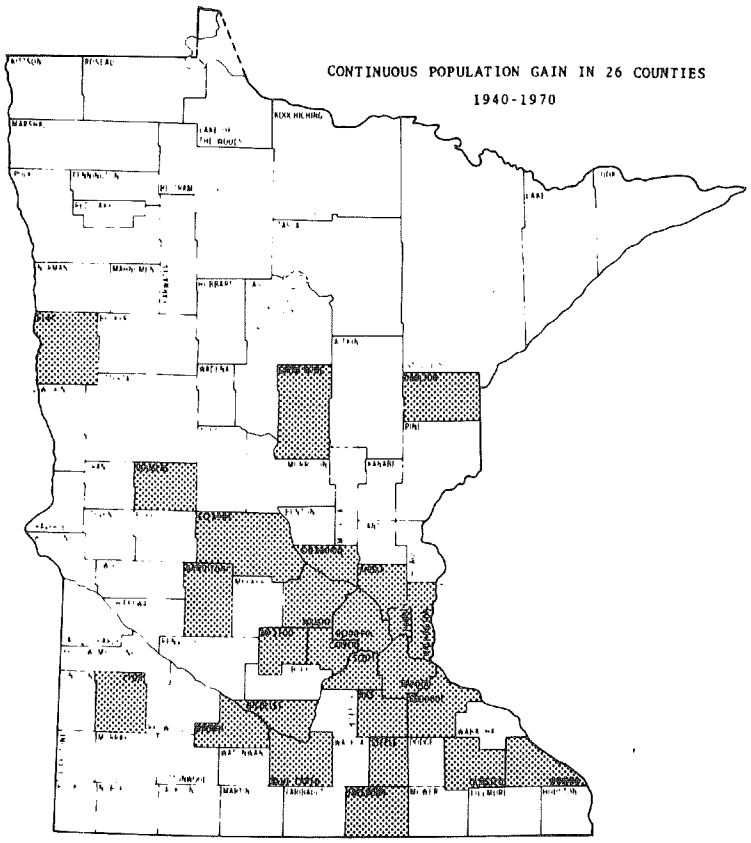
There are other reasons that also lead us to think that population growth will be more evenly divided between the seven-county metro area and the rest of the state. The rapid increase in manufacturing jobs should produce some spin-off in retail, business and repair services, and professional employment in outstate Minnesota. The net out-migration of persons 65 and over will continue. Finally, the constantly increasing commuter range, due to the location of jobs on the fringe of the seven-county metro area, will further disperse population, which has long been influenced by transportation arteries. We have in place, today, an interstate system too new to have yet demonstrated its full impact.

In summary, the future will not be a carbon copy of the past. The decline in fertility will drastically alter the age structure of Minnesota. Even a more modest decline in fertility will not offset the changes to come with the aging of the "baby boom," and population distribution in Minnesota, as in other parts of the nation, is bound to change.




STABLE POPULATION IN 1 COUNTY

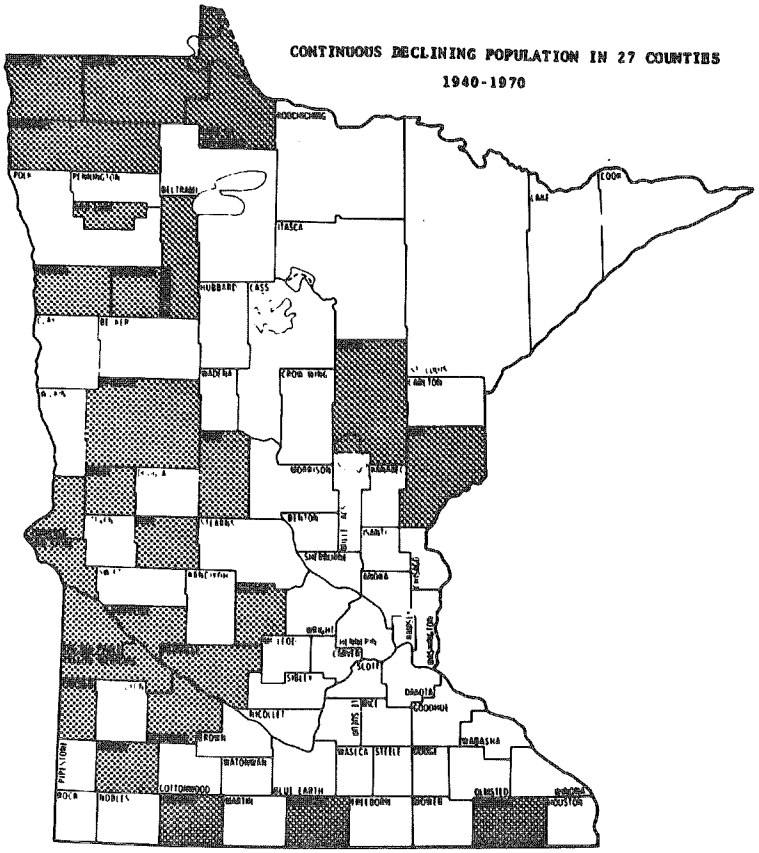
1940-1970

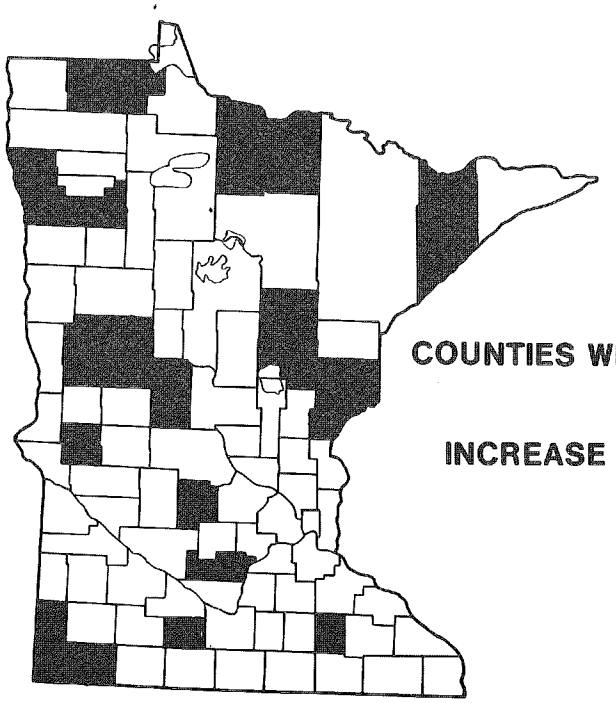



CONTINUOUS POPULATION GAIN IN 26 COUNTIES

1940-1970

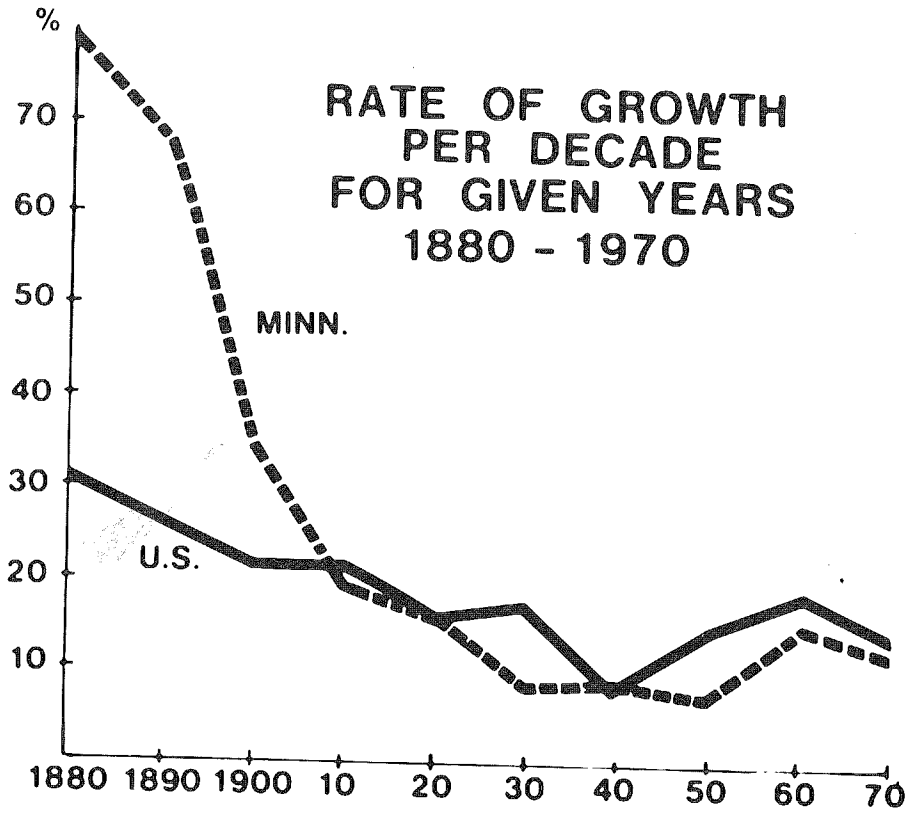
CONTINUOUS DECLINING POPULATION IN 27 COUNTIES
1940-1970

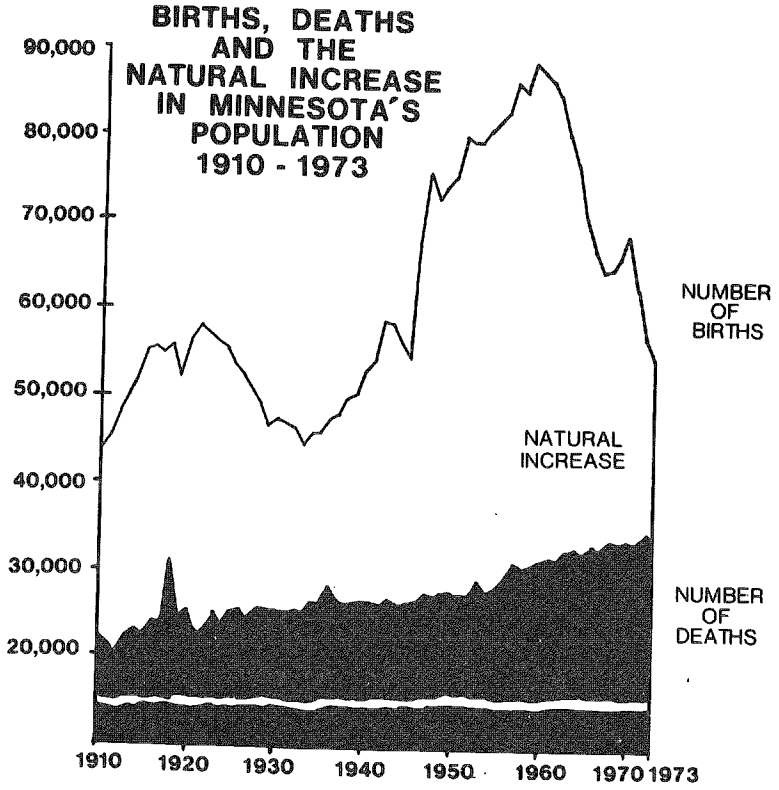


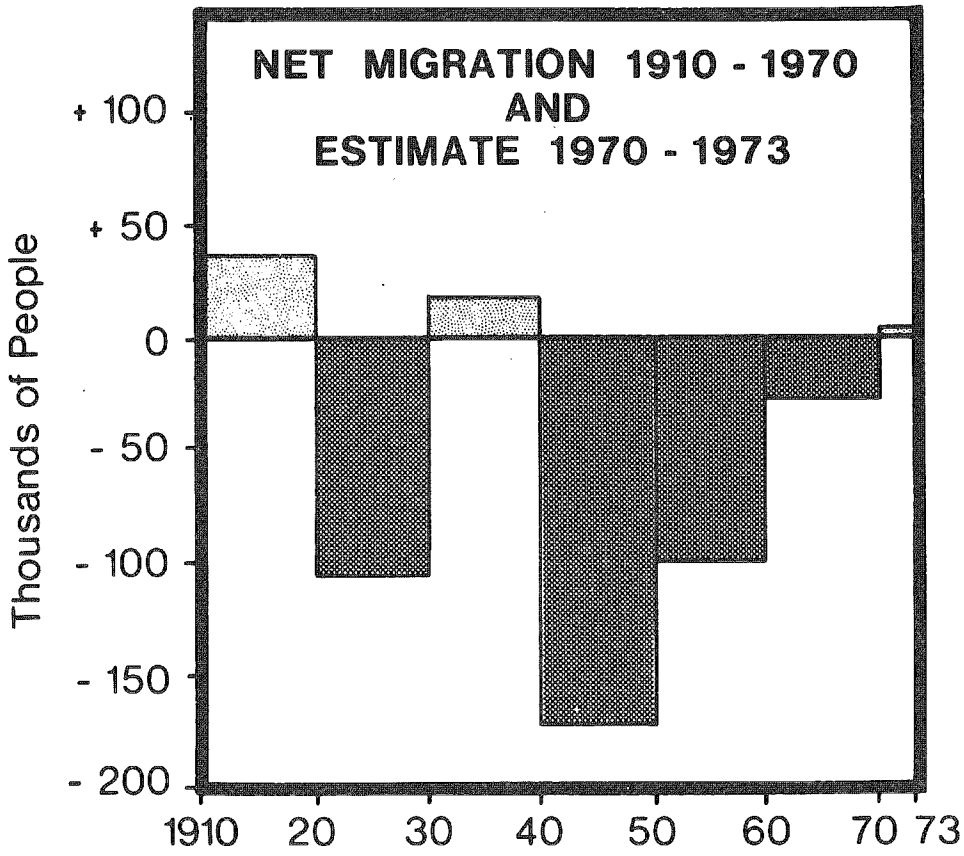


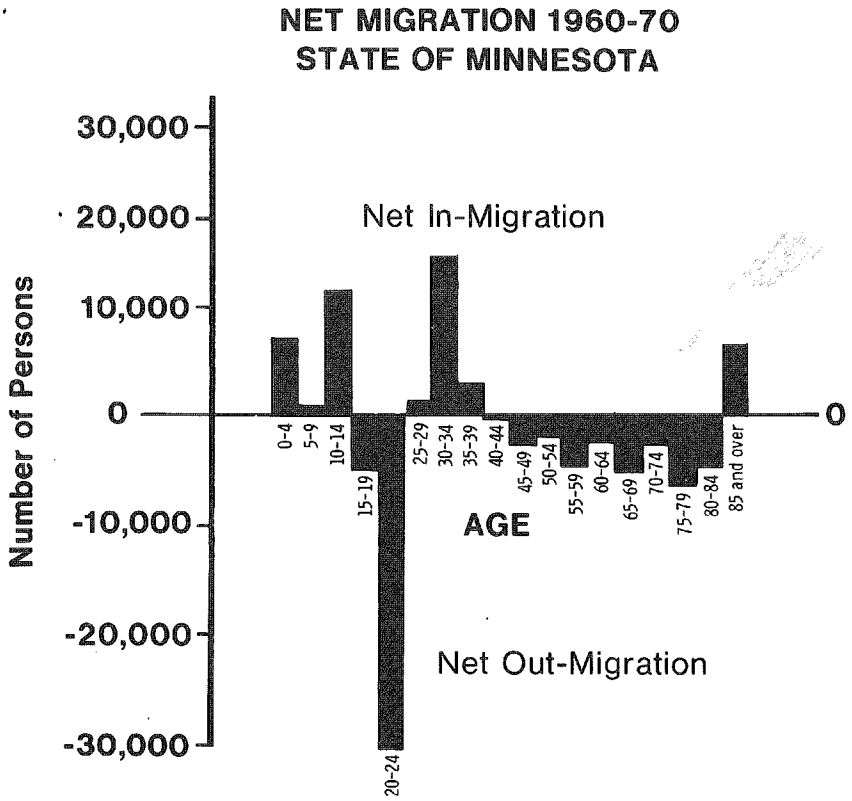
## COUNTIES WHICH HAD POPULATION DECLINE
## AND
## INCREASE IN NUMBER OF HOUSEHOLDS

## 1960 - 1970

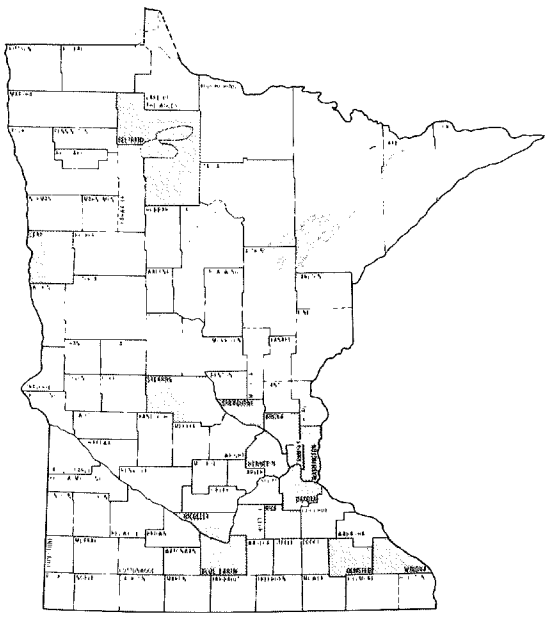

%
70
60
50
40
30
20
10
RATE OF GROWTH
PER DECADE
FOR GIVEN YEARS
1880 - 1970
MINN.
U.S.
1880 1890 1900 10 20 30 40 50 60 70


BIRTHS, DEATHS
AND THE
NATURAL INCREASE
IN MINNESOTA'S
POPULATION
1910 - 1973
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
NUMBER
OF
BIRTHS
NATURAL
INCREASE
NUMBER
OF
DEATHS
1910 1920 1930 1940 1950 1960 1970 1973

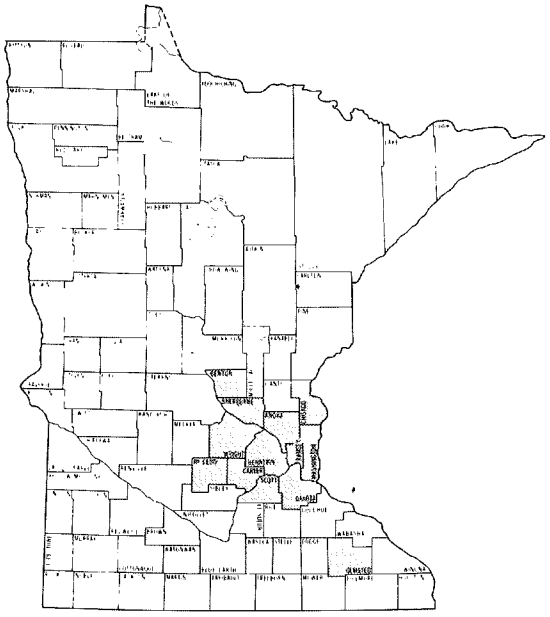

NET MIGRATION 1910 - 1970
AND
ESTIMATE 1970 - 1973
Thousands of People
+ 100
+ 50
0
- 50
- 100
- 150
- 200
1910
20
30
40
50
60
70
73


NET MIGRATION 1960-70
STATE OF MINNESOTA
Number of Persons
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
Net In-Migration
Net Out-Migration
0-4
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
85 and over
AGE
0

# NET MIGRATION OF SELECTED AGE GROUPS, 1960 - 1970



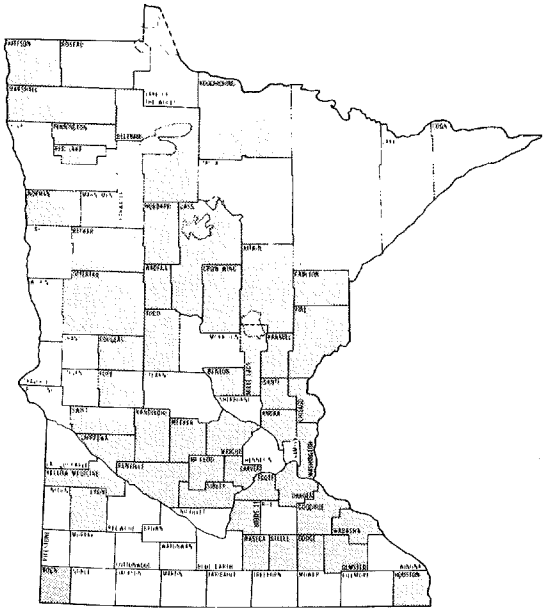
Age Group 20-24



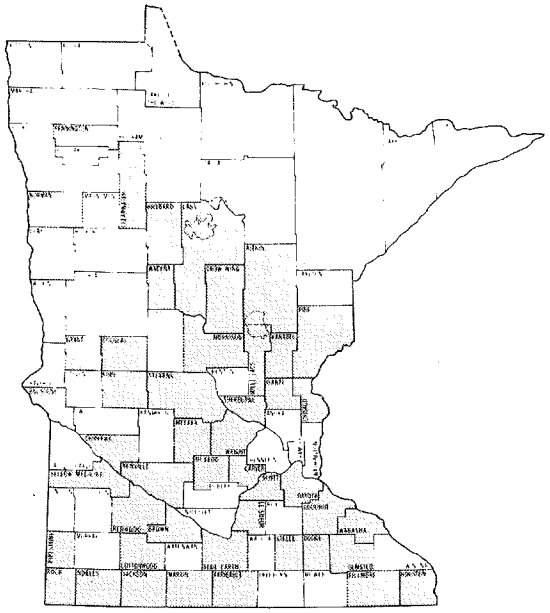
Age Group 25-29

Net Out-Migration

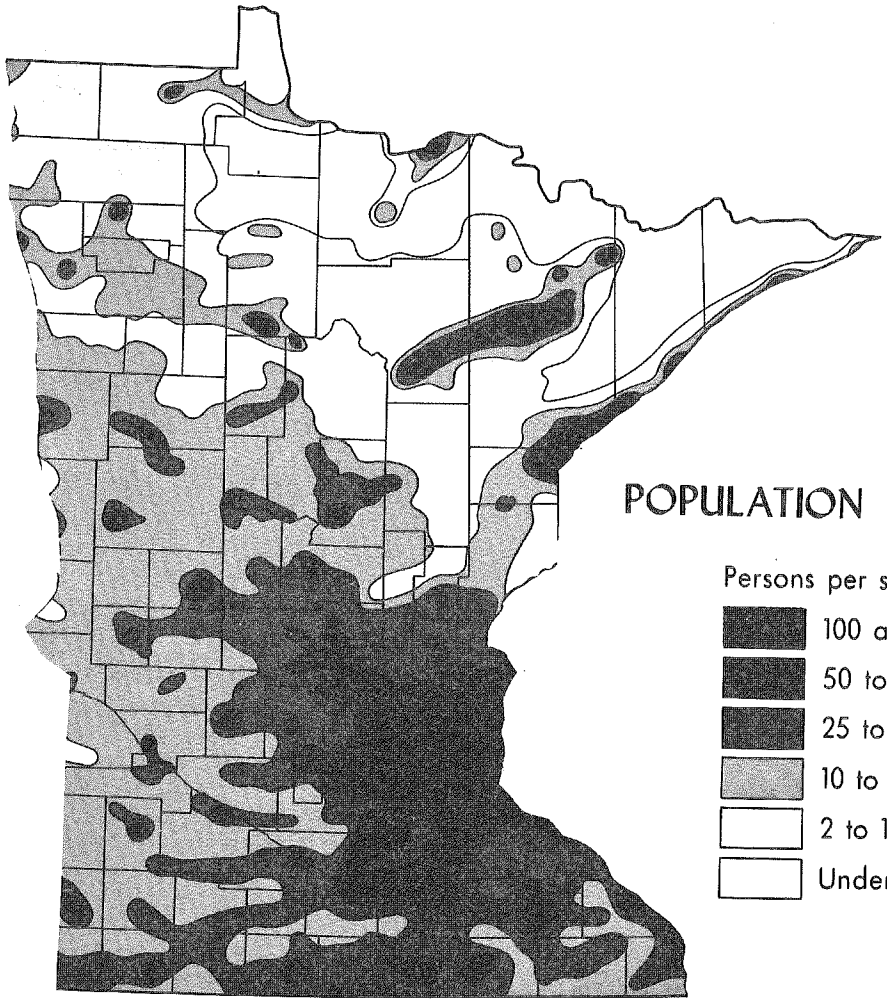
Net In-Migration



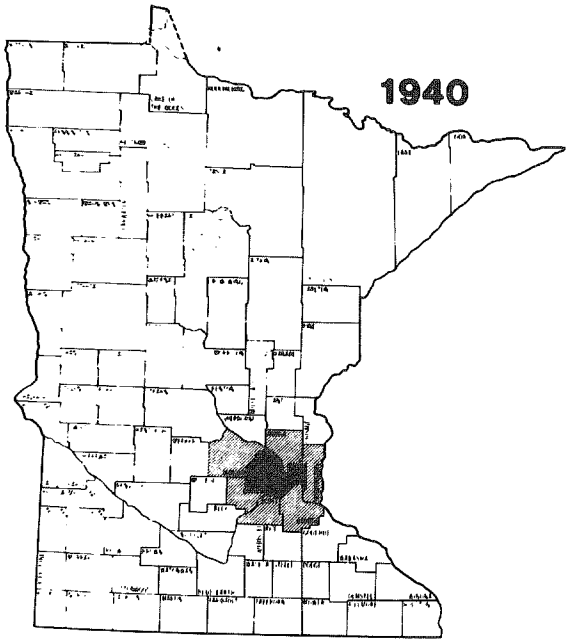
Age Group 30-34

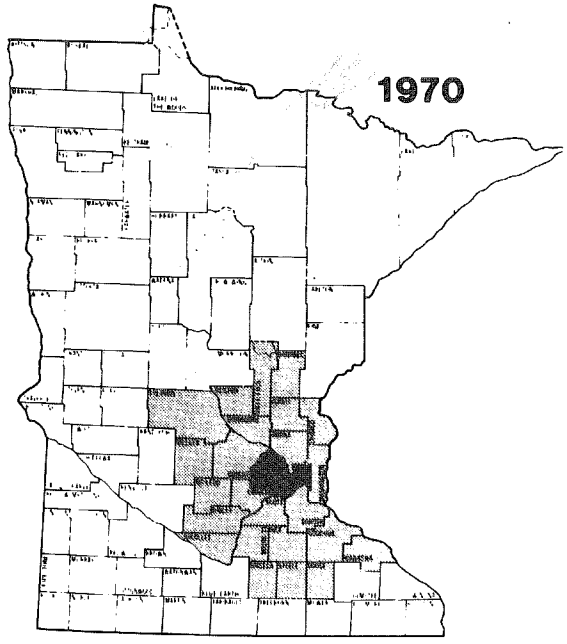


Age Group 65 or Older

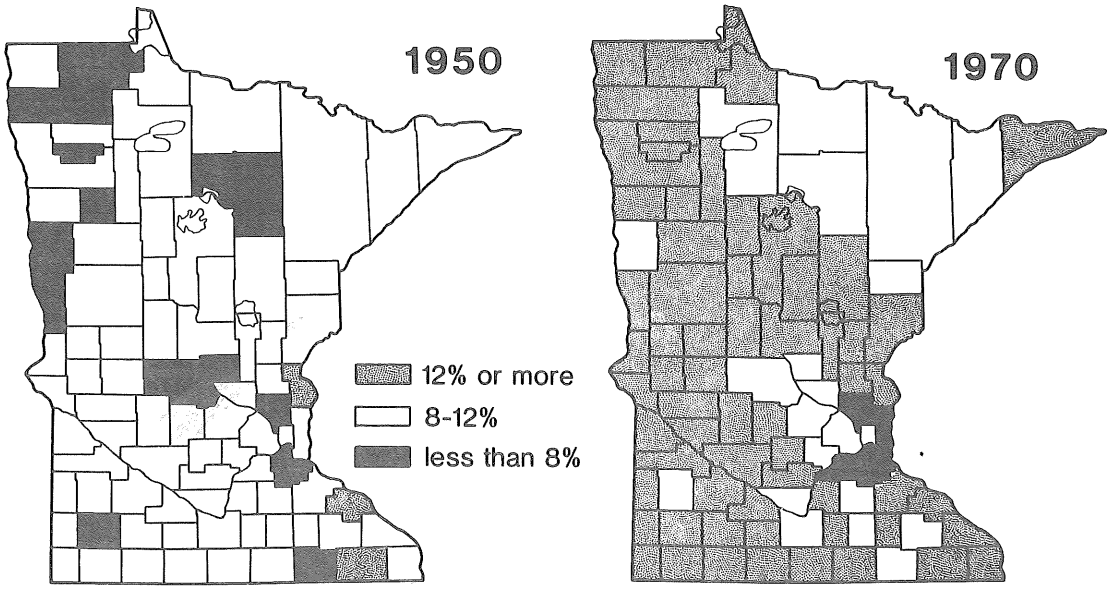



## COUNTIES CONTIGUOUS TO HENNEPIN AND RAMSEY REQUIRED TO COMPRISE 50 % OF THE STATE POPULATION



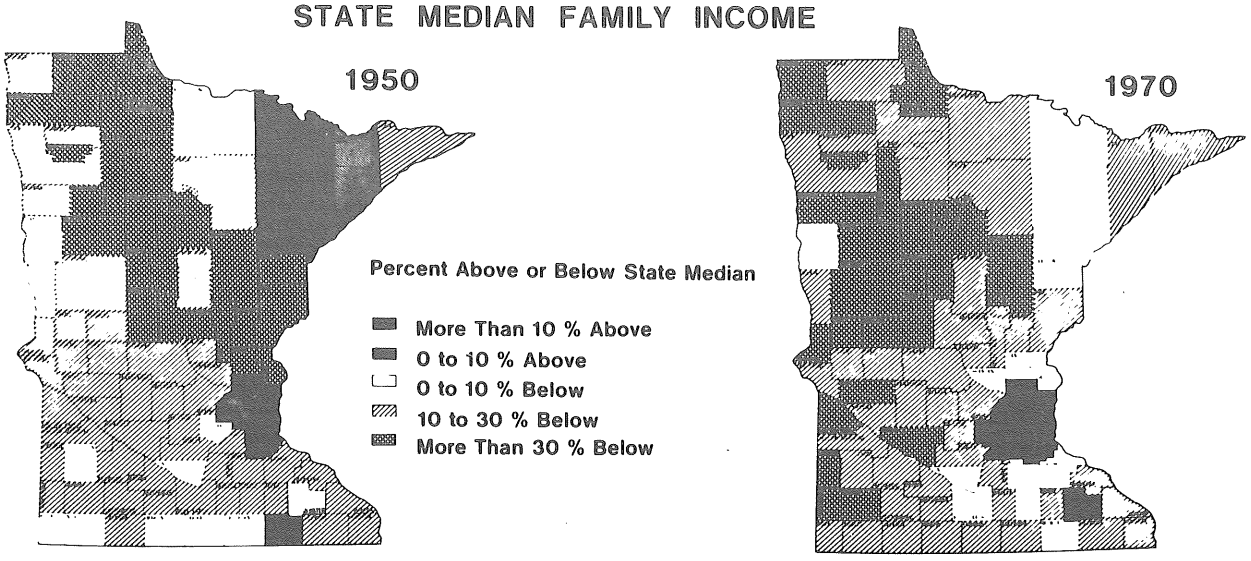
# PERCENT OF COUNTY POPULATION AGE 65 AND OVER



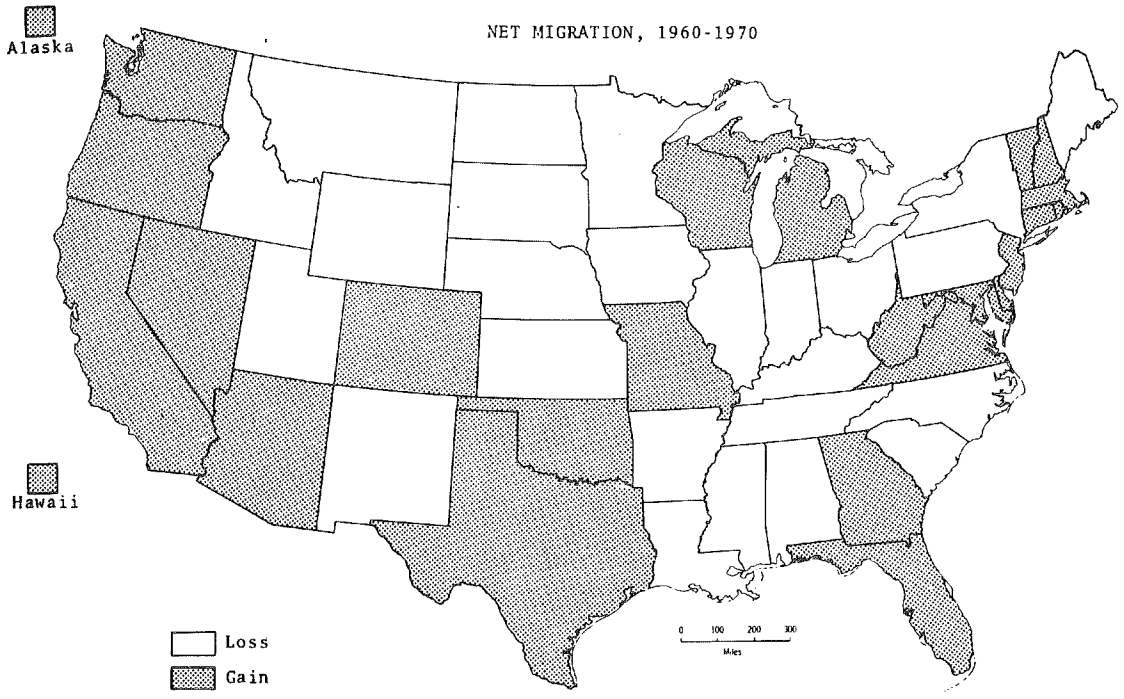

1950 : State Average 9 %

1970 : State Average 10.7 %

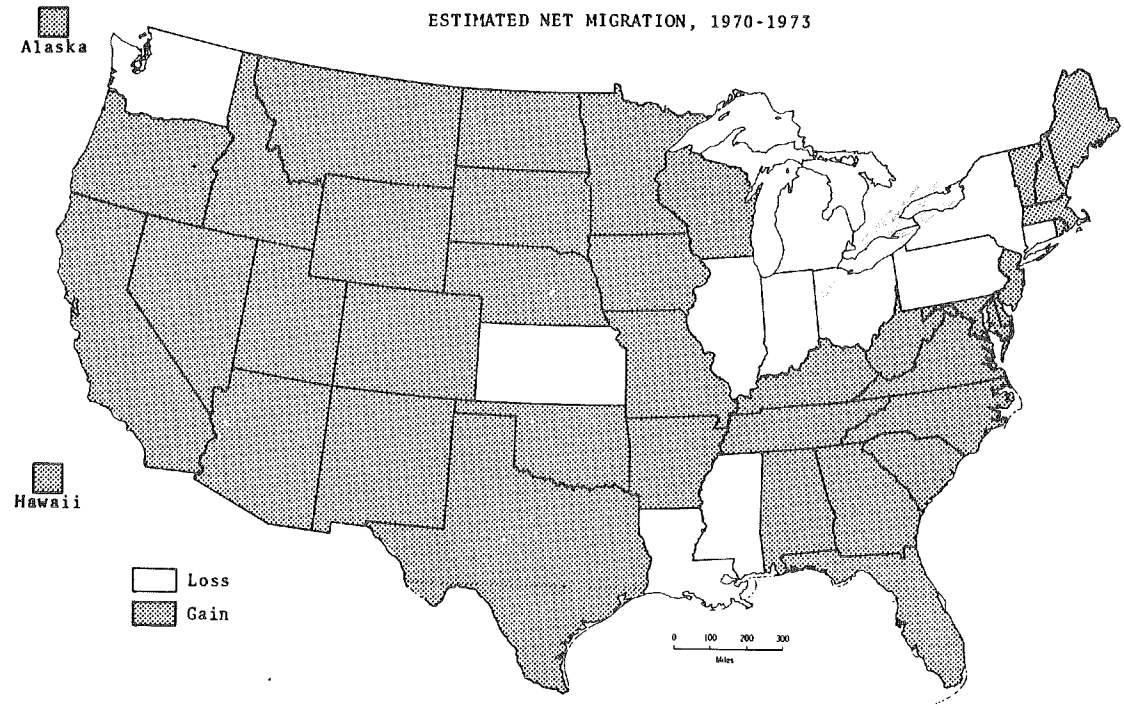
# PERCENTAGE DIFFERENCE FROM STATE MEDIAN FAMILY INCOME



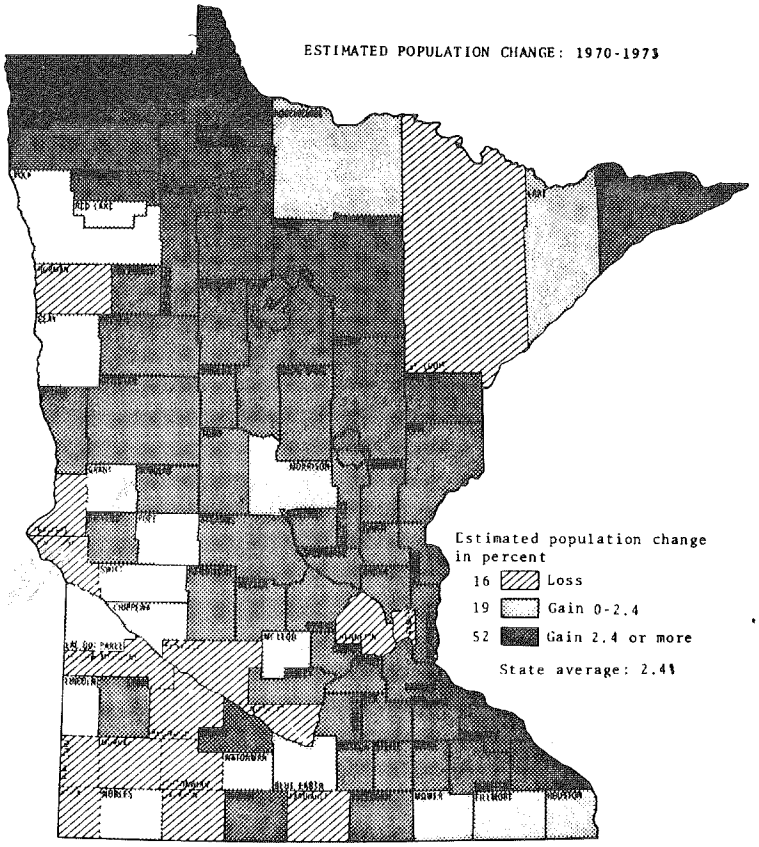
NET MIGRATION, 1960-1970



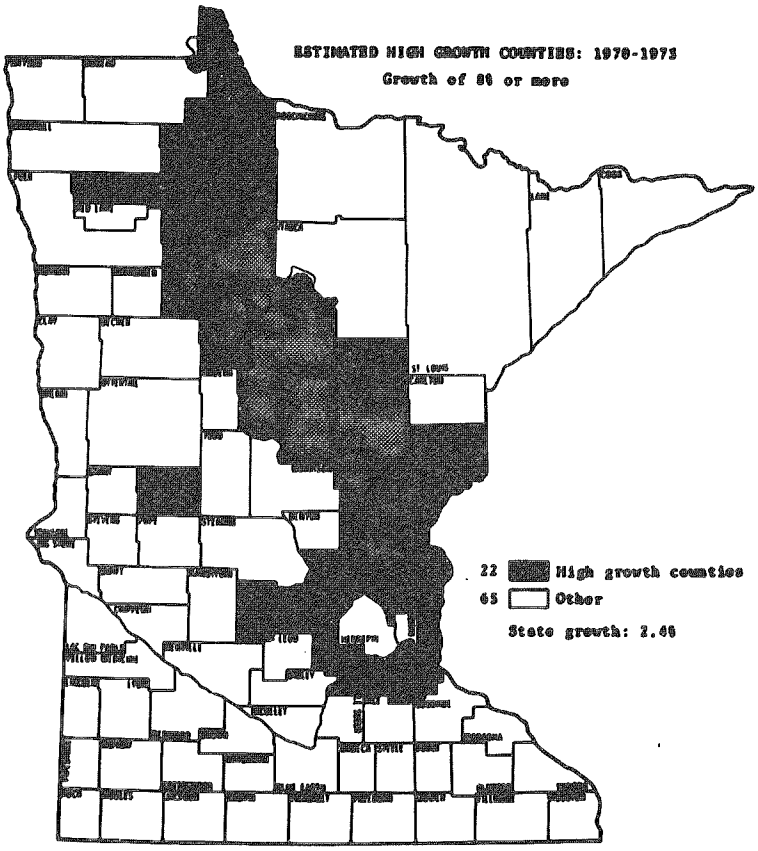

ESTIMATED NET MIGRATION, 1970-1973

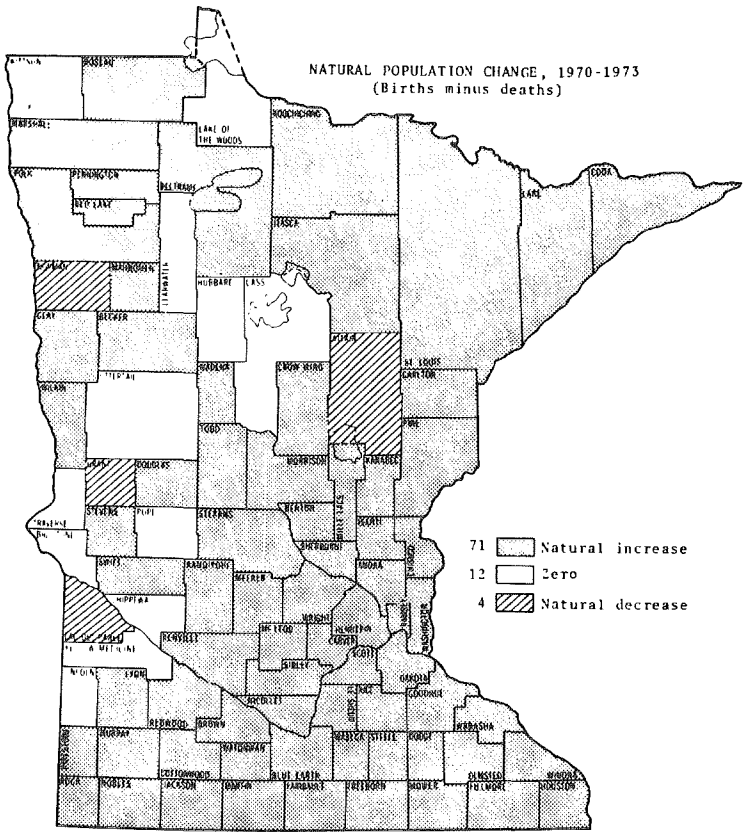


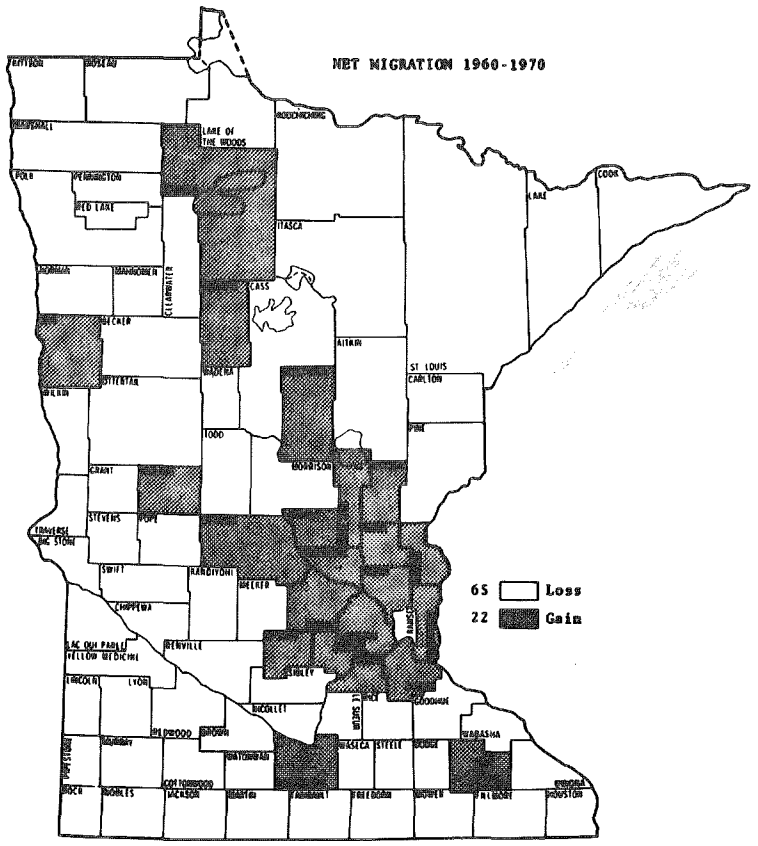
ESTIMATED POPULATION CHANGE: 1970-1975

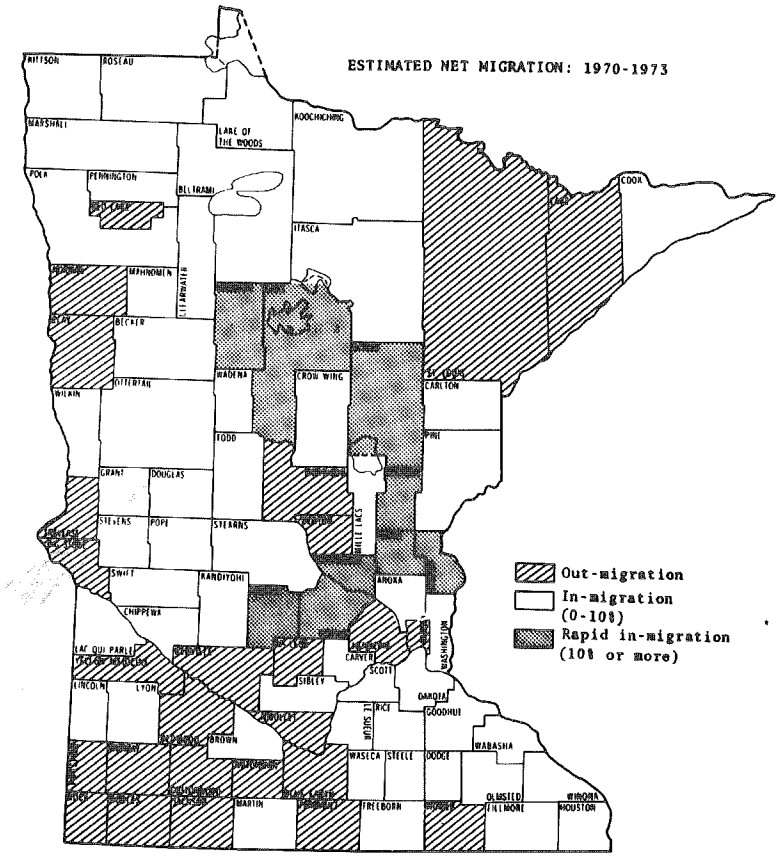


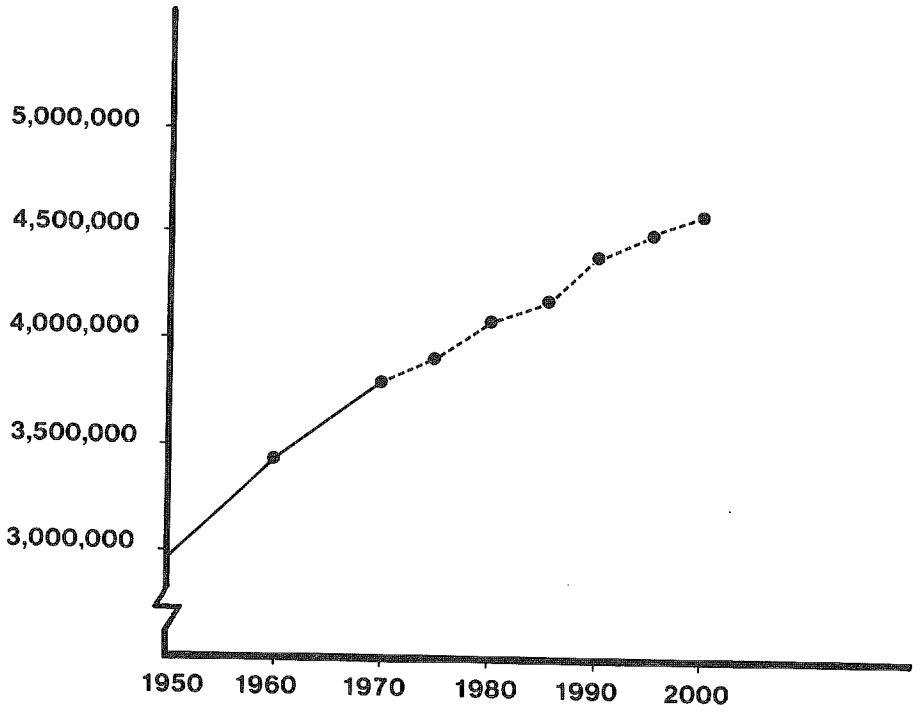

**ESTIMATED HIGH GROWTH COUNTIES: 1970-1975**
**Growth of 8% or more**




NATURAL POPULATION CHANGE, 1970-1973
(Births minus deaths)
71 Natural increase
12 Zero
4 Natural decrease


NET MIGRATION 1960-1970
65 Loss
22 Gain

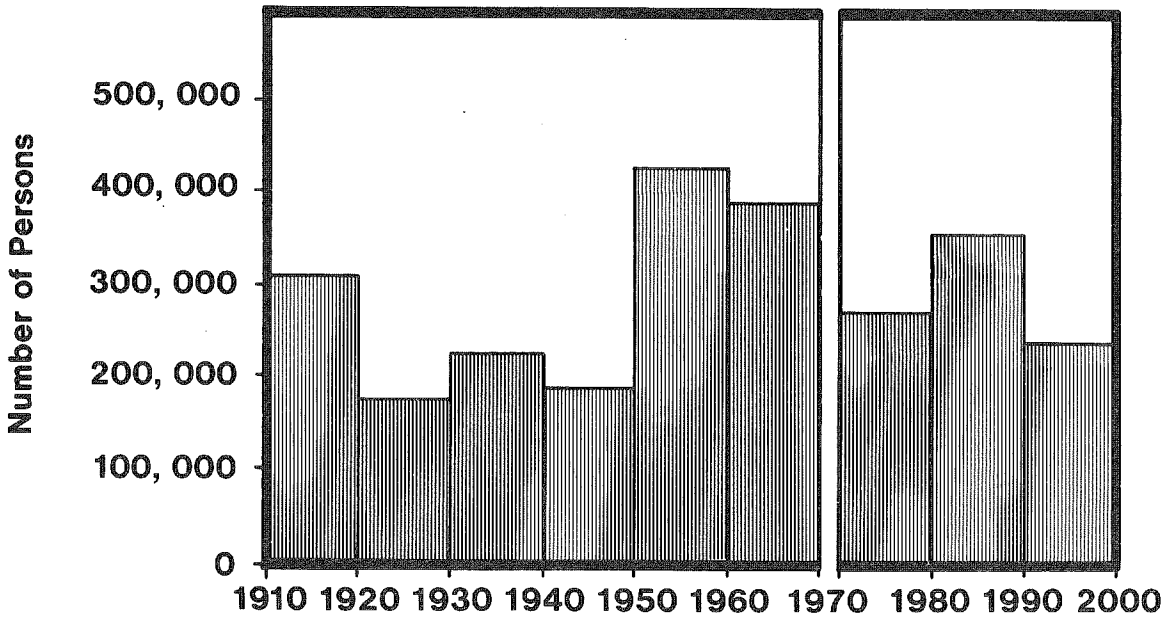


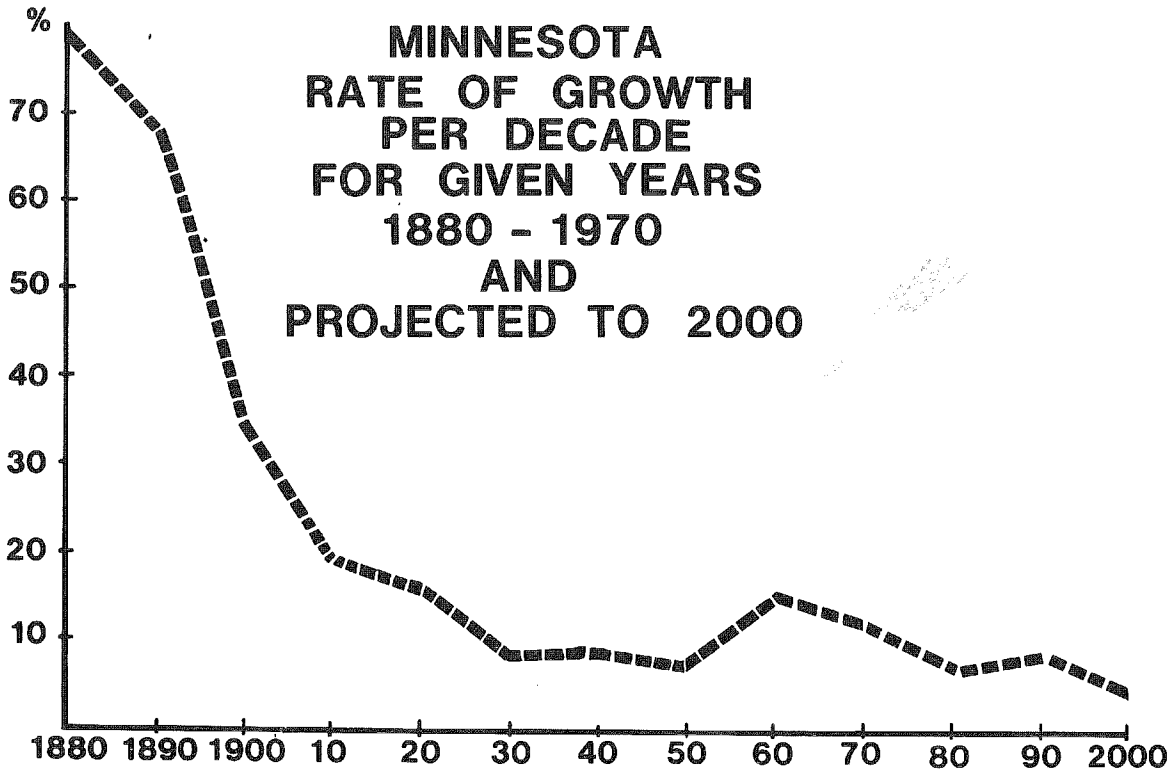

**Minnesota Population 1950-2000**

| | |
|---|---|
| 1950 | 2,982,000 |
| 1960 | 3,414,000 |
| 1970 | 3,805,000 |
| Projections | |
| 1975 | 3,923,000 |
| 1980 | 4,077,000 |
| 1985 | 4,252,000 |
| 1990 | 4,421,000 |
| 1995 | 4,556,000 |
| 2000 | 4,653,000 |

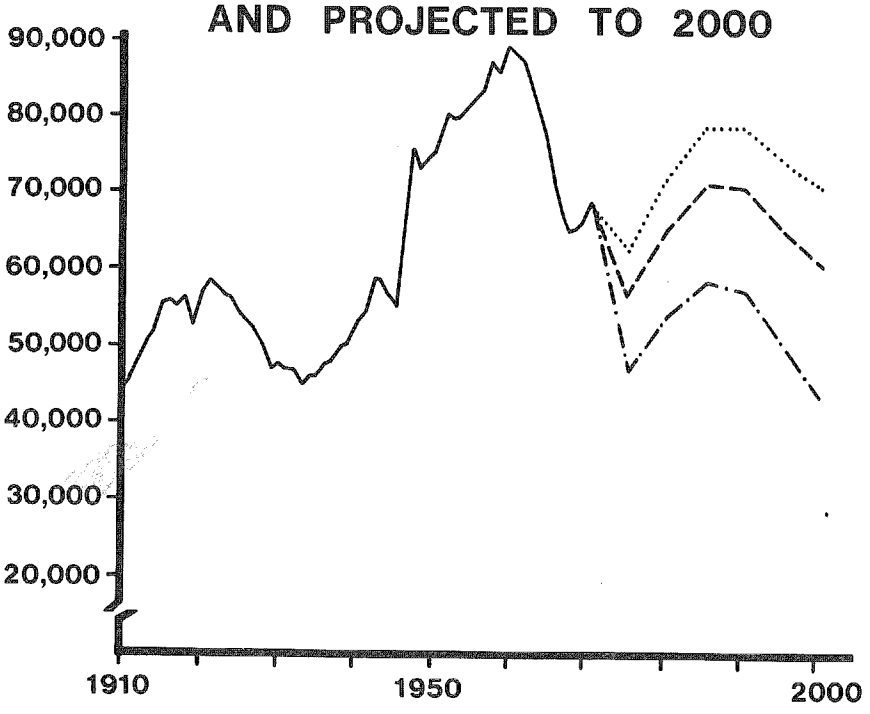
# NET POPULATION GAIN 1910 - 1970 AND PROJECTED NET GAIN 1970 - 2000




# MINNESOTA RATE OF GROWTH PER DECADE FOR GIVEN YEARS 1880 - 1970 AND PROJECTED TO 2000



## NUMBER OF BIRTHS 1910 - 1973 AND PROJECTED TO 2000




## PERCENT DISTRIBUTION OF YOUTH AND RETIREMENT AGE PERSONS

| | Under 20 yrs. | 65 yrs. and over |
|---|---|---|
| 1950 | 34.6 | 9.0 |
| 1960 | 40.2 | 10.4 |
| 1970 | 40.1 | 10.7 |
| Projected | | |
| **1975** | **36.5** | **11.0** |
| **1980** | **33.0** | **11.2** |
| **1985** | **30.5** | **11.3** |
| **1990** | **29.8** | **11.3** |
| **1995** | **29.9** | **11.2** |
| **2000** | **28.7** | **10.9** |

# YOUTH AND RETIREMENT AGE PERSONS

## PER 1,000 PERSONS 20 - 64 YEARS

| | Youths (0 - 19 yrs.) | Retirement Age (65 yrs.) | Youth and Retirement Age (0 - 19 65 ) |
|---|---|---|---|
| 1950 | 613 | 160 | 773 |
| 1960 | 814 | 210 | 1,024 |
| 1970 | 814 | 217 | 1,031 |
| Projected | | | |
| **1975** | **696** | **209** | **905** |
| **1980** | **591** | **200** | **791** |
| **1985** | **563** | **194** | **757** |
| **1990** | **505** | **192** | **697** |
| **1995** | **507** | **190** | **697** |
| **2000** | **476** | **180** | **656** |

## WHAT DO THE POPULATION CHANGES MEAN?
by Gerald W. Christenson

Hazel Reinhardt, our state demographer, has reviewed with you past population changes in Minnesota and has furnished you with our most reasonable population projections for the future.

Some of these projections undoubtedly come as a surprise. Most of us would probably have predicted greater total population growth for the state by the year 2000. Some would not have guessed that the percentage of our total population, under twenty years of age, would decline from 40% in 1970, to about 29% by the year 2000. Most would probably have predicted that the percentage of the state's population, 65 years of age and older, would increase substantially by the year 2000, while the projection is that it will increase only very slightly.

But the biggest surpise, I suspect, is the projection that the seven-county metro area will continue to have only about 50% of the state's population in the year 2000. Most of us have assumed that the rate of growth for the seven-county area would far outstrip the rest of the state, but that is not supported by the data. As Hazel has pointed out, the out-migration from Hennepin and Ramsey counties between 1970 and 1973, exceeded 70,000 persons.

The projections that have been made can be of great assistance to you legislators as you make decisions regarding such matters as the cost of school aid formulas, the need for health facilities and nursing homes, transportation modes, housing programs, the location of public facilities, and so on.

Let's examine what these population changes may mean in a variety of areas.

### Elementary-Secondary Education

The number of 5-19 year-olds in Minnesota increased from about 700,000 in 1950, to almost 1.2 million in 1970. No one has to tell veteran members of the Legislature what that has meant in relation to the need for new school buildings, the rapid increase in the number of new teaching positions, and the escalating costs that resulted in heavy tax burdens.

But the pattern is changing. Minnesota public schools this year have about 11,000 fewer students enrolled than last year. And enrollments will continue to decline until about 1985. The number of persons in the 5-19 year-old age group will have decreased from the 1.2 million in 1970, to about 940,000 by 1985. That means that fewer teachers will be needed; the trend toward closing surplus schools will probably continue; and the rapidly escalating school costs of the 1950's and 1960's should be slowed. If current pupil-teacher ratios remain constant between now and 1978, we will need about 4,000 fewer public school teachers during that period than we do today.

But we must be cautious in the adjustments made between now and 1985, because we will experience a "mini boom" in school enrollments between 1985 and 1995. During that ten year period, enrollments will rise again by about 100,000 pupils. This "mini boom" is a result of the baby boom in the period from 1947 to 1960. Even if the females born in that period have a low fertility rate, their numbers are so large that the total number of births in Minnesota will almost certainly be higher in the 1980-90 period, with resulting school enrollment increases five years later. For perspective, it should be pointed out that while births in Minnesota may be about 20,000 per year higher in 1983 than in 1973, the 1983 figure will still be about 20,000 below 1959, the peak year of the baby boom.

It is also important to point out that the decline in school enrollments between now and 1985 will affect Minnesota's 436 school districts unevenly. Districts into which people are moving could remain rather stable, possibly even grow throughout that period. Districts where out-migration is occurring could experience large declines before 1985. The most drastic declines may occur in areas with lopsided age distribution, where the decline in the fertility is accentuated by the small number of young women present. Because of the high median age of farmers, school districts in agricultural areas need to keep close tabs on their school censuses.

Some of the most dramatic declines in school enrollment have been occurring in Hennepin and Ramsey counties. A common misconception is that this decline is due solely to the decreasing birth rate. However, in several districts, more of that decline can be attributed to out-migration. For example, in St. Louis Park, over the period 1969-73, total enrollment dropped by 1,695 pupils. Of that number, 493 were the result of the declining birth rate, while 1,202 were lost to out-migration. Over the same four year period, Robbinsdale declined by 1,797 pupils. Of that number, 418 were the result of the lower birth rate and 1,380 of out-migration.

Interviews with school personnel from selected Hennepin and Ramsey county school districts confirmed our suspicion that significant numbers of families with school-age children are moving out of those districts, and the vacated homes are being occupied by couples with few or no children.

It appears that some of the housing constructed in the 1940's and 1950's is being used as transition housing. That is, young couples occupy these homes until they can afford more spacious ones for their growing families. This is a situation which bears careful monitoring and analysis by all metropolitan area school districts, as well as by state government.

Looking at the state projections as they apply to current decision making in education, the Legislature may want to consider the following factors:

The declining enrollments may result in an undesirable lack of mobility in the teaching profession. There will be few openings for new teachers, and the structure of salary schedules and retirement programs will make it unlikely that experienced teachers will move. Attention might be directed to a more flexible retirement program, varied sabbatical opportunities for teachers, and expanded cooperative efforts among school districts.

The combination of declining birth rates and out-migration will cause serious enrollment problems for some rural districts, where pupils already travel long distances by bus. New options, such as better use of telecommunications, educational service districts, and traveling teachers may have to be examined.

The teacher surplus will be an element in creating new opportunities and demands in the areas of early childhood development and expanded programs for adults and the handicapped.

Some of the school facilities which will be regarded as surplus during the next ten years may have to be utilized again, after 1985, as the "mini boom" occurs.

While the rate of total spending in education may be slowed, per pupil costs of education are likely to rise substantially. The main reason for this is teacher salary schedules. With fewer teachers being hired at the bottom of the schedule, the teachers who are retained are those with experience whose salaries are much higher.

### Post-Secondary Education

After 1980, the pool of 18-24 year-olds, the traditional utilizers of post-secondary education, will start to decrease. Declines in college enrollments, thus far, have resulted from declines in the percentage of this age-group attending school. A low attendance rate, with the smaller pool after 1980, would call for a rethinking of our post-secondary structure.

Some factors to consider here include:

The low demand for teachers over the next 15 years means that the state colleges must continue their efforts to expand their programs of new vocations, community service, and continuing education. As the college-age pool declines in the 1980's, private colleges that have not implemented programs in these areas may suffer disproportionately.

The projected even division in Minnesota's population between the seven-county metro area and the remainder of the state should be good news to some of the outstate colleges, but the outstate growth will be uneven, and further analysis will be required to assess its effect on individual colleges.

Renewed emphasis on career counseling may be necessary. The recent decline in the percentage of high school graduates attending college may be accounted for, in large part, by economic conditions, the end of the Viet Nam War, and the increase in enrollments at vocational schools. But another important factor may be the decreased demand for teachers. High school graduates who foresee a real job at the end of their college training are undoubtedly more likely to attend college.

Current population estimates suggest that fairly rapid growth is occurring in counties north of the metro area and in St. Croix County, Wisconsin. This may bear watching for its impact on the educational reciprocity agreement between Minnesota and Wisconsin.

The population "mini boom" that hits the elementary and secondary schools between 1985 and 1995 will also affect the colleges, but it will be almost the turn of the century before its full impact is felt.

### Transportation

A smaller than anticipated population in the seven-county metro area will affect mass transit planning. The loss of population could be interpreted in two ways. One would be to contend that the loss in the two central counties represents a serious problem that could be remedied by the construction of a mass transit system that concentrates on shaping development in the two counties. Another interpretation could be that the population loss in Hennepin and Ramsey counties demonstrates the futility of developing a fixed guideway system that will be within reach of enough potential users in the sprawling metro area.

Another factor to consider is the effect of the generation born during the baby boom on our transportation needs. The peak year for babies in Minnesota was 1959. Those 1959 babies will be 16 this year and old enough to drive in Minnesota. One might speculate that if energy, economic, or mass transit factors don't intervene, there will be an increase in automobile use during the next ten years.

The 50% share of Minnesota's population, projected for outstate areas, combined with energy and economic problems, may require a harder look at the public transportation needs of the outstate area.

### Government

If normal spending patterns persist, relative state and local tax burdens should be reduced between now and the year 2000. We usually regard those between 20 and 64 years of age as generating most of our tax revenues, and persons under 20 and over 64, as benefiting from special expenditures on their behalf. In 1970, for every 1,000 persons 20-64 years of age, there were 1,031 persons under 20, and over 64. From now until the year 2000, there will be a steady change in that relationship; by that time, there will be only 656 persons under 20 and over 64, for every 1,000 persons 20-64 years of age. This change results from the projected lower fertility rate, and the emergence into adulthood of the baby boom population. The change in the proportion of the age structure between 20 and 64 years, means more taxpayers, and fewer in the combined categories of young and old to receive tax dollars.

Another governmental factor to be examined is population fluctuations among government units. Hazel has pointed out how much fluctuation there has been in the population of local units of government in Minnesota between 1940 and 1970. One of the issues that this raises: does the cost of providing government services change when population size changes? We can be relatively sure that if size increases, the cost of services will increase, and this is taken into account in a variety of state and federal aid formulas.

But does the cost of services decrease when population decreases? We have little evidence that it does. For example, between 1950 and 1970, the population of Minneapolis declined by 90,000, but the cost of services continued to increase.

Why doesn't a decrease in population size mean a decrease in the cost of government services? Largely because most municipal expenditures are made to enhance and secure property, and to provide a pleasant environment for its inhabitants. Thus, the number of persons living in each house is not as important as the number of houses and how densely they are located, or how many businesses are located within the municipality.

The relationship between the number of occupied dwelling units and the total population was tenuous, at best, during the 1960's: 20% of Minnesota's counties lost population, yet had a gain in the number of occupied housing units.

Beginning in 1971, the Legislature recognized the problem

of decreasing population, as it applied to schools, by providing for a reduction in state aid, representing only one-half the enrollment decrease in a district. The Legislature may also want to examine the need for making provisions for declining population among municipalities and counties.

Another government change relates to the process of representation. While in the past only 55% to 60% of your constituents have been able to vote, that percentage will soon be increased to over 70%. You may want to increase the number of polling places, but more important will be the changing nature of demands for services. While there may be reduced pressure for schools and playgrounds, one might predict that there will be increased pressure for government activity in such areas as housing, employment assistance, camping and recreational facilities, bicycle trails, boating, and the like.

The migration of middle-age and older people to certain outstate counties will create a new demand for government services in those areas. Those who move from the metropolitan area, where they have been accustomed to high levels of service, may be especialy insistent on rapid response. An illustration of this is the demand for better phone service in the area between the metro area and St. Cloud. This demand for improved government services, combined with decentralization efforts by state government, will probably result in a reevaluation of the number and role of local units of government, and a move to combine various service delivery systems. It will also provide pressure for an improved government telecommunications network between the metro area and outstate Minnesota.

### Jobs

The baby boom generation is now in the 14 to 27 year age bracket. The entry of this large group of people into the labor force places a severe strain on our ability to create jobs. The increasing percentage of women seeking employment is an added factor. Unemployment may grow to higher levels than we feel is tolerable. The combination of higher energy costs, higher capital costs, and the large available supply of labor could result in expanding labor intensive economic activity that might be a factor in increasing the number of jobs.

Almost certainly, in the period ahead, there will be greater public demand for employment services.

### Housing

Just as the baby boom generation's need for jobs grows, so does its need for housing. During the next ten years, 242,000 additional families will need housing in Minnesota. This increased demand will come primarily from the 20-34 age group. This will increase the need for lower cost housing, because most people in that age category are at early stages in their careers, when incomes are lower. With new construction costs rising rapidly, this may point the state toward greater efforts to rehabilitate our existing housing stock, one-half of which was constructed before 1940.

### Health Care

The percentage of Minnesotans 65 years of age and older will remain relatively constant at about 11% over the period 1970-2000. Commensurate with the overall population increase during that period, the actual numbers of aged will increase by about 100,000. That raises important issues regarding health care for this group. For example, should the present expansion of nursing home facilities continue or should other options be explored?

The portion of our health resources, previsouly devoted to such areas as obstetrics and pediatrics, may be freed for use in areas such as the treatment of alcoholism and drug abuse.

Also, the projected distribution of Minnesota's population will have a substantial impact not only on the need for certain types of health personnel, but also on the location of health facilities. Further refinement of the projections will be required, as will the constant monitoring of the unfolding patterns.

### Human Services

The reduced pressure in education should open new program opportunities for early child development, for the mentally retarded, and for the handicapped. The criminal justice area should also be interesting to watch. A great proportion of the crimes today are committed by persons between ages 15 and 29. The reduction in this age group, after 1985 or 1990, should result in a decrease in certain kinds of crime.

### Regional Population Variations

No discussion of population projections is complete without considering the distribution of population. Migration, an important force in distribution, will not contribute significantly to the state's overall population. However, migration will redistribute population within the state.

The seven-county metro area should continue to have about 50% of the state's population. This percentage is supported by several observable factors. The commuter range is larger than the seven-county area. The recent trend in employment has shown the ring of counties surrounding Hennepin and Ramsey have a more rapid increase in job opportunities than do the central counties. This new location of employment opportunities simply increases the commuter range. Current population estimates tend to confirm this fact. Since 1970, a greater number of employment opportunities was created in outstate Minnesota than in the seven-county metro area.

In addition, a continued out-migration from the metro area, of persons over age 64, can be expected. Furthermore, the economy of this area contains many white collar jobs, where the employee travels, or needs to be at an office only several times a week. This freedom, coupled with a desire for a low density environment, adds impetus to population growth outside the metro area.

Population growth in the scenic and amenity areas will probably continue to be brisk. The St. Cloud area and the entire I-94 corridor appear to be areas of population growth. The population of the Iron Range will undoubtedly increase, if there is increased mining activity; however, this area has also experienced the greatest fluctuation in population in the past. The areas of the state which are intensively cultivated, probably will not attract the over-64 migrant. Population growth there will depend on agricultural prices, increase in non-agricultural prices, and increase in non-agricultural employment. It may be encouraging that since 1972, the decline in the number of farms in Minnesota appears to have halted.

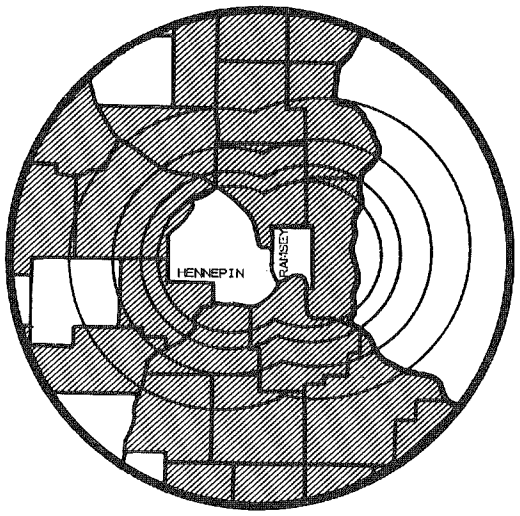
What we have been trying to do is provide you with our best judgment of what is happening and what will happen to

Minnesota's population. That judgment is based on the analysis of a great deal of data, and we think it should be helpful as you make decisions affecting Minnesota's future. But we should caution you that population, while it is very important, is only one of the factors that will determine our future. Such matters as changing life styles, energy supplies, and economic conditions will also be vital. Some of these will be discussed in the sessions that follow.

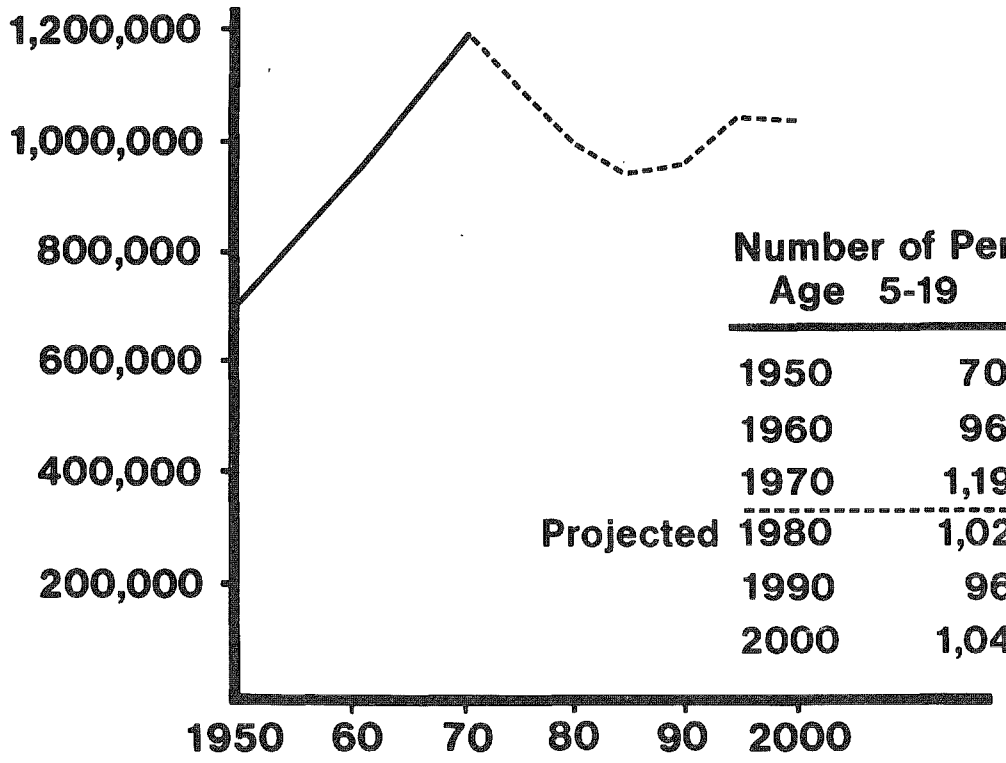
# PERCENT DISTRIBUTION OF THE POPULATION

| | Under 20 yrs. | 65yrs. & Over |
|---|---|---|
| **1970** | **40.1** | **10.7** |
| 1985 | 30.5 | 11.3 |
| **2000** | **28.7** | **10.9** |

**ESTIMATED NET OUT-MIGRATION**
**OF 70,000 PERSONS**
**FROM HENNEPIN AND RAMSEY COUNTIES**
**1970-73**




**Counties of In Migration** **Counties of Out Migration**




| | Number of Persons Age 5-19 | |
|---|---|---|
| | 1950 | 700,000 |
| | 1960 | 960,000 |
| | 1970 | 1,190,000 |
| Projected | 1980 | 1,020,000 |
| | 1990 | 960,000 |
| | 2000 | 1,040,000 |

## SCHOOL DISTRICT #283 ( ST. LOUIS PARK )

| Elementary | | | Secondary | | |
|---|---|---|---|---|---|
| Grade | 1969 | 1973 | Grade | 1969 | 1973 |
| 1 | 787 | 559 | 7 | 802 | 740 |
| 2 | 803 | 547 | 8 | 876 | 733 |
| 3 | 833 | 635 | 9 | 827 | 757 |
| 4 | 784 | 648 | 10 | 871 | 704 |
| 5 | 813 | 659 | 11 | 823 | 728 |
| 6 | 741 | 671 | 12 | 836 | 763 |
| Special Ed. | 52 | 40 | Special Ed. | 42 | 11 |
| Total Elementary | 4813 | 3759 | Total Secondary | 5077 | 4436 |
| | | | District Total | 9890 | 8195 |

Same Class

Same Class

| | |
|---|---|
| Total Enrollment Decline | 1695 |
| Due to Fertility | 493 |
| Due to Migration | 1202 |

## SCHOOL DISTRICT #281 (ROBBINSDALE)

### Elementary

| Grade | 1969 | 1973 |
|---|---|---|
| 1 | 2187 | 1607 |
| 2 | 2242 | 1590 |
| 3 | 2336 | 1742 |
| 4 | 2248 | 1889 |
| 5 | 2276 | 1948 |
| 6 | 2055 | 2270 |
| H | 222 | 169 |
| Total Elementary | 15,858 | 12,737 |

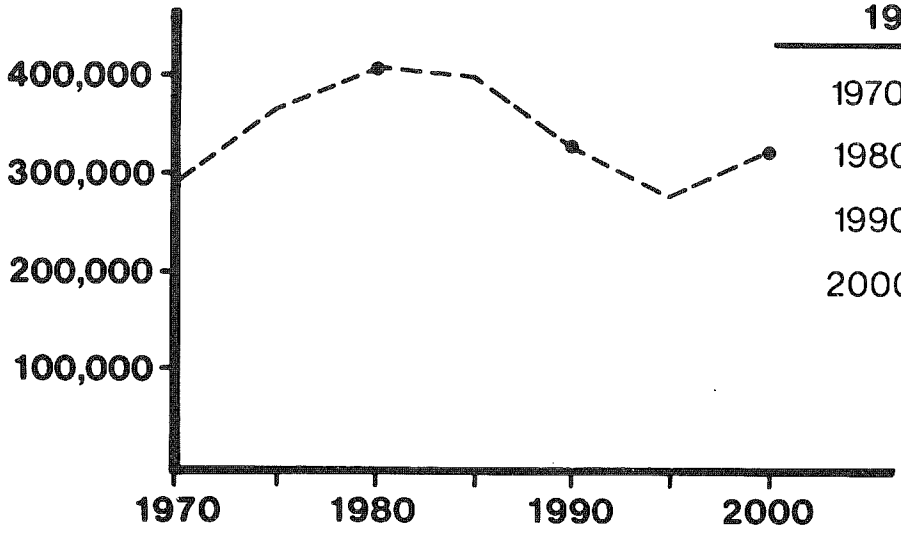
Same Class

### Secondary

| Grade | 1969 | 1973 |
|---|---|---|
| 7 | 2217 | 2197 |
| 8 | 2102 | 2199 |
| 9 | 2145 | 2319 |
| 10 | 2053 | 2189 |
| 11 | 1868 | 2204 |
| 12 | 1856 | 2000 |
| H | - | - |
| Total Secondary | 12,241 | 13,108 |
| District Total | 25,847 | 24,050 |

Same Class

| | |
|---|---|
| Total Enrollment Decline | 1797 |
| Due to Fertility | 417 |
| Due to Migration | 1380 |



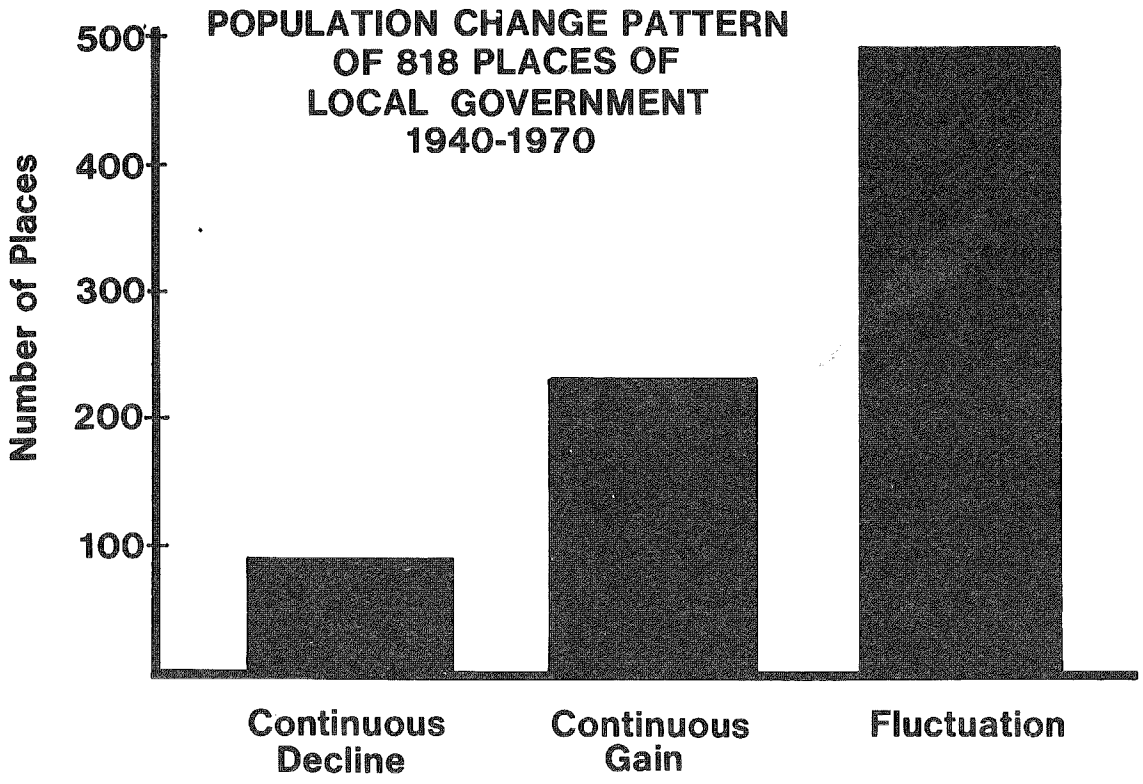

**Projected Number of Persons Age 20-24 1970 - 2000**

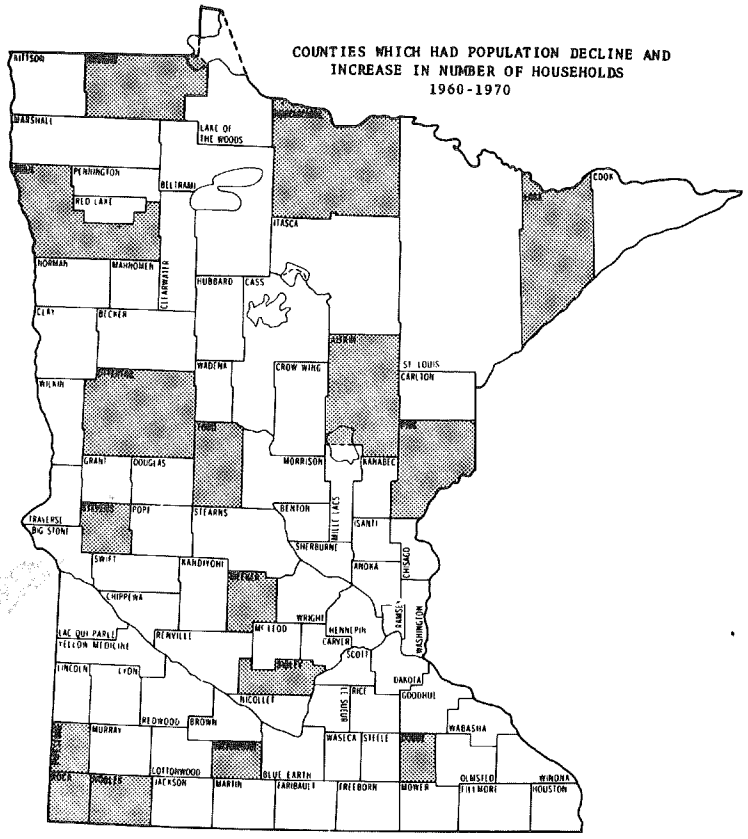
| | |
|---|---|
| 1970 | 292,000 |
| 1980 | 407,000 |
| 1990 | 328,000 |
| 2000 | 321,000 |

# YOUTH AND RETIREMENT AGE PERSONS

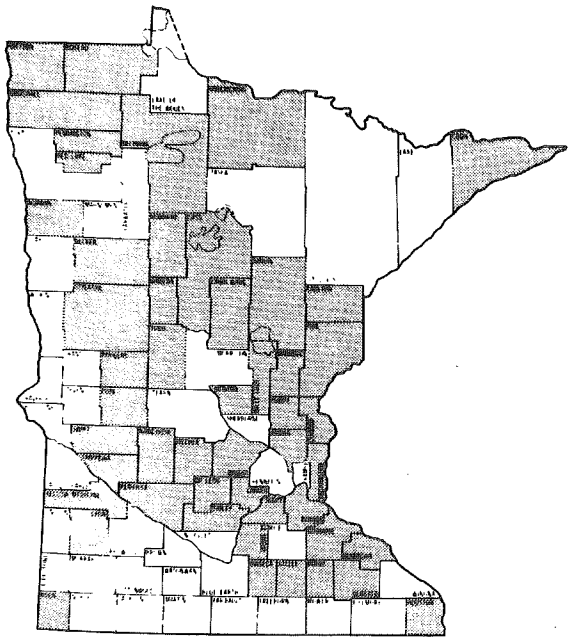
## PER 1,000 PERSONS 20 - 64 YEARS

| | Youths (0 - 19 yrs.) | Retirement Age (65 yrs.) | Youth and Retirement Age (0 - 19 65 ) |
|---|---|---|---|
| 1950 | 613 | 160 | 773 |
| 1960 | 814 | 210 | 1,024 |
| 1970 | 814 | 217 | 1,031 |
| Projected | | | |
| 1975 | 696 | 209 | 905 |
| 1980 | 591 | 200 | 791 |
| 1985 | 563 | 194 | 757 |
| 1990 | 505 | 192 | 697 |
| 1995 | 507 | 190 | 697 |
| 2000 | 476 | 180 | 656 |

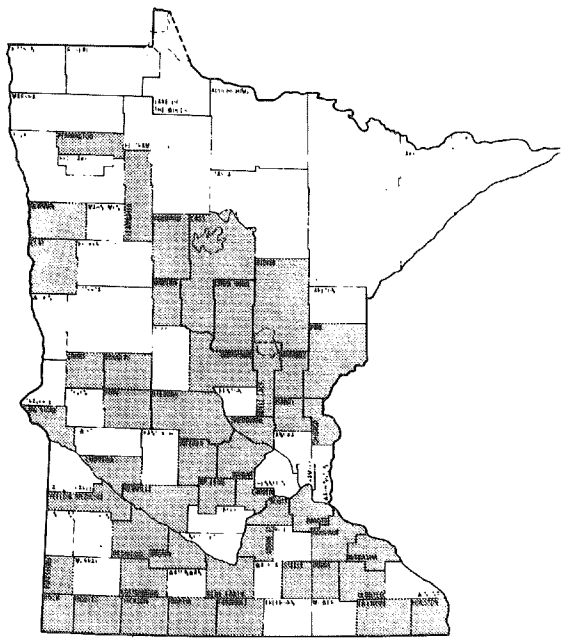





# NET MIGRATION , 1960 - 1970



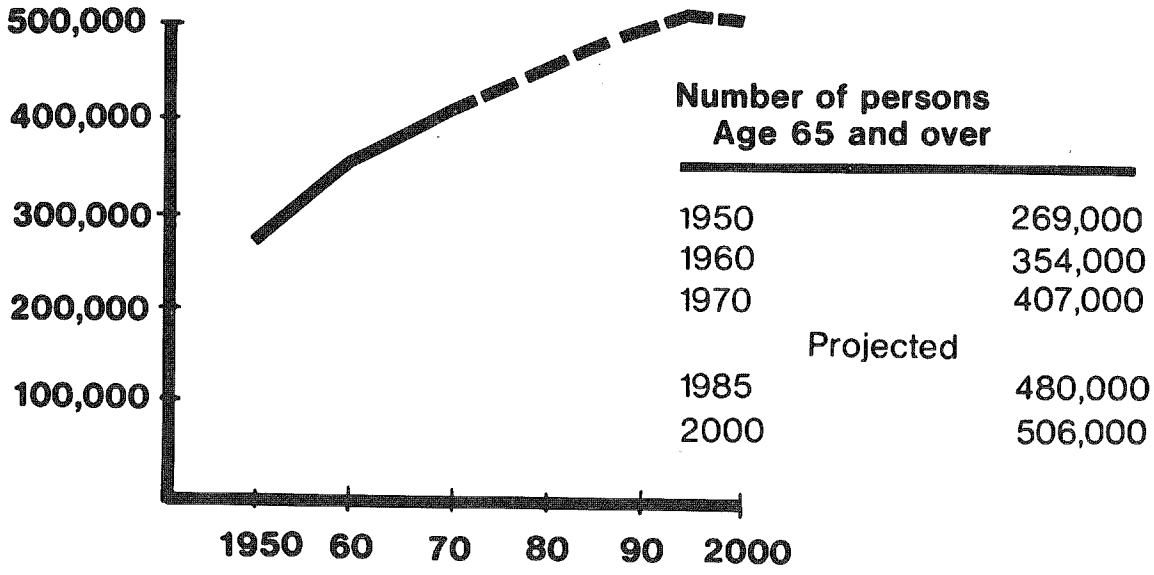
Age Group 30-34

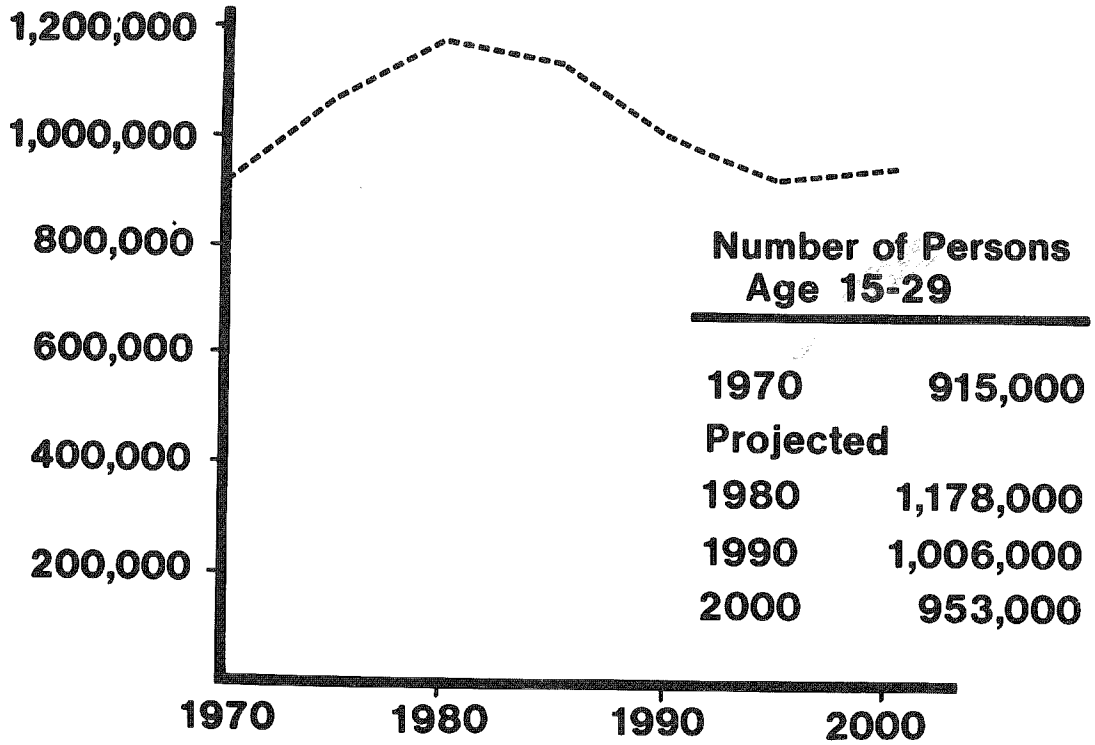


Age Group 65 or Older

Net Out-Migration

Net In-Migration


500,000
400,000
300,000
200,000
100,000
1950
60
70
80
90
2000
Number of persons
Age 65 and over
1950 269,000
1960 354,000
1970 407,000
Projected
1985 480,000
2000 506,000


1,200,000
1,000,000
800,000
600,000
400,000
200,000
1970
1980
1990
2000
Number of Persons
Age 15-29
1970 915,000
Projected
1980 1,178,000
1990 1,006,000
2000 953,000

# MINNESOTA'S ECONOMY

**PUBLIC POLICY AND MINNESOTA'S ECONOMY: INTRODUCTION**
by Bruce MacLaury

**THE PAST**
by Russell W. Fridley

**THE PRESENT**
by Bruce MacLaury

**THE FUTURE**
by John E. Brandl

**CONCLUDING REMARKS**
by Bruce MacLaury



**Note:**

All visuals for above presentations are included in Appendix at the end of this section.

# MINNESOTA'S ECONOMY

## PUBLIC POLICY AND MINNESOTA'S ECONOMY: INTRODUCTION

By Bruce MacLaury

Economics has to do with the ways people earn their livings and spend their incomes. More specifically, it's the study of resource allocation — the ways in which land, labor, and capital are used to produce needed goods and services. Economic development, then — whether of a nation, state, or locality — is primarily the process that determines if, when, and how existing resources will be used.

Resources do not allocate themselves. Resource allocation is the result of decisions. Someone — individuals, consumers, firms, or corporations — decides how resources will be used.

Obviously, it is not only private individuals and firms that make such decisions; governments and legislatures also allocate resources. They do so on the one hand by spending money on schools, highways, hospitals, and human services, and on the other hand, through taxes and regulations. Moreover, the primary decisions made by governments to spend, tax, or regulate have secondary impacts. For instance, the decision to route a new highway through one town rather than another has an effect on the location decisions of private firms and individuals.

Thus we operate in a mixed economic system — one in which both private and public elements interact to allocate resources. One important question then is: What is the proper mix? In terms of improving the allocation of resources, what *have* governments done? What *should* governments do? What *can* they do? These are the primary questions to which we will address ourselves in the following discussion.

As a start, we should note that, at least conceptually, resource allocation, whether by public or private sectors, is supposed to be ultimately responsive to the wishes and desires of individual citizens. In the private sector, consumers influence the allocation of resources through the dollars they spend on different types of goods and services. In the political system, individuals influence policy choices, and hence resource allocation, through the votes they cast for their elected representatives.

Why do we have this mixture of private and public decision making rather than either a purely laissez-faire economy, in which all economic decisions are made by private individuals, or, at the other extreme, an economy in which all economic decisions are centrally coordinated?

The simple answer is that both the price system and the political system suffer from numerous defects. At times, it seems that neither works very efficiently.

The imperfections of the price system are well known. First, in a purely laissez-faire economy, some desirable goods and services probably would not be produced at all, or would not be produced in adequate quantities. In cases where collective benefits are relatively great but the benefits to any one individual acting by himself are negligible, those kinds of goods or services would not be adequately provided without collective action. Defense expenditures are perhaps the nearest thing we have to a purely public good. Police and fire protection come to mind at the local level.

But such pure examples are relatively rare. In identifying so-called public goods, there is a vast gray area. Some goods (such as housing or medical care) are provided both by governments and the private sector. Other goods (such as education) that are provided by governments might conceivably be provided by the private sector and vice versa.

The price system is deficient in other ways. It's a small world, and one person's economic decisions affect the lives of others around him. For instance, one man's joy in snowmobiling is a bane to the naturalist who enjoys quiet walks in the woods. Can the price system resolve their differences? Theoretically, the naturalist might pay the snowmobiler to do his joyriding elsewhere. Or the snowmobiler might compensate the naturalist for disturbing his peace. But in reality, it is more likely that their differences would be resolved not through the price system but in the political arena. The decision made there, while very much a political decision, is also an economic one that determines how outdoor resources are to be used.

There are other areas where the marketplace may not produce the best results. It can be argued, for example, that the market, left to itself, may not appropriately divide resources between present and future generations. Clearly, tomorrow's citizens have a stake in the way resources are allocated today,

although, as yet, they have no dollar votes to cast in the marketplace. The result is that the market economy may take a shortsighted view of the needs of its citizens. Current consumption may be biased upward at the expense of future generations. A society's depletable resources may be used too quickly, or its land base may be used in ways that unduly constrain the possibilities open to future generations. Our increased emphasis on land-use planning is a direct response to the perceived needs of future citizens.

Another market imperfection occurs when one or a small number of private firms can exercise monopoly power in setting prices. In such instances, governments frequently resort to regulation, anti-trust action, or encouragement of competition from imports, for example.

Finally, though not as a response to a market imperfection per se, the government has concerned itself with the equitable distribution of income. Such intervention has been both direct, through the use of welfare payments and income taxes, and indirect, through the use of specific subsidies such as low-income housing and food stamps.

Lest we be inclined to toss in the sponge on the private marketplace and opt for governmental allocation instead, let me quickly point out the obvious: it is not only the price system that works imperfectly. The political system, too, is subject to defects, some of which are very much like the imperfections in the private economy.

Thus, we are left, it seems, with choosing between two allocative systems, neither of which is perfect. How are we to choose? Or more accurately, when should we rely on market forces or on public action?

Precedent might offer some guidelines. Therefore, let us look back at our state's economic development. In the past, what mix of private and public forces has guided Minnesota's economy?

# THE PAST
by Russell W. Fridley

The scope of this presentation is to trace the interaction of state public policy and Minnesota's economy between 1850 and 1950. That century spans the creation of Minnesota Territory to the time Minnesota changed from a predominantly agricultural and rural state to an increasingly industrial and urban one.

While public policy generally reacted to, rather than promoted economic conditions, at times state initiative attempted to alter them, usually during periods of economic depression. The latter part of this presentation will explore several of these state-initiated programs.

To begin our survey of the development of Minnesota's economic base between 1850 and 1950, we must first look at the state's geographical location, climate, and its remarkable combination of natural resources — water, soil, timber, and iron ore. One out of every 20 acres is water.

The state's central location has affected the economic development of Minnesota. Owing to the short distance separating navigable waters, Minnesota early became a crossroads of water thoroughfares. The abrupt transition from forest to prairie made lumbering and farming complementary industries. The altitude of the plateau carrying the main divides provided water power to mill the product of forest and farm. The enormous deposits of iron ore assured a mixed economy.

Because of its central location in North America — in almost the exact geographic center — Minnesota has a distinctly continental climate, marked by wide variations in temperature — 114° above to 25° below — an extreme range of 173 degrees. It contains the sources of three great drainage systems flowing in opposite directions. From the northwestern third of Minnesota, they flow northward through the Red River into Hudson Bay. The northeastern tip drains eastward through the Great Lakes into the Atlantic Ocean. Water from the rest of the state finds its way south into the Gulf of Mexico through the Mississippi River and its tributaries. Geographically, Minnesota is a transition zone, partaking of three distinct regions: the north woods, the Great Plains, and the corn belt. This varied geography has provided equally varied resources which, in turn, have led to a highly diversified economy.

Minnesota's greatest natural resource is no doubt its soil. This varies in different parts of the state, but everywhere it is of great importance, and it has made possible the state's vast agricultural wealth. The pine forest covering the northeastern third of the state formed the basis of Minnesota's lumber and forest-products industries. In more recent times it has become a valuable tourist attraction, together with the rivers and many lakes left by the ice ages. The pine woods are bordered from north to south by broad-leaf forests of oak, elm, walnut, and maple.

Iron ore, deposited in three ranges in the northwestern and central regions, forms the state's greatest mineral wealth. In the same areas are great beds of hard, iron-rich rock known as taconite. Recently developed processes have made it possible to use taconite in steelmaking and are opening up great new reserves of iron as the higher grade ores become depleted. Another mineral resource is granite. The best stone is quarried near St. Cloud, but other deposits are found in the Minnesota Valley between New Ulm and Ortonville and north of Duluth. Limestone, which has been cut for building blocks since the beginning of settlement, is found along the banks of the Mississippi and its tributaries. Exceptionally pure deposits of sand and sandstone (products of glacial action) have been used for glassmaking, road building, and sand-blasting.

When Minnesota was organized as a territory in 1849, its white population of some 5,000 consisted mainly of traders, government officials, and lumbermen. The largest group came from New England, New York, Pennsylvania, and other eastern states. Another large group was French-Canadian, brought by the fur trade.

The 1850 census listed 6,077 persons, excluding Indians, as the resident population: 38% of these supplied information on occupation. Laborers made up the largest group, but soldiers, hunters, and farmers were numerous. The new territory had attracted nearly 200 carpenters and joiners, and 126 lumbermen. Fort Snelling and Fort Gaines (later Fort Ripley) accounted for a total of 163 soldiers. Fifteen persons described themselves as servants. There was only one editor, one brewer, one gunsmith, and, interestingly considering the subsequent history of the state, one miner. Slightly more than one-fourth (27%) of the population had been born in Minnesota; 41% had been born in the United States outside of Minnesota; 32% were foreign born.

Between 1850 and 1880 the great waves of settlement that populated Minnesota included a large proportion of European immigrants. By 1880, a third of the state's people were from Europe, and 70% were either immigrants or the children of immigrants.

Most of the early immigrants were farmers, and with their arrival, agriculture became the dominant occupation in Minnesota. The first farms were diversified and largely self-sufficient. Cash crops were unimportant because of the difficulty in getting them to market. High prices during the Civil War, however, encouraged the growth of wheat, especially in the southeastern counties where it could be taken by wagon to river ports along the Mississippi. The building of railroads in the late 1860's and the increasing use of farm machinery further stimulated wheat production, and during the 1870's, settlement and railroads extended to the Red River Valley. There the millions of acres of flat, rich land led to the first experiments with large-scale semi-mechanized agriculture — the famous bonanza farms. Minnesota soon became the nation's leading producer of wheat, and Minneapolis became its great flour-milling center.

For twenty years, wheat was the state's main crop, but in the early 1880's farmers in southeastern Minnesota, faced with exhausted soil and declining prices, began a shift to dairying and livestock. Over the years, development of strains suited to the cool northern climate — Grimm alfalfa, the Wealthy apple, and in the 1930's, hybrid corn — encouraged further diversification. Flax, introduced in the 1880's, remained an important crop; more recently it has been joined by soybeans and sugar beets.

Today the Red River Valley is planted with potatoes,

sugar beets, soybeans, flax, wheat, timothy, and clover seed. Corn, raised in the southern third of the state, is the single most valuable crop. Much of the grain grown in southern Minnesota is fed to cattle and hogs which are sold to meat-packing plants in South St. Paul, Austin, Albert Lea, St. Cloud, and elsewhere. The central, east central, and southeastern counties are dairy country. Turkey farms are located in south central Minnesota, especially in Kandiyohi county. Apples are a major crop along the Mississippi and St. Croix rivers. The raising of peas and sweet corn for canning is important in the Minnesota Valley.

Minnesota ranks fifth among the states in farm income. In the late 1960's, it was first in the production of oats, sweet corn, butter, and nonfat dry milk; second in hay, clover seed, milk cows, and turkeys; third in flaxseed, green peas, milk, American cheese, and honey; fourth in livestock and livestock products, corn, rye, and sugar beets. After having achieved fame earlier in its development as the nation's biggest grower of wheat, it now ranks 17th.

Next to the fur trade, lumbering is Minnesota's oldest industry. It began after 1837. The northern part of this area included a dense stand of pine timber. By 1839 lumber camps had been set up along the St. Croix, and the state's first commercial sawmill was built at Marine. Others soon followed. Major sawmills sprang up at Stillwater, St. Anthony Falls, and Winona. Millions of logs were made into rafts and sent down the Mississippi to St. Louis and other cities. Millions more were milled and sent out as lumber. White pine from Minnesota built towns, cities, and farms across the treeless plains of Iowa, Kansas, and Nebraska.

With increased use of machinery and the building of railroads, cutting proceeded faster and faster with little thought for the long-range consequences. The industry fanned out eastward and northward toward the Canadian border, and places like Duluth, Cloquet, Virginia, and Grand Rapids replaced the earlier milling centers. The peak of production came in 1905. After that the supply of timber rapidly ran out. The cut-over land has proved generally unsuitable for agriculture, but it still supports a forest-products industry which ranks as Minnesota's fifth largest. Jack pine and poplar yield pulpwood for making paper and building board. Other products are posts and poles, railroad ties, Christmas trees and wreaths, and fuel wood. The area is also a center for the state's growing tourist business.

Development of Minnesot's timber paralleled that of its great iron deposits. The first iron mine opened was the Soudan on the Vermillion Range in 1884. Not until 1890 was the potential wealth of the Mesabi Range discovered, but thereafter it was rapidly developed. On the Mesabi, the iron lay near the surface of the ground in large pockets of soft, rich ore which could be scooped out of open pits by armies of unskilled laborers and later with heavy machinery. The Great Lakes provided a convenient water route to the steel mills of Pennsylvania, Ohio, and Indiana. Of the 2½ billion tons of ore taken from Minnesota since mining began here, all but a small portion has come from the Mesabi. An increasing number of taconite processing plants operate in the region. These involve an investment in specialized equipment which places this industry as much in manufacturing as in mining.

The early promoters of Minnesota never tired of pointing out that the state was connected by water routes with the North Atlantic, with the Gulf of Mexico, and with Hudson Bay. Only to the west was there no direct link, and this, they argued, must soon be remedied by a transcontinental railroad. As early as the 1850's, the state's politicians and businessmen schemed to secure the terminus of the first railroad to the Pacific. In this they were unsuccessful, though eventually not one but three lines connected the Twin Cities with the West Coast. The expansionist dreams of the pioneers were ever further fulfilled with the completion in the 1950's of the St. Lawrence Seaway project, which opened the Great Lakes to seagoing vessels and made a world port of Duluth.

Travel during the fur trade era mainly followed the watercourses and their connecting portages, and Minnesota's first roads tended either to follow or replace these water routes. Among the earliest roads were the famous Red River Trails that linked the growing settlement around Fort Snelling with the British colonies in present-day Manitoba. Later five so-called "military roads" were built by the U.S. Army engineers in the 1850's. Though supposedly needed for "the defense of the frontier," their real purpose, much like that of our modern interstate highway system, was to aid commerce and settlement. The most important one connected Lake Superior with steamboat navigation on the Mississippi.

Important as roads were in opening the country to farmers and landseekers, Minnesota, like most other western states, matured along with the railroad era. Vast areas of the state were given away by the government to encourage railroad construction. The location of towns and cities and the prosperity of whole regions were determined by where the steel rails went. As nearly the sole means of long-distance transportation, the power of railroads was immense. By the 1890's, branch lines reached into all corners of the state. Thereafter, tracks were slowly abandoned and service disconnected as the automobile, the bus, the truck, and the airplane replaced trains. This trend has accelerated in our own time.

Once an overwhelmingly rural state, Minnesota, like many others, must now be classified as urban, for a majority of its people live in metropolitan areas. The great extractive industries like lumber, mining, and to some extent agriculture, which were once mainstays of its economy, have been replaced by manufacturing. The variety in this field is enormous, ranging from food processing to the "manufacture" of taconite pellets. In recent years "brain" industries like printing, electronics, and computer manufacture, all calling for a highly skilled work force, have become increasingly important. The cities of St. Paul and Minneapolis, being the only major metropolitan area between the Great Lakes and Puget Sound, have also become a multi-state capital for finance, communications, medical care, the arts, museums, and major league sports. Many of the enterprises and institutions of these non-identical twin cities (banks, newspapers, museums, theatres, railroads, and a host of others) reach far beyond the borders of the state and are truly regional in scope.

It is useful to take a look at the economic concerns of Minnesotans at 50 year intervals — 1850, 1900, and 1950.

Few economic problems in the 1850's occasioned greater interest and concern than that of improving transportation, especially as settlement worked out from friendly river banks, river forks, and power-producing falls. Faster and better means

of getting from place to place were vital to growth, opening farms, building towns, developing industry and markets, providing effective mail service, and indeed knitting the fabric of society and government. Improved channels of travel offered cheering therapy for the pangs of isolation and loneliness, a spur to the feeling of "belonging" to an organized community. The pioneers understandably hailed every advance from the era of canoes, pirogues, rafts, and oxcarts to steamboats, roads, and railroads.

In 1900, as Minnesota worked its way into the 20th century, it wore the unmistakable marks of growth and prosperity. It had changed considerably from the territory of the pioneering 1850's. The thinly populated frontier with grandiose visions that had existed 50 years earlier had grown into a state of 1,750,000 people. Railroads had built tracks in nearly every direction from the Twin Cities. Farming was still very important. Diversification had invaded the rural scene, though wheat was still a dominant crop. But cities and urban industry were challenging the rural economy. Towns had sprung up and a "metropolitan center" was extending its orbit of influence into both state and region. Iron ore was being shipped eastward in millions of tons. Yet the business race was still led by flour and lumber. These two industries claimed about 46% of Minnesota's invested industrial capital at the beginning of the new century.

By 1950, Minnesotans, accustomed to thinking of their state as rural and agricultural, were witnessing a fundamental shift in the composition of the state's economy. For the first time, the value of the state's manufactured goods exceeded that of its agricultural products. Only ten years later, in 1960, with a state population of 3,413,864, close to two-thirds of Minnesota's population was urban. Even more revealing is the fact that the Twin Cities metropolitan area accounted for more than 40% of the entire population of the state. By 1970, that proportion had risen to 50%.

Now, let's look at several examples of the influence of public policy on the economy of Minnesota.

The framing of Minnesota's Constitution in 1857 set in motion forces that strongly influenced future areas of economic growth. Land-speculation politicians; townsite, county-seat, and state-capitol developers; railroad promoters, and promoters of other internal improvements--all were prominent in advocating schemes to advance their respective special interests. The location of railroads became a powerful determinant of economic growth. The placement of the seat of government quickly led to the largest publicly financed work, not to be exceeded for some time — the construction of the second and third state capitol buildings.

Another example of government policy (this time by the state) influencing the economy was the encouragement of the lumber industry. In viewing the practices of the time, one must make note of the official "stumpage system," which reveals the state's benevolent attitude toward the industry. As early as 1863, Minnesota's Legislature gave authority to the state land commissioner — an office held ex-officio by the state auditor — to issue permits for cutting timber on school land if, in his view, this would promote the interests of the school fund. Commercial wood users (lumbermen were the pioneers) coveted pine. For pine, they acquired lands. Once they took the trees, they had little or no use for the land, the ownership of which meant taxes, although a time came, in the later day of pulp and paper, when second-growth land had value. In any event, state policy opened a channel whereby lumbermen could get timber without buying the land on which it grew. The state philosophy was to aid private industry to undertake jobs that would contribute to the economy of Minnesota and of the United States, a frame of mind similar to that which supported land grants for building railroads.

During the Territorial period (1849-58), federal government policy and financing were essential to the building of an economy. Federal funds built roads, ferries, and dams. Land policy, fashioned by the federal government, lured people to stake out farms and towns.

The desire for railroads reached a fever pitch in the 1850's in the Minnesota Territory. Federal and state governments gave away large tracts of the public domain to attract and accelerate railroads. Minnesota's hopes received a great boost when the railroad reached Rock Island on February 22, 1854 — a momentous event, for it united the Atlantic Coast and the Mississippi by rail. But eight more years passed before the iron horse actually reached Minnesota in 1862. In bringing in the railroad, the Territory of Minnesota overextended itself with a $5,000,000 loan for railroad construction — a loan the new state repudiated until it was resolved by Governor John S. Pillsbury in the 1870's.

The prosperity of railroads, like that of the state, hinged on people. They opened lands, built towns, forwarded trade, and strengthened the economy. Railroads eased the conveyance of immigrants, gave jobs, sold land, conveyed goods to trading centers, carried products to markets, and helped people to keep in touch with the world they had left behind.

Railroads were flung south, southwest, west, and northwest of the Twin Cities, and northeastward to the shores of Lake Superior. Not only was the Minnesota web formed, but railroad connections with Milwaukee and Chicago were achieved in the same era.

While one political administration succeeded another, Minnesota grappled with the building of a state network of railroads. Railroads had a magical appeal for frontier people. They had depended, in earlier years, on oxcart, dog sled, buggies, wagons, stagecoaches, and steamboats. To them, the iron horse spelled increased speed, economy, efficiency, coursing arteries of trade, and emancipation from primitive ways. After the Civil War, the demand for railroads gained force as immigrants streamed in, and industry grew by leaps and bounds.

As Minnesota entered its era of expansion, it was immeasurably aided by the completion, within a decade and a half, of its basic railroad system. By 1872, with 15 railroad companies, the state had about 2,000 miles of track and was on its way to the network which by the 1920's embraced more than 9,000 miles.

In the 1870's there was a lessening of popular demand for railroad expansion and an increasing call by farmers for regulation of railroad rates. This agrarian crusade was first ignited by the Granger movement and carried on by subsequent farmers' organizations. As the elevator and the railroad won supremacy over the transport of grains, Minneapolis, with its mills, became the central wheat market. The decline in wheat prices, absence of public supervision of grading,

lack of control of elevators, costs of storage, the organization of wheat-buying "pools," and varying railroad rates led to widespread grievances on the part of the farmer. Agitation for government intervention led to the establishment of the Railroad and Warehouse Commission in 1885.

Other types of regulation by the state developed over the next 90 years, down to the present.

Let me conclude by mentioning four other examples of ways in which our public policy has affected the Minnesota economy: relief measures during the 1930's, the evolution of the state's system of taxation, the taconite amendment in the 1960's, and the retention of a large amount of public land in the state.

Measures taken by state administrations in the 1930's were designed to promote employment and preserve the family farm.

Minnesota has developed a diversified system of taxation – property, excise, income, and sales. The state is among the leaders of the progressive taxation states, as well as being among the leaders providing widespread public services that make possible the much-praised quality of life for which Minnesota is known.

The taconite amendment, approved by Minnesotans in 1964, is perhaps the most dramatic example (since the $5,000,000 railroad bonding of 1857) of the state's writing into its Constitution tax protection of one industry in order to increase employment and revive economically a depressed area of Minnesota.

For its relative age as a state – 117 years—no other state possesses as much public land as does Minnesota: 20% of its land is still in the public domain. Unquestionably, this feature of the state's patrimony has influenced the growth of Minnesota as a haven for vacations, as well as the increasing prominence of the tourist industry in its economy.

Between 1850 and 1950, the face of Minnesota was dramatically altered. An agricultural state was transformed into an industrial one. A predominantly rural life-style gave way to an urban one for the majority of Minnesotans.

Industrialization and urbanization also brought problems with them. Family farms and many prosperous small communities have withered away, and some rural counties face virtual depopulation. Meanwhile, metropolitan growth has sprawled across the countryside. Change has been sudden and rapid, and the government structure of Minnesota has not kept pace.

Related to this is the great increase in the size of government associated with an interdependent urban society. In such a community, the need for public services mushrooms, and Minnesota has been no exception to this trend. The first half of the 20th century saw an increase of some 900% in the expenditures of state and local governments, with the state accounting for an ever-growing proportion as the scale of problems grew too great for the resources of local units.

Despite these problems, which are shared with many other states, Minnesota has been rated near the top of the nation in the somewhat nebulous thing called "quality of life." This rating reflects its general economic, educational, health, and recreational advantages – benefits that are shared by most of the state's people.

## THE PRESENT
by Bruce MacLaury

Minnesota's economy, like the national economy, changed dramatically in the quarter-century following World War II. Per capita incomes soared. Total employment grew by more than a fourth as gains in manufacturing and services more than offset declines in resource-based industries.

Overall, the economy was prosperous, but not all segments of it, or of the population, shared in that prosperity. Employment in both farming and mining fell, for example. The continuing shift from an agrarian and resource-based economy to an industrial society led to job losses and declining population in many rural areas. Among minorities, poverty and the problems accompanying it proved to be surprisingly intractable. Actual incomes of low-income groups increased, but by the mid-1970's, relative gains were less certain. Women also found themselves outside the mainstream. While the number of working women increased sharply, they often took jobs with little prestige and low pay.

After more than two decades of sustained economic growth, only incurable optimists still believe that it is the panacea for all our problems. In fact, some have gone to the opposite extreme by adopting the attitude: "Growth-- who needs it?"

We do not yet live in a utopia; but while we must be aware of our problems, we should not overlook our successes. In fact, many of our so-called problems are ones faced only by relatively affluent societies. Poverty, for example, received widespread attention only when most of society had attained comfortable standards of living. And it is affluent societies, not subsistence ones, that can afford to be most deeply concerned about environmental quality.

The logical starting point in assessing our achievements and our remaining problems is to ask: Where are we relative to a quarter-century ago? We have more cars and more luxuries, but we also have more crowding, more pollution and, some would say, more anxiety and less happiness. Are we really any better off?

Judged by the gains in per capita income, the answer is undeniably "yes." In 1948, our per capita personal income was $1,400; by 1973, it had grown to $5,100. Of course, inflation caused some of that gain, and thus it does not represent any real increase in purchasing power. But even after allowing for the effects of inflation, the gains have been substantial. Minnesota's income level lagged behind the national average for over 25 years, but in 1973, the state spurted ahead, largely on the strength of record gains in farm incomes.

So far we have talked only of average income levels and have said nothing about income distribution. Much of the social legislation of the 1960's was aimed at eliminating poverty. Have these programs succeeded?

Frankly, it's hard to say. The incomes of the poor are certainly higher than they were ten years ago, and, at least until the recent inflation, the real purchasing power of low-income groups probably improved during those years. However, it can also be argued that poverty is a *relative* phenomenon: a man feels poor because the people around him are so much richer. If this view is accurate, then the gains of the poor are far less, since the poverty programs of the 1960's have not greatly altered the distribution of personal incomes, at least nationally. In 1964, the families in the lowest 20% of the income scale received only slightly more than 4% of the income; in 1971, they received slightly less than 5%. Correspondingly, the share of income going to the top 20% decreased only slightly, from 45.5% to 44.6%.

Minnesota tax data, though not precisely comparable with national data on personal incomes, indicate the same non-trend: among persons with tax liabilities, a relatively small proportion of income goes to the low-income groups; nor has there been any substantial shift toward a more equal distribution of incomes in the last decade. In 1963, for instance, taxpayers at the lower two-fifths of the income scale were getting only about an eighth of the income; ten years later, that proportion was about the same.

Why haven't government programs had a greater effect in redistributing incomes? Two economists — Kenneth Boulding and Martin Pfaff — have concluded that explicit grants to the poor, taken by themselves, *have* helped redistribute incomes. But, they add, the redistributive effects of other programs — conveyed through tax laws, public policy, or administrative rules — have been to reinforce greater inequality, thereby offsetting the impacts of the grants. For example, a recent Brookings study pointed out that social programs intended to help low-income groups are often financed by increasing the types of taxes which fall most heavily on just those groups.

Furthermore, Boulding and Pfaff claim that many public expenditures aimed at improving economic and social well-being in a particular area tend to reinforce income disparities, or even to augment them. As an example, Weisbrod and Hansen have found that in California, the benefits of publicly-funded higher education tend to accrue to high income families — basically because the children of high income families are the ones most likely to attend college. This does not argue, of course, that states should curtail public expenditures on higher education, but only that policy objectives often conflict.

Income is but one barometer of a state's well-being. Others are employment and unemployment. Let us begin by looking at unemployment data. The Midwest economy has acquired a reputation for being more stable than the national economy. That reputation may or may not be justified, depending upon the area and on the time period under discussion. It is true that the unemployment rate in the Twin Cities has generally been below the national rate. But unemployment rates in outstate Minnesota have usually been above the national average, in part because of high seasonal unemployment.

Perhaps more important than raw unemployment data is the question of what is done for the people who are unemployed. Supposedly, they can fall back on unemployment compensation, but are unemployment compensation benefits adequate? That depends in part on one's views. For instance, under the current formula for computing benefits, unemployment compensation may provide as much as three-fifths of the after-tax income of low-to-moderate-income workers. Food stamps are an additional offsetting factor. Are these benefits too high, providing little incentive to seek work, or too low, representing a real hardship for unemployed workers and their families? Whatever one's answer, it should be understood that

unemployment compensation does not cover all unemployed workers. In some outstate areas where unemployment rates have traditionally been the highest, and where many jobs are in agriculture, less than one-third of the work force is covered by unemployment compensation. It should be noted, however, that many of those not covered are self-employed persons.

Let's look now at what has been happening to employment in Minnesota. For one thing, it has been growing. Since 1958, the work force has increased by nearly one-third, about the same as the national increment. By 1973, total employment was 404,000 workers above the level of 1958, and the annual rate of growth over that period was 1.8%.

Will past rates of employment growth continue into the future? Probably not. Nationwide, the slowdown in birth rates which began in the 1960's will slow down the rate of growth in the labor force later in this decade. Of course, for any state, the decline in the birth rate may be offset by in-migration from other areas or by the employment of a greater percentage of the population.

Changes in birth rates and in the age distribution of the population have important implications for the economy and for governments. The postwar baby boom, in particular, has affected recent levels of government expenditures and will continue to affect revenues and expenditures in future years. When the large number of babies born in the postwar years reached school age, a heavy demand was placed on educational services. Now that this age group has entered the work force, school enrollments have slowed down or leveled off, an increasing percentage of the population is employed, and a smaller percentage of the population is in the less-active groups — those persons under 20 or over 65.

The male-female balance of the work force has also been shifting. Perhaps the most significant development in the postwar period was the entry of large numbers of female workers into the work force. This was true both in the nation and in Minnesota. From 1950 to 1970, the female labor force in Minnesota increased by nearly 90%; the male labor force grew by only 11%. In outstate areas the entry of large numbers of women into the labor force has been one of the primary resources in rural areas in the 1960's. Whereas the male labor force in outstate areas actually declined over the two decades, the female labor force increased by more than 110,000. But we should also note that many of the jobs held by women were in education, and with birthrates leveling off, the demand for educators has declined. A major challenge for us in coming years, therefore, lies in finding productive and meaningful jobs for the women who want to work.

As was noted before, not all regions and not all sectors gained employment in the postwar period. There was, first of all, a sizable shift from rural to urban areas, especially the Twin Cities metropolitan area. According to census data, 86% of the gain in employment from 1950 to 1970 was in this area; 14% of the gain was in outstate areas. Since 1970, however, dramatic shifts have occurred. Total increase in employment in the metropolitan area has been 1.8%, in outstate Minnesota, 11.7%.

Which economic sectors fueled the employment gains over the period 1958-72? First, note that some sectors lost jobs: fewer workers were employed in mining and farming in 1972 — 102,000 fewer than in 1958. There were also fewer self-employed workers, as the size of nearly all types of operations shifted toward more large-scale, capital-intensive units. Partially offsetting those losses were nearly 90,000 new manufacturing jobs, more than half of which were in the metropolitan area. Large gains were also registered in the trades and service sectors and in the government (including education) sector, which in one sense was the real growth sector of the economy.

What was responsible for these shifts in the Minnesota economy? Market forces, in part. Take agriculture. As late as 1950, nearly one in every four employed Minnesotans was a farmer; by 1972, that ratio had declined to fewer than one in 12. The great out-migration from rural areas that had begun in the early 1940's continued unabated through most of the postwar period, as the number of Minnesota farms declined from 176,000 in 1954 to 118,000 in 1972. Currently, however, farm numbers are about the same as in 1972.

Both supply and demand fueled the out-migration from farming. On the demand side, relatively small increases in farm production generally resulted in sizable price declines. In addition, even large gains in per capita personal incomes did not seem to have major effects in boosting the demand for farm products.

While demand factors limited the size of the market for farm products, changes on the supply side rapidly reduced the number of farmers needed to produce that output. Farming technology became much more capital-intensive. Other inputs increased as farm labor inputs fell. And since fewer farmers were required to produce the nation's food, there was a mass exodus from the farm sector. The past two years, of course, have witnessed something of a turnaround in this trend. Farm employment actually increased in 1973. But whether this signals a permanent break with old trends remains to be seen.

Attributing out-migration from rural areas solely to market forces would misrepresent actual developments, for the technology being implemented by farmers was developed largely with public funds and made available through an active agricultural extension system. The real benefit of the new technology was lower food costs for consumers, although the events of the past two or three years again bring into question previous trends.

Viewed in retrospect, the farm price support and direct payment programs of the 1950's and 1960's may be said to have eased the transition of American agriculture to a new capital-intensive technology by supporting the incomes of persons destined to leave the farming industry. Moreover, the income supports themselves probably spurred farmers to adopt new techniques. This, it must be noted, was not necessarily the intent of the legislators who were responsible for writing farm legislation, but, as we know, laws often have unintended impacts.

Employment in mining also lagged in the 1950's and 1960's. Through most of the postwar period, out-migration from mining regions paralleled the out-migration from farming regions. The number of mining jobs in Minnesota fell from 17,100 in 1958 to 13,400 in 1963 and stayed at about 13,000 to 15,000 (or about 1% of the labor force) through most of the next decade. The development of lighter metals, together with increased competition from foreign sources, decreased the demand for Minnesota ore. At the same time, the depletion of high-grade ores and rapid gains in labor

productivity decreased job opportunities in the industry. Hopes for a renaissance on the Iron Range were raised when new technologies made possible the transformation of low-grade taconites into higher-grade concentrates. Thus far, however, employment gains in the industry have been fairly modest, though future gains are likely to be more substantial.

Despite the loss of jobs in agriculture and mining, the total number of jobs in outstate areas increased from 1958 to 1972. Where did these employment gains occur? And in what sector?

There were sizable gains, first of all, in manufacturing activity in outstate Minnesota, especially from the mid-1960's on. From 1958 to 1964, only about 900 new manufacturing jobs per year were created in outstate areas; from 1964 to 1972, an average of nearly 3,700 new manufacturing jobs were created annually. The gains in manufacturing helped cushion the losses in agriculture and mining and gave an impetus to new jobs in the trades and services sectors. Employment in the retail trades in outstate Minnesota grew by about 500 jobs per year from 1958 to 1964, but increased by more than 4,000 jobs per year thereafter.

Why the turnabout in the mid-1960's? One reason was that outstate areas had a good supply of dependable labor and offered living conditions more pleasant than those to be found in many larger cities.

Moreover, the development of a strong industrial base in the Twin Cities probably strengthened many oustate localities by providing a nearby market for the products of rural industries, such as electronic parts.

Another factor boosting growth in the outstate economy was our affluent society's increased demand for outdoor recreation. The tourist industry blossomed. Areas that had once been valued only for their mineral or lumber resources became valuable tourist attractions.

Governments — both state and federal — were active in helping to provide the recreational services being demanded. State or federal action preserved and enhanced such natural resources as the Boundary Waters Canoe Area, the wild river area of the Upper St. Croix, and a network of state parks, historical sites, and museums. State action to assure establishment of the Voyageurs National Park further supplements the already existing attractions.

While in outstate areas total employment was fairly stable as losses of jobs in farming were offset by gains in other sections, employment in the Twin Cities economy was growing throughout the postwar period. By the early 1970's the seven-county metropolitan area had more than half of the state's total work force, two-thirds of its manufacturing employment, and three-fourths of the jobs in finance, insurance, and real estate.

The growth of the Twin Cities economy was not foreseen a quarter century ago. A journalist, William Peirce, speculates that the Twin Cities economy in the mid-1940's showed little promise of becoming a modern industrial center. He points out that the area's traditional industry, flour milling, was moving out. The area was far from the nation's main transportation lines and market centers. Surely high transportation costs would discourage industries from locating here. Thus, he asks: what kept Minnesota from becoming an economic backwater?

He advances several reasons. First, two developments diminished the importance of high transportation costs as a factor constraining industrialization. The newer postwar technologies made possible a greater degree of decentralization in American industry than was previously possible, since for new products like computers and scientific instruments, transportation costs were small relative to the total value of these products. And the development of modern transportation technologies — high speed motor traffic between major cities and increases in shipment by air — tied the Twin Cities more closely to national markets. In other words, transportation costs were no longer a critical constraint.

Second, while the Twin Cities area had no mineral or energy resources, it did have other important resources. It was located close to amenities — an increasingly important consideration in a consumer-oriented and relatively affluent society. And as the regional capital of the Upper Midwest, it was the jumping-off point for many migrants from farming regions in the Dakotas and outstate Minnesota. These in-migrants helped provide the skilled and dependable labor force needed by growing industries.

Third, given that the Twin Cities were able to attract an initial core of new industries, growth tended to become self-sustaining. In seeking locations, new firms found it most efficient to locate near already existing firms. The existence of a productive labor force attracts new industries and, in turn, the new industries attract new migrants to the area. The introduction into the metro area of important leisure-time attractions — baseball, football, hockey, and the arts — gave an added impetus to the cycle of self-sustaining urban growth. In the growth cycle, these various factors thus reinforce each other, at least up to a certain city size, after which the costs of further growth may begin to outweigh the gains.

It should be added that it was not economic factors alone that contributed to postwar economic growth in Minnesota. Intangible qualities of personal leadership and entrepreneurial skill also played a part. In his book on the Plains States, Peirce notes that Minnesota's citizens are highly active in public affairs; the state has been open to new ideas; and its industries continue to be largely locally owned. All this, he believes, contributes to the feeling that Minnesotans are a people in control of their own destiny.

Of course, in all fairness, we know that no state is in complete control of its own destiny. The current energy issue is a forceful reminder of that fact. Our economy has been — and will remain — at the mercy of decisions made elsewhere. Still, there is some basis for the belief that intangibles have been important in underwriting Minnesota's economic growth.

Finally, we should not underestimate the importance of the state's commitment to a sound educational system. We know, of course, that expenditures on education yield intangible benefits, but expenditures on education also yield very tangible *economic* benefits insofar as they influence migration decisions, industrial location, and patterns of economic growth. We have already noted that an intelligent and capable work force can be an important factor in attracting industry to a region. But we can also go one step further and say that a good educational system itself helps attract productive human resources to a region. Moreover, at an

applied level, expenditures on education and research have paid handsome dividends in such ways as increasing agricultural productivity and developing taconite. If we accept Kenneth Boulding's view that one of this planet's most productive — and as yet nearly untapped — resources is the human brain, then investments in developing this human potential are worthy of strong support.

Except for expenditures on education, little to this point has been said about the role of public policy in Minnesota's postwar economic development. In Minnesota, as in other states, governments play an increasingly important role in the allocation of resources and in the provision of goods and services to the citizenry. Total government employment in Minnesota increased from 139,700, or 11% of the work force in 1958, to 255,200, or 15% in 1973. Most of these gains were at the state and local levels.

Public expenditures by state and local governments have increased even more rapidly. What explains the increases in employment and spending? There are, it seems to me, at least six reasons.

First, merely to maintain a given level of services *per citizen,* the state government has had to increase its expenditures in many areas, either because there are simply more citizens or, alternatively, because more of the citizens who are eligible for benefits are taking advantage of existing programs. Education, for example, was one of the fastest growing budget items through the 1960's, largely because of the postwar babies who had reached school age. The government was forced to boost outlays in response to demographic trends. Another rapidly growing item in state budgets, both in Minnesota and elsewhere, was Aid to Families with Dependent Children (AFDC). All the reasons for these increased outlays are not entirely clear, but one reason was that more citizens were becoming aware of their rights to draw benefits under existing programs.

A second reason for rising state and local government expenditures is that governments are providing *more services per citizen.* The increasing urbanization of our society raised the average citizen's need for public services such as water, sewer, transportation, law enforcement, etc. Further, there were not only more students in our schools, but the students were studying more technically-advanced subjects and staying in school longer.

A third reason for rising expenditures is that today's urban resident looks to his government to provide many of the services that the farmer or rural resident is — or was — accustomed to providing for himself.

Fourth, governments are moving into new areas in which, formerly, services had been provided neither by the private nor the public sectors. In part, this has been because of the need to deal with problems existing in the economy. Environmental concerns led to the creation of new agencies such as the Pollution Control Agency. In response to regional disparities in income and employment, the state took a direct role in promoting the development of outstate areas through such agencies as the Department of Economic Development and the Iron Range Resources and Rehabilitation Department.

Fifth, intergovernmental fiscal relationships have been revised, increasing both gross revenues at the state level and total outlays. In general, the power to tax is being shifted upward in the federal system, largely because taxes can presumably be levied more efficiently and more equitably at higher levels of government. But on the expenditure side, funds are channeled back down the federal system to the local level of government where, it is argued, citizens' needs can be more accurately perceived and government services more effectively provided than at higher levels of government. The School Aid Bill of 1971 was a prominent example of such shifts in inter-governmental finance.

Finally, a sixth factor boosting government expenditures, at least in nominal dollars, is inflation. Inflation, as you are aware, creates numerous difficulties in the budgeting process, especially if governments — budgeting one year in advance — underestimate the actual future rise in prices.

Inflation need not mean bankruptcy for state and local governments. For many types of taxes, revenues will increase as the general price level increases. This is true of sales taxes and is also true of property taxes if property appreciates along with the rise in other prices. However, Minnesota's 5% lid on annual increases in assessed value means that appreciation in the property tax base may not keep up with inflation. Governments which are dependent on income taxes may even earn a windfall revenue from inflation as taxpayers' nominal incomes move upward into higher tax brackets.

Still, inflation is a problem. It increases the possibility of disruptions in the normal flow of funds for governments, just as it disrupts the flow of funds for private firms. Moreover, it is a problem that some feel we will be facing for some time to come.

We have discussed the past and the present. What remains for us now is to assess the future economic possibilities for our state and the public policy measures needed to help us realize those possibilities.

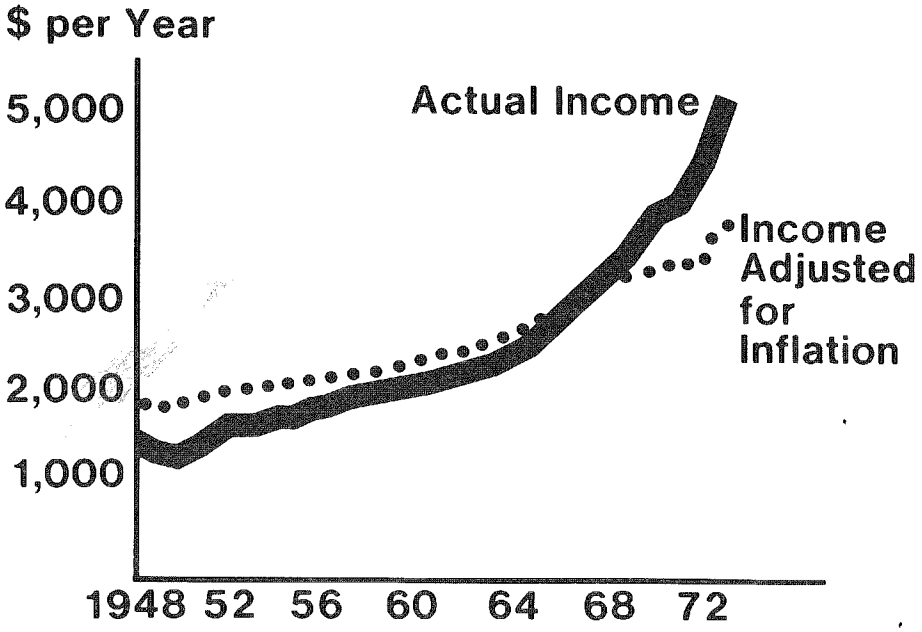
There are two ways to approach the future. One is to assume that it will be like the past, or at least that past trends will continue into the future. The second approach tries to anticipate ways in which the future will differ from the past.

Both approaches have their merits. The first approach makes sense insofar as basic structural changes usually occur gradually in our economy. Annual increments in the population and in the labor force are fairly small. Tastes and preferences change slowly. The capital stock cannot be either rapidly expanded or rapidly contracted. The land and resource base is essentially given. Thus, it comes as no surprise that simple trend projections are often better predictors of future events than sophisticated approaches.

The problem with projecting past trends is that sharp structural changes occasionally do occur. The dislocations caused by the current energy crisis are proof of that. Thus, there is merit in attempting to foresee these sharp breaks with past trends. This might be called the "what if" approach, and it lends itself to numerous possibilities. What if, for instance, Minnesota's future energy supplies are less certain and more costly than in the past? What if inflation rates do not abate in the near future? What if a worldwide recession occurs? What happens if changes in our climate make large portions of the American corn belt unsuited for agriculture? Or, what if short-run gains in food production glut world markets?

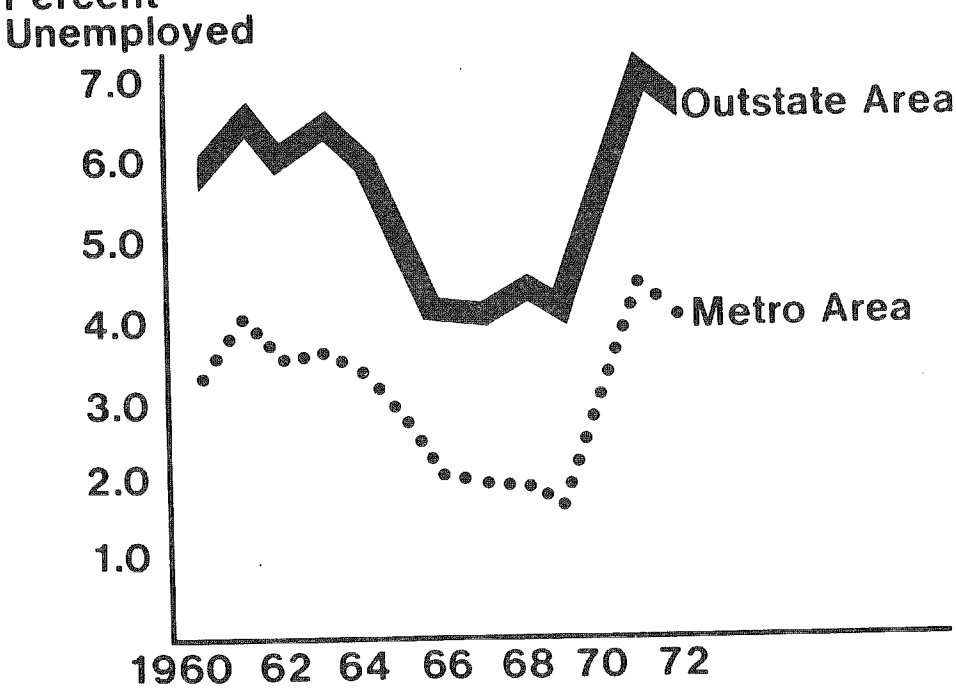
How likely are these events? Or others? If they do occur, what can be done through public policy to counter their adverse effects?

# PER CAPITA INCOME
1948 - 73




# UNEMPLOYMENT RATES
MINNESOTA AND U. S. 1958 -72

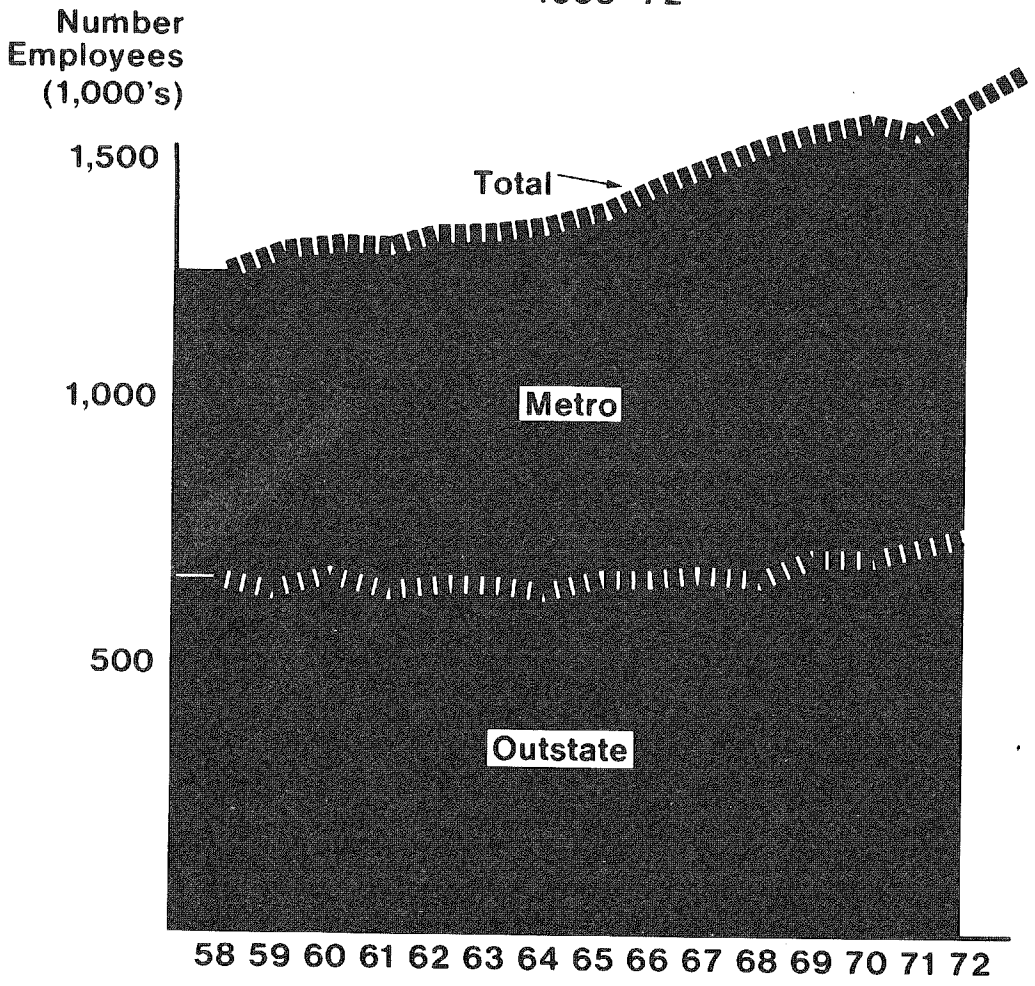
# UNEMPLOYMENT RATES
## METRO AREA AND OUTSTATE AREA 1960-72




## SEASONAL UNEMPLOYMENT
### METRO AND OUTSTATE AREAS

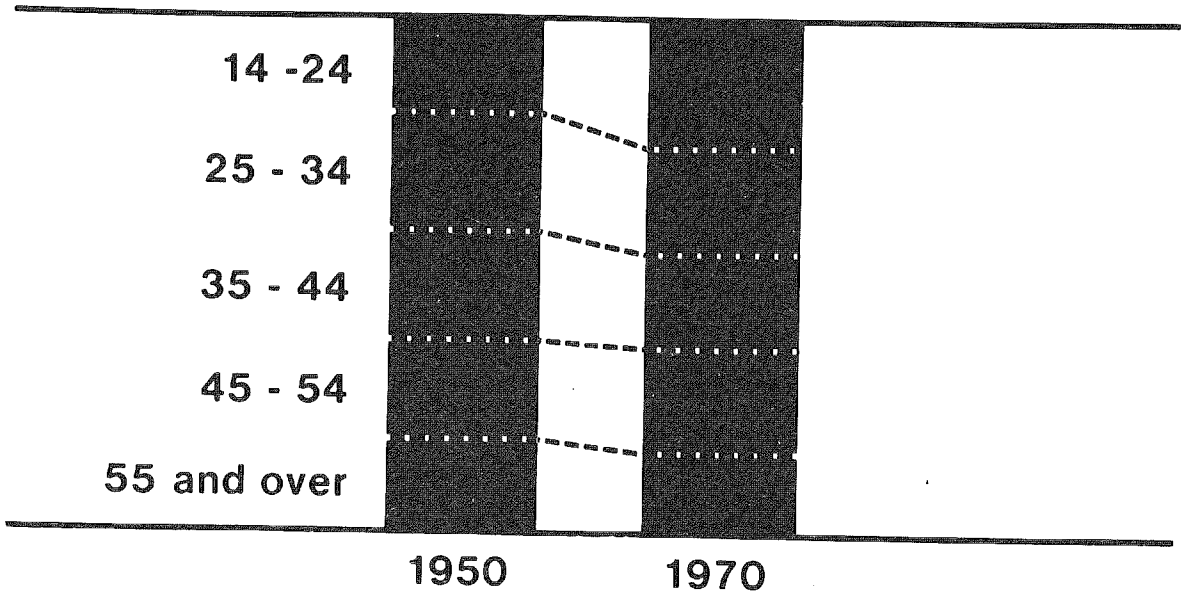
## EMPLOYMENT IN MINNESOTA

1958 -72



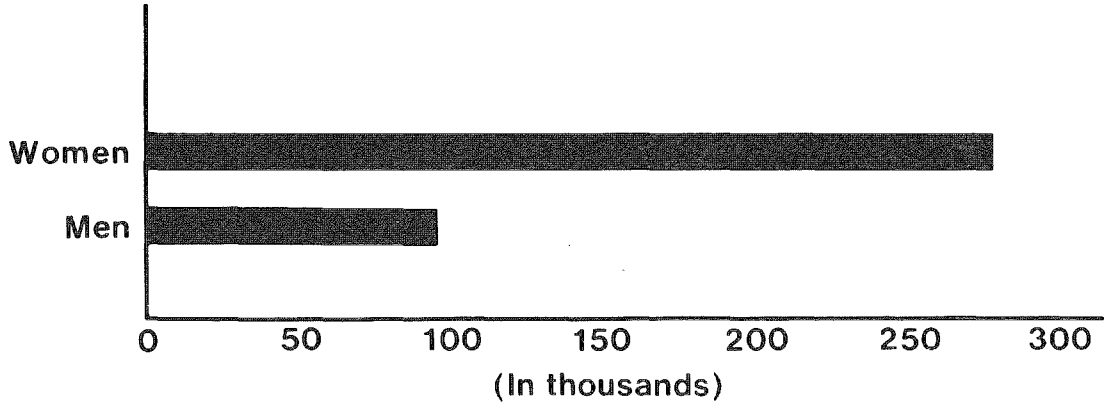

## THE MINNESOTA LABOR FORCE BY AGE GROUPS

1950 AND 1970



## CHANGE IN NUMBER OF MALE AND FEMALE WORKERS

MINNESOTA 1950 - 70




## CHANGE IN NUMBER OF MALE AND FEMALE WORKERS

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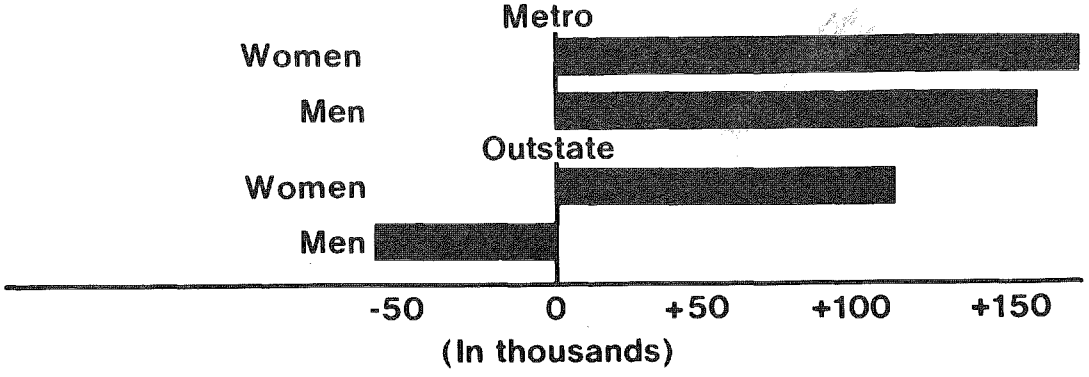
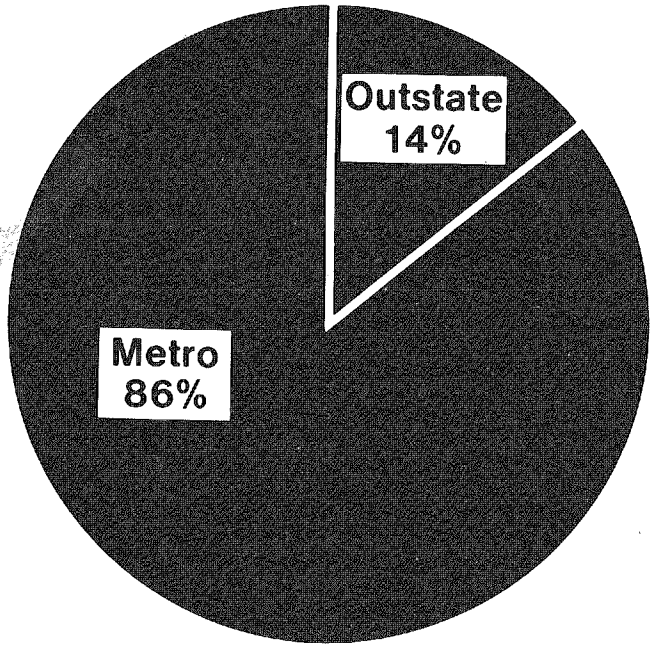
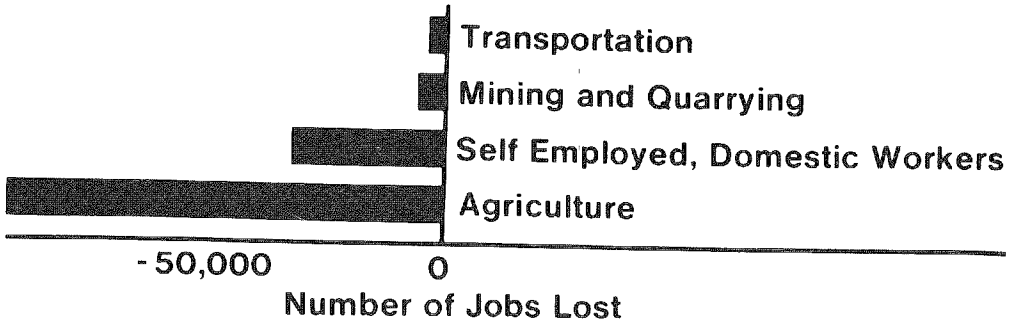


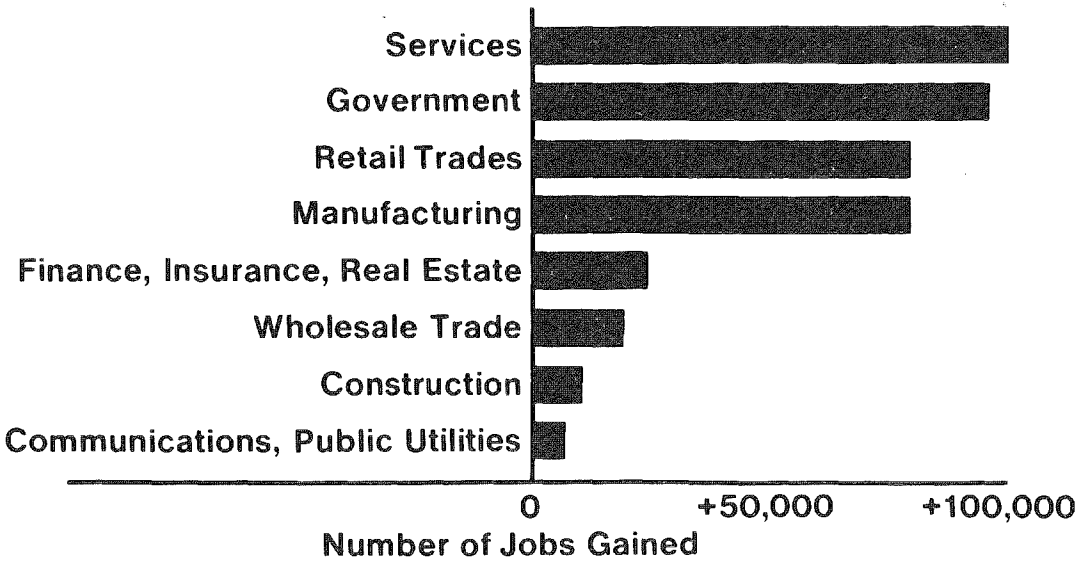
# SHARES IN EMPLOYMENT GAINS
# OUTSTATE vs METRO
## 1958 - 1972



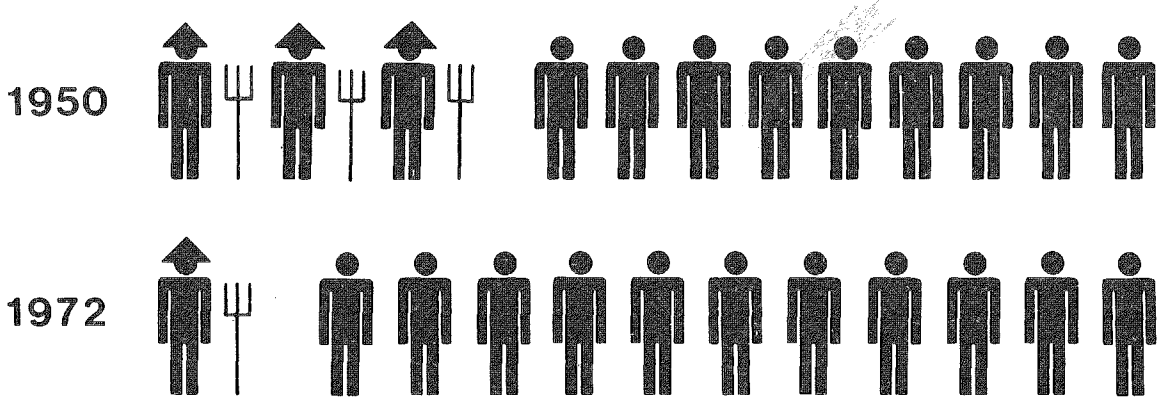

# SECTORS WHICH LOST JOBS
## 1958 - 72



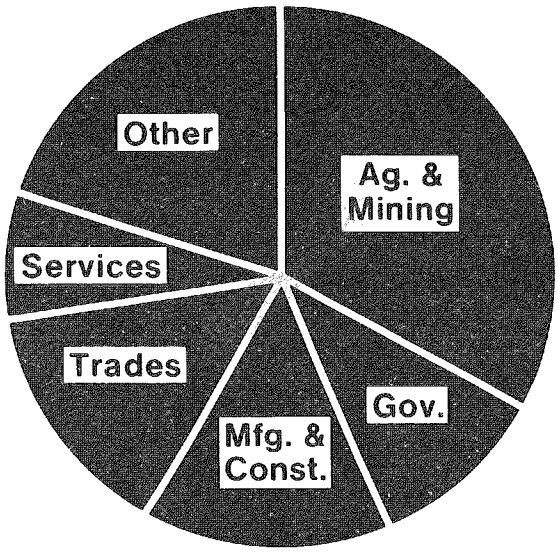
## SECTORS WHICH GAINED EMPLOYMENT
1958 - 72



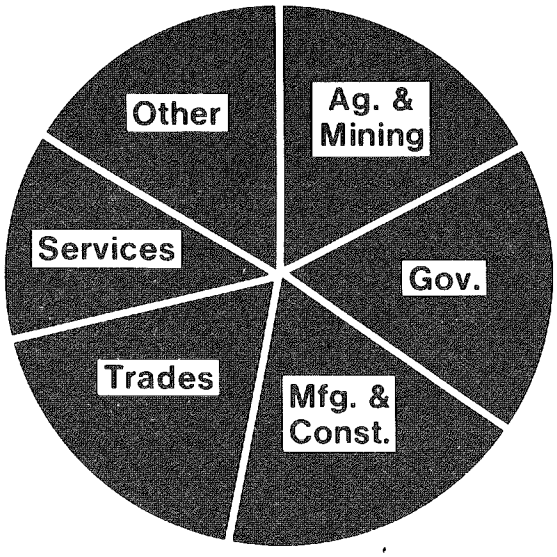

## MINNESOTA
## FARM EMPLOYMENT



## OUTSTATE EMPLOYMENT BY SECTOR
### 1958 AND 1972

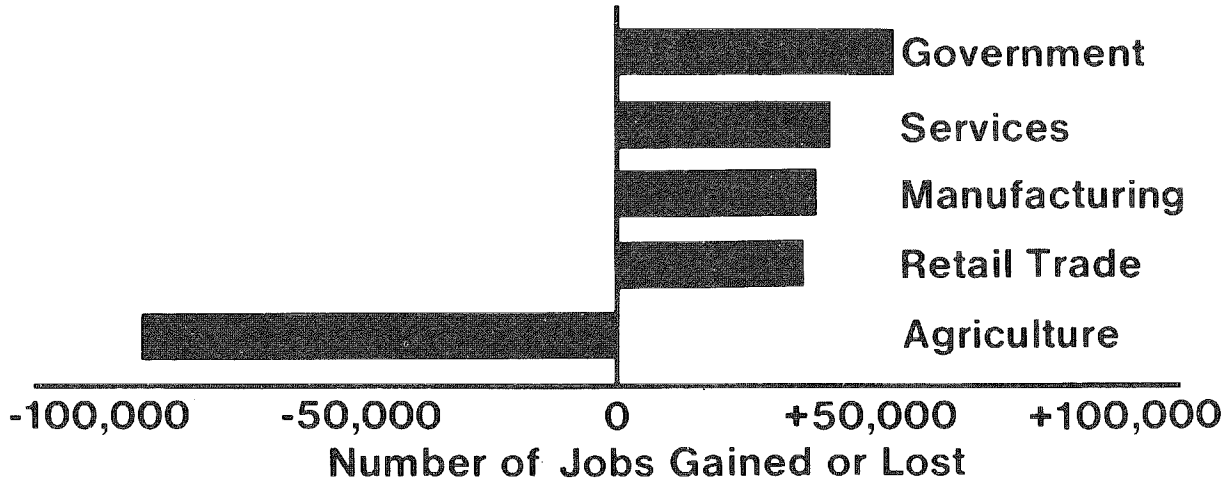



1958




1972

## JOBS GAINED AND LOST
### IN OUTSTATE MINNESOTA, 1958-72



# THE FUTURE
by John E. Brandl

Minnesota is now as comfortable as any place in the world. Our per capita income has recently surpassed the national average, and our quality of life has become something of a mystique. Even the distribution of income in Minnesota is more equitable than elsewhere, and we have been skillful in hiding the poor that we have with us, protecting our sensitivities with freeways which enable us to drive past without seeing them, be they in town or in country.

This morning I will consider with you our future economic prospects, the possibilities you have for changing those prospects, and the limits on your power to do so. I will discuss first the national economic outlook; second, Minnesota's ties with and dependence on the national economy; third, major changes in the state's economy that can be predicted with reasonable accuracy; and fourth, state taxes and expenditures — the changing demands that will be made of you, and the amount of tax monies available to you.

It is ironic, if not foolhardy, to refer to Minnesota's present and future affluence during what will be the worst recession in memory for most of you. Nationally, unemployment will reach 8% or higher by next summer. Double-digit inflation will also prevail through much of this year. And even when the bottom of the trough of the economic downturn is reached, which I expect by fall, the economy is apt to move sideways, rather than rebounding vigorously: 1975, like 1974, will not be a year of real economic growth. On the average, incomes will buy fewer goods and services than they did in 1972. The federal government will run a deficit of about $25 billion this year, even without a $20 billion tax cut, which many economists, including myself, believe is advisable at this time to pull us out of the recession. Serious talk of a tax cut is a measure of the perniciousness of the economic downturn. Ordinarily, the increased spending resulting from a tax cut can be expected to push up prices. But now, without question, recession ranks ahead of inflation as the country's number one short-run economic problem, and it needs to be combatted even at the risk of further inflation.

It should be emphasized that the major causes of inflation have not included excessive governmental spending. The inflation has been caused by the oil embargo, widespread crop failures around the world, an arbitrarily large increase in the money supply two years ago, overly powerful large firms and unions, and finally, the pessimistic expectations of a dispirited populace. Attacking the recession directly would not necessarily foster further inflation; it might indeed quell some inflationary pressures.

But I had mentioned that we can expect an economic upturn to begin next fall. It would seem that you might infer, correctly, that though the recession is lamentably destructive, it is not the beginning of another Great Depression. Despite setbacks, we have made progress in the last 40 years. Banks are guaranteed against a disastrous run on them and the resultant domino-like succession of closings. Reductions in the money supply and in governmental spending that contributed to the economic collapse of the 1930's will not happen now. And a host of income-support programs — Social Security, unemployment compensation, AFDC, and others — insure that the bottom will not drop out of private spending.

Now, what of the longer run? For the next quarter century, the most frequently mentioned threats to continued prosperity are nuclear war, population increases, shortages of energy and other resources, and pollution gone wild. I will not discuss the first of these, simply because its occurrence is beyond the control of anyone in state government. The same is true of the second. Furthermore, at current growth rates population increases in this country will be modest; they will not be a threat to economic growth. In fact, as I will show in a moment, the demographic trends for this country are economically encouraging. The "Third World" is another, exceedingly gloomy story.

Of energy and other resources, it must be said that not only for this year, but for the next decade or two, world-wide shortage is not the problem. The problem is dependence on particular forms and locations of supply, coupled with a demand for ever more materials. The only comprehensive study of energy demand and supply, recently completed by a group at the Ford Foundation, concluded optimistically that if government policy-makers and society in general are willing to take appropriate but difficult steps, the twin problems of energy shortage and environmental degradation can, in the long run, be handled. At present, each year we use 4.5% more energy than in the last. That could be cut to an increase of 2% or less per year without changing drastically our standard of living. Under those circumstances, it would not be necessary in the next decade or two — and hopefully not ever — for the U.S. to make use of all the controversial ways of expanding energy supply: increased imports, surface or strip-mined coal, offshore oil wells, oil shale, and nuclear fission. Each of these ways has staggering associated costs or dangers that have not as yet been surmounted. To assume blithely that they will be is folly. Energy growth must be cut.

But even providing current levels of energy each year in the future will be expensive. Can the country afford it, and will its use strangle us in exhaust and industrial waste? Those are open questions, but the resources enabling us to afford pollution control and needed energy can and should be available. The American economy, which yielded a per capita income (in constant 1967 dollars) of $2000 in 1950, and $3500 in 1970, *can* continue to grow. At full employment it could produce $4700 per capita in 1980, $5300 in 1985, and $8000 by the year 2000. Per capita income is already nearly twice what it was in 1950, and it could nearly double again by the turn of the century.

Here are some observations on that projection:

* It assumes a country at peace and at full employment.
* Remember that these are dollar measures, and incomplete ones at that. Because income is the only overall measure we have of the nation's well-being, we tend to think of it as a gauge of national welfare. It is not. It includes neither the work of millions of housewives nor the negative contributions to national well-being of the soot, hydrocarbons, algae, and other pollutants that foul the countryside. (Because the measure is dollar income it perhaps gives a misleading answer to the question: would we be better off with lower income

but a cleaner environment? When I was a boy we swam in the Mississippi River in St. Cloud. The fact that people can't do that anymore is a real cost, but one not measured in the GNP.) Also, since the per capita income measure depends on the marketplace's prices, it is blind to unfairness of distribution as well as to the market's shortsightedness.

* If the national product grows, it yields the means for dealing with its obstacles. A wealthier society is better able to bear the increased cost of energy and the price of restoring environmental purity. Seen in that light, the flow of income to the oil exporting nations can be recognized as something less than an ultimate threat to America's economy. If Arab states were to spend their $60 billion annual trade surplus on goods bought from the West, they would not end up owning us. $60 billion, a huge sum, is less than the annual *growth* in GNP of the industrialized countries. Trading oil for goods at the new prices would amount to contributing our growth to the Arab world. That would be extremely difficult for us to accept, but it would not be the ultimate economic disaster, at least not for the United States, which still gets only a fraction of its oil from the Mid-East. Some of the European countries that must import all their fuel are in desperate financial shape. Again, as in the case of population, the prospects for the United States are not bad, yet for some other countries they are devastating.

* Cleaning up environmental pollution will not be as costly as the purchase of energy. It has been estimated by Resources for the Future, a Washington, D.C., environmental research organization, that by the end of the century the country could spend $50 billion per year on cleaning up pollution — less than 2% of GNP — and reduce the emission of harmful and unsightly pollutants to a level considerably below present rates. The lesson here is that with sensible energy conservation, economic growth gives us the means to pay for both the energy and the environmental protection we want.

* The growth vs. no-growth controversy is a battle between two straw men. There will, and should be, growth in some sectors, decline in others. As some goods and services become more desirable, the public's penchant for other products, as expressed either through the market or through governmental action, wanes. The economy adjusts, or can be made to adjust, to shifting needs, costs, and desires. Alarming extrapolation of this or that sector's trends establishes little. It could have been used to prove, in the 1950's, that by now all members of the work force would be telephone operators; in the 1960's, that all capital investment would soon be in computers; and in the 1970's, that the Dow-Jones average would reach 200 by 1977.

* The economy shifts. Demography and foreseeable changes in technology presage some of the shifts that will take place over the next quarter century. For example, it would not make sense to extrapolate further increases in the education sector. The student bodies of the next 20 years are already alive and can be counted; in a few years the total number of students will start dropping, and the drop will continue, interrupted by a few small rises, for a long time.

* Changing preferences support the conclusion one could reach based on knowledge that energy will be much costlier: manufactured goods and services will continue to decline relative to other sectors of the economy. In 1970, for the first time, more people were employed providing services for others than were employed in manufacturing. Farmers were outnumbered by the group of people (inn keepers, barbers, and the like) who provide lodging and personal services.

* As the work force grows in size relative to the total population, supporting the country in the manner to which it has become accustomed will become easier. Various factors will contribute to a larger proportion of the population being employed, or at least employable: fewer young people, the fact that the members of the post-World War II baby boom will be in the work force until a decade after the turn of the century, and the continuing increase of women in the labor force.

In a moment we will try to quantify these trends for Minnesota.

There are several ways to justify spending time trying to catch a glimpse of the economy of the nation when this talk is supposed to be on Minnesota's future. For most purposes, Minnesota is not a separate economic entity. Almost all of us are buyers, sellers, or workers in national and international markets. The economic winds that buffet a miner in Virginia, a railroad man in St. Cloud, or a car dealer in Buckman originate probably in New York or Chicago, rather than in Minneapolis. And Washington's interference in the economy, for good or ill, is more pervasive than is St. Paul's. The national economy determines the broad outlines of the state.

This year, and perhaps during the entire biennium for which you will now be legislating, Minnesota will be suffering the effects of the recession. It will be several years before inflation drops to the low levels of the 1960's, if indeed it ever does. But past experience suggests that economic downturns hit this state more lightly than the rest of the country. Our economic mix is different. For example, we will be buffered by our agricultural employment which probably will not drop, and which accounts for twice as great a proportion of jobs here as it does in the rest of the nation. The recession and inflation will be suffered here, as elswhere, but not as severely.

Many Minnesotans are worried, however, about the long-run economic prospects for the state. What are they and what can be done about them? To answer these questions it is useful to project past employment trends into the future, then modify them on the basis of changes we think are probable. While there is no sure picture of the economic future, let's consider a couple of hypothetical futures, each of which rests on the assumptions used to calculate them. To change the assumptions is to change the projections. How would Minnesotans be earning their livings if the employment trends of the 1960's were extended into the future?

First, if farms were consolidated there would be a great drop in agricultural employment. Effects would be felt in mining if more efficient machinery and less rich ore were used. Over time, Minnesota's economy would look more like the rest of the country's. Relatively more manufacturing would take place here, even while total manufacturing would be under-represented, and that trend would carry over into the construction industry. Clearly, society in this country has been shifting from the production and consumption of goods to services.

However, there is another factor at work here. The state's agricultural output in 1970 was greater than in 1960, with 40% fewer workers, because of advances in biology and tech-

nology. But productivity advances in the service sector are harder to achieve and, in a way, the notion is nonsensical; what would a productivity increase for the Guthrie Theater mean? Services are, by and large, provided more by people than by machines. Perhaps it is a desire for a human touch that has caused us to put increasing resources into education, beauty shops, and health care.

What would future employment be if the same percentage changes (negative or positive) which occurred in the 1960's were to prevail in the future? It is folly simply to extrapolate past trends in order to determine the future. For example, in a world that is starving, it is very unlikely we will have one-fourth as many farmers as we do today. Another example: a major component of the services sector is education, which employs seven people today for every four employed in 1960. But its growth in the 1960's will surely not be duplicated again in our lifetimes. There is little to suggest that there will be another baby boom to provide students, and thus jobs, for a new generation of teachers. The employment total for the year 2000 would imply a population of 10 million, but as we've already seen this morning, our best demographic estimates are for half that.

In trying to arrive at a more plausible picture of the state's economic future, we can combine several ingredients: past state and national trends that can be expected to continue and calculated guesses such as the following:

1. Agricultural productivity will continue to keep increasing and demand will remain high.
2. Energy costs will rise.
3. An affluent society will be concerned with getting health care.
4. Transportation and communication advances will put Minnesota more on the beaten track.
5. In a crowded, hostile, and dirty world, our natural and social amenities will be attractive enough to outbalance blizzards and the high cost of our government.

It is striking how much can be inferred from population changes that already have taken place. We have a good idea of the size of the high school class of 1992 and we know much about the composition of the work force in the year 2000 -- its educational level, the number of young people that have to be assimilated, and the numbers of men and women.

Combining these conjectures with demographic data and the informed judgment of leaders in the various sectors, we can arrive at a guess about life in the next quarter century. The picture, of course, could always be changed by natural calamities, public policy, and the unpredictability of human beings. Projections assume average unemployment of 6%. The picture, then, looks like this:

1. A population for the state lower than has often been predicted in the past.
2. A work force relatively larger than at present. Now, 40% of the state's population supports the other 60%. By 2000, with relatively fewer young people and old people and more women in the job market, the work force will be 45% of the population.
3. A society more urban than the present one. But the evidence of the past several years suggests that much of the urbanization will take place outside the Twin Cities. Several outstate cities have enjoyed a renaissance in recent years. The Metropolitan Council has recently adjusted downward its estimates of population growth for the Twin Cities. It is very unlikely that any major new urban centers will develop. Rather, we can expect to see increased urbanization in existing communities along a strip extending from Rochester, through the Twin Cities, and north, perhaps as far as Bemidji. The out-migration that occurred in the northern third of that strip during the 1960's began to reverse itself in the early 1970's. On the other hand, Hennepin and Ramsey counties have actually been losing population lately.
4. Stabilized employment in agriculture and mining, some increase in manufacturing, and larger increases in services. Education, now the largest component of the services category, is no longer a growth sector and will be surpassed by health as a category of employment.

Here are the major questions the projections do not answer:

1. To what extent can governmental action affect that picture?
2. To what extent is it desirable to sacrifice private incomes to public amenities, environmental preservation, education, roads, and parks?
3. How will the financial returns of that future society be distributed? Recall that in 2000, per capita income in constant dollars could be double what it is today.

I will return to these three questions in my closing remarks. You will be able to answer them better after seeing what resources are at your disposable--what tax revenues will be coming in and what expenditure demands exist.

A complete inventory of ways in which government can affect economic activity would be desirable -- the various forms of regulations, taxes, and expenditures. The trouble is we simply do not know the ultimate effects of government's strictures on the economy, nor, for that matter, even the actual incidence of the corporate income tax and sales tax, for instance. We know that taxes in this state are relatively high, but we also know that government services are of high quality. Jane can argue that taxes should be lower to make the state more competitive; Joe can equally well argue that it is partly our schools, social programs, honest government, and highways that make Minnesota attractive.

While research continues on the effects of various kinds of expenditures, we can talk at least about the amounts of tax monies the state will collect in the coming years. Then ethics and politics, not technical economics, will and should determine whether more or less should be collected and spent.

State government depends heavily on personal income tax. It alone accounts for 40% of revenues; the big three — personal income, corporate income, and sales taxes — bring in 75% of the state's taxes. The personal income tax is progressive, meaning that collections grow faster than income. Roughly speaking, a 10% rate of inflation increases dollar incomes by 10%, on the average, and yields a 10% increase in sales tax receipts, but it results in a 15% increase in personal income tax receipts in Minnesota. Inflation is now greater than 10%. So the state is in the somewhat awkward position of having its tax receipts growing at a time of recession. It is clear now that by the end of the current biennium, June 30, these forces will yield a surplus much higher than the $395 million that was previously estimated and, since the same conditions will prevail into the next biennium, there will be very large increases in available resources. It is entirely possible that you will have $1 billion more available for appropriation in the next biennium than had appeared to be available two years ago for the current biennium.

It is important to note, though, that corporate profits

have been volatile in recent years and cannot be estimated for the future with precision. For this and other reasons, it is not possible to say precisely what tax collections will be. In the longer run, revenues can be expected to continue to grow unless there is an economic collapse. Even a sizable downturn, such as the current recession, will not affect total income enough to result in decreased tax collections.

Combinations of inflation and real growth in the economy that result in increases in money incomes yield proportionately larger increases in tax revenues. To the extent that corporate profits grow more slowly than income, that conclusion does not apply, since the corporate tax is a flat proportion of income. With that proviso, however, we have reached the important conclusion that in Minnesota, inflation transfers money from private to public use. Assuming some decrease in corporate profits in the next biennium, followed by small increases after that, one can make rough projections of revenue growth over the next several bienniums.

* Tax revenues are largely dependent on the state of the overall economy.

* For the next several bienniums, revenues will increase by several hundred million dollars each biennium unless there is a collapse of the economy.

* The number of dollars involved is so enormous that it is having important effects on Minnesota's economy. It seems no longer to be the case that taxes are merely ways to support government. They have become an influence on the level and distribution of economic activity in the state. Whether conscious of it or not, state government does have an overall economic policy.

It would be interesting now to discuss state expenditures, noting their effects on the economy, and distinguishing between those that increase automatically and those that are more malleable. For example, though the state does not have non-discretionary expenditures of the relative magnitude of the federal Social Security system, programs such as education and welfare have come to be treated as recurring expenditures, in contrast to the smaller and more variable sums spent on the provision of health care or environmental management.

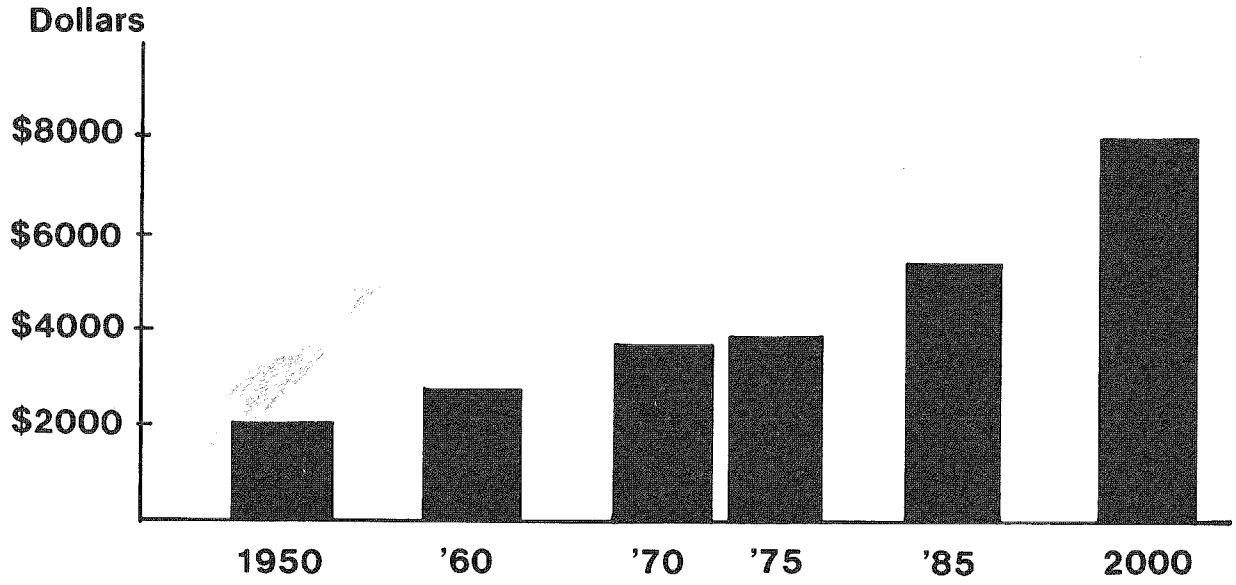
But there is little time remaining today, and some of the items of expenditure will be treated in other presentations. By and large this has been a happy litany, an optimistic message. Our strictly economic problems — imbalance among sectors, unemployment of workers and productive machinery, inflation, the growing cost of energy vital to continued affluence — are serious, but I am convinced that they can be overcome. However, the economy is imbedded in a social and political structure, and that structure, the United States, is enmeshed in a struggling world.

I close with three comments on the relationship between economics and politics.

First, throughout 200 years of economics and politics, we have tried to convince ourselves that competition between interested groups will produce desirable consequences. With our confidence that Adam Smith's Invisible Hand guides financial and governmental interactions, we have not found it necessary to construct overall economic plans or political agendas. Fragmented action has been considered sufficient and has even been deemed appropriate in political science textbooks. But I wonder if we can depend any longer solely on traditional pulling and hauling, on segmented decision making and the ignoring of interactions, on bestowing power to make policy on the most powerful of the parties at interest — in short, on the lack of explicit long-range plans for which governments are held accountable. As we have seen, the state is now such a large economic entity that we need to ask whether its taxing and spending make real sense. To drift without long-range plans is also to continue effectively to exclude from power and affluence groups that have never had either. We have justified inequity on the grounds that opportunity exists for self-improvement by participation in the competitive system. Perhaps it is time to assert that continued inequity is an indictment of a system that demands redress, demands recognition that a competitive system of economics and politics can result in injustice. Perhaps it is time that government accepts the responsibility not merely for maintaining smoothly functioning competition, but for insuring that the results of the process are fair, that financial and political rewards are equitably distributed.

Second, it may be possible that the whole notion of our economic and political systems being competitive structures within which interested individuals bargain, compromise, and reach agreement to their mutual advantage, is outdated in another sense. More and more middle-class persons, mainstream Americans, feel themselves to be captives of large organizations which are apparently autonomous, perhaps even directionless, but nevertheless powerful enough to be perceived as manipulating and controlling people's lives. Large corporations, big universities, and government bureaucracies all qualify. To the extent that organizations are autonomous and create their own milieu, the model of competion is romantic.

## U.S. PER CAPITA INCOME IN CONSTANT ( 1967 ) DOLLARS



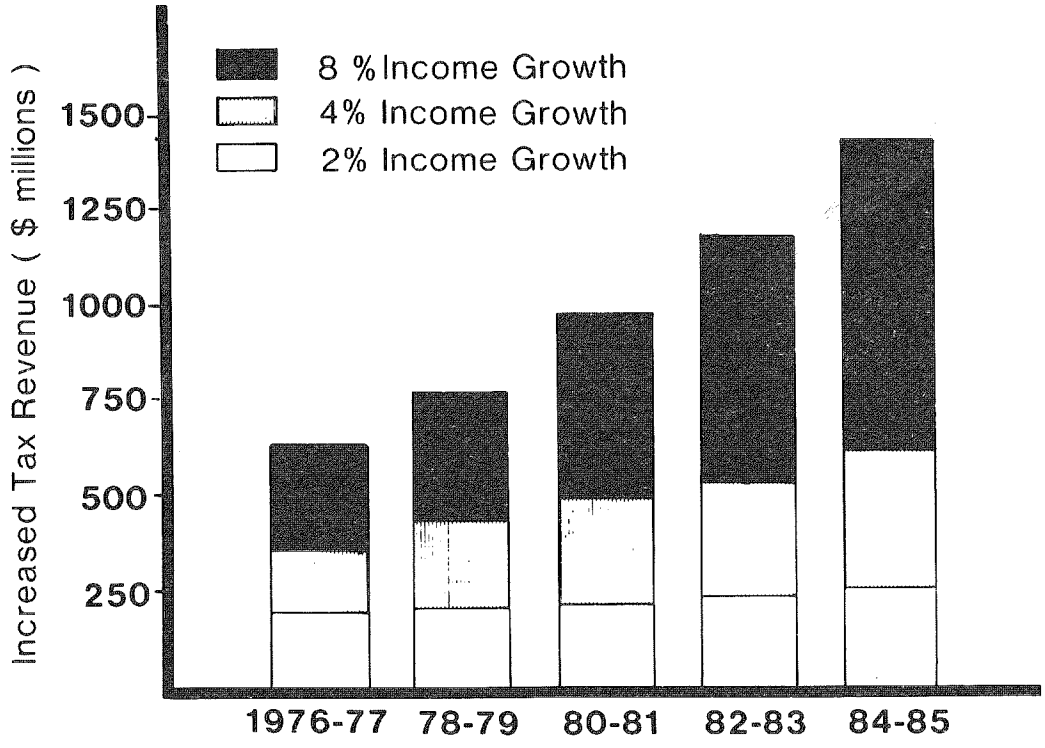

## MINNESOTA EMPLOYMENT TRENDS

| Sector | Employment | | |
|---|---|---|---|
| | 1960 | 1970 | % change |
| Agriculture | 184,000 | 111,000 | -40 |
| Mining | 18,000 | 14,000 | -23 |
| Manufacturing | 248,000 | 309,000 | +25 |
| Construction | 70,000 | 83,000 | +18 |
| Transportation, Communication, Utilities | 93,000 | 96,000 | +4 |
| Trade | 249,000 | 323,000 | +30 |
| Finance, Insurance, Real Estate | 52,000 | 68,000 | +31 |
| Services | 272,000 | 405,000 | +49 |
| Government | 48,000 | 56,000 | +15 |
| **TOTAL** | **1,233,000** | **1,464,000** | **+19** |

## FUTURE
## MINNESOTA EMPLOYMENT TRENDS

| Sector | 1980 | 1990 | 2000 |
|---|---|---|---|
| Agriculture | 67,000 | 41,000 | 24,000 |
| Mining | 11,000 | 8,400 | 6,500 |
| Manufacturing | 386,000 | 486,000 | 607,000 |
| Construction | 98,000 | 115,000 | 136,000 |
| Transportation, Communication, Utilities | 99,000 | 103,000 | 107,000 |
| Trade | 418,000 | 543,000 | 704,000 |
| Finance, Insurance, Real Estate | 89,000 | 117,000 | 153,000 |
| Services | 603,000 | 899,000 | 1,340,000 |
| Government | 64,000 | 73,000 | 84,000 |
| **TOTAL** | **1,836,000** | **2,385,000** | **3,161,000** |

## PROJECTED
## INCREASES IN STATE TAX REVENUES



## EMPLOYMENT PROJECTIONS FOR MINNESOTA, 1970-2000

| Sector Employment | 1970 | 1980 | 1990 | 2000 |
|---|---|---|---|---|
| Agriculture | 111,000 | 100,000 | 100,000 | 100,000 |
| Mining | 14,000 | 17,000 | 20,000 | 20,000 |
| Manufacturing | 309,000 | 347,000 | 405,000 | 451,000 |
| Construction | 83,000 | 94,000 | 114,000 | 121, 000 |
| Transportation, Communication, Utilities | 96,000 | 113,000 | 133,000 | 145,000 |
| Trade | 323,000 | 354,000 | 393,000 | 423,000 |
| Finance, Insurance, Real Estate | 68,000 | 75,000 | 90,000 | 100,000 |
| Services | 405,000 | 446,000 | 524,000 | 577,000 |
| Public Administration | 56,000 | 60,000 | 71,000 | 79,000 |
| **TOTAL** | **1,420,000** | **1,606,000** | **1,850,000** | **2,016,000** |

## CONCLUDING REMARKS
by Bruce MacLaury

Now that we've taken a somewhat detailed look at Minnesota's economic past, present, and future, it would be comforting if we could offer some generally accepted guidelines to you for dividing responsibility between the public and private sectors. Unfortunately, we can't. More often than not, the choice is made on ideological grounds. The following generalizations may, however, provide a framework for considering specific issues:

1. An emphasis on limited resources is likely to place a greater premium in the future than in the recent past on consciously established priorities and efficient allocation of resources.

2. The scope of the public interest is going to impinge further on what were previously considered private decisions, particularly with respect to the use of land and resources.

3. If, as it seems likely, we are entering a period of slower growth in living standards (conventionally defined) than in the recent past, there may be more attention focused on income distribution and what public policy can and should do about it.

4. Given the rapidity of change and the inability to predict the future accurately, governments will have to remain flexible and innovative. This search for flexibility should include the exploration of options for private delivery of public services. It should also imply tailoring governmental jurisdictions and agency responsibilities to changing requirements.

5. The idea of impact statements has become fashionable and offers real advantages if not used to block action interminably. Such statements are one example of the larger need to weigh costs and benefits of alternative courses of action open to governments, including the alternative of doing nothing.

6. We live in a complex and diverse economy. Indeed, the possibility of diversity is an essential ingredient of personal freedom. A basic goal of government should be to insure the broadest range of personal choice consistent with the collective needs of society. To this end, it should be axiomatic that public policy decisions affecting resource allocation generally be limited to those instances in which the actual or anticipated market outcome is in some way unsatisfactory.

The thrust of these two comments is that, like it or not, government will have more, not fewer, responsibilities, and it will be important to broaden mechanisms for accountability to prevent and redress grievances.

Finally, the political economy of the United States seems almost trivial when set against the misery and hopelessness of so many people. Even in Minnesota we must choose between viewing the earth as a space ship or as a life boat. If we choose to view it as a space ship, then food production, energy conservation, income redistribution, and a general redirection of economic activity are appropriate concerns, even if we are not urgently and personally threatened. Should we view it as a life boat, then efforts to assist the deprived of the world are doomed and, presumably, to assist them materially, to take them into the lifeboat, is to encourage proliferation that will eventually swamp the boat. However, should we choose to see the earth as a lifeboat, I wonder if we could live with ourselves.

# MINNESOTA'S PHYSICAL ENVIRONMENT

**MINING, FORESTRY AND RECREATION**
by Victor L. Arnold

**AGRICULTURE**
by Philip M. Raup

**LAND USE PLANNING**
by Joe Sizer

**Note:**

All visuals for above presentations are included in Appendix at the end of this section.

# MINNESOTA'S PHYSICAL ENVIRONMENT

## MINING, FORESTRY AND RECREATION
by Victor L. Arnold

To address completely all the components of Minnesota's physical environment would require much more time than the hour and a half allotted to the subject in this seminar. What we have done is choose a few components of the physical environment which affect large numbers of Minnesotans. The topics we will be discussing are mining, forestry, recreation, and agriculture, as well as procedures for coordinating Minnesota's use of the physical environment. In the next 85 minutes we will attempt to portray past trends, the current situation, the future outlook, and some of the major public policy issues for each topic.

To some, such a focus does not treat air quality, water quality, solid waste, the preservation of aesthetic or ecologically fragile areas, in sufficient detail. That may be a legitimate criticism. What we have done, however, is to recognize that Minnesota is inextricably linked to a complex ecosystem. We have then addressed the major uses of Minnesota's natural resources and attempted to relate the consequences of such uses.

In general, Minnesota's natural resource dependent activities are spatially distributed according to resource endowments, locational advantage in the market, or existing investments of capital. Economics, in tandem with changes in technology and changing tastes and values, can affect the distribution of population, as we saw in the presentations on Minnesota's population and economy. The distribution of population in turn affects the demands for public services and, hence, the level of government activity.

As we look at the Minnesota land use map, we find that we have a total land area in Minnesota of 54.6 million acres with the following land uses:

| | Acres | Percentage |
|---|---|---|
| Cultivated | 23,743,360 | 43.5% |
| Forested | 18,384,800 | 33.7% |
| Pasture and Open | 6,013,280 | 11.1% |
| Water | 3,293,960 | 6.1% |
| Marsh | 1,867,200 | 3.5% |
| Urban and Residential | 644,040 | 1.2% |
| Urban Mixes | 550,080 | 1.0% |
| Extractive | 87,280 | 0.2% |
| Transportation | 27,840 | 0.1% |
| Total | 54,611,740 | |

If that is the way we are, what does the future look like? Examining the distribution of the natural resources we have and their potential uses may assist us in determining what we want the future to be.

Let us begin with the major mineral formations in Minnesota and relate them to mining. Currently, the total land area devoted to extraction is 87,280 acres, less than .2% of the land area. The Mesabi Range, the Duluth-Gabbro formation, and the Minnesota Greenstone formation are the major mineralized formations in Minnesota and are located in the northern half of Minnesota. If we let the economic market operate, and it is determined that more minerals should be extracted, the extraction will probably occur in these geologic formations. That means for all practical purposes that mining will not be competing for the same land space in southwestern Minnesota. There is, however, potential for competition with agriculture in the Red River Valley. There is also a potential for competition between mineral extraction and the marshlands, the forests, the water resources in northern Minnesota, as well as with major recreation facilities.

Comparing the mineral formations with explorable mineral potential we find the greatest potential in the Duluth-Gabbro formation which contains copper-nickel. We also find that there are active mineral leases in the Duluth-Gabbro. It should also be noted, however, that there are numerous active copper leases in the Minnesota Greenstone formation.

Historically, the greatest mineral potential in Minnesota has been on the Mesabi Range, more commonly known as the Iron Range.

Iron mining in Minnesota has grown from an initial shipment of 62,124 tons in 1884, to present annual shipments of more than 50 million tons. In the last ten to 20 years, there has been a dramatic shift from natural ore to the production of taconite. Taconite production has grown to 570 times the 1950 level, while natural ore production decreased 74.8%. The iron and steel industry has so adapted its blast-furnace technology to the high-quality iron taconite pellets that it has become increasingly less economic to mine natural iron ore reserves.

Minnesota's 1973 iron ore shipments of more than 58 million gross tons made up 63.8% of total national production

and 7.7% of total world production. Despite the economic importance of mining, its spatial impact on Minnesota is small. All extractive industries, including ancillary facilities, occupy only .2% of the state's total land area. Nonetheless, mining, including sand and gravel mining, represented 11.2% of all employment in the Arrowhead region in 1970.

In the past, although there is no single document publicly articulating the state's mineral policy, Minnesota has favored mineral development. The passage of a Constitutional Amendment in 1964, assuring the mining industry of a favorable tax policy was probably the most forthright indicator of Minnesota's unstated mineral-development policy.

Following the state-wide referendum approving that amendment, more than $600 million in new mining projects were announced and within ten years taconite plant capacity grew 165%. At present, an additional $740 million has been committed for the expansion of taconite plants in the next decade.

Recently, however, with the passage of new and more stringent environmental laws, there appears to have been a shift in the state's attitude toward mineral development. The Reserve Mining case embodies the conflict between the state's old and new attitudes.

Iron industry sources predict an increase in taconite pellet production to 60-61 million tons by 1978. Steel production and, consequently, iron ore demand is increasing worldwide. Median projection for domestic iron ore demand in 2000 is 153 million tons. Present demand is 106-110 million tons. This indicates a continued increase in mining in Minnesota. Taconite is expected to meet market competition, however, from Venezuela, which has a rapidly growing iron ore industry, and from Brazil and Australia, where deposits have been discovered which dwarf the Mesabi. Long-haul shipping charges now are down to about $4 a ton, which helps to make these deposits competitive with domestic iron ore.

Other possibilities for development in Minnesota are the non-magnetic semi-taconite deposits at the western end of the Mesabi Range. The commercial technology for utilizing these deposits has not yet been developed. Even so, conservative estimates of taconite reserves state that at current rate of production, Minnesota's taconite reserves should last for at least another 100 years. By that time, commercially viable technology for the utilization of semi-taconite may have been developed.

In terms of the natural environment, the iron mining industry apparently will present no major problems. Naturally, iron mining is limited geographically to the areas containing iron ore deposits, a small area of the state which already contains pits and waste dumps and already is physically and economically geared toward mining, so no major land-use conflicts should arise. Mining companies now are required to file approved reclamation plans before beginning operation. Nevertheless, environmental impacts of mining are of concern to the industry and to the state. Dust control, water use, and air quality are problems requiring attention.

The biggest potential for mineral development in the state is the copper-nickel industry. To date, two definite proposals have been made. International Nickel Corporation (INCO) has proposed an open-pit mine about 15 miles southeast of Ely near the South Kawishiwi River. The mine and ancillary facilities would consume about 5,500 acres of land. The company plans to extract 90,000 tons of rock daily, of which 50,000 tons would be waste rock. The remaining 40,000 tons would be concentrated to produce 2,000 tons of ore. This would be reduced to 400 tons of 95% copper-nickel. The mine would produce 50,000 tons of copper and 12,500 tons of nickel annually. There are now no definite plans to reduce the ore in Minnesota. Concentration, however, would take place near the mine. The pit would be 1,000 feet deep and have surface dimensions of 6,600 feet by 3,200 feet after 20 years. INCO is working with consultants to develop a pre-operational monitoring system.

The second proposal is from American Metal Climax Company (AMAX), which wants to establish an exploration site. This would be an underground shaft outside Babbitt in St. Louis county, near the open-pit taconite mines of Reserve and Erie Mining companies. AMAX has done an extensive environmental analysis of the area and has instituted some pre-operational monitoring. The total area to be disturbed by the exploration is ten acres. Exploration would occur over 18 months, during which time 60,000 tons of rock will be removed. This mine, if developed, would be underground.

The copper-nickel industry, on the whole, has the potential for disrupting a much larger area than iron mining. The prime mineral area along the Duluth-Gabbro contact lies within the Superior National Forest. With the exception of the INCO proposal, future proposals for copper-nickel development in the Duluth-Gabbro complex will probably specify underground mining. Although this will help to limit impact on the land, there are other problems to consider. Mining in areas north of the Laurentian Divide has the potential of affecting the ecology of the BWCA with sulfide runoff from stockpiles and possible leakage from tailings basins. The actual impact this would have and the ability of present technology to handle the problem are not really known.

Perhaps the largest potential problem is the future development of Minnesota's Greenstone belts. The Greenstone belts extend down from Canada where many valuable mineral deposits have been discovered and developed. The belts may contain deposits of copper, nickel, zinc, lead, gold and/or silver. Some areas in Minnesota's Greenstone belts are being leased and explored, but no discoveries have yet been made. The technology necessary to develop any deposits that might be discovered is not yet available and probably will not be for many decades to come. Nevertheless, the large area over which the Greenstone belts extend, which includes agricultural land in northwestern Minnesota, makes potential future development an exceedingly important issue for the state to consider.

We have not made any final decisions in Minnesota regarding copper-nickel mining, concentration and smelting. We do, however, have high environmental standards, a mining reclamation law, a Legislature-funded copper-nickel study and an Environmental Quality Council Copper-Nickel Task Force to assist the state in making those decisions.

Looking now at Minnesota's forests we find that 37% of Minnesota's total land area, or 19 million acres, is forested, and more than 56%, or 9.5 million acres, of the commercial

forest land is owned by local, state, and federal governments. This gives the public considerable control over Minnesota's forest resources, if the public wishes to use it.

At the time of the first white settlement of Minnesota, pine and spruce were the dominant forest types. After the fires and disastrous forest mismanagement of the late 19th and early 20th centuries, most of the forest regrowth has been aspen and birch. Although aspen and birch are still the dominant forest types, some forest land, as a result of forest regeneration, is returning to pine and spruce and will continue to do so unless clearcutting or fires are allowed to regenerate the aspen and birch, species which are necessary to maintain good deer habitat.

Traditionally, forests have been managed primarily for timber production. Currently, there is increasing interest in forest management for recreational and aesthetic values as well. Regulations and incentives established under traditional forest management policy, however, make it difficult for these interests to achieve equal treatment in management programs. For instance, federal funds designated for timber production are not transferable to any other program and most federal forest programs are still geared to timber production.

Although a large growth is expected in wood demand in the United States by the year 2000, Minnesota's share of the market will continue to be small. Future industrial use of Minnesota's forests will emphasize paper pulp as compared to saw timber. From 1950 to 1970, employment in the forest industries has declined, primarily because of increased mechanization. The only sector which has increased in employment is paper and pulp because of increased demand, and growth is expected to continue.

In considering the expansion of Minnesota's forest industries, we must examine potential land use conflicts which might arise due to expansion. Northeastern Minnesota, besides containing most of the state's forest resources, is also the site of prime recreational land — a national park and the nation's largest wilderness area, wildlife, and valuable mineral resources. A change in any one of these competing land uses is almost certain to affect the other uses.

Perhaps the most significant potential for conflict lies in the expansion of Minnesota's mineral industries. To date, iron mining has had a negligible effect on the state's forest lands, primarily because the forests were cut over before iron ore deposits were discovered. Prime copper-nickel land, however, lies within the Superior National Forest, and within the watershed of the Boundary Waters Canoe Area. Even if copper-nickel mining does not involve significant forest acreage, the environmental effects of runoff and other potential pollution problems may have a far-reaching impact. If the market alone is allowed to prevail, the potential $55-60 billion copper-nickel industry will certainly take precedence over the forest industries, including the recreational and aesthetic values of Minnesota's forests. It is, therefore, important for Minnesota to consider copper-nickel mining potential carefully and comprehensively.

Because 56% of Minnesota's commercial forest land is publicly owned, the state, through public policy decisions, has the opportunity to determine the pattern competing land uses — recreation, mining, wildlife, forest products industry — will take. But Minnesota does not now have a long-range management policy for its public forest land articulated in one document. A policy, taking into consideration the trade-offs the state might have to make among these competing land uses, is an important area of concern for the future.

Now we come to recreation, which is a somewhat less tangible industry, though changing faster than either mining or forestry. Very little capital is generated directly by outdoor recreational uses of Minnesota's natural resources. The real economic benefit is seen in receipts from hotels, motels, resorts, and other service industries which receive the income generated by the millions of persons attracted by Minnesota's wealth of recreational land and water.

The Department of Economic Development estimates that expenditures in Minnesota's tourist-travel industry reached $975 million in 1972. Estimated receipts break down this way: transportation $374.6 million, food $204.9 million, lodging $171.7 million, retail sales $166.8 million, and entertainment $57.5 million.

In addition to its contribution to the economy, the tourist-travel industry in 1972 generated an estimated $71 million in state tax receipts, $35 million of which came from out-of-state visitors.

Recently, the travel industry, both in Minnesota and the rest of the nation, has been affected by economic conditions, gasoline conservation, and lower speed limits. Although the effects were not as severe as first expected, more people, especially in the early months of 1974, were taking single destination trips of longer duration closer to home. The number of visitors to Minnesota state parks was down 0.1% in the first seven months of 1974. Had it not been for a 33.1% increase in attendance at Fort Snelling, this decline would have been greater.

We've looked at the economic benefits derived from recreational uses of Minnesota's lands. Now let's take a look at the resources themselves. Minnesota has over 15,000 fresh water lakes, 25,000 miles of inland rivers and streams, and along the North Shore, 2,112 square miles of the water surface of Lake Superior. The state also maintains and operates 162,000 acres of state park and recreation land and 2,500 miles of trails. In addition to state-maintained lands, Minnesota has 67,449 acres of county and municipal recreation land, excluding county forests. It also has two national forests, the 3½ million acre Boundary Waters Canoe Area, and the area to be developed as Voyageurs National Park. Much of Minnesota's recreational land lies in northeastern Minnesota.

Over the past decades, demand for recreation has increased sharply because of several factors: a continuing rise in population, and increases in individual disposal income, leisure time, and inter-city travel by automobile. Until 1973, Minnesota state parks had shown a steady increase in attendance from 3.3 million visitors in 1965, to more than seven million in 1972. But in 1973, due probably to the gasoline shortage, attendance decreased to around 6.9 million. Sales of annual vehicle permits for entrance to state parks, however, increased from 1972 to 1973 by 2.2%.

Leisure time trends play an important part in recreation demand. From 1870 to 1970, the average work week declined

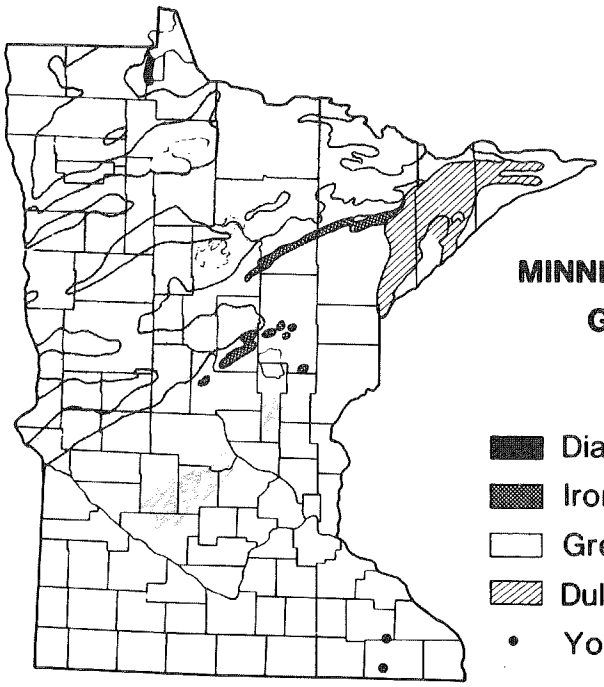
from 70 hours to 37 hours, and the average age of persons starting to work rose from 14 years to 20. Since recreation participation rates tend to decrease with age, and since a work week of 30.9 hours is projected by 1990, both facts seem significant for the future.

Although Minnesota, like the rest of the nation, is experiencing an increased demand for recreation, our recreational situation is unique. Minnesotans on the whole recreate more than the average American. Because of climate and geography, both our winter recreational and water-related activities continue to surpass the national average.

While growth in traditional recreational activities will continue, there will also be an increased demand for new ones. Snowmobiling is one activity which has grown tremendously over the past few years, with snowmobile registration increasing over 350% from 1967 to 1972. New forms of recreation sometimes conflict with more traditional activities — snowmobiling, all-terrain vehicles, and motorized camping units are not always compatible with cross-country skiers, backpackers and hikers. This conflict may bring about a need for officials to decide between competing recreational uses, or to set aside areas for specialized recreational uses, reversing the multiple-use trend of recent years.

In determining state policy towards recreation, the state must weigh recreational uses of the land together with other economic activities such as mining and forestry. Although the state will want to consider the economic benefits of the tourist-travel industry, it must consider the aesthetic dimension as well. Forests, water, wetlands, fields, wildlife are impossible to measure economically but are definitely assets that cannot be overlooked. Minnesota's natural resources are important for more than their income and revenue-generating capacity.

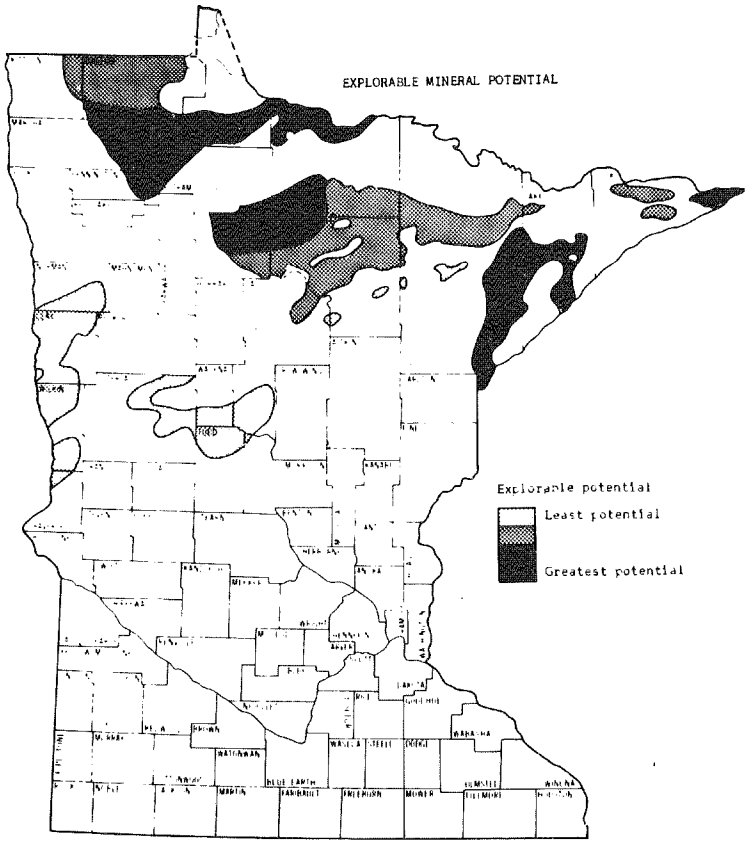
In order to protect and perpetuate Minnesota's natural resources, while providing Minnesotans with a variety of outdoor recreation, the state may want to consider alternative ways in which units of the recreation system are selected, developed, and uses designated. At present, most units are developed with basically the same type of facilities, regardless of the unique characteristics of any individual unit. The state may wish to consider in greater detail uniqueness of recreation units, their landscape and physical resources, and their proximity to population. The most suitable use for each area could then be determined, and the area would be developed, maintained, and operated in accordance with its designated use.

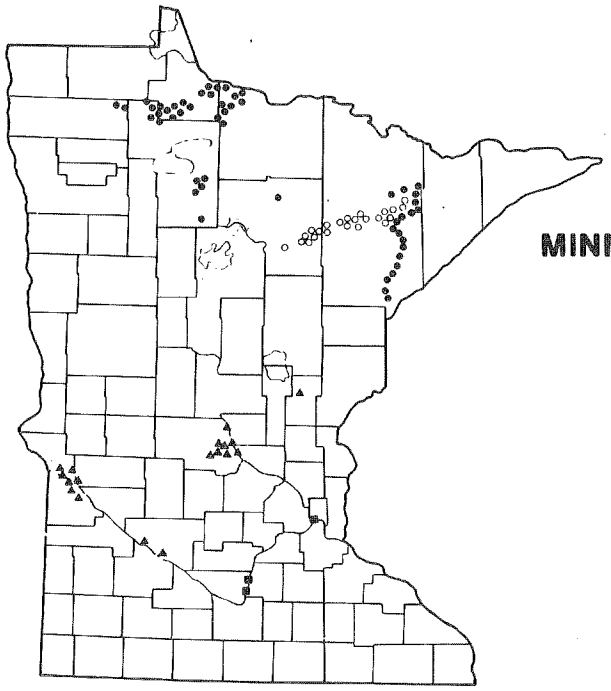


## MINNESOTA GREENSTONE AND GABBRO FORMATIONS

LEGEND

- Diabasic gabbro and related rocks
- Iron formation
- Greenstone belts
- Duluth gabbro
- Younger iron formations





## MINNESOTA MINERAL LEASES AND QUARRIES

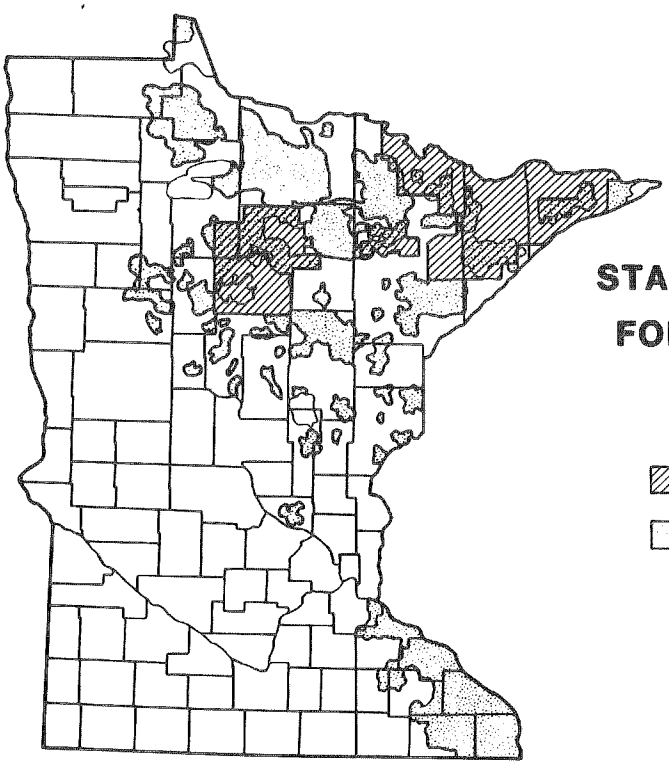
LEGEND

Leases 1-1-74

- Copper - Nickel
- Iron ore - Taconite

Quarries

- Limestone
- Granite



## STATE AND NATIONAL FOREST BOUNDARIES

LEGEND

- National forests
- State forests

# AGRICULTURE

by Philip M. Raup

Although events of the past three years are too close in time to permit us a perspective, historians in the future will almost surely regard the early 1970's as a major turning point in our economic perceptions, and particularly those that affect natural resources. Oil and energy problems dominate our current attention, but it seems probable that a longer range perspective will give growing emphasis to questions of increased agricultural output and world food supplies. As a leading agricultural state, the impact of these trends on Minnesota's future will be heavy and, at the moment, highly uncertain. We are even handicapped in describing Minnesota's present agricultural economy, since our most recent census data are from 1969. While this seminar is under way, we will begin the collection of data for the 1974 census of agriculture, but it will be several years before any of these will be available. We must do with what we have.

The data that are available suggest one major reversal of a 35-year trend: Minnesota, in 1974, was one of 16 states for which the United States Department of Agriculture reported no decline in the number of farms. A steady decline had taken place since the mid-1930's. Minnesota farm numbers declined from 203,000 in 1935 to an estimated 118,000 in 1973. The estimated number of Minnesota farms has remained stable at 118,000 for three years. While we cannot yet predict the durability of this trend, it is significant that the decline in the number of farms has stabilized, if only for the moment.

An even more significant trend, in its economic consequences, has been the steady increase over several decades in the proportion of farm operators working off the farm. As a result, a majority of the farms in the state must now be classified as part-time farms, even though they are highly productive in an agricultural sense. For the United States as a whole, most of the farm population, in 1972, earned more than 50% of its family income by work off the farm. This percentage dropped to about 42% in 1973, as a result of higher prices for farm products, but even in 1974 only slightly over half of farm family income came from the sale of farm products.

The significance for agricultural policy is profound. A rapidly growing segment of our farm population has alternative sources of income. It is less likely to respond to price and market stimuli in the manner revealed by analysis of past agricultural price and production statistics. Many of these people are more likely to be concerned about fringe benefits associated with their off-farm employment than with traditional agricultural price and income policies. We not only have a new ball game, but also a new set of players whose response to traditional market stimuli is still untested.

Coincident with the long-term decline in numbers of farms, there has been a sharp increase in average farm size. If we eliminate the smallest farms, it is probable that the current average for Minnesota is approximately 300 acres, with averages over twice that figure in some counties in the northwestern part of the state. This introduces a new problem, when coupled with the recent steep rise in land values. Until well into the 1970's, it was possible for the average farm family to raise enough capital from conventional credit sources to finance the purchase of a farm of average size. This situation has changed radically in the past three years. For the state as a whole, the estimated value per acre of Minnesota farmland increased 7% from 1971-1972, 20% from mid-1972 to mid-1973, and 42% from July, 1973, through June, 1974. The composite effect is that the average value of Minnesota farmland has increased over 70% in the past three years. In the better farming areas of the southern and western parts of the state, farmland sales at over $1,000 an acre have been frequent. Scattered sales of a quarter section of land at a quarter of a million dollars are reported. Isolated sales of a section of land for $1 million have taken place. The consequences for the capitalization of agriculture are staggering, and we have not yet seen their full effects. If we include a modest inventory of livestock and machinery, the average farm in southern and southwestern Minnesota today represents an investment exceeding a quarter of a million dollars. Assuming the most generous credit terms, and even with ability and luck, it is out of the question for a beginning farm family to accumulate a sufficient down payment to buy into an agricultural enterprise on this scale.

One consequence is that the stage is set for an hereditary agriculture. It has been a standing joke in the rural community that the best way to acquire a farm is to inherit one or marry one. It is now a bitter irony that this becomes almost the only way for an ambitious young couple to get started in farming.

We can see the consequences of this trend already apparent in the statistics on the increased use of the corporation form of organization by farm families. Minnesota, in 1973, had 585 corporate farms. It is not possible to identify these farms precisely in terms of economic size or activity, but it is possible to determine the number of corporate farms in which all officers and directors have the same family name. By this test, 50% of the total number of incorporated farms in the state are in the hands of directors and officers with the same surname. If we add to this figure the number of corporate farms in which only two different surnames appear in the list of individuals reported, then 72% of the corporate farms in Minnesota are family farms in terms of ownership and control, if not in terms of size.

Although there are some incorporated farms in all agricultural areas of the state, they are found with greatest frequency in three regions. One is the poultry producing area that includes Kandiyohi county, Meeker county, and adjacent areas in the central part of the state. Virtually all the poultry production in the state is by corporate farms. A second area of geographic concentration is in the south-central portion of the state where land values are highest and where problems of transferring farms from generation to generation raise the most acute financial questions. The third area is in the northwestern counties, particularly in the sugar beet and potato growing regions of the Red River Valley. Here topography favors large-scale equipment in the cash grain areas, and the

capital intensity of sugar beet and potato growing makes a corporate form of organization attractive. An additional form of corporate involvement in agriculture concerns canning and processing firms that operate primarily with leased land. These are corporately managed enterprises, but frequently they do not involve corporate ownership of any significant amount of land.

For the state as a whole in 1974, corporate farm land was 1.8% of total land devoted to farming. In Clay and Dodge counties, it was over 5%; in Martin county, it was 7%.

Thus, we have several quite different sources of motivation for the recent modest growth of corporate farming in Minnesota. On the one hand, the majority of the state's corporate farms are family farms that have been incorporated primarily to ease the transfer from generation to generation. The primary goal has been to preserve family capital rather than to provide a vehicle for encouraging investment by outsiders. We have found, for example, that in the overwhelming majority of cases, banks lending to corporate farms have required the borrowers to sign personal notes supporting any loans to the corporation. It seems safe to conclude that the majority of farm corporations in Minnesota have not been formed to attract outside capital.

In sharp contrast, a small number of the corporate farms in the state have been organized primarily under the stimulus of tax and accounting rules that reward corporate forms of organization in agriculture. These are often the largest and most capital intensive corporate farms, and many of them represent tax shelters rather than production organizations. Their number is small, but the acreage they control is disproportionately large. For example, only 25% of the corporate farms in the state, in 1974, held over 1,000 acres of land, yet they accounted for 66% of the total area of land under corporate farm control.

We can expect a modest increase in the number of family farms that are incorporated, primarily to facilitate estate management and inheritance processes. Whether or not any substantial expansion in larger-than-family sized corporate farms takes place is chiefly a function of tax and credit policy and of the extent to which vertical integration develops in livestock production, particularly in hogs.

Although the growth of corporation farming has been significant, a more important trend has been the rapid move toward specialization in Minnesota agriculture. As of 1954, cattle were reported on 84% of all Minnesota farms, milk cows were present on 74% of the farms, hogs on 59%, and 73% of the farms kept poultry. In 1974, approximately 40% of Minnesota farms had no cattle of any kind, 68% no milk cows, 69% no hogs, and over 90% of the farms, no commercial poultry. We have an agricultural structure in which many grain producing farms keep no livestock, and in which livestock farms produce a steadily declining fraction of their feed supplies and are heavily dependent on purchased feeds.

This trend toward high levels of specialization has great significance for the capacity of Minnesota agriculture to withstand economic and climatic shock. In a year of early frost, soft corn, in the past, could be fed to livestock, and most of the farms producing corn had livestock that could be used to harvest the immature crop. Today, an early freeze finds many farms at a disadvantage in using corn that has not matured to a degree sufficient to permit storage and resale. Relatively low grain prices of the past two decades encouraged a form of livestock production that concentrated heavily on purchased feeds, particularly grains and oil meal. We have a livestock economy that is not well suited to the shifts in relative prices that have occurred in the past two years, which make the feeding of grain a high-cost method of livestock production. In this sense, Minnesota agriculture has suffered a loss of resiliency as a result of recent economic trends.

This shift in the economic structure of our livestock economy has added significance in terms of demands upon natural resources, particularly water, and the disposal of waste materials. Twenty years ago, the livestock of the state were more or less evenly divided over the lands of the principal agricultural regions. Their demands upon water supplies were decentralized among thousands of small farm water systems, and their manure was available in thousands of small farm feedlots, so that it was economically feasible to transport and spread it on adjacent farm fields.

The growing concentration in livestock production has two major consequences. On the one hand, demands upon water supplies are now highly concentrated and could prove critical in a drought period. The concentration of poultry production in the central portion of the state creates heavy and insistent demands upon water supplies that would be given top priority in any period of drought. It was not true in the past that chickens and turkeys were competing directly with human beings for water supply. It will be true in the next period of water shortage.

A second consequence of concentration of livestock production on fewer and larger farms is that the value of manure as a fertilizer has been seriously reduced. We have no statewide statistics to indicate the magnitude of this loss. We do know that the proportion of all farms having no cattle of any kind increased from 16% in 1954, to 39% in 1974. On large beef, hog, and dairy farms, it is uneconomical to spread manure on fields, due to the high cost of transportation and handling. At a moment in our history when chemical fertilizers have become a critical variable, we have seriously reduced our capacity to substitute animal manures. The geographic concentration of livestock production also creates pollution problems that were largely nonexistent in an agricultural structure characterized by a large number of family-sized, multiple-product farms.

There is a great deal of misunderstanding about the nature of the capital investments that have contributed to high levels of specialization in agriculture. Over the past decade the prospects of capital gains in livestock, and more recently in land, have attracted large quantities of capital into agriculture for nonproductive reasons. These nonproductive attractions to outside capital are complex, but are basically a result of the fact that we tax capital gains at lower rates than we tax earned income, and this differential increases for wealthy taxpayers. We also have a series of accounting rules that encourage non-farm investors to seek tax shelters in agriculture. One consequence is that a distorted pattern of capital investment is appearing in American agriculture. Capital has been attracted into livestock breeding and feeding activities for tax-shelter reasons. The acute financial problems of beef feeders and dairy farmers today are

due in part to the fact that capital investments in these sectors have been influenced by tax policy, credit policy, and accounting rules that have very little relation to questions of supply and demand for agricultural products.

One result is that we have an unstable source of capital available to major sections of agriculture. Capital that is attracted to agriculture by the promise of quick capital gains, or the creation of tax shelters, is vulnerable to changes in the business cycle. It can leave as quickly as it appeared. In the livestock sector, in particular, we not only have a distorted pattern of recent capital investment in agriculture, but the supply of capital is also unreliable in periods of business recession.

Another consequence of concentration and specialization in agriculture is the emergence of an unusual problem in landlord/tenant relationships. The historical image of relations between landlords and tenants in agriculture has presumed the existence of a well-financed and relatively powerful landlord bargaining with a weak and defenseless tenant. This situation is currently being reversed. Many farmers find it difficult to continue their farm operations as they grow older, are increasingly unable to raise the necessary capital for modernization, or find themselves at a disadvantage in trying to market their products. As a result, many of the largest farms in the state are composed of a relatively small amount of owned land and a larger area of leased land, often from several small landowners. The emerging pattern is one of small, relatively defenseless landlords, and large, increasingly powerful tenants, or vertically integrated contracting supply and processing firms. We have a relatively well developed body of law that seeks to protect tenants in their negotiations with landlords, but we have not contemplated the problem in which the weak bargaining partner was the landowner. The consequences of this reversal are intimately related to questions of agricultural labor legislation, protection for farm operators who become in effect sharecroppers on their own land, and questions of the application of principles of collective bargaining to agriculture marketing transactions.

Increases in farm size and land prices have created one problem that calls for immediate attention. Until about five years ago, it was possible for a farm family to transfer the average Minnesota farm to the younger generation without severe penalties as a result of inheritance, gift, or capital gains tax. The situation today is quite different. The outmoded rate structure and exemptions provided in estate, inheritance, and gift taxes will make it impossible for farm families to pass on existing farms in the better farming areas of the state without being forced to liquidate some of the capital in order to pay the tax costs of transfer. This situation alone, if allowed to continue, will destroy our existing structure of owner-operated farms. While it offers an opportunity for constructive legislative action, it also opens the door to a real danger that any increase in exemptions for inheritance purposes will favor larger farms and richer families. We have a long history in the United States of seeking to help family farms, only to find that we have actually increased their difficulty by giving unintended benefits to large-scale firms and non-farm capital. It will be unforgivable if we repeat this mistake in the 1970's.

The solution to problems created by income tax and credit policies, accounting rules, or estate and inheritance taxes must come ultimately at the national level. But it will be a mistake for the state to wait for action by the federal Congress. We still have a federal system of government. Land law is state law. Corporations are chartered by the state, not by the federal government. If a state legislature waits for federal action, it invites the destruction of our federal system.

And it need not wait. The United States has a long tradition of adopting pioneering legislation at a state level. The legislation then becomes a model for other states, and ultimately for the federal Congress. Examples include the graduated income tax, social security legislation, labor legislation, welfare policy, food and drug control, and more recently, environmental protection measures. There is a rich precedent for a state legislature to draw upon in taking steps to correct capital gains tax policies, accounting rules, and inheritance tax policy that are currently distorting our agricultural structure.

The growing specialization in agriculture has made farmers increasingly dependent on agri-business sectors that furnish them with production requirements, and then market and process their products. In the traditional statistical classification, agriculture in the past has been grouped with mining and fishing, as one of the extractive industries. This is a misleading classification. Agriculture today is a value-added industry, heavily dependent on purchased supplies and inputs from outside agriculture, and even more dependent on marketing outlets. The good health of agriculture is inextricably related to the good health of the rest of the economy. And the need for cooperation among farmers and their organizations has never been greater. One area in which this need is most acute is in the field of agricultural cooperatives. Now, more than ever, agriculture needs imaginative leadership in the development of a strong cooperative component in the agri-business sector. Minnesota has historically provided this leadership, and its Legislature has historically been a strong source of support. This, too, is an area in which continuous legislative vigilance is necessary.

In still another public policy sector, there will be an increasing opportunity to take steps that can promote the continuing development of Minnesota's agriculture through investments in research, teaching, and extension. As in all sectors of our current economic life, inflation has reduced the effectiveness of fixed commitments, whether they are pensions for the elderly or research budgets for agriculture. We are living at the present time on the momentum generated by many years of successful investment in agricultural education and research. This momentum will not be exhausted quickly, and it will carry us forward for a few years on the basis of present levels of investment. But the signs are distressingly clear that this base of investment in human capital, represented by research, new knowledge, and the delivery system to disseminate it widely, is being seriously undermined. At a moment in our history when both domestic and world food needs call for an expansion in investment in agricultural education and research, we are witnessing its rapid decline. Since the regular meeting of this Legislature in 1973, the relative purchasing power of public funds devoted to those purposes has been cut by at least one-fourth and in some sectors by over one-third. No one can give you an exact

estimate of the long-run cost of a reduced effort in research and development in the agricultural sector in Minnesota, but no slide rule is needed to conclude that the cost will be great. Minnesota is rightfully proud of its reputation in the fields of agricultural education, research, and extension. The challenge we face today is the challenge to return to some basic truths in the ordering of our priorities. It is still true that public investment in research and extension is one of the most effective ways to improve the distribution of benefits from technological progress. There has been no repeal of the basic truth that without increased investment in education today there can be no better tomorrow. This is unquestionably the most important policy area open for action to the Minnesota Legislature.

# LAND USE PLANNING

by Joe Sizer

Land use planning is a relatively new program which has received widespread attention lately. Bills were introduced in both houses of the 94th Congress to establish a national land use planning program. The Senate version passed, but the House version became entangled in politics and did not pass. President Ford has hinted that he will support some form of land use bill, so the issue will continue to be debated at the federal level.

Land use planning has simultaneously been cursed either as a Communist plot by which all private rights to land will be curtailed, or praised as the answer to the myriad of past, present, and future environmental problems. Quite frankly, land use planning probably will be neither of these extremes. The fact is, Minnesota has an opportunity and a responsibility to shape the meaning and the thrust of the programs within her boundaries. If our experiences of this past biennium continue, Minnesota will also have an important role in shaping the national land use planning picture.

As previously mentioned this morning, we have a mixture of land uses in Minnesota. It is often this mixture that results in land use conflict.

In the agricultural zone, competition for agricultural land may involve transportation, urban expansion, recreation, industrial development, energy generation and transmission, and wildlife production.

In the forested zone, uses competing with forestry include mining, both iron ore and taconite, which now account for more than 87,000 acres, and copper-nickel mining which has potential over a far broader area. Outdoor recreation, lakeshore development, urban expansion, transportation, and other uses may also compete for the same land.

In the urban zone, particularly the metro area, land use problems may frequently result from leapfrog development which creates urban sprawl and costly extension of public utilities. Conversion of open land, needed for agriculture and recreation, is another possible problem, as is industrial siting which results in air or water pollution, or developments of any kind which result in traffic congestion, excessive noise, or aesthetic eyesores. This scattered development is usually the result of disparities in land values, inadequate planning to support zoning, or the search for high aesthetic values for residential use.

Throughout the state, problems may occur through the unwise development of hazardous areas such as floodplains, unstable geologic formations, aquifer recharge areas, or soils which are not suited to development because of their erodability, lack of strength to support footings, or other factors.

These are problems which are real in Minnesota – problems which should be addressed by any land use planning program we develop.

In the past, government has taken a band-aid approach to problem solving by designing separate programs to deal with each problem after that problem occurs. Minnesota has created a host of separate statutory authorities, resulting in a vast array of functional programs and responsibilities under the jurisdiction of numerous state agencies, units of local government, and special-purpose boards, districts, and commissions. Recent research has disclosed that 679 land-use related powers now exist among six state agencies. The Department of Natural Resources, Department of Aeronautics, Pollution Control Agency, Highway Department, Department of Administration, and Environmental Quality Council have impact on the use of the state's lands through a variety of means. These include acquisition or disposal of land, the setting aside of certain lands, waters and resources, regulations and standards, permits and licenses, development, maintenance, financial assistance, enforcement, and taxation.

In 1973, the Legislature expanded the role of state government in land use. The Critical Areas Act, Power Plant Siting Act, Subdivided Land Act, Wild, Scenic and Recreational Rivers Act, Environmental Impact Statement requirements, and various amendments to statutes pertaining to state waters serve as examples.

In addition, units of local government have been empowered, through legislation, to regulate the use of land through zoning regulations, subdivision controls, floodplain management, shoreland management, public water and sewer system controls, and taxation.

Counties, municipalities, townships, sanitary sewer districts, soil and water conservation districts, watershed districts, and other sub-regional or special-purpose districts all have an impact on the use of the land throughout the state.

Local government has traditionally been responsible for determining the use of land within its jurisdiction. The majority of land use decisions are of a local nature and should continue to be made at that level. It is important that we strengthen the decision-making ability of elected officials at the local level by providing them with the financial and informational assistance required.

To date, we have not successfully knit these various state and local programs together, nor have we provided any pattern to guide program administration or to determine program effectiveness and accountability. Our approach to problem-solving, in many instances, still relies on a case-by-case determination of good versus bad, where we win some and lose some. The trouble is, both sides may lose the really crucial cases which should have been decided in their behalf – not so much for their sake, but for society's.

Take an issue such as wetlands. By considering the pros and cons of proposals to drain or preserve on an individual basis, it would seem that the proponents of each side could expect to win 50% of the time. That is not to say that they will win the major battles from their point of view. The forces that come together in the decision-making process may award the wrong victories to both sides. The wetland that should have been drained for farming may be protected for wildlife, and vice versa. This example could be extended to shopping centers, power plant sites, housing developments, recreational facilities, or any other type of use.

In recent years, Minnesota has probably done more than any other state to harmonize its decision-making procedures. In 1965, the Legislature created the State Planning Agency to

coordinate the various programs of state government. With the advent of programs such as land use planning, which transcend the various jurisdictions of many state agencies, this coordination role becomes even more important. But comprehensive planning must be supported by functional or program planning developed by the various departments. Hopefully, in the years ahead, the departments, with the support of the Legislature, will strengthen their own planning programs in order to achieve state goals.

In 1969, the Legislature passed the Regional Development Act under which 13 regional commissions have been established across the state. These commissions have an opportunity to strengthen the effectiveness of local government and its impact on state government policy by avoiding duplication and fragmentation at the local level. With a tally of 1,800 townships, 854 municipalities, 432 school districts, 87 counties and scores of special-purpose districts, that coordination was badly needed.

In 1973, the Legislature created the Environmental Quality Council – of great importance in tying together the vast array of separate state programs and authorities in the environmental field. Likewise, the Human Services Council, the Inter-Departmental Transportation Task Force, Manpower Council, and Rural Development Council keep individual departments from going off in separate and sometimes conflicting directions. Despite the broad scope of these coordinating groups, they all deal with programs which affect the use of the state's land.

It is helpful to compare state government to a football team. Each agency, like the quarterback, tackle, end, has a specific role. But without a play, 11 men run directionless around the field. Goals, objectives, and policies are like that play, and with them, the team may score a victory if each team member does his part. If we reach harmony at the policy level, we stand a chance of realizing harmony at the program level. Until that happens, however, the final outcome of a debate to drain a wetland for agriculture versus preserving it for wildlife is a toss-up.

In the area of policy development, Minnesota has made significant progress in recent years. In 1973, the Legislature created a Commission on Minnesota's Future. Forty citizens and 12 members of the Legislature from throughout the state are investigating various strategies for growth and development. The Commission will report its findings back to the Legislature in 1976 for consideration of policies. Also in 1973, the Legislature passed an Environmental Policy Act. Although the Act is not perfect, it represents an important step in the right direction.

Our overall body of policy, however, is confusing and may defy interpretation in some cases. Research was conducted during the past year to delineate the various "policies" intended to provide direction for land-use related programs at the state level. The purpose was to compare statutory policies and goals with the objectives described in the departmental program budgets, and with other guidelines such as rules and regulations, or established operating procedures of the departments. Logically, there should be a definable sequence of statements, becoming more specific as one goes from the statutes, or even the State Constitution, to the program level. So unstructured was this sequence, that staff finally referred to all these statements as "directives," without attempting to determine whether they were goals, objectives, policies, or procedures. Some of the most specific directives, dealing with intimate details of a program, were found in the State Constitution, while the broader statements of purpose were enunciated in program budgets or rules and regulations promulgated by the departments.

In addition to a sound governmental structure for making and implementing land use decisions, plus well delineated policies which provide a framework for future actions, there is one other ingredient necessary for successful land use planning: accurate information about the lands and resources of the state.

As early as 1963, the Minnesota Resources Commission recognized the need for improving and accelerating the state's data collection activities. In that year, topographic mapping was available for only 45% of the state, and much of it was obsolete. The MRC backed a ten-year program for statewide topographic mapping which will be completed on schedule in 1975. State appropriations of $4.9 million during the ten-year period have been augmented by $5.2 million in federal funds.

Other natural resource data needs have also been identified, and the collection of the data has been accelerated. The Soils Atlas Project of the University of Minnesota is producing the first statewide soil survey utilizing a uniform scale and soil classification system. Geologic information, which has direct application to land use decisions, is being collected in areas other than the Iron Range during this biennium. Uniform air photo coverage of the entire state is now available in inexpensive prints, at the same scale as the topographic maps, to permit easy comparison. Over 60,000 of these prints have been requested and distributed since 1970. Future geologic maps and soil surveys will be published at the same scale. In addition, space technology has provided us with the ERTS satellite which passes over the same point in the state every 18 days and transmits imagery back to earth. The potential for accurate interpretation and use of this data is being studied.

With information becoming available through a growing number of sources, it was necessary to develop a system for collecting and storing information in a manner which would make it readily available for use in solving problems. The system which was developed is the Minnesota Land Management Information System – MLMIS, which organizes data into common data cells or geographic units. The data cell selected for Minnesota was the 40-acre parcel which is the smallest common denominator of most land records, and has been used as the basis for locating field lines and roads for many years. In Minnesota, there are 1.5 million "40's", and information for each one can be conveniently stored and retrieved through the use of a location code.

The first product of the system is the land use map referred to earlier. Although the data is highly generalized, this map provided the first graphic view of statewide land use patterns. This map would not have been possible without the aerial photo coverage,which demonstrates the important interrelationship of various data collection and presentation techniques.

During the past year and one-half, the Arrowhead Region of Minnesota has been used as a pilot area to experiment with

the potential of this system before it is expanded statewide. Soil, geologic data, vegetation, hydrologic features, highways, and ownership have been combined with the land use data portrayed on this map. When the system becomes fully operational, the data will be available to all decision-makers quickly and in a suitable format for use in a variety of ways. For example, the information on vegetation will permit a quick tabulation of the total acres of aspen, pine, or other species that exist for each county, each region, and the entire state. Information on land ownership could be combined with the data on vegetation to produce tables or maps showing the amount and location of state, county, or private land with aspen, pine, or other species by county or other geographic unit. With the addition of accurate soils information, the potential for growing certain tree species could be calculated, to assist in the preparation of management plans for maximizing the production of timber.

The value of the system is limited only by the availability of good data and by the imagination. Of course, our imaginations are in some cases ahead of quality data and effective management systems. For a variety of reasons, we do not have good records about some of the physical resources of the state. For example:

* The scale and accuracy of soil surveys vary widely.
* Statewide forest resource information is highly generalized.
* Ownership records for all public lands are not maintained uniformly.
* We do not begin to have adequate records about our lakes, streams, floodplains or wetlands, despite our image as the land of 10,000 lakes.
* The vast majority of past geologic studies have been concentrated in northern Minnesota. Geologic data needs to be collected on a statewide base to assist in the planning and construction of buildings, development of transportation facilities and utilities, location of underground storage areas, and the protection of underground aquifers which supply drinking water. The states of Illinois, Iowa, and the Dakotas have spent much more for geologic surveys than has Minnesota.

Minnesota desperately needs to embark on a long range Resource Exploration and Analysis Program designed to collect and maintain the accuracy of these data.

In order to make and implement sound land use decisions, we must have stated goals, objectives, and other necessary directives which provide an understanding of what we are attempting to achieve as a state. This then needs to be supported by accurate and readily accessible information and an effective government structure.

We recommend for your consideration a recurring six-step process which incorporates these ingredients.

1. The analysis of current resources.
2. Identification of problems and opportunities.
3. Development of goals and objectives.
4. Formulation and enactment of policies.
5. Implementation of policies through private and public programs.
6. Evaluation of progress and effectiveness of these programs.

Unlike the traditional plan that is static and quickly outmoded, this process is dynamic and responsive to changing conditions.

In summary, it is likely that future economic, social, and environmental demands will require a change in existing land use patterns of the state. Yesterday and this morning, we have heard presentations describing current changes in the distribution of the state's population and land use. Unfortunately, we do not have a crystal ball with which to predict conclusively all future conditions. It is important, therefore, to establish a framework which will permit future land use options and provide an orderly transition from the uses of today to those of tomorrow. Minnesota is fortunate in having much of this framework in place. Our programs and governmental structure are the envy of most other states. We do have a need for obtaining better information about the physical resources of the state in order to determine its full potential, to manage effectively a broad range of existing programs, and to develop state policies appropriate for the future.

It is important to remember that land use is a complex phenomenon that is determined by and has an impact on our social, economic, and environmental values. In order to be successful, therefore, a land use planning program must logically traverse and seek to coordinate the broad spectrum of social, economic, and environmental issues. This task will be a cooperative venture and will require the full participation of all branches and levels of government and the private sector.

## POWERS OF MINNESOTA STATE AGENCIES TO CONTROL LAND USE

| Powers | Agencies and Departments | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Natural Resources | Adminis-tration | Highways | Pollution Control | Aero-nautics | Environmental Quality Council | State in General | Local Government Units | Totals |
| **Acquisition** | 44 | 11 | 13 | 0 | 4 | 0 | 10 | 7 | 99 |
| **Reservations** | 13 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 17 |
| **Regulations and Standards** | 93 | 0 | 14 | 30 | 16 | 4 | 5 | 14 | 176 |
| **Permits and Licenses** | 53 | 0 | 0 | 14 | 16 | 3 | 3 | 8 | 97 |
| **Alienability** | 51 | 4 | 23 | 0 | 2 | 0 | 8 | 8 | 96 |
| **Development** | 59 | 0 | 33 | 12 | 8 | 4 | 2 | 11 | 129 |
| **Maintenance** | 34 | 0 | 12 | 10 | 6 | 0 | 0 | 20 | 82 |
| **Financial Assistance** | 12 | 1 | 31 | 11 | 11 | 1 | 4 | 8 | 79 |
| **Enforcement** | 16 | 0 | 0 | 7 | 2 | 1 | 1 | 1 | 28 |
| **Totals** | 375 | 16 | 126 | 84 | 65 | 13 | 37 | 77 | 793 |

# MINNESOTA'S MAN-MADE ENVIRONMENT

**HOUSING**
by James J. Solem

**TRANSPORTATION**
by Harry A. Reed

**ENERGY**
by A. Edward Hunter

**Note:**

All visuals for above presentations are included in Appendix at the end of this section.

# MINNESOTA'S MAN-MADE ENVIRONMENT

## HOUSING
by James J. Solem

Adequate housing, at a cost that families can afford, has always been an important issue in Minnesota. This has been true from the time of the sod hut and log cabin, to the present day when down payments and high interest costs make the acquisition of a house as difficult as did the physical environment in earlier times.

Housing policy — state and federal — is really a combination of many policies and actions. Tax and fiscal policy are as important as specific programs of any state or federal agency. The relationship between public policy of all kinds and private action to produce housing is direct, immediate, and basic to all issues involved.

In this presentation, we will describe briefly the housing issues facing the state, outline some policy alternatives, and try to show the relationship between public policy and private action.

Today, housing issues facing Minnesota are as complex as they have ever been. In the next ten years, in order to meet demands created by new families and to replace substandard units, Minnesota must double the number of new housing units produced during the best year the industry has ever seen. This means that capital necessary for financing will amount to $2 billion per year, each year, for the next ten years.

The most important issues facing the state are housing demand and production; effective utilization of existing units; cost and availability of capital to finance housing; ability of families to buy housing they can afford; equitable distribution of housing throughout the state; access to adequate housing by low income families, minority groups, the elderly; and appropriate roles for public and private organizations both in the production of new housing and management of existing stock.

Minnesota has always been a state with a high rate of homeownership. Of the 50 states, Minnesota in 1970 had the fourth highest rate of homeownership. Over 70% of all housing units in Minnesota were owner-occupied. The 50-state average is 62.5%.

Housing stock in Minnesota is, however, old. About half of all existing units were built before 1940. Of these, 92% were single family units. Thus, a large portion of single family housing is well over 30 years old.

Housing stock in rural Minnesota is older than in urban areas, with 63% of all outstate units having been built before 1940. In 71 of the 87 counties, over half of all housing units were built before 1940.

The percentage of units built before 1940 by region varies from 70% in Region 6W to about 40% for the metropolitan area.

While the housing stock both in Minnesota and nationwide has improved in quality over the past 20 years, a large percentage of the state's existing units are overcrowded and still have inadequate plumbing — as many as 26% of the units of housing in Region 2.

It is important to an understanding of future housing requirements and present public policy to realize that even with the most optimistic projection for new construction, one-half or more of all units of housing that will be used in the year 2000 already exist.

The cost of producing new units, compared to rehabilitating existing ones, makes it clear that an important state policy objective must be the best possible use of today's housing stock and a concerted effort to maintain its quality for future use.

Using 1970 census data as a benchmark, two important changes have taken place in Minnesota's housing trends during the last five years. First, there has been a reduction both in the number and percentage of single family units built. Of all units produced in the state since 1970, 54% have been single family and 46% multiple units. A similar trend is taking place nationwide, with the percentage of single family units produced in all states below 55% in 1973.

A second major change taking place in Minnesota is the increased utilization of the mobile home. The 1970 census showed there were approximately 30,000 mobile homes in Minnesota. By 1974, tax assessment data show that this number had increased to 55,479.

Again, the same phenomenon is taking place nationwide, with mobile homes comprising over half the single family housing starts for the year 1973. It raises a number of important policy issues for the state: appropriate and adequate design in terms of energy conservation, site planning, land use

and sprawl, housing quality, and standards for health and safety – to name only several.

In addition, issues of community acceptability, which in turn are related to tax policy, design, planning, and construction standards, are also important, as the composition of housing stock changes.

The increasing utilization of both the mobile home and multiple unit housing indicate the basic housing issues facing not only Minnesota but the entire country. These are the rapidly rising cost of all forms of housing, especially the traditional, single family detached house, and the difficulty of obtaining reasonable necessary financing to purchase adequate housing.

As the cost of both construction and money continue to go up, alternatives such as mobile homes and multiple unit buildings will become more prevalent. Additional factors of energy conservation, better land use, and control of increased sprawl and operational costs, will all have an effect on traditional housing consumption patterns.

The problem of demand, and ability to meet demand, is the major housing issue facing the state. Housing production costs are at an all-time high, as is money for financing housing production. Yet Minnesota is now facing a period of unprecedented housing demand.

Over the next ten years, it is projected that 242,000 families will enter the housing market. This increased demand will come primarily from the 20 to 34 year old age group in our population: kids of the baby boom now need a place to live.

This demand for new housing can be met only by the production of new units and the better utilization of existing units. But whatever the combination of new and existing units, it is clear the state will have to produce more new units than have ever been produced in our history.

Total housing demand for the next ten years must take into account, then, these 242,000 new families; the need to replace existing substandard units; and the maintenance of a housing stock large enough to support an appropriate vacancy rate, thus helping to reduce rents. These combined factors indicate that Minnesota should produce between 45,000 and 50,000 new units each year for the next ten years.

To put this in the perspective: these figures are about double Minnesota's best new housing production year.

Housing policies, necessary to meet this demand, involve a complex set of relationships with other policy areas. For example, in the next ten years, the state will also have an additional 26,385 elderly families. The provision of adequate housing to meet their demands is closely related to policies necessary to meet the demands of the 242,000 new families. If existing housing stock is to be used effectively to meet requirements of new families, then policies for the elderly which provide acceptable housing, in appropriate locations, must also be developed and implemented.

Many elderly families remain in housing which exceeds their actual needs because of tax policies, their desire to remain in a familiar neighborhood, the importance of their financial investment, and the lack of appropriate and suitable alternative housing for them.

State policy must then be sensitive to the need to provide all families – young as well as old – greater flexibility in exercising choice among existing and new units, while retaining the benefits that now accrue to homeownership through state and federal tax policies.

Public policies to meet housing demand must also take into consideration the income that will be available to meet increasing costs. There is an accurate cliche which says: "Poverty is the largest single housing problem we have". The limited data available on projected incomes in Minnesota show that the problems of the poor, minority groups, the elderly, and the Indians on reservations will not decrease, and that public policies which assist low income families in obtaining adequate housing will be a major requirement for the future.

The need to double housing production in Minnesota comes at a time when the housing industry, both in this state and nationwide, is in the worst shape it's been in since World War II. Housing production, throughout the nation, is near an all-time low, 48% of what it was a year ago. New building permits, issued for November, were also at an all-time low. The experts are predicting that the 1974 year-end number of new housing starts, nationwide, may be below one million units for the first time in the last eight years.

The need to double housing production also comes at a time when there are no existing federal housing programs with a demonstrated ability to provide housing units at a cost within reach of low and moderate income families. Federal housing policy is in a state of transition. It is impossible to predict its impact on housing programs in Minnesota.

With the uncertainty in federal housing policy, state government and the State Housing Finance Agency will have to play more prominent roles, if the demand requirements we have just outlined are to be met. At the very least, state policy must be designed for maximum utilization of federal programs when they begin operation. State and federal programs must be combined, in order to receive the maximum possible reduction in housing costs for low and moderate income families.

Finally, the need to double housing production comes at a time when the costs of all elements of housing, including capital for financing, are at an all-time high.

Housing is the largest single user of credit in our nation's economy. In 1972, total residential mortgage credit outstanding was $476 billion. The next largest user of credit is the United States government, with a total federal debt of about $354 billion.

The availability of an adequate supply of money at a cost families can afford is largely dependent on federal monetary policy. As complex and confusing as that policy might be, it is, nonetheless, a major determinant of housing availability and cost.

Most of the credit provided for housing comes from the so-called thrift institutions – savings and loan associations and mutual savings banks. The supply of credit for residential housing is extremely volatile, reflecting the swings in national economic conditions.

An important task for the Minnesota Housing Finance Agency will be to remove at least some of this volatility from credit availability, and to insure a continuous flow of dollars, at a realistic cost, to low and moderate income families.

While it is impossible to determine accurately the total dollar amount of mortgage credit used in Minnesota in any one year, a reasonable estimate is that it has averaged about $1 billion a year over the past few years. In 1973, the savings and loan associations in Minnesota made about $645 million in mortgage loans. In 1972, the savings and loan industry's volume was about $690 million. Assuming national averages for the amount of business that savings and loan associations do, the estimate of $1 billion is a reasonable approximation for credit required.

Thus, if housing production is to double in order to meet basic demand, the need for credit must also double to about $2 billion each year. It is important to note the competition for credit that is likely to exist in the economy in the next few years. You have seen, or will see, estimates in other areas, such as energy, transportation, and basic economic development, which show substantial future demands for new credit. With keen competition for credit, the cost of money is not likely to decrease, and real questions emerge about the ability of the economy to generate sufficient savings to meet all these credit demands.

An important policy issue for Minnesota is the extent to which the Minnesota Housing Finance Agency can and should be used as an instrument for raising necessary capital to finance housing demands.

Total housing costs are directly related to the cost of money — the largest single element in housing costs. As an example: if you were to buy a $45,000 house today with a 9% loan and 30-year payback on the loan, at the end of 30 years you would have paid $130,352 for principal and interest on that $45,000 house. For a $45,000 house, it costs $85,350 at 9% just to acquire the necessary capital to make the purchase.

The rapidly increasing cost of housing, including capital, means that fewer families will be able to afford to purchase new or existing units, and that a larger number of families will have to receive some assistance in acquiring adequate housing.

While the initial cost of a house is of concern to only a small percentage of the population — the less than 10% every year who purchase one — the price of new housing is an indicator of other cost trends taking place.

Maintaining and operating a home, including repairs, utilities, and real estate taxes, is an important part of total housing costs, and here, the costs continue to rise at a rapid rate. For example, over the past five years, data from the Consumer Price Index for the Twin Cities area show that the single item of fuel oil and coal has increased by 77.3%, the cost of gas and electricity by 32.4%. These costs, combined with increasing construction costs and increased cost of money, have important policy implications for the state.

In February, 1966, the Federal Housing Administration's guaranteed loan rate was 5.25%. In November, 1974, this rate was 9%. The increase of 3.75 percentage points in the cost of money means that the total cost of repaying principal and interest on a $30,000 home for 30 years increased by $27,442.80.

Data from the Area Office of the Department of Housing and Urban Development show that the cost of labor and materials, and builders' overhead and profit, for the construction of housing in the metropolitan area, has increased 40% since 1970. With the addition of the increase in lot values, which is estimated to be between 75% and 100% for the state, you can begin to see the magnitude of increased costs in the production of housing just in the past four years.

A major policy concern is, therefore, the reduction of housing costs in such a way that all families will have access to adequate housing. This reduction is necessary, not only in initial purchase price and cost of money, but also in reducing the other elements of housing costs, related to continued operation and maintenance.

An important way in which housing costs are reduced is through the use of public policies which provide subsidies to consumers. The most important housing subsidy program is found in state and federal tax policy. The opportunity to deduct interest and property tax costs from state and federal income tax calculations is the largest single housing subsidy, in terms of dollar amount. A second important way is, of course, the direct subsidy programs of federal agencies, such as public housing, and the indirect subsidy provided by the Minnesota Housing Finance Agency through reduced interest rate costs.

Every homeowner in Minnesota — all 825,000 or more — receives an indirect subsidy through state and federal tax policies. The Minnesota Department of Revenue estimates that a family with an income of $30,000 a year, owning a $45,000 home with an 8% mortgage and paying average property taxes receives, through the opportunity to deduct interest and property taxes from income taxes, through the lower homestead classification ratio, and through the homestead credit provisions, a total annual subsidy of combined state and federal tax breaks of $2,169 per year.

The total number of housing units receiving direct subsidies from federal programs, such as public housing and the Farmers Home Administration, is only about 42,000 in Minnesota. Of these 42,000 units, 60% are subsidized public housing units for the elderly. For low income families, there are only about 17,000 directly subsidized units of family housing available in the entire state. Yet, every one of the 825,000 units, owned by families in Minnesota, receives an indirect subsidy through state and federal tax policy.

Nationwide, homeowner income tax deductions for interest and property taxes cost the federal government $6.2 billion in lost taxes for 1972. Other lost taxes, such as the tax break on capital gains on the sale of homes, cost $4 billion.

In that same year, the total cost of all direct federal subsidy programs was only $2.5 billion.

The amount of tax loss to the federal government from families earning over $20,000, who deducted interest and real estate taxes from their federal income taxes, was $3 billion in 1972. This amount is greater than total federal subsidies paid to low income families, through direct housing programs.

The important policy point here is that substantial housing subsidies are available through state and federal tax policy, that these subsidies not only benefit homeowners but also have direct bearing on their ability to afford a home. The high rate of homeownership in this state is, in part, the result of state and federal tax policies.

The question is not whether housing subsidies will be provided by state government, but rather in what form, in what amount, and for whose benefit?

Housing subsidy through tax policy also has an important

impact on the type of housing found in this state. Existing policy provides an incentive for single family homeownership. It also provides a disproportionate benefit for middle and upper income families. If the requirements of energy conservation and a more effective land use and transportation policy dictate a change in housing consumption patterns, then tax policies, which provide incentives to acquire single family detached dwellings, must be re-examined.

The need to reduce housing costs will require taking maximum advantage of existing federal direct subsidy programs and increasing the activity in state housing programs in order to insure that Minnesota receives maximum possible utilization of existing federal subsidy programs.

All units of housing produced in this state are built by the private sector. Most of the units produced are financed through the private sector. Most of the developers who package, finance, design, and construct housing are private developers. In short, it is the private sector that will finance and produce the housing units we need in this state. Public policies which reduce the uncertainty of financing, which improve the ability to raise capital at a reasonable rate, to make capital available in all areas of the state, are important policies for insuring that the private sector will be able to produce adequate numbers of housing units.

In looking at the housing issues which face the state, it's useful to think in terms of the following framework. The issues involve (1) production and utilization; (2) cost and availability of capital; (3) distribution of, and access to, housing units; and (4) appropriate public and private roles in producing and financing housing.

It is clear that in the next ten years we must produce, in this state, a larger number of new units than ever before. It is also clear that these new units will cost more than they ever have, and that the existing housing stock must be more effectively used than ever before. Rehabilitation is as important as production of new units, and state and federal programs must insure that an appropriate number of existing units receive rehabilitation each year.

The availability and cost of capital must be carefully reviewed, both in terms of an appropriate role for the State Housing Finance Agency, and appropriate policies in areas such as usury rates and the regulation of the private housing finance and capital formation industries.

Standards found both in law and the requirements of state agencies and local governments, affecting the quality and cost of housing, must be carefully reviewed. On the one hand, stricter standards which relate to energy conservation increase initial housing construction costs, but they also reduce long term utility costs. Ways must be developed to assist with the initial higher purchase price, so that appropriate energy conservation techniques may be made a part of new housing units.

As the percentage of renters continues to increase, adequate protection for tenants, and the assurance of quality living environments, will need to be a major concern. Access to decent housing by low income families, the elderly, minority groups, Indians on reservations, should be a major concern. Both state and federal programs must insure access to their benefits by all these groups. Federal, state, and local governments must be continually sensitive to the need to produce units, and make available existing units, in all areas of the state, for low income families. Housing distribution and access to housing, at a cost which lower income families can afford, will be an important policy issue for the next 15-20 years.

There are obvious limits, both in terms of financial policy and other types of policy, to the effectiveness of state action in meeting housing demands. The federal government has a clear responsibility, and state government must insure that this responsibility is met.

In 1948, Congress said that decent housing for all people at a reasonable cost was a recognized national policy objective. This objective has not yet been met. Achieving the objective in the future is likely to be more difficult than it has been in the past. Meeting the objective is as important today as it was in 1948 and will be a major issue for Minnesota.

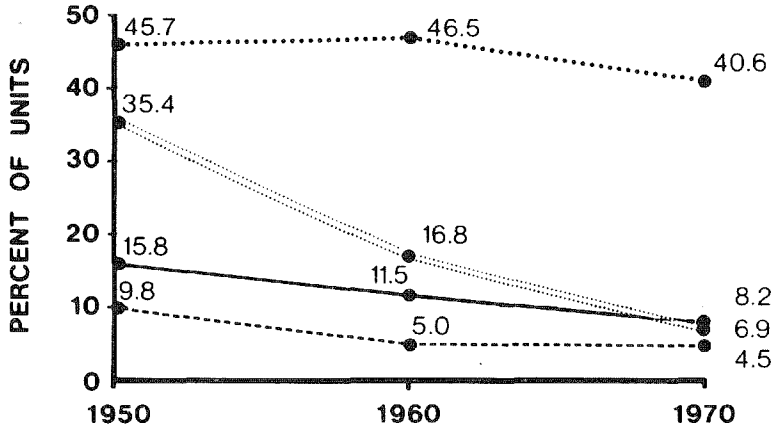
# % OF OWNER OCCUPIED UNITS

## MINNESOTA
71.5 %

## U.S. AVERAGE
62.5 %

## MINNESOTA RANKS 4th OUT OF THE 50 STATES

**CHARACTERISTICS OF HOUSING STOCK, TOTAL U. S., 1950, 1960, 1970**




····· % MORE THAN 30 YEARS OLD

:::::: % LACKING COMPLETE PLUMBING

— % OVERCROWDED

---- % DILAPIDATED

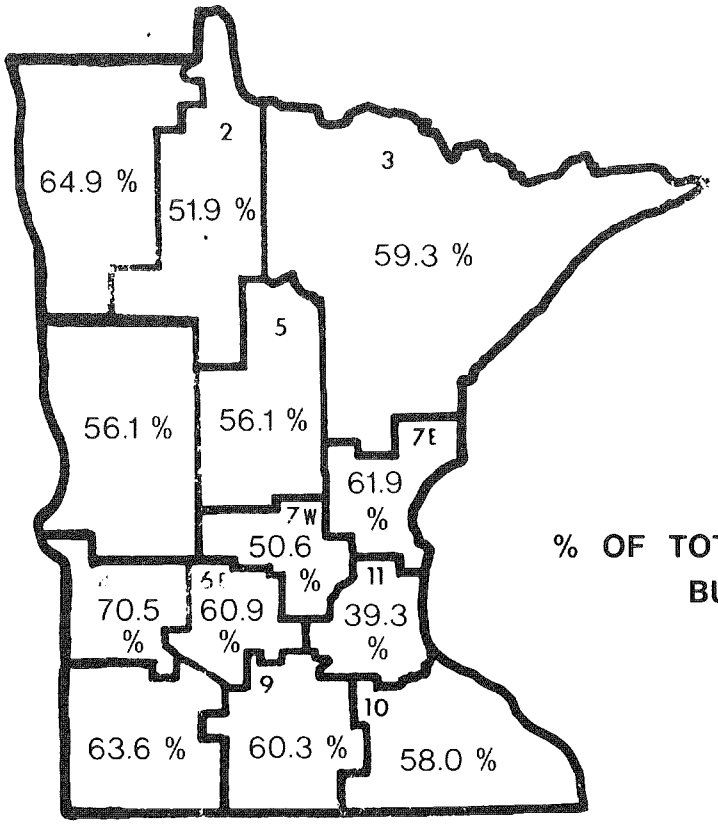
# AGE OF HOUSING

## % OF UNITS BUILT BEFORE 1940

**TOTAL UNITS.....49%**

**UNITS OUTSIDE METRO AREA.....63%**

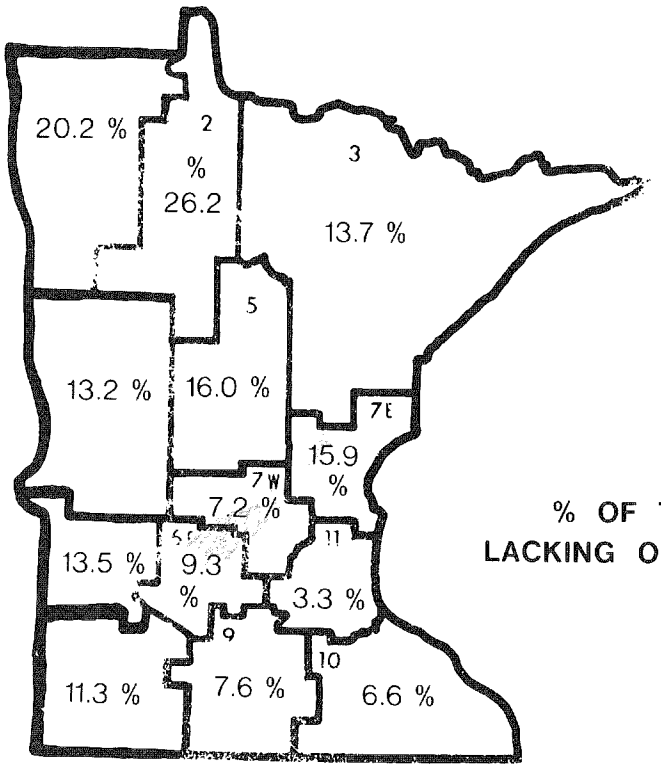
**In 71 of 87 countries, over one-half of units were built before 1940.**




**AGE**

**REGIONAL MAP**

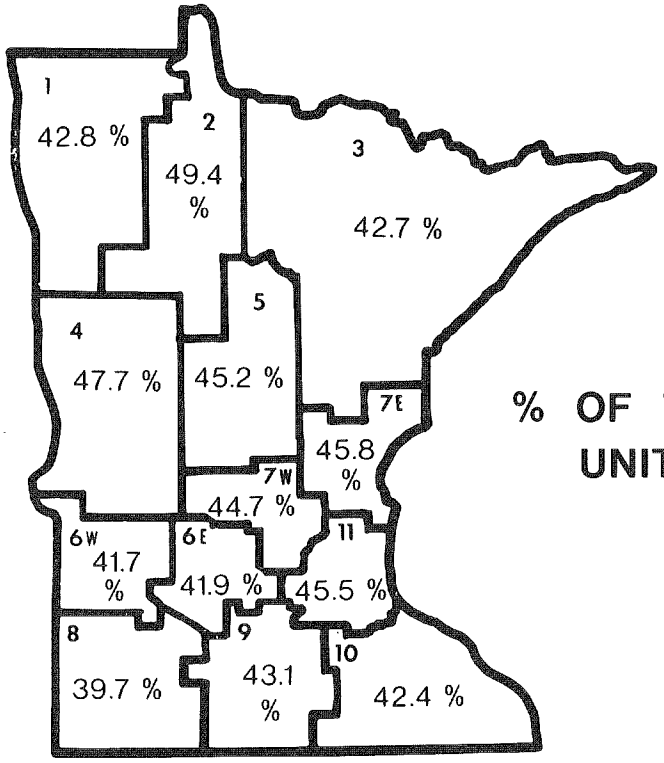
**% OF TOTAL YEAR ROUND UNITS BUILT BEFORE 1940**



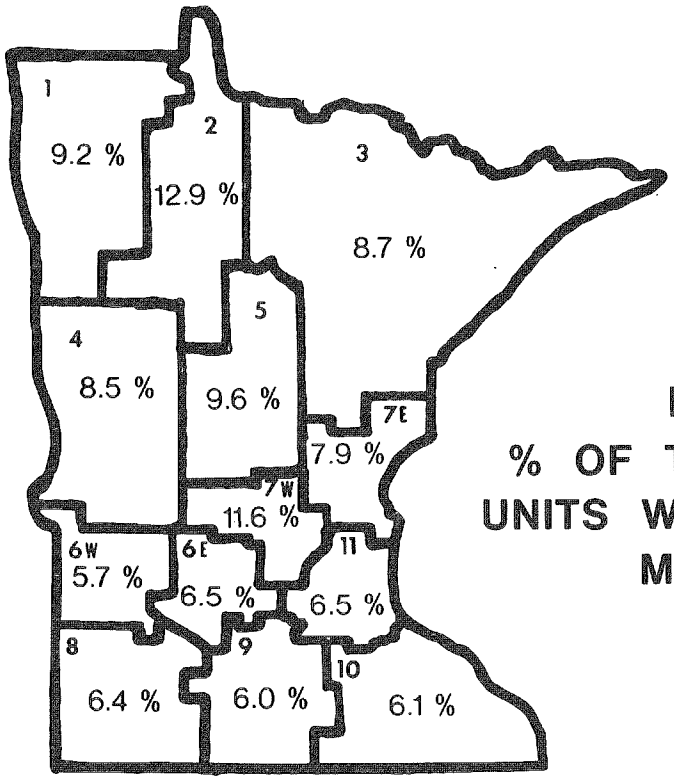

## PLUMBING

### REGIONAL MAP

% OF TOTAL YEAR ROUND UNITS
LACKING ONE OR MORE PLUMBING UNITS




## REGIONAL MAP
## % OF TOTAL RENTER OCCUPIED UNITS PAYING MORE THAN 25 % OF INCOME




**REGIONAL MAP**
**% OF TOTAL YEAR - ROUND UNITS WITH 1.01 PERSONS OR MORE PER ROOM**

# INDIAN RESERVATION HOUSING

**30 % of Units Lack Plumbing**

**42 % of Total Population Live in Overcrowded Units**

# INDIAN HOUSING UNITS
# RE : PLUMBING

| UNITS | WITH ALL PLUMBING | % | LACKING PLUMBING | % |
|---|---|---|---|---|
| **Total Occupied 5,588** | 3,886 | 69 % | 1,702 | 30 % |
| **Owner Occupied 3,984** | 2,857 | 71 % | 1,127 | 28 % |
| **Renter Occupied 1,096** | 679 | 61 % | 417 | 38 % |

# TOTAL HOUSING PRODUCTION - MINNESOTA 1970 - 1974

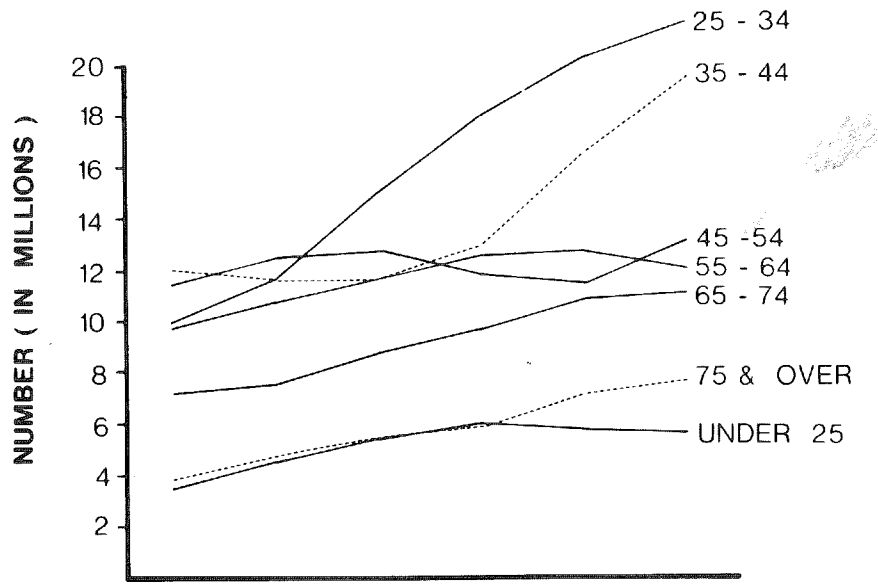
| | | |
|---|---|---|
| SINGLE FAMILY | 69, 290 | 54 % |
| MULTIPLE UNIT | 59, 039 | 46 % |
| TOTAL | 128, 329 | 100 % |

# % SINGLE FAMILY UNITS

**MINNESOTA** _____ 73.5 %

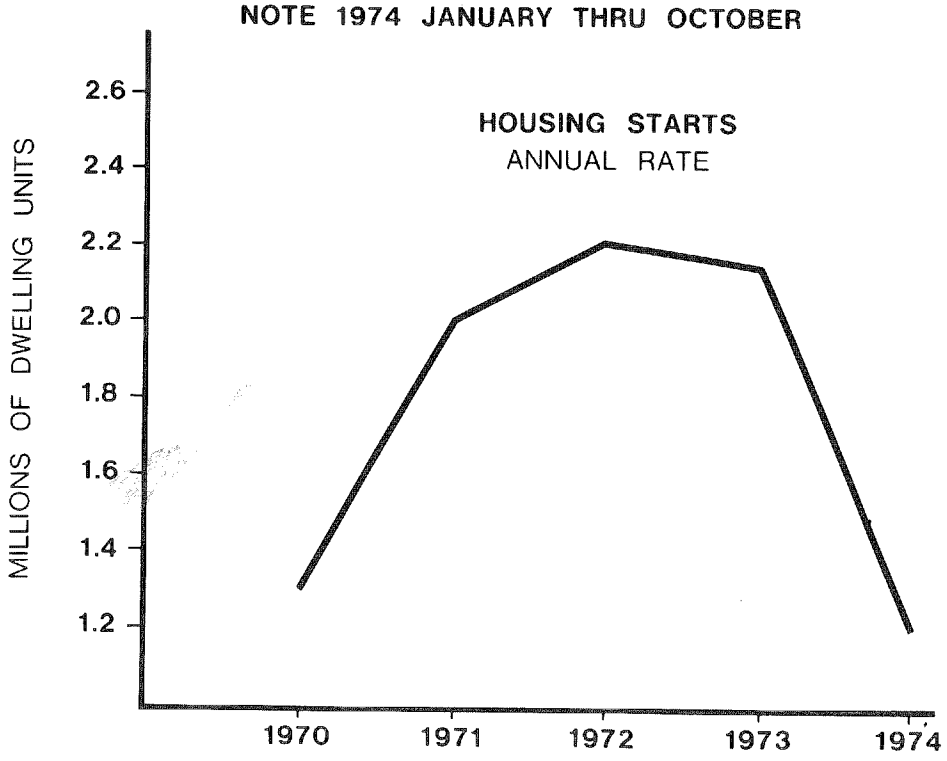
**U.S. AVERAGE** _____ 69.4 %

## NATIONWIDE PROJECTED NUMBER OF HOUSEHOLDS BY AGE OF HEAD




| YEAR TOTALS | 1965 | 1970 | 1975 | 1980 | 1985 | 1990 |
|---|---|---|---|---|---|---|
| ( MILLIONS ) | 57.251 | 62.874 | 70.078 | 77.296 | 84.213 | 90.05 |

# NATIONAL HOUSING STARTS
## 1970 - 1974
NOTE 1974 JANUARY THRU OCTOBER



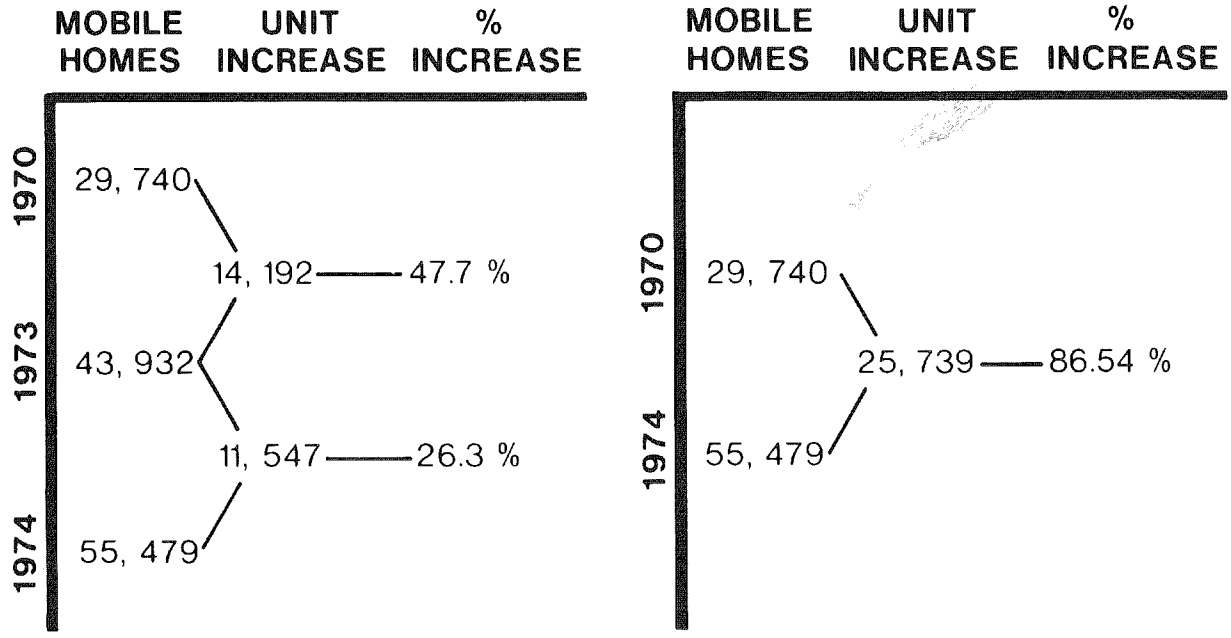

# MINNESOTA HOUSING PRODUCTION
# TOTAL UNITS 1970 - 1973

| | | |
|---|---|---|
| METRO AREA | 82, 367 | 70.4 % |
| OUT STATE | 34, 579 | 29.6 % |
| TOTAL | 116, 946 | 100 % |

# NATIONWIDE HOUSING STARTS BY NUMBER OF FAMILY UNITS

| | Single Family | Multi Family |
|---|---|---|
| 1960 | 77.8 % | 22.2 % |
| 1965 | 63.9 % | 36.1 % |
| 1970 | 55.5 % | 44.5 % |
| 1973 | 54.8 % | 45.2 % |

# MOBILE HOME PRODUCTION BY NUMBER AND % INCREASE



# NATIONWIDE MOBILE HOME STARTS AS A % OF TOTAL HOUSING STARTS

| | % OF SINGLE FAMILY STARTS |
|---|---|
| 1960 | 10.3 % |
| 1963 | 14.9 % |
| 1965 | 22.4 % |
| 1970 | 49.2 % |
| 1972 | 43.9 % |
| 1973 | 51.2 % |

# MINNESOTA HOUSING UNITS 1970 - 1974

| | |
|---|---|
| MOBILE HOMES | 20.05 % |
| OTHER | 79.95 % |

## MINNESOTA HOUSING DEMAND PROJECTION

| | 1975 | 1985 | INCREASE |
|---|---|---|---|
| TOTAL OCCUPIED HOUSEHOLDS | 1,237,696 | 1,479,444 | 241,748 |
| HUSBAND AND WIFE FAMILIES AGE 20 - 34 | 283, 624 | 395, 864 | 112, 614 |

# ESTIMATED HOUSING DEMAND PER YEAR

| | NEW FAMILIES | REPLACEMENT OF EXISTING UNITS | ESTIMATED TOTAL UNITS |
|---|---|---|---|
| 1975 - 1980 | 23,000 | 20,000 - 25,000 | 43,000 - 45,000 |
| 1980 - 1985 | 25,000 | 25,000 - 30,000 | 50,000 - 54,000 |

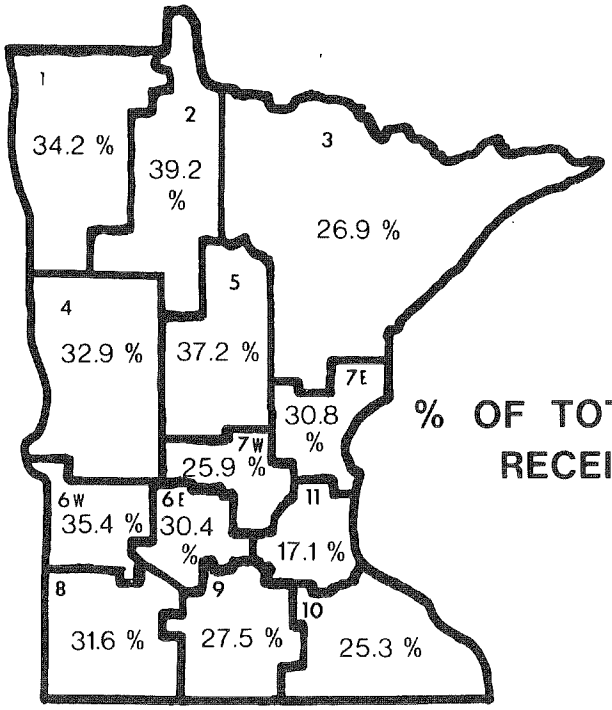
# MINNESOTA FAMILY UNITS
# 65 YEARS PLUS

| | NO. OF FAMILY UNITS | % OF TOTAL FAMILY UNITS |
|---|---|---|
| 1975 | 251, 908 | 20.5 % |
| 1985 | 262, 159 | 18.0 % |
| 1975 - 1985 UNIT INCREASE | 10, 251 | 4.5 % |

| | % OF TOTAL INCREASE / FAMILY UNITS |
|---|---|
| 1975 - 1985 | 4.5 % |

# MINNESOTA
# OCCUPIED HOUSEHOLDS

| YEAR | NO. OF HOUSEHOLDS |
|---|---|
| 1970 | 1,153,946 |
| 1975 | 1,237,696 |
| 1980 | 1,353,446 |
| 1985 | 1,479,444 |



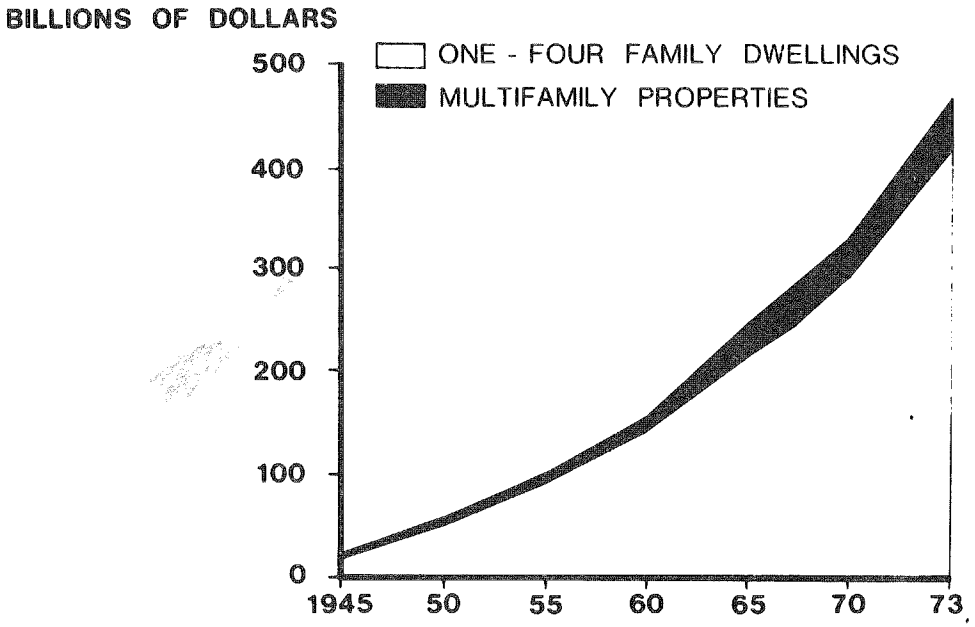

## 1970 CENSUS

## REGIONAL MAP
## % OF TOTAL OCCUPIED HOUSEHOLDS RECEIVING $ 4,000 OR LESS IN INCOME

# NOVEMBER 1974
# NATIONAL AVERAGE MORTGAGE RATES
# FEDERAL HOME LOAN BANK BOARD
# NEW RECORD HIGHS

| | NEW HOMES | EXISTING HOMES |
|---|---|---|
| AVERAGE CONVENTIONAL RATES | 9.32 % | 9.61 % |
| AVERAGE PURCHASE PRICE | $ 42,800 | $ 25,600 ( $ 36,600 IN OCTOBER 1974 ) |

# RESIDENTIAL MORTGAGE DEBT OUTSTANDING
# 1945 - 1973



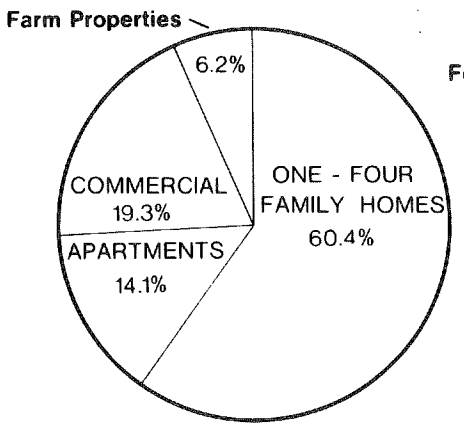

# POSTWAR GROWTH IN SELECTED TYPES OF CREDIT

(BILLIONS OF DOLLARS)

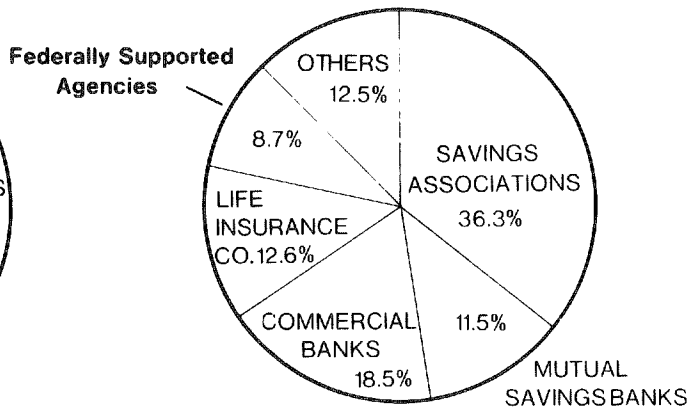
| TYPE OF CREDIT | 1947 | 1973 | INCREASE |
|---|---|---|---|
| TOTAL CREDIT OUTSTANDING | $366.1 | $1,962.1 | $1,596.0 |
| RESIDENTIAL MORTGAGE CREDIT | 28.2 | 386.0 | 357.8 |
| 1 - 4 FAMILY HOMES<br>MULTI FAMILY UNITS | 6.6 | 90.4 | 83.8 |
| TOTAL | 34.8 | | 441.6 |
| CORPORATE BONDS | 27.2 | 210.0 | 182.8 |
| STATE and LOCAL GOVERNMENT OBLIGATIONS | 16.3 | 181.9 | 165.6 |
| CONSUMER CREDIT | 11.6 | 180.5 | 168.9 |
| MORTGAGE and COMMERCIAL PROP. | 9.1 | 123.6 | 114.5 |
| FEDERAL DEBT | 220.8 | 353.9 | 133.1 |

## TOTAL MORTGAGE LOANS OUTSTANDING, YEAR - END 1973

TYPE OF PROPERTY




TYPE OF LENDER




# HOUSING COST AND ABILITY TO PURCHASE

## ( 25% OF INCOME TO HOUSING )

| | $30,000 HOME | $40,000 HOME |
|---|---|---|
| AN 8% INTEREST RATE TAKES AN ANNUAL INCOME OF | $12,720 | $14,400 |
| A 10% INTEREST RATE TAKES AN ANNUAL INCOME OF | $15,120 | $17,280 |

# NATIONWIDE CHANGE IN SALES PRICE OF NEW SINGLE FAMILY HOMES
## % DISTRIBUTION

| SALES PRICE | 1966 | 1970 | 1973 |
|---|---|---|---|
| UNDER $ 15,000 | 15 % | 4 % | 1 % |
| $ 25 - 30,000 | 16 % | 15 % | 19 % |
| $ 30 - 35,000 | 9 % | 10 % | 17 % |
| $35 - OVER | 10 % | 19 % | 41 % |

# HOUSING COSTS
# MINNEAPOLIS - ST. PAUL
## % INCREASE FROM 10 / 69 TO 10 / 74

| | |
|---|---|
| HOUSING | 33.7 % |
| HOME OWNERSHIP | 39.5 % |
| FUEL, OIL AND COAL | 77.3 % |
| GAS AND ELECTRICITY | 32.4 % |

# HOUSING COST ELEMENT INCREASE 1970 - 1974

## SINGLE FAMILY UNIT

### MATERIALS, LABOR, BUILDERS' OVERHEAD AND PROFIT

| AREA | % INCREASE |
|---|---|
| Minneapolis/St. Paul | 39% |
| Duluth | 43% |
| Mankato | 35% |
| Rochester Area | 35% |
| Rochester City | 39% |
| St. Cloud | 33% |
| Worthington | 30% |

# IMPACT OF INTEREST COST ON TOTAL HOUSING COST

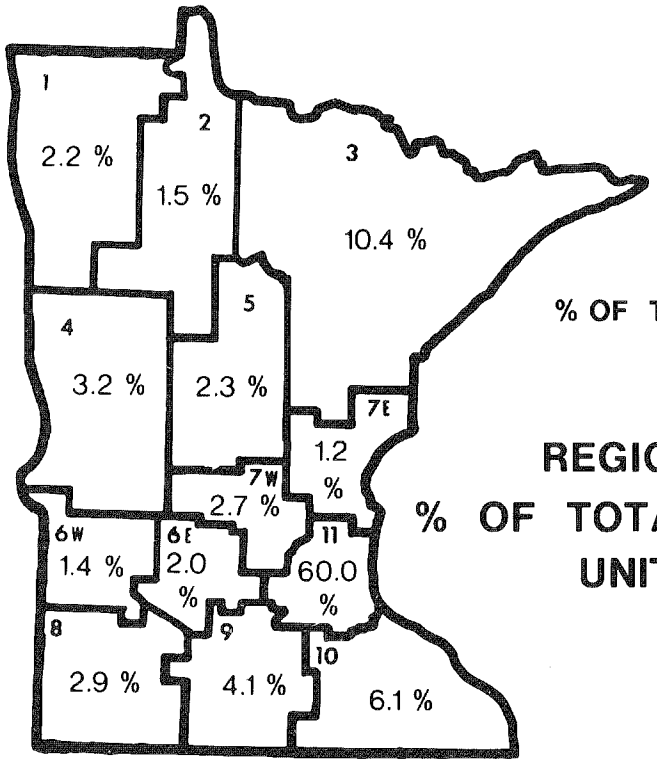
## $45,000 HOUSE

## 30 YEAR MORTGAGE

| % | TOTAL PRINCIPAL AND INTEREST REPAYMENT |
|---|---|
| 8% | $118,876 |
| 10% | $142,168 |

# SUBSIDIZED UNITS BY TYPE
# 1974

| | 1974 | % |
|---|---|---|
| Non Subsidized Units | 1, 293, 737 | 96.8 % |
| Subsidized Units / Elderly | 25, 553 | 1.9 % |
| Subsidized Units / Family | 16, 710 | 1.3 % |
| Total | 1, 336, 000 | 100 % |




**% OF TOTAL STATE SUBSIDIZED UNITS BY REGION**

## REGIONAL BREAKDOWN
## % OF TOTAL SUBSIDIZED HOUSING UNITS IN MINNESOTA

# TRANSPORTATION
by Harry A. Reed

Good transportation is not just new and better highways, airports, public transit, railroads, or ports: it is a combination of all these facilities, which allows increased mobility for those who drive, those who depend on public transit, and those who must move their products.

Minnesota currently has one of the finest transportation systems in the country. Although we rank 12th in physical size, our national rank is fifth in total highway miles, fourth in number of publicly owned airports, and our air navigational-aid system for general aviation is second to none. Public ownership of urban transit systems in some of our cities has vastly improved transit service. Our ports on the Mississippi River and Lake Superior give us access to international trade. We have an extensive railroad system totalling over 8,000 miles.

However, we should not be complacent, because many problems still exist, and new problems are developing for which solutions must be found. There are those who are dissatisfied with the quality and cost of service and insist that it be improved; others are dissatisfied with the impact of transportation on the environment. It is important that we try to resolve thse dissatisfactions so that our transportation system can be improved, maintained, and become more responsive to the people it serves.

Let us now take a brief look at the transportation system as it exists today, evaluate its efficiency, show how much it costs and who pays for it, and finally raise policy questions which only you can answer.

In Minnesota, we have over 128,000 miles of streets and highways, the state being directly responsible for about 12,000. Funds to improve and maintain the state's share of these roads come exclusively from state and federal highway user taxes. State funds are dedicated by the State Constitution and paid for by fuel taxes and vehicle registration fees. Annual expenditures for state highways represent about 11% of the state budget.

The over 100,000 miles of county, municipal, and township roads are financed partly by state highway user funds, and partly by property taxes and some federal monies, with the property tax representing about 66% of the total amount. In 1971, nearly 20% of all local government expenditures were for highways, the chief share being for maintenance.

During the last ten years, considerable progress has been made in improving and modernizing our state trunk highways. Five hundred thirty miles of interstate highways have been constructed, and 555 miles of two-lane state highways have been rebuilt to modern standards. There are some 1,700 more miles of nine-ton roads on the system, thus giving 101 additional communities access to roads which do not have a weight restriction put on them during early spring.

Improving and modernizing our state trunk highways have resulted in decreased travel time, in spite of the 55 mile per hour speed limit. For example: the trip between Bloomington and downtown Minneapolis can be made in half the time it required in 1964, and the trip from the Twin Cities to Fargo-Moorhead has been cut by one hour. The fatal accident rate dropped by 18%, and all non-fatal injury accidents by 30%, between 1964 and 1973. This accident reduction does not take into account the decline in fatalities this last year which is attributable to the reduced speed limit and decreased travel.

However, the state trunk highway system is not yet up to today's standards. About 5,000 miles (or 41%) of the state trunk highway system is affected by spring load restrictions. This means 117 communities have limited access during the spring thaw.

Minnesota also has some 2,500 miles of two-lane highways less than 24 ft. wide, and thus not adequate for today's traffic. Out of approximately 2,300 bridges on state roads, excluding the interstate system, 277 are substandard, many of them unable to carry the legal load limit. This lack of adequate facilities hampers the movement of grain, milk, fertilizer and a variety of other products.

The main culprit in what appears to be the lack of attention to these problems is inflation.

In 1968, the Highway Department developed a 20 year plan which would have cost an estimated $1.8 billion to implement. With a projection of 1968 funding, it was thought that 52% of the assessed needs could be satisfied. Six years later, the plan was updated to account for changes in demand and safety standards, and the price tag, in 1974 dollars, became $3.2 billion. Thus, assuming that the level of funding during the last biennium will continue until 1994, it is estimated that only 25% of those needs can be satisfied — only half of what was anticipated six years before. While some may question the necessity for a highway plan of this magnitude, the disparity between its cost and the funds available cannot be ignored.

Standards for highway construction have changed during this time, largely for reasons of increased safety. This change, of course, has added to the cost of reaching that 20 year goal. But an examination of these figures will show again that inflation must be held chiefly responsible.

* Between 1973 and 1974, the cost of highway construction increased 26%.

* To construct a new, two-lane rural highway with adequate shoulders, pavement width, and load carrying capacity, cost $156,000 per mile in 1964. Today it costs $278,000. The same highway in an urban area would cost $436,000 per mile to construct today, while in 1964, it would have cost only $245,000.

* In 1964, it cost $81,000 to construct a county road bridge over Interstate 90. Today, building that same bridge to the same standards, would cost $182,000 — an increase of 123%!

The cost of highway maintenance has also increased.

* During the last ten years, for the trunk highway system, it has more than doubled.

* Today it costs $6,200 per mile per year to maintain the interstate system in rural areas. In 1964, it cost $2,400.

* A two-lane rural highway requires about $1,700 per mile per year to maintain; the same two-lane highway in an urban area, $4,100. In 1964, it cost $1,300, and $1,500 respectively.

While costs have gone up for both highway construction and maintenance, revenue has not kept pace. Since 1964, the state gas tax has increased only once — one cent per gallon

in 1967. Added to this, we have seen a 5% decline both in fuel consumption and gas tax revenue over the past year, because of lowered speed limits and a reduction in travel.

While the federal government also provides funds to the state for highway construction, most of this money has been directed toward the completion of the interstate system. In Minnesota, 72% of federal highway funds, during the past ten years, went to the interstate system, leaving only 28% for trunk highways. Once the interstate system has been completed (and the target date is 1980), the federal government will be reconsidering the use of these funds. While it is difficult to predict what Congress will do, indications are that more money will be directed to urban facilities, including both highways and public transit.

The financial outlook for the state's highway program in the immediate future is bleak. The Department of Highways has estimated that for 1976, there will be insufficient revenue available to undertake any new construction programs. In addition, the state will not be able to use federal highway construction funds, because their funds must be matched with state dollars before they can be used. The immediate future, therefore, can be pictured quite simply: if a state highway program is to be continued in Minnesota to serve the public in the movement of people and goods, increased revenue will be necessary.

Turning now to public transit. While the majority of Minnesota families have a car — sometimes even two or three cars — there were 148,000 households, in 1970, which did not. Without an automobile, and in the absence of public transit, it is very difficult for many to obtain even basic health care, take advantage of work opportunities, shop, or visit friends. This is especially true for low income and senior citizens. In one community which recently inaugurated transit service, an elderly woman said to the driver as she left his bus: "Thank you. That's the first time I have been able to get around town in four years." Today, there are 413,000 persons over the age of 65, many in this same situation.

Public transit service will become even more important, and the absence of it affect more people, should the price of gasoline continue to rise as it has in the last year, or if the allocation of fuel becomes necessary.

In recent years we have seen a change from private to public ownership of some urban transit systems. In Minnesota, there are 12. The Twin Cities, St. Cloud, and Duluth have legislatively established transit commissions with taxing authority. Six cities provide financial support to a private company, while only three cities have completely private operations.

Of the cities providing financial support to transit, all have applied for state aid under the 1974 State Transit Financial Assistance Law. Five cities who were previously without transit service have also applied for state funds. There are, however, another 26 cities with populations over 5,000 which are not served by public transit. These 26 cities have a combined population of over one-quarter million people, 42,000 of whom do not have direct access to an automobile.

Unlike public transit systems within cities, inter-city service is still totally owned and operated by private companies. Minnesota is served by ten different companies, ranging in size from the nation's largest, Greyhound, down to very small operations. The majority of service is scheduled between the Twin Cities and other large cities. This is to be expected, since these routes generate the most passengers and thus the most revenue. Of course, another factor in this routing is that the companies are providing inter-state as well as inter-city service.

But the fact remains that there are many communities which are not served at all, some served infrequently, and others which may lose their service in the near future. Another fact worth mentioning: because of route scheduling, it is both difficult and time-consuming to travel by bus to many parts of Minnesota. For example: a trip from Alexandria to Detroit Lakes, a distance of only 79 miles, or approximately a one and one-half hour drive, requires more than seven hours by bus, including a four hour lay-over in Moorhead.

Does the state have a continuing role in providing financial assistance for public transit operations and capital improvements? While that is a question only you can answer, one thing is clear: if we are to continue public transit service, additional public funds will be needed to purchase buses, shelters, garages, as well as to assist in operating cost, since urban public transit, to date, has been unable to pay for itself from the fare box.

The operating deficit alone, of the 12 existing public transit systems, approached $12 million in 1974, $11 million of which was for the Twin Cities system. The cost will continue to climb, even if the service declines, because of inflation.

While adding to or creating bus service in outstate cities may provide a satisfactory solution to their public transit problems, it may not be the answer in the case of the Twin Cities. Over the last few years, numerous transit plans have been developed. In 1973, the M.T.C., presented a plan to the Legislature. It is currently under restudy, and the results will be presented to you this session. In essence, what the original plan suggests is a combination of regular route bus service, express bus service in mixed traffic, as well as on exclusive busways, plus 56 miles of fixed guideway automated transit. The estimated capital cost to complete the system over a 20 year period exceeds $1 billion, excluding inflation.

Since 1964, the federal government has provided capital grants for public transit. The Twin Cities, St. Cloud, Duluth and Mankato have received such grants. Last year the Federal Transit Program was revised by Congress. In addition to the capital grant program administered in Washington, funds for capital improvements and operating expenses will be distributed to states for use in urbanized areas over 50,000 population. During the next six years, Minnesota will receive $53 million, $44 million of which will go directly to the Twin Cities area. Half of these funds may be used for operating expenses.

The federal government will continue to make other capital grants to large and small urban areas on the basis of demonstrated need. However, a word of caution is necessary here. Many large urban areas in the country have developed such high capital cost transit plans that it is not possible to finance 80% of the cost of such plans with federal dollars — which is what the capital grants program promises. The federal government has already indicated it will be more selective as to where and how its funds are used. We should keep this in mind, should we commit ourselves to a high capital cost

transit system, and be prepared, perhaps, to pay more than 20% of the total bill.

Airport and air passenger service are also important links in the transportation system. There were nearly 3,500 registered general aviation aircraft in Minnesota in 1971, and the total is expected to reach 18,000 by the year 2000. There were 300,000 passengers boarding scheduled aircraft in outstate Minnesota, and 1.7 million in the Twin Cities, during 1972.

To handle aircraft, there are three types of public airports: key, intermediate, and landing strips. Key and intermediate airports are paved, lighted, and capable of handling twin engine aircraft. Key airports are also able to accommodate most corporate and commercial jets. Landing strips are usually grass runways and are used only for small aircraft.

Minnesota has 138 publicly owned airports, all but three of which are owned and operated by an airport authority or municipality. Federal, state and local funds are used to improve and maintain them.

State funds for airports are generated from a user tax in much the same way as highway funds. Funding sources include a fuel tax and flight property tax. User taxes also contribute to federal funds, which are available for capital improvements.

The Department of Aeronautics recently completed a long range plan for airports. Unlike the highway needs, adequate funding will probably be available for required improvements. As a matter of fact, Minnesota's airport system is currently more completely developed than either its highway or public transit system. However, there do exist some voids in scheduled air transportation service.

Now, let's examine the status of railroads, whose chief function in Minnesota is hauling goods to and from the market-place.

In Minnesota, nearly 8,000 miles of rail lines are owned and operated by nine corporations. Burlington-Northern, Chicago Northwestern, Milwaukee Road, and Soo Line are the chief operators.

Since January, 1967, approximately 519 miles of trackage has been abandoned. In addition, another 484 miles may be abandoned in the future, pending decisions by the Interstate Commerce Commission. The majority of these lines are located in the southern third of the state.

With over 1,000 miles of railroad track abandoned or about to be abandoned, the transportation of agricultural products, particularly grain, is adversely affected. This problem is compounded by the many miles of highways and numerous bridges which are sub-standard.

Many small communities may face serious problems when lines are abandoned. The absence of railroad service presents a hardship to those trying to attract new industry. Present jobs may be affected, which in turn would affect retail sales and erode the tax base of the community. Another adverse effect of railroad abandonment is that with a greater reliance on trucking to haul goods, it becomes necessary to increase highway construction and maintenance, already under great financial stress.

Three alternatives have been suggested to resolve the abandonment problem. First: the line might be subsidized by the state (as in Iowa), or by benefiting communities. The argument here is that even if the line is not generating sufficient revenue to cover costs, there are other important reasons to maintain the service. The second option is to have the state purchase and operate the line. This option has been carried out successfully in Vermont. The third alternative: to have a community, a non-profit corporation, or other private group purchase and operate the line. These approaches should be examined very closely for possible application in Minnesota.

Freight car shortages present another problem to farmers trying to ship goods to markets. First: there simply are not enough freight cars available to meet shippers' needs during peak periods of demand. Second: the current rate of return on freight car investment gives railroad companies little incentive to buy more freight cars. Add to these a third problem: poor utilization of existing cars.

Railroad companies lack control over their own cars when they are transported over another company's track. This causes a major snarl in improving the overall supply of freight cars to Minnesota, since Minnesota exports more tonnage than it imports. Also, since many railroad companies are short of working capital, they have not always been able to replace, maintain, or repair worn out equipment and facilities. Total United States capacity of grain cars has dropped by 13%, and the number of cars, by 34%, over the past 15 years.

To alleviate the freight car shortage, four suggestions have been made:

1. Better voluntary cooperation in the location and scheduling of freight cars by both railroads and shippers.
2. Reduction of government control and regulation of the industry, permitting market mechanisms to regulate rates, flow of cars, and service to shippers.
3. Total control of car service by the federal government, or by the industry itself, through a freight car service czar.
4. A federal or state subsidy of funds, including tax incentives, loan guarantees, and grants-in-aid, for the purchase of equipment.

While the railroad industry has not been able to solve all its problems, it has come up with several innovations to increase the speed, carrying capacity, control, and utilization of the freight car fleet. Freight cars used for shipping grain have an average capacity of 67 tons, 24% greater than in 1960. This is a result of the introduction of the 100 ton covered hopper car. (This particular car has one drawback, however: many rural elevators are located on lightweight lines which cannot handle this new equipment). Another innovation is the aerated car, which handles bulk materials ranging from white flour to carbon black. Pneumatic loading and unloading mechanisms "inhale" cargo at the loading point and "exhale" it at the destination.

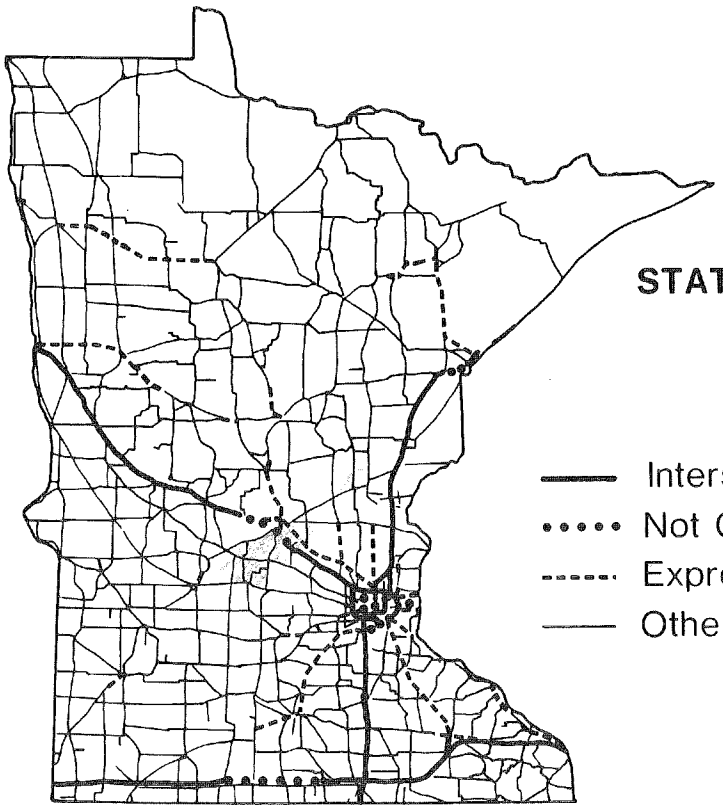
In addition to new equipment, railroads are also utilizing new technology, new methods of communication, automation of yards, and new data systems all of which improves the utilization of equipment.

I indicated at the beginning, a good transportation system is a combination of all modes for the efficient movement of people and goods. At a time when transportation needs far exceed our financial capabilities to satisfy them, it becomes even more important to take advantage of the complementary nature of transportation modes by planning for all segments

of the system as a single unit.

Currently, the organization of our state government is not conducive to this approach. We have several state agencies concerned with separate parts of the transportation system. Some states — 26, in fact — have recognized the benefits of combining separate agencies and have established a single department of transportation. Such reorganization in our state government should be considered.

Finally, if we want to improve the level of service of our transportation system, steps will have to be taken to provide the needed financial resources.



**STATE TRUNK HIGHWAYS**

LEGEND

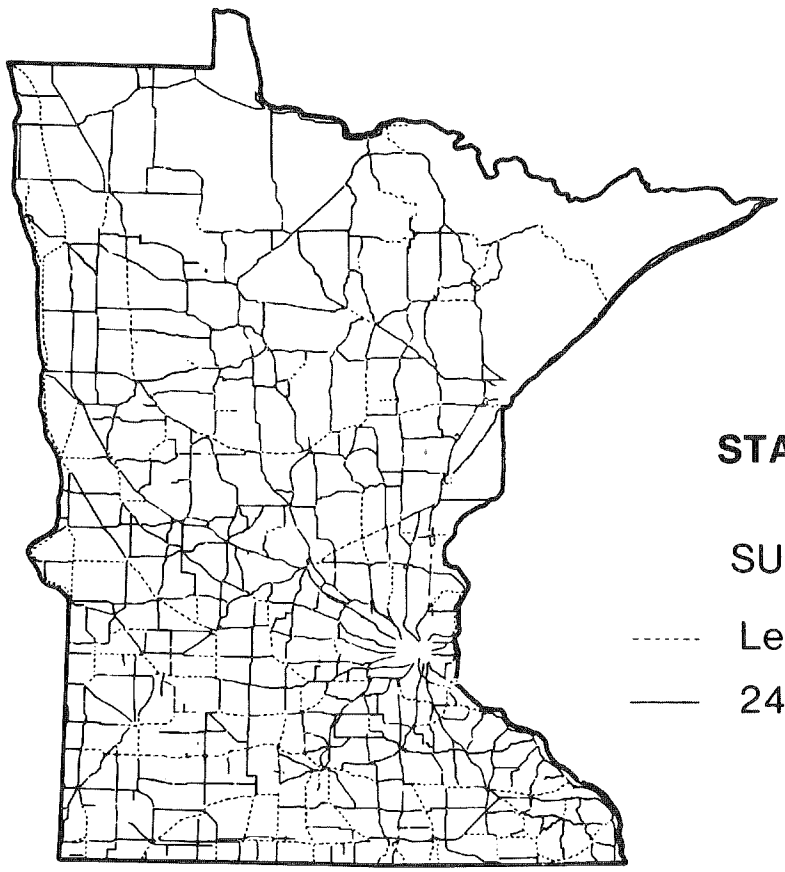
- Interstate Freeway Open to Traffic
- Not Open
- Expressway and State Freeway
- Other Trunk Highway

# MINNESOTA
# STREETS & HIGHWAYS

| | | |
|---|---|---|
| **State Trunk** | 12,191 | |
| **County State Aid** | 29,749 | |
| **County Roads** | 15,172 | |
| **Township** | 56,299 | |
| **Muncipal State Aid** | 1,444 | |
| **Muncipal Streets** | 13,381 | |
| | 128,236 | Miles |

# GOVERNMENT EXPENDITURES FOR HIGHWAYS

| GOVERNMENT | PERCENT |
|---|---|
| State | 11.4 |
| County | 18.5 |
| Muncipal | 19.6 |
| Township | 49.9 |

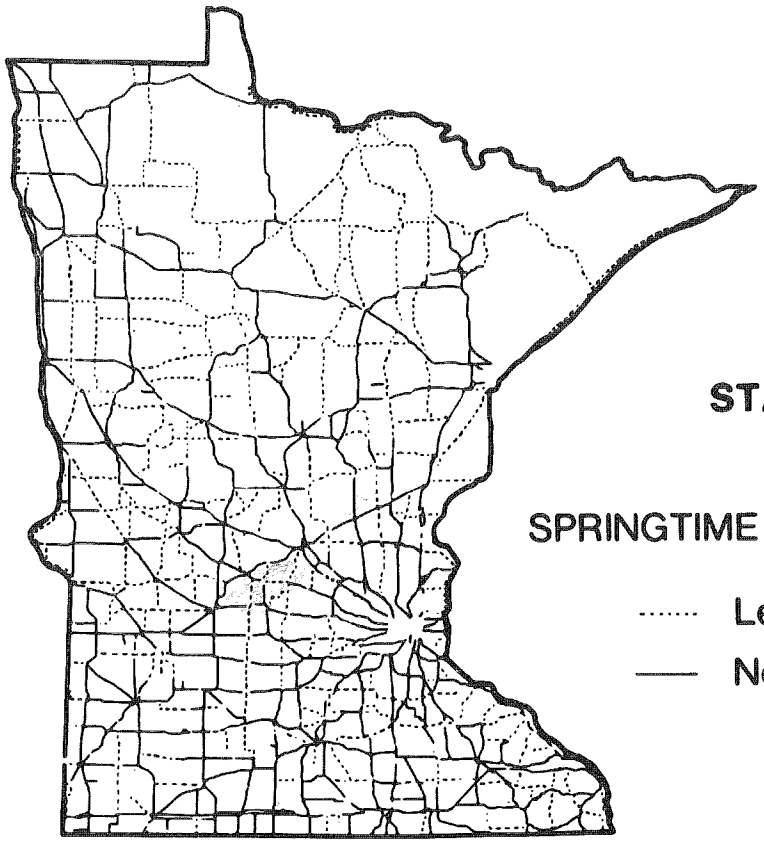


**STATE HIGHWAYS**

SURFACE WIDTH

Less Than 24 Feet

24 Feet & Over



## STATE HIGHWAYS

## SPRINGTIME LOAD RESTRICTIONS

..... Less Than 9 Ton

—— No Restriction

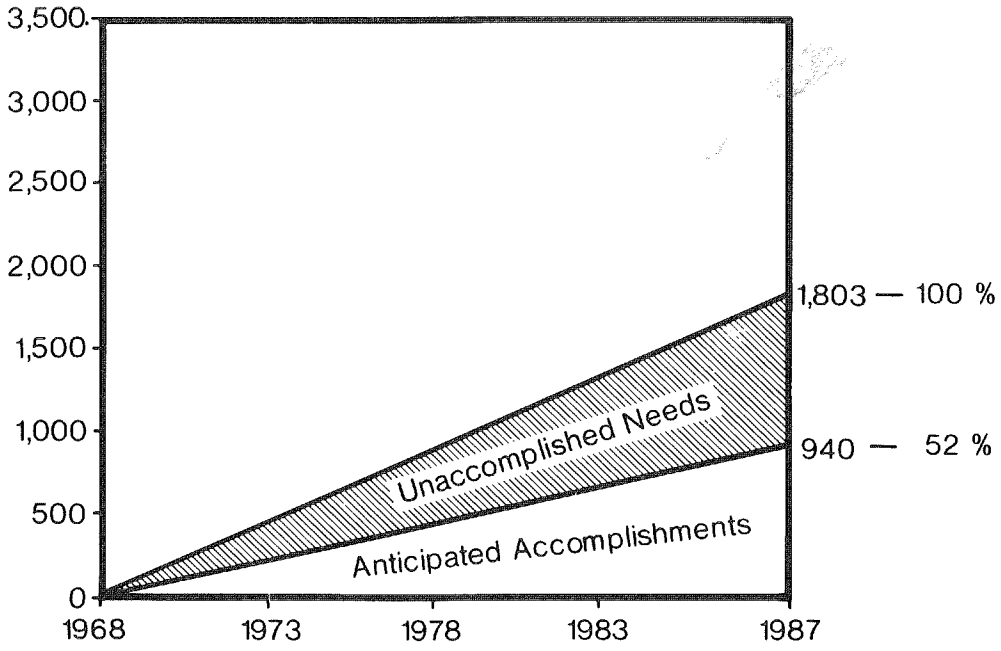
# TRUNK HIGHWAY CONSTRUCTION COST

| | URBAN | | RURAL | |
|---|---|---|---|---|
| | 1964 | 1974 | 1964 | 1974 |
| DIVIDED FACILITY | | | | |
| New Location | 1,060,000 | 1,790,000 | 639,000 | 1,080,000 |
| Conversion 2 to 4 Lanes | 863,000 | 1,460,000 | 272,000 | 460,000 |
| 2 LANE FACILITY | | | | |
| New Location | 245,000 | 436,000 | 156,000 | 278,000 |
| Reconstruction | 146,000 | 249,000 | 76,000 | 130,000 |

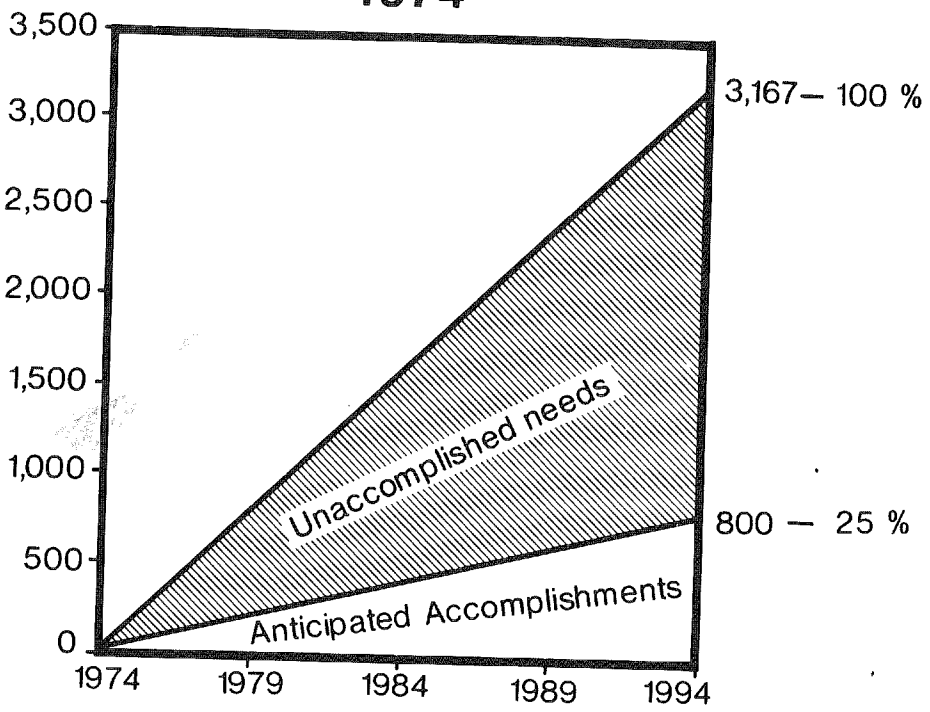
# TRUNK HIGHWAY MAINTANCE COST PER MILE PER YEAR

| URBAN | 1964 | 1974 |
|---|---|---|
| Interstate | $7,500 | $24,000 |
| 4 Lane | $7,300 | $15,600 |
| 2 Lane | $1,500 | $4,100 |
| **RURAL** | | |
| Interstate | $2,400 | $6,200 |
| 4 Lane | $1,800 | $3,900 |
| 2 Lane | $1,300 | $1,700 |

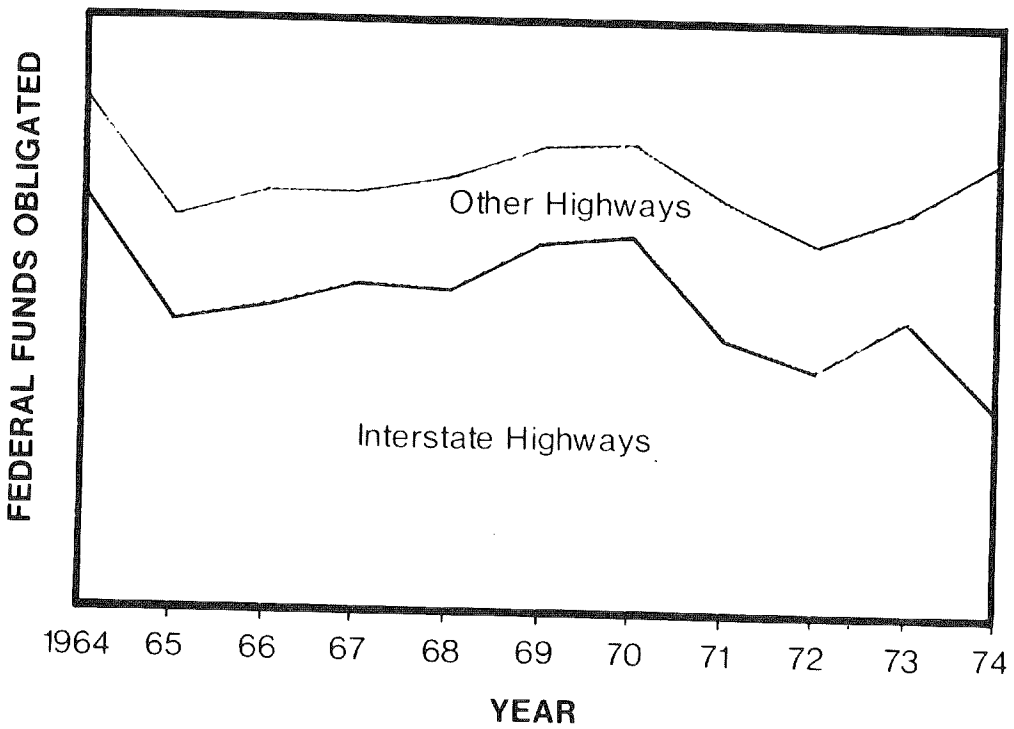
## NEEDED IMPROVEMENTS AND ANTICIPATED ACCOMPLISHMENTS 1968

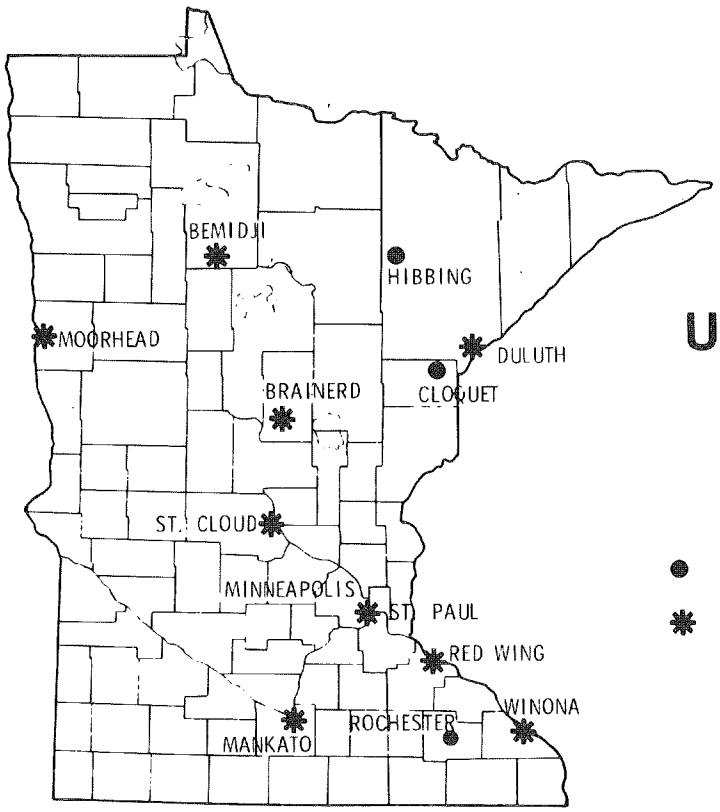


## NEEDED IMPROVEMENTS AND ANTICIPATED ACCOMPLISHMENTS 1974



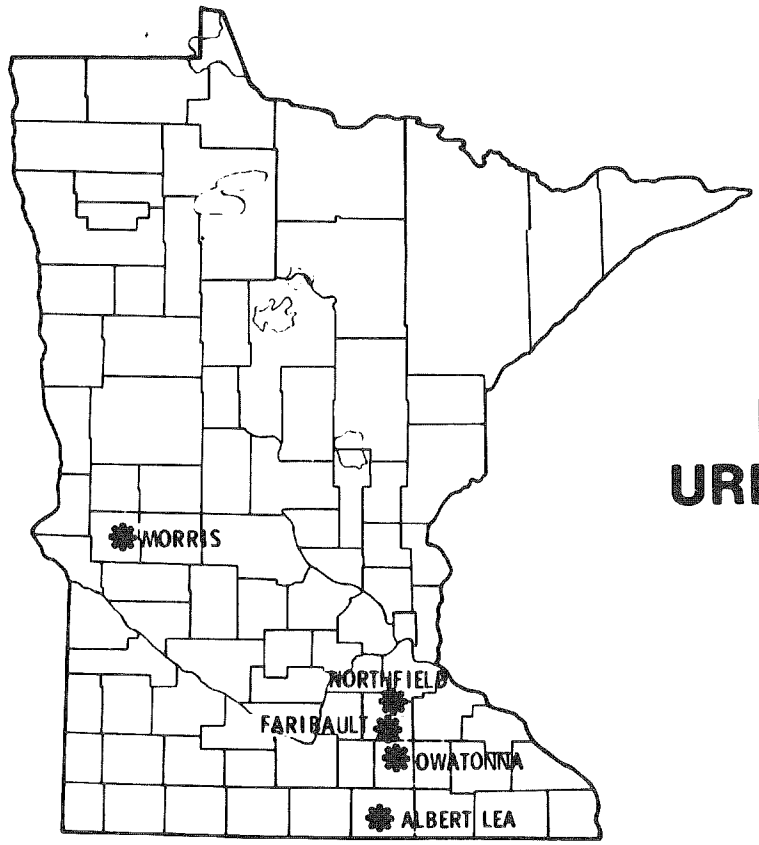

## FEDERAL FUNDS OBLIGATED FOR MINN. HIGHWAYS



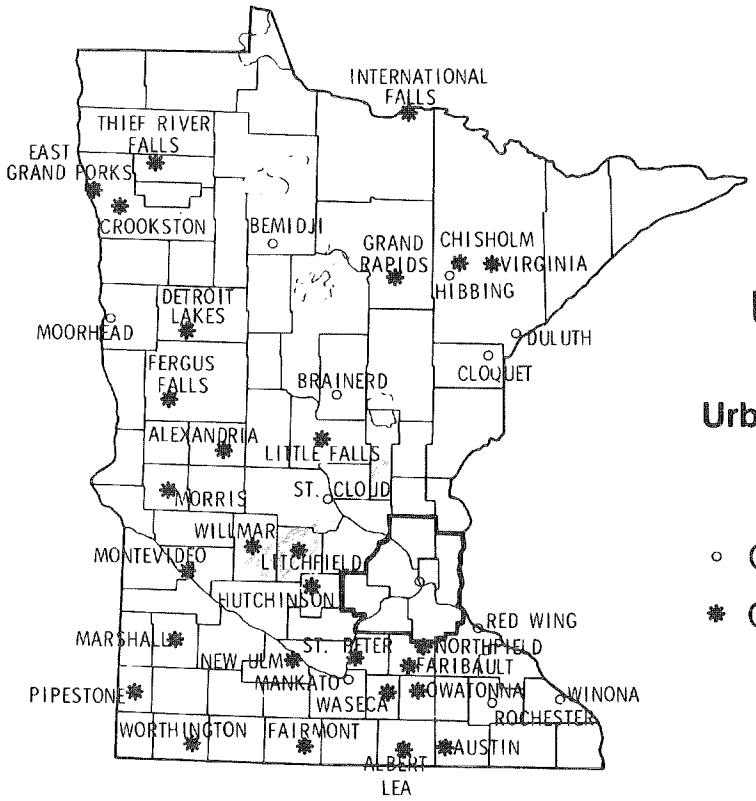



# URBAN TRANSIT SYSTEMS

- ● Urban Transit Systems
- ✱ Urban Transit Systems with Government Financial Support



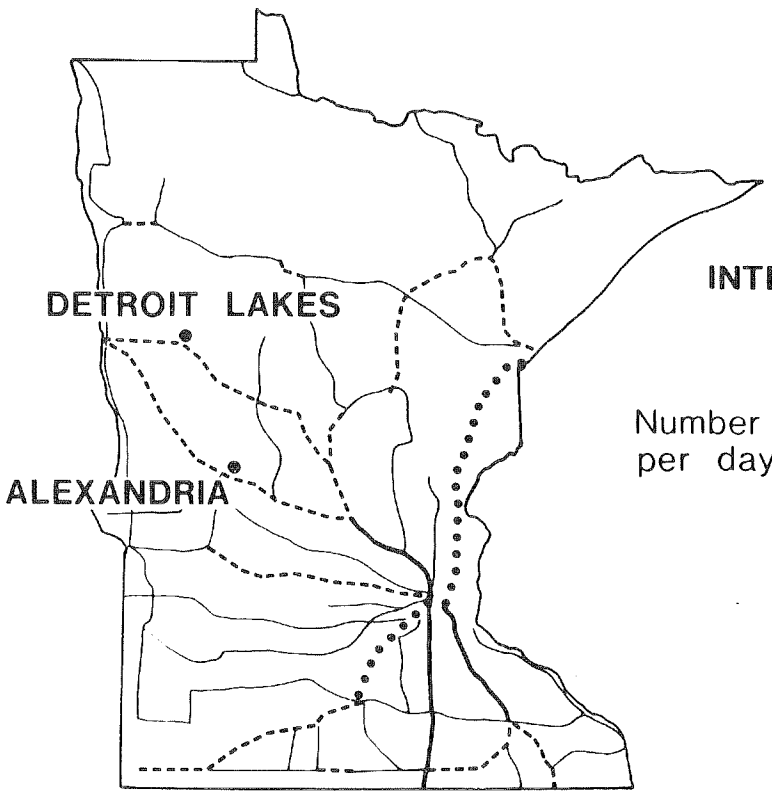

# PROPOSED URBAN TRANSIT SYSTEMS




# URBAN TRANSIT SYSTEMS

**Urban Area Population 5,000**

- ◦ Cities with Transit Systems
- ✱ Cities without Transit Systems

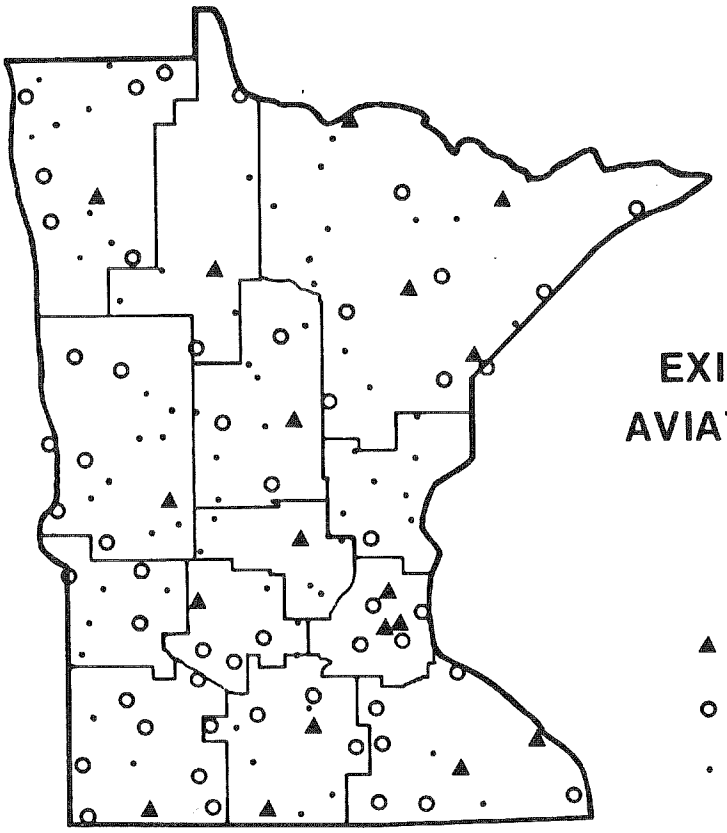



## INTERCITY BUS SERVICE

LEGEND

Number of trips in either direction per day

- —— 1 - 4
- ------ 5 - 9
- ••••• 10 - 14
- ▬▬ 15 - Up



## EXISTING MINNESOTA AVIATION SYSTEM - 1974

LEGEND

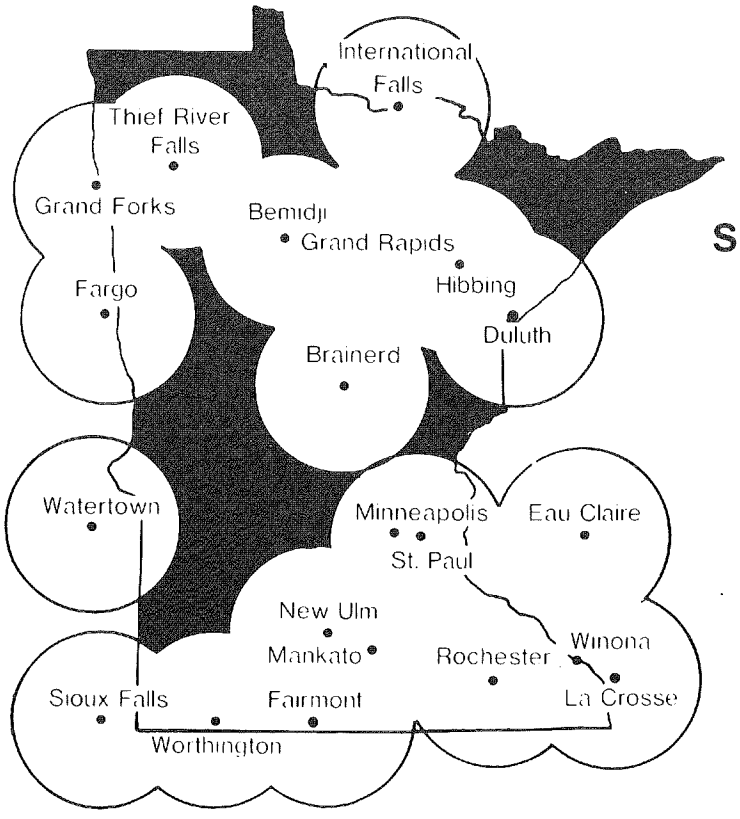
- ▲ Key System
- o Intermediate System
- · Landing Strip System

# PUBLICLY OWNED AIRPORTS
# 1974 - 2000

| | Existing | Short Term | Intermediate | Long Term |
|---|---|---|---|---|
| Key | 18 | 22 | 26 | 38 |
| Intermediate | 53 | 58 | 81 | 100 |
| Landing Strip | 67 | 60 | 42 | 19 |
| Total | 138 | 140 | 149 | 157 |

# PUBLIC FUNDS FOR AIRPORT IMPROVEMENT

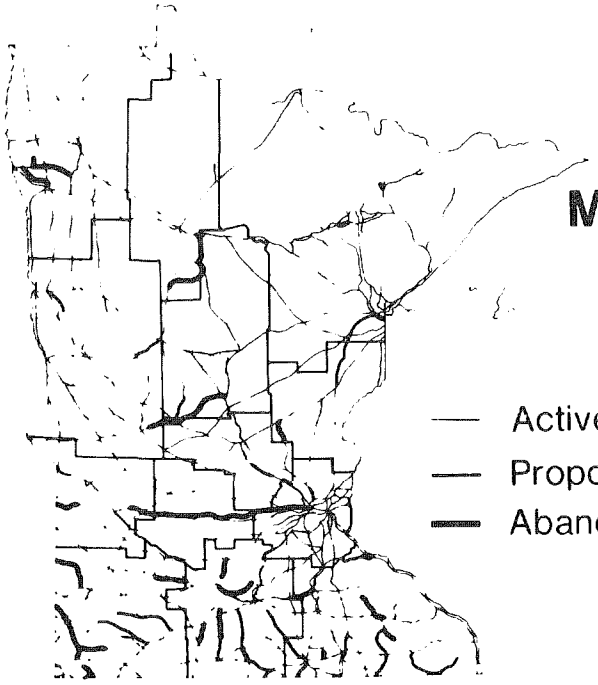
| | OUTSTATE | | | TOTAL STATE | |
|---|---|---|---|---|---|
| | **Amount** | **Percent** | | **Amount** | **Percent** |
| Federal | 57.6 | 38 | Federal | 236.6 | 45 |
| State | 42.0 | 28 | State | 133.6 | 25 |
| Local | 24.3 | 16 | Local | 132.2 | 25 |
| Other | 27.6 | 18 | Other | 27.6 | 5 |
| | 151.5 | 100 | | 530.0 | 100 |




## SCHEDULED PASSENGER AIR SERVICE 1974

Within 50 Miles of Airport

Beyond 50 Miles of Airport



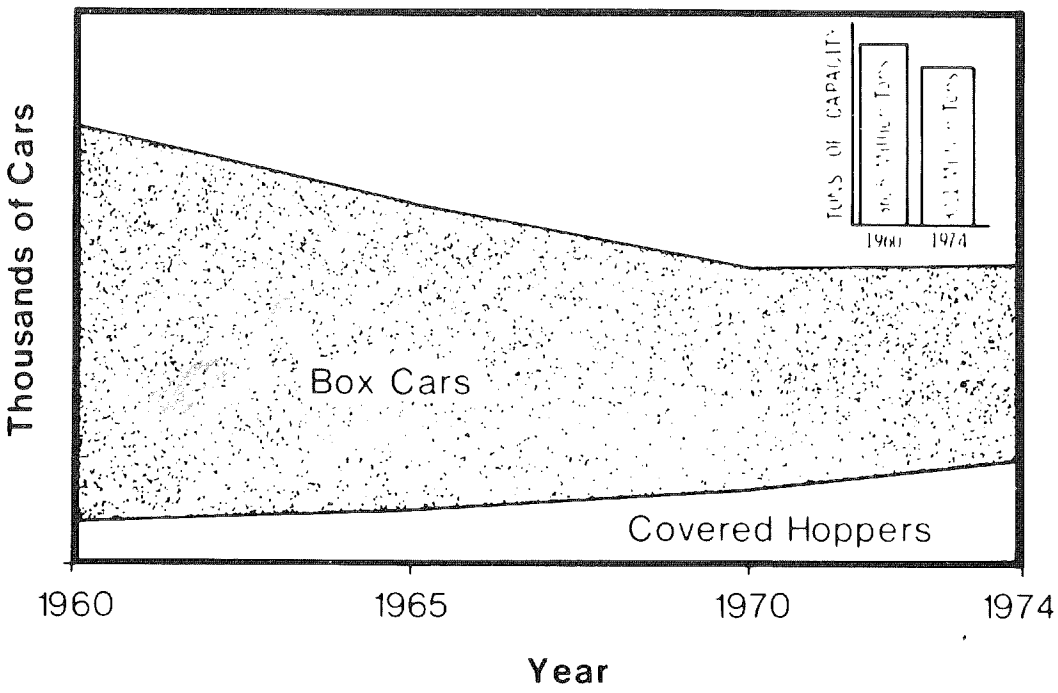
## MINNESOTA RAILROADS

— Active Rail Lines
— Proposed Abandonment
— Abandonment Since 1967

# RAIL TRACKAGE IN MINNESOTA 1974

| | |
|---|---|
| Burlington Northern | 3,007 |
| Chicago & Northwestern | 1,525 |
| Milwaukee Road | 1,322 |
| Rock Island | 222 |
| Illinois Central | 37 |
| Duluth , Winnipeg , Pacific | 168 |
| Soo Line | 1,042 |
| Other | 110 |
| Duluth Mesabi Ironrange | 491 |
| **TOTAL** | **7,814** |

# AVAILIBILITY OF EQUIPMENT FOR THE MOVEMENT OF GRAIN



# ENERGY

by A. Edward Hunter

A year has passed since the Arab oil embargo focused the attention of this nation and this state on our energy insecurity. Subsequent events have confirmed our realization that we face a long and expensive task of reordering our energy priorities.

As dramatic as the crisis was last winter, the nation's position has improved very little over the year. Although some decisions have been made, some blueprints drafted, energy policies remain incomplete. However, there appears to be a realization, at least in Minnesota, that the energy crisis is real; that the days of cheap energy, based on an ample supply of oil and gas, are over; that conservation is essential; that new petroleum reserves and energy sources will take time and a vast amount of capital to develop; and that continued imports of oil and gas will be necessary until we can develop further our domestic resources.

This morning we would like to describe briefly Minnesota's energy circumstances and a few important issues. Throughout this discussion two points should be emphasized: First, that energy independence is not an immediate objective either for the United States or for Minnesota. It is the interdependent relationships — between fuels, between the U. S. and the world, and between regions, states and communities.

Minnesota's energy system is closely linked to our neighboring states. Energy supply and demand in the Midwest are interdependent with other regions of the nation, just as the energy requirements of the United States are but part of a complex world energy network. No better example could be given than the current reliance of Minnesota refineries on a soon-to-be eliminated supply of Canadian crude oil and the need for a firm national allocation policy which recognizes this situation and either distributes domestic oil accordingly, or gives these refineries priority access to limited Canadian supplies. To recognize this interdependence is to understand why national energy policies will be difficult both to propose and to achieve. It also demonstrates why each state government must assess its own energy situation and determine what course of action would best meet the unique needs of that state.

The second point which should be made clear is that the energy crisis is today an energy *price* crisis. The issue now is not only the supply of the product, but the price. Sharp increases in world oil prices during and after the embargo raised energy costs throughout the world. At least one-fourth of the increase in U. S. wholesale prices has been attributed to increased energy costs.

The cost of oil imports has increased from $4.9 billion in 1972, to an estimated $25 billion in 1974. To allow these price levels, and the accompanying outflow of U. S. dollars, to continue is to run the risk of a deepening depression. The question is not whether we can reduce our level of petroleum imports, but only *how,* and how soon. The Administration has proposed a goal of a 1-million-barrel-per-day reduction in oil imports by the end of 1975. Strong measures, such as import curbs, rationing, or possibly tax increases, will be necessary.

The long range energy outlook has changed little from this time last year. Anticipated demand for the next decade will exceed domestic supply, and we can expect to continue our dependence on imported oil and gas at least through 1985.

Now, let us examine Minnesota's use of energy. Minnesota has no fuel supplies of its own. The state is dependent on supplies from other regions, or from imports, primarily from Canada. For Minnesota, as well as for other states similarly unendowed, it is of critical importance that national policies guarantee an equitable allocation of available fuels.

Minnesota's consumption of energy parallels that of the nation, increasing at an average rate during the last 5 or 6 years of approximately 4.5% per year, with our use of electricity increasing at a rate almost twice as fast.

Electricity in Minnesota is produced primarily from coal and nuclear fission; the unavailability of oil should not have significant impact on our local electric utilities. Curtailment of natural gas supplies, however, will have a major impact on the industrial and commercial sector. Northern Natural Gas Company, which supplies almost 95% of our natural gas, recently announced that, by 1978, no gas will be available for large users, perhaps limiting plant expansion or new plant locations, especially in smaller communities.

There are substantial differences in energy sources between regions, states and communities. The East Coast is a heavy user of petroleum and coal. The Gulf Coast states are dependent on natural gas. The West Coast uses almost no coal. The North Central states, including Minnesota, have a relatively balanced dependence on oil, natural gas, and coal.

There is as much variation between states. Wisconsin, North and South Dakota use coal extensively to provide their energy; Iowa relies heavily on natural gas. Minnesota, on the other hand, is more dependent on petroleum than is any other state in the region.

Even within Minnesota, there is substantial variation in the type of fuel used, particularly for home heating. In the metropolitan area, almost 77% of the occupied homes use natural gas; in Region 2, only 4.4%. On the other hand, only 16% of the homes in the metropolitan area use oil or kerosene, while in Regions 2 and 6, 70% use these fuels.

Differences among national regions, states, and communities within the state, demonstrate again both the need for states to develop their own energy policies and the difficulty of developing an energy policy or allocation program which will satisfy the needs of each community.

One of the recommendations, made by several recent energy studies, is to increase our already growing reliance on electric power, the argument being that electricity can be generated with more readily available and reliable fuels, such as coal and nuclear fission. In Minnesota, the percentage of total energy used for conversion to electricity has steadily risen from 18.7% in 1950, to 22.4% in 1971. Kilowatt hours of electricity sold have increased from 12.8 billion in 1965, to 25.2 billion in 1973, a doubling in only eight years.

The pattern of annual sales of electricity has changed dramatically over the past decade. In 1960, sales in Minnesota varied by only 12% from seasonal lows to highs; summer and winter peaks were virtually identical. By 1970, seasonal variation had increased significantly, exceeding 18%. Since electricity cannot be stored, the electric generation system

must be designed to fulfill peak capacity. An uneven demand, over the day or over the year, results in unused generating and distribution capacity during those times when demand is less than peak.

The expected increase in demand for electric power will require additional power plants and transmission lines. There are presently eight power plants in Minnesota operating or under construction, with a capacity of 500 megawatts or more. According to estimates submitted to the EQC under the Power Plant Siting Act, between now and 1988, Minnesota will require an additional 7,400 megawatts (megawatt = a million watts) of power plant capacity. If we assume an average size of 1,000 megawatts per plant, by 1988, Minnesota will need 7-8 new power plants, the size of NSP's plant at Prairie Island. Site locations for these plants will present difficult choices for state and local governments. Transmission lines present similar problems. Estimates submitted to the EQC indicate that by 1988, Minnesota must site 2,700 miles of new transmission lines over 230 kilovolts, of which 720 miles will be very high voltage — 500 kilovolts or higher. By comparison, in 1974, Minnesota had only 1,600 miles of transmission lines over 200 kilovolts.

Let's turn now to other important energy issues facing Minnesota: conservation, costs, and implications of further development of coal and nuclear sources of energy.

Conservation of energy, as indicated earlier, must happen. We have not yet accepted the inevitability of energy conservation nor the seriousness of our energy future. Despite our concern with expanding domestic supplies, oil production in this country will be less this year than last. In 1974, we imported a greater percentage of our oil than we did in 1973. We continue to consume energy as we have in the past. It is possible that one-fourth of energy consumed nationally is used wastefully.

Nothing could be more urgent, or more appropriate for state and local governments, than to engage immediately in an extensive, sustained effort to acquaint the public with the essential nature of our energy dilemma, and to convey to them the importance of conservation. State and local governments must assume the initiative for energy education. Further, it is important that energy and environmental issues be treated in an integrated fashion, for energy consumption and environmental protection are complementary, not contradictory, issues. The Illinois Board of Higher Education began such a plan for environmental/energy education in March, 1974, one of the first in the nation. Perhaps such an approach is one which can be considered by Minnesota in 1975.

Transportation accounts for about a quarter of the state's total energy use and more than half of its petroleum. Any significant effort to achieve energy conservation must focus much of its attention on transportation. It is technically and economically feasible to require an improvement in automobile fuel economy from the 1973 average of 12-13 miles per gallon. A recent study by the EPA and DOT estimated that by 1980, it would be possible to achieve an average of 20.3 to 22.2 mpg. Such an increase of 7 mpg would represent savings of more than 1 million barrels of crude oil per day, equaling the goal set for 1975.

Adequate public transportation, car pooling arrangements, and effective community planning could also reduce energy consumption considerably. Locating frequently used facilities, such as grocery stores and schools, within reasonable travel distance, and providing job opportunities close to home reduce travel, and hence gasoline consumption. Effective land use planning can be a major tool for reducing energy consumption. In a recent study for HUD, it was estimated that a high density, planned community might use only 44% as much gasoline as that required by a sprawling, low density one.

Earlier we stated that the current energy issue is one of price. In terms of constant dollars, energy prices actually declined over much of the post-World War II period. In 1960, world crude oil prices were $1.80 a barrel. By January 1974, the price per barrel jumped to $11.65. The price index for oil and coal have doubled since 1970.

Electric power in Minnesota has been a bargain for many years. But rates have begun to rise, and we can expect continued increases. The cost of fuel and capital investment in new plants and facilities will contribute to increased rates. Yet rate schedules, currently in use, do not provide adequate incentives to consumers to reduce energy use. Rarely do rates give consideration to when the energy is used during the day. One solution is peak load or time-of-day pricing — increasing the price for power used during peak periods. The state should consider the value of revising rate schedules to encourage conservation.

What effect will rising energy prices have on consumption? Will we use less? Using gasoline as an example, aside from limiting supply, it is argued that significant savings during the next one to four years can be achieved by increasing the price, preferably through a tax. An additional tax of 15-20 cents has been proposed. Others argue that an additional tax of 50 cents a gallon would be necessary to reduce consumption by 1 million barrels per day within a year.

According to a study by the Rand Corporation, a 15 cent increase in gas tax would result in gasoline savings of 13.2%; a 30 cent increase, in savings of 25%. But other evidence supports the view that the American public is willing to pay more for gasoline without significantly reducing consumption. A recent study demonstrated that if gasoline were now 80 cents a gallon, the cost of 1,000 gallons, as a percent of median family income, would be 6.7%, the same relationship which existed in 1955. If tax increases are the answer, an increase of only 15-20 cents a gallon may not be enough.

Any reduced consumption of gasoline, resulting from tax increases, will affect revenues available from the state gas tax, which is used to finance road construction and maintenance. For the first nine months of 1974, motor fuel taxed in Minnesota declined by 5.2%. If an additional 15 cents a gallon federal gas tax had been imposed during the first nine months (and assuming the Rand Study results are correct), consumption would have been reduced by another 13-14%, or approximately 200 million gallons, representing a loss of over $14 million in state gas tax revenues. Any federal proposal to limit consumption by increasing the gas tax must recognize the impact it would have on state gas tax revenues and provide for returning to the states some of the new revenue gained.

There is a strong relationship between a family's income and its use of energy. While upper middle income groups use substantially more energy, the portion of their total annual

income spent on energy is significantly less than the poor. Average consumption for the upper middle income family is 478 million BTU's per year, compared to only 20 million BTU's for a poor family. A poor family spends over 15% of its annual income on energy; a well-off family only 4%. Reducing consumption of energy will be more difficult for low income groups, just as the burden of rapidly escalating prices will fall most heavily on them. As we move toward energy conservation in a period of increased prices, it will be left to the states to insure that the burden is equitably distributed and that the interests and concerns of the poor are not ignored.

Another dimension to the cost of energy which deserves attention is the capital costs to be incurred in the development of new domestic energy sources.

With demand for energy increasing at a rate greater than the GNP, with more distant and difficult energy sources being developed, and with current rates of inflation, costs of producing energy are rising sharply. An example: the Trans-Alaska pipeline whose original cost in 1969 was put at $900 million, rose to $4.5 billion by June, 1974, and is now being estimated at $6 billion – an increase of 600%. The increased cost of some nuclear power plants has resulted in delays in construction.

The capital requirements of energy are also growing faster than the nation's savings. The National Academy of Sciences has estimated that from 1974-1985, total costs for new energy production will average $60 billion a year. In comparison, in 1972, all pesonal savings and retained corporate income amounted to only $80 billion.

Obviously, these requirements will place great strain on our capital markets and may affect the availability of capital in Minnesota for housing, transportation facilities, and job-producing industrial and commercial development.

Finally, we come to the third major energy issue facing Minnesota: further development of other sources of power.

Coal is this nation's most abundant fossil fuel and is used primarily for electric power generation and by industrial plants. It is a dirty fuel which emits sulfur oxides when burned, and clean air standards prohibit its use in some areas. Still, coal is the obvious fuel for increased self-reliance in the immediate future.

New demand for electric power and increasing reliance on coal will affect both our air quality standards and our transportation system, particularly railroads. With the development of western coal, coal shipments have increasingly been by railroad rather than by lake or river barge.

One estimate, prepared for the State Planning Agency in 1974, predicted that, if all new power plants in Minnesota utilized coal, by the year 2000, they would require 24 unit trains a day (or one every hour), each train composed of 100 cars, each car carrying 100 tons of coal.

Increasing reliance on coal in other areas of the U. S. might also result in increased shipment and handling of western coal in Minnesota. Location of western coal deposits and existing railroad lines dictate a greater role for Minnesota in transporting coal to handling facilities at the Great Lakes ports or along the Mississippi River.

Nuclear energy offers the potential for meeting a significant portion of our future energy needs. Although it has advantages in terms of air pollution and land use, serious doubts remain about the adequacy of safeguards and controls built into nuclear systems.

While nuclear power supplied only 5% of U. S. electric power in 1973, most long range estimates assume a substantial increase in nuclear generated electric power. In 1973, there were 25,000 megawatts of nuclear generating capacities installed in the U. S.; according to earlier estimates by the Atomic Energy Commission, this will increase ten times by 1985, and 20 times by 1990. Such a growth rate would make it difficult to satisfy our concerns about nuclear safety. If, however, energy conservation can be pursued as a serious state and national objective, with a firm commitment to conservation and to utilization of available technology, the future rate of demand for electric power would be slow enough to allow us to resolve these troublesome issues.

Minnesota has two nuclear plants, with a third to be built by NSP in Wisconsin. Even if NSP's 1974 estimate – that by 1983, 48% of its power generation will be based on nuclear fuel – is subject to revision, nuclear power remains a considered option for increased generation of electric power in Minnesota.

Within the past year the results of many energy studies have been presented. Although differing in their assessment of future demand and supplies, most of these efforts reached similar conclusions:

* That significant changes must take place in our consumption of energy; our demand for energy must be reduced substantially, perhaps to a rate of increase of only 2% per year, half our current rate.
* Conservation of energy must happen, yet will involve difficult choices.
* Our reliance on natural gas and petroleum must be reduced, mandating an increase in our use of coal and nuclear power.
* We must take steps to use available technology to utilize energy more efficiently in automobiles, buildings, and appliances.
* Exotic fuels such as solar, geothermal, oil shale, will not play a significant role during the next decade.
* Imports of gas and petroleum will be required, at least through the mid 1980's.
* Prices of energy will continue to increase.

To achieve success in reducing consumption of energy, utilization of technology and the development of new fuels will be difficult. It will require clear and firm policies and responsible, competent administration of those policies and programs by the federal government and by each state.

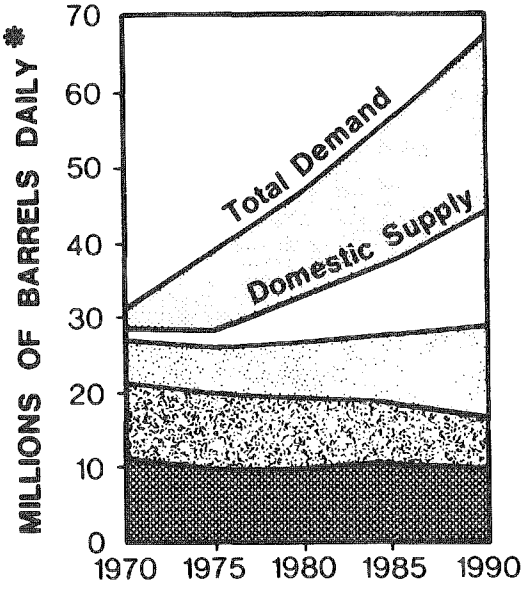
Minnesota has already taken a number of important steps. It has created an Energy Commission to coordinate and evaluate energy policies. It has established an Energy Agency to provide executive direction, prepare energy plans, gather and analyze information on energy developments, and provide the leadership so necessary to an effective conservation program.

Further efforts will be necessary. Conservation education should be expanded; standards for building design established; the transportation system, improved; electric and gas utility rates, revised to encourage conservation; and more energy-efficient urban design and land use planning, employed.

# HOW SERIOUS IS ENERGY SHORTAGE IN U.S.

(from a Harris Poll)

| | Very Serious | Somewhat | Not at all | Not Sure |
|---|---|---|---|---|
| August, 1974 | 26 | 41 | 30 | 3 |
| June, 1974 | 22 | 44 | 31 | 3 |
| April, 1974 | 23 | 45 | 28 | 4 |
| March, 1974 | 22 | 44 | 28 | 6 |
| Feb., 1974 | 31 | 41 | 22 | 6 |
| Jan., 1974 | 34 | 45 | 17 | 4 |
| Nov., 1973 | 50 | 37 | 9 | 4 |




## THE U.S. ENERGY GAP, 1970 - 1990

IMPORT
HYDRO- NUCLEAR
COAL
GAS
OIL

* CRUDE OIL EQUIVALENT

# COSTS OF OIL IMPORTS

| Year | Costs (Billions) |
|---|---|
| 1972 | $ 4.9 |
| 1973 | 8.5 |
| 1974 | 25.0 |
| 1975 | 27.0 |
| 1980 | 43.0 |
| 1985 | 64.0 |

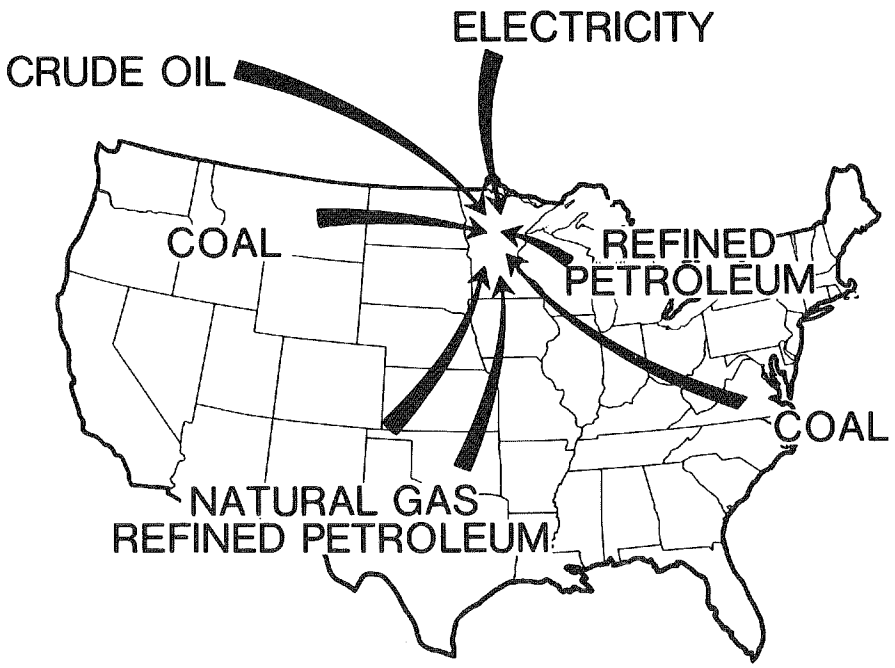
## ENERGY PRICE TRENDS

1967 = 100

| Year | Fuel Oil and Coal | Gas and Electricity |
|---|---|---|
| **1960** | **89.2** | **98.6** |
| 1965 | 94.6 | 99.4 |
| 1968 | 103.1 | 100.9 |
| 1969 | 105.6 | 102.8 |
| **1970** | **110.1** | **107.3** |
| 1971 | 117.5 | 114.7 |
| 1972 | 118.5 | 120.5 |
| 1973 | 136.0 | 126.4 |
| **1974 (to date)** | **220.5** | **146.2** |

# ESTIMATED
# DEPENDENCE ON IMPORTED FUELS

| Year | Imports, Millions Barrels of Oil per Day, Equivalent | Percentage of Total U.S. Energy Consumption |
|---|---|---|
| 1960 | 2.0 | 9.5 |
| 1970 | 3.9 | 12.0 |
| 1973 | 6.8 | 18.3 |
| 1980 | 11.9 | 25 |
| 1990 | 22.0 | 32 |




# MINNESOTA - SOURCES OF FUEL

# ENERGY USE BY REGION U.S.

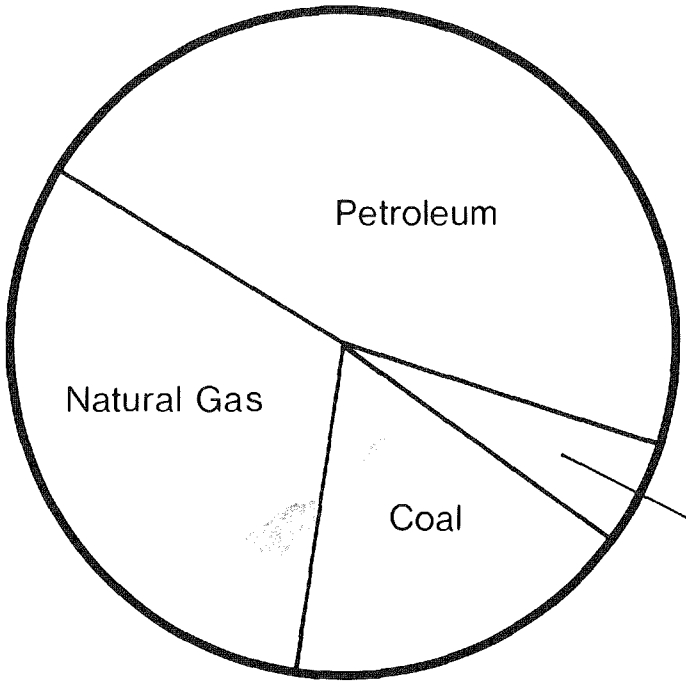
| | East Coast | North Central | Gulf Coast | Rocky Mountain | West Coast |
|---|---|---|---|---|---|
| | Percent of Total Energy Used | | | | |
| **Oil** | 57% | 36% | 37% | 40% | 48% |
| **Natural Gas** | 17 | 31 | 55 | 34 | 33 |
| **Coal** | 23 | 31 | 7 | 16 | 1 |
| **Water Power** | 2 | 1 | 1 | 10 | 18 |
| **Nuclear** | 1 | 1 | - | - | - |
| **Total** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

# ENERGY SOURCES 1972

## Minnesota and Adjacent States

ENERGY SOURCES ( % )

| State | Coal | Petroleum | Nat. Gas | Hydro & Nuclear | Million BTU Per Capita |
|---|---|---|---|---|---|
| Minn. | 16.5 | 48.1 | 31.4 | 4.0 | 302 |
| Iowa | 17.8 | 42.0 | 39.1 | 1.1 | 314 |
| N. D. / S. D. | 24.7 | 40.5 | 14.2 | 20.6 | 402 |
| Wisc. | 27.3 | 41.3 | 26.9 | 4.5 | 280 |




# ENERGY IN MINNESOTA

## BY TYPE OF FUEL USED

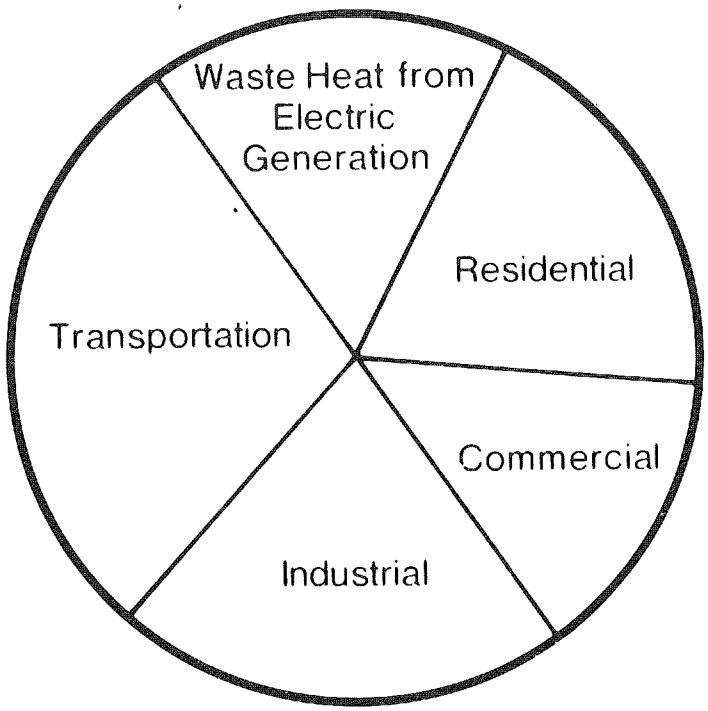
## 1972

## ENERGY USES ( % )
## Minnesota and Adjacent States

| | Household - Commercial | Industrial | Transportation | Elec. Gen. | Misc. |
|---|---|---|---|---|---|
| Minn. | 30.6 % | 19.8 % | 27.8 % | 21.7 % | 0.2 % |
| Iowa | 28.8 | 19.7 | 29.3 | 21.8 | 0.3 |
| N. D. / S. D. | 21.8 | 8.9 | 25.0 | 43.7 | 0.5 |
| Wisc. | 28.3 | 21.0 | 24.9 | 25.7 | 0.1 |

# 1972 ENERGY USE - NET
## Minnesota and Adjacent States

| | ENERGY USES ( % ) | | | | | |
|---|---|---|---|---|---|---|
| | Household - Commercial | Industrial | Trans- portation | Misc. | Total | Million BTU Per Capita ( Net ) |
| Minn. | 40.6 % | 26.9 % | 32.3 % | 0.2 % | 100.0 % | 259 |
| Iowa | 39.2 | 26.1 | 34.3 | 0.4 | 100.0 | 268 |
| N. D. S. D. | 42.2 | 15.7 | 41.2 | 0.9 | 100.0 | 244 |
| Wisc. | 40.3 | 29.4 | 30.1 | 0.2 | 100.0 | 231 |




# MINNESOTA ENERGY USE

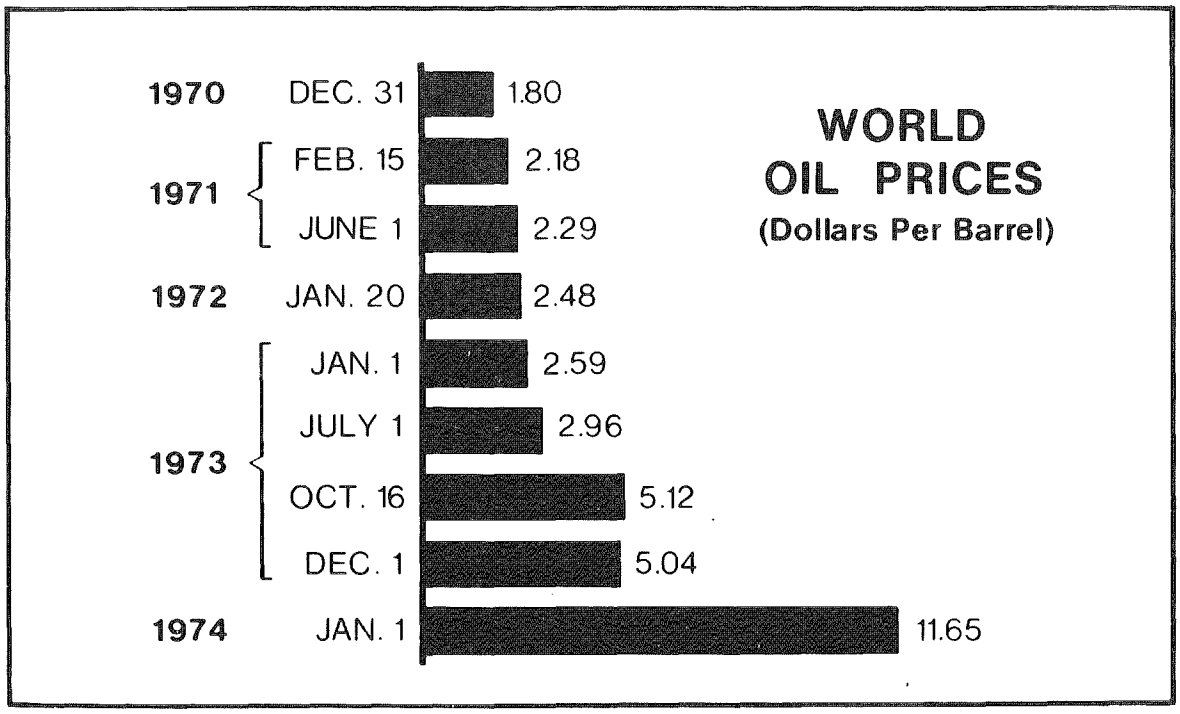
**BY MAJOR SECTOR**

**1972**

# FUEL USED FOR HOUSE HEATING
# 1970 - MINNESOTA

## PERCENT DISTRIBUTION, BY REGION

| Region | Util. Gas | Bottle/LP Gas | Elect. | Oil/Kero |
|---|---|---|---|---|
| 2 | 4.4% | 12.6% | 4.4% | 69.5% |
| 6E | 21.8 | 10.4 | 3.8 | 62.3 |
| 9 | 55.4 | 11.1 | 1.6 | 29.5 |
| 11 | 76.8 | 2.1 | 2.8 | 16.4 |
| **Total State** | 53.9 | 6.2 | 2.6 | 34.3 |



# COSTS OF OIL IMPORTS

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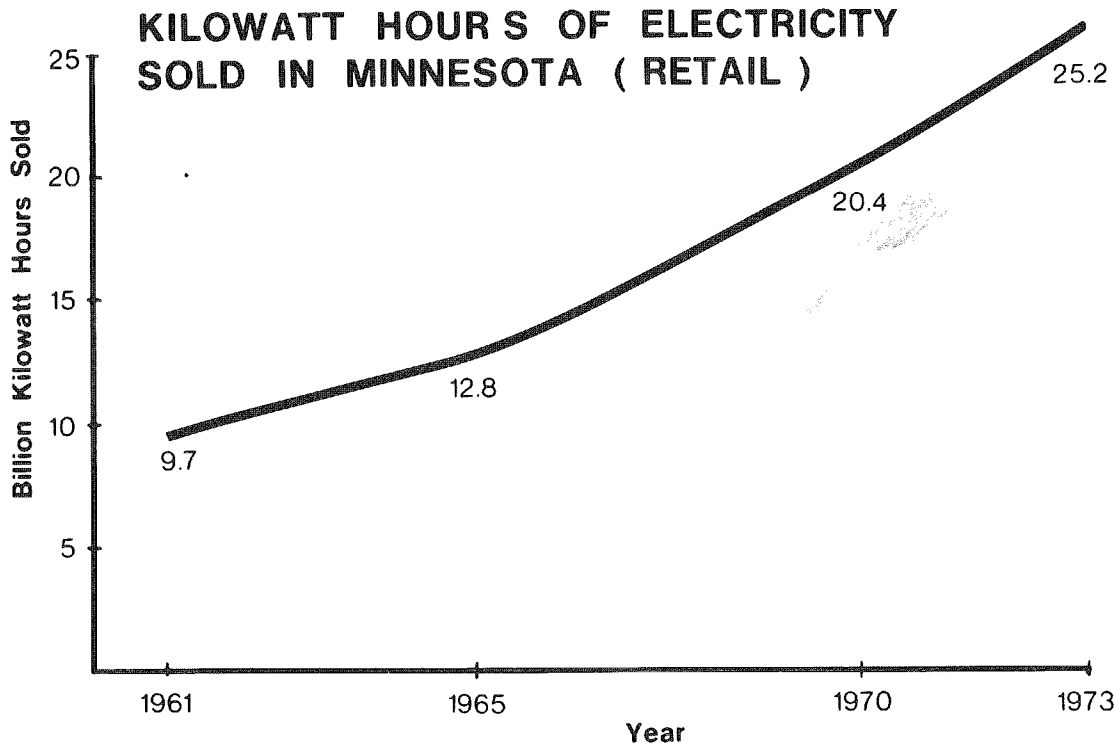


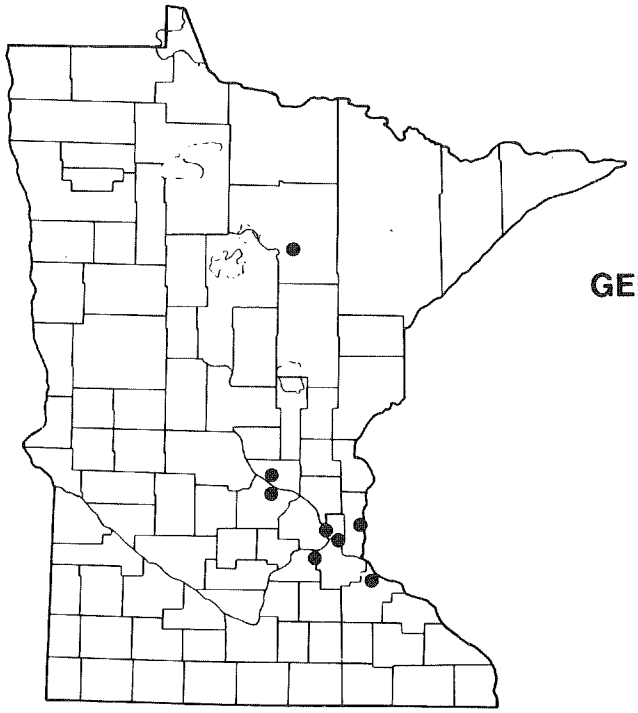
# MINNESOTA ELECTRICITY GENERATION 1973

| FUEL | MILLION KWH | % |
|---|---|---|
| COAL | 12, 221 | 57.4 |
| GAS | 4, 056 | 19.0 |
| OIL | 889 | 4.2 |
| NUCLEAR | 3, 270 | 15.3 |
| HYDRO | 872 | 4.1 |
| | 21, 308 | 100.0 |

# FUTURE POWER GENERATION REQUIREMENTS MINNESOTA - 1988

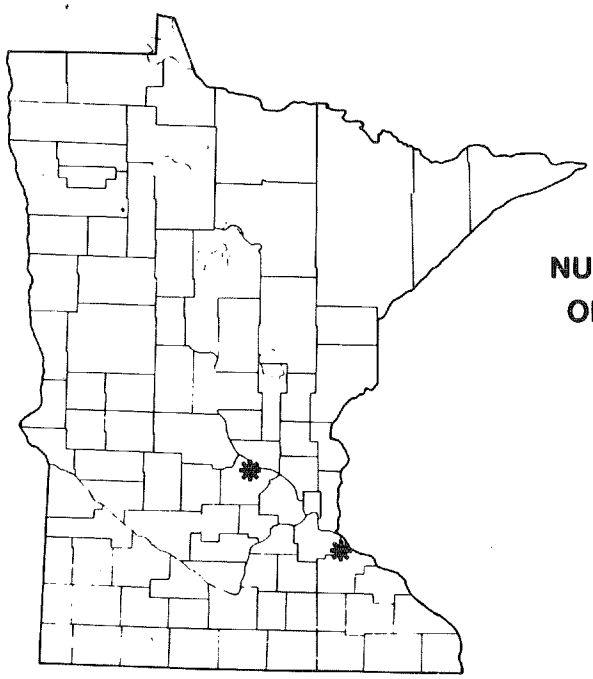
( MW = megawatts = 1 million watts )

| | |
|---|---|
| Estimated Peak Capacity Required 1988 = | 14,700 MW |
| 1974 Capacity | 5,700 |
| Needed New Capacity By 1988 | 9,000 |
| Presently Committed Additions ( Underway ) | 2,100 |
| Projected Retirement Of Facilities | 500 |
| Net New Capacity To Be Determined And Sited : | 7,400 MW |



**GENERATING PLANTS OF APPROXIMATELY 500 MW OR MORE**

● Plant Location



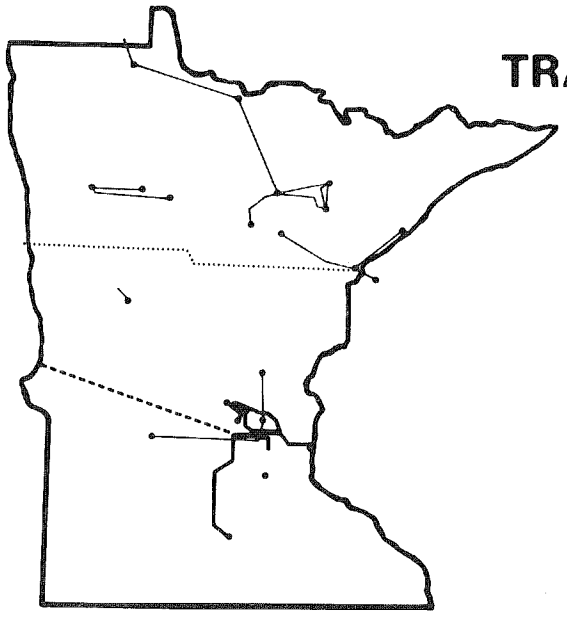
**NUCLEAR FUELED PLANTS -- OPERATING OR PROPOSED**

✱ Plant Location

# MINNESOTA TRANSMISSION LINES - REQUIRED FOR FUTURE NEEDS

| | 230 kV | 345 kV | 500 kV | TOTAL |
|---|---|---|---|---|
| **1978** | + 449 miles | + 4 miles | + 0 | + 453 miles |
| **1983** | + 507 | + 227 | + 720 miles | + 1,454 |
| **1988** | + 820 | + 15 | + 0 | + 835 |
| **TOTAL** | + 1,776 miles | + 246 miles | + 720 miles | + 2,742 miles |

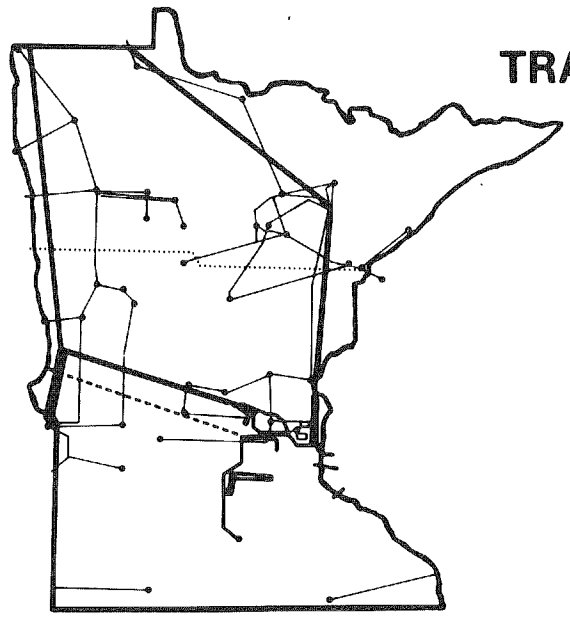
In 1974 there were approximately 1600 miles of transmission lines over 200 kV.



## TRANSMISSION ADDITIONS 1974 to 1978

LEGEND

- 230KV
- ±250KV DC
- 345KV
- ±450KV DC
- 500KV



## TRANSMISSION ADDITIONS
## 1984 to 1988

LEGEND

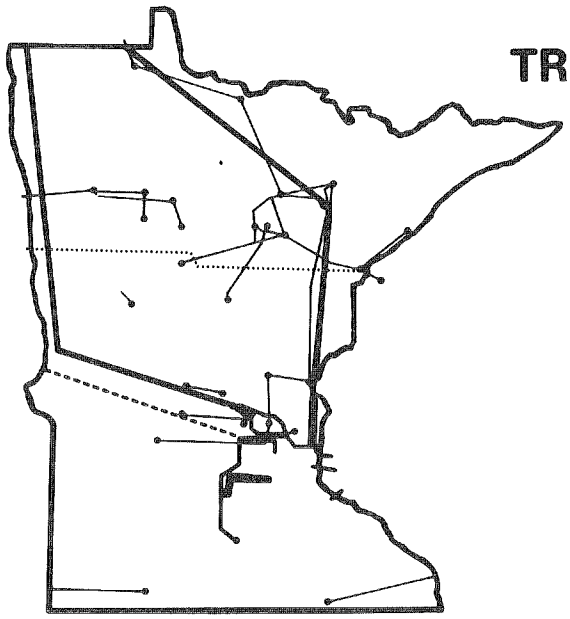
——— 230KV

..... ±250KV DC

——— 345KV

----- ±450KV DC

▬▬▬ 500KV



## TRANSMISSION ADDITIONS
## 1979 to 1983

LEGEND

——— 230KV

..... ±250KV DC

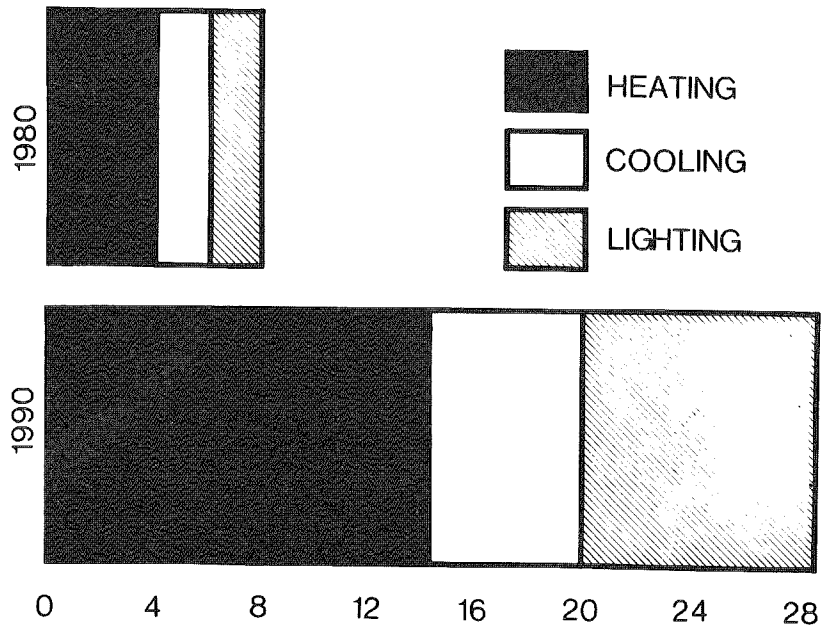
——— 345KV

----- ±450KV DC

▬▬▬ 500KV

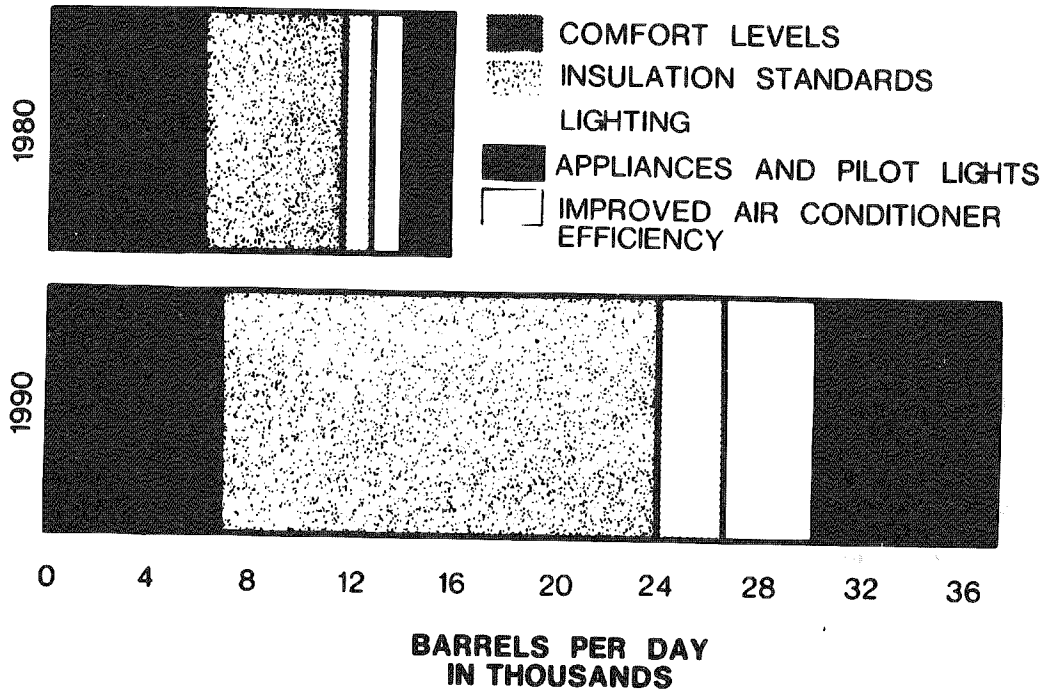
# POTENTIAL ENERGY SAVINGS IN COMMERCIAL BUILDINGS

**MINNESOTA**




# POTENTIAL ENERGY SAVINGS IN PRIVATE HOMES

**MINNESOTA**



## ESTIMATED GASOLINE SAVINGS RESULTING FROM ADDITIONAL TAXES

(Percent change)

| Additional Tax 1975 $ | 1980 | 1985 | 1995 |
|---|---|---|---|
| 15¢ | 16.2% | 13.6% | 9.8% |
| 30¢ | 33.8 | 25.0 | 18.2 |
| 45¢ | 40.5 | 34.5 | 25.7 |

## ENERGY CONSUMPTION BY INCOME GROUP

| Income Group | Average Consumption (Millions of BTU's) |
|---|---|
| POOR | 207 |
| LOWER MIDDLE | 294 |
| UPPER MIDDLE | 403 |
| WELL OFF | 478 |

# ENERGY CONSUMPTION AND INCOME GROUP

| Income Group | % of Total Annual Income Spent on Energy |
|---|---|
| POOR | 15.2% |
| LOWER MIDDLE | 7.2 |
| UPPER MIDDLE | 5.9 |
| WELL OFF | 4.1 |

# GASOLINE PRICE AND FAMILY INCOME 1955 - 1974

**Cost of Thousand Gallons as Per Cent of: Median Family Income**

| | |
|---|---|
| 1955 | 6.6% |
| 1960 | 5.5 |
| 1965 | 4.5 |
| 1970 | 3.6 |
| 1971 | 3.5 |
| 1972 | 3.3 |
| 1973 | 3.2 (est.) |
| 1974 (May) | 4.1 (est.) |

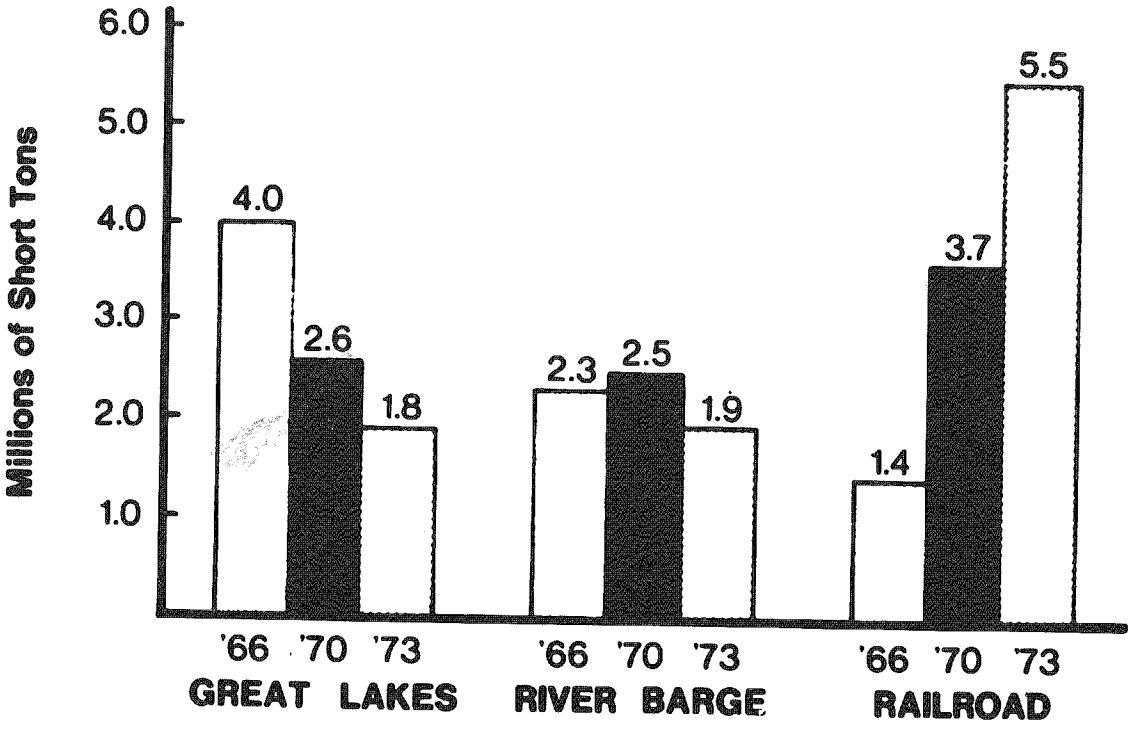
# GASOLINE PRICES AND FAMILY INCOME 1974

| Retail Price Per Gallon | Cost of Thousand Gallons as Per Cent of: Median Family Income |
|---|---|
| $0.50 | 4.2% |
| 0.60 | 5.0 |
| 0.70 | 5.8 |
| **0.80** | **6.7** |
| 0.90 | 7.5 |
| 1.00 | 8.3 |

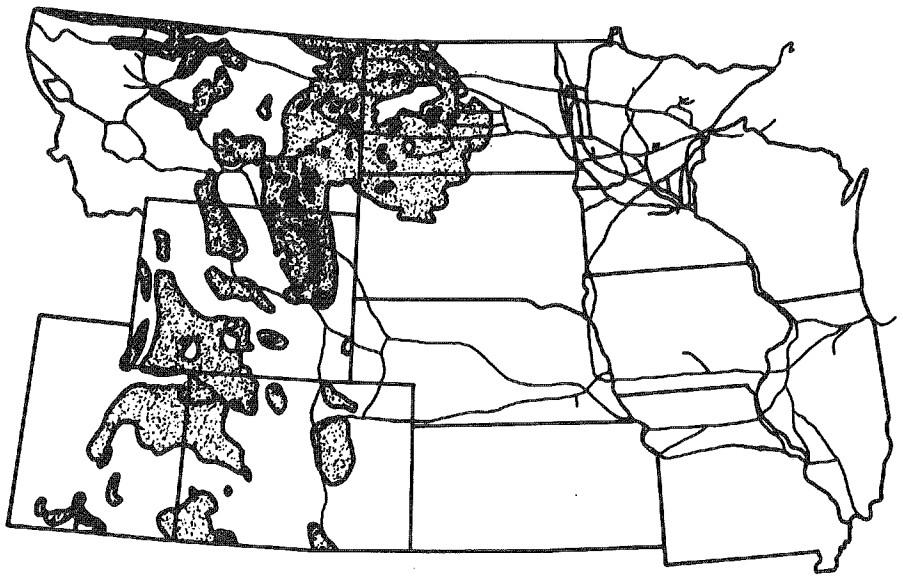
# GASOLINE PRICE AND FAMILY INCOME 1980

| Retail Price Per Gallon | Cost of Thousand Gallons as Per Cent of: Median Family Income |
|---|---|
| $0.50 | 3.4% |
| 0.60 | 4.0 |
| 0.70 | 4.7 |
| 0.80 | 5.4 |
| 0.90 | 5.1 |
| **1.00** | **6.8** |

# COAL SHIPMENTS TO MINNESOTA




## WESTERN STRIPPABLE COAL RESERVES



● Generalized Location of Strippable Reserves

Areas of Coal Reserves

— Burlington Railroad Lines

## COAL CONSUMPTION 1980 - 2000 WERE ALL NEW MINNESOTA POWER PLANTS COAL FIRED

| Year | Projected Electricity Consumption Billions Kw-Hr | Coal Burned Million Tons | Approximate Number Of 100 Car Unit - Trains Per Day |
|---|---|---|---|
| 1980 | 41 | 20.6 | 5 1/2 |
| 1990 | 85 | 42.2 | 11 1/2 |
| 2000 | 175 | 87.5 | 24 |

# MINNESOTA'S HUMAN ENVIRONMENT

**HEALTH**
by Vernon Sommerdorf, M.D.

**HUMAN SERVICES**
by Richard Broeker and Jane Belau

**EDUCATION**
by Dean Honetschlager



**Note:**

All visuals for above presentations are included in Appendix at the end of this section.

# MINNESOTA'S HUMAN ENVIRONMENT

## HEALTH

by Vernon Sommerdorf, M.D.

Better health for the people of Minnesota is our ultimate goal — an objective worthy of concerted effort, but one in which success may be difficult to measure due to our inability to define adequately what we mean by health. With this in mind, our discussion will focus on various aspects of our health status and our health care system. How does Minnesota compare with the rest of the country? What kinds of health problems do Minnesota's citizens encounter? What are the state's current health resources?

Infant mortality rates are frequently used as an indicator of the health of a population. Based on this measure, Minnesota compares favorably with the nation. For some time, the state's infant mortality rate has been below that of the nation. However, the rates for blacks and Indians are higher than the state average. Minnesota shows a slightly lower rate of heart disease than the rest of the country, but somewhat higher rates of cancer, stroke, and accidental deaths. As the fourth leading cause of death, accidents represent a problem which cannot possibly be solved by the health care system alone.

The nature of Minnesota's — and the nation's — health problems has changed from epidemic diseases such as tuberculosis, polio, and smallpox, to chronic diseases such as heart and respiratory ailments, cancer, diabetes, and kidney disease. In the first half of the century, medical research concentrated on finding cures for epidemic diseases, and medical practitioners concentrated on providing the kind of episodic, acute, or crisis care needed. Today, however, the leading health problems are chronic illnesses — chronic in the sense that for the most part they cannot be totally reversed, may span many years of an individual's life, and may limit the person's activity to varying degrees. This increase in chronic conditions in part reflects our changing lifestyle. We cannot expect the traditional health care system to prevent conditions that result from our personal behavior or the physical environment. We need to educate people to those actions which can maintain health and prevent diseases resulting from such things as smoking, poor nutrition, alcohol, and drug abuse. We cannot expect a pill from our doctor to undo those problems which our own behavior has created.

In 1969, over 11% of the country's population was afflicted with some type of activity-limiting, chronic condition. It is safe to assume that during the ensuing six years that percentage has grown. Further, as you can see, the incidence of chronic disease is closely tied to socio-economic status.

These trends suggest that the health care delivery system will have to adjust itself to the continued growth of chronic, disability-producing disease. This will require experimentation with a variety of alternatives such as public health services, public health education, home health services, ambulatory care, and preventive services in general. Now and in the future, the state must define its role in assisting health care systems to address themselves to preventive and public health services and to the management of chronic conditions.

Increased lifespan is a major factor in the increasing prevalence of chronic conditions and certainly is one factor in the increasing demand for health services. When you add increased lifespan to general population growth, affluence, and inflation, reduction in the cost of medical care seems very remote.

This country spends more than $94 billion a year on health services, a figure which has been rising rapidly. Projecting from national figures, the average health bill per Minnesotan is $441 each year.

Indications are that the burden of these costs may shift significantly from private to public sources. For example: in 1966, the year before Medicare and the beginning of Medicaid, individuals paid fifty-one cents of every personal health care dollar. By 1972, individuals paid only thirty-five cents.

Hospital and nursing home care account for a very large share of the health care dollar. Using national data, it is possible to estimate that we spend approximately $700 million per year in Minnesota on hospital services. Now, as in past years, hospital care is the largest single item in the personal health care dollar, representing 45% of the total. The second largest item is professional services.

Data on Minnesota's Medical Assistance Program (Medicaid or Title XIX) further illustrate the significant increase in both the costs and use of institutional services. These figures illustrate the impact of hospital and nursing home costs on the spiralling rates of inflation in the field of health care.

In Minnesota, nursing home beds have increased at a rapid rate over the past several years. This indicates a trend toward treating long-term patients, especially the elderly, in institu-

tional settings. As we have just indicated, institutional care costs the most. If only for financial reasons, then, we have incentives for keeping the elderly out of institutions. Less expensive alternatives are possible — for example, meals on wheels, home health care, and other various support services.

Equally important, however, is our approach to the provision of care for the elderly. So far, there has been no truly effective means of monitoring the quality of care provided in nursing homes. Quality of care is an extremely difficult thing to define or measure; nevertheless, it must be considered when designing programs to provide long-term care. Hopefully, alternatives to institutionalization can maximize the independence and dignity in the lives of Minnesota's elderly citizens.

Under federal and state law, a number of planning and regulatory programs have been established to promote a more orderly health services system and to contain these health care costs. They include: Comprehensive Health Planning, Certificate of Need, Federal Capital Expenditure Review Programs, End-Stage Renal Disease Review and Exception Program, and Professional Standards Review Organizations. In spite of these programs, the fact remains: the health system is controlled predominantly by private sources. This makes it difficult to legislate the control of costs or the redistribution of health personnel.

A major cost factor in health care is the expensive education of personnel. Unlike some industries, the health care field remains dependent on a variety of people with specialized training.

The education of a physician, obviously, costs the most and receives the largest subsidies from both the state and federal governments. Presently, we are accepting 315 new medical students each year in the three medical schools of the state.

In addition, Minnesota has 110 education and training Institutions preparing students for 92 allied health occupations. The programs are located not only in our colleges and universities but also in area vocational-technical schools and hospitals. Designed to accommodate more than 10,000 graduates, these programs have been graduating only slightly more than 6,000 per year — about 60% of capacity.

We have not yet perfected a means of identifying acceptable ratios of physicians and other health personnel to meet adequately the needs of the population. While the overall state ratio seems adequate, there are certain areas where the ratio of both hospitals and physicians to population is less than satisfactory. In a state such as ours, with half its population widely and thinly dispersed in rural areas, an even and equitable distribution of health personnel is of concern.

Looking solely at the ratio of physicians in patient-care to population, Minnesota compares favorably with the rest of the country, falling in the second highest category. The state again ranks relatively high nationally in its ratio of primary-care physicians to population. (A primary-care physician is one in general or family practice, internal medicine, obstetrics-gynecology, or pediatrics.)

The state average for primary-care physicians is 101 per 100,000, or about one doctor for every 990 persons. However, noting their distribution, we see the ratio fall in the non-metropolitan areas of the state to about one doctor for every 1,100 persons. In some counties, the ratio drops dramatically. Furthermore, many of these outstate primary-care physicians are increasing in age and are likely to be retiring from practice altogether.

Most Minnesotans are within a twenty-five mile radius of a hospital and, as you might expect, those areas of the state having no hospital facilities within this range are far away from the metropolitan region. You've already heard something about outstate transportation problems. These same transportation problems are directly related to problems of health care access. We seem to be assuming that all residents, both within and outside the twenty-five mile radius, will have transportation available to take them to a health care facility. This assumption does not necessarily hold true. How, for example, do a couple in their eighties, living in Cass County, get to a health care facility if they have no children living nearby, no kindly neighbors with cars?

Pre-paid medical coverage plans, often called Health Maintenance Organizations or HMO's, have existed in our state for some time. Recently, we have seen a proliferation of HMO's, both in number and variety. This trend is likely to continue, but, again, they are concentrated in metropolitan areas.

From these figures it seems reasonable to conclude that while the overall distribution of primary-care physicians in the state is not an acute problem, health services throughout the state are unevenly and inequitably distributed. The state has shown considerable foresight in planning better health care access for its citizens by increasing the production of its medical schools and by instituting the Medical Student Loan Forgiveness Program, designed to provide young physicians with an incentive to set up a rural practice.

We have just discussed major health problems in the state of Minnesota. These, then, are some of the issues that we face:

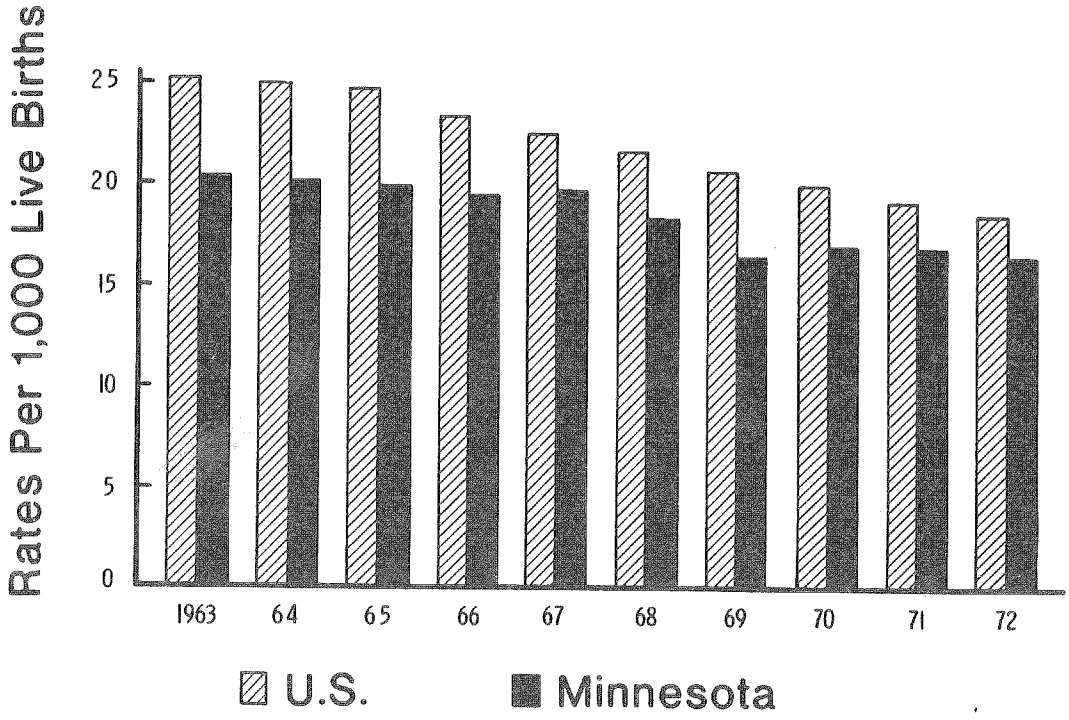
How many physicians should Minnesota produce? How many and what categories of allied health personnel should it produce in post-secondary programs? To what extent should the state subsidize graduate and undergraduate medical education, and to what extent should paramedic programs be provided instead of, or in addition to, medical education?

The state is presently deeply involved in providing, paying for, and regulating health care through the Welfare and Health Departments, licensing boards, and other agencies. In the future, should the state play an expanded role? If so, to what degree?

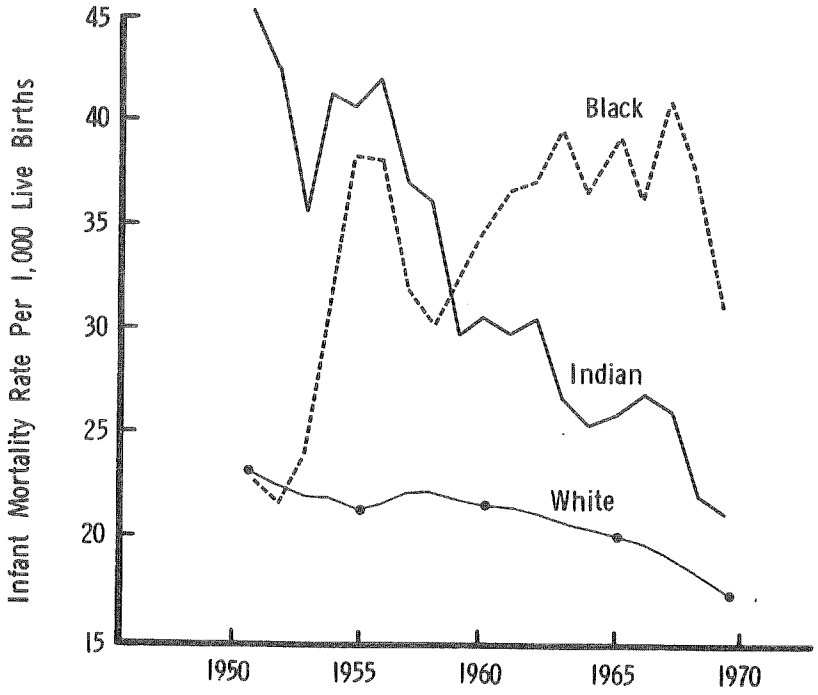
To what extent should the state intervene in the regulation of rates in the health sector, and what components of the sector should the state regulate? What is the state's responsibility in developing and facilitating alternative programs to reduce expenditures in institutional care?

These are important, but by no means the only, questions in the field of health care which the Legislature should examine during the coming months and years. The problems and questions raised are all inter-related, and their effect on one another should be considered as carefully as the problems and questions themselves. As a former member of the Legislature, I am confident that you will move creatively and judiciously and will avoid making some of the mistakes we have seen being made at the national level. The Legislature, the executive branch of state government, and those involved in providing health care must work together. For as we stated at the outset: the ultimate goal is better health for the people of Minnesota.

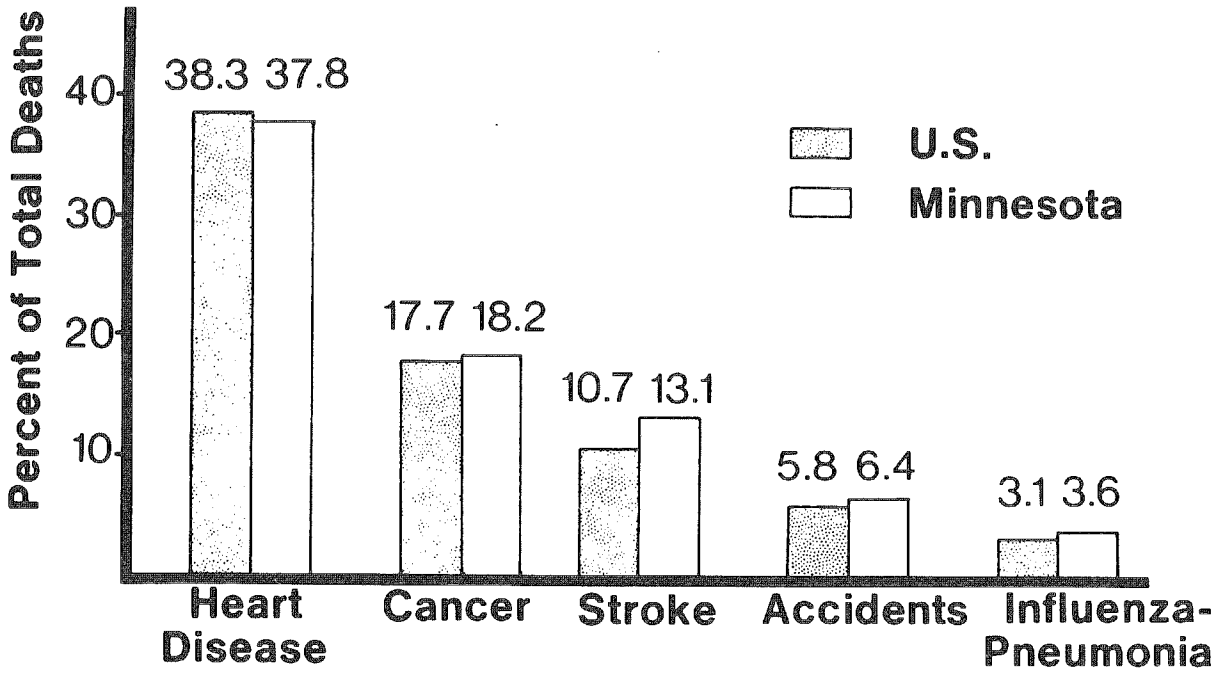
# INFANT MORTALITY



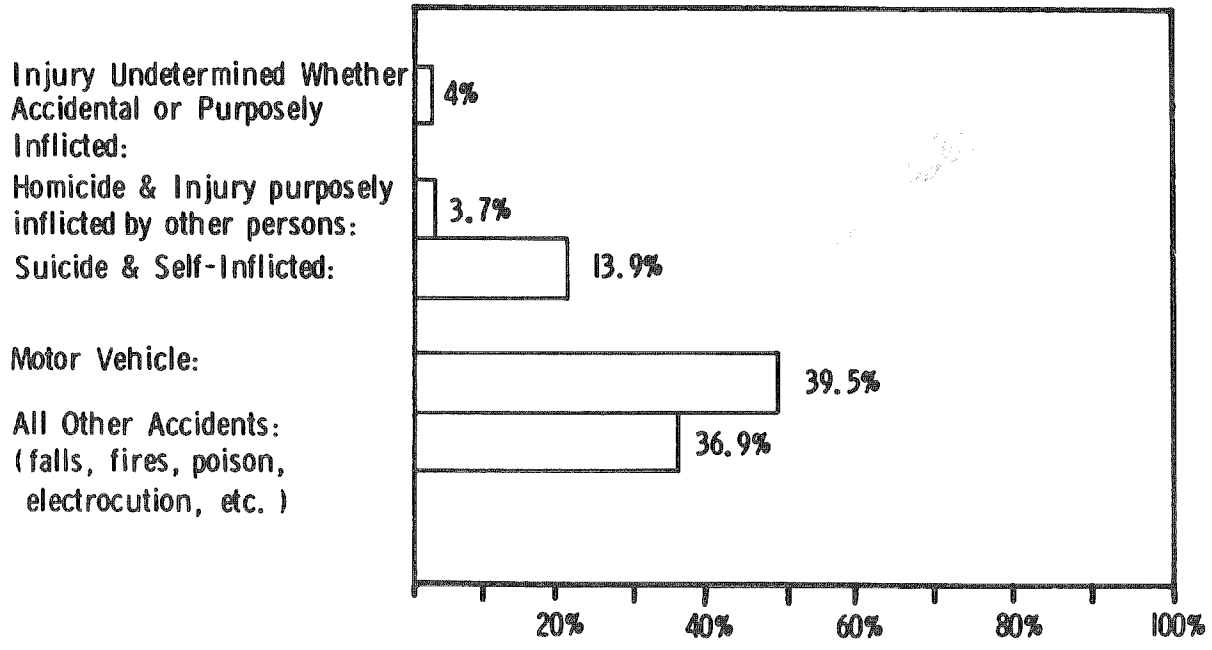

# MINNESOTA INFANT MORTALITY RATE BY RACE 1950 - 1970



# FIVE LEADING CAUSES OF DEATH-1972

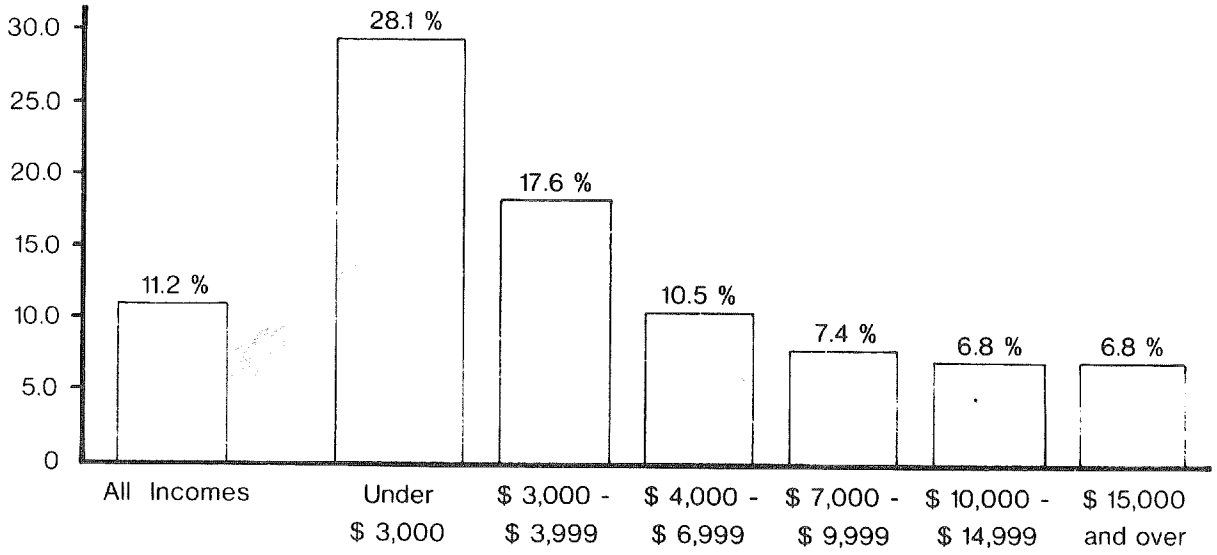



# ACCIDENTAL DEATHS

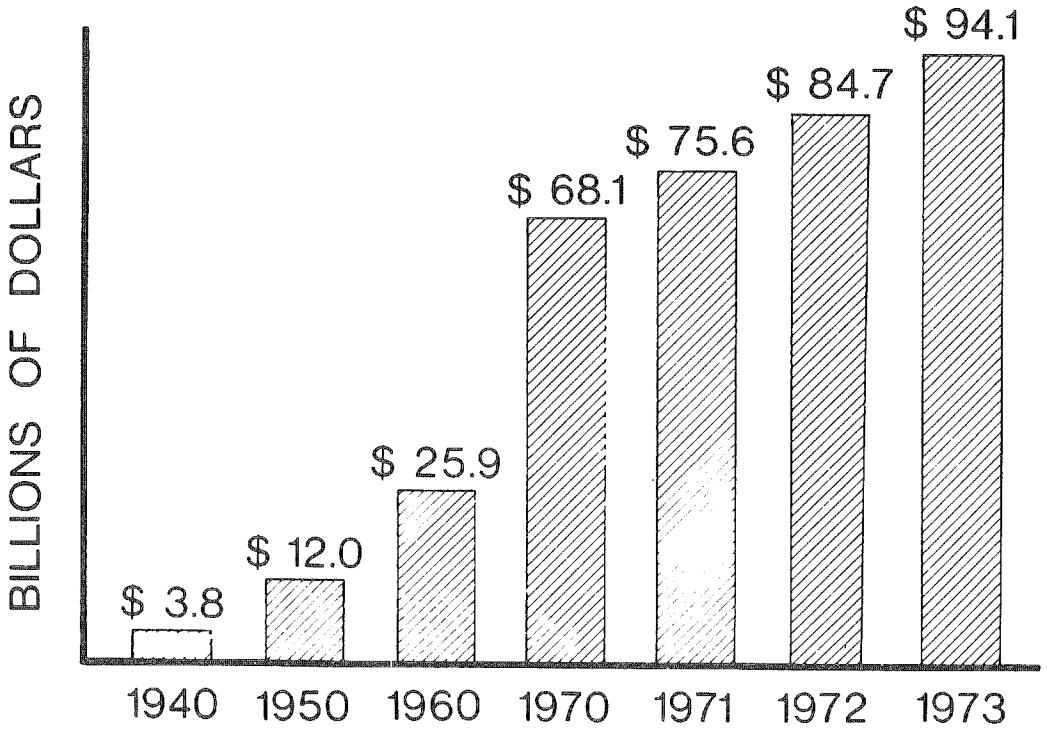


PROPORTION OF POPULATION WITH CHRONIC CONDITIONS

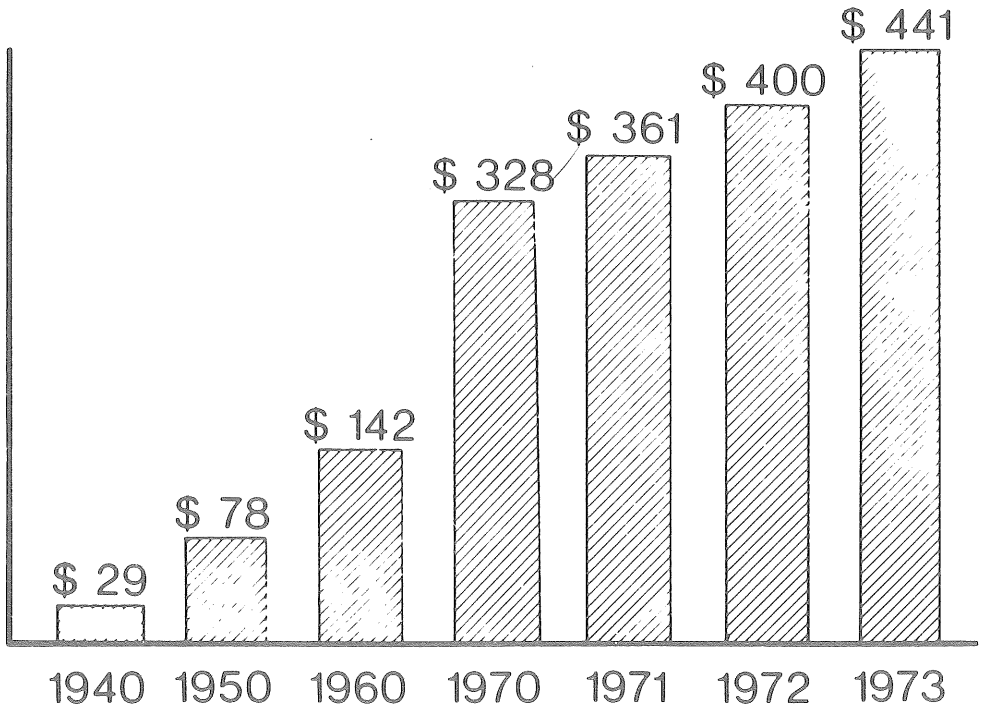
FISCAL YEAR 1969



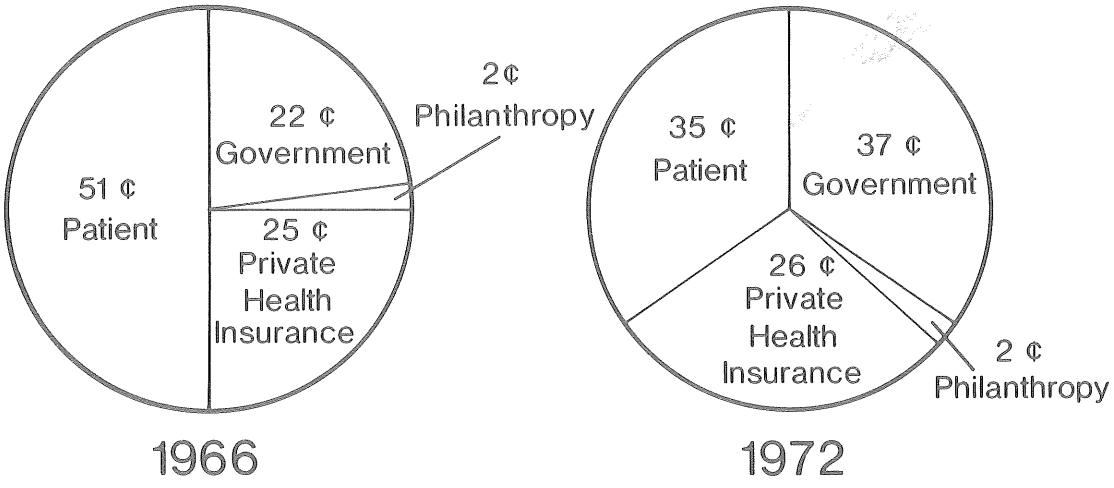

## U. S. HEALTH EXPENDITURES : 1940 - 1973



# AVERAGE HEALTH BILL PER PERSON: 1940 - 1973

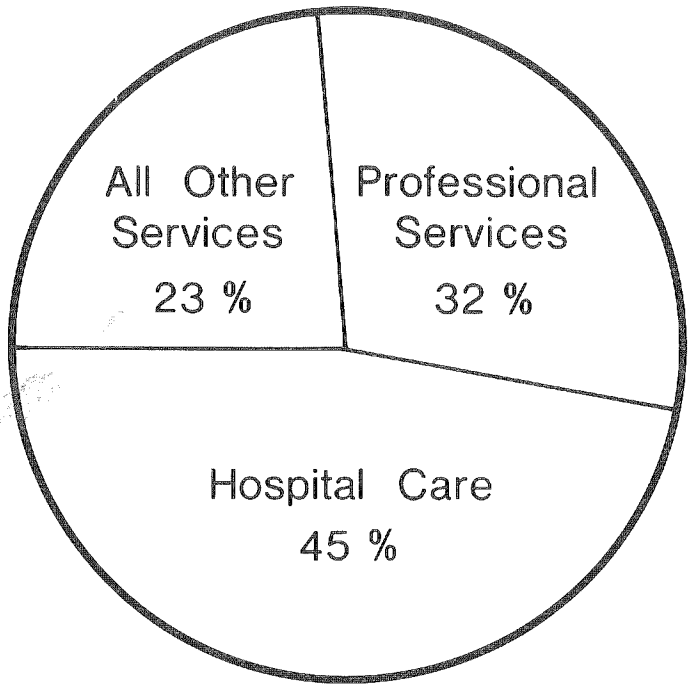



## THE INDIVIDUAL'S SHARE OF THE PERSONAL HEALTH - CARE DOLLAR



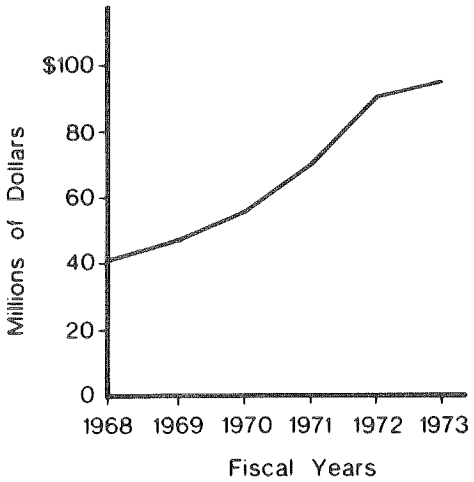
# THE PERSONAL HEALTH - CARE DOLLAR:

# WHERE DID IT GO?

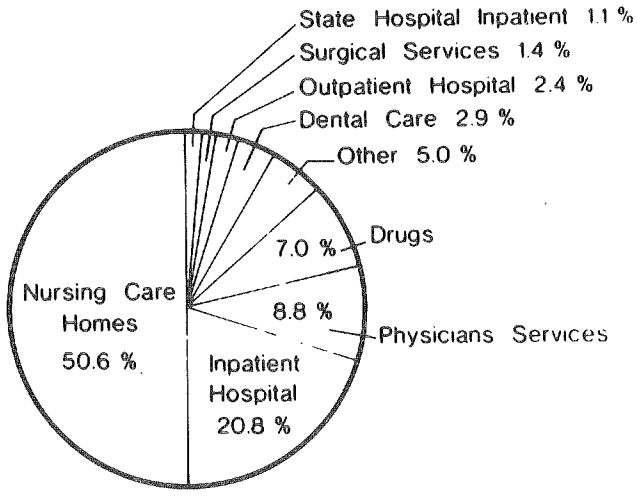



## MINNESOTA'S MEDICAL ASSISTANCE PROGRAM

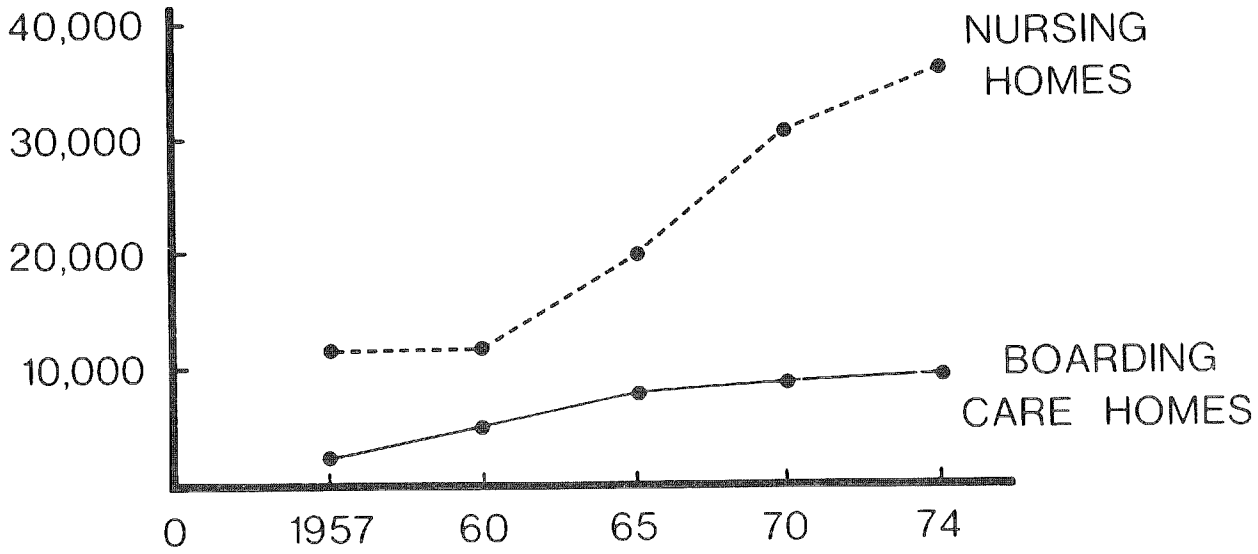
TOTAL NURSING HOME COSTS




DISTRIBUTION OF MEDICAL VENDOR PAYMENTS BY TYPE OF CARE



## INCREASE IN LONG - TERM CARE BEDS




## COST CONTROL PROGRAMS

- COMPREHENSIVE HEALTH PLANNING
- CERTIFICATE OF NEED
- FEDERAL CAPITAL EXPENDITURE REVIEW
- END - STAGE RENAL DISEASE REVIEW
- PROFESSIONAL STANDARDS REVIEW ORGANIZATIONS

## PHYSICIAN EDUCATION IN MINNESOTA

| | |
|---|---|
| UNIVERSITY OF MINNESOTA<br>Twin Cities Campus | 239 |
| UNIVERSITY OF MINNESOTA<br>Duluth - 2 Year Basic Science Program | 36 |
| MAYO MEDICAL SCHOOL<br>Rochester | 40 |
| TOTAL | 315 |

## ALLIED HEALTH PERSONNEL EDUCATION IN MINNESOTA

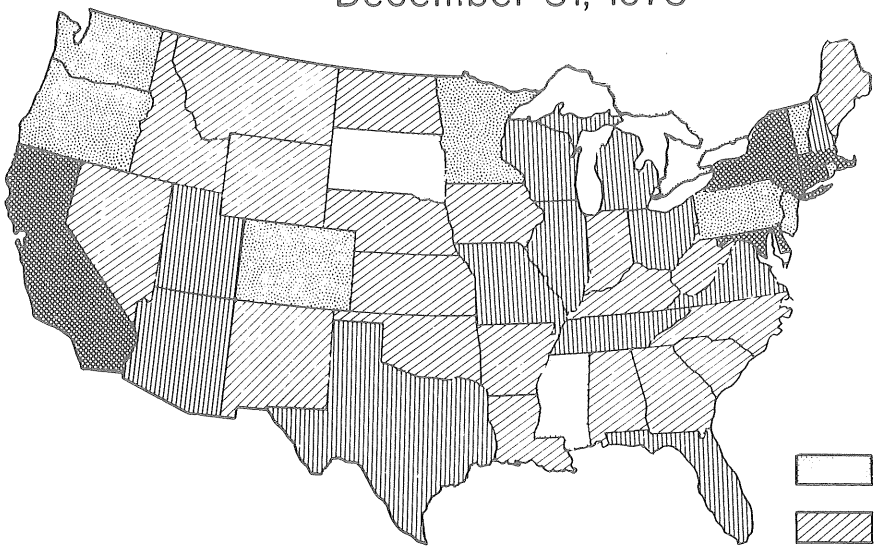
- 110 Institutions
- 92 Occupations

| GRADUATE CAPACITY | ACTUAL GRADUATES |
|---|---|
| 10,000 | 6,000 |

Operating at 60% capacity

## NUMBER OF PHYSICIANS IN PATIENT CARE PER 100,000 POPULATION

December 31, 1973



| | No. of States |
|---|---|
| Under 80 | 2 |
| 80 - 104 | 20 |
| 105 - 129 | 13 |
| 130 - 154 | 8 |
| 155 - 334 | 6 |

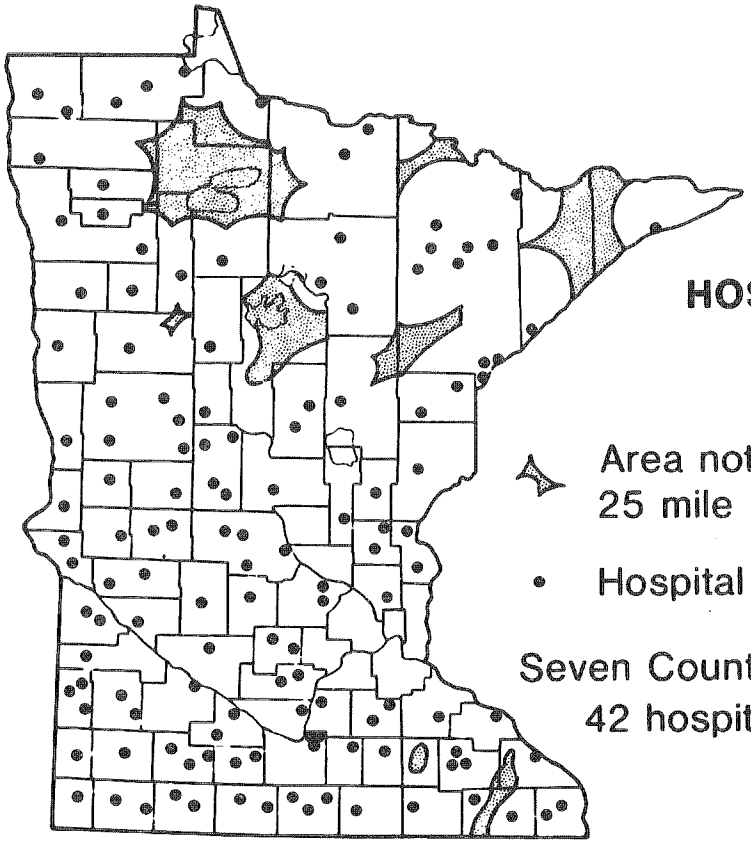
## NUMBER OF PHYSICIANS IN PRIMARY CARE PER 100,000 POPULATION

December 31, 1973

| | No. of States |
|---|---|
| Under 45 | 7 |
| 45 - 54 | 18 |
| 55 - 64 | 13 |
| 65 - 84 | 9 |
| 85 - 168 | 2 |

## PRIMARY - CARE PHYSICIANS IN MINNESOTA

| | |
|---|---|
| STATE AVERAGE | 101 / 100,000<br>1 PER 990 PERSONS |
| NON - METROPOLITAN AREAS | 91.2 / 100,000<br>1 PER 1,100 PERSONS |
| CASS, CLAY, HOUSTON, MAHNOMEN, SHERBURNE COUNTIES | 1 PER 5,000 PERSONS |

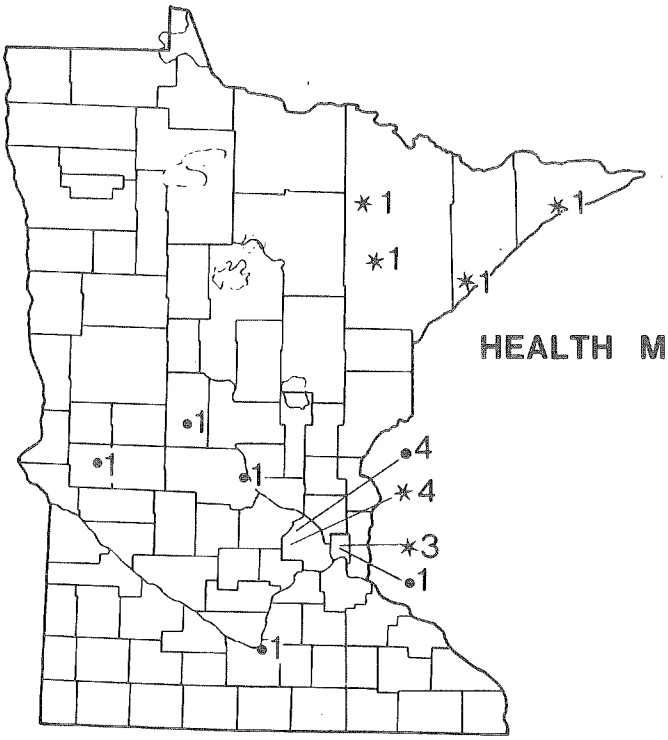


## HOSPITAL DISTRIBUTION IN MINNESOTA

Area not covered within 25 mile radius of a hospital

• Hospital location

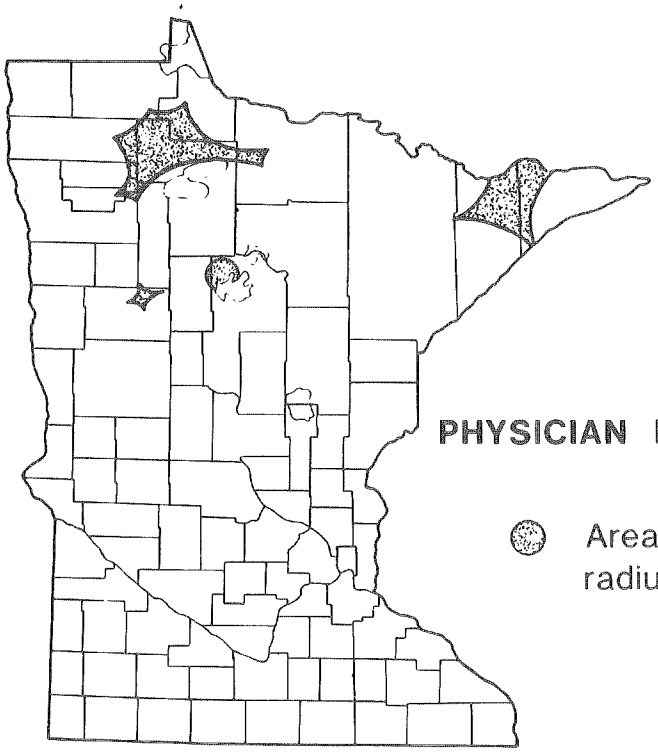
Seven County Metropolitan Area has 42 hospitals, 38 general acute




## HEALTH MAINTENANCE ORGANIZATIONS IN MINNESOTA

✶ Existing HMO's

• Planned HMO's



## PRIMARY - CARE PHYSICIAN DISTRIBUTION IN MINNESOTA

Area not covered within 25 mile radius of a primary physician.

# MAJOR ISSUES

- HEALTH PERSONNEL SUPPLY
- SUBSIDIZATION OF MEDICAL EDUCATION
- STATE'S ROLE IN THE DEVELOPMENT OF HEALTH SERVICES
- RATE REGULATION
- ALTERNATIVE PROGRAMS TO REDUCE COSTS

## HUMAN SERVICES

by Richard Broeker and Jane Belau

Human services range from a middle class couple utilizing an adoption program at a public welfare agency to an alcoholic being treated in a chemical dependency program to the parents of a mentally retarded child receiving specialized help. At one time or another, just about all of us use a human service even though the majority of attention is drawn to visible, expensive programs such as public assistance, correctional services, or state institutions.

Generally, the term human services includes a variety of "people" programs that have evolved since the 1930's — although evolving with little comprehensive organization or logical growth. Human services include prevention of physical or behavioral disabilities or difficulties, maintenance of good health or a state of well-being, and corrective or remedial programs. Education is not usually included in the human services definition.

In Minnesota we are primarily concerned with those programs administered, planned, or supervised by the State Departments of Corrections, Public Welfare, Health, Employment Services, Veterans Affairs; the Division of Vocational Rehabilitation within the Department of Education; the Office of Economic Opportunity; the Governor's Citizens' Council on Aging; the Governor's Council on Crime Prevention and Control; the Developmental Disabilities Council; the Comprehensive Health Planning Program; and the State Manpower Planning Council.

Also, there is a variety of federally operated programs providing for human services, such as the Bureau of Indian Affairs, Social Security, and public housing projects. They are supplemented by a range of other programs like Railroad Retirement and city and county hospitals. It is, indeed, a complex and massive system.

This is, as you will hear, a description of the system, not a detailed overview of specific needs of special populations. The system commands this kind of attention, because if it is not workable, it becomes impossible to match and identify resources and needs. Since it is an enormous task to attempt a balanced and comprehensive description of the system in such a short time, we intend to give you, instead, a general picture of some of the dilemmas currently confronting Minnesota and a taste of the challenges which must be faced in the coming year.

Minnesota has a strong reputation as a national leader in the provision of human services. Many good things are being done. As one example, Governor Anderson recently announced a federally financed $527,000 program which will provide needed services in education, housing, and employment to over 15,000 migrant workers, mostly Mexican-Americans who enter the state each year to cultivate and harvest crops.

In a 1972 analysis based on census and other research data, Minnesota places second in relative standing among the 50 states in the provision of health, security, and related human services efforts. This overall comparative ranking, however, can be misleading when we examine specific problems. For example, Minnesota ranks 19th in its percentage of poor people, 10th in its illiteracy rate, and 14th in its rate of violent crimes.

As some of you recently read in the newspaper, Minnesota ranks fourth in average payments in our Aid to Families with Dependent Children (AFDC) program. AFDC represents our largest public program for children in need of help. However, this fourth ranking is somewhat misleading, since Minnesota determines need differently from most other states. Our average AFDC grant of $81.58 per month compares to a national average of $56.96. Wisconsin, Massachusetts, and Hawaii rank ahead of Minnesota. When compared with other states, Minnesota ranks near average in overall public assistance payments, and we tend to have low per capita expenditures for such programs.

Although Minnesota does a good job providing human services, there are still many problems. We have a difficult time locating sufficient financial resources, adequately determining the nature and scope of problems in the state, and, in general, managing the system. The existing fragmentation of direct service and administration of programs stems from the random development of human services programs over the past 40 years.

These are the general problems to be considered by the Legislature. Recent statistics reflect more pressing day-to-day problems.

For example, active claims for unemployment compensation in Minnesota have risen 42% from a year ago. "Help Wanted" classified advertisements in the metropolitan newspapers went down nearly 30% in the same year. The seasonally adjusted unemployment rate for Minnesota in October was 5.7% — up from 5.2% the previous month. Between September and December, 1974, employer requests to the state job bank dropped by nearly 50%. Recently released statistics show that the national jobless rate jumped to 7.1% in December, the highest rate in 13 years. The unemployment problem will undoubtedly worsen this coming year.

A report issued by the Governor's Office of Economic Opportunity in 1972 showed that nearly 400,000 persons, or 10.5% of the state's population, were living on incomes below the poverty level: $3,721 per year for a family of four.

Poverty hits non-white citizens of the state the hardest. The incidence of poverty among non-white families is two and one-half times greater than that of white families. For example, while 5.3% of all families in Hennepin county live below the poverty line, 29.7% of Indian families fall in that category.

The 1970 census indicates that almost 15% of Minnesota's population are 60 years of age or older. One-half of this population have chronic health needs, and one-fourth are under the federally established poverty line.

Alcoholism is another of those problems pressing the human services system. The annual cost of alcohol misuse in Minnesota is estimated at $645 million. It is also estimated that 60% to 80% of those receiving human services have alcohol or drug-related problems. The special Office of Native American Affairs estimates that 40% of the Native Americans in Minnesota are in need of services for alcoholism or drug abuse, though only 8% currently receive such services.

These examples represent only a small sample of the human services needs confronting Minnesota. Many of our problems are hidden, and until we acquire sufficient data, we will continue to have difficulty in identifying them, in setting priorities, and in directing expenditures to meet the needs of troubled citizens. It was very difficult to obtain up-to-date information on social and economic problems and needs in Minnesota for this report because the information simply does not exist in a usable form.

**The Human Services Effort**

The state agencies and their local public agencies provide the vast majority of human services in Minnesota. There are, however, numerous services provided by voluntary organizations and private agencies supported by United Way or other private contributions. Increasingly, there has been a mix of public and private services. This mix is directly related to federal funds, which allow public agencies to contract with private agencies for services. Minnesota receives 46.5 million federal dollars per year for social services. We spent another $313 million in 1972 for medical care, much of which found its way into the private sector. There is growing support for the idea of purchasing more human services through private agencies; still, we have yet to develop a comprehensive plan for coordinating the joint public-private delivery of services in order to encourage maximum use of limited dollars.

The following samples outline some of the public human services costs:

1. 14.5% of total state and local budgets in 1972 were devoted to human services.
2. $1.8 billion of federal, state, and local funds were spent on human services in Minnesota in 1972.
3. By source, the dollars expended by state departments in 1972 were 63% federal, 24% state, and 13% local.
4. 75% of the total Department of Public Welfare budget was devoted to public assistance and medical assistance payments. 25% was for provision of services.
5. In 1972, 65% of the average county budget in Minnesota was devoted to health, welfare, and correctional services. In urban counties this figure rose to 85%.
6. There has been a 233% increase in expenditures for human services from 1962 to 1972.
7. Approximately 27,000 employees, supported through public funds, are engaged in providing human services.

**Issues Which Must Be Addressed:**

Four major issues confront the human services field:

1. The lack of coherent policy.
2. Administrative fragmentation.
3. Increasing financial pressures.
4. Inadequate services for people in need.

First, there exists no policy framework into which human services fit. Human services programs, already haphazardly organized, are constantly changing because of developing philosophies.

For example, current philosophy indicates a return to our communities for those people housed in state institutions. The Department of Public Welfare's proposed plan calls for the closing of several state hospitals and the concurrent development of community-based facilities and services. Similarly, the recent proposal to close the State Prison at Stillwater, returning many inmates to community programs, reflects a philosophy that a better job can be done rehabilitating offenders in local settings. Policy implications here include administrative responsibility, fiscal responsibility, program design, staff allocation and employment, reallocation of resources, to say nothing of community attitudes.

Human services policy is established in a variety of ways — by Congressional action, the state Legislature, executive order, bureaucratic rule setting, and administrative interpretation of rules. Also, the courts are increasingly involved in defining the role of government in the delivery of services. The most recent decisions relate to the food stamp program, AFDC payments to shared households, and, of course, the much-publicized Cambridge State Hospital decision on the "right to treatment" handed down by Federal Judge Larson.

The second issue is administrative fragmentation. It is inconceivable, given the separate and confusing funding sources indicated on some existing charts, that coordinated programs at state and local levels are possible. What can we do about this problem?

Interim reports, released in 1970 and 1972 by our own House Health and Welfare Committee, strongly suggest the need to realign state agencies administratively to achieve greater coordination. A recent report issued by the Council of State Governments indicates that, in addition to Minnesota, 26 other states are attempting to reorganize or restructure their human services agencies in response to similar problems.

There remains considerable confusion as to the appropriate role for state and local government in the actual delivery of services. Most of you are aware of discussions relating to the possible "state takeover" of the county welfare system, and some of you are aware of the issues that have arisen since passage of Minnesota's 1973 Human Services Act, which clearly points to strengthening local administration.

Local administrative capacity is a major concern. With continued federal revenue sharing and decentralization in state government, increasing attention must be directed toward providing local government with technical assistance in planning and decision-making. Decentralization efforts must recognize the need for preserving state interests in areas of regulation and enforcement of standards and insuring continuing accessibility to services across the state. Limits to the capacity of local governments to finance human services programs must also be recognized.

The third issue relates to the financial dilemma facing human services programs. Financial problems include increased costs related to critically needed new programs, cost of living pressures on low income groups, and general inflationary pressures on program administration.

Public assistance standards, which are in part set by the state, have grown increasingly inadequate as the area price index has risen 13.1% this past year. Those items covered by welfare assistance programs, such as food and household expenditures, are increasing the fastest. A recent proposal issued through the United States Department of Agriculture calls for a more restrictive use of the food stamp program requiring poor people to spend more for food stamps — up to 30% of their incomes.

As inflation continues, family breakdown and crime rates rise. As unemployment increases, more Minnesotans will

require public assistance and other kinds of services. This will further accelerate state costs.

To compound the problem of costs, federal cutbacks hurt state programs. The President has proposed a $520 million reduction in 1975, and a $1 billion cut in 1976 for welfare assistance programs. This is part of the effort to trim $4.6 billion from the proposed federal budget. More reductions would come from Medicaid, Medicare, Social Security, and health program grants to states. These cutbacks are in addition to the 1975 federal budget which appropriated almost $2.5 billion less for such programs as urban development, education, manpower training, and law enforcement.

Financial resources originate in a multitude of places. Issues concerning the best source of funding for services — the local property tax, the state or federal income tax — need resolution so as not to aggravate our difficulties. Provision of services suffers when funding is sporadic, when federal regulations restrict expenditures of funds, and when one level of government mandates expenditure of funds controlled by another level.

The final issue, and in many ways the most important one, relates to getting the actual services to people in need.

There is tremendous confusion and fragmentation among local agencies. Considering the complicated relationships between agencies and target populations, it is easy to understand why people needing help often don't get it. For the individual, to get the *kind* of help needed at the *time* it is needed can be a major feat.

Although we are discussing clients last in this presentation, they should be first in our thinking, planning, and legislating. The system must be client focused. Until now, it has, instead, been largely influenced by considerations relating to bureaucratic or professional concerns. Citizen and consumer input must be assured in developing the services designed to meet their needs.

There is increasing interest in advocacy and concern over the rights of clients, as reflected in the recent judicial decision on the "right to treatment" for mentally retarded persons. Minnesota has already made a commitment to clients' rights in the corrections field through the appointment of a state ombudsman. Other states, such as Nebraska and Hawaii, have appointed a general ombudsman for all residents of those states.

More basic problems are the lack of accessible services for people in need of help, and the inequities existing among programs in various parts of the state. As earlier statistics pointed out, we still have inequities between white and non-white persons, as well as between rural and non-rural populations.

There are major inequities in standards of eligibility relating to public assistance programs, placing hardships on certain groups of poor people, particularly the working poor and AFDC recipients. The transfer of the blind, elderly, and disabled to the federal Supplementary Security Income Program is causing grave difficulties for those people. Unemployment and inflationary problems have resulted in over a month and a half waiting period to file assistance applications at our two largest urban county welfare departments.

Minnesota, through its agencies, is attempting to develop better programs and to provide better services for clients. The Community Corrections Act, the proposed Community Health Services Act, the Human Services Act, de-institutionalization efforts, and other related activities demand a serious examination of how services are delivered and the impact they have on clients.

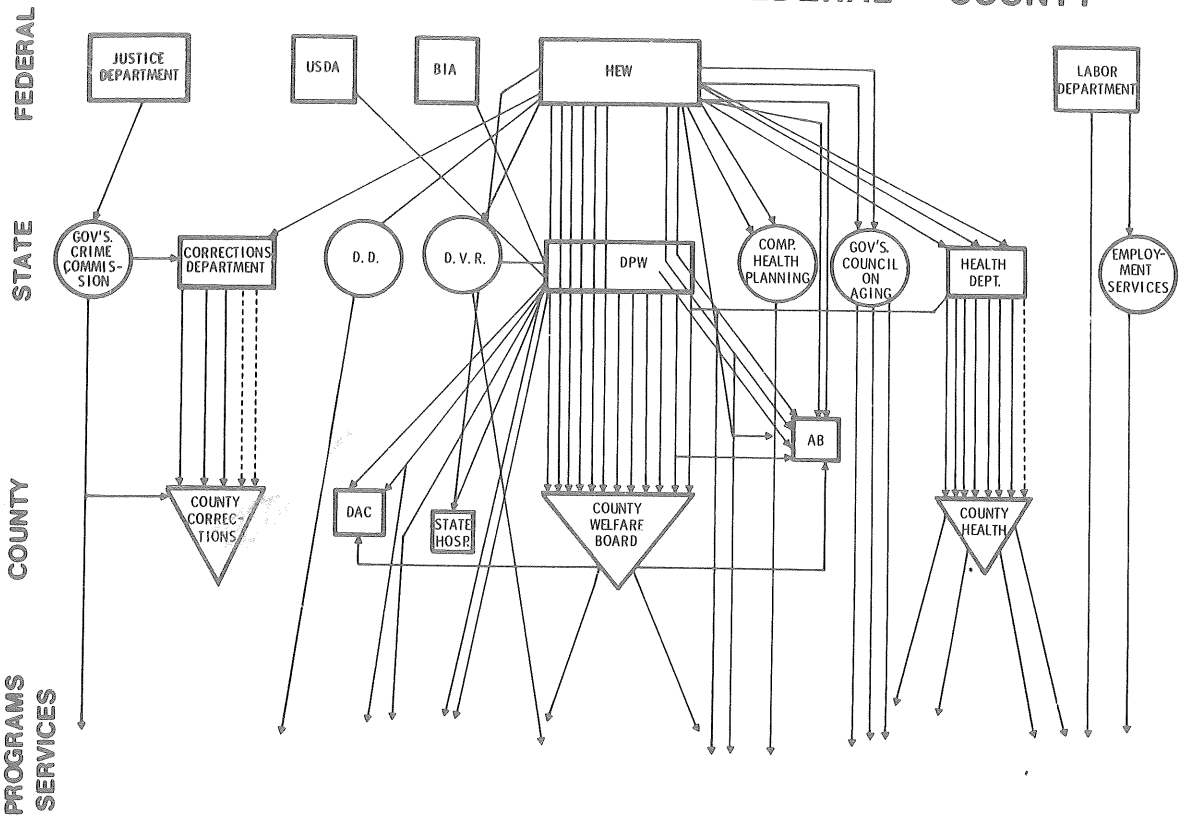
Past experience has taught us that an effective approach to the provision of human services may be expensive in the short run, but that if programs are to rehabilitate people and/or prevent problems, such work is essential and will have long-range economic and social benefits. Changes in the human services delivery system should not adversely affect clients, nor should they disrupt the provision of services. Change should occur for the purpose of improving services to people, and not for the sake of change itself.

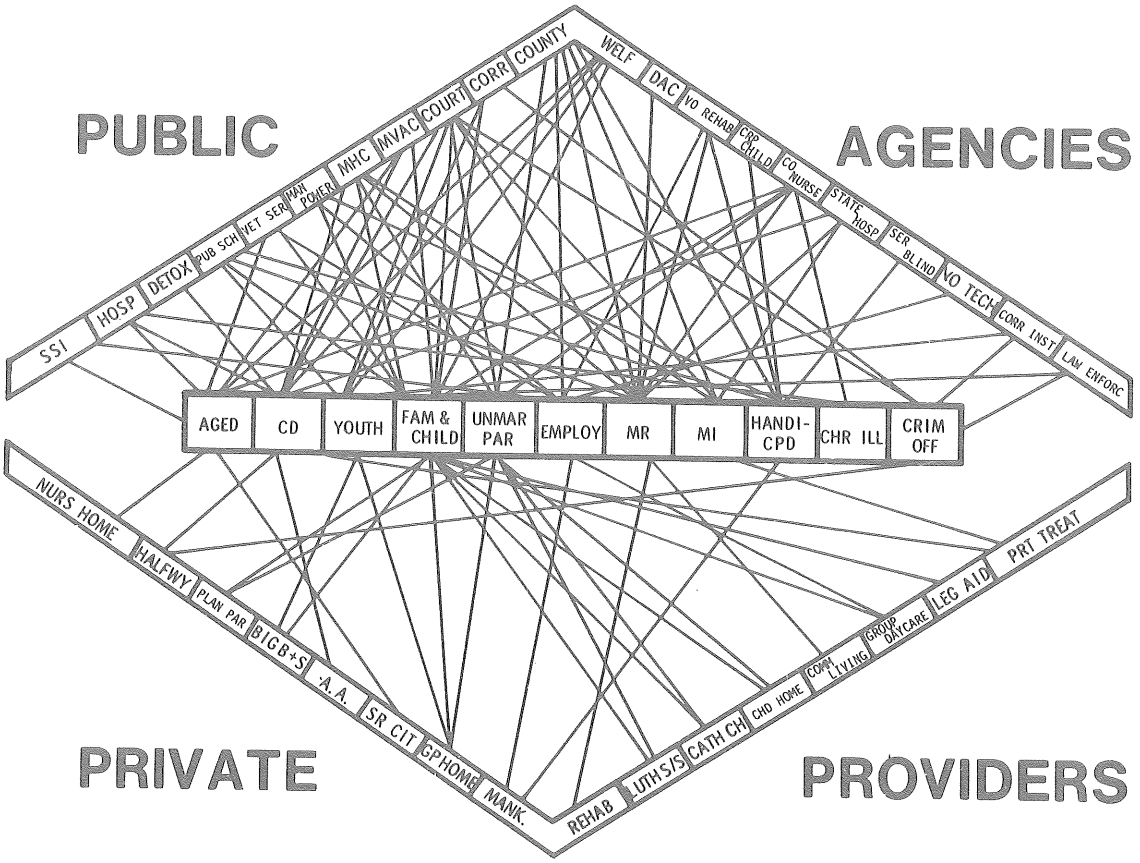
The intention of this presentation has been to share with you four basic themes.

1. There is considerable confusion and complexity in the human services system, largely brought about by illogical growth of separately funded and administered programs.
2. There is a lack of adequate information on programs, costs, program impacts, and the needs of citizens, all of which are so important for program planning, development, evaluation, and legislation.
3. There is an increasing shortage of funds from all levels of government, and the shortage is likely to become more acute.
4. The people who need our attention most are the ones who suffer most when the system does not function as it should.

Minnesota continues to have a human services system which, on a comparative basis, is doing a good job. It is important that we do not forget this. To address the major issues covered in this presentation, we must set specific policy objectives which are understandable and achievable. Doing so requires an aggressive approach in defining and managing the system.

# FUNDING FLOWS: STATE - FEDERAL - COUNTY



# EDUCATION
by Dean Honetschlager

Elementary and secondary education is one of the largest enterprises in Minnesota. It occupies the efforts of 25% of our state's population and 6% of its work force. The enterprise spent $1.3 billion in 1972, which was 6% of the gross state product. Elementary and secondary education is the biggest single portion of state government's general fund, with an appropriation of over $1.3 billion for the current biennium.

Let's put all of that in a little more detail. There are one million public and private secondary pupils in Minnesota. Less than 3% come from minority backgrounds. A professional staff of 59,000 serves these one million students. The size of these staffs ranges from 13 teachers and administrators in the smallest school districts to 3,600 in the largest. We have school districts with only a single building for its students; our largest district has over 110 learning sites. Our smallest school district has 150 pupils, our largest, 55,000. There are 436 school districts in Minnesota, 261 of which have fewer than 1,000 students.

Let's take a look at the cost of maintaining such a system. In 1973, Minnesota ranked 24th in per capita income in the country, while our rank was fifth in per capita amount spent for education — kindergarten through high school. Our total public expenditure, in 1972, was $1.3 billion. The average expenditure at present is slightly over $1,200 per pupil, a rank of 13 among the 50 states. The expenditure per pupil varies with the school district, ranging in 1973 from $750 to $2,007.

Let's relate these figures to school districts, and see how they spend their money. In the average school district's operating budget, 63% goes for instructional salaries. Plant maintenance takes about 11%, transportation 5%, materials and administration 10%, and the remaining 11% is accounted for by miscellaneous expenditures.

A school district has a separate portion of its budget for paying off the debt for building programs and other capital costs. If we add that portion to the operating expenditures, the pattern looks like this: instructional salaries are still half; debt service and capital outlay take up 18%; and the remainder is proportionately less.

Over the past few years, proportion of income from various sources has shifted. In the 1950's and 1960's, the state picked up about 40% of operating costs, while local districts picked up the rest through property taxes. This relationship remained relatively constant over a number of years. As the effects of the 1971 School Finance Legislation begin to be felt, proportions change. Since that legislation, the state portion has gone from less than 50% to 65%. Average state support around the country is still below 50%.

The proportion of state financial support also varies with the school district. In those with limited properly value, the state's proportion is greater, while in districts with greater property value, the state's proportion is considerably less. A sample of districts reviewed last year when we were looking at the impact of the 1971 legislation on low and high expenditure districts shows the state's proportion of the costs in low expenditure districts going from 65% in 1968 to 85% in 1973. For a set of high expenditure districts, it went from 37% to 59% in that same time period. This is the pattern anticipated by the 1971 and 1973 school finance legislation. It's important to note, again, the growth in the state's contribution to school districts in these past few years.

Overall, the evidence is strong that Minnesota's investment in education, building upon the homogenous population of the state, has had good results. In the most comprehensive sample of education achievement, the Armed Forces' induction examination, the rate of failure for Minnesota's young men has consistently been among the lowest in the nation.

A recent report by the Children's Defense Fund shows Minnesota with the lowest percentage of out-of-school pupils among its school age population of any state: an indication of concern for schooling shared by our parents and educators. In 1973, we were one of only eight states to have mandated provision of kindergarten. The recently released assessment on reading shows that Minnesota students consistently rank above the national average.

As has so often been the case, Minnesota is recognized as a leader in many programs: Vocational Technical Education, The Right to Read Program, State Wide Assessment, Special Education, Council on Quality Education, and Community Education Programs, to mention only a few.

In national comparisons, Minnesota does well, but these figures can be deceiving. We recognized special problems of some individuals as early as 1913, when the Legislature made state funds available for mentally retarded and enlarged the definition of students with special problems. It's instructive to note the success achieved by the school districts when given such a mandate. We've gone from 7,000 pupils served by special education programs in the 1950's to nearly 80,000 pupils at present. Even more dramatically, from 1964-1974, 50,000 more pupils were served. During that same ten year period, the state's appropriation went from $8 million to $47 million.

As better information regarding our pupil population becomes available, other problem areas emerge. The 88% figure that ranked us so high nationally on a reading assessment study still indicates that 12% of our 17-year-olds are functionally illiterate. Further, the same study demonstrated again what other studies have reported, that family background is particularly important in determining school achievement. In those school districts where there was a concentration of pupils from lower socio-economic families, the reading scores were significantly lower. These families are more often found in the large cities, particularly Minneapolis, St. Paul, and Duluth.

There have been some efforts by the Legislature in the past to provide resources to the large cities for compensatory education programs. Indeed, the Legislature might address over the next years some of the special problem areas identified from new information being gathered. We have seen that large numbers of students can be served over a short period of time, an example being special education. Similar concentrated effort may be called for in new areas.

As has been mentioned in previous presentations, population shifts are having important effects on school districts as well as on other social institutions. A recent report prepared by the Department of Education says that nearly 11,000

fewer students were enrolled in Minnesota's public schools on October 1, 1974, than were enrolled on that date in the previous year. This decrease would be analogous to all the people in Lake-of-the-Woods and Kittson counties disappearing over a year's time, or all the residents of Red Wing deciding, in a year, to leave town. Decline in enrollment began affecting the elementary school population six years ago and is beginning to be felt in secondary schools. Statewide elementary enrollment, that is grades 1-6, went from 506,000 in the 1968-69 school year to 423,000 during the current school year, a 3% annual drop. For grades 7-12 there has been a growth from 1968 to 1974: from 446,000 to 488,000. However, we are now beginning to see a decline in secondary schools' enrollments also, and even more significant secondary declines will soon be seen.

These figures come to life when translated into individual school districts. A small school district in west central Minnesota, Elbow Lake, had a graduating class in 1974 of 68 pupils; a kindergarten class of 34 pupils; and only 13 live births. These are startling figures, and not uncommon in rural districts around the state.

A recent Citizens' League report shows what is happening in the metropolitan area. A decline of 6,000 pupils in Bloomington is projected during the next five years; this represents 25% of its student population. In Minneapolis, a 10,000 pupil decline is anticipated during that same period, an 18% drop; in another suburban school district, South St. Paul, a 625 pupil decline.

These figures can in turn be translated into teachers, classrooms, and school buildings. The school district with the 6,000 enrollment decline may require 200 fewer teachers over this five year period, have 200 vacant classrooms, five to ten vacant school buildings. South St. Paul may lose 20 classrooms, one or two school buildings. Minneapolis, with a 10,000 pupil drop, has a proportionate decline in the need for teachers, rooms, and buildings. It is difficult to imagine such a school district with 25 vacant buildings in a five year period.

As these enrollment declines occur, there is an almost contradictory situation in some places. Districts still need new space to replace aging, inadequate classrooms. Also, enrollment decline is not a general phenomenon. Some school districts are still in need of additional classrooms. The outer suburbs, such as Forest Lake, went from 3,900 pupils in 1969 to 5,300 in 1973, a 36% increase. A growth center outstate, such as Alexandria, continues to show increased enrollment. In five years it went from 3,000 to 3,700 pupils. However, the new stress on Minnesota school districts comes from declining enrollment.

The existence of fewer pupils has differing effects on school districts of different sizes. Districts with large enrollments may reduce the number of teachers, cut back on some courses, but still have sufficient students to offer a broad selection of courses taught by teachers specifically trained in the fields of study. Smaller districts will find it more difficult to afford specially trained teachers to maintain even a core set of science, math, and foreign language courses, as well as the basic skill subjects, particularly at the secondary level.

We come now to a topic much discussed among school people. What is an adequate school program? What is the value of a small school versus the value of a large one? There has been a rapid growth in program offerings in secondary schools in the past 15 years, and Minnesotans have come to expect a high level of service. There have been growing expectations for equal educational opportunity. These demands have come from individual expectations, from the courts in regard to programs for the handicapped, for women, for minorities. The shock of the Soviet space supremacy in 1957 put greater demands for offerings in the sciences, math, and foreign languages. A more complex society expects pupils to learn more complex skills. Social unrest, an increase in broken homes, and other societal pressures are sending pupils to school with new needs to be met.

In a set of schools sampled for this presentation, one suburban school shows 140 course offerings in grades 10-12; a city school, 192 course offerings. In a small rural school, in grades 10-12, there were only 41 offerings. Without drawing any conclusions about quality or necessity for all the course offerings, an assumption can be made: to meet the complexities of the 21st century it will take more than just basic skills; a more complex set of skills will be required. With enrollments declining, the ability of school districts to continue to offer a diversity of courses, taught by well-prepared teachers, becomes more difficult in both small and large districts. Those who wish to maintain the values of small schools may have to look to new arrangements for providing programs at a cost that can be justified.

Cooperative agreements between school districts are increasing. Some of these are specific, such as Special Education or Vocational Education. Others are more general, such as the Education Service Area in southwestern and west central Minnesota. There may be certain technologies that will also make it possible for a small number of pupils to be served economically. It may be decided to preserve the small districts and pay the extra cost. Consolidation might be encouraged. At present, no policy has been forthcoming from the Legislature as to what makes up an adequate program, or how access to such programs can be guaranteed to each student. This becomes a central policy issue as the state increases its financial role.

An equally important but somewhat less obvious effect of declining enrollments concerns the professional staff of the school. Reduced enrollment, over time, means a reduction in the number of teachers and administrators. Thus far, the number of teachers has continued to rise, even at the point where total enrollment has declined. However, decline in total positions must be anticipated soon. If the present instructional staff-to-pupil ratio remains the same, there will be a decline of 4,000 in the number of instructional positions between 1974 and 1978.

There has been a real decline in numbers of teachers in some school districts, as well as a slowing down in the employment of new teachers. Under earlier circumstances of steady and often rapid growth, there was a continuous influx of new teachers, which provided more flexibility, kept the proportionate cost per teacher lower, brought new ideas to a faculty, provided new energies and new replacements for extra curricular leadership. All has begun to change.

The 1974 Legislature directed that when school districts dismiss teachers, they must dismiss them on the basis of seniority, that is, the last person hired is the first person

released. For an individual school district with declining enrollments, and therefore declining resources from the state, this means that it has a more expensive teaching staff. Our present teacher corps tends to be relatively young, the median age being around 35; most have many years before retirement. The result is that there is less opportunity for mobility among present teachers and fewer openings for new teachers.

Further, this maturing staff will place greater strain on school budgets through its impact upon salary costs. A typical school district salary schedule is structured so that teachers are paid more for the longer they teach, and for the more degrees and credits they earn. A greater porportion of teachers will have been teaching in the district longer and will have earned more credits. While teachers may be experiencing a loss in buying power because of inflation this year, during the past ten years, salary increases have been greater than the cost of living.

It is too early to see definite patterns, but a quick look at several large suburban school districts, which attempted referendums for additional mill levy, show some interesting trends. In the past several years, the amount of money available in operating budgets for these districts has not increased rapidly. Pressure from salaries is reducing the amount available for the remaining operating budget. You may have noticed a recent article in the *Minneapolis Tribune* by Greg Pinney. His analysis of the finances of metro areas schools also showed a rapidly closing gap between spending and available funds. Salaries are the main force on the spending side.

Managing schools under circumstances of declining enrollments is a new experience for administrators and school boards. Also new is the legislatively defined collective bargaining procedures, which were initiated in 1968, with changes in following sessions. Collective bargaining has been implemented in the 436 school districts with few guidelines or facilitating leadership. No unit of state government has responsibility for monitoring or facilitating the process except at the procedural and arbitration stages, and then not the Department of Education. This became clear when no state agency could provide district by district negotiation information. The Minnesota School Boards Association is the only comprehensive source.

What this means is that with limited guidance, 436 school boards and teacher groups are conducting separate negotiations. Final settlements affect two major forces driving school costs — salary and pupil/teacher ratios. These negotiations are placing new demands and costs upon the districts. Closer legislative monitoring of these factors seems necessary.

Schools are experiencing the same pressures from inflation as other institutions are. For example, the price to schools for a gallon of No. 3 fuel oil went from 14 cents in August, 1973, to 32 cents in April, 1974. A ream of duplicator paper cost 68 cents in July, 1973, and $1.74 in September, 1974. A school bus cost $10,000 in 1973, and $13,000 in 1974.

Private schools are under the strain of inflation and rising salaries as well. In these next few years, they may be under considerably more stress as a result of the recent court decision removing tax credits for parents of private school pupils. As you consider that 10% of Minnesota's pupils go to private schools, the future of these institutions has real significance for public elementary and secondary education.

Important policy areas which emerge from all this include familiar ones, and several which are less familiar. The Legislature made the major commitment to equalize financial support behind each pupil in 1971. This commitment must be reexamined each session to assess the progress and the speed of the equalization. The effect of tax levy limitations upon certain school districts will become more clear, and adjustments will be requested.

Concern for equal access to educational programs is being voiced more often. Declining enrollments in some districts make it difficult to offer adequate programs economically. Policy questions to be dealt with include: What is an adequate education which can be economically supported? What organizational structure can be used to guarantee adequate programs for pupils?

Finally, what is the capacity of the education system to manage the changing environment? These are difficult times to administer a school district. Certain decisions are now being made more centrally at the state level: personnel procedures through collective bargaining laws, resource availability as state aids have increased, and stricter levy limitations. There will be growing need for clarifying roles and responsibilities for managing the enterprise under these changed conditions. Important investments can be made in the Department of Education to assist in describing and analyzing the education system, the cost, and the impact upon students. During change it is even more important to monitor what is happening to see that we are moving toward a more accountable, effective "general and uniform system of public schools".

As we move from elementary and secondary education to a discussion of post-secondary education, it is apparent that a number of forces are the same. Inflation is affecting all our social institutions. Collective bargaining has become a reality with the post-secondary institutions. Here, however, the definition of management becomes somewhat more difficult. Salaries are set more directly by legislative action and/or action of a state board, while in elementary and secondary, individual school districts set them.

The broadening definition of "the good life" and, therefore, the purpose of post-secondary education or any education, has more relevance for older students. Uncertainties about the future role of post-secondary education come from disagreement about its function. Should it certify, for example, or should it provide experiences and knowledge? Ambivalent attitudes about and support for research and service functions leave post-secondary education unclear about society's expectations of it.

As an example, since we have just been talking about public schools, how much should the state support training for school teachers when there is a declining job market? Last year, 5,200 persons graduated from teacher training programs. Only 53% or 2,770 of them found teaching jobs. Should a limit be placed on teacher training or should individuals be allowed free choice of a college program? The teacher training and placement issue is more complex than this, but the example is appropriate.

There is a trend requiring all social institutions and public

officials to be directly accountable to those whom they serve and those who provide funds. The trend has created increasing demands for explicit objectives, justification of the objectives, evidence that they have been achieved, and documentation that a given investment has been used effectively. Since outcomes of post-secondary education are difficult to measure, responding to accountability demands is certainly a challenge.

The question "who pays?" has a different answer in post-secondary education from what it has in elementary and secondary. The state has been heavily involved in support of most post-secondary institutions and programs. Tuition is usually expected from students, though here, as elsewhere in the funding picture, there are differences. A single chart shows the total proportional expenditure for instruction, research, and public service paid from different sources for all public post-secondary institutions: 44% state; 11% tuition and fees; 14% federal; and 31% other sources. But these figures are misleading. It is necessary to examine the separate systems to understand more clearly who pays.

As we look at private institutions, we see that 48% of the income comes from individual tuitions, a very small portion from the state; the remainder is dependent upon endowments and outside sources.

At the University of Minnesota, for example, a liberal arts student pays $714 tuition. But tuition varies from program to program. As we look at the distribution in a different way, we see that for every dollar spent at the University of Minnesota for instruction, research, and public service, the individual student pays 9%, the state pays 35%, and federal and other sources pay the remainder. If research, and public service are taken out, the student pays 26% of instruction-related cost.

The average tuition for students at state colleges is $468 per year. For every dollar spent, the student's portion is 20%, the state's, 53%. Other fees and federal participation make up the rest.

In the community college system, the cost to the student is $420 this year, with the state picking up most of the remainder. For a given dollar, this means the student's share is 22%, the state's, 60%.

For entering students under age 21, tuition is free at Area Vocational-Technical Institutions. The cost of post-secondary vocational technical training is carried 67% by the state, 7% by the federal government, 21% by other sources, which include local units of government, and tuitions and fees, 5%.

What emerges from all this is that the choice of a school has definite financial implications for the student and for the state.

As costs rise, the state can deal with the situation by increasing direct appropriations to the systems, thereby maintaining tuition at present levels, or by allowing tuition to rise and moving more heavily into student financial aid programs which are especially necessary for lower income students.

Let's look at this investment, since it does provide an example of the state's concern for equal access to post-secondary education. Over the past few years, the state scholarship and grant-in-aid programs have expanded remarkably. The emphasis has shifted from the scholarship program, providing needed financial aid to the most able students, to the grant program, which is directed toward those students with the greatest financial need, regardless of ability.

The assistance is used heavily by students attending private colleges, state colleges, and the University of Minnesota. That has continued, but an increasing number of students in vocational technical institutes and community colleges have been taking advantage of the scholarships and grants. The level of tuition and the amount provided by the state in direct student assistance are closely related.

Economic conditions, social attitudes, and other unknowns will combine with changing population characteristics in determining post-secondary enrollments. As the pool of potential students in the 18-25 age group declines, the pool of potential students in older age groups will increase. The ways in which and extent to which new potential students respond to offers of service from post-secondary education remain to be seen. As we look at enrollments and recent history, we see that the large influx of students came during the 1960's. What has happened since then is that participation by new students in four-year programs has declined. However, at present it seems to be stabilizing. Attendance in vocational technical fields and other two-year programs has increased.

Let's list now some of the things which will be changing the face of post-secondary education in the near future:

* The proportion of part-time students is increasing.
* The balance is shifting from on-campus to off-campus courses
* Non-traditional approaches to earning a degree are increasing
* Retention of students is made easier by changed grading policies and practices. Fewer students flunk out.
* The basis for granting degree credit is being liberalized. Credit is awarded for experience outside the institution, and there have been changes in requirements for earning credits within the institution.
* Changing enrollment patterns and the necessity of maintaining prescribed student/faculty ratios are causing increases in the proportion of older faculty members and decreases in younger faculty members in some institution
* Serious efforts to serve potential students over age 25 are increasing
* The proportion of students in programs with specific career or vocational objectives is increasing, while the proportion in general or liberal arts education is decreasing.
* The proportion of students in programs of less than four years is increasing.

Many uncertainties for the future are apparent in these trends. They demonstrate the transitional period post-secondary education is going through.

Finally, I think it is important to leave this discussion with some sense of Minnesota's impressive post-secondary resource. The investment by the people, through the Legislature or through private giving in the past hundred years, and particularly in the most recent 20 years, is indeed impressive. So let's go over each of these systems very quickly with just a few comments regarding each.

First, the University of Minnesota. The University has five campuses. The largest is the Twin Cities campus. There are 17,417 employees within the total system. In 1958, there was a fall-term headcount of 26,500 students. In 1974, that headcount was 51,834 – a 100% increase. In actual dollars appro-

priated by the state, the amount was $27 million in 1958, and $118 million in 1975.

Next, state colleges. There are seven state college campuses distributed strategically around the state, with 4,879 employees. In 1958, the headcount was 8,700 students; in 1974, it was 33,000. Appropriations went from $4,485,000 in 1958, to $44,257,000 in 1975.

Community colleges' fall-term headcount was 2,100 in 1958, 23,000 in 1975. There are now 18 campuses and 1,878 employees. State appropriations were $405,000 in 1958. Remember, however, that there was still quite an amount of local monies going to junior colleges at that time. Appropriations were $2,257,000 in 1964 when the state assumed responsibility. They have now risen to $18,921,000. The community colleges in the metro area have grown rapidly. They now have enrollments ranging from 2,000 at Inver Hills to 3,900 at Normandale. Most outstate campuses are considerably smaller.

We can't give quite the same description for area vocational technical schools, because both state participation and the method of state appropriation have been different. Overall, there are 34 campuses and 5,306 employees. There have been 15 new campuses since 1965. The enrollment growth that ensued has been dramatic, reaching 23,800 this year. State appropriations in 1974 amounted to $46 million; in this fiscal year, $64 million.

Private four-year colleges have 24 campuses, private professional schools, six, and private junior colleges four campuses for a total of 34. Historically, they have provided a substantial educational service to the state. At the four-year colleges, tuition costs average $2,300 this school year.

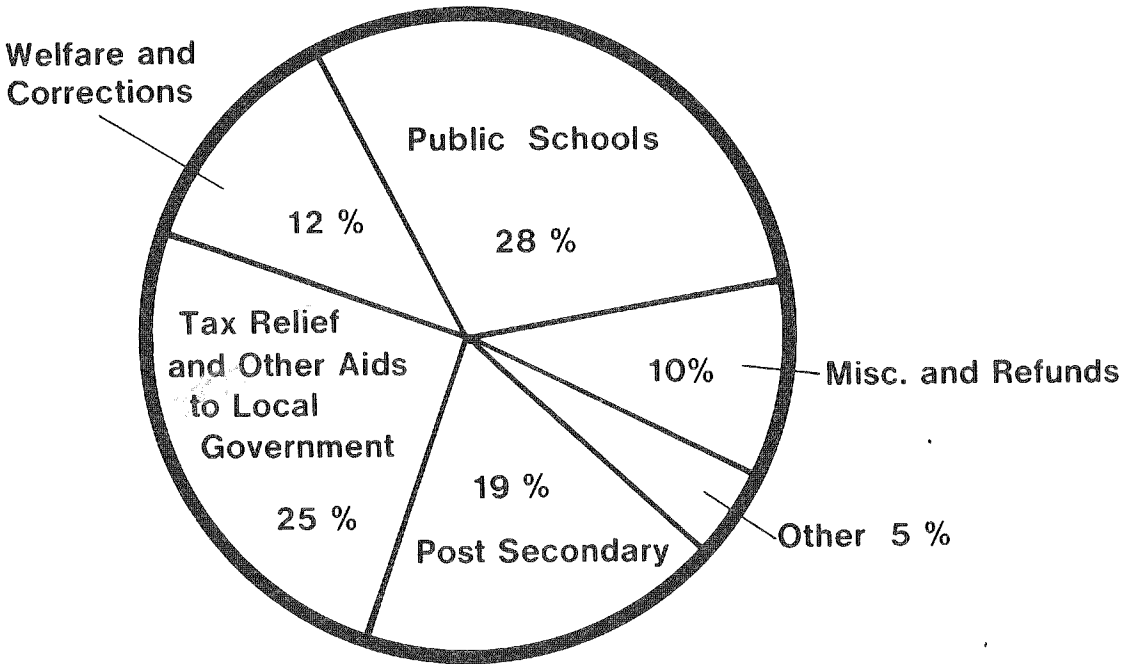
This is an impressive post-secondary resource: 98 campuses with over 30,000 employees serving 160,000 students in direct instruction, and serving more than three million Minnesotans in research and public service activities.

Role changes are occurring among the institutions. Resources are harder to get. Some of the policy questions which emerge are:

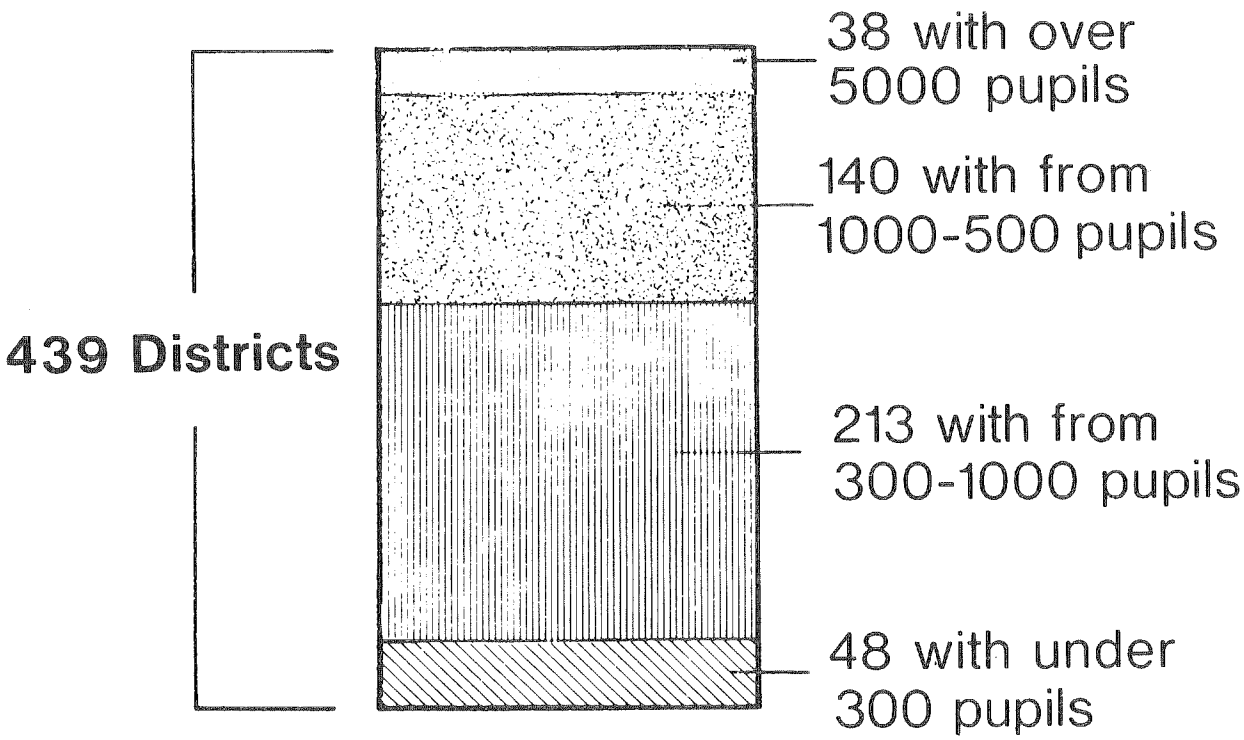
* Who pays for post-secondary education? The state? The individual?
* Who pays for continuing education? Does the employed recipient pay a greater share? What is the split between skill training versus the selffulfillment purposes of education?
* Can all the institutions survive with the impact of declining enrollments and rising costs?

There are pressures from many places. There is need for well-established direction to avoid the chaos which comes from fragmented decision points, competing systems. Much of the working through of the issues will take place internally among the post-secondary systems with the assistance of the Higher Education Coordinating Commission. The Legislature most often will be called upon, as in the past, to set policy in appropriations. But it may be productive, during this transition period, to devote more of your attention to overall direction.

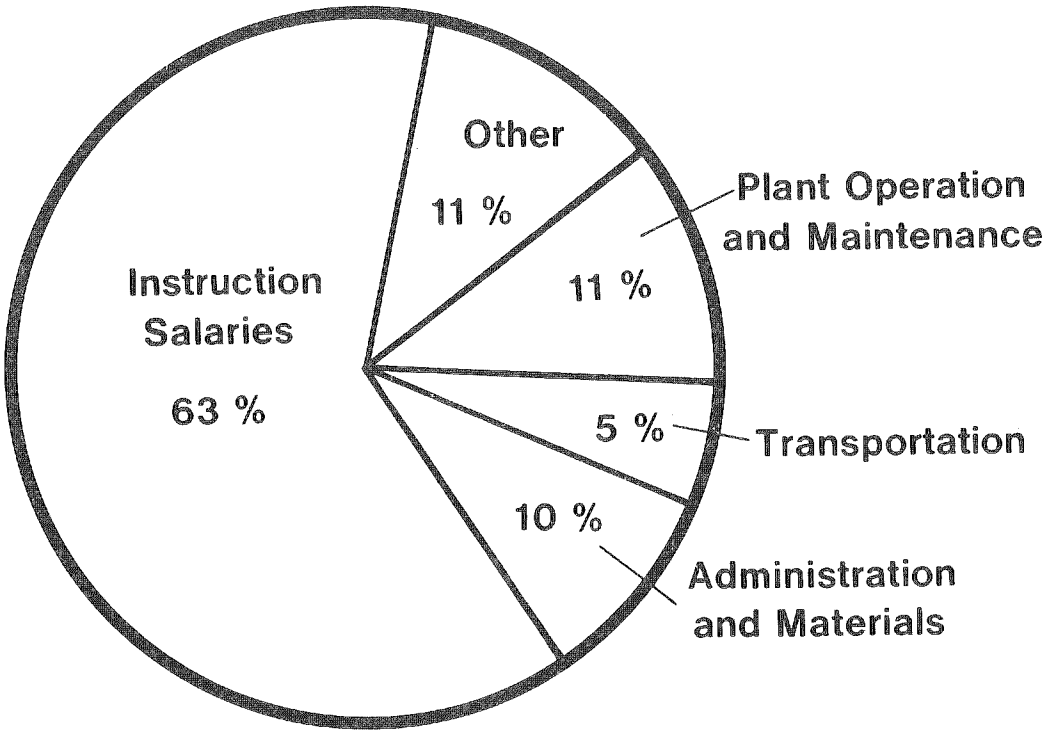
# STATE GENERAL FUND APPROPRIATIONS
# 1973 SESSION



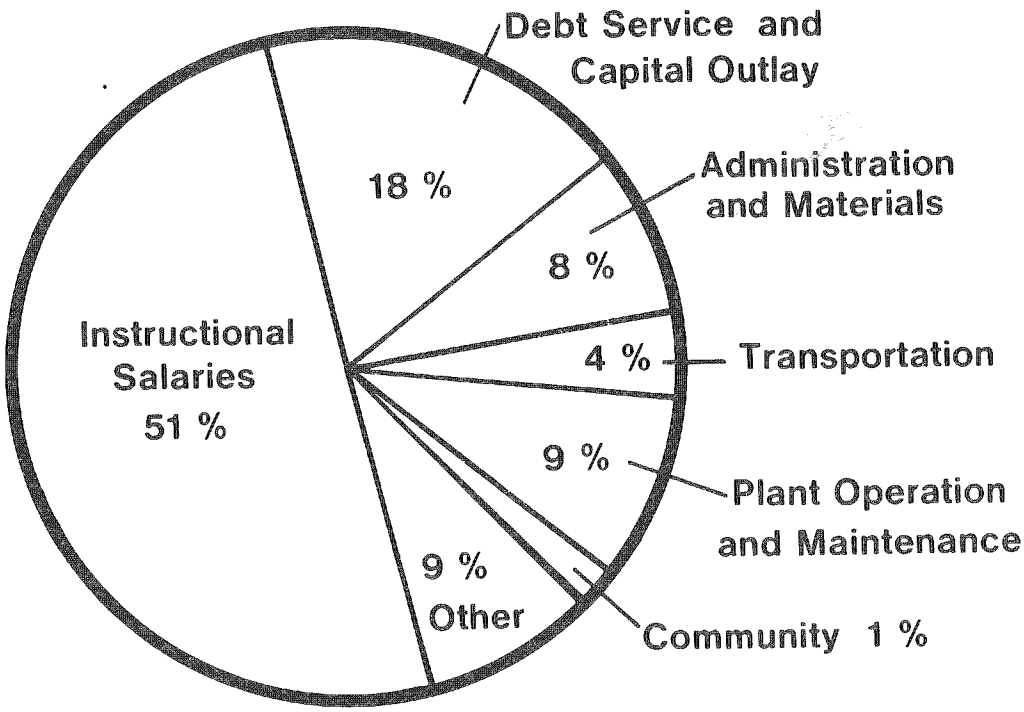

# PUBLIC SCHOOL DISTRICTS

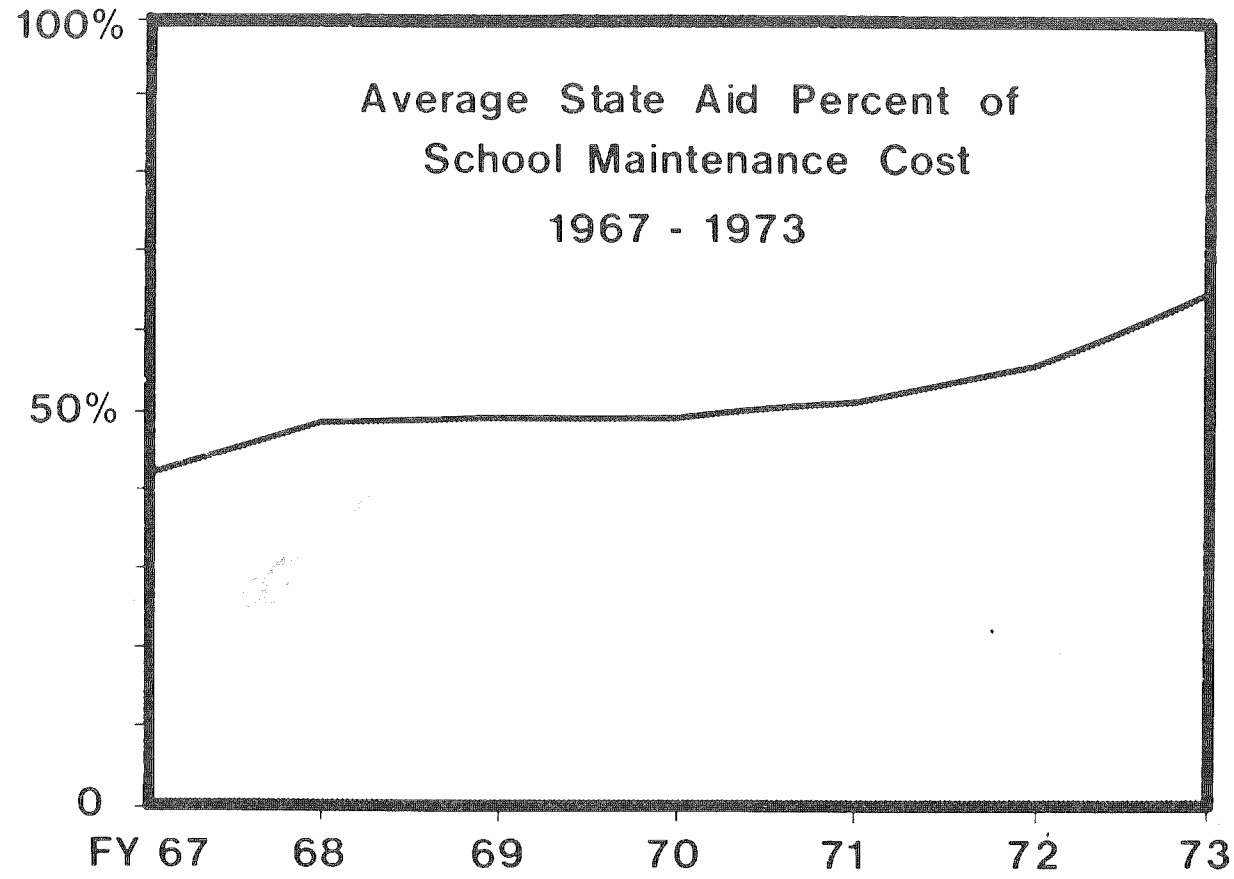


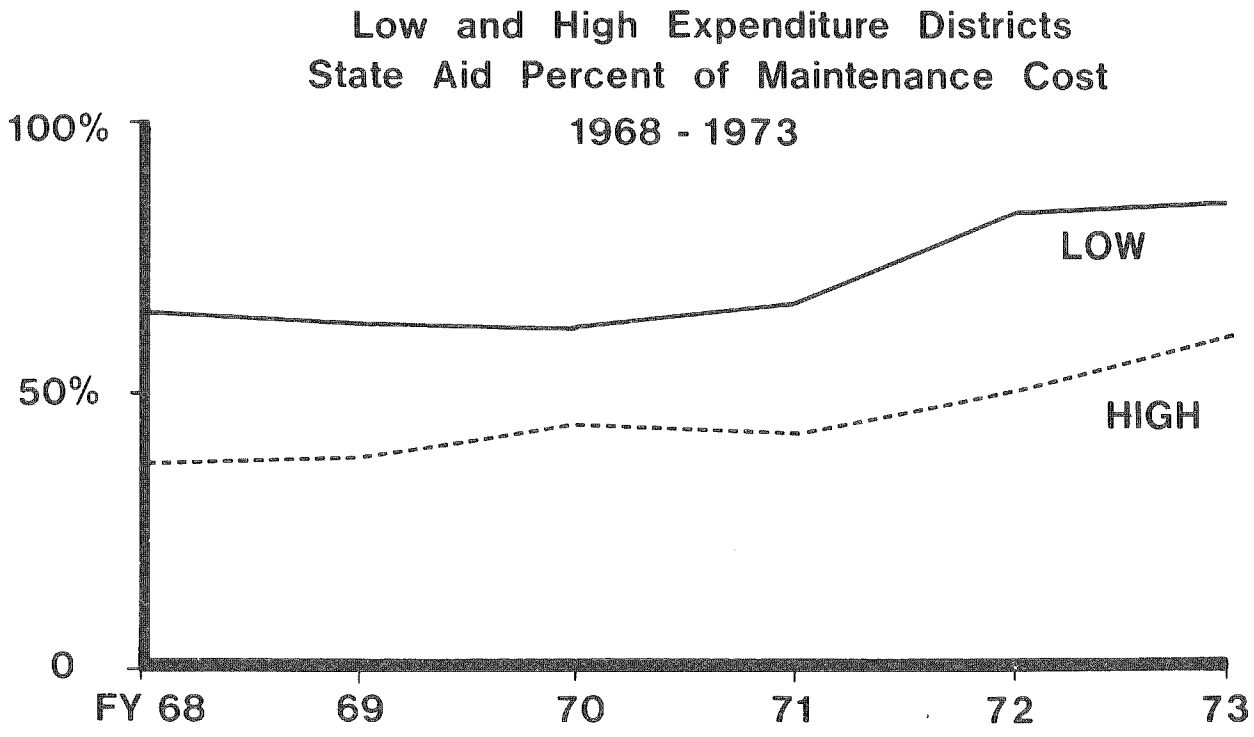
# OPERATING EXPENDITURES



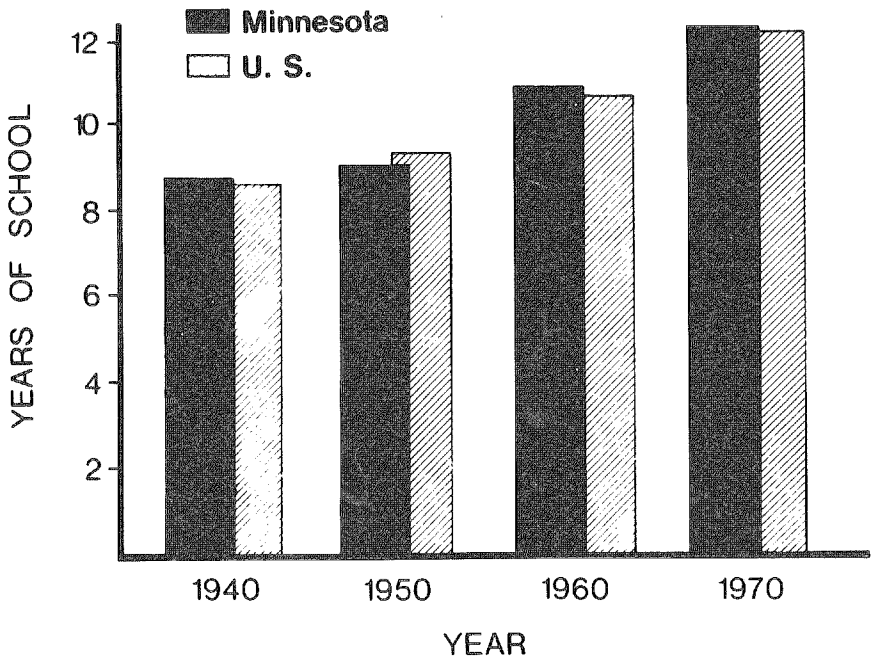

# TOTAL EXPENDITURES




Average State Aid Percent of
School Maintenance Cost
1967 - 1973
100%
50%
0
FY 67
68
69
70
71
72
73

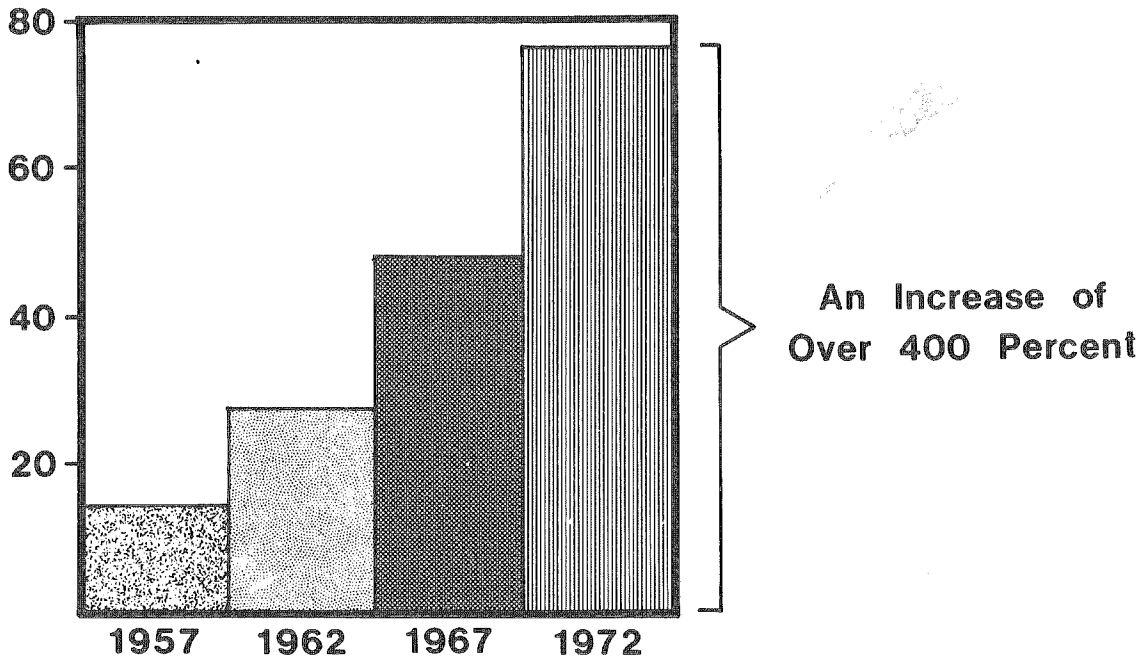

Low and High Expenditure Districts
State Aid Percent of Maintenance Cost
1968 - 1973
100%
50%
0
LOW
HIGH
FY 68
69
70
71
72
73

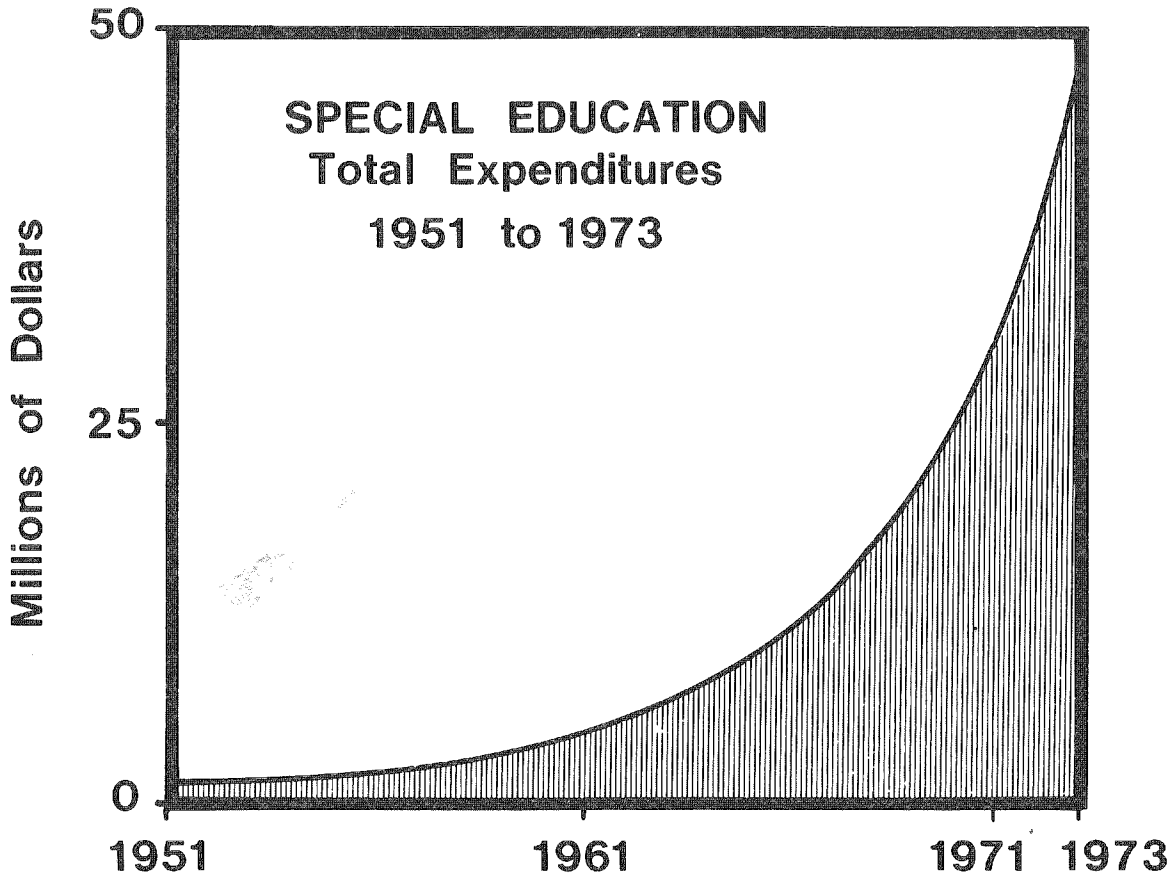
MEDIAN YEARS OF SCHOOL FOR ALL
PERSONS 25 AND OVER
1940 - 1970



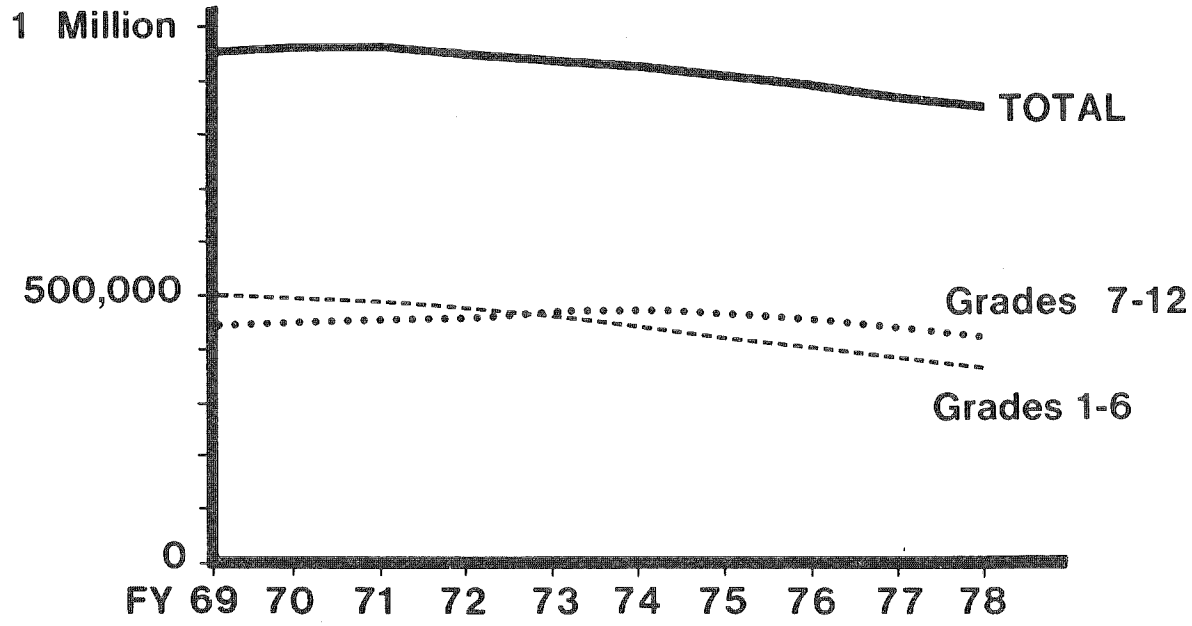

# SPECIAL EDUCATION

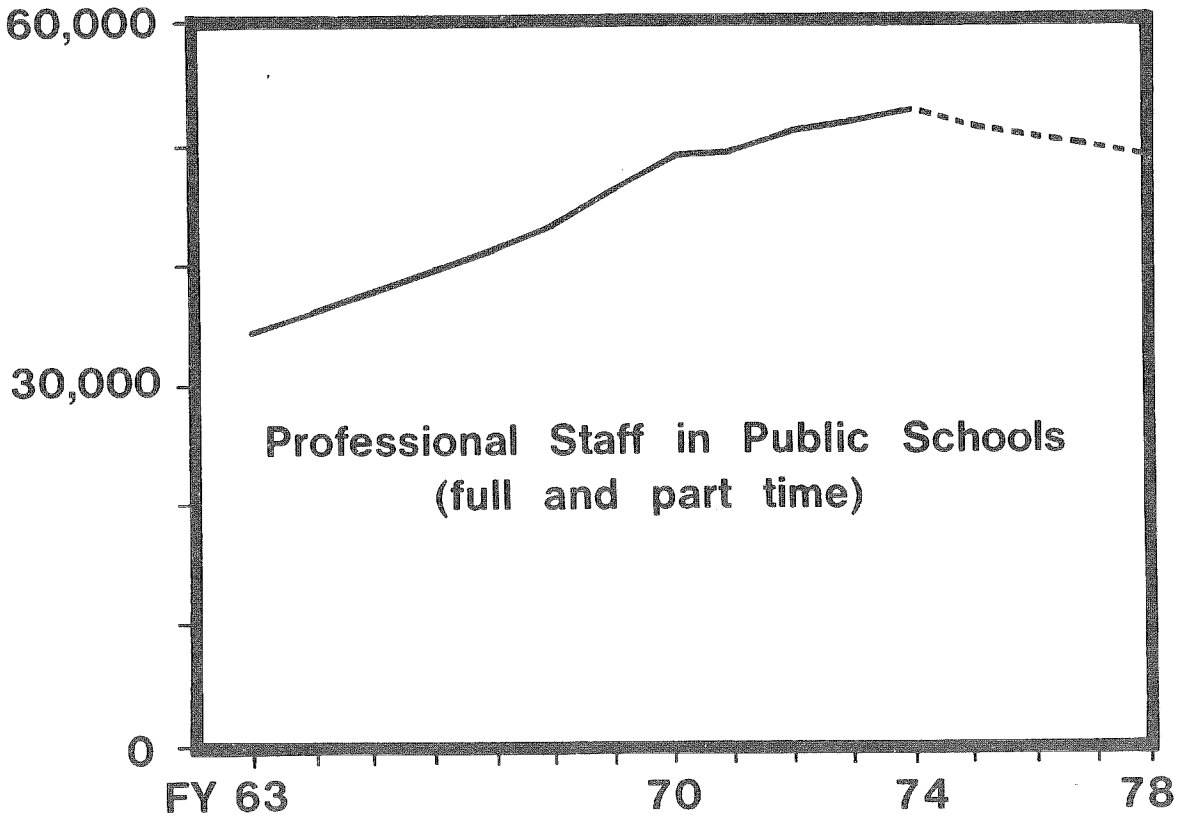
THOUSANDS OF PUPILS SERVED

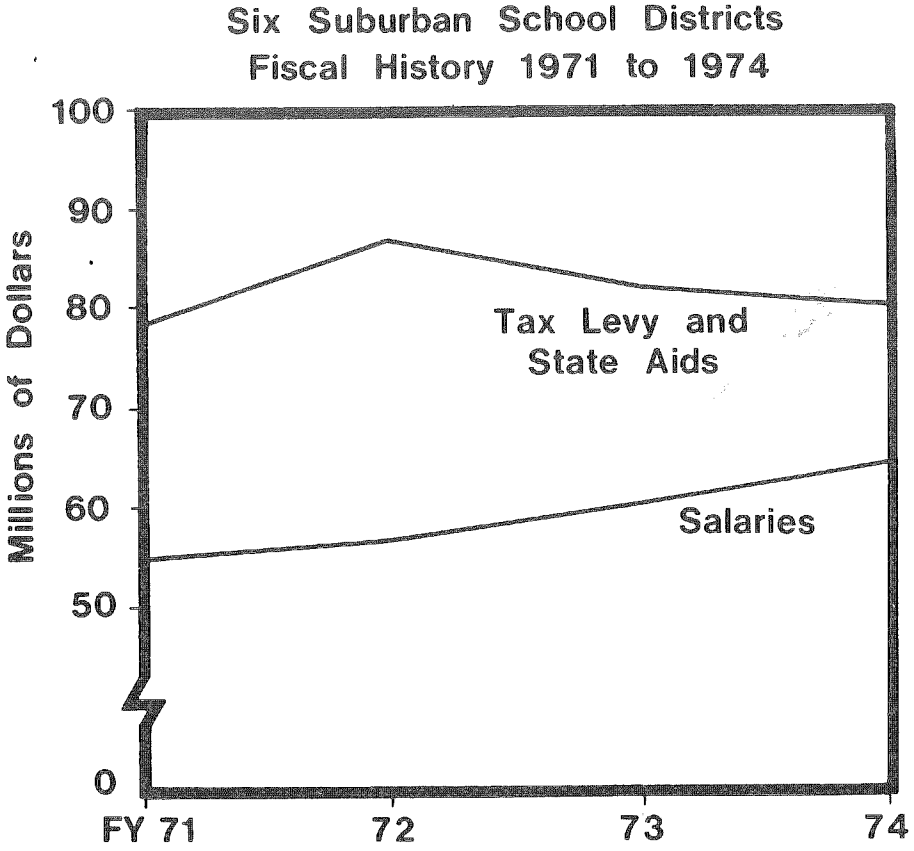




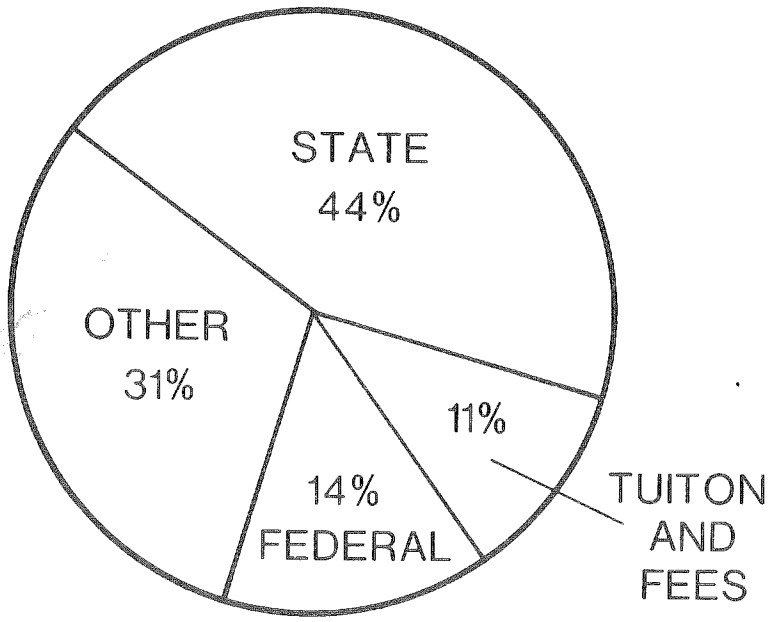

GRADES 1 - 12
Public School Enrollment
1969 to 1978



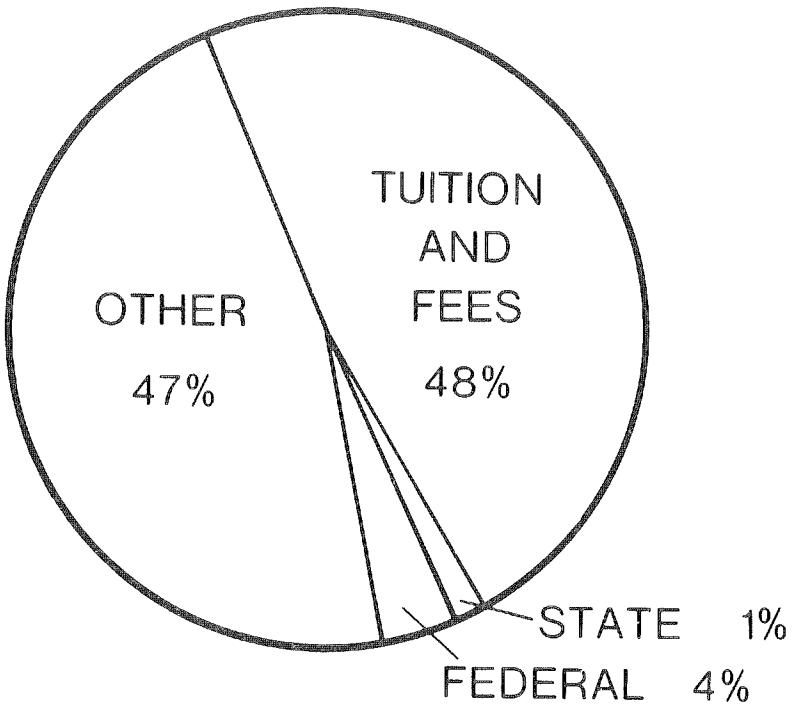

60,000
30,000
0
Professional Staff in Public Schools
(full and part time)
FY 63
70
74
78


Six Suburban School Districts
Fiscal History 1971 to 1974
Millions of Dollars
100
90
80
70
60
50
0
Tax Levy and
State Aids
Salaries
FY 71
72
73
74

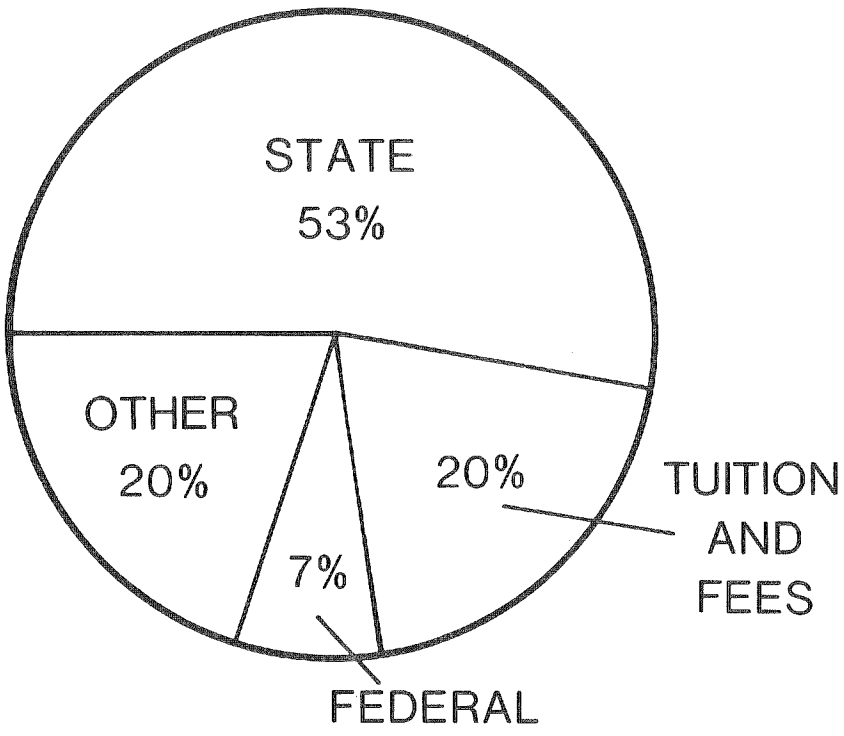
## PUBLIC
## POST SECONDARY SOURCE OF FUNDS
## FOR
## INSTRUCTION, RESEARCH, PUBLIC SERVICE



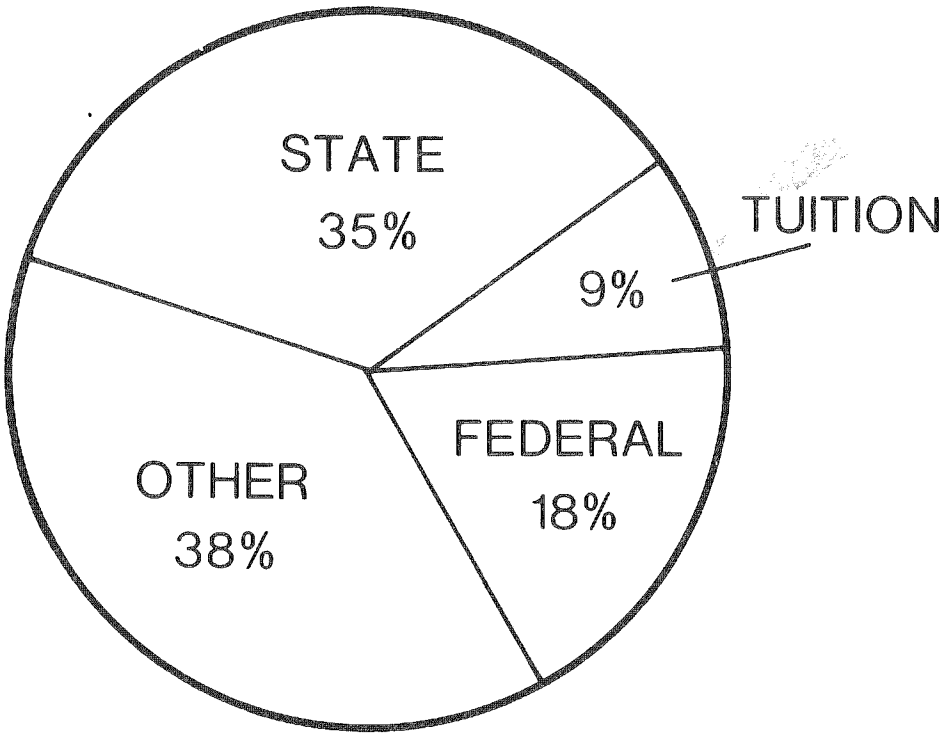

## PRIVATE
## POST SECONDARY SOURCE OF FUNDS



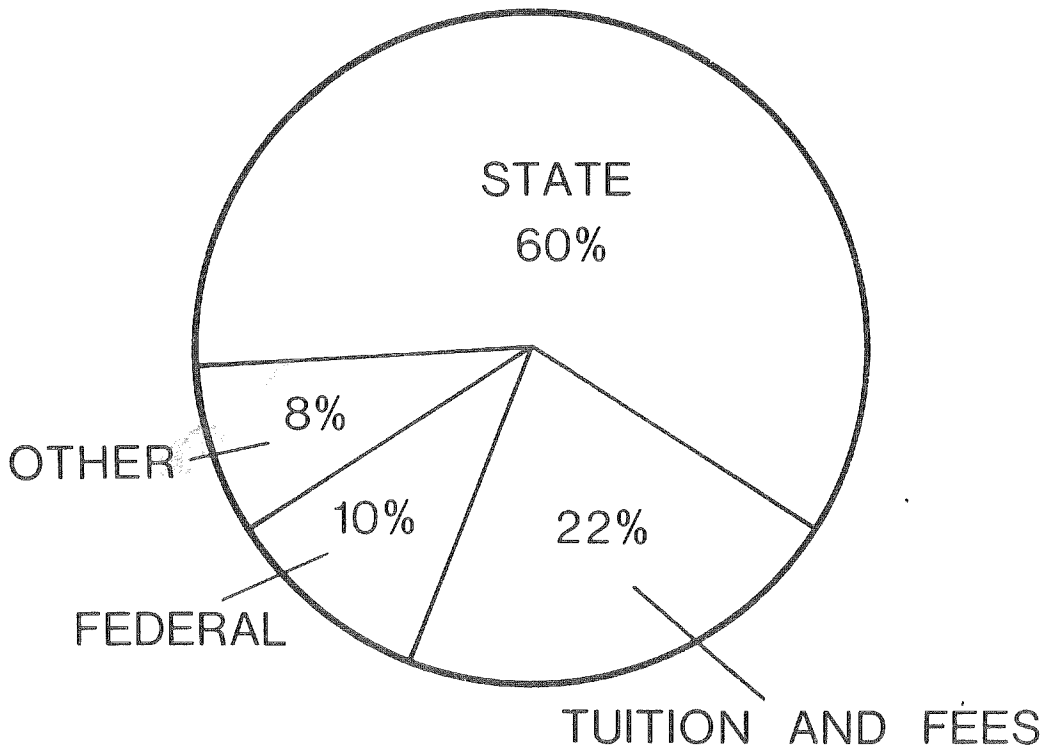
## STATE COLLEGES



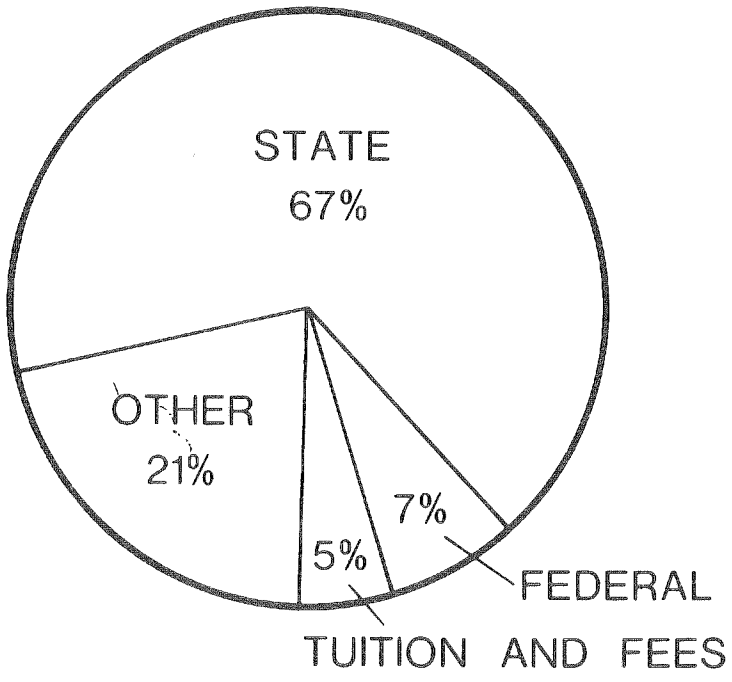

## UNIVERSITY OF MINNESOTA



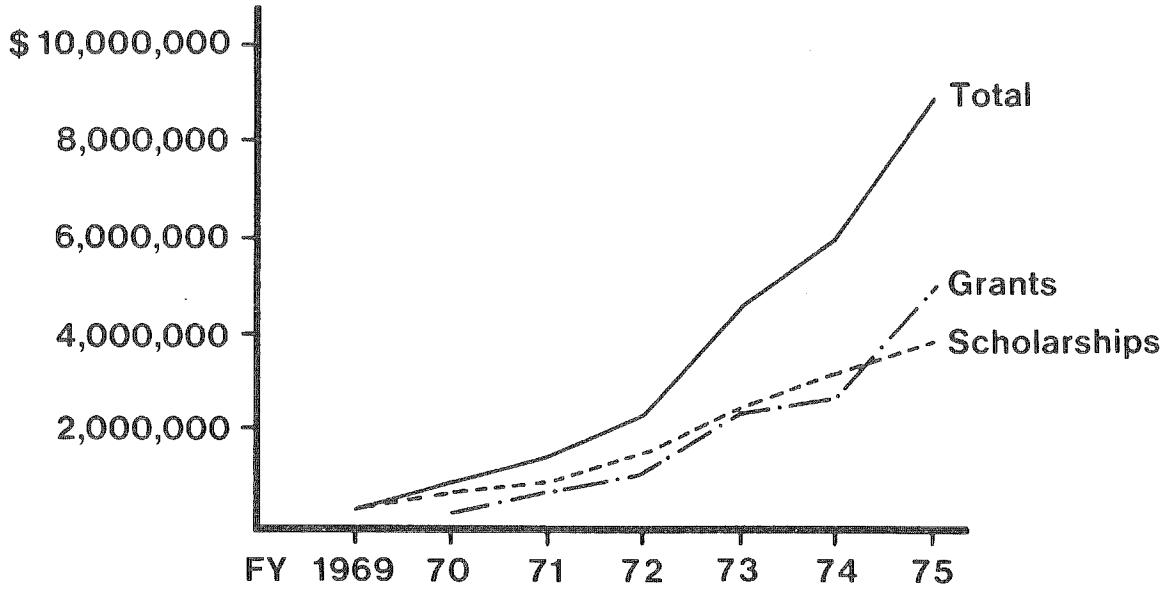
## COMMUNITY COLLEGES



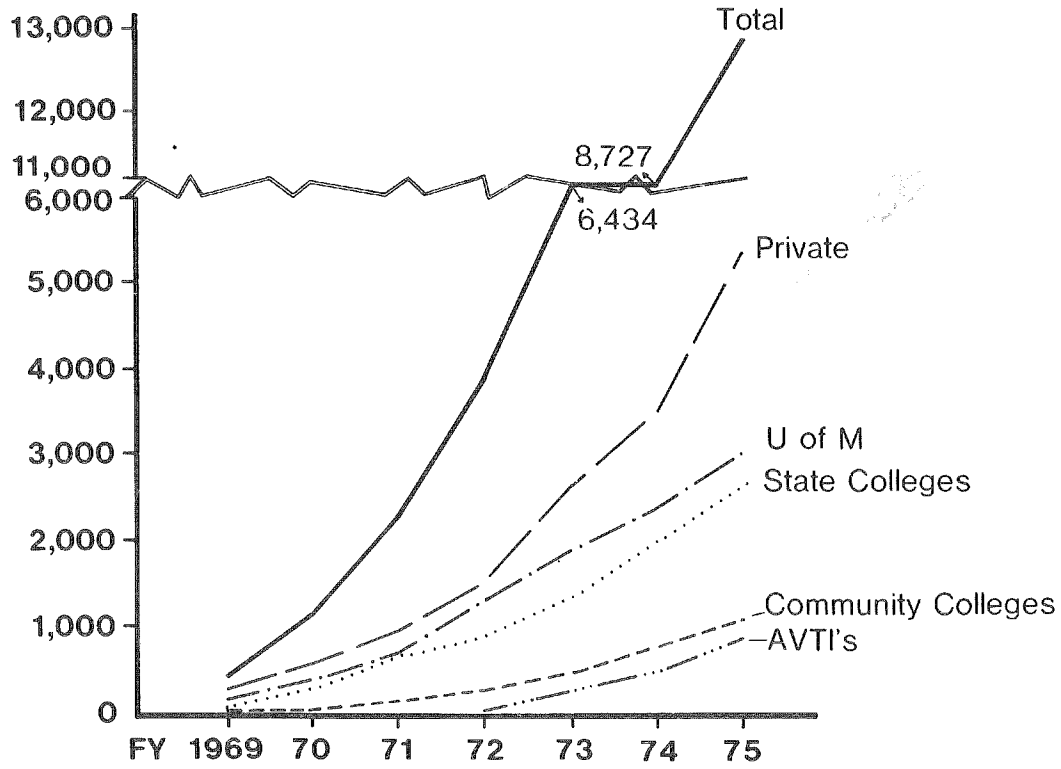

## AREA VOCATIONAL TECHNICAL INSTITUTES



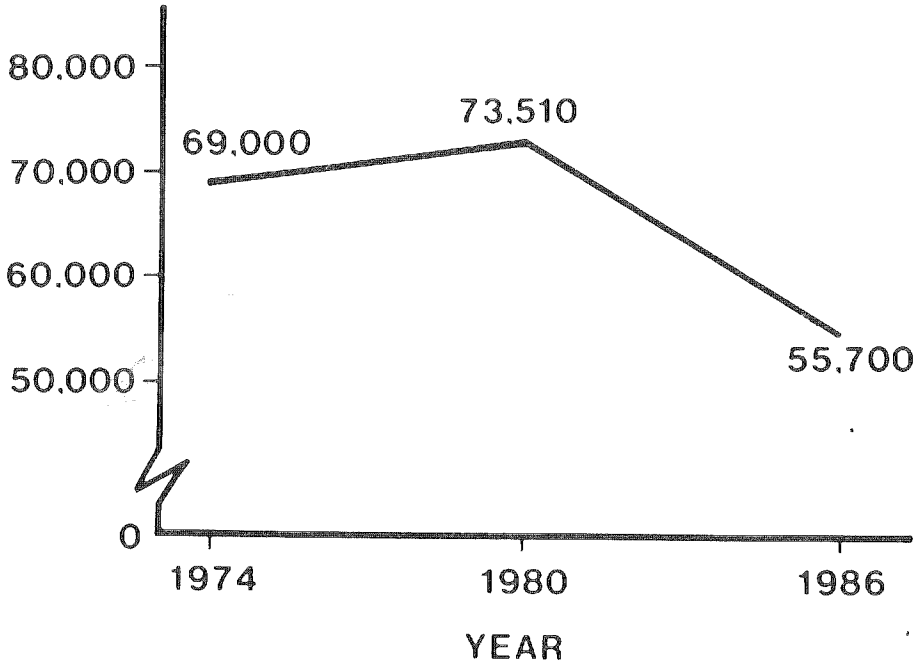
# STATE SCHOLARSHIP AND GRANT AWARDS



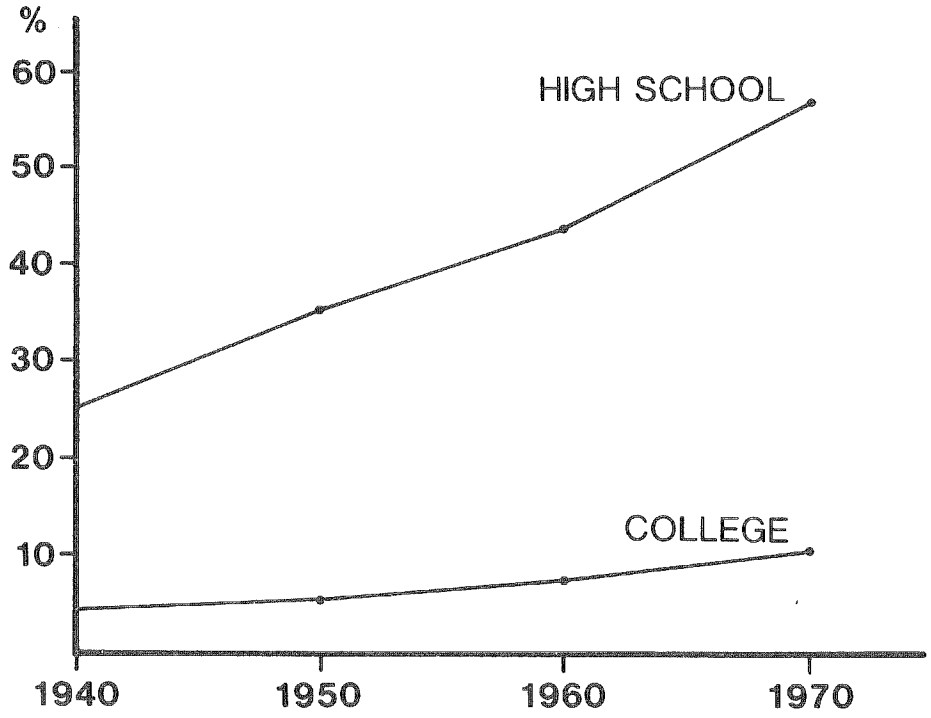

# NUMBER OF AWARDS TO STUDENTS



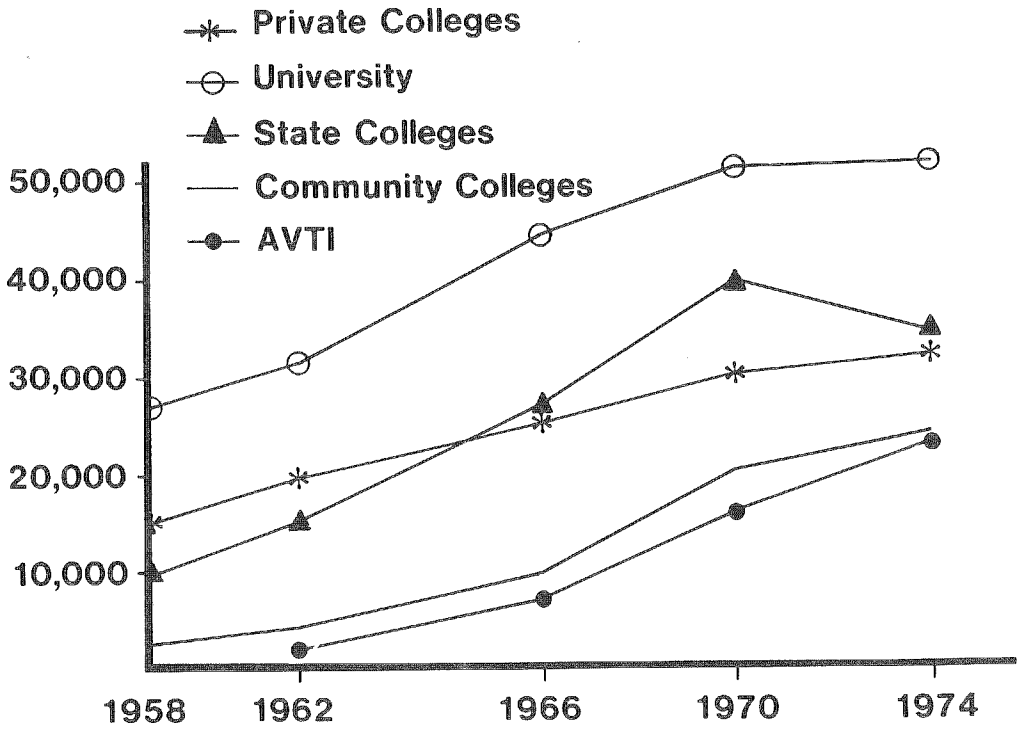
# ESTIMATED HIGH SCHOOL GRADUATES



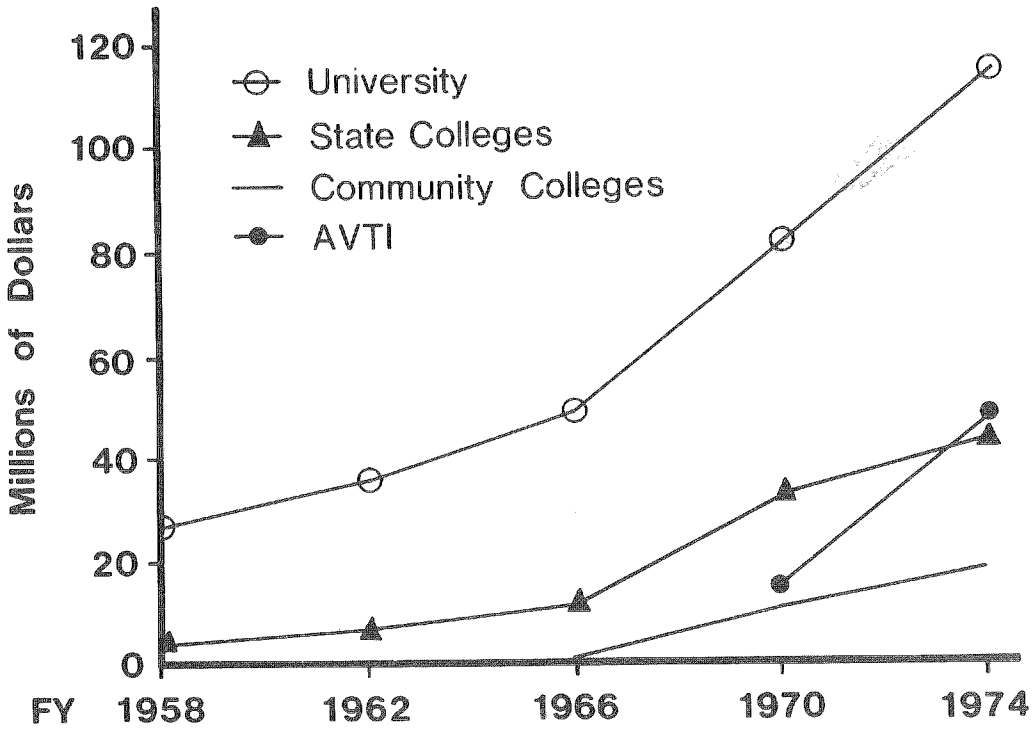

## PERCENT OF MINNESOTANS FINISHING HIGH SCHOOL AND COLLEGE 1940 - 1970

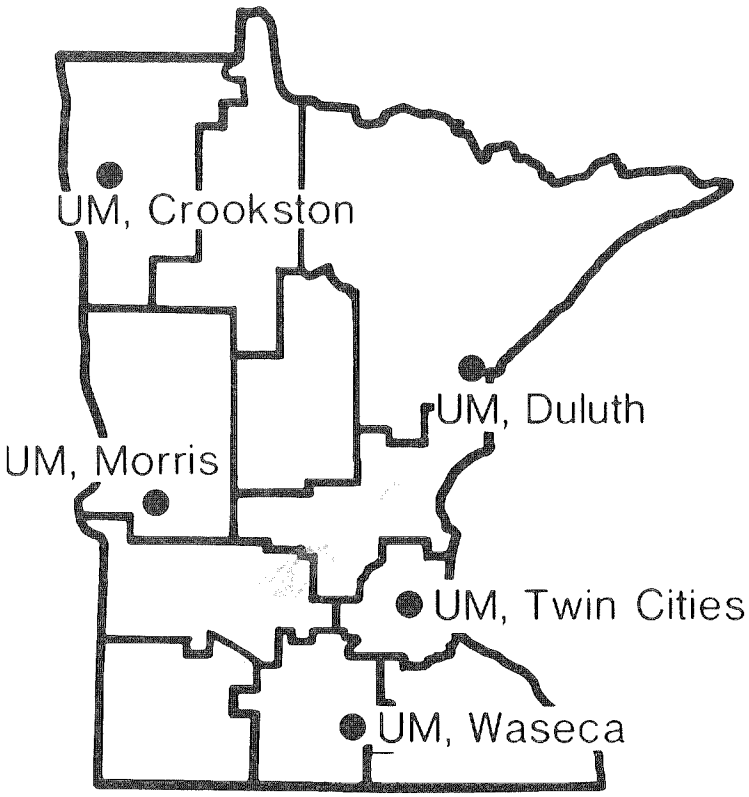


# MINNESOTA POSTSECONDARY ENROLLMENT

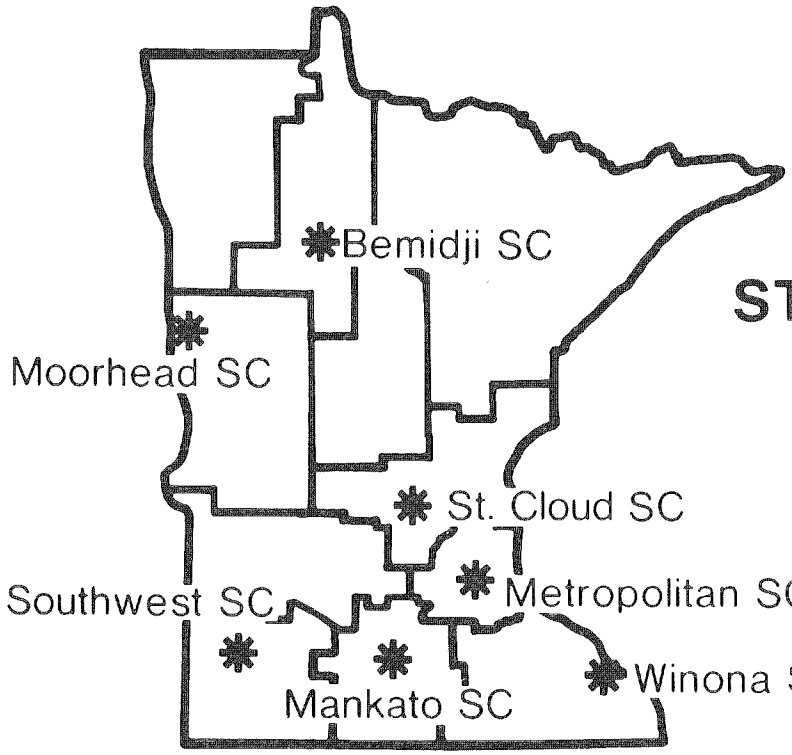



# STATE APPROPRIATIONS



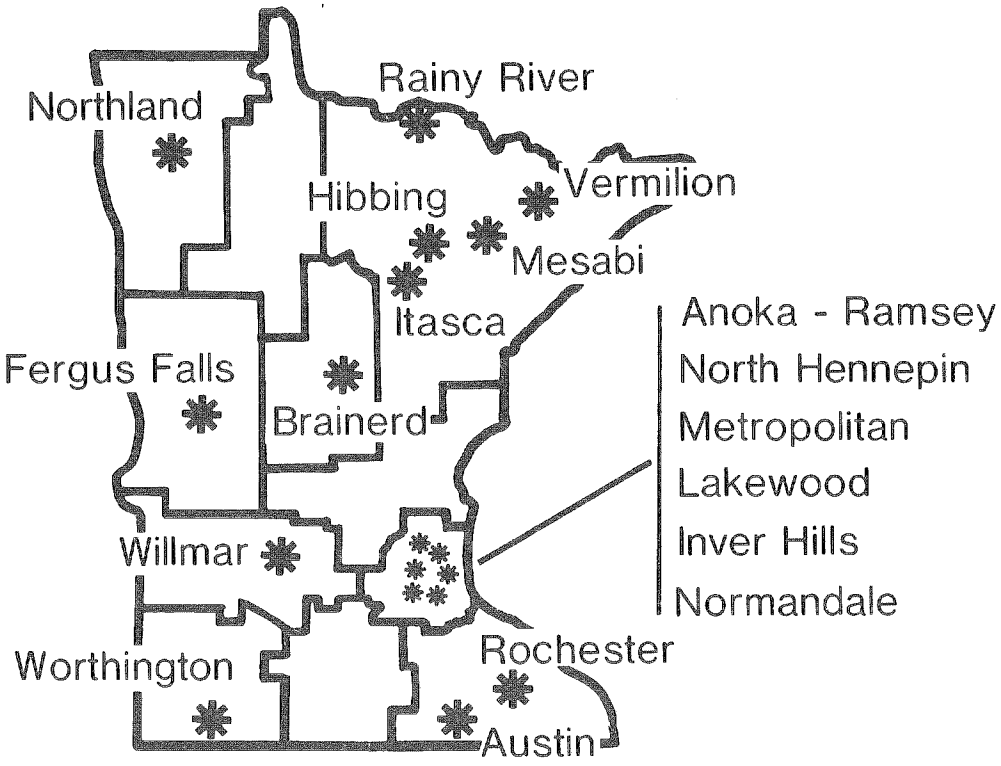



# UNIVERSITY OF MINNESOTA CAMPUSES

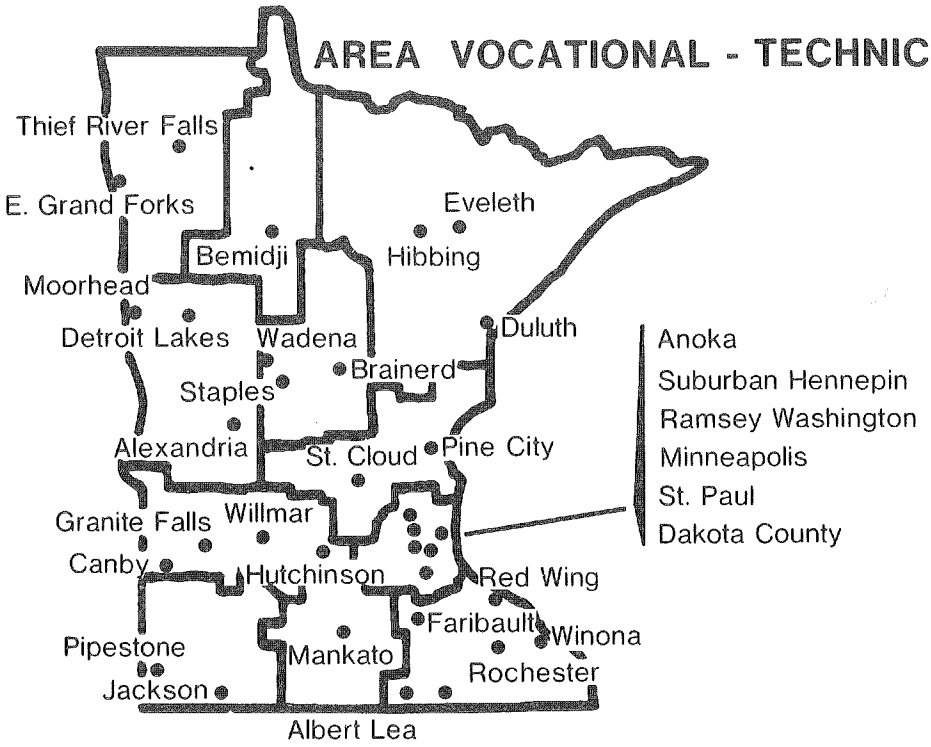


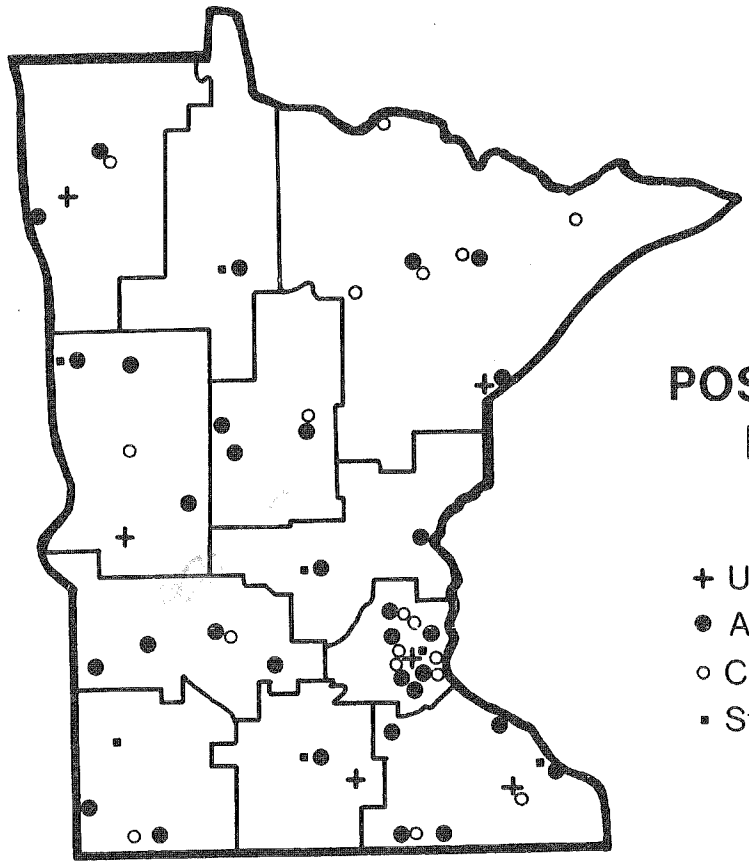

# STATE COLLEGE CAMPUSES

# COMMUNITY COLLEGE CAMPUSES




## AREA VOCATIONAL - TECHNICAL INSTITUTES

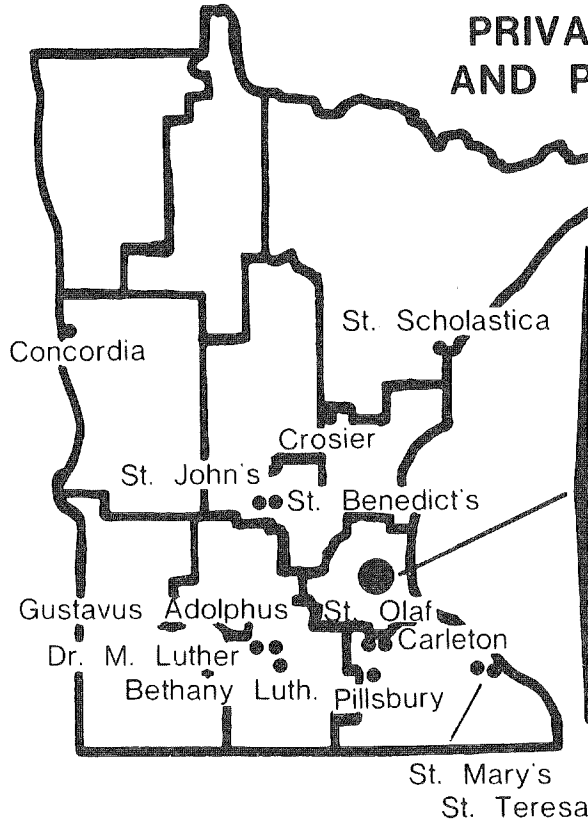




# PUBLIC POST - SECONDARY INSTITUTIONS

SYMBOLS KEY

+ University of Minnesota
● AVTI's
○ Community Colleges
▪ State Colleges



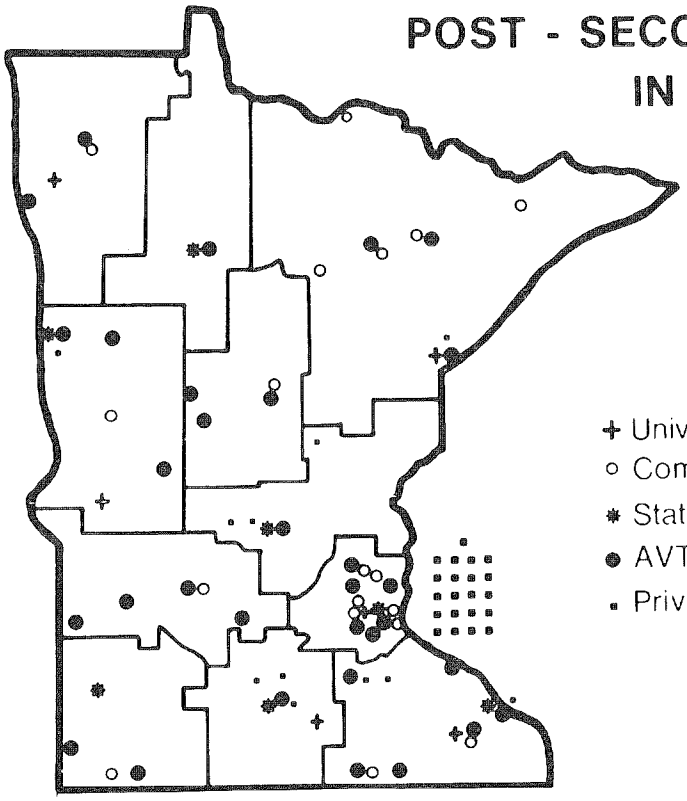

# PRIVATE TWO YEAR, FOUR YEAR AND PROFESSIONAL INSTITUTIONS

Augsburg
Bethel
Concordia
Hamline
Macalester
Mpls. Coll. of Art and Design
Minnesota Bible
No. Central Bible
Northwestern
St. Catherine
St. Paul Bible
St. Thomas

Luther Theol. Seminary
N. W. Luth. Theol. Seminary
St. Paul Seminary
United Theol. Seminary

Wm. Mitchell Coll. of Law
Golden Valley Lutheran
St. Mary's
Bethel Seminary

# PUBLIC AND PRIVATE POST - SECONDARY INSTITUTIONS IN MINNESOTA



SYMBOL KEY

+ University of Minnesota
o Community Colleges
* State Colleges
● AVTI's
▪ Private Professional and Collegiate

98 Campuses

30, 000 Employees

160, 000 Students

$223 Million State Appropriation, FY 1975

# MINNESOTA'S GOVERNMENT ENVIRONMENT

**FINANCING GOVERNMENT**
by James J. Solem

**DECISION MAKING IN GOVERNMENT**
by Gerald W. Christenson

**LEGISLATIVE-EXECUTIVE RELATIONSHIPS**
by Ray Lappegaard



**Note:**

All visuals for above presentations are included in Appendix at the end of this section.

# MINNESOTA'S GOVERNMENT ENVIRONMENT

## FINANCING GOVERNMENT
by James J. Solem

You have seen and heard, in the other presentations, a discussion of some of the functional problems and major issues facing Minnesota. We have also looked at the larger economic and social environment within which these issues must be resolved. In this section, we will look at the public sector — federal, state, and local government — what it does and what are some of the major issues that face it. This will not be a complete discussion of all state and local government issues. We will be using data that should be thought of as indicators — data which make a point, demonstrate a relationship, show a major emphasis.

We want to show the extent to which legislative decisions influence all other levels of government. Our objective is a better understanding of the relationships existing between state government and these other levels.

Relationships among the elements of the federal system — state, local, and national — are complex, confusing, sometimes contradictory, often competitive, and always dominated by the fiscal factor.

It is also important to understand that local government receives all of its powers, its responsibilities, and authority from state government. The United States Constitution says nothing about local government. State law established the systems of local government which exist in each of the fifty states.

Minnesota has about 3,400 units of local government. They include 854 municipalities, 87 counties, 436 school districts, 1,798 townships, and 211 special districts. In 1952, we had over 9,000 units of local government, 6,200 of which were school districts. The units which are increasing most rapidly now are "special districts": from 148 in 1967, to 211 in 1972. The majority of the special districts in the state have been created to perform sewer, water, drainage, and conservation-related functions.

Most of the people in the state live in incorporated areas, or areas served by municipal government. But nearly one million live in areas served by smaller units of local government. In 1970, about 21% of the state's population lived where the unit of local government served a population of fewer than 1,000.

Figures for 1970 also show that 66% of the municipal governments in the state served populations of fewer than 1,000; 92% of the townships had populations of fewer than 1,000; and about half the counties, fewer than 15,000.

Thus, we are a state with a relatively large number of units of local government, the seventh largest out of the fifty states. We are also a state where many units serve small populations.

Therefore, in trying to understand the federal system and its complexity, we must start with and emphasize the fiscal relationships within that system. The most recent data available for nationwide comparative purposes are for 1972-73. In looking at which levels originate and which spend the dollars flowing through the system, we can begin to see the kind of intergovernmental relationships that it is important to understand for the future.

In 1972-73, the federal government raised 62% of the total nationwide state-local-federal revenues; state governments, about 20%; local governments, the remaining 18%. After all intergovernmental transfers, the federal government spent about 52%; states, 18%; and local governments, 30%. This shows the importance of both federal and state levels as mechanisms for the flow of intergovernmental funds.

When we look only at Minnesota, in terms of which level raises and which level spends revenues, we see an interesting and important relationship. The federal government provided about 18% of all the revenues of state and local governments. State government provided almost 49%, and local governments, 33%.

After all intergovernmental transfers, state government spent about 32% and local governments, 68%.

These are important figures, because in only two other states, California and New York, do local governments spend a larger portion of state-local revenue than in Minnesota.

This indicator shows both the extent to which we rely on local government in this state and the extent to which the state raises and then allocates revenues to local governments. It also points up the importance of the mechanisms by which revenues are raised and transferred to local units — the aid

distribution formulas for schools, local governments, and property tax relief.

In order to understand better the extent to which Minnesota supports activities in the public sector and the extent to which state government is a key factor in these intergovernmental relationships, we will examine some data which compares Minnesota with the other 49 states, beginning with per capita comparisons of sources of state government general revenue. By total general revenue, we mean all revenues available to state government for either direct state expenditures or intergovernmental transfers. Again, this is 1973 data, the last available compiled by the Census Bureau in its report on state spending.

Minnesota ranks seventh among the 50 states in per capita total general revenues for state government. In terms of total per capita revenue which comes from taxes, Minnesota ranks fourth, with a total of $420 compared to the 50-state average of $325.

Another important source of total general revenue is the federal government. Here, Minnesota's per capita amount is $148, its rank, 28. Minnesota ranks higher than other states in the Midwest but not as high as the national average, which is about $150.

Data for 1974, analyzed in a preliminary way, show that Minnesota continues to rank higher than other Midwestern states, and our 1974 ranking among the 50 states is better than it was in 1973.

In comparing activities in the public sector in Minnesota with that of the other 50 states, one fact stands out — the extent to which both state and local governments support education.

The per capita data comparing the 50 states show that Minnesota's total expenditure on education of $297 is 150% of the national average, that state aid for education is again 150% of the national average, and that state support for institutions of higher education is 165% of the national average. Other important expenditure areas for the state are highways (above the national average) and welfare (below the national average).

If we look at all state aids for local government, the 1973 data show that only three other states — New York, California, and Wisconsin — make larger dollar contributions for this item than does Minnesota.

Looking at changes during the past year, it is interesting to see how Minnesota compares with other states. While total general expenditures increased 14% from 1972-73, intergovernmental expenditures to local governments increased 25%, and direct state expenditures increased only 2.8%. Total education expenditures increased about 20%, but state aid to school districts increased 44%, making Minnesota the state with the third highest rate of increase. Other rates of increase tended to be about average.

The U. S. average for per capita state and local spending on all education is $331.50. Here Minnesota ranks fourth out of the 50 states, with Alaska, Delaware, and Wyoming ranking first to third. It could be argued that Alaska and Wyoming are atypical states, given the nature of their population distributions.

Neighboring states — South Dakota, Wisconsin, Iowa, and North Dakota — all rank well below Minnesota in per capita state and local spending on all education. Using as an indicator only spending on local schools, Minnesota ranks fifth with, again, neighboring states ranking far below it.

Where, then, do we get the money, and how is it raised at the state level? By now, I hope we understand that most of the money state government raises is reallocated to local governments, and that the fiscal decisions made by state government are not really state decisions at all, but rather intergovernmental decisions. The most important expenditure decisions the Legislature makes concern school aid, state aid to local governments, and property tax relief.

Where does the money come from, and where does it go? Individual and corporate income taxes comprise the largest revenue sources for the state, while education, tax relief, and other aids to local government, comprise the largest source of expenditures. For the 1973-75 biennium, 72% of the total estimated expenditures of state-raised funds goes to the combination of education and local government aids and tax relief for local government. Welfare and corrections comprise about 12% of total state expenditures, the operation of all other agencies of state government account for 5.1%, and miscellaneous expenditures, 11%.

In looking at where the money comes from for the total state and local tax receipts, it's important to note that property tax levies, in terms of percentage of total state-local tax receipts, have declined from almost 47% of the total in 1971 to 34% of the total in 1974. Income taxes, including individual and corporate, now account for about 32% of total revenues; sales taxes, 12%; and sales and gross receipts taxes, 15%. The remainder of total revenues comes in much smaller percentage and total amounts.

Minnesota has made a major shift from the utilization of the property tax to the utilization of income and other taxes, with state government now playing a fundamental role in raising and reallocating revenues for local governments — school districts, counties, municipalities, and all others.

This change in the raising and distributing of state revenues has had a great impact on local governments. Municipalities have shown, in just one year, a decrease in total tax revenues from 32% to 29%. Revenues from other levels, including state aids and federal revenue sharing, have increased from 32% to about 36% of total revenues for municipal government.

In the last two years, much has been made of the importance of federal revenue sharing and the extent to which it has been a prime source of revenue for both state and local government. Clearly, it is important. But it is also true that in Minnesota, unlike many other states, aid to local governments is considerably larger than federal revenue sharing and has had much more effect on local governments than has federal revenue sharing. Minneapolis, for example, receives $19 million in state municipal aid, only about $6.5 million in federal revenue sharing. A similar situation exists in other communities around the state.

Local governments spend their resources in ways which have a direct and immediate impact on services and facilities for people. Cities and villages spend about 60% of their revenues on public safety, highways, and sanitation. County governments spend about 85% on human services and highways. Townships generally spend between 70% and 80% of their revenues on roads and bridges.

We have seen in this brief review and analysis of some basic indicators the nature and importance of the fiscal relationships that exist within the intergovernmental system, the key role of state government within this system, and the importance of the basic fiscal decisions that the state Legislature must make. As you have seen in other presentations, the functional emphasis of what state government does will probably change, because our population composition and distribution is changing. But the key role of state government as a place where revenues are raised and reallocated to other units and other levels to provide resources to serve the people will not change. State government is inescapably involved in decisions about what other units, including all forms of local government do, the way in which they do it, and the resources available to get it done. State-local relationships are among the most important issues a state legislative body must face. The policy decisions you make are as important to local governments as they are to state agencies. The system within which we all work is interdependent. The Legislature defines those relationships and establishes the rules by which all units operate. That basic legislative role, and its importance, will not change.

# MINNESOTA LOCAL GOVERNMENTS
# 1972 CENSUS OF GOVERNMENTS

| | |
|---|---|
| **Total** | **3,395** |
| Municipalities | 854 |
| Counties | 87 |
| School Districts | 445 |
| Townships | 1,798 |
| Special Districts | 211 |

## POPULATION DISTRIBUTION 1970

**Total Population 3.8 million**

| | |
|---|---|
| In Municipalities | 2.9 Million |
| Outside Municipalities | .9 Million |

**In Units of Less Than 1,000 Population**

| | |
|---|---|
| Municipalities | 203,953 |
| Townships | 608,993 |
| | 812,946 on 21.1 % of Total 1970 Population |

# TYPES OF GOVERNMENTAL UNITS AND POPULATION SIZE

66 % of Municipal Units Have Population Less Than 1,000

92 % of Townships Have Population Less Than 1,000

50.5 % of Counties Have Population of Less Than 15,000

## % OF AND $ AMOUNT OF TOTAL NATIONWIDE GOVERNMENTAL EXPENDITURE BY LEVEL 1972 - 73

### BY FINAL UNIT SPENDING

| | % | Total in Millions |
|---|---|---|
| Federal | 52.6 % | $ 227,399 |
| State | 18.0 % | 78,014 |
| Local | 29.4 % | 127,181 |
| **TOTAL** | | **$ 432,594** |

### BY ORIGINATING UNIT

| | % | Total in Millions |
|---|---|---|
| Federal | 62.2 % | $ 269,065 |
| State | 20.2 % | 87,435 |
| Local | 17.6 % | 76,094 |
| **TOTAL** | | **$ 432,594** |

# Origin and Allocation by Level of Government of General Revenue of State and Local Governments

## 1972 - 1973

### % of Total By Originating Level

| Federal | State | Local |
|---|---|---|
| 18.2% | 48.6% | 33.2% |

### By Final Recipient

| State | Local |
|---|---|
| 31.9% | 68.1% |

In only two other states, California and New York, does Local Government spend a larger % of Total State/Local Dollars.

## STATE GOVERNMENT FINANCES IN 1973

### PER CAPITA COMPARISONS

Minnesota Compared to 50 State Average

By Various Elements of General Revenue

| ELEMENT | MINNESOTA | 50 STATE AVERAGE | RANK |
|---|---|---|---|
| Total General Revenue | $653.29 | $540.99 | 7th |
| All Taxes | 420.44 | 325.53 | 4th |
| Sales & Gross Receipts Taxes | 181.98 | 177.53 | 20th |
| General Sales Tax | 76.81 | 94.65 | 38th |
| Motor Fuels | 37.10 | 38.53 | 41st |
| Individual Income | 150.43 | 74.54 | 6th |
| Corporation Net Income | 43.79 | 25.94 | 4th |

# STATE GOVERNMENT FINANCES IN 1973

## PER CAPITA COMPARISONS

| ELEMENT | MINNESOTA | 50 STATE AVERAGE | RANK |
|---|---|---|---|
| Total Intergovernmental Revenue from Federal Government | $148.01 | $149.94 | 28 |
| Education | 35.82 | 30.75 | 20 |
| Highways | 22.47 | 22.23 | 28 |
| Welfare | 58.99 | 65.29 | 14 |
| General Revenue Sharing | 11.32 | 10.83 | 23 |

# PER CAPITA FEDERAL AIDS BY STATES

## FEDERAL REGION 5

## FISCAL YEAR 1973

| | | RANK OUT OF 50 STATES |
|---|---|---|
| Minnesota | $166.87 | 31 |
| Illinois | $161.27 | 34 |
| Indiana | $100.62 | 50 |
| Michigan | $160.62 | 35 |
| Ohio | $121.79 | 48 |
| Wisconsin | $134.97 | 44 |

## F.Y. 1974 Per Capita Federal Aid Payments
## Total State and Local Government
## Minnesota and States in Federal Regions

| | Including Revenue Sharing F.Y. 1974 | | Excluding Revenue Sharing | |
|---|---|---|---|---|
| | Federal Funds | Per Capita | Federal Funds | Per Capita |
| Minnesota | $863,705,987 | $221.63 | $ 744,130,866 | $190.95 |
| Wisconsin | 806,831,742 | 176.59 | 653,691,291 | 143.07 |
| Illinois | 2,246,419,892 | 199.93 | 1,935,915,802 | 172.30 |
| Indiana | 701,037,725 | 131.85 | 571,459,463 | 131.85 |
| Michigan | 1,801,942,442 | 199.22 | 1,543,853,947 | 170.69 |
| Ohio | 1,752,634,424 | 163.32 | 1,512,072,834 | 140.91 |

# STATE GOVERNMENT FINANCES IN 1973

## PER CAPITA SELECTED FUNCTIONAL EXPENDITURES

% COMPARISON WITH 50 STATE AVERAGE

| ITEM | MINNESOTA | 50 STATE AVERAGE | MN. % OF U.S. AVERAGE |
|---|---|---|---|
| Total Education | $ 297.55 | 198.94 | 149.5 % |
| Intergovernment Education Expenditure | 170.92 | 111.50 | 153.3 % |
| Institutions of Higher Education | 112.65 | 68.14 | 165.3 % |
| Highways - Total per capita | 80.22 | $71.85 | 11.6 % |
| Welfare - Total per capita | 84.19 | 103.67 | 81.2 % |
| Corrections | 5.79 | 7.43 | 77.9 % |
| Natural Resources | 15.53 | 13.03 | 119.2 % |
| Total Personal Services Expenditures | 123.65 | 115.54 | 107.0 % |

# RANKING OF STATES 1972 - 73

**Per Capita State and Local Spending on All Education**

**U.S. Average $331.53**

RANKING OF ALL STATES

| Rank | | Amount |
|---|---|---|
| 1. | Alaska | $867.29 |
| 2. | Delaware | $504.11 |
| 3. | Wyoming | $500.72 |
| 4. | Minnesota | $424.09 |

NEIGHBORING STATES

| | | |
|---|---|---|
| 12. | South Dakota | $376.72 |
| 15. | Wisconsin | $373.29 |
| 22. | Iowa | $345.81 |
| 26. | North Dakota | $332.96 |

# RANKING OF THE STATES 1972 - 73

**Per Capita State and Local Spending on Local Schools**

U.S. AVERAGE $232.49

| Rank | | Amount |
|---|---|---|
| 1. | Alaska | $643.09 |
| 2. | Wyoming | $346.24 |
| 3. | Delaware | $324.19 |
| 4. | New York | $314.33 |
| 5. | Minnesota | $297.46 |

NEIGHBORING STATES

| | | |
|---|---|---|
| 18. | Iowa | $246.14 |
| 20. | South Dakota | $244.81 |
| 27. | Wisconsin | $220.44 |
| 37. | North Dakota | $195.58 |

# PERCENT CHANGE IN SELECTED FINANCIAL ITEMS 1972 - 1973

## STATE GOVERNMENT

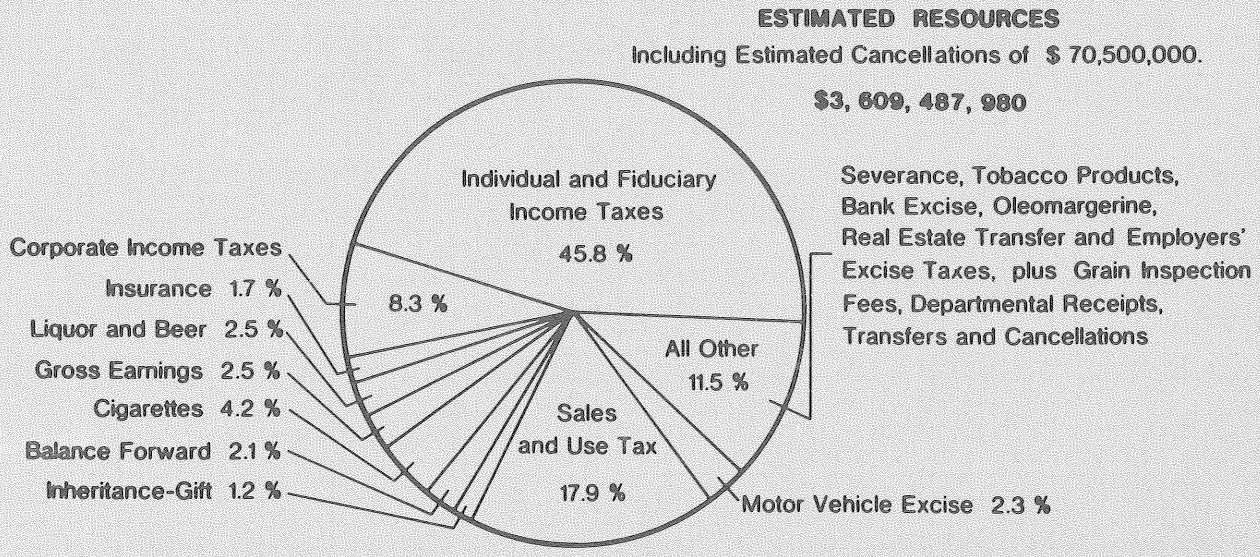
| ITEM | MINNESOTA | 50 STATE AVERAGE | RANK |
|---|---|---|---|
| Total General Expenditure | + 14.3 % | + 9.4 % | 11 |
| Intergovernmental Expenditure to Local Governments | + 25.2 % | + 11.1 % | 4 |
| Total Direct State Expenditure | + 2.8 % | + 8.4 % | 44 |
| Total: Education | + 19.3 % | + 8.5 % | 3 |
| Intergovernmental Aid to School Districts | + 44.4 % | + 10.0 % | 3 |
| Highways | + 1.8 % | – 2.3 % | 20 |
| Public Welfare | + 13.8 % | + 13.0 % | 25 |
| Personal Services (State Employees) | + 6.6 % | + 7.0 % | 17 |

# RANK OF STATES INTERGOVERNMENTAL EXPENDITURE FOR GENERAL LOCAL GOVERNMENT SUPPORT - 1973

| | In Thousands of $'s for General Local Government Support |
|---|---|
| MINNESOTA | $739, 824 |
| WISCONSIN | 735, 411 |
| CALIFORNIA | 514, 045 |
| NEW YORK | 286, 436 |

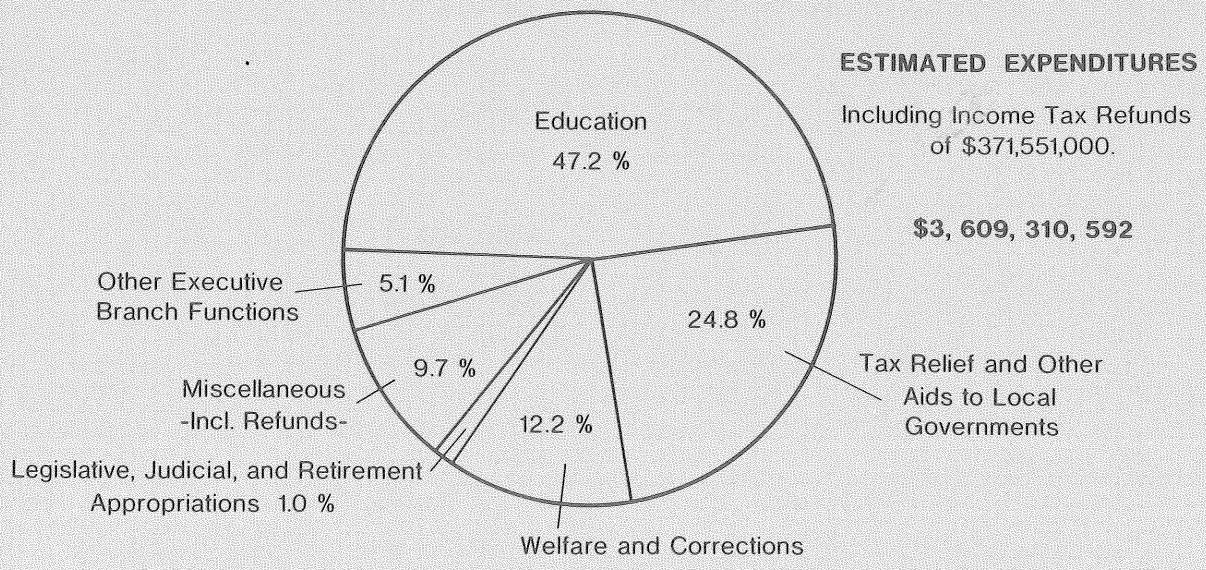
**Minnesota is 4th out of 50 states in general local government support (in total $'s).**

# ESTIMATED RESOURCES AND EXPENDITURES
# GENERAL FUND 1973 - 75 BIENNIUM





# ESTIMATED RESOURCES AND EXPENDITURES
# GENERAL FUND 1973 - 75 BIENNIUM

# MINNESOTA STATE AND LOCAL TAX RECEIPTS

| Type of Tax | Fiscal Year 1971 % of Total | Fiscal Year 1972 % of Total | Fiscal Year 1973 % of Total | F.Y. 1974 |
|---|---|---|---|---|
| Property Levies | 46.76% | 40.22% | 36.03% | 34.08% |
| Income Individual | 17.86 | 21.54 | 22.81 | 25.18* |
| Corporation | 3.06 | 4.33 | 6.07 | 6.21 |
| Bank | .74 | .66 | .58 | 0.55 |
| Minnesota Sales Tax | 10.25 | 11.46 | 11.65 | 12.34 |
| Other Sales and Gross Receipts | 14.70 | 14.96 | 15.88 | 14.93 |
| Licenses | 4.42 | 4.45 | 4.60 | 4.26 |
| Severance | 0.89 | 0.89 | 0.78 | 1.05 |
| Inheritance and Gifts | 1.05 | 1.15 | 1.25 | 1.19 |
| Other | 0.27 | 0.33 | 0.35 | 0.21 |
| | 100% | 100% | 100% | 100% |

* Includes new tax in 1974, Employers' excise tax about $7 million

# RECEIPTS OF CITIES AND VILLAGES FOR YEARS 1972 AND 1973

## TYPE OF REVENUE BY % OF TOTAL

| | 1973 | 1972 |
|---|---|---|
| **TAXES** | **28.8 %** | **32.1 %** |
| Special Assessments | 12.8 % | 13.6 % |
| Licenses and Permits | 1.9 % | 2.0 % |
| Fines and Forfeits | 1.2 % | 1.3 % |
| **INTERGOVERNMENTAL REVENUE** | **35.9 %** | **32.0 %** |
| Charges for Services | 11.3 % | 10.6 % |
| Public Service Enterprises | 3.0 % | 3.4 % |
| Interest on Investments | 3.3 % | 2.7 % |
| All Other | 1.9 % | 2.3 % |
| | 100.0 % | 100.0 % |

## 1973
## CITIES AND VILLAGES
## EXPENDITURES (Including Capital)
### TOTAL ALL UNITS

| FUNCTION | % | |
|---|---|---|
| General Government | 7.0 | |
| Public Safety | 19.2 | |
| Highways | 19.9 | 59.0% |
| Sanitation | 19.9 | |
| Health | 1.3 | |
| Welfare | 1.6 | |
| Libraries | 1.8 | |
| Recreation | 10.0 | |
| Contribution to Public Service Enterprises | 3.6 | |
| Unallocated | 9.4 | |
| Interest Payments | 6.3 | |
| TOTAL | 100 | |

# MINNESOTA
# COUNTY GOVERNMENT DISBURSEMENTS
# 1971

| FUNCTION | % OF TOTAL | |
|---|---|---|
| Human Services | 65.9% | 89.4% |
| Highways | 19.0% | |
| Conservation | 1.1% | |
| General Government | 8.5% | |
| Public Safety | 2.2% | |
| Other | 3.3% | |
| | 100% | |

# STATE LOCAL GOVERNMENT AID FOR SELECTED CITIES

Compared with Federal Revenue Sharing

FISCAL YEAR 1974

| CITY | STATE AID AMOUNT | FEDERAL REVENUE SHARING AMOUNT |
|---|---|---|
| Minneapolis | $19,412,887 | $6,488,116 |
| St. Paul | 13,018,567 | 5,114,567 |
| Duluth | 2,880,312 | 1,471,524 |
| Moorhead | 871,996 | 189,328 |
| Bloomington | 1,530,409 | 429,417 |
| Edina | 843,137 | 184,580. |
| Rochester | 1,695,430 | 665,008 |
| St. Cloud | 1,319,809 | 828,395 |
| Bemidji | 496,292 | 198,830 |
| Litchfield | 149,040 | 61,200 |
| Pipestone | 175,287 | 83,166 |

# DECISION MAKING IN GOVERNMENT
by Gerald W. Christenson

One of your chief concerns as legislators should be to insure balance in government. Day-in and day-out, you are barraged with demands to do this, to stop that, to spend less, to do more. You are well aware both of your limited resources and of the almost infinite demands made on them. You realize that action taken in one particular area usually has impact on other areas. A good economic development program may be a bad environmental program, or vice versa. Let me cite other examples:

The property tax reform legislation passed in 1971, and refined in 1973, involved much more than just property taxes. It changed dramatically the way in which we finance our schools. It permitted tax relief for senior citizens. It will have significant impact on rural development. And, in my opinion, it is one of the most important environmental actions you have taken.

People are often surprised when I say that the property tax relief-school finance legislation was an environmental step. But it was, and here's why. Up to 1971, school districts and other units of local government were forced to rely heavily on local property taxes for financial support. To keep property tax rates down, local government was pressured sometimes to make development decisions that were not always environmentally sound. A good example: the decision in the middle 1960's to locate the Allen S. King Plant in the beautiful St. Croix Valley near Stillwater. My guess is that most of the Stillwater area residents would have preferred not to have the plant, with its huge smokestack, located there. But the property tax burden, particularly for older citizens, was growing because of the need to support the schools. The choice was a difficult one. People didn't like the idea of despoiling their unique valley, but they felt they needed the property tax base to support their schools. The plant was built.

Perhaps people should not be pressured to make those kinds of decisions. Because of the property tax relief-school finance legislation you passed in 1971, the pressure for unwise development is much reduced. State support for schools has been increased from 43% to 70%. Although this made it necessary to increase state income and excise taxes, it meant less money had to come from local property taxes. The net result is that since state aid will be forthcoming, local officials do not now feel compelled to accept possibly unwise development.

The point is that legislative matters become interrelated. What you do with tax policy, for example, may affect not only taxes but also the environment, senior citizens, and schools.

Take another example of these interrelationships: rural development. There seems to be a consensus in Minnesota that the Twin Cities metropolitan area ought to remain approximately the size it is now. We see problems of traffic congestion, air pollution, crime and the like in the largest metropolitan areas of the United States, and most of us believe that the present size of the metro area here is about right.

On the other hand, there also seems to be a consensus that rational development in rural Minnesota should provide better job opportunities for young people, and improve economic conditions, among other things. But rational development in rural Minnesota will depend on a wide variety of interrelated factors: private market conditions, availability of transportation, housing, health care, vocational-technical and college institutions, policies relating to taxes, school financing, environmental protection, economic development and decentralization of state government. If the Legislature wants to adopt an effective rural development policy, all these factors will have to be considered carefully.

Now let's turn our attention from the interrelationships involved in governmental actions to the powerful forces sometimes working against an integrated approach to government.

One force is the increasing complexity of our society, which is so complex today that it is difficult not only for the average citizen, but also for government officials to have a comprehensive view of the whole. Programs and officials keep changing at the federal, state and local levels. Problems in many areas sometimes seem unsolvable.

A second force contributing to fragmentation is the pressure on government leaders, particularly elected officials, to "do something," to make a track record. Officials sometimes get tired of unresponsiveness in government. They want to make their mark in a certain area, and they can't afford the time needed to develop a coordinated approach. The result is that they often take instead a single-shot approach.

A third fragmenting force can be the committee structure of a legislative body. To accomplish its work, it is essential to divide into committees. But if adequate attention is not paid to strong coordination of these committees, results can be serious fragmentation and ineffective government. The Congress of the United States offers an example of troubles that can arise from failure to integrate committee work. During the past year, Congress has taken two important steps to remedy these deficiencies. One involved the establishment of a strong, new procedure for legislative involvement with the budget. The second occurred only a month ago when the majority caucus stripped powers from the Ways and Means Committee and restored those powers to the majority leadership and to the caucus. Both of these changes should result in a more integrated approach to law-making at the federal level.

A fourth fragmenting force can be the departmental structure of the executive branch of both federal and state government. In many cases, matters do not break neatly along functional lines. At the present time, the Department of the Interior, the Department of Agriculture, the Department of Housing and Urban Development, the Department of Commerce, and the Environmental Protection Agency are struggling for control over land use planning efforts. At the state level, we often have difficulty deciding in which of our functionally-organized agencies a particular program should be located. For example, should a new drug-abuse program be the responsibility of the Health Department, the Welfare

Department, or some other department?

A fifth fragmenting force can be the way we organize local government. The numerous units may mean that some individual units do not have adequate resources for planning or for protecting the natural resources of an area. The number of single-purpose, special districts continue to grow.

A sixth fragmenting force is the way in which the news media generally operates – particularly television. A comprehensive approach does not usually make for lively news. The TV camera is interested in conflict, not coordination; in the quick, decisive answer, not the reasoned response. As elected officials, you need public attention. But to get it, you are likely to get pulled toward a fragmented approach.

A seventh force contributing to fragmentation is the skill of the single-purpose, special interests. In many states and at the national level, they have become very adept at manipulating the legislative process, at getting a bill through that meets their special needs. If they don't possess the expertise, they go out and buy it in the form of consultants or lobbyists.

Other forces of fragmentation could be listed, but this list is long enough to demonstrate how powerful those forces are. They are likely to prevail if forces working toward an integrated approach are not strengthened.

One of the integrating forces in the past has been our strong two-party tradition. The parties, if they were going to succeed, had to have a broad appeal. They had to bring people together with comprehensive platforms that included positions on employment, taxation, environmental protection, economic development, agriculture, and all the rest. Compromises had to be made so that a balanced program could be presented that would win support from a wide range of people. But the political parties appear to have been hurt in recent years. More and more people are classifying themselves as independents. Unless another integrating force can be substituted, that trend may become a problem.

The real key to the success of the comprehensive approach rests with elected officials at all levels of government. To win reelection, these officials need to adopt a balanced, comprehensive approach. But sometimes forces of fragmentation provide temptation. The elected official feels the need to move faster in establishing a track record, feels the need to get more media attention, or feels the need to be more responsive to single-purpose, special interests.

It may be helpful to examine briefly the current scene at the federal, state, and local levels. Let's take the federal level first. I've mentioned the fragmenting nature of the old committee structure in Congress. We are hopeful that the recent reforms will result in a more integrated approach on the legislative side of the federal government. But changes are also needed on the executive side. Too often the various functional departments and agencies are going their own ways in the absence of a strong coordinating system at the top. The result: while the Department of the Interior may be supporting programs to encourage wetlands preservation, the Department of Agriculture may be supporting programs encouraging wetlands drainage in order to add to crop production. The Treasury Department may be selling high yield bonds that encourage depositors to withdraw savings from savings and loan institutions, while HUD tries to get more money into the housing market through these thrift institutions.

Both the Office of Management and Budget (OMB) and the Domestic Council have been seen as instruments for the needed high level coordination. But they have not filled the need. Again and again the disparate actions of the functional agencies have prevailed. If the new federalism is to work, if states and local governments are going to assume greater responsibilities, then governors, legislators, and local leaders must have a person or a group at the national level with the power to insure a coordinated, comprehensive approach. Perhaps Vice President Rockefeller, with his long experience as Governor of New York, can assume that role.

At the state level, several steps have been taken to strengthen the position of the Governor and of the Legislature. This additional strength should result in better coordination. Both the State Planning Agency and the Commission on Minnesota's Future were created by you to assist with this integrating effort. You created a Department of Finance to centralize and coordinate fiscal operation. You also created an Environmental Quality Council to provide for the coordination of our various environmental programs. The Governor, by executive order, has created a Human Services Council and a Rural Development Council to work for an integrated approach in both these areas. Also, the Legislature, in 1973, passed the Human Services Act, providing limited funds to encourage integration at the local level of various programs offered by the Minnesota Departments of Welfare, Corrections and Health. Attempts have also been made to integrate the various transportation programs. So, without trying to assess the quality of the various coordination efforts, it is clear that state government has attempted by a number of mechanisms to address itself to the problem of program integration.

At the local level, efforts to provide for a comprehensive, integrated approach have been hampered by several factors. Problems and opportunities often cross jurisdictional boundaries. Sometimes the size of the local unit and its limited financial capability restrict its staff resources and its ability to respond to various initiatives. And, at least in the past, the heavy dependence on the local property tax for revenue has resulted in competition among local units, thus retarding cooperative effort. Even when conditions have necessitated cooperative effort, they have often been of a single-purpose nature and limited in duration.

These are some of the reasons the Legislature, in 1967, created the Metropolitan Council to help plan and coordinate development of the seven-county metropolitan area. The same reasons also led to the passage, by the 1969 Legislature, of the Regional Development Act. This Act provides that contiguous counties throughout the state may join together to promote intergovernmental cooperation and to insure coordination of planning. Membership of the regional development commissions consists of local elected officials – county commissioners, township officers, mayors, councilmen and school board members – who are selected by the groups they represent.

To meet the present and future needs of Minnesota, the Legislature must examine the various mechanisms that have been created to foster planning and coordination at all levels. As it does so, it may want to keep in mind that there are three basic choices which can be made in developing structures for planning and coordination. They are: 1) Strong, central state

government; 2) Direct citizen participation; and 3) State-local government partnership.

Each of these three approaches has certain strengths and certain weaknesses. The strong, central government approach would seem to foster a more unified state policy, but the movement toward community-based treatment in Corrections and Welfare appears to reflect a strong desire for decentralization.

The Legislature has established several structures in the last few years which incorporate direct citizen involvement in policy-making. Examples include the Environmental Quality Council, of which four of the twelve members are lay citizens, and the Legislative Commission on Energy, which consists of six legislators and three lay citizens. Older examples of policy-making groups made up entirely of lay citizens include the State Board of Health, the State Board of Education, and the Board for the Pollution Control Agency.

The third basic approach, the state-local government partnership, is reflected in our more integrated state-local financing system, in the strengthening of the regional development commissions, and in the increased role played by local elected officials in decentralization efforts.

As it considers the various alternatives, the Legislature may want to keep in mind certain factors. One of these involves the imbalance that may be created in Minnesota if state government is strengthened and local government is not. Can state decentralization be implemented effectively if local government resources are limited? Another factor to consider is the strengthening or the weakening of the elective process. If elections are going to be meaningful, if they are going to result in the support or rejection of different policy positions, then the roles of elected officials must be substantial. It is difficult to hold elected officials accountable if control is so diffused that no one is in charge.

It may be clear by now that, in my opinion, we must strengthen the role of local elected officials in Minnesota. I know it is sometimes said that local officials are unresponsive, that somehow you have to get around them. But think of the implications of that criticism in a democratic society. People increasingly say: "It doesn't matter who wins the election. Nothing changes anyway." How can representative government work, if we can't hold the representatives responsible?

I believe we must make local elected officials both responsible and responsive. They must be provided with the tools to perform their jobs, and that means adequate financial support, competent staff, and needed mechanisms for cooperative action, such as regional development commissions. It also means a genuine spirit of partnership with state officials, as laws and rules and regulations are adopted and as day-to-day operations are carried out.

It does not mean that local elected officials should be dictatorial, or that they should make policy in a vacuum. Just the opposite. Meetings should be open, and decisions should be arrived at openly. Citizens should be encouraged to participate actively in a variety of ways. More and better information should be made available to them. We should, for example, utilize television more effectively. State standards could be adopted which would guarantee citizens fair treatment in all areas.

It should be possible to hold local elected officials accountable. They are more likely to have the broad view necessitated by the need to appeal to a wide spectrum of the electorate. They are more likely to understand the need for balance. They are more likely to see that programs are interrelated. And elected representatives are more likely to be representative of the views of all the people.

If government is going to work for the benefit of the people in our increasingly complex society, then we need to develop the means to manage change. I believe that to reach that goal in a democratic society, it is essential that adequate support be given to elected officials, and that effective checks be devised to insure their performance.

## LEGISLATIVE – EXECUTIVE RELATIONSHIPS
by Ray Lappegaard

I appreciate the honor of being asked to address this group. Even though I've met elected officials who seem to me to be walking evidence of arrested development, nevertheless I have a deep and genuine respect for most of them. Each of you represents several thousand citizens of the state, and I doubt very much if I'd have the courage to stand up and ask even several citizens to vote for me.

All my experience in government has been in the executive branch. I've held appointed positions in a variety of departments within the state – most recently as Commissioner of the Highway Department. And so I hope to accomplish two things today: to try to convey to you what a life in the bureaucracy, if you will, is like, and to suggest some ways in which you might be of help to this segment of government.

Since, over the years, I have worked both in and out of government, I have had the opportunity to observe changes, perhaps more clearly and vividly than those who have been on the governmental scene without respite. And I would say – quite flatly – that state government today is a far more efficient and responsive institution than was its counterpart 20 years ago.

An example: some 20 years ago, we were trying to staff our mental hospitals adequately. The money had been appropriated by an approving Legislature. Yet we were still frustrated, still unable, occasionally, to do our job properly. Why? Because of something called "the line item budget requirement." The regulation here was, to all intents and purposes, that if you could not hire a psychiatrist, the money would lapse and return to the general revenue fund. It could not be used to hire additional aides. The rationale seemed to be this: if you can't get a doctor, there's no need to hire anyone else. Does that make sense? To us, it didn't. Clearly, without a psychiatrist, you need more aides to provide patients with personal involvement and humane conditions.

Today, this seemingly nonsensical rule has been changed. We seem to understand now that certain functions must be performed, that proper performance of the functions will cost a fair amount of money, that the money can be used in different ways to achieve the desired ends, that most public servants are trustworthy enough to allow them some flexibility in deciding exactly how to spend that money. This change is both important and a considerable advance in state government's efficiency and responsiveness.

Let me hasten to add, however, that this increased flexibility in no way should give license to the bureaucrat to do whatever he deems advisable with the funds you provide. Rules and regulations still exist to prevent the mishandling or waste of our limited monetary resources. I think they are excellent and should be maintained. But I see as a breath of fresh air this new flexibility which provides opportunities for the bureaucracy to develop innovative responses to problems.

Another change, and in my opinion the most important one I've observed, is in the caliber of personnel now working in state government: year after year, it has consistently improved. I am just plain thrilled at the number of young, able, competent, enthusiastic people in state service with whom I have had the privilege of working – particularly during these last three years.

I am sure that many of you who have had some acquaintance with state government over the years can think of more examples of improvements. I don't want to belabor the point. But I do want to make sure that you hear me say it: state government is much improved!

Having said that, I would now like to offer you some advice which you did not request. This seems only fair since in many instances, many of you have offered me advice which I did not request. I'll begin with an obvious plea – namely, that in working with a particular department, please allow yourselves both the time and the opportunity to become oriented to that department. Let those in the department tell you something about it; ask questions; let the personnel in on your particular area of interest.

Again, this is obvious – but perhaps not to new members of the Legislature. Watch that you do not offer solutions to problems which may well have been tried in the past. Also, I would like to advise you that there is very little need to be circumspect when talking to people in departments of state government about what some people consider to be political motives. Most public servants are by no means naive; they recognize that political considerations have a part in government and a great deal to do with how government works. It will not shock them to learn that you want some information with which you might influence a group of constituents, or perhaps get the constituents off your back, or provide them with a service. The more open, detailed and precise your questions, the more detailed and responsive the answer will be.

Your understanding of what is possible is extremely important to the bureaucracy. Many of the programs we undertake are very difficult to implement quickly. For one thing, it's hard to get the necessary personnel hired and trained. This is often frustrating to the legislators who feel they've done a great job in setting up the basis for a new and needed kind of service. But it's also frustrating to the civil servant who is trying to carry out the job but simply lacks the means. What is needed here is constraint on your part from dabbling with the inside machinery. This is by no means to be taken as a request that you keep your hands off the machinery completely, or that you avoid trying to get behind the scenes to find out why people are doing what they are doing to the law you passed. On the contrary: this is healthy and responsible behavior. So, watch, observe, criticize if necessary, compliment if appropriate; but do not try to do the job for the individual. I have felt for many years that I would rather be asked to leave my job because of inability to perform properly than to have others tell me how to do it. Meddling, I think, causes chaos.

Another piece of unasked for advice. Try not to feel frustrated, irritated or impatient if programs which you have initiated don't become really effectual until sometime after your term has ended. You may have a great desire to see results achieved during the time you are present in order to savor the rewards of the achievement. But increasingly, in all areas of government, and in state government especially, there is this

problem of delays. Delays seem almost to have become a usual and necessary part of the operation. Much of this snail's pace stems, of course, from the increased demand for openness in government, which is certainly a desirable thing.

Next: a word about your operation. I applaud the fact that you are acquiring staff assistants to aid you in gathering and analyzing data as a basis for the decisions you must make. At the same time, I would caution you that there is a danger that energetic, able, legislative staff members, in their zeal to serve you, can be a nuisance. They provide far more than is required to answer your question. You need good, competent staff assistance, but please be careful that your staff does not become a new bureaucracy — responsible for nothing, accountable to no one. I suggest that the most important function of the legislative staff member is evaluating and monitoring of on-going programs and operations. They should feel free to inform you, make suggestions, criticize where necessary. Equally important is that you voice your support of them and offer compliments when deserved. In my opinion, a legislative staff should be more than simply an investigatory staff. This type of approach leads to nothing more than discouragement on the part of the administrators, many of whom are well aware of what problems they have but who usually lack the resources with which to deal with them. Overall, I feel positive about legislative staff being increased and upgraded. It seems to me that as these staff members, serving you directly, become knowledgeable about the programs being carried out in various departments, they bring you awareness of what is possible and what is likely in terms of legislation. They may well constitute a bridge between our respective spheres of government that can do much to improve both legislation and its implementation.

Now, I'll go on to suggest some other areas for you to worry about. One is local governments and their relation to state government. I have the feeling that the state is going to become the most important government level in this country during the next years. It seems clear to me that the federal government is unable to provide direct service operations effectively.

On the other hand, local governments, for a variety of reasons, seem to have difficulty in handling the real issues which must be addressed if their citizens are to be served properly. I have felt for some time that it might be appropriate to consider changes in the makeup of local governments. I suspect that we have not taken a good look recently at the job descriptions, for instance, of the mayor and councilmen in a municipality. Maybe that look should be taken and some changes considered, keeping in mind the principle that those things which can best be done at local levels of government should be done there, while those things which extend beyond their borders should be done at another level of government. It is obvious from the basic lesson of civics that local governments were not created by the United States Constitution; rather, they are a creation of state government.

In the United States, there are, on the average, 41 units of government for every 100,000 people. In the Ninth Federal Reserve Region, of which Minnesota is a part, there are 195 units of government for every 100,000 people. Something is wrong when we hear opinions that we need more grass-roots government in this part of the country, where we have almost five times as much local government as the average for the country. By consolidating local governments, opportunities for cost-saving sharing of functions seems to me to be enormous.

Perhaps the comment that more grass-roots government is needed is another way of saying that the public wants greater participation and involvement in government.

It seems to me there are two kinds of citizen involvement with which we should be concerned. The first is the individual who wants to know how to get information, get questions answered, be relieved of some anxieties. These are the people for whom I have the greatest concern. They are unsophisticated, not knowledgeable about government structure, and sincerely need help. Our record in providing easy access to government for these people is rather spotty. An example: relocations involved in right-of-way acquisitions. I think a fairly good job is done with the neighborhood office locations; still, I fear the complexity of even finding the right office to answer a question often discourages the citizen from seeking help from government.

Another type of citizen who does participate has emerged in the last several years. He might almost be called professional, is usually well-informed, with a particular interest in governmental operations. Sometimes he is something of an elitist. He usually knows the structure very well, what offices are important, and how to make his presence and pressure felt. He is the one who usually serves on advisory committees, task forces, councils, and boards. While individually I'm sure these citizens gain considerable satisfaction from their participation, I am occasionally concerned as to how representative they are of the people for whom they presumably speak.

The concept of public involvement/community participation is appealing in concept but appalling in practice. The format of the old town meeting, in which every member of the community took part in deciding the issues for that community, does not lend itself to the problems of a diverse metropolitan area. Some important questions confront the public administrator: how can non-elected leadership be identified? who really represents a given group? a certain area? the transcending community interests?

Early implementors of the poverty programs believed that if they simply appeared in a community, leadership would surface automatically. Unfortunately, in this process, there are usually others who also respond to the call. Some of them may be leaders, but many are simply seeking self-gratification through public attention — an ego trip in today's terms. Or, in some instances, they may be out-and-out neurotics who satisfy their own strange needs through public displays.

When we attempt to involve the public, we find unexpected responses. There is often doubt on the part of some that the public administrator is sincere in seeking their opinions. A common reaction is just apathy. It would seem the majority of the public has no interest in becoming involved. I've had the unusual experience of being told by a respected individual that while he has no objection to paying for the services he receives — and this includes governmental services — he would like them provided as efficiently and as economically as possible, without involving him, since he has other interests to consider. Yet, elected officials — those in the legislature, those at local levels of government — are free with their advice

to those of us in executive departments: involve the community. Unfortunately, most of this advice is lamentably short on exactly how this involvement should come about.

Looking ahead, it is entirely possible that the executive agencies will, in fact, develop a means to involve the general community in the process of developing policy and making decisions. I am reasonably confident that this is indeed coming about, and that it will, for the most part, be accepted.

The initial contacts between the community and executive agencies were, of course, somewhat flinty and cool, but as we gained knowledge of each other, we became aware that both sides have something to offer, that neither side is a complete villain. Currently, we are establishing viable relationships that will last beyond the careers of the individuals who established them. They will become institutionalized relationships; they will last over time.

I have wondered at times, however, if those of our elected officials at the local level and in the Legislature have really thought through what this process will mean in terms of their own positions. It seems to me that as government agencies succeed in this direct kind of involvement, they will inevitably diminish the role and the importance of the elected office holder at all levels of government. This seems inevitable, since the citizens who do wish to participate in government decision making and policy making will find the mechanisms available to them, will utilize them, and in so doing will simply by-pass the elected official.

This has caused me to ask myself whether or not legislators, who in a traditional sense represent and voice the concerns and interests of their constituents, are fostering a change in their role that may be rather profound and may require some severe dislocations as far as their future job responsibilities are concerned.

To some degree, present problems surrounding participatory involvement of the general public arise from a lack of leadership on the part of elected officials. This is not surprising. We have noted that the local elected official who really does take a leadership position, who advocates a cause, immediately becomes the target of a considerable amount of criticism and is hard put to maintain his effectiveness in office. Thus, those who want to stay in office have avoided a leadership role by not taking firm positions on issues, and by voicing the concerns of certain groups protesting the actions of administrative agencies. We have a curious phenomenom here: it is as if the elected official were not part of the government to which he has been elected.

All of this sounds somewhat despairing, and I suppose it is. Many public officials are afflicted with an inferiority complex stemming from the almost continual accusations of bumbling and bungling. As a consequence, they are often fearful that they will once more be accused of failing to respond properly. In this instance, attempting to create a process whereby public participation in the decision making process can be automatically obtained and insured seems well on the way to becoming a particularly juicy target for those who like to say: "Government *didn't* do it again!"

Nevertheless, I remain somewhat optimistic. In any event, those in public service will be making an effort. It is our fervent hope that an effort will also be made by the public as well.

Another area I would like you to worry about is a little more difficult to describe: put bluntly — it is ethical questions. Rather than try to define something as abstract as an ethical question, let me give you two examples of what I mean — one from the Highway Department, one from the Department of Corrections.

First, the Highway Department. I would like very much to have had direction given to me by you as to the ethics of upsetting a community of 3,000 people by building a road that will serve 300,000 people. This is not an easy question to handle. And there are times when many of you are not really very helpful to the bureaucrat in trying to deal with such a question. There is a tendency to relate only to those who are being upset — and understandably so — without considering the larger community. I'm not sure I know even where to begin this debate, but it seems to me that it is the kind of question you might take a crack at resolving. If it were resolved, with reasonably clear direction to the departments involved, you would have made a truly significant advance in carrying out our governmental services.

Second: The Department of Corrections. I have startled some people by telling them that in my opinion the best book on corrections to appear during the last ten years is *Clockwork Orange*. Some of you may not be familiar with the story. It is set in England. Time: the future. And this time is pictured as an awful one in which to live. Gangs of thugs, hooligans roam the streets at will. The chief character in the story is a young man who gets his satisfactions by beating, stabbing, and killing other people. He is finally apprehended by the police, though they are not arresting him because of his violence, but rather because his behavior has become an issue which has aroused a sufficient number of people to be of concern to the politicians. A psychologist takes the lad, and through a process known as behavior modification, makes him physically ill whenever he sees or thinks of hurting someone. He is then released into society. He is now an individual who is perfectly safe, physically unable to raise his hand against anyone. He can work and satisfy his needs without any trouble whatsoever. At this point in the novel, the opposition states that the boy has been psychologically mutilated, that what has been done to him is no different in kind but only in degree from the cutting off of pick-pockets' hands, which was, at one time, practiced in eastern countries.

We are now engaged in much milder types of behavior modification in correctional facilities, a method with tremendous potential for societal benefits. It would seem to me highly desirable that the ethics of such a method, used by government in the name of society, be considered, debated and resolved.

In both these examples, I think it's fair to say that you give very unclear direction to the public servant who is to carry out the job. I have had the experience many times of being thoroughly denounced at a legislative hearing, or in front of a county board, and afterwards being approached by the individual who was most vocal, telling me he had meant nothing personal, that he hoped I would be able to get a given project through, because it was really needed. I do not deplore that behavior; it's understandable, but it's also frustrating and hypocritical. I wish it could be different. To the extent you can resolve real policy issues you will get more responsiveness

from the bureaucracy, and we will all be better able to serve our public.

We hear often that the legislative body should stick to making policy and leave the implementation of that policy to the executive branch. This is an oversimplification, as many of you are well aware. Policy is not that neatly defined, and it is not always possible to separate it completely from the operations of government.

Let me use another example from the Highway Department. Overall policy, expressed in legislative pronouncements, says that most of our programs should be designed to serve the maximum number of people. A second broad policy statement asserts that allocation of resources in the traditional manner would be severely questioned and tested to determine whether or not changes should be made.

Putting these two statements together, we tried to apply them to our own department. Looking at the tremendous demands for highway improvement throughout the state, it seemed clear that these demands could not be met without unacceptable increases in monies needed by the department. This resulted in what came to be called the Backbone Plan. What we did, quite simply, was to take all the demands, look at them in the light of three criteria, then prune all those that didn't fit the criteria. We began talking about road improvements over a 20 year period that would fit the funding we could foresee receiving during that same period. The test came when we asked the question: "How many people throughout Minnesota would be served by projected improvements, based on the Backbone Plan?" The answer was 89%. The next question was: "If we remove the people who live in the metropolitan area, the seven-county area, how much of the outstate population will be served?" The answer was 74%. It seemed to me that we had done an excellent job, in this instance, of carrying out two very general but very obvious policy statements of the Legislature. In that process we, of course, made policy ourselves. In assigning priorities to these projects, we have to take into account more than simply the desires of those who live in certain communities. In addition, we had to consider the economics of construction, the capability of the department to plan and execute contracts, and the availability of funds in a complex of programs.

Finally, let me say that we have been well-served by our legislative bodies in this state for many years. I have been particularly pleased at the restraint shown by so many individual legislators when they do inquire into specific operations of the departments with which I have been involved. In talking with colleagues around the country, I find that my situation as a state employee is much better than theirs, as far as answering questions and requests from legislators go. We seem to enjoy, here in Minnesota, a much better understanding of the need for some separation between the two branches of government. Most of us, legislative and executive branch members alike, seem to recognize the great truth that Dag Hammarskjold stated when he said: "Your position never gives you the right to command; it only imposes upon you the duty of so living your life that others can receive your orders without being humiliated."

Minnesota is a great state in which to live; it is a great state to work for. I am deeply grateful for the chance I have had to take part in it. I wish you the very best now as you carry forward.