

RECENT CHANGES . . .

In North Dakota's Population

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The total population of North Dakota has remained very stable from one decennial census to another since 1920. The total number of inhabitants increased slightly from 647,000 in the 1920 census to nearly 681,000 in the 1930 census. After 1930 the trend was slightly downward — to 642,000 in 1940, to 620,000 in 1950, and then back up to 632,000 in 1960. While this state was experiencing a net decline of 7.1 per cent between 1930 and 1960, the total U. S. population increased 35.7 per cent. North Dakota was the only one of the 50 states that had a smaller population in 1960 than in 1920.

What changes have occurred since 1960 in size and composition of North Dakota's population? Accurate answers to these questions must await the compilation of data from the 1970 Census of Population. Estimates from various state and federal sources, however, provide some clues regarding what has been happening and give us a "sneak preview" of 1970 census data.

Total Number of Inhabitants

The total population of North Dakota is now estimated to be somewhat less than it was in 1960. The U. S. Bureau of the Census makes two population estimates for each state annually as of July 1: (1) Total resident population, and (2) civilian resident population. The difference between the two estimates represents the number of people on active duty in the armed forces within the state.

According to these annual estimates, the total resident population of North Dakota continued to increase after 1960 to 652,000 in 1965, but has declined steadily since then. The 1968 estimate was 627,000 (Table 1).

The number on active military duty within the state increased from about 5,000 in 1960 to 12,000 in 1965 and 13,000 in 1968. These increases in the number on active military duty accounted for nearly one-third of the increase in total population between 1960 and 1965. The net decrease

from 1960 to 1968 would have been twice as great were it not for the increase in the military.

Table 1. Annual estimates of North Dakota's population 1960 to 1968.

Date	Total resident population	Civilian resident population
	Number	Number
April 1, 1960 (Census)	632,446	628,111
As of July 1 each year:		
1960	634,000	629,000
1961	641,000	634,000
1962	636,000	626,000
1963	645,000	633,000
1964	650,000	640,000
1965	652,000	640,000
1966	642,000	630,000
1967	632,000	620,000
1968	627,000*	614,000*

Source: U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 380 (Nov. 24, 1967) and No. 414 (Jan. 28, 1969).
*Provisional.

Changes in Employment

Basic to understanding the population changes occurring in any given area is some knowledge of how the people make their living. In terms of employment, North Dakota has been the most agricultural of all 50 states. In April 1960, 33 per cent of the employed workers in this state were engaged in agriculture, compared with seven per cent for the nation as a whole. At the same time, North Dakota had by far the smallest percentage engaged in other basic industries — mining, forestry, fisheries, and manufacturing — only four per cent compared with the national average of 28 per cent.

The other 63 per cent of North Dakota employed workers were engaged in wholesale and retail trade and various service industries (such as construction, finance, transportation, utilities, entertainment, government, and professions). A very large part of the economic activity of these groups consists of providing goods and services to farmers, not only for personal consumption items but more importantly for items used in the farm-production process.

Mechanization and other technological advances have enabled farmers to operate larger acreages, and at the same time, to reduce the amount of labor used. The process of farm enlargement has been principally that of death and

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retirement of older operators with their lands being added to existing farms by sale or lease. Very few middle-aged operators have been forced out of farming for financial reasons. However, few new operators have been able to start farming.

The total acreage of land available for farming and ranching has not changed appreciably for many years, which means that farm enlargement inevitably results in fewer farms. The number of farms in North Dakota decreased steadily from 84,600 in 1935 to an estimated 43,000 in 1969. The rate of farm enlargement has accelerated in recent years. The total number of farms declined about 1,400 per year between 1960 and 1968 compared to an average decline of only 1,000 per year during the 1950's.

Mechanization has had an even greater effect on number of farm workers than on number of farms. According to estimates by the Statistical Reporting Service, the number of farm workers in the state decreased 28 per cent from 1950 to 1960, while the number of farms decreased 15 per cent. Between 1960 and 1968 the number of farm workers decreased 31 per cent, while the number of farms decreased 21 per cent.

The annual average number of people employed in North Dakota, according to estimates made by the State Employment Security Bureau, increased slightly from 243,000 in 1960 to 246,000 in 1964 and then decreased to 239,000 in 1968 (Figure 1). These estimates include only civilian

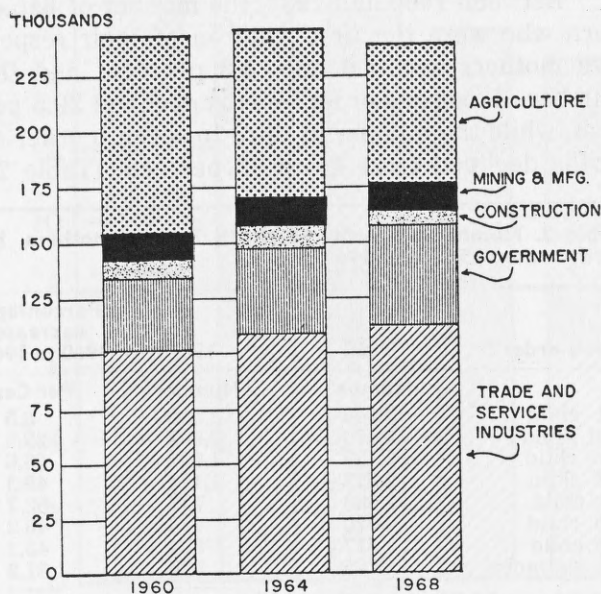


Figure 1. Average annual employment in North Dakota, by major industry groupings, 1960, 1964, and 1968. Source: North Dakota Employment Security Bureau.

employment and do not include military personnel on active duty within the state. Consequently, these changes in total employment closely parallel the changes in civilian population, shown in Table 1.

Employment in agriculture decreased steadily from 91,800 (or 38 per cent of the total) in 1960 to 63,500 (or 26 per cent of the total) in 1968. Employment in all industries except agriculture has increased steadily since 1960, although not fast enough to completely offset the decline in agriculture (Figure 1).

Employment increases in the trade and service industries (including the nonagricultural self-employed) increased steadily from 101,200 in 1960 to 111,600 in 1968, while government employment (which includes school teachers and college instructors) increased from 31,500 to 45,600 during the same period. In recent years, about 22 per cent of government employment has been federal, 26 per cent state, and 52 per cent local. Although employment in mining and manufacturing has been increasing steadily since 1960, these two industries together accounted for only 4½ per cent of total employment in 1968 (Figure 1).

Employment in the construction industry has varied from year to year, largely as a result of the initiation and completion of large, federally-financed projects, such as Garrison Dam, air bases, interstate highways, and missile complexes. These large construction projects result in considerable migration into, and out of, the state. Employment on federally-financed projects in 1968 was the lowest it had been for nearly 20 years. This decline in number of construction workers has influenced the decline in civilian population since 1964.

Births and Deaths

The 17,356 live births to North Dakota mothers in 1954 was the largest number ever recorded in a single year. Since 1954, the trend in resident births has been downward, with an especially heavy decline from 1961 to 1967 (Figure 2). The provisional estimates for resident births in 1968 was 10,627, or only 61 per cent as great as in 1954.

There has been a slow upward trend in annual number of deaths among North Dakota residents since 1954, largely because of the increasing proportion of elderly people in the population. The number of resident deaths during 1968 was 12.7 per cent greater than during 1954 (Figure 2).

The difference between number of births and number of deaths in any given year is known as the "natural increase." North Dakota's natural in-

crease has been decreasing steadily for several years and in 1968 it was only 40 per cent as large as in 1954.

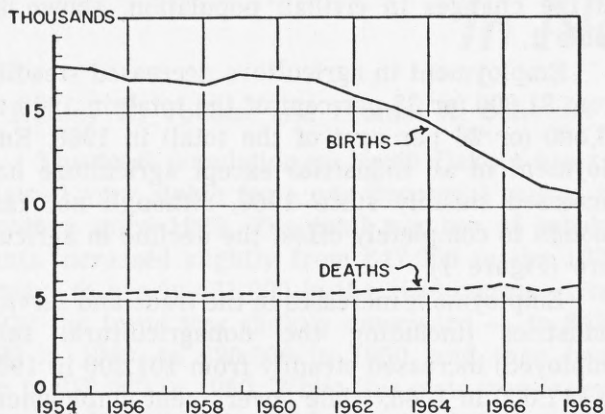


Figure 2. Number of births and deaths per year, North Dakota residents, 1954 to 1968.
Source: Division of Vital Statistics, North Dakota Department of Health.

Mortality Rates

North Dakota's crude mortality rate (that is, the number of deaths in a year per 1,000 total population) has been running about nine per cent below the U. S. rate. Even when the statistics are adjusted for age, sex, and race, North Dakota's death rates still have been significantly lower than U. S. averages. North Dakota is one of several mid-western states whose mortality rates have been consistently below the U. S. average for the last three decades.

The state's crude death rate increased from 8.6 in 1960 to 9.1 in 1968, while the U. S. average rate changed very little — from 9.5 to 9.6 — during this eight-year period. These data suggest that North Dakota's mortality rates may be moving closer to the national average. Whether this is true for mortality rates adjusted for age, sex, and race will not be known until after various data from the 1970 census become available.

Fertility Rates

North Dakota's birth rates have been considerably higher than the U. S. average until quite recently. Some of the 1960 measures of fertility show North Dakota among the three or four top states in reproduction. Crude birth rates (the number of live births in a given year per 1,000 total population) for both North Dakota and United States have been declining steadily since 1954. The North Dakota rate declined faster than the U. S. average rate and was actually lower than the U. S. rate in 1967 and 1968 (Figure 3). The 1967 and 1968 rates for both North Dakota and United States were

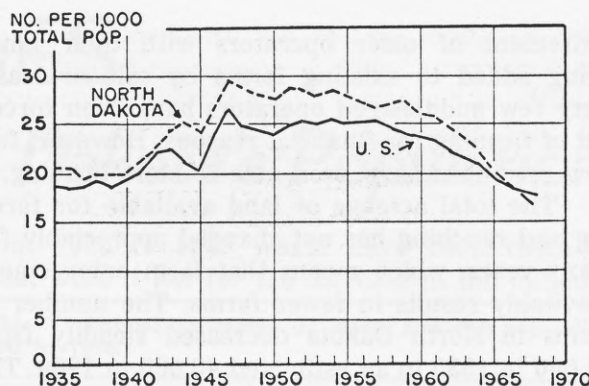


Figure 3. Crude birth rates, North Dakota and United States, 1935 to 1968.
Source: National Center for Health Statistics, U. S. Department of Health, Education and Welfare.

slightly lower than they had been during the 1930's, when birth rates were the lowest ever recorded up to that time.

Crude birth rates are affected by various factors other than number of births, such as ratio of men to women, the distribution of women among various age groupings, and the percentage of women who are married. More accurate measures of fertility, that will be available after the 1970 census, may show that true birth rates have been declining somewhat faster or slower than those shown in Figure 3.

Reasons For Declining Birth Rates

What are the reasons for the rapid decline in the number of births to North Dakota residents? Some possible reasons can be inferred from current estimates at this time.

Between 1960 and 1967, the number of babies born who were the first children of their respective mothers declined only 5.8 per cent and the number of "second-order" births declined 29.5 per cent, while the number of third to seventh order of births declined from 45 to 53 per cent (Table 2).

Table 2. Number of births to North Dakota mothers, by birth order, 1960 and 1967.

Birth order	1960		1967		Percentage decrease 1960 to 1967
	Number	Per Cent	Number	Per Cent	
1st child	3,846	8.5	3,520	8.5	8.5
2nd child	3,675	46.6	2,592	46.6	29.5
3rd child	3,137	49.3	1,675	49.3	46.6
4th child	2,272	52.7	1,151	52.7	49.3
5th child	1,558	48.3	737	48.3	52.7
6th child	920	45.1	476	45.1	48.3
7th child	517	31.2	284	31.2	45.1
8th or more	765	34.3	526	31.2	31.2
Total	16,690		10,961		34.3

Source: Division of Vital Statistics, North Dakota Department of Health.

Three-fourths of the total decrease in births during this 7-year period were accounted for by decreases in births of third order or higher. Between 1960 and 1967, the number of births to mothers less than 20 years of age decreased 19 per cent, while the decreases in the numbers of births to mothers of all other age groupings ranged from 29 to 44 per cent (Table 3). These data suggest that one of

of the 1950's consisted of a high proportion of young people, especially young women less than 25 years of age. Indications are that a similar age and sex selectivity has characterized migration during the 1960's. Birth rates usually are lower in urban areas than in rural areas. City women tend to marry at later ages than rural women and a higher proportion of city women never marry. Thus, even with no change in rural and urban birth rates, a steady migration of young adults from rural to urban areas over a period of three decades, as has been the case in North Dakota, should result in a declining average birth rate for the state as a whole.

Table 3. Number of births to North Dakota mothers, by age of mother, 1960 to 1967.

Age of mother	1960	1967	Percentage decrease 1960 to 1967
Years	Number	Number	Per Cent
Less than 20	1,732	1,401	19.1
20 to 24	5,848	4,148	29.1
25 to 29	4,442	2,706	39.1
30 to 34	2,691	1,501	44.2
35 to 39	1,514	874	42.3
40 and over	463	331	28.5
Total	16,690	10,961	34.3

Source: Division of Vital Statistics, North Dakota Department of Health.

the important causes of the decline in the number of births per year is that more married couples are practicing family planning and are purposely limiting the number of children in their families.

A second reason for the decline in births is rural-urban migration. The rural-urban migration

Between 1960 and 1967, the number of births per year to residents of North Dakota's 13 largest cities (those with 3,000 or more inhabitants) decreased 21 per cent, the number of births to residents of 50 small cities (those with 1,000 to 3,000 inhabitants) decreased 35 per cent, and the number to residents of the open country and places smaller than 1,000 decreased 45 per cent (Figure 4). Historically, more than half of the annual births in this state have been to residents of rural areas, but the rural-urban pattern has been changing since 1960. Nearly half of the births now are to residents of the large cities and another 12 per cent are to residents of the small cities.

Population estimates, accurate enough for computation of rural and urban birth rates, are

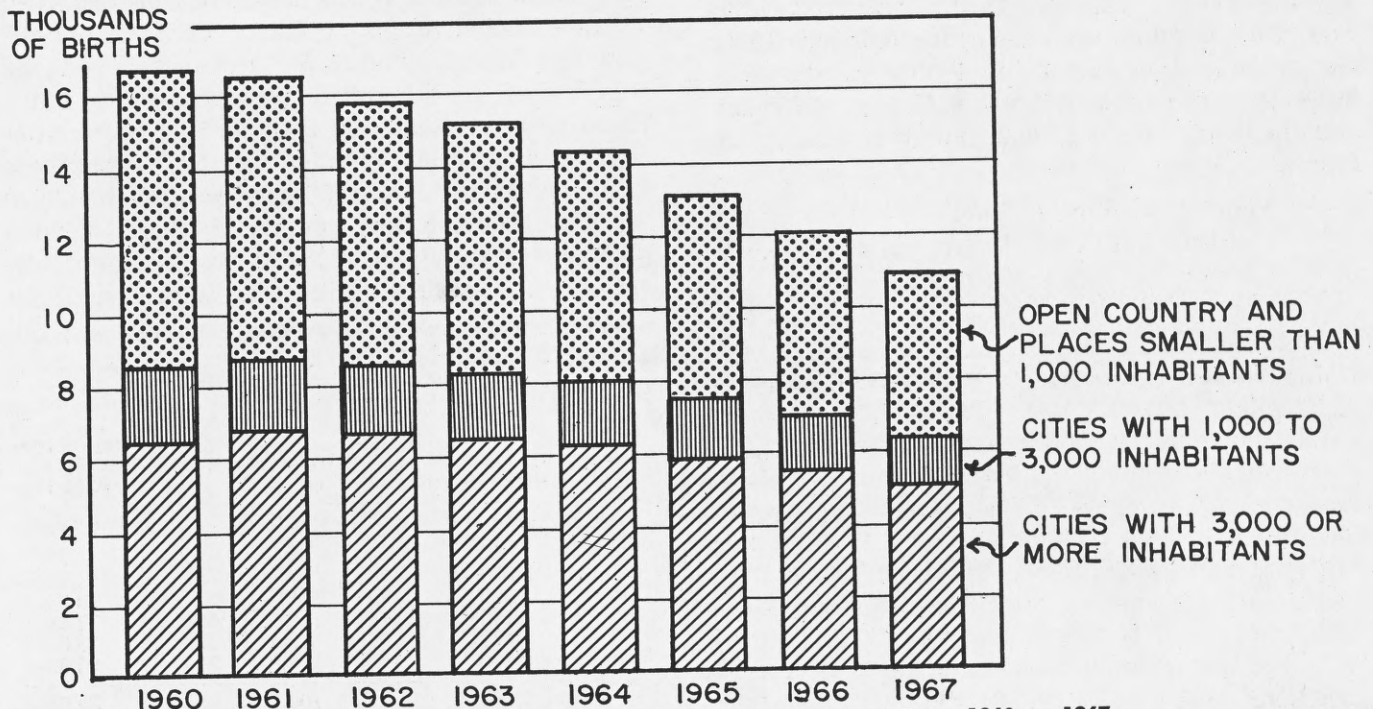


Figure 4. Annual number of births in North Dakota, by residence of the mothers, 1960 to 1967.
Source: Division of Vital Statistics, North Dakota Department of Health.

not available. The above data, however, suggest that either (1) rural birth rates have been declining faster than urban rates, or (2) continued migration of young women from rural to urban areas has left the rural areas with a greatly reduced number of potential mothers. Possibly, both of these things occurred.

Although there has been a decline in the number of potential mothers in rural areas of North Dakota, this does not seem to be true for the state as a whole. The trend in number of marriages per year has been definitely upward — the number of marriages in 1967 was 24 per cent greater than the number in 1960. During this seven-year period there was a slight increase in the number of teenage brides, a large increase in the number of brides in the 20-24 year age grouping, and moderate increases in the number of all age groups above 25 years (Table 4). Generally, such a change in age distribution of brides would be accompanied by an increase in birth rates, but this did not happen. One explanation of this conflicting evidence is that the out-migration of the 1960's has been composed of fewer single people and more young married couples than was true during the 1950's and that many of these young families had one or more children at the time of departure.

Net Out - Migration

Net out-migration from North Dakota totaled 121,000 people during the 1940's and 105,000 during the 1950's. Apparently, this relatively high rate of net out-migration has continued since 1960. Net out-migration during the 1960's may be computed from estimates of the U. S. Bureau of Census and the North Dakota Department of Health, as follows:

Population, July 1, 1960 (Bureau of Census estimates)	634,000
Live births, July 1, 1960 to June 30, 1968 ¹	+ 112,200

Deaths, July 1, 1960, to June 30, 1968 ¹	— 44,000
1960 population, plus natural increase	702,200
Population, July 1, 1968 (Bureau of the Census provisional estimate)	— 627,000
Net out-migration, July 1, 1960, to June 30, 1968	75,200

All of the above are firm estimates, with the exception of the 1968 provisional estimate of total population, which is still subject to revision. If this estimate proves to be correct, the 1960-68 net out-migration from North Dakota averaged 9,400 per year, compared with 10,500 per year during the 1950's and 12,100 per year during the 1940's.

Change in Rural - Urban Composition

According to Census Bureau definitions, North Dakota's urban population, with one minor exception, is the aggregate number of people living in incorporated municipalities that have 2,500 or more inhabitants. The rural-farm population consists of those living on places meeting the census definition of a farm. The rural-nonfarm population consists of those who do not meet the definitions of either urban or rural-farm; this group includes some open-country dwellers, but most of those in this class live in cities with less than 2,500 inhabitants or in unincorporated villages.

North Dakota's urban population increased by an estimated 18 per cent between April 1, 1960, and July 1, 1968 (Figure 5). Most of this increase was due to the continued growth of cities, but a small part resulted from the fact that three cities — Carrington, Harvey, and Mayville — that were classified as rural in 1960, had passed the 2,500 mark by 1968 and their population is now included with the urban total. Rural-farm population decreased 23 per cent during this same period, not

¹Division of Vital Statistics, North Dakota Department of Health.

Table 4. Number of marriages in North Dakota, by age of bride, 1960 and 1967.

Age of bride	1960		1967		Percentage increase, 1960 to 1967
	Distribution	In per cent of total	Distribution	In per cent of total	
Years	Number	Per Cent	Number	Per Cent	Per Cent
Less than 20	1,760	43.6	1,842	36.9	4.7
20 to 24	1,634	40.4	2,373	47.6	45.2
25 to 29	271	6.7	325	6.5	19.9
30 to 39	162	4.0	190	3.8	17.3
40 to 49	101	2.5	120	2.4	18.8
50 and over	113	2.8	140	2.8	23.9
Total	4,041	100.0	4,990	100.0	23.5

Source: Division of Vital Statistics, North Dakota Department of Health.

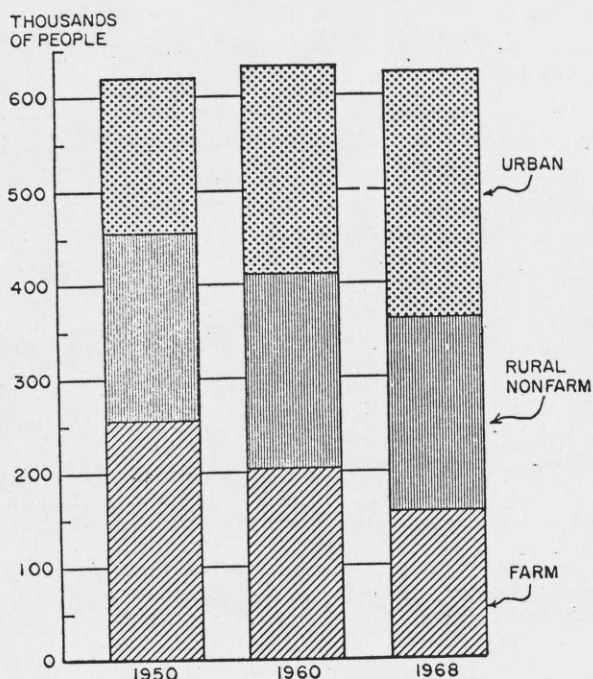


Figure 5. North Dakota's population, by place of residence, 1950, 1960, and 1968.

Source: Data for 1950 and 1960 are from the U. S. Census of Population. The 1968 figures are estimates made by the authors.

only because of the decrease in number of farms, but also because of fewer people per farm.

There was practically no change in the rural-nonfarm population during this eight-year period (Figure 5). Some of the small towns, especially those with 1,000 to 2,500 inhabitants, are still growing at the expense of surrounding smaller villages, as they did during the 1950's. It should also be remembered that the rural-nonfarm population includes most of the servicemen stationed at various military installations and a considerable number of their dependents. The total number on active military duty increased from 4,300 in 1960 to 13,000 in 1968, but the number of their dependents is not known.

Summary and Implications

The various estimates discussed in this report suggest that the 1970 Census of Population will show fewer people in North Dakota than in 1960. There will be a big decrease — possibly as much as 25 per cent — in the rural-farm population, a slight decrease in the rural-nonfarm population, and a big increase in the urban population, possibly 37 per cent or more.

Most of the decreases between 1960 and 1970 will be among those in the age groupings of less than 20 years, with possibly some decreases in the young adult age groups. There will be substan-

tial increases in the number of older adults, especially among those 65 years of age or older.

There will be a big decrease between 1960 and 1970 in the number of people employed on farms and moderate increases in the number employed in government, trade, and service industries.

The average size of family will be somewhat smaller than it was in 1960. There will be fewer families with four or more children and possibly fewer families with three children.

Net out-migration from the state will continue into the foreseeable future, although at a lower rate than during the 1950's. The cities with 3,000 or more inhabitants will show continued growth, not only because of rural-urban migration, but also because of their own natural increase. Most of the cities in the "small town" size range (1,000 to 3,000) will also exhibit some growth, or at least the ability to maintain their populations fairly well. Most places smaller than 1,000, however, will continue to decline; some may become ghost towns.

These anticipated population changes imply that the need for changes in institutional arrangements will become more acute in the foreseeable future. This need will be greatest in the rural, sparsely-settled areas where the percentage decline in population and the problems created by an overabundance of small, local governments have been the greatest. With one local government for every 235 people, North Dakota suffers from the same "pains" of over-government that challenges other Great Plains states, where population has been shifting from rural to urban areas. Perhaps some entirely new type of governmental unit will be devised to replace outmoded forms that have proved to be ill-adapted to sparsely-settled regions and areas of population decline.

Considerable reorganization of school districts and school systems, both public and private, has been accomplished in North Dakota, but much more will need to be done to adjust school systems to decreased numbers of pupils. As a result of out-migration and falling birth rates, total elementary enrollment (kindergarten through eighth grade) has been declining since 1966. The corresponding decrease in high school enrollment (ninth through 12th grade) is expected to start in 1970 or 1971.

Many local people are becoming aware of these changes in number and location of pupils and accordingly are voting against increased school tax levies for current operations and against proposed bond issues for new school construction.