

COMPREHENSIVE CITY PLAN

CITY OF RAY, NORTH DAKOTA

APRIL 1969

(67-62)

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To the City Planning Commission
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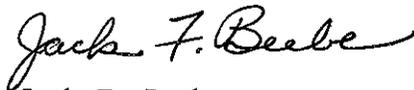
Gentlemen:

We are pleased to submit the Comprehensive City Plan for the City of Ray. It is our sincere belief that this plan, if properly implemented, will enable the citizens of Ray to utilize its resources in a manner that will insure the economic survival of the community.

If the plan is to be an effective instrument to guide community development, it must be maintained and updated continually since technological change and growth may make obsolete some concepts that are useful today.

It is not possible in this limited space to name all of the individuals that have contributed financial assistance, their time and have put forth much effort during the development of this plan. Sincere appreciation is extended these individuals for their splendid cooperation and sense of community responsibility.

WILSON & COMPANY



Jack F. Beebe
City Planner

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SECTION I
INTRODUCTION

The City of Ray is a "small rural" community or town. Small is defined by Bureaus of the Census as a city having a population of 2,500 or less. A "rural" town is one that is not in a standard metropolitan area, or in a county adjacent to a standard metropolitan county. A further criteria is distance from a major city. A small city is one located 50 miles from a major city and is in an area that is dependent primarily on agriculture for its economic base.

The reason for the existence of the small town is its function, that of supplying goods and services to the rural population engaged in agricultural pursuits. This function, alone, often established the locations of the community---a day's drive by team and wagon. This established its trade territory which was a major factor in sustaining the small city.

Today, the existence of the small city is being threatened by the very technology that has improved the lot of both the rural and urban dweller. Vastly improved transportation systems, improved methods of farming, larger farms and better educational opportunities have set in motion an out-migration of population from the rural areas flowing into the larger urban centers. The small city is not competitive and cannot offer the educational employment and cultural opportunities available in larger cities. Faced with a declining population, community leaders find it most difficult to raise revenue to provide essential services and improvements. Social services decline, religious institutions and schools cease to exist and business buildings become vacant. A great deal of public, as well as private investment, is lost.

Planning and urban redevelopment are not a panacea for the problems of the small community, they only offer a point of departure, an approach toward a positive goal of achieving a stable community which can attain a reasonable amount of growth and continue to offer its citizen's educational, social and economic opportunity.

City planning may be thought of as a process which progresses according to these steps:

1. A determination of objectives to be sought by planning.
2. Fact finding or researching the problems.
3. Analysis to understand and discover a solution to the problems.
4. Plan preparation which involves the formulation of a policy to guide community growth.
5. Plan implementation or executing the chosen plan alternative and bringing it to reality through physical planning and design.

Planning must, by its nature, deal with every facet of community activity, hence the term "comprehensive plan". The broad range and diversity of activities are approached through a series of studies, the results of which are expressed in general terms. The development of the plan requires analysis of the community's land use, population, economy, street system, utilities and public facilities.

The plan elements of the Ray City Plan are:

- Population Study and Forecast
- Economic Base Study
- Land Use - Analysis and Future Projection
- Community Facilities Plan
- Major Street Plan
- Central Business District
- General Development Plan
- Subdivision Regulation
- Zoning Ordinance Revision
- Public Improvement Program

The estimation of the size of the future population is a most important forecast. It is this forecast that gives scale to the future community. The future distribution of this population can be controlled through density standards in the zoning ordinance.

The distribution of the forecast population can be used to determine the scale of building development that can be expected; the need for schools, public open space, and commercial centers; and utility additions, traffic demands and transportation requirements.

The Economic Base Study indicates the wealth producing factors of the community, which provide the financial basis for provision of community services. The growth of the economic base will determine, to a large extent, the standard and level of services that can ultimately be provided by the community.

The Land Use Study is a key to understanding the physical development of the community. The land use map is the end result of the classification of each parcel of land in the city, showing its use and the intensity of that use. The data collected in the Land Use Study are essential to other plan elements such as zoning, housing, traffic, parking and urban renewal. The land use data, when related to the economic base and population studies, are a basis for allocating future land area for continued community growth.

The Community Facilities Plan considers the need for future schools, parks, and public buildings in accord with the projections of population and future land requirements.

The Major Thoroughfare Plan will provide a basis for an efficient circulation system to move people and materials safely and with a minimum of delay.

The Central Business District Plan is a study of parking, circulation and land use within this district. A plan is prepared to provide for circulation, parking and a means of enhancing the district for the benefit of the entire community.

A General Development Plan combines the above studies into a comprehensive plan, putting each element into the proper perspective and indicating its relationship and function to the whole plan.

A Subdivision Regulation provides a means of assuring that future land additions to the community will be developed to prescribed standards providing for the dedication of streets, efficient extension of utilities and establishment of reservations of land for parks and schools.

A revised Zoning Ordinance incorporates modern zoning techniques to regulate land use and carry out the intent of the comprehensive plan.

As a final part of the plan, a Public Improvement Program has been prepared. The function of this program is to establish a list of needed projects as indicated by the plan and current city government programs. Projects are arranged according to their assigned priority, together with a financial program devised to carry them to a conclusion. This is one of the important ways in which a master plan project is carried from the plan stage into reality..

SECTION II

FACTORS INFLUENCING GROWTH OF THE COMMUNITY

There are many factors which are responsible for the pattern of today's city. Growth is a reflection of the activities and diverse interests of people who have lived, worked and prospered in the community. Development is also influenced by topography, climate, geology, history, economic activity and transportation facilities related in such a way as to form the abstraction that is today's city.

HISTORY

The original townsite of Ray was established in 1887 two miles east of its present location. This was the site of wells used by the railroad to supply water for steam engines.

In 1901 the Great Northern Railroad decided to construct a reservoir two miles west of the original townsite. The land north of the right of way at this location was homesteaded by Charles Webster in 1902. Nick Comfort, whose job was locating townsites for the Great Northern Railroad, established the present town of Ray in 1902. The railroad also constructed the first depot during the same year.

A lumber yard, general stores and a bank had been established by 1903. In July, 1905 there were 21 business establishments in the community. Ray grew rapidly because it was a supply point for towns farther north which did not have rail service.

In 1910, Ray was established as a village and in 1914 was incorporated as a city. The commission form of government was adopted and has continued in use.

GEOGRAPHIC LOCATION

The City of Ray is located in Williams County, North Dakota. The county is in the far northwest point of the state bordering Montana on the west side. The City of Williston is the largest in the area being about 45 miles southwest of Ray. The City, located on Federal Highway 2, is about 45 miles south of the border between North Dakota and Saskatchewan Province Canada and 30 miles east of the Montana-North Dakota Border.

TOPOGRAPHY

The surface features around Ray are largely rolling prairie dotted with small ice lakes which are remnant of the glacial period. Drainage courses are often rather poorly defined.

GEOLOGY

"The Fort Union Formation of Paleocene (Tertiary) age underlies all of Williams County. It ranges in thickness from 900 to 1,400 feet and is composed of various colored, fossiliferous (plants), beds of clay, shale, silt, sandstone, and lignite. Generally, the individual beds of sandstone and lignite are saturated and will yield small quantities of water to wells.

The major ground-water reservoirs (aquifers) consist of sand and gravel deposited during the Pleistocene glacial period. The Hofflund Flat aquifer and the Buford-Trenton Aquifer to some extent are associated with the erosion and filling in the Missouri River valley. The Buford-Trenton aquifer to some extent and aquifers north of the present Missouri River valley are associated with preglacial or interglacial drainage channels that have been cut into bedrock. Meltwater from glaciers deposited sand and gravel in the ancient channels which were later covered by glacial drift. In general, the central parts of the channels contain the thickest and coarsest deposits of sand and gravel. In local areas, the channel may be filled with clay and silt."¹

The City of Ray is located over the west half of the Ray Channel Aquifer. The aquifer is 143 to 185 feet deep and is 185 feet below the land surface. In the center of the aquifer at Ray the yield is 500 gallons per minute or more. On the west edge of the aquifer which is near the center of the City, the yield is from 50 to 500 gallon per minute. Present City wells in Ray range in depth from 156 to 184 feet in depth and yield from 60 to 220 gallon per minute.

The quality of water is rather variable in the area, being of rather good quality in some areas and having considerable hardness in other areas.

CLIMATE

The climate in northwest North Dakota is moderate. The annual average temperature at Tioga which is eleven miles east of Ray, is 37.1 degrees Fahrenheit. This temperature compares favorably with the North Dakota mean of 40.5 degrees Fahrenheit. The temperature extremes range from as low as -36 degrees to +103 degrees Fahrenheit at Tioga. These extremes are of short duration and occur infrequently. The last frost is in late May and the first frost may occur in September.

Precipitation. Weather data for 1966 indicated an average annual precipitation of 12.58 inches for the northwest part of the State. This was a departure of -2.06 inches from the annual average. Precipitation

¹Preliminary Ground-Water Availability - Map of Williams Co. N.D.
by C. A. Armstrong; Geological Survey United States Department of Interior.

during 1966 at different stations near Ray varied as follows; Tioga 10.55 inches, Wildrose, 14.64 inches; Williston experimental farm, 9.73 inches and the Williston Airport, 9.46 inches. The major amounts of precipitation occur from May through August.

Wind Movement. The following tabulation shows evaporation rates and wind velocities at the Williston experimental farm.

	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>
Evaporation (inches)	3.80	8.53	8.73	9.93	8.54	6.16
Wind (miles per hour)	35.55	38.93	26.87	24.58	25.54	19.91
Maximum	54.3	71.0	79.5	86.6	79.8	73.2
Minimum	34.4	43.1	53.6	61.5	55.1	49.9

SECTION III

GOALS AND OBJECTIVES

A major objective of the City Plan is to foster the creation of a community where people may live in a safe, convenient and healthful environment. The community must be an enjoyable place to live in and bring up families, to conduct business and to find educational and employment opportunities. The City plan provides the framework within which this objective may be achieved.

The plan should provide a basis upon which community leaders may:

1. Evaluate the soundness of existing practices and policies.
2. Determine present deficiencies and probable future needs.
3. Create a functional relationship between populations, economic needs and land use.
4. Prepare realistic plans for improving community facilities.
5. Establish priorities for public improvements based on need, which will permit continuous improvement programming.
6. Determine the community's relationship to the surrounding region and what benefits may be gained from participation in economic development on a regional level.

If the overall objective is to be achieved, goals must be established as guidelines for developing the community. The goals should become public policy providing a frame within which the diverse activities of the community can operate to achieve public as well as individual objectives. Some goals which might effectively guide the growth and development of Ray might be stated as follows:

LAND USE

1. Provide attractive residential areas.
2. Provide adequate parks and recreation areas, schools, churches and other public and semi-public uses to serve the citizens in the community.
3. Keep intact a healthy and growing central business district.
4. Develop the necessary regulatory measures to achieve reasonably high development standards for residential, commercial and industrial land uses.
5. Foster a community atmosphere in which business and industry may grow and prosper.
6. Allow only service type commercial activities in outlying areas thereby aiding preservation of the central business district.

MAJOR STREETS

1. Protect residential areas from through vehicular traffic.
2. Provide the necessary means to facilitate safe and efficient movement of people and goods within and through the community.
3. Establish and develop a major street system of arterial and collector streets that will eliminate delay, congestion and reduce accident potential.

COMMUNITY FACILITIES

Schools. Provide school sites which are properly related to present and future population distribution as indicated by the land use plan. These sites should be adequate in size to provide for building expansion, provide ample play space, and off-street parking space.

Water system. Provide a potable water supply and an adequate distribution system for future growth and for an adequate fire protection system.

Sewer system. Provide an adequate sanitary sewer system and disposal facility. Service all existing and future residential and industrial areas with adequately designed sanitary sewers.

Storm Sewers. Preserve the natural drainage system within the community and newly developed areas by establishing adequate drainage easements. Construct new storm sewers to provide adequate drainage in existing built-up areas and new areas where drainage can be accomplished by taking easements.

Civic Buildings. Provide attractive civic buildings and sites, located to best serve public need and government operation and economy.

PUBLIC IMPROVEMENT PROGRAMS

Prepare a long range Public Improvement Program and Capital Budget. The program should be planned for a 6 year period and should be reviewed and updated annually.

Project priorities should be established for all improvements in the community based on need and the financial capability of the City govern

ADMINISTRATIVE TOOLS

Prepare and adopt the necessary regulatory measures to assure that the objectives of the plan can be carried out. These shall include a zoning ordinance and district map, a subdivision regulation, building code, plumbing code, electrical code, fire prevention code and minimum housing code.

The regulatory measures shall be enforced through proper administrative means and public education programs designed to carry out their intent and purpose effectively and efficiently.

SECTION IV

POPULATION STUDY AND FORECAST

The analysis and projection of population provide a basis for estimating the scale of the future community. Planning for public utilities, schools, parks and other services can be scaled to the anticipated population growth. The rate of growth of a future population is subject to many changing factors which are difficult to account for in making a long term projection.

Population growth occurs naturally when resident births exceed resident deaths; this is termed natural increase. The population may also change because of migration, which is population change other than that accounted for by births and deaths. The population may increase from in-migration, or people moving into the community or it may decrease from people leaving the community which is termed out-migration. A natural decrease in population would occur if the death rate were to exceed the birth rate, an unusual occurrence.

TABLE 1.
Population of North Dakota
Urban & Rural

Census Year	State	Percent Change	Urban	Percent Change	Rural	Percent Change	Percent of Total	
							Urban	Rural
1870	2,405				2,405			100.0
1880	36,909	1,434.7	2,693		34,216	1,322.7	7.3	92.7
1890	190,983	417.4	10,643	295.2	180,340	427.1	5.6	92.4
1900	319,146	67.1	23,413	120.0	259,733	64.0	7.3	92.7
1910	577,056	80.8	63,236	170.1	513,820	73.7	11.0	89.0
1920	646,872	12.1	88,239	39.5	558,633	8.7	13.6	86.4
1930	680,845	5.3	113,306	28.4	567,539	1.6	16.6	83.4
1940	641,935	-5.7	131,923	16.4	510,012	-10.1	20.6	79.4
1950	619,636	-3.5	164,817	24.9	454,819	-10.8	26.6	73.4
1960	632,446	2.1	221,694	34.5	410,752	-9.7	35.1	64.9

The State of North Dakota, unlike most other states, has a population which is largely rural. The trend toward urbanization has not been as rapid as that of the nation. This is true because the State's largest industry has always been agriculture. In 1960 the rural population was 65 percent of the total state population. The majority of this population is in small rural towns or villages. A few of these small communities had populations of less than 100.

Table 1 shows that the trend toward an urban population is steadily increasing while the rural population continues to diminish. This indicates that many of the small rural communities will cease to exist because it will be economically impossible to provide the municipal services required for community living.

The State's population has continued to grow in number since 1870 but at a continually decreasing rate. From 1930 to 1950 the State lost population.

Table 2 shows the population of Ray for each decade since 1910.

The City has made its largest population gain during the 1950-60 period.

TABLE 2.
Decennial Population
City of Ray, North Dakota

<u>Census Year</u>	<u>Population</u>	<u>Increase Over Preceding Census</u>	<u>Percent</u>
1910	436		
1920	563	127	29.0
1930	621	58	10.1
1940	579	-42	-6.7
1950	721	142	24.0
1960	1,049	328	45.0

POPULATION CHARACTERISTICS

Table 3 shows the population distribution for the City of Ray.

TABLE 3.
Population Distribution by Age Group
City of Ray, North Dakota

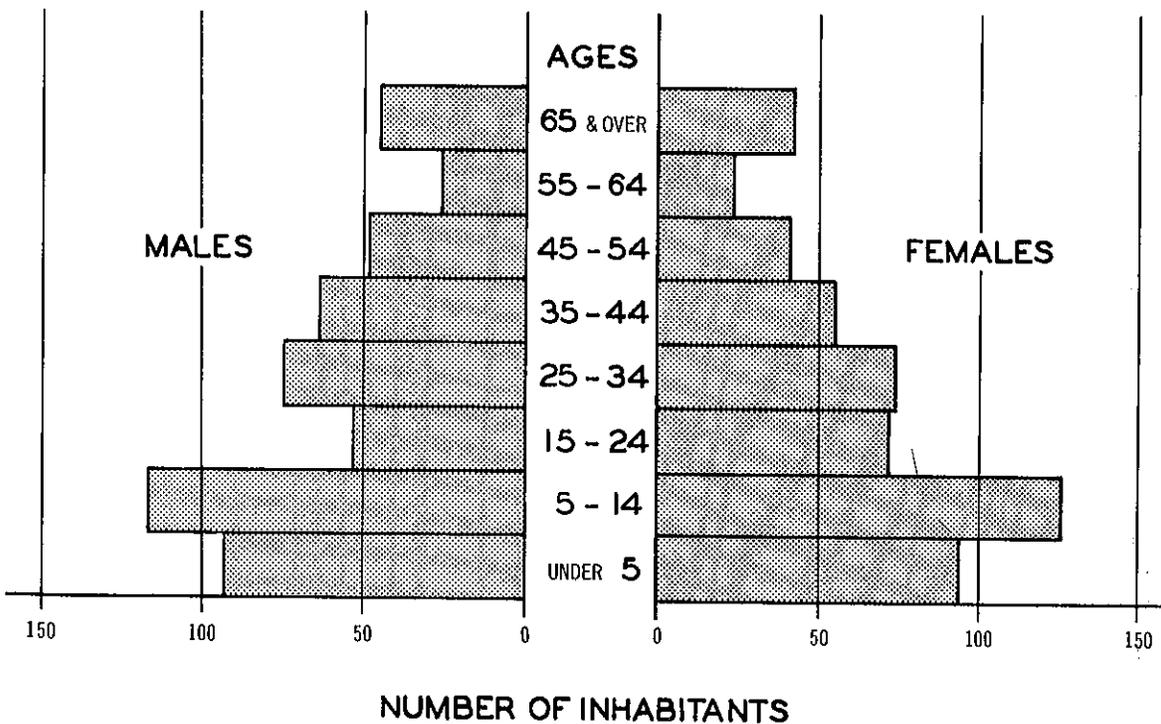
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Percent of Total</u>
Under 5-yrs. old	93	94	187	18
5 to 14	117	127	244	23
15 to 24	53	72	125	12
25 to 34	75	74	149	14
35 to 44	64	55	119	11
45 to 54	48	41	89	9
55 to 64	26	23	49	5
65 years and over	45	42	87	8
	521	528	1,049	100

Figure 1 is a graphic representation of the population. This is termed a population pyramid with the largest population, younger group at the bottom and tapering off at the top with the older groups. If a pyramid is reversed, more aged than youthful population at the top, it indicates that substantial growth is not likely to occur. More than half the population of Ray is less than 25 years old.

POPULATION DISTRIBUTION BY AGE GROUP

CITY OF RAY TOTAL - 1960

FIGURE 1

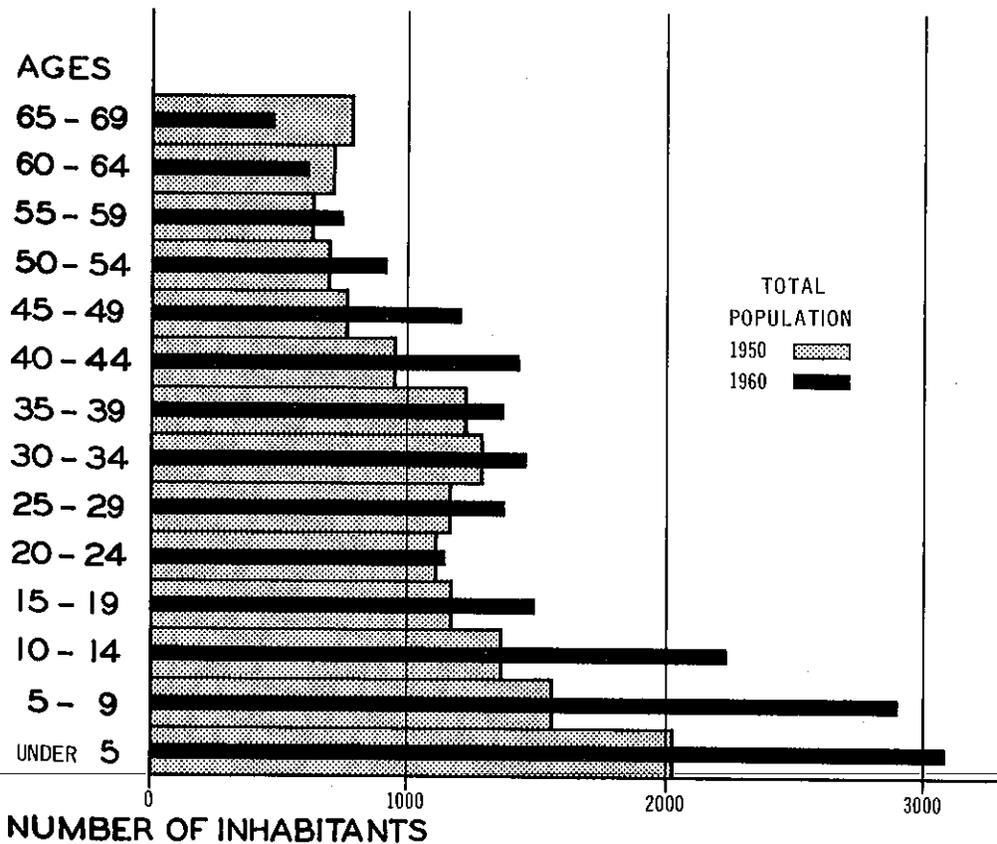


Source: U. S. Census 1960

POPULATION DISTRIBUTION BY AGE GROUP

WILLIAMS COUNTY ... 1950 - 1960

FIGURE 2



Source: U. S. Census 1960

The distribution of the population can serve as an indicator of future needs of the population. The larger segment of the population are those 14 years of age or less. This group will require education and job opportunities or they will migrate to other areas. This results in a loss of the community's investment in educational facilities, loss of potential skilled labor, and a decline of income.

The age group 15 through 24 are those persons finishing their education, acquiring skills, entering the labor force and beginning to establish families. A decline in this group indicates that there will be an even greater reduction in the future population.

The group 25 through 44 have established homes and are rearing families and are a very important part of the economic and social life of the community.

The group 45 through 64, as indicated previously, are the stable element of the community, have reached peak productivity and have established the economic climate of the community.

Williams County. The following tabulation developed from the 1960 United States Census presents information on the characteristic of population in Williams County.

Population (all persons)

Number	22,051
Percent Increase 1950 to 1960	34.1
Percent Non-white	1.2
Percent Under 18 years old	42.4
Percent 18 to 64 years old	48.7
Percent 65 years and older	8.9
Fertility ratio	650*
Fertility ratio (State)	595
Rural Places 1,000 to 2,500	573
Other Rural	638
14 years old and over -	
Male - percent married	68.8
Female - percent married	70.5
18 years old and over	
percent male	50.8
65 years old and over (percent)	8.9
Median Age	25.4

*Fertility ratio - children under 5 years of age per 1,000 women 15 to 49 years old

The above tabulation shows that Williams County has experienced a relatively rapid growth in relation to other parts of the State. The high fertility ratio and youthful population would indicate that considerable natural population growth will occur.

Figure 2 shows population distribution by age group for 1950 and 1960 in Williams County. The figure shows that a large increase in the population group of age 14 and under has occurred between 1950 and 1960. An increase occurred in all age groups except that group 60 years of age or above.

POPULATION PROJECTIONS

The population projection together with the land use and density studies form a basis for projecting future development at a realistic scale. There are several methods of projecting population and the most appropriate will depend on the local and regional factors which affect the community's growth. If the economy is stable and well diversified, a simple extension of growth trends may provide a sufficient population forecast. If the community is dependent on a region, then this factor is of primary importance. In most forecasts, certain assumptions regarding the national economy, the event of a major war and other factors are taken into account as factors which influence the actual forecasting method.

The projection method used for Ray is known as the step-down method and utilizes projections of the United States Bureau of the Census. The Census projection chosen assumed that the birth and death rates would continue at present levels and that some in-migration would occur. This projection was chosen on the basis of the assumption that present efforts to increase economic development of the State would indeed attract people and investment from other areas and that industrial development of the State's natural resources will increase continually during the next two decades.

The projection method was further modified by attempting to predict the rates of change from rural to urban population. The following tabulation shows the present urban-rural distribution of the State's population and the forecast change:

Percent Distribution
Urban and Rural Population
North Dakota

<u>Year</u>	<u>Urban</u>	<u>Rural</u>
1960	35.1	64.9
1970	39.0	61.0
1980	43.8	56.2
1990	48.0	52.0

Redistributing area population on this basis resulted in a population, by the step-down method, of 2,225 in 1986. Two population forecasts result from the above methods. The first assumes that present trends will continue with moderate growth resulting. The second assumes that the growth rate will be about the same except that the migration from rural to urban areas will continue with urban centers benefiting from the shift.

Table 3 shows the population projections using the above described methods.

TABLE 4
Population Projections
City of Ray, North Dakota

<u>Year</u>	<u>Projections</u>	
	<u>1</u>	<u>2</u>
1960	1049	1049
1970	1225	1473
1975	1270	1621
1980	1398	1887
1985	1535	2170
1986	1560	2226

Projection 2 which is the more optimistic projection will be used to develop plan elements.

SECTION V
ECONOMIC BASE

The growth of cities is largely influenced by the wealth producing factors of the local, regional and state economies. The economy is affected by availability of raw materials, proximity to markets, transportation, adequate labor supply and capital investment. This Section will examine the economic base of Ray from both a local and regional point of view. This is important since the small town functions to supply convenience goods and services on a regional basis. In this instance the community is a part of a vast agricultural region and shares the wealth of the area with a number of other communities. The major focus of the region, for the Ray Community, is Williams County. An examination of economic indicators in the county will lend some insight into the make up of its economic base.

EMPLOYMENT

TABLE 5
Labor Force
Williams County

	<u>1960</u>	<u>1950</u>
Total Employed Persons	7,376	6,097
Agriculture	1,404	2,237
Construction	526	297
Manufacturing		
Durable Goods	90	---
Non-Durable Goods	212	---
Transportation, Communications and Other Public Utilities	630	742
Wholesale and Retail Trade	1,720	1,258
Insurance, Finance and Real Estate	260	742
Educational Service	429	---
Public Administration	292	---
Mining	---	34
Percent in Agriculture	19.0	36.7
Percent in Manufacturing	4.1	2.4
Percent Female	28.3	22.7
Percent Male	71.7	81.1

Source: United States Census

The employment trend in Williams County generally parallels that of the nation. Total employment increased by 21 percent during the past decade. Agriculture, the largest sector of employment, decreased 37.2 percent. This is indicative of the increasing size in farms and the changing agricultural technology. Notable increases occurred in construction 177 percent, manufacturing 204 percent, wholesale and retail trade 136.7 percent, and insurance, finance and real estate 299 percent.

Those employed in agriculture decreased from 36.7 percent to 19.0 percent of the total employment. Manufacturing employment more than doubled during the 1950-60 decade.

The percent of females in the labor force increased from 22.7 to 28.3 percent between 1950 and 1960, indicating increased job opportunities for women.

The data shown in Table 5 indicates that the economic base is largely agricultural in orientation with the distributive activities, wholesale and retail trade, being a major part of the economy.

Continued population growth and further exploitation of natural resources will considerably strengthen the future economy of Williams County and of the northwest region of North Dakota.

The following tables will deal, insofar as possible, with major sectors of the economic base.

Manufacturing. Table 6 shows the activities of manufacturing in Williams County for the period 1947-1963.

TABLE 6
Manufacturing
Williams County

<u>Manufacturing</u>	<u>1963</u>	<u>1958</u>	<u>1954</u>	<u>1947</u>
Establishments (number)	23	16	--	11
All Employees (number-annual average)	270	211	181	96
Production Workers (number-annual average)	186	135	--	79
<u>Payroll (in thousands of dollars)</u>				
Entire Year (all Employees, annual average)	\$1,369	\$808	--	\$214
Production Workers (entire year)	875	513	--	178

Source: United States Census

Table 6 shows generally increasing numbers being employed. Production workers have increased but at a decreasing rate particularly during the period 1958-63. The payroll of production workers has generally followed the same trend.

Mineral Industries. Table 7 shows the activities of the mineral industries of Williams County for the five year period 1958-1963.

Table 7
Mineral Industries
Williams County

	<u>1963</u>	<u>1958</u>
<u>Establishments</u>	42	42
<u>All Employees</u>		
Number	377	449
Payroll	\$2,443,000	\$2,624,000
<u>Production Development and Exploration Workers</u>		
Number	289	---
Payroll	\$1,811,000	---
Value of Shipment and Receipts	\$28,126,000	\$24,136,000

Source: United States Census

Table 7 shows some decline in number of employees and size of payroll. This is probably due to adjustments within the industry since the number of establishments have remained the same while the value of shipments has increased 116.6 percent during the five year period shown. The table indicates that vast sums of money are being spent upon development and exploration. This is also apparent in other counties in this part of the State. Increased growth in the mineral industries can be expected to continue since ample water supplies and power are available, both of which are necessary in processing minerals for industrial use and domestic consumption.

Retail Trade. Volume of sales is a useful measure of the economy. The following data tabulated in Table 8 was taken from the Census of Business prepared by the U.S. Department of Commerce. The information is for the City of Williston and Williams County. Information for communities of less than 2,500 is not available.

TABLE 8
Retail Trades
City of Williston - Williams County

Note: in this table (A) indicates the City of Williston,
(B) indicates Williams County, and
(-) indicates information not available or
withheld to avoid disclosure.

	<u>1963</u>	<u>1958</u>	<u>1954</u>	<u>1948</u>
<u>All Retail Trades</u>				
Establishments (total)				
(A)	257	284	310	261
(B)	95	141	-	-
Sales - all establishments (thousands of dollars)				
(A)	33,363	32,772	30,357	21,207
(B)	8,256	9,342	-	-
Establishments with Payroll (thousands of dollars)				
(A)	31,903	31,378	-	-
(B)	7,976	8,246	-	-
Payroll, entire year (thousands of dollars)				
(A)	3,401	3,384	-	-
(B)	671	720	-	-
Paid Employees - number (Nov. 15 workweek)				
(A)	1,039	1,150	-	977
(B)	223	272	-	-
<u>General Merchandise Group Stores</u>				
Establishments (total)				
(A)	11	9	-	-
(B)	5	6	-	-
Sales (thousands of dollars)				
(A)	3,687	1,758	-	-
(B)	377	406	-	-
<u>Food Stores</u>				
Establishments (total)				
(A)	37	35	-	43
(B)	20	23	-	-
Sales (thousands of dollars)				
(A)	6,261	6,338	-	3,370
(B)	1,480	1,875	-	-
<u>Automotive Dealers</u>				
Establishments (total)				
(A)	16	19	-	-
(B)	5	7	-	-
Sales (thousands of dollars)				
(A)	5,477	8,191	-	-
(B)	1,704	1,282	-	-
<u>Lumber, Building, Hardware and Farm Equipment</u>				
Establishments (total)				
(A)	31	37	-	-
(B)	17	20	-	-
Sales (thousands of dollars)				
(A)	5,675	5,258	-	-
(B)	2,077	2,088	-	-

	<u>1963</u>	<u>1958</u>	<u>1954</u>	<u>1948</u>
<u>Gasoline Service Stations</u>				
Establishments (total)				
(A)	22	43	-	-
(B)	11	21	-	-
Sales (thousands of dollars)				
(A)	2,993	2,804	-	-
(B)	1,076	1,303	-	-
<u>Apparel, Accessory Stores</u>				
Establishments (total)				
(A)	12	15	-	-
(B)	2	2	-	-
Sales (thousands of dollars)				
(A)	1,132	2,409	-	-
(B)	-	-	-	-
<u>Eating, Drinking</u>				
Sales (thousands of dollars)				
(A)	2,719	2,148	-	1,855
(B)	661	1,115	-	-
<u>Drug Store, proprietary</u>				
Establishments (total)				
(A)	6	7	-	-
(B)	1	4	-	-
Sales (thousands of dollars)				
(A)	1,198	950	-	-
(B)	-	198	-	-
<u>Other Retail Stores</u>				
Establishments (total)				
(A)	32	33	-	-
(B)	5	12	-	-
Sales (thousands of dollars)				
(A)	1,846	1,865	-	-
(B)	451	695	-	-
<u>Nonstore Retailers</u>				
Establishments (total)				
(A)	14	66	-	-
(B)	2	-	-	-
Sales (thousands of dollars)				
(A)	390	25	-	-
(B)	-	27	-	-
<u>Furniture, Home Furnishings</u>				
Establishments (total)				
(A)	19	18	-	-
(B)	3	7	-	-
Sales (thousands of dollars)				
(A)	1,985	985	-	-
(B)	195	256	-	-

Table 8 shows a general decrease in retail activity for the most recent 5-year period tabulated. Information tabulated over a long period of time shows some gains. Increasing costs of operation and inflated prices have had considerable effect on retail activity.

Sales of retail establishments in North Dakota during the year 1963 totaled \$871,299,000, an increase of \$108,462,000 or 14 percent since 1958. Fargo led the State's cities in sales, followed by Minot, which reported 1963 sales of 79.7 million dollars compared with 53.9 million dollars in 1958.

WHOLESALE TRADE

Businesses in this classification include distribution of motor vehicles, automotive equipment, drugs, chemicals and allied products, dry goods, groceries and related products, farm products-raw materials, machinery and equipment, metals and minerals, scrap metals, beverages, paper products, furniture, building materials and other miscellaneous products.

TABLE 9
Wholesale Trade
Williams County

	<u>1963</u>	<u>1958</u>
Establishments (total)	90	94
Sales	\$35,564,000	\$44,183,000
Paid Employees (Nov. 15 workweek)	322	529
<u>Merchant Wholesalers</u>		
Sales	---	42
Sales	\$15,176,000	\$29,005,000

The trend in wholesale activities is in a general decline as are some of the other business activities of the area.

AGRICULTURE

Agriculture plays an important role in the economy of small cities in North Dakota. Table 10 indicates to some extent the value of the agricultural enterprise.

TABLE 10
Agriculture Activities
Williams County

<u>All Farms</u>	<u>1964</u>	<u>1960</u>	<u>1950</u>
Total	1,182	1,243	1,649
Total Acreage	1,284,000	1,303,000	1,248,000
Tenant Operated (percent)	11.7	11.3	10.4
Average Value - Land & Buildings	\$55,000	\$41,800	\$15,400
Value Per Acre	\$50	\$40	-
 <u>Commercial Farms</u>			
Total	1,053	1,018	-
Sales under \$2,500 (%)	5.6	12.9	-
Sales over \$10,000 (%)	46.7	16.8	-
Part Time Farms	86	122	-
 <u>Size of Farms</u>			
Average (acres)	1,087	1,048	-
Under 10 acres	12	5	-
1,000 acres and over	533	507	-
 <u>Value of Farm Products</u>			
Total	\$12,953,000	\$7,371,000	\$8,589,000
Average per farm	\$10,958	-	-
Crops	\$ 9,204	\$5,042	\$6,511
Livestock	\$ 3,745	\$2,091	\$1,664
Dairy Products	-	\$ 195	\$ 328
Poultry Products	-	\$ 42	\$ 86
Farm Households (total)	4,390		
 <u>Income Other Than Farm Operations</u>			
Total	\$ 3,466,000		
From Employment (%)	49.9		

The table indicates general stability in agriculture. The number of commercial farms increased slightly while the average size is over 1,000 acres.

The value of farm products increased considerably, the largest increase being crops. Livestock and livestock products increased at a rate somewhat less than that for crops. Some increases may be attributed to rising prices and costs rather than marked increases in production.

BANK DEPOSITS

Banking activity is one of the better indicators of the community's economic condition.

TABLE 11
Bank Debits
Williams County

<u>Bank Deposits</u>	<u>1964</u>	<u>1960</u>	<u>1950</u>
Total	\$34,976,000	\$23,603,000	\$13,439,000
Demand	14,912,000	12,305,000	-
Time	15,925,000	10,009,000	3,267,000
Percent Change 60-64	48.2	-	-
<u>Savings & Loan Associations</u>			
Saving Capital	7,537,000	4,043,000	-
First Mortgage Outstanding	-	3,330,000	-
Percent Change 1960-64	86.4	-	-

Deposits in banks and other lending institutions show very substantial increases. Lending institutions, other than banks have shown 86.4 percent change during the 1960-64 period.

The following tabulation of bank deposits is shown for the Citizen's State Bank in Ray. These figures were furnished through the courtesy of the Bank.

<u>Year</u>	<u>Total Deposits</u>
1957	\$ 9,783,872
1958	9,688,970
1959	9,793,991
1960	9,354,224
1961	8,211,292
1962	10,709,068
1963	12,415,741
1964	13,818,645
1965	14,517,244
1966	16,051,743

The tabulation shows that during the 1962-66 period the total deposits increased 143 percent. Comparing 1964 deposits with those of Williams County indicates that the Citizen's State Bank of Ray held 38 percent of the reported deposits for that year. The bank serves a rather large territory. Some customers are drawn from more than 50 miles away. The largest number of depositors are from Ray, Tioga, Wildrose and Williston in that order. A total of 26 communities are served.

Another financial institution serving the community is The Ray Co-operative Credit Union. The following tabulation shows deposits for a ten year period.

<u>Year</u>	<u>Deposits</u>
1957	\$537,019
1958	519,763
1959	455,860
1960	497,445
1961	378,476
1962	535,397
1963	682,820
1964	616,694
1965	591,951
1966	515,818

Considerable financial resources are available in the community and the region surrounding Ray. The trend in finance, insurance and real estate appears to be growing at a rather steady rate.

TRADE AREA

The primary trade area of Ray consists of approximately 274 square miles with a secondary area of about 290 square miles and a tertiary area of about 114 square miles. The total trade area contains about 678 square miles.

There are about 429 families in the primary trade area, 141 families in the secondary and 120 families in the tertiary area. The estimated population at present is about 2,570 persons and is expected to be about 3,000 people or 790 families in 1986.

Figure 3 shows the trade area for Ray. The area is somewhat substantiated by responses to a questionnaire submitted to 19 business establishments in Ray. Merchant response indicated that 24 percent of their business from outside the City came from 10 to 30 miles to the north; 16 percent from 10 to 25 miles to the south; 16 percent from 2 to 30 miles to the east and 12 percent from 7 to 30 miles to the west. Eleven of 19 responses indicated that trade from the north was from 14 to 20 miles; to the south 10 to 19 responses indicated a distance 15 to 20 miles; to the east, opinion varied, 3 responses indicated 2 to 8 miles, 7 - 10 to 15 miles, 5 - 16 to 20 miles and 5 - 25 to 30 miles; to the west 8 indicated a distance 10 to 14 miles, 2 - 7 to 8 miles, 2 - 15 to 20 miles and one 30 miles.

A study of buying power indicated that the trade area around Ray had a buying power of 5.5 million dollars. If Ray shared 5/6 of this potential it would have about 3.1 million dollars in gross sales. The business district survey indicates 1967 sales of 1.3 million dollars which represented a response of 55 percent of all business establishments in the City. When the remaining 45 percent are accounted for the 1967 sales volume would very closely approximate the estimated 3.1 million dollars in sales which it should capture from its trade territory.

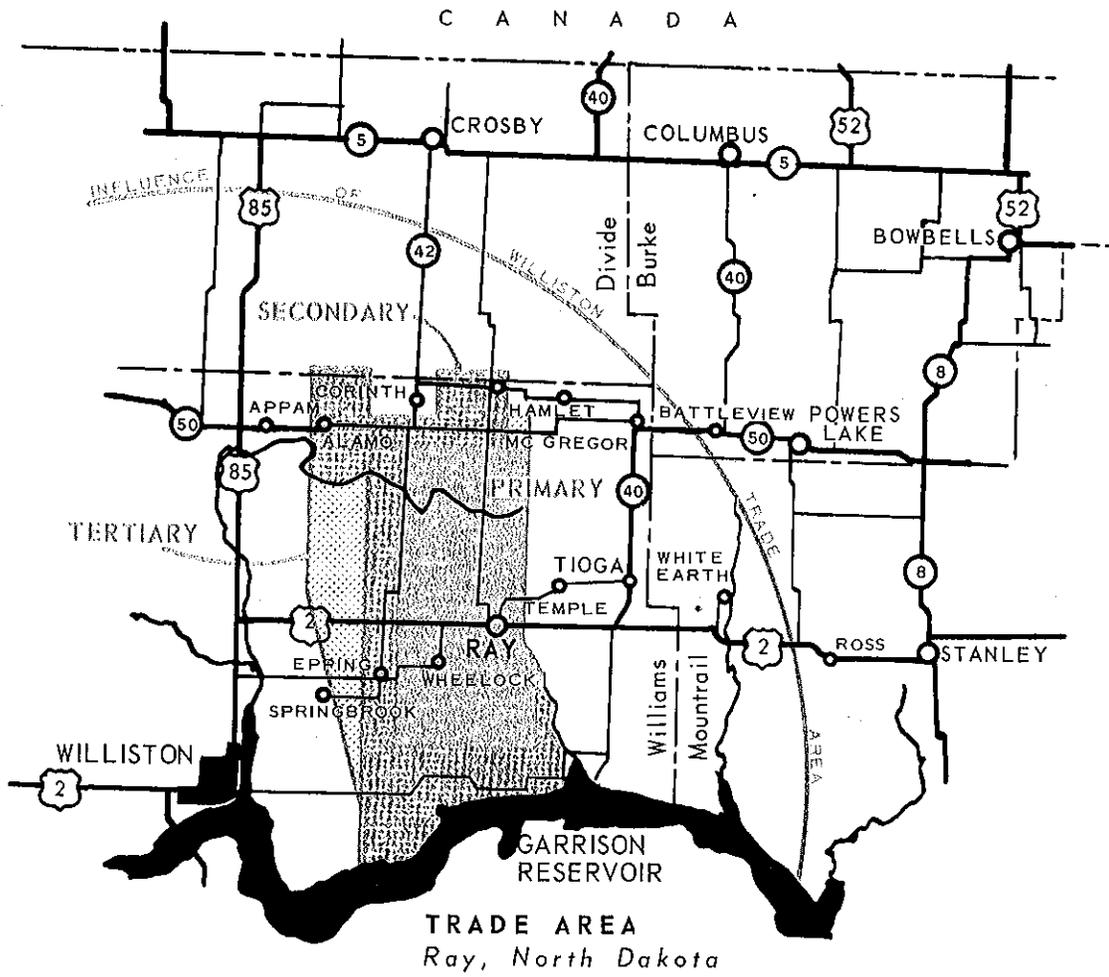


FIGURE 3

ECONOMIC GROWTH

The potential for economic development in Ray and in the region around Ray is very good. Exploitation of natural resources, increasing job opportunity, increasing family incomes and business expansion all effect economic growth.

SECTION VI

LAND USE AND HOUSING

LAND USE

Land use refers to the use conducted within a building or on a given parcel of land. The activity may be residential, a commercial enterprise, the production of goods or the offering of various services. Land uses are so numerous and activities so diversified that, for study purposes, they are grouped into general classifications by related activity.

The land uses in Ray were grouped into the following activities:

- Residential Use
 - Single-Family
 - Two-Family
 - Multiple-Family
- Commercial and Services
- Industrial and Railroad
- Public and Quasi-Public
- Parks and Open Space

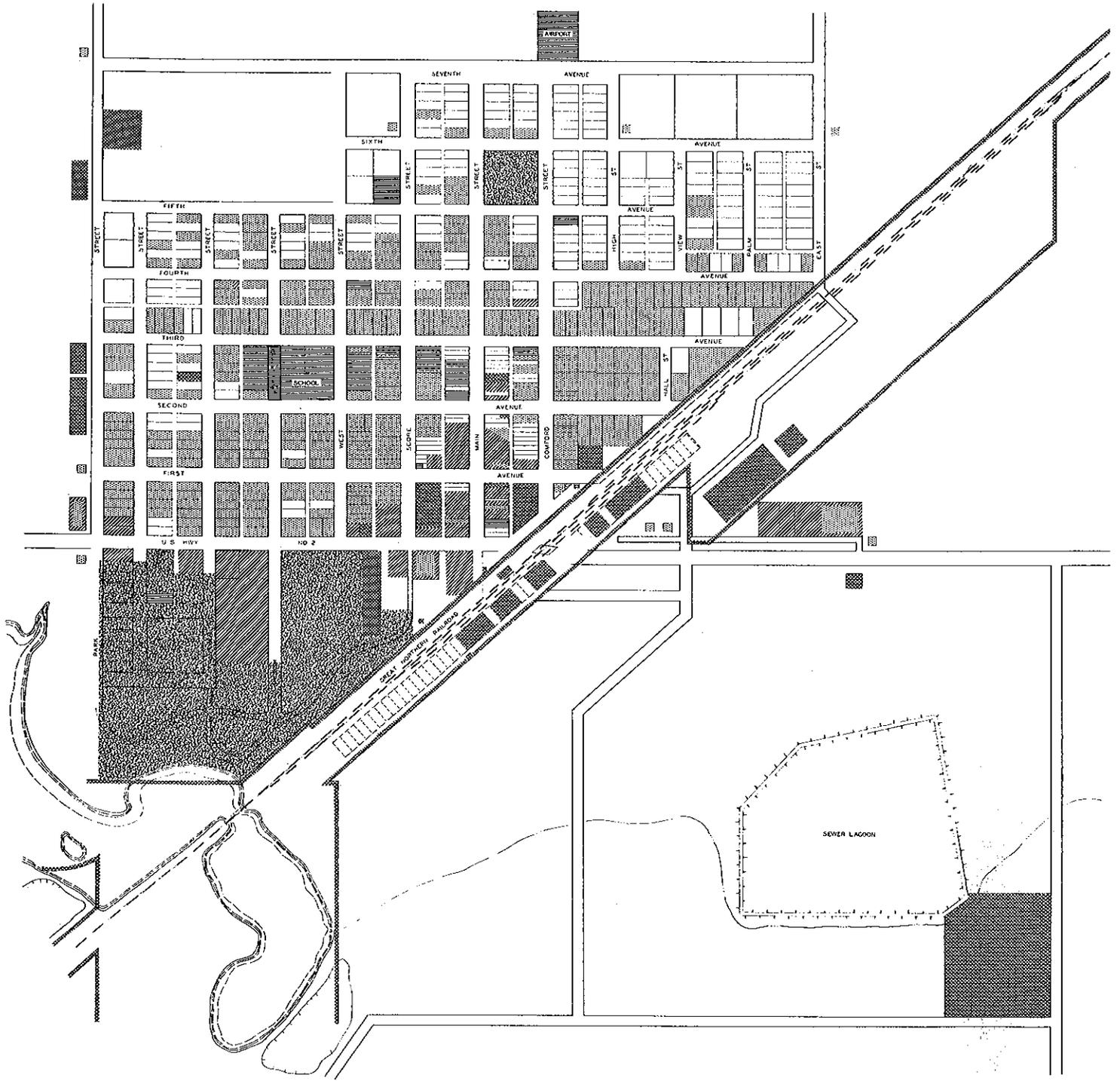
A land use field survey was conducted on June 20 and June 21, 1967. The area studied included the City of Ray and that area around the City for a radius of approximately three miles. The land use data for the City has been coded in color on a cronaflex base map of the City. The area land use was coded on a separate map. These maps are not reproducible and do not appear in this report, however they will be maintained as permanent records in the City offices and will be available for public use.

Table 12 shows the area of land use in the City.

TABLE 12

EXISTING LAND USE
RAY, NORTH DAKOTA

<u>Use</u>	<u>Developed Area in Acres</u>	<u>Percent Developed</u>	<u>Total Area in Acres</u>	<u>Percent Total</u>
Residential				
Single-Family	48.6	19.8	48.6	8.0
Two-Family	2.8	1.1	2.8	0.4
Multiple-Family	0.5	0.2	0.5	0.0
Streets	93.1	38.0	93.1	15.0
Alleys	7.9	3.2	7.9	1.0
Public & Quasi-Public	34.4	14.0	34.4	5.3
Parks & Open Space	21.8	8.9	21.8	3.4
Commercial	12.1	5.0	12.1	2.0
Industry	19.2	7.8	19.2	3.0
Railroads	4.8	2.0	4.8	0.7
Vacant Land				
Usable Vacant	-	-	360.2	57.0
Unusable	-	-	1.3	0.2
Water	-	-	28.0	4.0
Total	245.2	100.0	634.7	100.0



GENERALIZED LAND USE - 1967

FIGURE 4

- RESIDENTIAL 
- COMMERCIAL AND SERVICES 
- INDUSTRIAL AND RAILROAD 
- PUBLIC AND QUASI-PUBLIC 
- PARKS AND OPEN SPACE 

**RAY
CITY PLANNING
COMMISSION**



SCALE IN FEET
0 100 200 300 400 500

**WILSON
COMPANY**
ENGINEERS
ARCHITECTS
PLANNING CONSULTANTS

Table 12 indicates that there is nearly twice as much land developed in streets as there is in residential property. This indicates a somewhat atypical land use pattern.

There are ample amounts of land for public uses and parks.

The amount of land used for commercial is typical, however to support this much commercial land requires considerable more families than live in Ray. This indicates that the vitality of the business district is dependent upon the population living within the trade area.

A considerable amount of land along the Great Northern Railroad has been set aside for industrial development. There are about 106 acres suitable for industrial use, however only about 5 acres are actually developed.

Figure 4 shows the existing land use pattern. Development has occurred on an east-west axis. The pattern indicates relatively compact development. A great deal of the vacant land in the north and east parts of the City is municipally owned and is serviced by sewer and water. Whenever possible, developers should be encouraged to build on these lots since essential improvements are installed.

NEIGHBORHOOD ANALYSIS

The City has been divided into 11 analysis districts for purposes of analyzing land use and housing. The boundaries of these districts were drawn, wherever possible, so as to include a homogeneous land use pattern, to reflect the character of each area, and to provide a manageable sized unit for planning future programs.

The analysis districts are shown on Figure 5. Housing conditions have also been shown on the analysis district map.

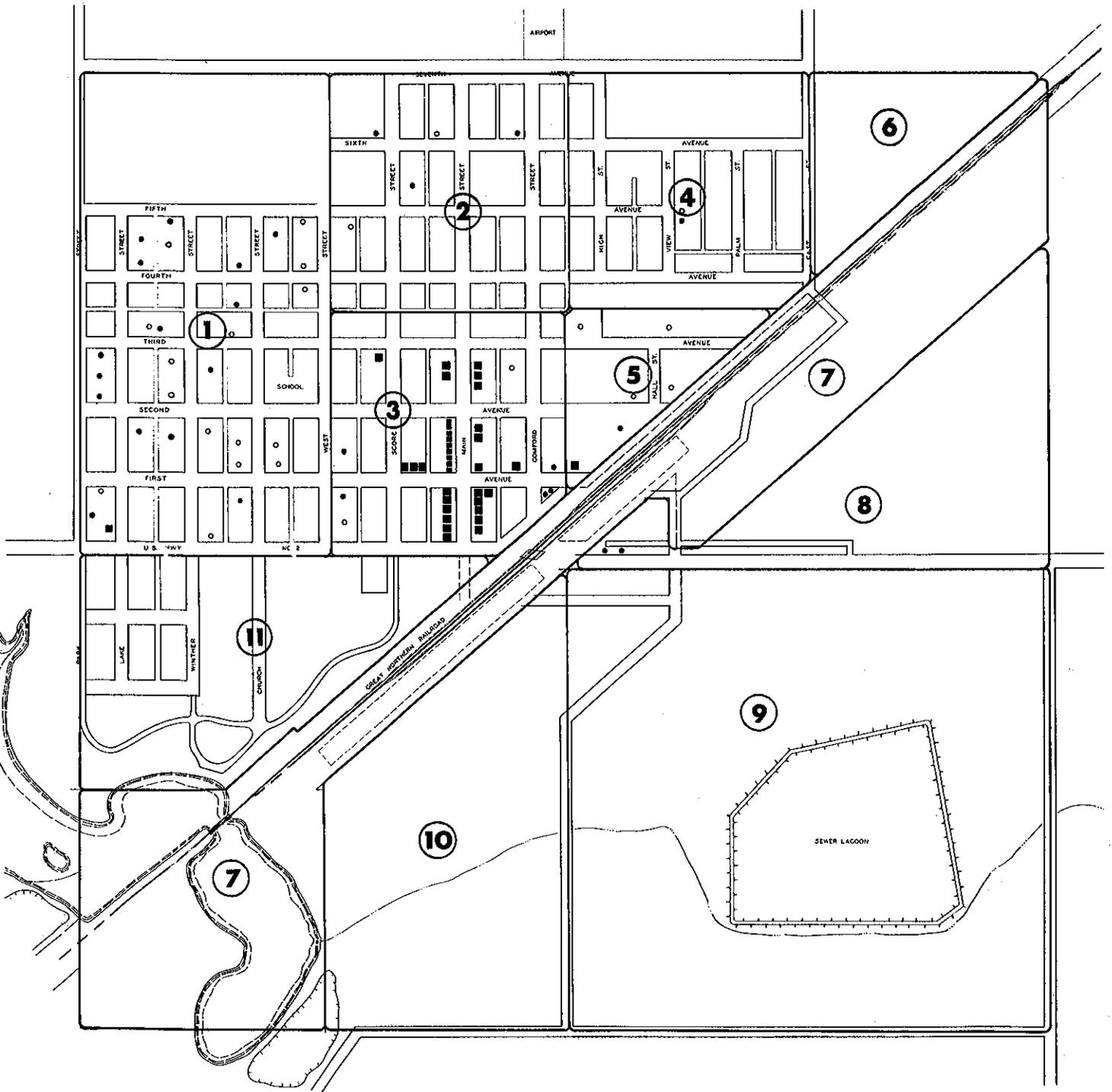
Table 13 shows the area and land use of each analysis district. All of the 11 districts have a considerable amount of vacant developable land except for districts 3 and 5 which are fully developed.

The 11 districts total about 634.7 acres of land.

HOUSING

During the land use survey the condition of each structure was noted and classified as either sound, deteriorated or substandard. A house or other structure was rated as sound if it required little maintenance and if normal conservation measures would maintain it in good condition.

A classification of dilapidated was assigned to structures lacking foundations or having sagging roof lines, walls out-of-plumb, cracks in brick walls, missing siding, broken windows, or porches falling down. Structures in this condition cannot be economically rehabilitated and should be cleared from the area.



NEIGHBORHOOD ANALYSIS

FIGURE 5

- RESIDENTIAL DETERIORATED ○
- RESIDENTIAL SUB-STANDARD ●
- NON-RESIDENTIAL SUB-STANDARD ■
- ANALYSIS DISTRICT ③
- DISTRICTS BOUNDARY —

**RAY
CITY PLANNING
COMMISSION**



0 200 400 600 800
SCALE IN FEET

WILSON
COMPANY
ENGINEERS
ARCHITECTS
PLANNING CONSULTANTS

TABLE 13

ANALYSIS DISTRICT LAND USE IN ACRES

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	Area Total
Single-Family	20.5	6.8	9.0	3.3	8.3	-	-	0.7	-	-	-	48.6
Two-Family	0.3	-	-	2.5	-	-	-	-	-	-	-	2.8
Multiple-Family	-	-	0.5	-	-	-	-	-	-	-	-	0.5
Streets	26.4	13.0	14.8	10.6	3.0	-	3.4	5.6	5.3	1.6	9.4	93.1
Alleys	2.7	2.2	1.5	1.1	-	-	-	-	-	-	0.4	7.9
Public & Quasi-Public	2.7	0.8	2.4	-	-	-	-	-	28.4*	-	0.1	34.4
Parks & Open Space	-	2.0	-	-	-	-	-	-	-	-	19.8	21.8
Commercial	0.3	0.1	4.0	-	-	-	-	2.5	-	-	5.2	12.1
Industry	2.4	-	2.5	-	-	-	4.4	-	8.7**	-	1.2	19.2
Railroad	-	-	-	-	-	-	4.8	-	-	-	-	4.8
Usable Vacant	20.1	13.7	2.9	26.0	2.1	16.8	65.6	35.3	114.3	55.2	8.2	360.2
Unusable	-	-	-	-	-	-	0.8	-	-	0.5	-	1.3
Water	-	-	-	-	-	-	28.0	-	-	-	-	28.0
Grand Total	75.4	38.6	37.6	43.5	13.4	16.8	107.0	44.1	156.7	57.3	44.3	634.7

*Sewerage Lagoon

**Sanitary Landfill

The survey indicated that there were 272 residential units and 11 trailers for a total of 283 dwelling units. Of the 283 units, 251 units and 11 trailers were occupied. There were 21 vacant dwellings in the City.

The 1960 United States Census of housing indicated that there were 318 total housing units and that 285 were occupied and 33 were vacant.

The difference in totals can be accounted for in part by the manner in which dwelling units were classified and by the fact that a considerable number of dilapidated structures have been removed by the municipality during the 7-year period.

About 10 percent of the dwelling units in the City are substandard, or a total of 26 units. Of the 26 dilapidated structures, 20 were vacant.

There were 23 residential structures in the City that were deteriorated.

Table 14 shows the number of units, structural condition and net dwelling unit density for each analysis district.

TABLE 14
STRUCTURAL CONDITION

Analysis District	Units in							Net Dwelling Unit Density
	Single Family	Two Family	Multiple Family	Trailer	Vacant Units	Deteriorated Units	Sub-standard Units	
1	99	4	0	2	14	15	14	4.8
2	30	-	-	-	2	2	3	4.4
3	48	-	2	9	4	2	5	5.3
4	19	20	-	-	0	1	1	5.8
5	25	-	-	-	-	3	1	3.0
6	1	-	-	-	-	-	-	4.0
8	<u>3</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>2</u>	4.0
Total	225	24	2	11	20	23	26	

Note: Areas 7, 9, 10 and 11 have no residential uses.

The above table indicates that housing should be upgraded in most areas of the City. Area 1 has the most urgent need for an improvement program to upgrade housing. All areas of the City should be maintained in a sound condition to protect property values and to encourage investment in new housing.

Efforts should be made to encourage residents of the City to improve property and to practice good maintenance. In the event that cooperation of this kind cannot be obtained, the City should initiate a code enforcement program to bring buildings and premises up to reasonably safe and sanitary standards.

FUTURE LAND USE

The land use forecast results from the application of data on dwellings and dwelling unit density to forecasted population in order to predict future requirements for residential land. The forecast of land for streets, parks, public uses, commercial and industrial uses result from the application of land used in ratio to each 100 of the population. These ratios, if realistic, are applied directly to produce the land use forecast. Ratios of some uses must be adjusted to reflect current trends before they are used for forecast purposes.

Table 15 shows the residential land assignment together with new dwellings and population assigned at densities in the table.

TABLE 15

RESIDENTIAL LAND AND DWELLING UNIT ASSIGNMENT - 1986

<u>Analysis District</u>	<u>1967 Population</u>	<u>Usable Vacant Land Assigned</u>	<u>Dwelling Units Per Acre</u>	<u>Dwelling Units Assigned</u>	<u>Population Assigned</u>	<u>1986 Population</u>
1	322	20.0	4.3	86	318	640
2	107	13.7	4.4	60	222	329
3	207	2.9	5.3	15	55	262
4	70	26.0	3.0	78	288	358
5	89	2.1	3.0	6	22	111
6	4	16.8	3.0	47	174	178
8	<u>41</u>	<u>27.0</u>	3.0	<u>82</u>	<u>304</u>	<u>348</u>
Total	840	108.5		352	1,383	2,226

The remaining land uses are assigned as follows:

<u>Land Use</u>	<u>Existing Ratio Per 100 Persons</u>	<u>Adjusted Land Use Ratio</u>	<u>Existing Acres</u>	<u>Added Acres</u>	<u>1986 Total Acreage</u>
Streets	10.3	3.0	93.1	39.6	132.7
Alleys	0.8	-	7.9	-	7.9
Public & Quasi-Public	3.8	0.9	34.4	11.8	46.2
Parks & Open Space	2.4	1.0	21.8	13.2	35.0
Commercial	1.3	0.5	12.1	6.6	18.7
Industry	2.1	2.1	19.2	28.0	47.2
Railroads	0.5	-	<u>4.8</u>	-	<u>4.8</u>
			193.3	99.2	292.5
Residential added from Tables 13 and 14					<u>160.4</u>
1986 Developed Area in Acres					452.9

The land use assignment provides a guideline which indicates the amount of land that will be required to meet the needs of a population of 2,226. The land use assignment forecast assumes that the region in which Ray is located will continue to expand with increasing emphasis being placed upon regional exploitation of natural resources and that considerable private and public investment will be made within the community. Efforts must be made to revitalize the business center of the community and to attract and establish a diversified industrial base.

SECTION VII

CIRCULATION PLAN

The purpose of a circulation plan is to provide a guide for public officials to follow in developing the street system. The intent of the plan is to develop a specialized street system for efficient and safe movement of vehicular traffic.

The increasing use of the automobile has created the need for classifying streets according to function, such as local, collector and arterial streets.

The Central Business District, being the focal point of numerous activities, is an area which benefits from street specialization. Arterial streets, properly orientated to the business center, are the major transportation facilities contributing to its being. Street specialization within the district distributes and circulates the traffic reducing congestion to a minimum.

STREET SYSTEM

Local Streets. The primary purpose of the local street is to provide access to property abutting the right-of-way. Access is provided for both vehicles and pedestrians.

A secondary purpose of the local street is to move traffic. Traffic generated by abutting land use is generally light. Through traffic, buses and large trucks are discouraged from using the local street except where such street is located in an industrial or commercial district.

Collector Street. The collector street like the local street is a minor traffic street. Its function is to collect traffic from the local streets, in the interior of the neighborhood, and distribute it to arterial streets. Land access is a secondary function; parking should be excluded and design should emphasize traffic movement.

Arterial Street. The arterial street is a major traffic street. The principal function of the arterial is to move large volumes of automobiles, trucks and buses. It is on these streets that the greater part of every day traffic occurs.

The arterial street system should be planned to connect all areas of the City.

Parking on arterial streets is discouraged since it interferes with traffic movement and creates hazards for the moving as well as the parked vehicle. The greater width of pavement required to provide the added space is not economically feasible in much of the City. Street parking is reasonable in much of the City. Street parking is reasonable in the business district since space for automobile storage is usually unavailable.

Traffic Volumes and Traffic Capacity. Each of the kinds of streets that make up the circulation system of a city can be further classified by the volume of traffic it carries. This in turn is a factor in the proper design and location of each street.

Capacity is a term used to express the ability of a roadway to accommodate traffic. On arterial streets this is usually expressed as vehicles per hour per lane. There are numerous factors which will influence roadway traffic capacity including turning movements at intersections, stop lights and adjacent land use.

The following tabulation presents general criteria on street design, function, and traffic capabilities.

<u>Classification</u>	<u>Kind of Traffic Service</u>	<u>Right-of-Way Width</u>	<u>Pavement Width</u>	<u>Vehicles Per Day</u>
Local	Abutting Property	50' - 66'	26' - 30'	600
Collector	Move Traffic	70' - 90'	44' - 68'	2 to 3,000
Arterial	Move Traffic	100' - 150'	52' - 68'	2 to 20,000

STREET INVENTORY

Table 16 shows an inventory of the existing street system.

TABLE 16

STREET INVENTORY

Total Miles	8.9
Paved	2.5
Right-of-Way Widths	
<u>Width</u>	<u>Miles</u>
60'	1.0
66'	3.2
80'	3.3
82'	0.2
82' or more	<u>1.2</u>
Total	8.9

Pavement widths are 40 and 60 feet. The 60 foot widths serve the business district. Forty foot widths have been provided on some streets adjacent to the district. All other streets are surfaced with gravel and a majority have curb and gutter.

STREET PLAN

The major street plan is shown on Figure 6. The plan suggests the development of a system of major traffic streets around the developed part of the City. Major traffic streets would also encircle a large tract of land which forms the southeast quarter of the City.

The minor traffic streets (collectors) run cross-town passing major traffic generation areas and are interconnected with the major traffic streets.

The system generally utilizes existing roadways, however some new construction will be necessary.

A new major street is proposed to be extended north from the section line road and U.S. Highway 2, east of the City, to a point near Seventh Avenue and East Street. Two collectors or minor traffic streets would connect to the new major streets at points north and south of the railroad. These two collector streets, which parallel the railroad, will provide traffic service to the business district which is north of the railroad, and the industrial area south of the tracks. It is important that the intersections of the collectors be far enough away from the railroad that the major street can be perpendicular with the railroad tracks so that drivers will have unobstructed sight distance and adequate maneuvering space before crossing the railroad. The existing grade crossing at Fourth Avenue and East Street would be closed.

The first minor traffic street would extend from the east end of First Street along the north side of the railroad to the new major street east of the City. Acquisition of railroad right-of-way or acquiring of an easement would be necessary along the north side of the Great Northern Railroad to obtain adequate street width.

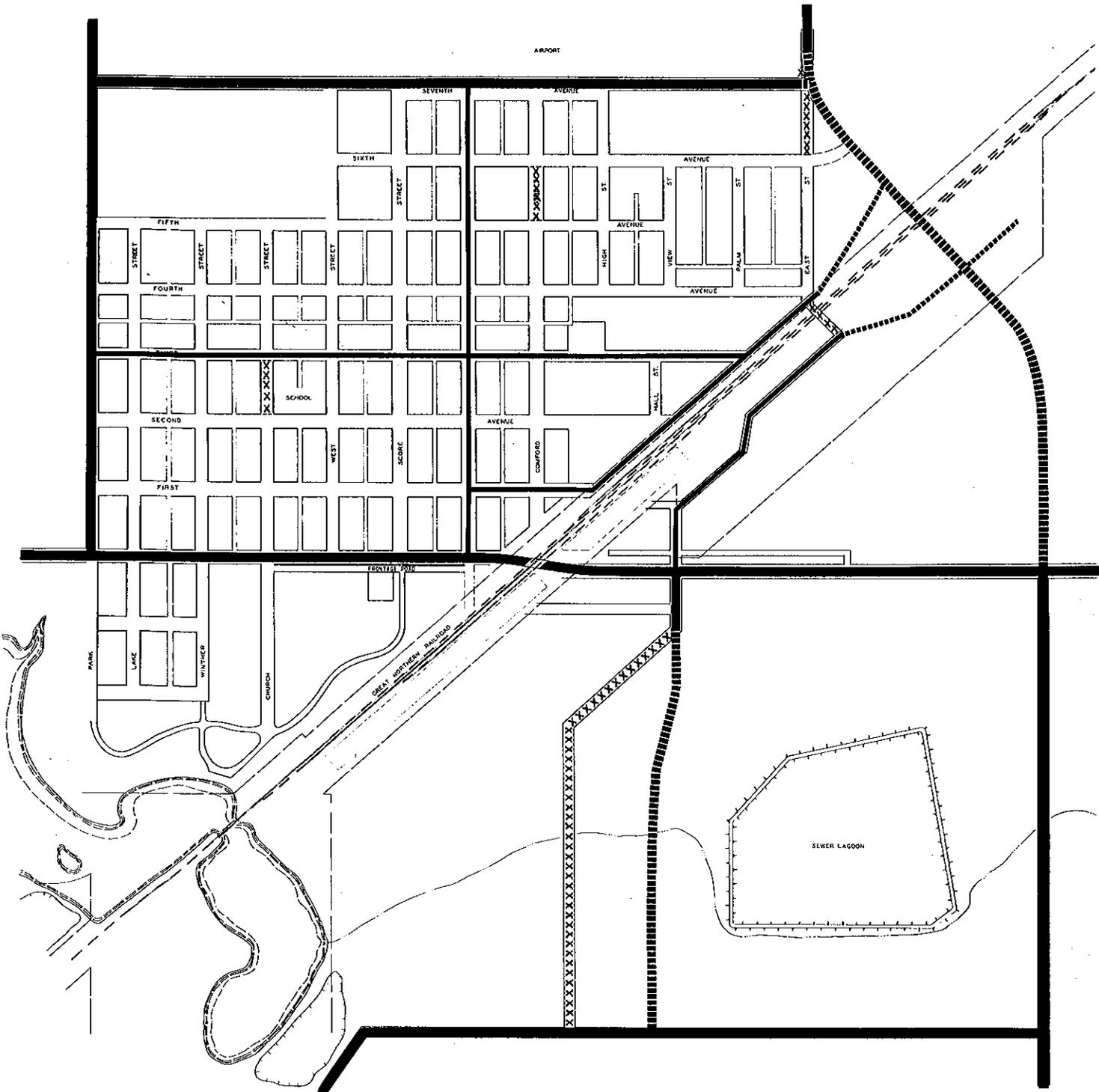
A second minor traffic street would function as an industrial collector south of the railroad. This street should be kept at least 200 feet away from the rails to provide building sites with both rail and street access.

Three street closings are proposed:

1. Close Church Street between Second and Third for the purpose of expanding the school site.
2. Close Comford Street from Fifth to Sixth Avenue for the purpose of expanding the existing park into the next block.
3. Close East Street from Sixth Avenue to Seventh. This would be accomplished after the major street was reconstructed from this location. This closing would avoid an acute angle street intersection.

The plan indicates that the half-section road running south from U.S. Highway 2 should be relocated approximately 500 feet east of its present alignment. The purpose of the relocation would be to permit the construction of a golf course west of this road.

AIRPORT

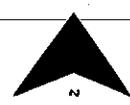


MAJOR STREET PLAN

FIGURE 6

MAJOR TRAFFIC STREETS		
MINOR TRAFFIC STREETS		
LOCAL STREETS		
STREETS TO BE VACATED		

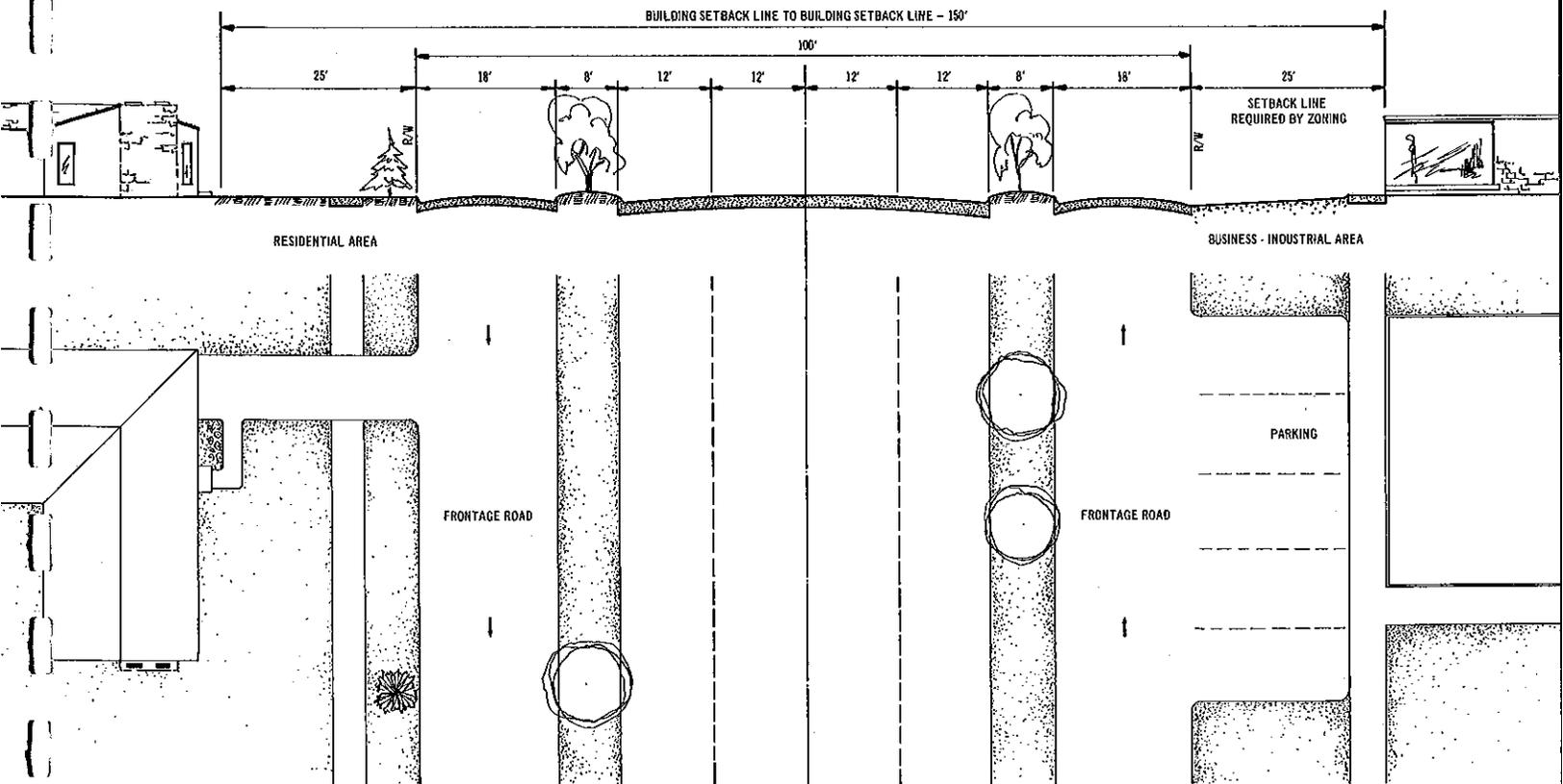
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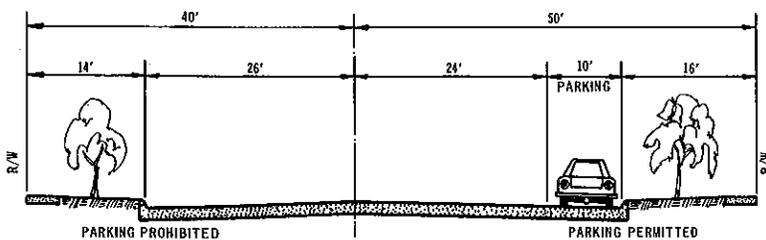
STREET STANDARDS

Recommended street standards are shown on Figure 7. Standards are shown for urban streets and rural highways. The urban standards are recommended in developed areas or areas that will develop in the near future. The rural standards should be used at the City's periphery. Standard C should be used where traffic is expected to show moderate gains in the future. This kind of street could be upgraded to a higher standard since an ample road bed would be provided and adequate right-of-way would be available.

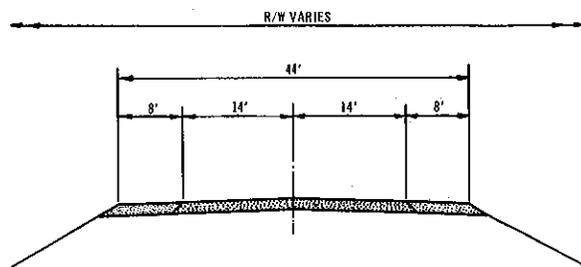


ARTERIAL WITH FRONTAGE ROADS

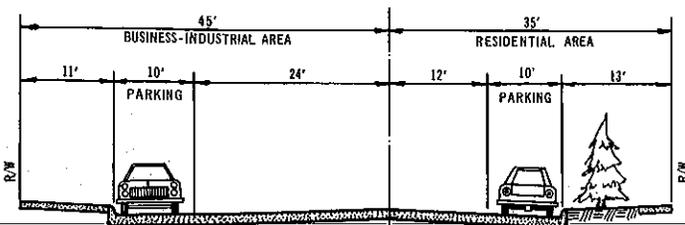
ADOPTED TO 100' R/W WITH ZONING REQUIREMENTS



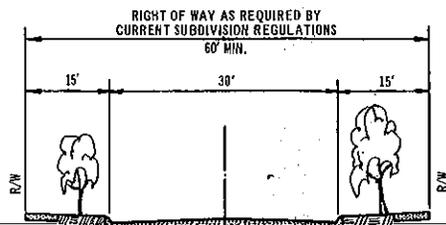
ARTERIAL



RURAL ARTERIAL



COLLECTOR
LOCAL, BUSINESS - INDUSTRIAL



LOCAL RESIDENTIAL

SECTION VIII

CENTRAL BUSINESS DISTRICT

The Central Business District is the focal point of numerous and diverse activities in nearly every city. The district is a place for bringing people together to transact business, purchase goods and services and enjoy recreational and cultural activities.

In Ray, this district is the real reason for the community's being. The future of the City of Ray is largely related to economic success or failure of the business district.

LAND USE

The land use in the Central Business District is shown on Figure 8. A detailed land use map has been prepared on cronaflex material and colored. Land uses on this map are listed and coded. This map will be available at the offices of the City Planning Commission.

There is presently 192,000 square feet of commercial property in the district.

FUTURE BUSINESS POTENTIAL

The district is a trade center for an area of about 678 square miles and has about 690 families. Using data developed in the Economic Base Study, Section V, an analysis of potential trade was developed to determine the future economic activity that the district could expect.

The following tabulation shows the results of the study. Estimates of 1966 buying power are shown for three levels of family income estimated by various sources: median income \$5,430 (Census Bureau), \$6,000 (planners) and \$8,640 (Sales Management Magazine).

EXISTING LAND USE 1967

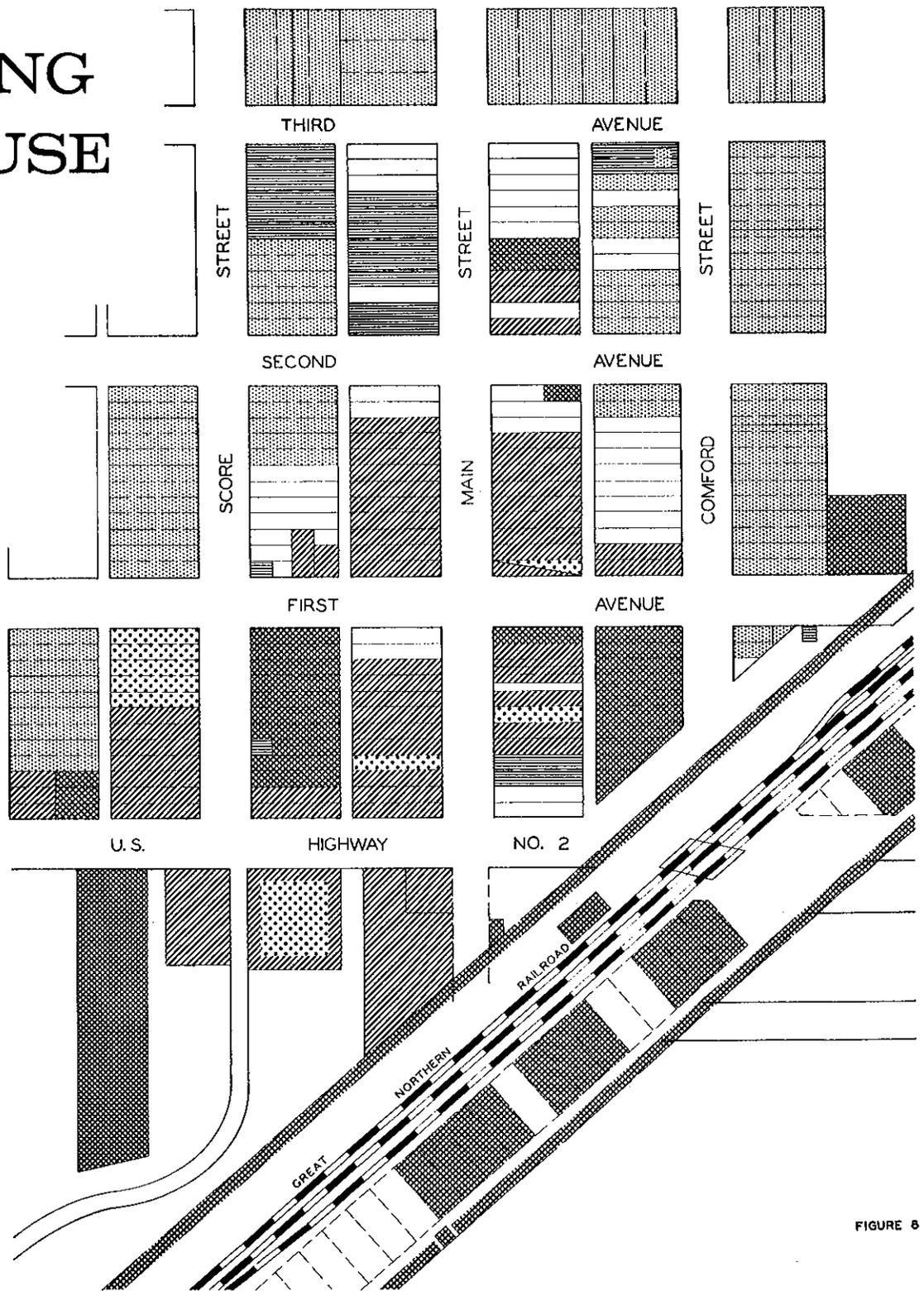


FIGURE 6

CENTRAL BUSINESS DISTRICT

RESIDENTIAL

- SINGLE FAMILY 
- MULTIPLE FAMILY 
- COMMERCIAL AND SERVICES 
- INDUSTRIAL AND RAILROAD 
- PUBLIC AND QUASI-PUBLIC 

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TABLE 16

ESTIMATED BUYING POWER

Year	Families in Trade Area	Family Incomes of			Sales Required to Support 192,000 Square Feet
		<u>\$5,430</u>	<u>\$6,000</u>	<u>\$8,640</u>	
1966	695	\$3,775,240	\$4,170,000	\$6,006,190	\$5,506,208
	(Ray's Share 5/6)	\$3,146,035	\$3,475,000	\$5,005,160	

Year	Families in Trade Area	Family Incomes of		
		<u>\$6,000</u>	<u>\$6,500</u>	<u>\$9,000</u>
1980	790	\$4,752,000	\$5,148,000	\$7,128,000
	(Ray's Share 5/6)	3,960,000	4,290,000	5,940,000

It is estimated that the potential buying power of the trade area ranges from 3.7 to 6.0 million dollars. It would require \$5.5 million of sales to support the 192,000 square feet of developed commercial area in the district if it were fully occupied. It is estimated that Ray captures about 5/16's of the dollars in its trade area. The table shows that the average income of \$8,640 would not support a fully developed business district. It would require gross sales of \$28.67 per square foot or sales of \$5,506,208 to serve the present developed area in the district.

The estimated potential sales and required square feet of space to meet the potential demand is shown in the following tabulation:

1980 Family Income	Buying Power*	Area Required To Meet 1980 Sales Volume (Sq.Ft.)	1967 Sales Area (Sq.Ft.)	Area Surplus or Deficiency (Sq.Ft.)
\$6,000	\$3,960,000	135,939	192,000	-56,261
\$6,500	\$4,290,000	146,966	192,000	-45,034
\$9,000	\$5,940,000	203,179	192,000	+11,179

*Ray's share of trade area dollars

This tabulation shows that average incomes will have to increase considerably in order to have enough sales demand to utilize entirely all of the available space in the district. It can be assumed from these estimates that the present district is overbuilt and that a surplus of space will exist for a number of years.

CURRENT BUSINESS ACTIVITY

In order to verify the above estimates and obtain a more realistic knowledge of sales and area requirements a questionnaire was submitted to the merchants in Ray. Twenty replies were received which represented about 59 percent of the merchants in the area.

The 20 business establishments had 51,945 square feet of gross building area and reported sales of \$1,562,709 or average sales of \$30.08 per gross square foot. Per square foot sales ranged from a low of \$2.63 to a high of \$188.37.

Seven of the 20 business establishments rented the property in which they did business. Rents paid ranged from \$240 to \$900 per year. On a square foot basis, the median rent paid was \$1.13 per square foot; the average was \$0.95.

Nine merchants indicated that no off-street parking space was provided for customers. Eight indicated that off-street space was provided and 3 did not reply. Those providing off-street space indicated that 103 spaces were available. Two of these establishments were not in the business district.

Using actual and estimated values, the 1967 sales for 34 businesses, which are active in the Central Business District, was determined to be \$2,118,738. Adding the sales outside of the business district indicated 1967 sales of \$3,253,738. The overall estimate compares very closely to that in Table 16. This would indicate family incomes between \$5,400 and \$6,000 in the trade area.

FUTURE SPACE REQUIREMENTS

Table 17 shows the estimated floor space and the potential sales that could materialize by virtue of redevelopment of the district and continued economic growth. The table is developed only for the uses in the business district plus some additional business that might be attracted. Similar uses have been grouped together to avoid disclosing actual data on individual businesses.

TABLE 17

ESTIMATED FLOOR SPACE AND INCOME

<u>Uses</u>	1967	1980	1967	1980
	<u>Square Feet</u>	<u>Square Feet</u>	<u>Gross Sales</u>	<u>Gross Sales</u>
Food, drugs & liquor	17,210	31,405	\$393,100	\$689,785
Clothing & general merchandise	12,285	21,290	343,477	616,860
Appliances, electrical & radio repair	8,200	15,183	186,995	346,010
Building supplies & hardware	17,240	31,985	428,500	794,810
Services: barber, beauty shops, cleaners, medical, etc.	7,170	10,900	50,245	191,010
Finance & insurance	6,261	10,687	382,421	706,505
Automotive sales & service	12,465	22,450	329,000	610,310
Other	<u>4,525</u>	<u>3,430</u>	<u>5,000</u>	<u>9,020</u>
Total	85,356	147,330	\$2,118,738	\$3,964,310

The total income for the business district and other uses outside of this area would increase from \$3,253,738 to \$3,867,410. If these sales materialize, individual incomes would have to average about \$6,000. The 147,330 square feet required in the business district would be considerably below the present 192,000 square feet. Some uses have been added to provide greater attraction to the area. These are personnel service uses, such as beauty shops, cleaners, and medical offices.

CBD PLAN

The Central Business District must be redeveloped if Ray is to continue to exist. The trade area should sustain the district and provide a reasonable return on investment.

The plan, shown in Figure 9, proposes that one block be developed along the lines of a shopping center with ample off-street parking with several convenience uses grouped in one building for easy shopping. This complex would be developed as Stage 1 of the project. A second stage would be development of a civic building complex. This would contain a building for police, fire, and city government activities. A second building in this complex would house recreation activities. Facilities would be provided for games, crafts, meetings, a projection room, and bowling alley. In the third stage of development, additional business buildings would be constructed in the district. Stage 4 would see the construction of a senior citizen housing project in close proximity to these areas.

The following table shows the Stage 1 building program.

TABLE 18
STAGE I BUILDING PROGRAM

	<u>Square Feet</u>	<u>Estimated 1980 Sales</u>	<u>Square Foot Rental Rate</u>	<u>Per Annum Rent</u>
Food & Food Service				
Grocery	7,420	\$278,345	\$1.36	\$10,090
Restaurant	2,760	44,250	1.75	4,830
General Merchandise				
Variety	2,500	25,470	1.30	3,250
Clothing				
Family wear	3,220	136,238	1.47	4,733
Family shoe	3,000	55,770	.94	2,820
Other Retail				
Drugs	1,310	16,200	1.65	2,160
Jewelry	1,710	47,600	2.00	3,400
Cards & Gifts	1,900	58,900	1.33	2,527
Financial				
Banks	3,900	384,140	1.00	3,900
Offices				
Medical	900	-	1.78	1,600
Services				
Beauty shop	1,300	48,100	1.71	2,220
Barber shop	310	8,200	1.71	530
Cleaners	<u>1,800</u>	<u>48,600</u>	1.47	<u>2,646</u>
Total	32,030	\$1,151,813		\$44,706

FUTURE CBD PLAN

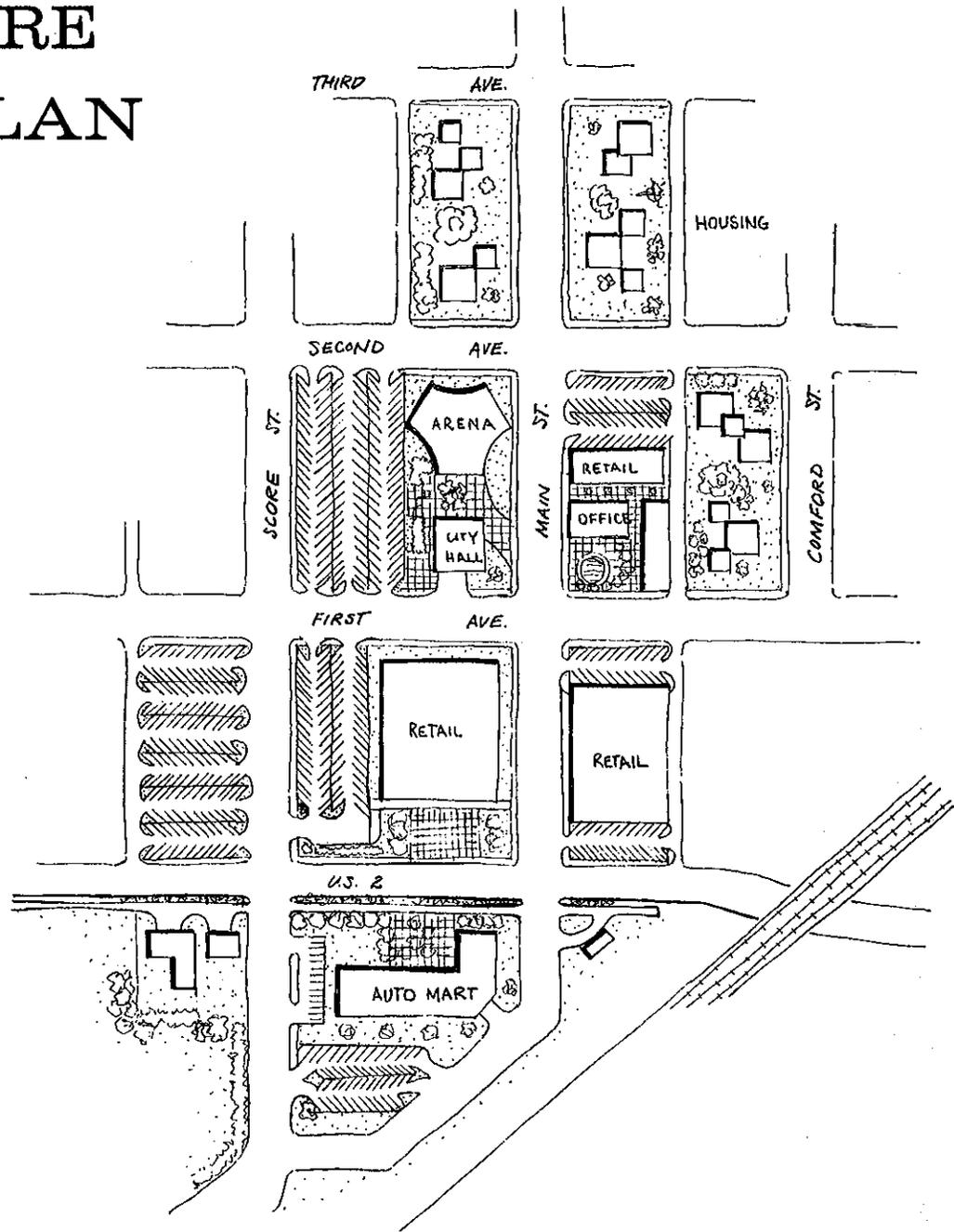


FIGURE 9

CENTRAL BUSINESS DISTRICT

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0 100 200 300 400
SCALE IN FEET

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The center should gross about \$35.96 per square foot which would provide adequate revenue if other costs were not extreme. Costs that must be considered are: building cost, land cost, interest, depreciation, operating and management costs. The Urban Land Institute has found the ratio between sales volume and construction costs are 3½ to 1 with a range varying from 2-¾ to 4. It would seem that to justify a project, sales must fall within this range.

The following illustrations show how building costs can affect the outcome of a project of this kind. In the illustrations it is assumed that land will be donated which is a possibility in Ray.

ALTERNATE I

Building	32,030 Sq.Ft. @ \$15.00/Sq.Ft.	\$ 480,450
Contingency	16 Percent	<u>76,872</u>
		\$ 557,322
Sales Volume Required @ 3½ to 1		1,950,063
Estimated 1980 Sales - Stage 1		\$1,151,813
Sales Volume Ratio		2.06 to 1

ALTERNATE II

Building	32,030 Sq.Ft. @ \$10.00/Sq.Ft.	\$ 320,300
Contingency	16 Percent	<u>51,248</u>
		\$ 371,548
Sales Volume Required @ 3½ to 1		1,300,418
Estimated 1980 Sales - Stage 1		\$1,151,813
Sales Volume Ratio		3.1 to 1

The second alternative, using a lower cost building, provides a workable relationship between sales and cost.

If off-street parking were provided, at a 3 to 1 ratio, about 320 spaces would be required to serve the center. At an estimated cost of \$117 per stall this cost would be \$37,366.00. It is possible that the City could construct this facility and obtain cash credits in connection with a CBD renewal project.

Other Development. In addition to development north of the highway, it is suggested that the areas immediately south of the district be developed as an automotive center. Activities in this area would concentrate on serving the automobile. Suggested uses are sales and service, auto body works, and parts sales and supply.

IMPLEMENTING THE PLAN

It seems that the only alternative for the City of Ray is to revitalize its downtown center. Industrialization of the region will not occur in time to sustain the economy of the City. Agressive action must be taken soon if the community is to survive.

The following steps are suggested as immediate measures:

1. Adopt a plan and action program; government and private enterprise must cooperate.
2. Seek federal aid.
3. Form a development corporation of local businessmen.
4. Initiate redevelopment of the district.
5. Seek new business that will attract customers.

The proposed plan when fully developed will not create more purchasing power than now exists but it will aid in maintaining and attracting dollar volume from other areas.

Everyone in the City will suffer economic loss if revitalization is not undertaken. This alternative is unpleasant. However, if the proper action is not taken the town may cease to exist.

It should be understood that information presented here is intended only to guide development and that very careful study and planning must be undertaken prior to making commitments to any part of the project.

SECTION IX

COMMUNITY FACILITIES

A number of essential services must be provided by the community to meet daily needs of its citizens. These services include police and fire protection, schools, streets, parks and recreation, lighting streets and disposing of refuse. Various facilities and buildings are necessary to provide these services. Proper planning can insure that these facilities are located properly and adequately sized to meet present as well as future demands.

The planning commission, in any city, can perform a valuable community service by assuring that the location and size of public buildings will fit harmoniously into the city plan and be adequate in size to meet future demands for services. Section 40-48-12 of the North Dakota Code reads in part: ---"When the governing body shall have adopted the master plan of the municipality or any major section or district thereof, no street, square, park, or other public way ground, or open space, or public building or structure shall be constructed or authorized in the area shown on the master plan until the location, character, and extent thereof shall have been submitted to and approved by the planning commission. In case of disapproval thereof, the commission shall communicate its reasons to the governing body which may overrule such disapproval by a recorded vote of not less than two-thirds of its entire membership---".

PUBLIC UTILITIES

Public utilities and related service facilities are provided in relation to existing demand and with respect to changing patterns of urban growth. The planning study for utilities is quite general, its purpose being to point out problems now in existence or those that may result as consequence of growth. The study is in no way intended to be a detailed engineering study.

WATER SUPPLY

The City of Ray depends upon ground water for its supply. The City is located over the Ray Channel Aquifer which is an arm of the Little Muddy Aquifer. These ground water aquifers consist generally of sand and gravel deposited during the Pleistocene glacial period. The depth of water in the aquifer at Ray ranges from 90 to 145 feet.

Water Quality. The quality of ground water has been determined from water studies conducted by the State of North Dakota and the Geological Survey of the United States Department of the Interior.

Table 19 presents a chemical analysis of water from Ray city wells numbers 1 and 2.

The water from these wells is essentially very good water except for hardness, iron content and higher than normal sulfate in Well 2.

TABLE 19

CHEMICAL ANALYSIS
RAY CITY WELLS 1 AND 2

	<u>Well No. 1</u>	<u>Well No. 2</u>
Depth	184 feet	156 feet
Source	Glacial drift	Glacial drift
Date of Sample	8-13-65	8-13-65
Temperature	46 degrees F	47 degrees F
Silica	14 PM	15 PM
Total Iron	.92 PM	2.8 PM
Calcium	80 PM	142 PM
Magnesium	49 PM	78 PM
Sodium	69 PM	49 PM
Potassium	7.8 PM	8.8 PM
Bicarbonate	517 PM	518 PM
Carbonate	0	0
Sulfate	123 PM	350 PM
Chloride	2.6 PM	3.2 PM
Fluoride	0.2 PM	0.1 PM
Nitrate	0.7 PM	1.8 PM
Boron	0.20 PM	0.20 PM
Dissolved Solids		
Sum	602 PM	906 PM
pH	7.5	7.5

Well Number 1 yields about 80 gallons per minute and Well Number 2 yields about 60 gallons per minute.

Water at present is pumped directly from the wells where it is chlorinated and then pumped directly into the system. The high iron content presents a problem which could be solved by constructing an iron removal plant. An alternative is seeking a well having a better quality water.

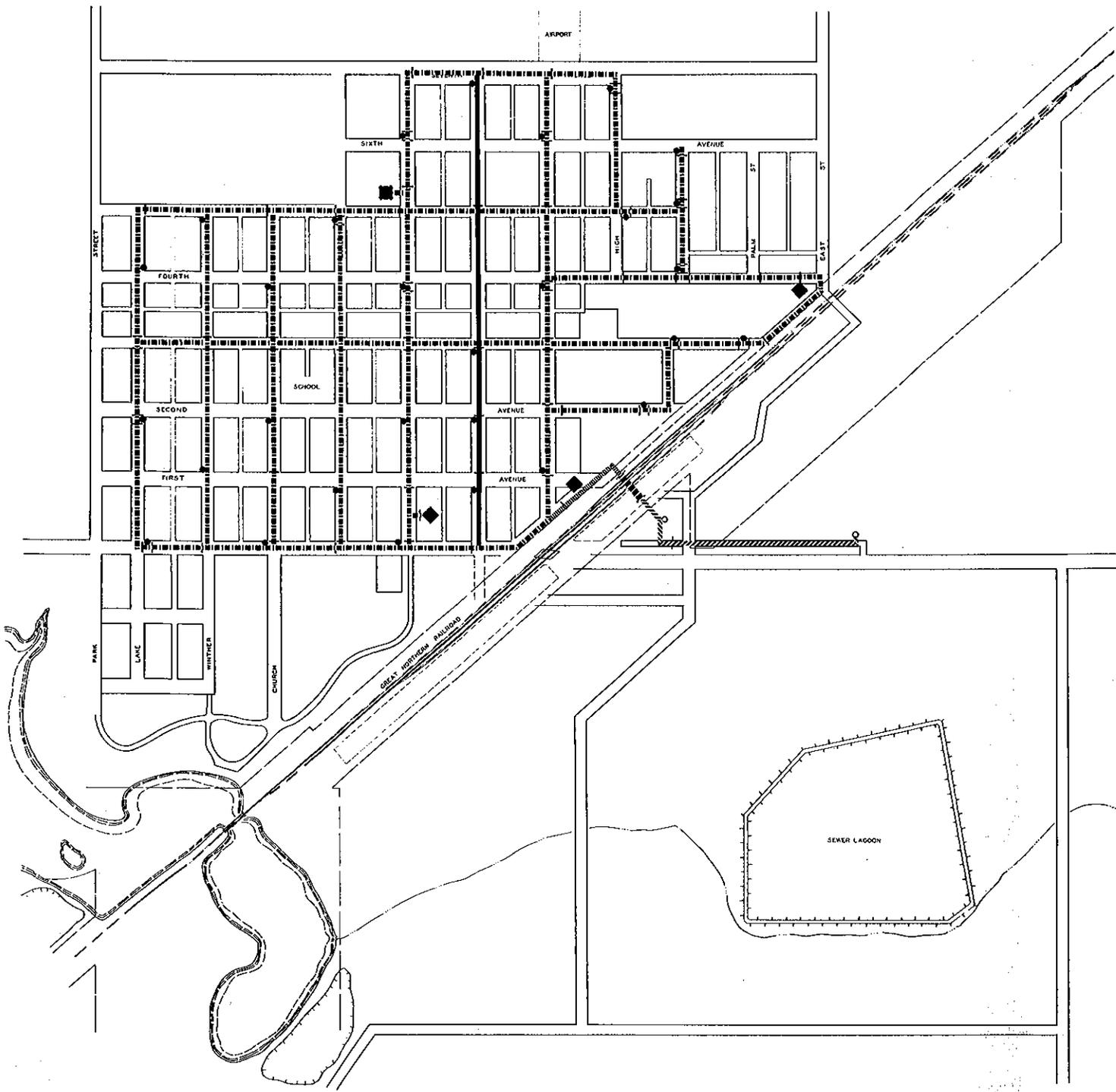
It is possible that better quality water can be obtained and the City is at present studying this possibility.

WATER SYSTEM

Figure 10 shows the City water system. All developed areas of the City have service including some blocks which are not fully developed. All mains are adequately sized.

Extensions from the system can be easily made to serve new growth areas.

An extension is planned to serve that area east of the business district along Highway 2. This main should be looped back into the system when development warrants.

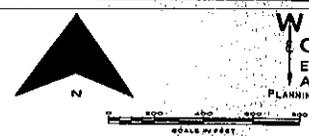


WATER SYSTEM

FIGURE 10

6" MAIN	EXISTING	FUTURE
8" MAIN	————	————
10" MAIN	————	————
VALVE	—+—	—+—
FIRE HYDRANT	•	○
ELEVATED STORAGE	■	
WELL	◆	

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It is recommended that future extensions of the water system be made only in accord with the general development plan unless exceptional circumstances warrant such development.

If the City is unsuccessful in finding better quality water it is recommended that an iron removal plant be constructed.

Softening should be considered in the future, however at present it would not be economically feasible.

SEWER SYSTEM

The sanitary sewer system is a network of sewer lines used to convey liquid wastes to the sewage treatment plant. The system is developed for the health and convenience of the general public.

The system is laid out in such manner that the sewer lines will make maximum use of topography to obtain gravity flow. When the topography prevents gravity flow, a pumping station and a force main are used to elevate the sewage and force it to a part of the system where it will flow naturally.

The sewer system, shown on Figure 11, serves the same area as the water system. The entire system is gravity flow. The system empties into a sewer lagoon at the southeast corner of the City.

An extension of the system is planned for the commercial and industrial area east of the City.

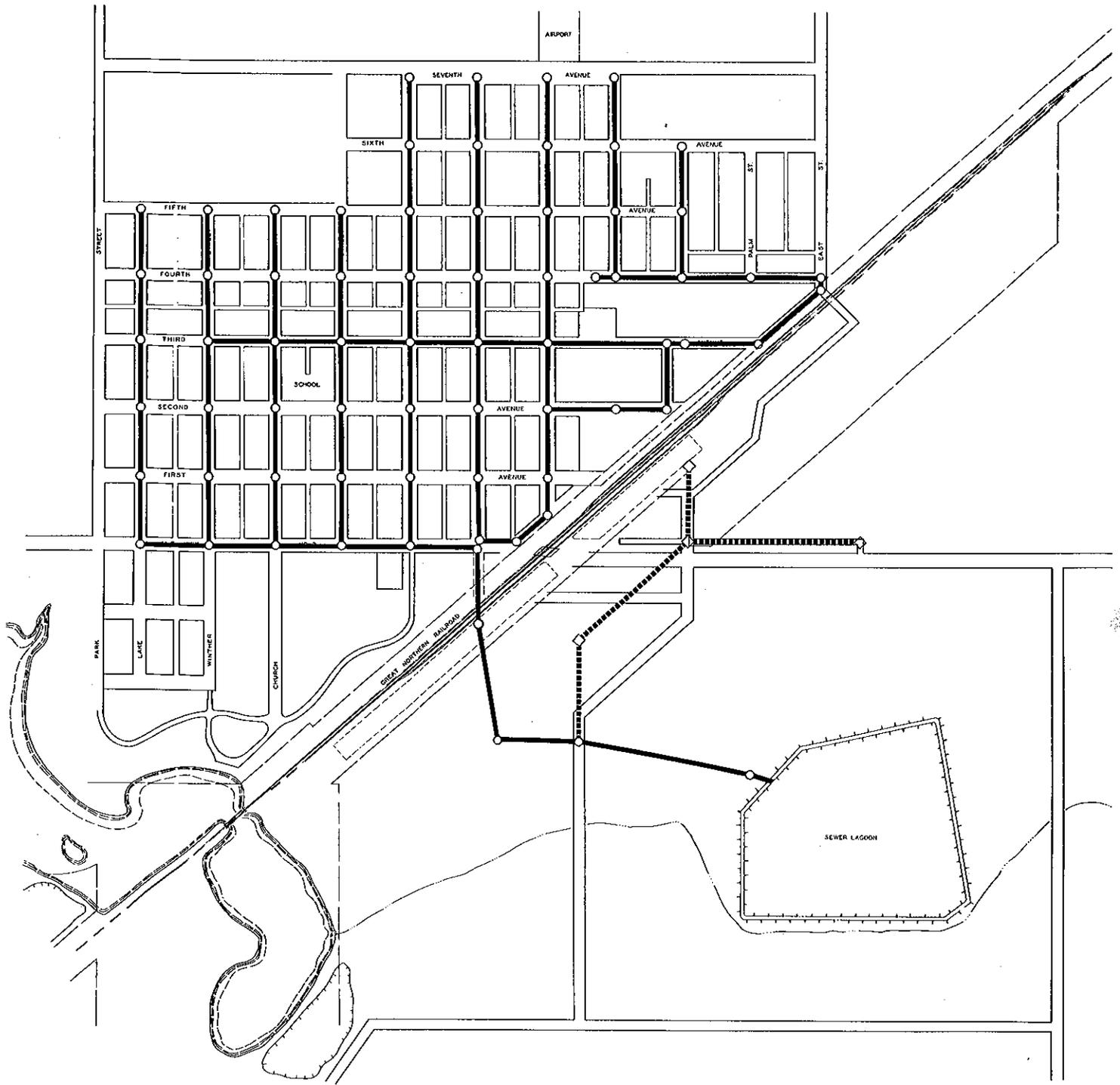
The system is adequate for present needs and will serve future needs for some time. Extensions to new growth areas probably can be made with little difficulty.

STORM DRAINAGE SYSTEM

The storm drainage system is shown on Figure 12. The system of drains that has been planned for the City has not been completely developed.

As the northern part of the City develops, storm water will increase and extensions will be required.

Some attention should be given to storm water drainage problems on the east side of the City, near 4th Avenue and East Street. Drainage could become a serious problem if the area develops. The problem could be easily solved by taking easements on unimproved lots and grading a shallow open ditch to carry storm waters. The drainage should be planned in conjunction with any major street construction in this area.



SANITARY SEWER SYSTEM

FIGURE II

8" MAIN

EXISTING

FUTURE

MANHOLE

○

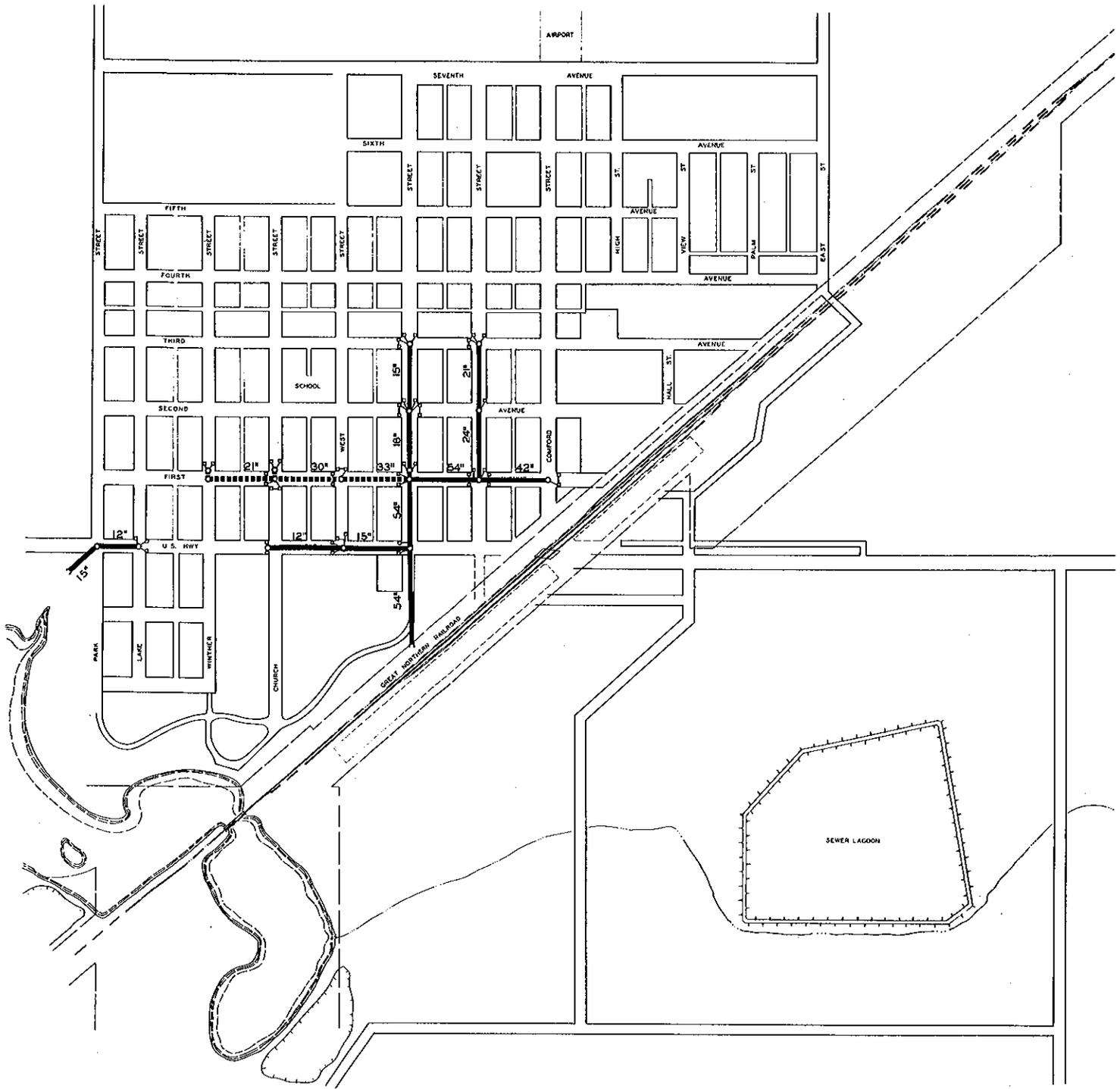
◇

RAY
CITY PLANNING
COMMISSION



0 200 400 600 800
 FEET
 SCALE OF FEET

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STORM DRAINAGE SYSTEM

FIGURE 12

STORM SEWER	EXISTING	—
	FUTURE	- - - - -
MANHOLE		o
INLET		a
OUTLET		c

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OTHER UTILITIES

Gas and electricity are supplied to the City by the Montana Dakota Utilities Company. The location of the power line serving the City is shown on the area land use map which is not reproduced in this report.

Telephone service is provided in this area by the Northwest Mutual Aid Telephone Corporation. Completely modern telephone service is provided by this system. The system is interconnected with the Bell Telephone System and other systems in the area.

SCHOOLS

The school system in Ray is operated by the Board of Education of Nesson Public School District No. 2. This unified district was created in 1963 and was enlarged in 1966. The boundaries are shown on Figure 13. The district should eventually be enlarged to include all of Wheelock Township, Brooklyn, View, Truax and Nesson Valley.

The following shows a listing of assessed valuation and mill levies for the Nesson School District.

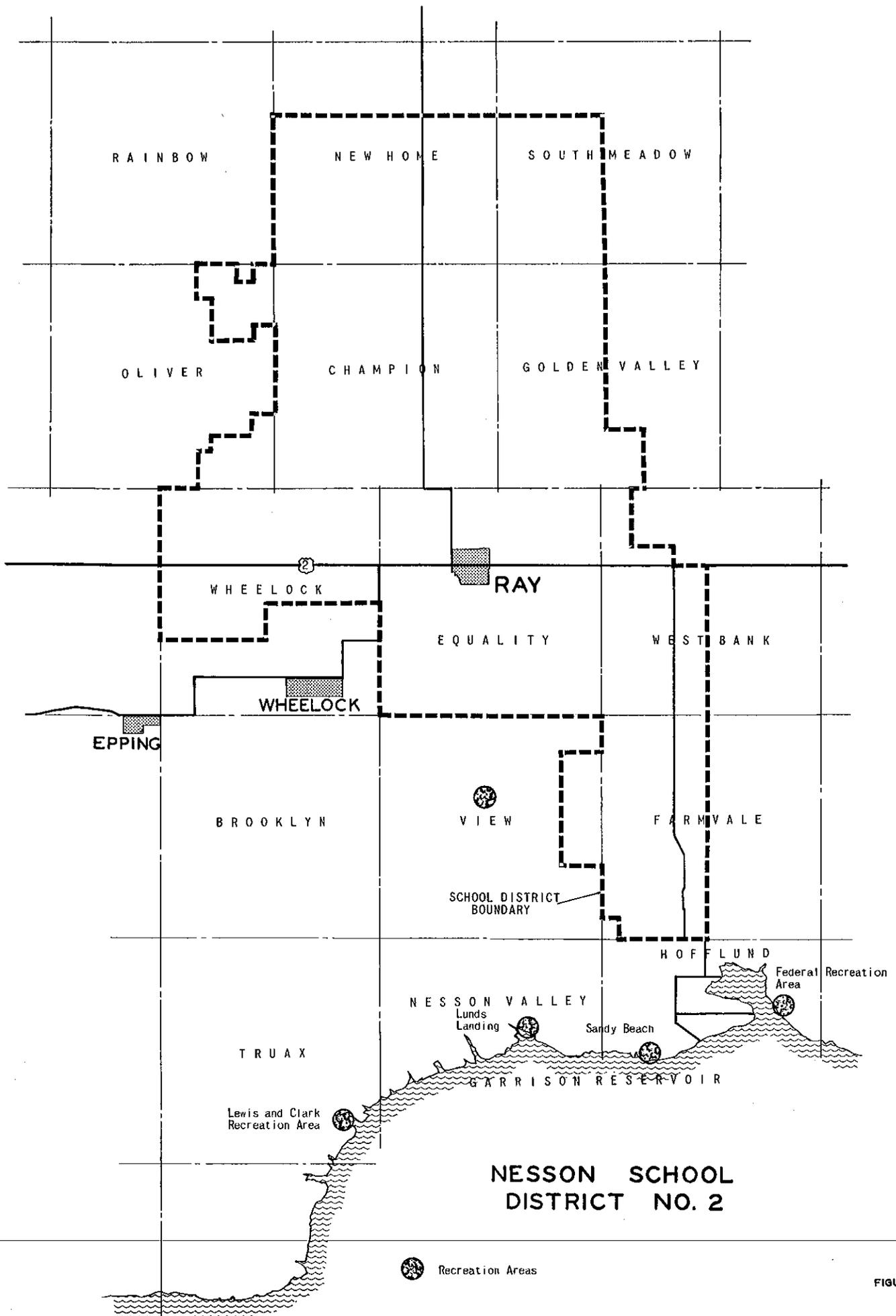
<u>Year</u>	<u>Assessed Valuation</u>	<u>Mill Levy</u>
1960	\$ 693,730	73.04
1962	674,643	72.00
1963	825,451	67.64
1964	899,153	77.06
1965	876,110	76.00
1966	1,423,347	66.74

The tabulation shows the result of adding area to the school district. The enlargement has eased the tax burden to some extent and has produced the funds to provide better school service. The possibility of a future extension should be considered. This would provide a better education for those children that would be included and permit more efficient operation.

SCHOOL FACILITIES

One building houses grades 1 through 12. There are 11 grade school classrooms, 8 high school classrooms, 1 home economics room and 1 shop. A library containing 4,640 volumes is provided in the school.

Enrollment Data. Table 19 shows school enrollments since the 1956-57 school year. The figures are those for the month of May in each school year.



NESSON SCHOOL DISTRICT NO. 2

FIGURE 13

TABLE 19

SCHOOL ENROLLMENT DATA
RAY, NORTH DAKOTA

Grade	<u>56-5</u>	<u>57-58</u>	<u>58-59</u>	<u>59-60</u>	<u>60-61</u>	<u>61-62</u>	<u>62-63</u>	<u>63-64</u>	<u>64-65</u>	<u>65-66</u>	<u>66-67</u>
1	43	45	38	47	23	35	37	35	45	31	40
2	33	40	44	29	41	27	31	38	34	47	33
3	35	32	32	35	27	38	26	32	36	37	43
4	39	33	33	31	28	22	37	29	29	40	40
5	25	33	24	28	30	32	25	34	31	32	36
6	26	23	29	20	25	30	32	24	32	29	32
7	28	22	21	30	21	24	30	32	25	36	33
8	23	29	22	21	29	20	25	29	33	25	35
9	19	25	33	18	24	40	29	32	31	39	30
10	16	21	23	27	18	22	38	26	26	32	37
11	22	16	18	20	24	15	22	34	28	26	29
12	<u>24</u>	<u>21</u>	<u>15</u>	<u>15</u>	<u>17</u>	<u>23</u>	<u>22</u>	<u>18</u>	<u>34</u>	<u>26</u>	<u>27</u>
Total	333	340	332	322	307	328	354	364	384	400	419
Boys	164	177	164	154	140	150	170	171	190	195	203
Girls	169	163	168	168	167	178	184	193	194	205	216

Table 19 shows that total enrollment has increased by only 86 during the 10-year period. Within the system, the largest increases have occurred in grades 8 through 12. The system generally shows declining enrollments. This is caused by families moving into and out of the district. It is also evident, from this table, that the largest export from the Ray community is its young people.

An educational follow-up study was made of graduates of the high school. This involved 113 students for class years 1961 through 1965. There were 95 respondents to the survey of which 43.2 percent were male and 56.8 percent were female.

By the time of graduation, 61.0 percent of the males and 44.4 percent of the females had not decided upon a vocation to pursue. This amounts to 51.6 percent of the total sample. In comparison, 36.8 percent of the sample had formulated a plan for additional education. This indicates that there is a larger percentage of high school graduates that might well be influenced to remain in the community if conditions were favorable for them to do so. This is reinforced with 17.9 percent of the sample indicating that they were not in the vocations for which they had prepared and 8.4 percent were leaving the state because of better pay and opportunities.

The best way to influence the graduates appears to be through the courses offered in high school, followed by the opportunity to apply this education in the community. Of the sample, 38.9 percent indicated that their vocational choice was influenced by the courses offered in school and 22.1 percent by counseling and guidance. The sample indicated a desire for course offerings or expansion of course in home economics (28.4%), advanced mathematics (12.6%), foreign languages (12.6%) and shop (11.6%). Appendix 1 shows a tabulation of the data contained in the questionnaire.

Ray would be a considerably larger community if efforts were made to absorb young people into the economic structure of the community.

ENROLLMENT PROJECTION

The following tabulation shows a straight line enrollment prediction for 1975 based upon surviving students through the system. It assumes that enrollment will remain constant from year to year. New students coming into the system (grade 1) would decline from 40 in 1967 to 20 in 1975. The following tabulation shows the results of this projection.

ENROLLMENT PROJECTION - STRAIGHT LINE

<u>Year</u>	<u>Grades 1-8</u>	<u>Grades 9-12</u>	<u>Total</u>
1969	280	135	415
1970	275	130	405
1971	265	136	401
1972	249	141	390
1973	229	151	380
1974	218	152	370
1975	198	156	354

This projection shows the declining trend in enrollments. If these enrollments materialize there will be little effect on the existing system. Classes for elementary students could be maintained at about 25 per classroom and high school class sizes at 20 per classroom.

A more optimistic projection is shown in the following tabulation. In this projection the population projection for the City of Ray is used and the time period is longer.

ENROLLMENT PROJECTION RELATED TO CITY GROWTH

<u>Year</u>	<u>Grades 1-8</u>	<u>Grades 9-12</u>	<u>Total</u>
1970	312	115	427
1975	340	127	467
1980	399	148	547
1985	459	170	629
1986	471	174	645

This projection would affect the school plant to some degree if it were to materialize. The following tabulation compares the effect of increased enrollment on class size and number of rooms required.

CLASS SIZE - 25 PUPILS

<u>Year</u>							Total
	<u>Grades 1-8</u>	<u>Rooms Reqd.</u>	<u>Classroom Deficiency</u>	<u>Grades 9-12</u>	<u>Rooms Reqd.</u>	<u>Classroom Deficiency</u>	<u>Classroom Deficiency</u>
1970	312	12.4	1.4	115	4.6	0	0.0
1975	340	13.6	2.6	127	5.0	0	0.4
1980	399	15.9	4.9	148	5.9	0	2.8
1985	459	18.3	7.3	170	6.8	0	6.1
1986	471	18.8	7.8	174	6.9	0	6.7

Note: Existing elementary classrooms - 11
Existing high school classrooms - 8

This tabulation indicates that 7.8 additional classrooms would be required at the elementary level. If space adjustments were made within the building, this could be reduced to 6.7. Increased class sizes would further reduce the room deficiency but would also reduce the efficiency of classroom instruction. If this projection were to materialize the best alternative would be to construct additional space.

It is apparent from both projections, that no extra classroom space would be required until 1980 and, unless population growth occurs, none will be required at that time.

The curriculum should be expanded as suggested in the student follow-up study. The expansion of shop and commerce courses would produce semi-skilled people that could be absorbed into the community. It is suggested that a committee of school officials and business leaders interview each senior class member annually and attempt to place them in jobs in the community. If given proper study numerous occupations could be developed within the community. This would result both in population and economic growth. If the reservoir of youthful people can apply their skills and resourcefulness in the community and region, economic stability can be assured. The majority of young people leave a community because opportunities are not extended to them.

The present school site should be expanded into the next block west of the present site. This would provide necessary additional playground space.

PARKS

The parks in Ray are developed and maintained by a Park Board. The Board also is responsible for the summer recreation program. Part of the program consists of a number of softball leagues for youths and adults. Competition is held with neighboring towns.

Park Facilities. There are about 20 acres of land devoted to parks in the community. This acreage is in two parks. A small park in the north part of the City is used for passive recreational uses. The larger park, near the water reservoir, has broader use and more facilities.

The larger park has a large ball diamond, playground equipment, picnic areas and open space for other activities such as fairs, rodeos and other activities. This park is attractive and has considerable landscape plantings.

The park is adjacent to a small reservoir which permits boating. The activities of this park could be expanded by improving boating facilities and by providing shelters near the shore line for use in both summer and winter months.

Regional Facilities. A number of water oriented recreation facilities are located along the north shore of the Garrison Reservoir. The reservoir is about 17 miles south of Ray. A federal recreation area is provided in Hofflund Township and the Louis and Clark recreation area is located in Truax Township. East of Lunds Landing is an extensive natural sand beach.

All of these areas provide excellent year-round recreational facilities. The potential for attracting tourists to these facilities has not yet been realized. The businessmen of Ray should take the initiative and see that plans and programs are developed to enhance the general area and attract tourists, working with the Corps of Engineers, the Department of Economic Development and Williams County officials to increase utilization of the area through increased and improved facilities, better and wider promotion and better access roads.

Future Park Facilities. The future development of parks in Ray should include plans for more intense development along the City lake and the southwest part of the large City park. Extensive use of landscape planting should be continued in this park. Some facilities would include:

1. Boat ramp
2. Shelter houses
3. Additional picnic facilities
4. Roads and parking areas
5. Generous plantings of trees, shrubs and flower gardens
6. A conservatory should be considered in long-term planning to provide an indoor display of botanical specimen plants on a year-round basis.

North City Park. This park should be expanded to provide:

1. Swimming pool
2. Softball fields
3. Court games, volley ball and tennis
4. All areas should be carefully planned for development of plantings, recreation areas and parking.
5. An ice-rink built for alternate use as a roller-skating rink could be used year-round.

Golf Course. A nine-hole golf course is proposed south of the City. Because of the distance to other golfing facilities, a course could be justified at Ray. It is probable that the land for this course, which is State owned, could be acquired at very little cost to the City. If this is true, the construction of the course is feasible.

Community Recreation Center. A facility is needed to provide year-round recreational opportunity and for other social activities. This would take the form of a community building and has been proposed as a part of the Central Business District Plan. This would greatly enhance the senior citizen housing area to be developed as part of the Plan. The building would be designed for multipurpose activities.

AIRPORT

The present air strip located at the north edge of the City should be abandoned. It is poorly graded and approaches must be made over the City.

Figure 14 shows the location of a proposed airport, about 3/4 mile west of the City. This facility would require about 100 acres of land. A runway length of 3,200 feet should be developed. With easements to control development in approaches at both ends of the runway, the length would be increased to about 5,000 feet. A more detailed design study would be required to provide actual land requirements. Federal aid could be utilized to purchase, grade and surface the runway. Other facilities such as parking, office building and gas pumps would be installed by the City.

Federal Aviation Administration publication AC150/5060-2 should be consulted before detailed planning begins.

PUBLIC BUILDINGS

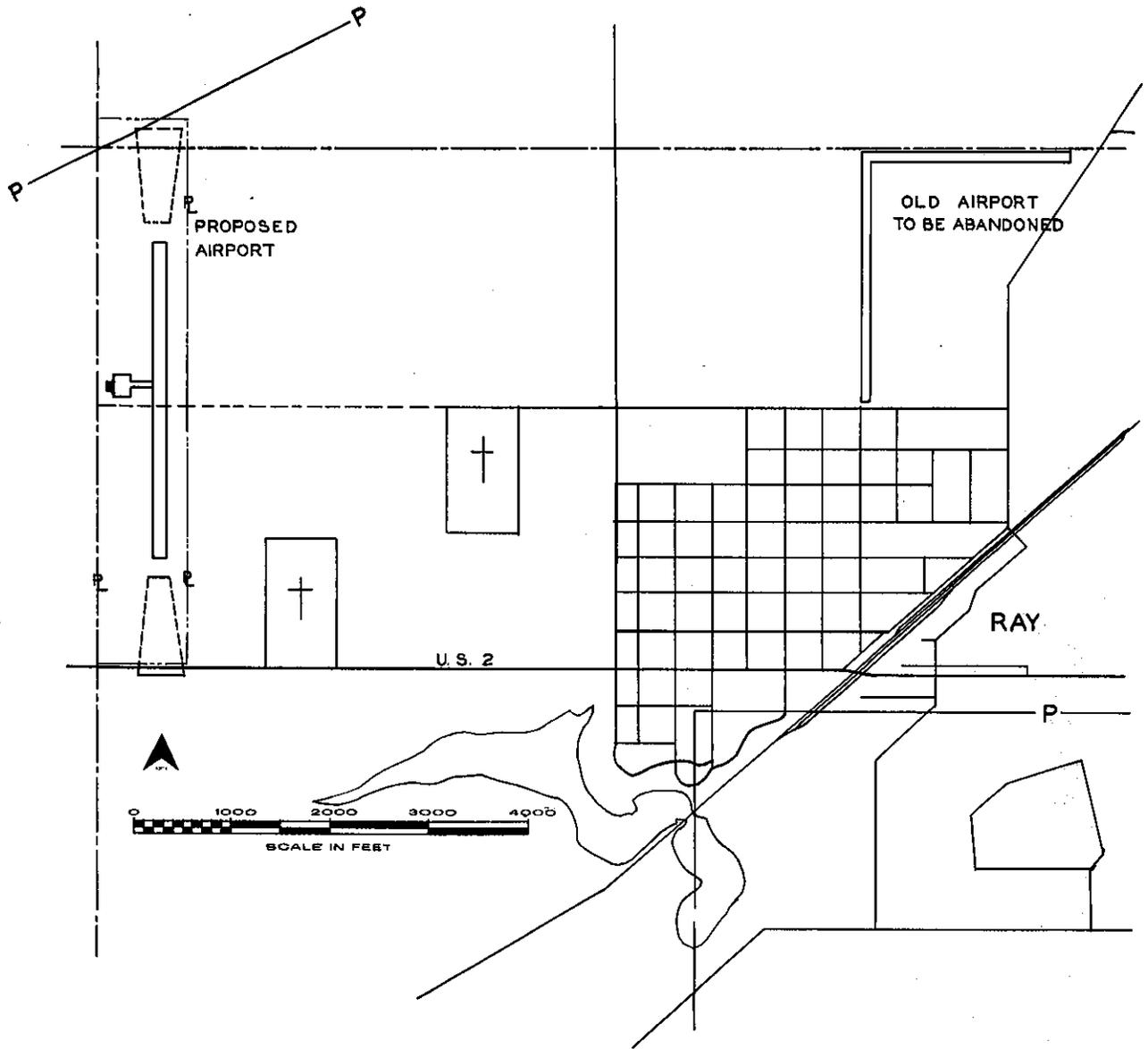
The present City buildings have long since served their purpose.

It is proposed, as a part of the Plan, to build a City building which would combine the functions of the police department, fire department, and city offices. A small library could be included in this building. The location of this facility is shown on the CBD Plan, Figure 9.

OTHER FACILITIES

The City has no facilities for doctors or dentists. Some space has been planned in the shopping facility, to be constructed as a part of the CBD Plan.

It is evident from this section that numerous facilities are required to build a well-balanced community and to meet the needs of all individuals. To provide these facilities will require careful planning and efficient budgeting on the part of City officials. Federal aid should be sought wherever and whenever it can be utilized.



LOCATION OF PROPOSED AIRPORT

SECTION X

CITY PLAN

INTRODUCTION

The City Plan on Figure 15 is a general guide to the orderly growth and development of the Ray community. The plan may be considered a framework around which the future community may be fabricated. Planning is intended to be used as a guide in providing for community needs that cannot be provided for on an individual and uncoordinated basis.

The plan should function to enhance the group interests of the public. The interests of any single individual should not be paramount when considering the relative merits of any aspect of the plan.

The completed and properly adopted comprehensive plan is a statement of policy setting forth the kind of a community desired in the future. It is the objective of the plan to achieve a harmonious, well-balanced community with components properly located and related to achieve safe, efficient and economic development without compromising those factors which will bring about a healthful, wholesome, and attractive environment in which to live, work and rear families.

POPULATION

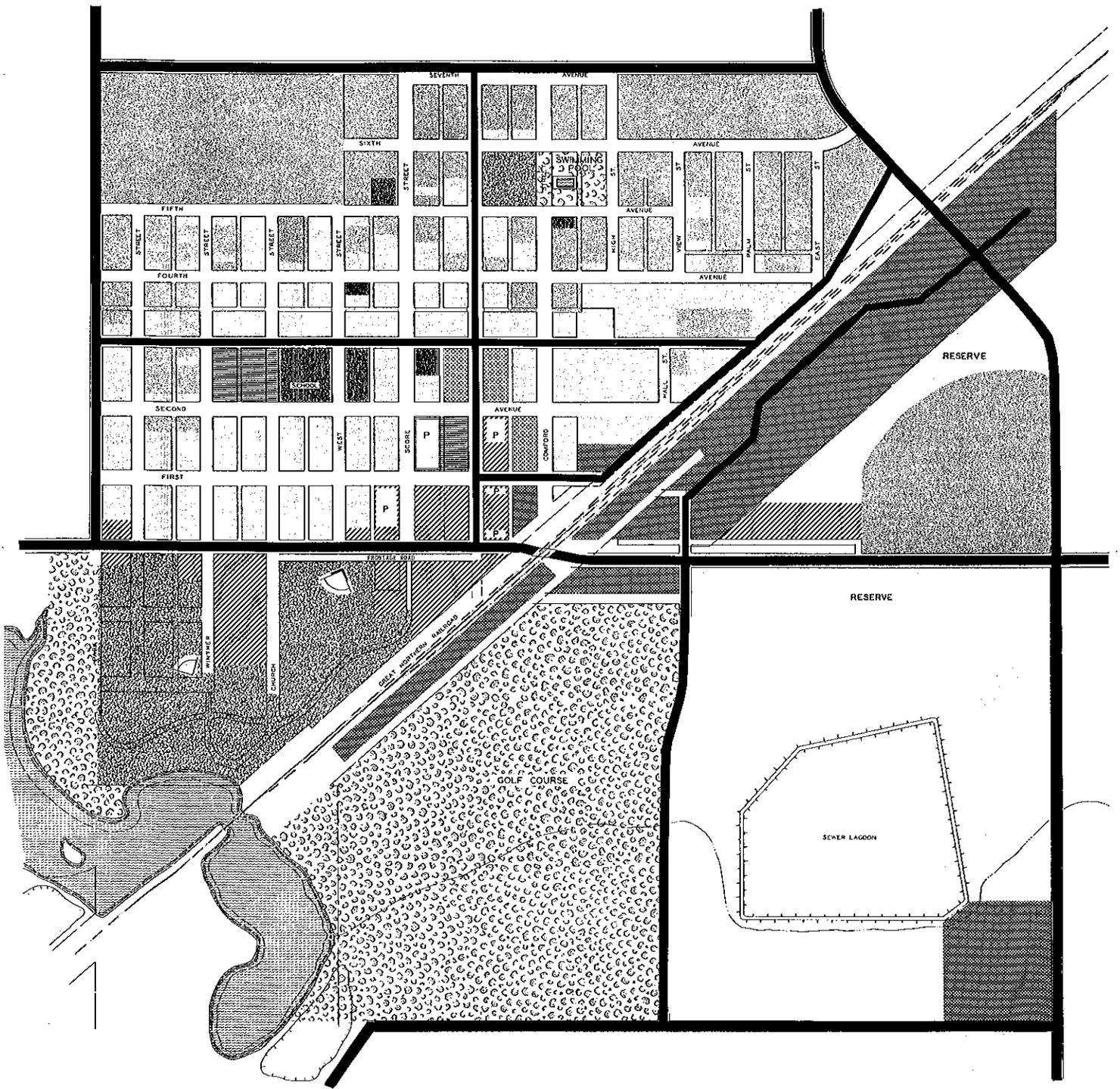
The size and characteristics of the future city depend upon the number of people to be accommodated and their activities. It is anticipated that Ray will be a community of 2,200 persons in 1986. The plan shows areas where the expected population could be most reasonably housed. The areas should be developed in an orderly fashion, achieving relatively low residential densities. These densities can best be achieved by proper application of zoning. Zoning must be used judiciously and with integrity if a healthful, wholesome and attractive environment is to be created.

ECONOMY

The economy will have a direct bearing upon the future community. To supply its future citizens with jobs, the City must continue to attract industry and strive to obtain a greater share of the economic wealth of the region. Utilizing its many advantages properly, the City should achieve a sound economy and an equitable tax base to provide improvements necessitated by continued physical growth.

LAND USE

The spatial arrangement of the various land uses is shown on the development plan. There are 245.2 acres of developed land within the City at present. In 1986 about 453 acres of additional land will be required to accommodate the population when it reaches 2,200. It is imperative that the best practice be utilized in developing new land and that all developments be coordinated with each element of the comprehensive plan, particularly the street plan.



CITY PLAN - 1990

FIGURE 15

	EXISTING	FUTURE
RESIDENTIAL		
HOUSING PROJECT		
PUBLIC		
PARKS		
COMMERCIAL		
INDUSTRIAL		
MAJOR STREET		
MINOR STREET		
PARKING		

**RAY
CITY PLANNING
COMMISSION**



0 200 400 600 800
SCALE IN FEET

**WILSON
& COMPANY**
ENGINEERS
ARCHITECTS
PLANNING CONSULTANTS

MAJOR STREETS

The major street plan is intended to establish a system of thoroughfares for moving traffic in a rapid yet safe and efficient manner. This is accomplished by establishing a street system serving all parts of the City, with streets designed to carry large traffic volumes and located so that all areas of activity are interconnected with reasonably direct routes. This can result in considerable economy since only a small part of the total system need be built to the high design standard of the arterial street. Three kinds of streets are suggested by the plan: local, collector and arterial.

If an effective street system is to be developed, abutting land uses must be carefully considered and the appropriate street standard used. The arterial can best be protected by properly designed subdivisions acquiring ample rights-of-way, and realistic land use regulation through zoning.

CENTRAL BUSINESS DISTRICT

The Ray Central Business District is the focal point of numerous and intense activities. The district is the center of most retail and business activity in the City. It is also the center of government for the City. Industrial and transportation activities are located in close proximity to this core.

The intention of the plan is to maintain the business district as a continually prospering center for business, social, recreational and government activities of the City. The success of planning in this area is dependent upon cooperation between government and free enterprise.

The Federal Government's Urban Renewal program can be used effectively in this area to redevelop the business district to accommodate new commercial activity and to assist in establishing a modern civic center to meet the demand for government services created by a growing community.

HOUSING

The supply of housing in Ray is generally in sound condition, but some serious deterioration has begun to occur in parts of the City.

Blighted and deteriorated areas should be arrested and rehabilitated or redeveloped to a more useful purpose. In parts of the City, corrective measures should be undertaken to maintain an adequate supply of sound housing. Some of these measures are continued enforcement of building, electrical and plumbing codes and adoption and enforcement of a zoning ordinance, subdivision regulation and a uniform housing code.

Citizen groups, acting in cooperation with the City, can do much to maintain the character of housing in their neighborhoods. In some sections the task of redeveloping blighted areas for better use exceeds the resources of both private capital and the City; assistance should be sought from the Federal Government through the use of the Urban Renewal program.

COMMUNITY FACILITIES

Community living, by its very nature, requires that certain common services be provided to insure the safety and well-being of the populace.

Public agencies which provide the various community services are responsible for the location, size and kind of buildings necessary to suit the particular requirements for conduct of the several government functions.

State legislation provides the planning commission with some discretion as to where and how a proposed public facility shall be located, provided that a duly adopted comprehensive plan exists. These facilities may range from an electric power substation to a school building or any kind of public structure.

The public facilities plan proposes a new government center, new parks and additions to the utilities system be constructed during the 20-year period covered by the plan.

Many of these facilities will be provided in response to demand as the population grows. Schools, water, sewers, and the electrical system are essentially related to growth. In older parts of the City, it will be necessary to provide new and improved facilities to replace those that are obsolete or do not provide satisfactory service.

PLAN IMPLEMENTATION

After a comprehensive plan has been prepared and adopted, the question arises as to how actual development of the City is brought into correspondence with proposals recorded in the plan.

The principal process employed in putting a plan into effect is divided into three areas:

1. Regulation of development and use of property.
2. Provision of public services, utilities, and other physical improvements.
3. Public education and participation in the planning program.

Fitting streets, parks, playgrounds, schools, fire stations, libraries and other public facilities in with the comprehensive plan is accomplished by two steps:

1. Require that each proposed project be submitted to the Planning Commission for review and recommendation before the legislative or administrative groups take final action.
2. Prepare a long term Public Improvement Program and Capital Budget to determine essential priorities from among the several projects.

The regulatory measures employed in this process are often referred to as the "planning tools". These tools are the Zoning Ordinance and District Map, the Subdivision Regulations, and the Public Improvement Program and Capital Budget. These measures are a part of the comprehensive plan and have been prepared as separate documents.

CONTINUOUS PLANNING

Planning is a continuing process. A plan is of little value unless it is adopted and its proposals put into effect. Implementing a plan is largely an administrative process. Since cities are constantly changing, some parts of a plan may become outdated early in the planning period. It is for these reasons that planning must be a continuing process of review and updating to keep plans current and to make them more useful documents for evaluating and guiding community growth.

A continuing program involves keeping current data on land use, street system, traffic volumes and public facilities, and the development of annual capital improvement programs. It may also involve detailed programs for neighborhood rehabilitation, park plans, and Central Business District studies.

CITIZEN PARTICIPATION

A citizen group should be organized to actively participate in the planning process and to familiarize themselves with the City's plans and programs and, in turn, to inform and secure public participation and support for such programs. An organization of this nature should not be formed to harass the Governing Body and its administrators but rather to give support and guidance in achieving an aggressive planning program which will result in an efficient government and an improved urban environment. This kind of committee should be organized at an early date.

APPENDIX I

FOLLOW-UP EDUCATIONAL SURVEY
1961-65

1.	Total Class Number Involved:	113		
	<u>a.</u> Number of responses:	95	84.1%	
	(1) Male respondents:		41	43.2%
	(2) Female respondents:		54	56.8%
	<u>b.</u> Did not respond:	14	12.4%	
	<u>c.</u> Not contacted:	4	3.5%	
		113	113	100.0%
			95	100.0%
			<u>Percent of Males</u>	<u>Percent of Females</u>
2.	Marital Status at Time of Study			
	<u>a.</u> Married		31.7	51.9
	<u>b.</u> Single		68.3	48.1
3.	School Years Completed at Ray			
	<u>a.</u> Freshman		78.0	92.6
	<u>b.</u> Sophomore		85.4	92.6
	<u>c.</u> Junior		87.8	94.4
	<u>d.</u> Senior		100.0	100.0
4.	Influence of High School on Vocational Choice			
	<u>a.</u> Courses offered		36.6	41.8
	<u>b.</u> Counseling, guidance		31.7	16.8
	<u>c.</u> Peer influence		12.2	22.1
	<u>d.</u> Uninfluenced		19.5	18.6
	<u>e.</u> Alumni			0.8
5.	How Well High School Training Helped in Making Choice of Vocation			
	<u>a.</u> Adequate		65.9	62.9
	<u>b.</u> Inadequate		26.8	12.9
	<u>c.</u> Unconcerned		4.9	16.7
	<u>d.</u> No response		2.4	7.4
6.	Decided Vocation by Graduation			
	<u>a.</u> Yes		39.0	55.6
	<u>b.</u> No		61.0	44.4

	<u>Percent of Males</u>	<u>Percent of Females</u>
7. Had Formulated Plan of Education Upon Graduation		
<u>a.</u> Yes	31.7	40.7
<u>b.</u> No	7.3	14.8
<u>c.</u> No response	60.9	44.4
8. Continued School after High School		
<u>a.</u> Yes	39.0	66.7
<u>b.</u> No	12.2	27.8
<u>c.</u> No response	48.8	5.5
9. Completed Post High School Education	14.6	29.6
10. Still in Post High School Education Program	48.9	16.7
11. Employed in Vocation for Which Prepared		
<u>a.</u> Yes	7.3	25.9
<u>b.</u> No	17.1	18.7
<u>c.</u> No response	75.6	55.6
12. Place of Residence		
<u>a.</u> In North Dakota	63.4	68.5
<u>b.</u> Outside North Dakota	36.6	31.5
13. Reasons for Leaving North Dakota		
<u>a.</u> Military related	53.3	17.6
<u>b.</u> Marriage		35.3
<u>c.</u> Schooling	13.3	11.8
<u>d.</u> Better pay opportunity	20.0	29.4
<u>e.</u> Company transfer	13.3	
<u>f.</u> Travel		5.8
	<u>Percent of Total Sample</u>	
14. Desire Increase in High School Courses		
<u>a.</u> Home Economics	28.4	
<u>b.</u> Advanced Mathematics	12.6	
<u>c.</u> Foreign Languages	12.6	
<u>d.</u> Shop	11.6	
<u>e.</u> Advanced Commercial	10.5	
<u>f.</u> Miscellaneous Areas (9)	24.3	

Source: Board of Education of Nesson Public School District No. 2.