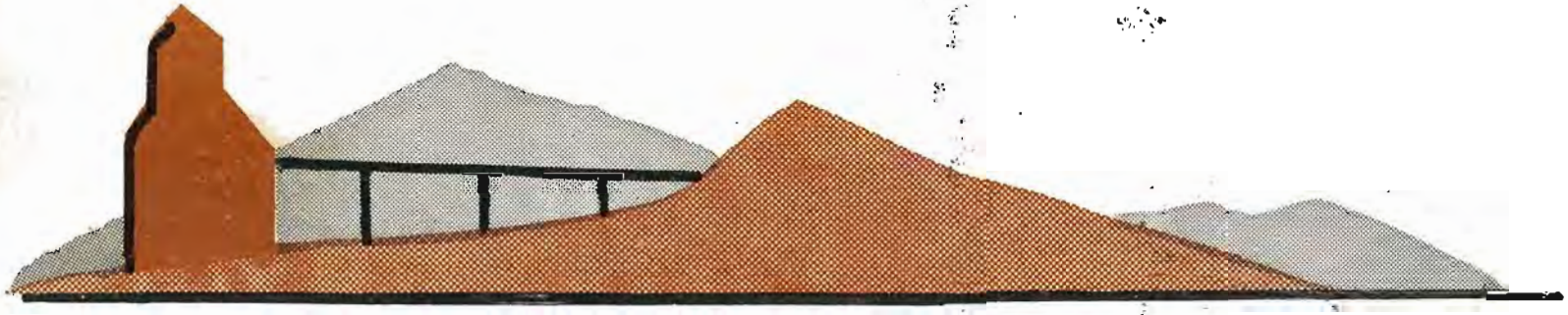
FOUNDATIONS FOR PLANNING 1963



IRONWOOD

F O U N D A T I O N S F O R P L A N N I N G

CITY OF IRONWOOD

by the

IRONWOOD CITY PLANNING COMMISSION

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June 28, 1963

The preparation of this report, including all accompanying display maps and charts, was financed in part through an urban planning grant from the Housing and Home Finance Agency, under the provisions of Section 701 of the Housing Act of 1954, as amended, administered by the Michigan Department of Economic Expansion.

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June 28, 1963

Mr. Martin Kopnick, Chairman
Ironwood City Planning Commission
Memorial Building
Ironwood, Michigan

Dear Mr. Kopnick:

The attached report on Foundations for Planning, City of Ironwood, summarizes the first phase of the comprehensive planning program. This will be followed by presentation of the Comprehensive Plan as soon as the Planning Commission and their consultants perfect the final conclusions and recommendations.

It is our hope this report adequately represents the views of the Planning Commission, and that it will truly function as a foundation for the plan and the regulatory ordinances. We wish to commend you and your fellow planning commissioners, the subcommittee members, and the city commission and officers for your participation in preparing this report.

Respectfully submitted,

WILLIAMS & WORKS

By: Zane Miller, Planning Consultant Frank W. Suggitt, Consultant

F O R E W O R D

and

A C K N O W L E D G E M E N T S

Planning for the City of Ironwood is almost totally different than planning for more typical communities with an expanding or a stable population and economic base. The declining population and the shrinking employment base of Ironwood necessitates a reversal of the usual emphases in the planning program. Nevertheless, the same fundamental planning principles must be employed, namely:

1. Define, refine, and clarify objectives.
2. Inventory and evaluate the present situation.
3. Analyze and interpret previous changes and trends.
4. Project future changes and trends.
5. Formulate an overall comprehensive plan, with recommendations for specific projects and programs.
6. Recommend ways and means whereby the plan can be carried out in a continuing program of planning-action.

Under the most optimum of circumstances, planning is only an advisory or a recommendatory phase of administration. Its only authority or power lies in the strength of sound facts, logical analyses and meaningful presentation of recommendations. In the final analysis, this kind of an approach is the most authoratative and useful, and it is certainly harmonious to democratic principles.

In this initial report, the basic studies or the background material for planning are presented, along with some interpretations of objectives and local and regional situations that must be considered. This report is a summary of what Ironwood is, what supports it, how it functions as an urban institution to provide the environment people want and need. Upon these foundations, the final planning recommendations are being made by the Ironwood City Planning Commission and its consultants. A final report will include more detailed special studies and programs of special emphasis, the comprehensive general plan, suggested zoning and subdivision ordinances, a map and plan for all public land and facilities, a capital improvement program and budget, and guidelines for the continual review, updating, and implementation of the plan.

The Ironwood City Commission, the Planning Commission, the City Manager, and many others have contributed to this report. Members of subcommittees and many other local people have supplied information and material that has helped shape this report and the planning program. The present mayor, Philip O'Leary, his predecessor, Roy Ahonen, and City Manager Kenneth Long deserve special mention for their initiative and cooperation throughout the program.

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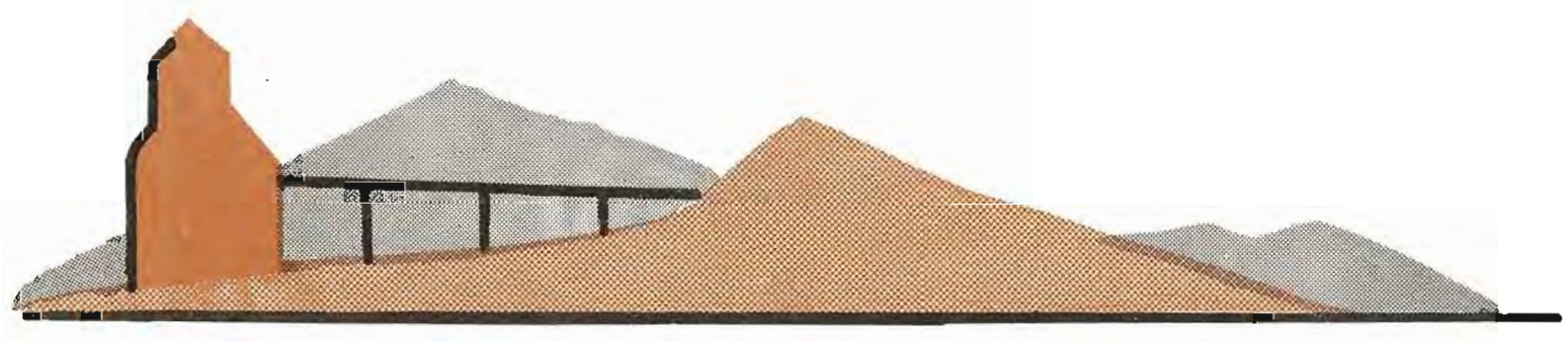

FORWARD

I. INTRODUCTION

This chapter introduces the City of Ironwood and its current situation, it outlines the city planning organization and procedure, and it sketches some of the goals and objectives of the planning program, especially as they relate to the need for economic expansion. Particular attention is directed to the peculiar problem of planning throughout the Upper Lakes Region where the economy and population are shrinking rather than expanding. A planned program of retraction of urban service and of ultra-efficient municipal management is essential if these communities are to expect economic redevelopment.

A. THE IRONWOOD SITUATION

1. Why Is There A City Of Ironwood?

In 1882, a body of iron ore was discovered; in 1885 mining operations began and a townsite was platted. The town was probably named after James Wood, the discoverer of one of the greatest bodies of highgrade iron ore in Michigan. The Norrie, North Norrie, East Norrie, Aurora, Pabst, and Newport mines were soon in operation. Mine workers and the mining operations required homes, stores, shops, banks, churches, personal and professional services.

The Village of Ironwood was incorporated in 1887, and in 1889 it became a city, and new charters were adopted in 1924 and 1947. Territory was annexed to the original city to encompass several outlying mining properties and the settlements that grew up around them.

Being the oldest city on the rich Gogebic Iron Range, and being strategically located on the Wisconsin-Michigan state line, Ironwood became a major trade center for a large bi-state region. From a boom-town mining camp start, growth was rapid, and then it began a consistent decline:

TABLE 1. POPULATION CHANGE, 1890-1960:

1890 - 7,745	1930 - 14,299
1900 - 9,705	1940 - 13,369
1910 - 12,821	1950 - 11,466
1920 - 15,739	1960 - 10,265

Source: U. S. Census.

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2. What Supports Ironwood?

For many years, iron mining was the basic source of employment and taxes, and thus, the businesses, services, and professions were almost entirely supported by the mining industry, directly or indirectly. Over the years, Ironwood has gained stature as a regional center for retail trade and services.

In the 1960 U. S. Census, mining still was the major employer of all industry groups, as Table 2 (on page 3) reveals. Note that Ironwood supports relatively more of its employed labor force than does Michigan in mining, transportation, and communications, wholesale and retail trade, business and professional services, and public administration. With the exception of mining and public administration, perhaps the key to Ironwood's future will be the strengthening of those economic activities in which the economy of the city is already comparatively strong.

TABLE 2. EMPLOYED LABOR FORCE, COMPARED WITH MICHIGAN, 1960:

	Ironwood Percent	Michigan Percent
Agriculture, Forestry & Fisheries	0.5	3.5
Mining	26.0	0.6
Construction	2.9	4.6
Manufacturing	12.9	38.0
Transportation & Communications	7.2	5.8
Wholesale & Retail Trade	22.4	17.7
Finance, Insurance & Real Estate	1.7	3.3
Business & Personal Services	9.0	7.7
Professional & Related Services	10.1	12.1
Public Administration	5.4	3.5

Source: U. S. Census

3. What Changes Have Occurred?

A population decline of 5,474 people, 34.8 percent, between 1920 and 1960 is indicative of basic changes in the iron mining economy. Between 1950 and 1960, Ironwood's population dropped 10.5 percent, but its labor force declined 18.3 percent and the employed labor force was 19.7 percent less at the end of the decade. In short, deaths and out-migration did not take up the slack resulting from the shrinking employment base. The result is a higher rate of unemployment and a higher percentage of older people.

All of the decline in employment between 1950 and 1960 did not occur in the mining industry, although much of it was, no doubt, related to mining declines. The following indicates percentage decrease

in some of the major industry groups in Ironwood between 1950 and 1960, in comparison with percent of population decrease:

TABLE 3. DECLINE OF EMPLOYMENT BY INDUSTRY GROUP, 1950-60:

	% Decline of Employment
Employed Labor Force	19.7
Manufacturing	33.5
Transportation & Communications	30.2
Construction	27.9
Mining	20.9
Retail & Wholesale Trade	16.4
Population	10.5

Source: U. S. Census

4. What Has Happened To The Tax Base?

In 1925, when Ironwood's population and prosperity were probably at their peak, assessed valuations of mining property within the city was $17,028,000. The 1963 assessed valuation of all mining property in the city was $131,000. Two-thirds (66.5%) of all taxes in the city were paid by mining in 1925, and the mining share was much higher in earlier years, but in 1963, mining constituted only 0.86 percent of the total assessed valuation in the city.

During the past 38 years, the incidence of taxation has shifted from mining to residential, commercial, and industrial properties. The amount paid by mining in 1925 was 130 times more than in 1963, while non-mining properties are now paying 177.6 percent more than they

did then. Non-mining now comprises 99.14 percent of the total tax base.

The decline in the valuation of mining properties has been quite consistent over the years, except for an acceleration during the past ten years when it dropped from 33.0 percent of the total tax base in 1954 to 0.86 percent in 1963. In 1944, mining comprised 41.5 percent of the total and in 1934, 57.5 percent. The handwriting was plainly on the wall, for those who were able to read it, but nobody could have interpreted the trend lines to a total cessation of mining and an almost total abandonment of mining properties by 1963.

The people of Ironwood are not accustomed to high rates of taxation on their own personal and real property. For many years, the mines absorbed so much of the tax burden that this became a normal kind of arrangement in most people's minds. Assessments on private property have been ridiculously low, especially on the company-owned houses on which the tenants have paid only personal property taxes. Today, with no mining operations to pay taxes or create jobs, Ironwood is in a dilemma.

5. What Is The Condition Of The Municipal Plant?

Ironwood is actually a composite of several scattered neighborhoods that were initially platted and built upon by mining companies near the mining operations. These "locations" were designed to accommodate the miners and their families within walking distance of their place of work, and with little thought beyond creating plots of land large enough to hold a few houses. There was no thought given to relating streets or other services of one location with others or with the original plat which became the central business district. The locations functioned autonomous neighborhood units, each with its own school, store, and taverns.

The city of Ironwood is dissected in a northeast-southwest direction by a caved area that extends almost from city limit to city limit. Very few streets and roads can cross the "caves" and most utility lines are forced to circumvent them. The area of surface subsidence, caused by the collapse of mine tunnels below, creates a definite barrier to orderly and logical surface development or redevelopment.

Another barrier to development is the railroad right-of-way, trackage, depot and warehousing area which roughly parallels the caves, from one-quarter to one-half a mile to the north. To further confound the physical development of the city and its utilities and services is the presence of rock outcroppings at or near the surface, and a great deal of local variation in topography and relief. Land owned by mining companies or by fee owners presents still another obstacle to land use planning and development.

Early Ironwood built well in some areas and poorly in others. The company-owned houses in the mining locations were of standardized design and were built for utility rather than comfort, convenience, permanence, or aesthetics. This was "boom town" construction, and many of the commercial buildings, especially in the "locations," were also rather flimsy. On the other hand, houses built for officials of the mining companies and those built by the more affluent business and professional people and the fee owners were outstanding for their times. The central business district was, for the most part, of excellent structures and design for the early Twentieth Century tastes. Store front modernization and rehabilitation of the interiors has been possible in most of the buildings, and the facade of the business district presents a modern and pleasing appearance.

Most municipal structures, utilities, and facilities were extremely well built and durable. The schools and the Memorial Building which houses most municipal offices, the garages and parks all indicate both the pride and prosperity of a couple of generations ago. The

basic utility systems were also functional for their time, although, on retrospection, some glaring deficiencies are apparent, such as inferior materials and inadequate planning and design.

The decline of population and the shift in incidence of taxes have left their marks upon the physical appearance and function of the city. Company ownership of homes and the cessation of mining has caused the tenants to defer normal maintenance, remodelling, and landscaping. Vacant houses and stores in some sections present a depressing appearance. Conflicting uses of land reduce the aesthetic and economic potential of the business district. Municipal and school structures and many commercial structures are approaching obsolescence, as are many of the municipal utilities. It is highly questionable, for example, that the city can continue to afford the cost of upkeep of the Memorial Building, as it would probably be less expensive to either build or rent space for the municipal offices and equipment.

Lack of planning and of accompanying ordinances, and absence of a policy of enforcement is readily apparent in Ironwood. Lack of a workable zoning ordinance, subdivision regulations, building code, and fire and safety codes is evident, and the resulting problems present a real challenge to the city. Comprehensive planning and urban redevelopment is starting from an extremely low level of previous experience.

6. <u>What Changes Can Be Anticipated In The Future</u>?

In the 80 years of Ironwood's existence, its population grew from nothing to a peak of nearly 20,000 in the mid-1920's and then declined to 10,265 in 1960. If the trends of the period of growth had continued from 1920 to the year 2000, Ironwood would have had a population of 36,000 by then. However, if the trends of the past 40 years continue to the year 2000, Ironwood will have a population of only 4,791 by the turn of century Twenty-One. (Note: From 1885 to 1920, the annual rate of population growth was 450 people per year; from

1920 to 1960, the annual rate of population decline was 137 people per year.)

Many factors will affect the future of Ironwood. Some of these will be out of control by the local people, such as a "hot" war which might cut off foreign sources of iron ore and which might force a decentralization of steel mills and munitions works. There is a distinct possibility of major defense and space launching installations in the area that could have more economic impact than did the entire mining industry. Other factors that will influence the future of Ironwood would include technological break-throughs in surface ore utilization, new processes in forest and farm production and utilization, innovations in transportation, new educational and research innovations, and new pressures for living space and recreational activities.

Ironwood must be considered as being the central hub of the bi-state Gogebic Range Urban Complex that includes Wakefield and Bessemer to the east and Hurley, Montreal, Saxon and Iron Belt on the west. The economic and physical problems and potentials are comparable throughout the Gogebic Range. Although Ironwood contains nearly half the population and most of the business and professional services of Gogebic County, the city cannot ignore the county problems, nor can it ignore its inherent leadership role.

On a broader perspective, Ironwood cannot divorce itself from the larger region of northern Michigan, Wisconsin, and Minnesota. As the entire region declines or grows, so will Ironwood, yet this city can, conceivably, set the pattern for redevelopment not only in Gogebic County and the Range, but throughout the Upper Lakes Region. To a certain degree, the future of Ironwood and the region will be influenced by the vision, faith, and perseverance of its present leadership. This is the area in which the planning program can be useful.

7. What Are Ironwood's Major Potentials?

a. An established community with complete shopping facilities, and personal and professional services, and with complete municipal services.

b. The most westerly "gateway" to Michigan and the Northwest and Canada.

c. Located on a major transcontinental highway that serves both the United States and Canada, with scheduled airline and railroad service.

d. The largest city and the major trade and professional center in the western half of the Upper Peninsula and in northcentral Wisconsin. The nearest rivals in size or economic influence are:

TABLE 4. NEAREST LARGER CITIES:

Larger Cities	Population	Distance	Direction
Ironwood	10,265		
Marquette	19,824	147 miles	East
Menominee-Marinette	24,618	195 miles	Southeast
Wausau	31,943	126 miles	South
Eau Claire-Chippewa Falls	49,695	185 miles	Southwest
Duluth-Superior	140,446	110 miles	West

Source: U. S. Census and Highway Maps.

e. Ironwood is the principal retail center of the county and of the Gogebic Range-Ontonagon Region. Although it contains only 42 percent of Gogebic County's population, it

accounts for 71.6 percent of the retail sales of the county ($26,919,000 in 1961). Ironwood comprises 23.9 percent of the combined population of the counties of Gogebic, Ontonagon, and Iron, Wisconsin, yet in 1961, it accounted for 45.4 percent of all retail sales in the three-county region. The following table shows the strength and weaknesses of Ironwood's retail industry.

TABLE 5. RETAIL TRADE, COMPARED WITH GOGEBIC COUNTY AND TRI-COUNTY REGION:

Retail Category	Ironwood Retail Sales As % of: Gogebic Co.	Three-Co. Region
Food	72.6	48.1
Eating and Drinking Places	52.2	22.0
General Merchandise	77.1	52.2
Apparel	90.8	77.8
Furniture and Appliances	91.3	76.0
Automotive	72.2	54.7
Gas Stations	54.7	32.1
Lumber, Bldg. Materials, Hwde.	62.0	26.4
Drugs	92.3	53.2
Total Retail Sales	71.6	45.4
Population 1/1/62	42.1	23.9

Source: Sales Management, Survey of Buying Power, June 10, 1962.

f. Ironwood could become the central service city for one of the most outstanding tourist-recreational-convention developments in the Midwest, for the raw resources are available. Should this happen, as outlined in the Gogebic County Plan, it will be because of Ironwood's initiative and leadership, and Ironwood's economic prosperity would rival the heydey of the mining era.

8. What Are The Goals, Objectives And Aspirations Of The People Of Ironwood, And How Can They Be Realized?

a. To get out as quickly as possible?

b. To wait patiently for a rebirth of mining and forestry?

c. To wistfully dream about industrial development, tourist expansion, etc.?

d. To wait for social security, direct relief and make-work grants-in-aid to be the major economic base?

OR

a. To upgrade municipal services and facilities and to economize upon municipal administration - in order to better serve existing businesses and industries - and to improve the environment for new enterprises?

b. To then attract new investment capital into the area, just as was done 75 years ago when mining was "promoted" and established?

BY

a. A clear-eyed examination of the situation, the problems, and the potentials (without nostalgia, wishful thinking, or provincial prejudice).

b. By every resident of Ironwood and by every agency and corporation that has financial and other interests in Ironwood and its future. The real leadership will come from the Ironwood City Planning Commission, the City

Commission, the Chamber of Commerce, the Industrial Development Corporation, and every school, church, civic, and social organization in Ironwood.

c. The Gogebic County Organization for an Industrially New County is evidence of the kind of faith and effort needed. This also indicates the leadership of Ironwood, for the bulk of the promotional funds came from this city.

B. THE IRONWOOD PLANNING PROGRAM

1. Organization and Coordination:

The fact that Ironwood is engaged in comprehensive planning is evidence that the leadership of the city recognizes the role of planning in physical and economic redevelopment. The City Council and the City Manager have been actively involved with the Planning Commission's work and with that of the planning consultant. Subcommittees of the Planning Commission have broadened the base of participation and have added the experience and judgment of a great many highly competent resource people. The daily newspaper and the local radio station have reported upon the progress and significance of the planning work, and numerous addresses have been presented to service clubs in the city.

The leadership role of Ironwood, the largest city on the Gogebic Range, is exemplified by the fact that after Ironwood decided to retain consulting assistance and to take advantage of Federal cost-sharing for planning, six other planning programs in the area are now underway. The cities of Bessemer, Wakefield, and Hurley, Ontonagon Village and Gogebic County have all received Federal funds under the auspices of the Section 701 Urban Planning Assistance Program of the U. S. Housing and Home Finance Agency. Bessemer Township is in the process of doing likewise, and at least one other township and Iron

County, Wisconsin, are considering it. It is doubtful if any of these programs would have materialized had it not been for Ironwood's initiative.

The present mayor of Ironwood and his predecessor are both active members of the Gogebic County Planning Commission, both serving on its executive committee and both heading up subcommittees. There is thus an ideal line of communication between the city and the county planning programs, and there has been a valuable interchange of data, materials and experiences. Involvement of both the city and the county in projects of the Area Redevelopment Administration, the Accelerated Public Works Program, the formation of a county economic development corporation, a bi-county study of water supply sources, and a regional analysis of airport needs and the acquisition of natural gas have further strengthened the bonds and underline the strategic importance of coordinated city-county-regional planning.

2. Recognition of Regional Problems and Programs:

Ironwood's planning program recognizes a number of persistent, basic problems that enshroud the entire Upper Peninsula and the entire Upper Lakes Region. The Ironwood program is well aware of many region-wide and local development efforts that have been launched with much fanfare and fervor over the past half century. Currently, there are so many such activities that few people can keep track of them, so it is imperative to better understand the basic problems, for it is only in that context that the individual problems of Ironwood can be evaluated and solved.

The next several paragraphs should be considered as being basic premises or assumptions within which the Ironwood planning program is cast. In spite of the excellent programs and efforts on the part of local, county, regional, state and Federal agencies and organizations, the basic problems of the Upper Peninsula and northern

Wisconsin still persist. It is essential that these problems be spelled out if current programs in urban planning and in economic development are to be properly oriented and designed. Failure to recognize these persistent problems will thwart the best of efforts. Cognizance of them will permit the design of new efforts in such a manner as to achieve the maximum of productivity.

a. Employment opportunities are inadequate to support the present population. This has been true for many years and is true today. This is the basic problem of the Upper Peninsula and northern Wisconsin, for it has been necessary for people to migrate from the region to seek employment. In 1910, the population of the Upper Peninsula was six percent more than in 1960. During the 50 years, there has been a decline of 19,644; to put it more vividly, it is like saying that if another city the size of Marquette were added, the present population of the Upper Peninsula would equal that of half a century ago. The rate of population decrease is diminishing, for there was only 1.2 percent decrease between 1950 and 1960, as compared with 6.6 percent decrease from 1940 to 1950. With the exception of a handful of communities, comparable rates of population loss have occurred throughout the Upper Peninsula, the exception being mainly those communities which have had the benefit of large defense installations.

b. The reason for the existence of many communities has vanished during the past half century. The original economic base, whether it was mining or lumbering or logging or commercial fishing or farming, has either ceased to exist or is fading fast. In such cases, all that is left as justification for the remaining businesses and services is to take care of local people - - - there is little creation of new wealth - - - people are scratching each other's backs and taking in each other's washings.

A second reason for the loss of justification for many communities results from a change in the mobility of people and the ability

to travel further and quicker for consumer-type shopping and services. With the widespread ownership of private automobiles and reasonably good roads, people find it more desirable to travel to major trading centers for a sizable share of their consumer purchases and professional services. As a consequence, the small town shopping area and the crossroads business places find it increasingly difficult to compete with the larger towns where a much more complete line of goods and services is available. The reorganization and consolidation of school districts and churches has also contributed to this, along with the general decline of population in and around these smaller communities. In this regard, Ironwood is much more fortunate than its smaller neighbors.

c. The flow and availability of capital has changed over the past fifty years. The original "risk" capital that made possible the development of mining and lumbering came from outside the Upper Peninsula, and it must be acknowledged that during the period of high productivity of the extractive industries, the profits were exported back to the Eastern Seaboard. The fortunes that were made in mineral and forest products were siphoned off, and very little was reinvested in the communities.

During the boom years, the municipalities, townships, and counties were aware of the exporting of profits, and most of them compensated by levying sizable taxes on the real and personal property of the mining and lumber companies. The more aggressive communities built well with this tax bonanza, in fact some of them provided much higher levels of public service than were then prevalent in down-state communities. They got tax revenue and they got public utilities and facilities while the getting was good.

Most of the private development in these frontier-type towns was typical of boom development everywhere. Temporary dwellings were built and there was little thought of permanence. Consequently, a great

deal of the private development is not capable of carrying assessments sufficient to pay for the costs of urban service, but that was of no concern as long as the mines and mills were there to carry the tax load.

But, take away the mines and the mills and there is a vast void. Outside capital is no longer investing in job-producing and tax producing industries. Local capital is not being invested in basic industries. There is not enough local taxable wealth to make up the difference. Almost every taxing jurisdiction in the Upper Peninsula is caught in this dilemma, and Ironwood is certainly no exception.

d. People have changed during the past half century. The original settlers in the Upper Peninsula were young, hardy, and adventuresome. Many were first generation immigrants who welcomed the freedom of opportunity to carve a rich new life from the resources of the region. Others were migrants from the older, more settled and more staid Eastern Seaboard. All were vigorous, ambitious and accustomed to long hours of hard work and primitive living conditions.

The passing of a couple of generations has changed many things. With the decline of employment opportunities in the Upper Peninsula, many of the young people have left to seek their fortunes in Milwaukee, Chicago, Detroit, or in the West or the South. Again, history has been repeated in that the young, the vigorous and the ambitious have moved on. In their wake is left an over-age population that has become conservative and complacent, and this has a very conspicuous effect upon community improvement and economic development.

e. Institutions have changed, just as have the people and the basis of their support. Many of the community institutions are suffering from senility and hardening of the arteries. Public utilities and facilities which were designed to serve more people but with less exacting demands for service, are now either worn out or are grossly inadequate. Many of the public utilities and streets were hastily constructed, just as were the communities themselves, with many

inherent design deficiencies. With the declining tax base, it has not been possible to adequately maintain the public utilities and facilities, to say nothing of upgrading and modernizing them to meet today's standards and needs. The local people have been neither willing nor able to tax themselves to make the necessary investments, and as was previously mentioned, lack of new investment in both the private and the public sectors is a major problem in the Upper Peninsula. Before appreciable strides toward economic development can be expected, large sums must be invested. Communities are confronted with the problem common to most businesses - - - it is necessary to spend money before it is possible to either save money or to attract new economic development.

3. Planning Concepts for Ironwood:

With the foregoing thoughts in mind and ever-present in each planning consideration, it is essential that Ironwood's planning program embrace the following concepts:

a. Urban development must be redevelopment. It is not sufficient to follow orthodox methods and approaches to urban planning, for the very basis for the existence of almost every Upper Peninsula town has vanished. The entire economic orientation of these towns and of their hinterlands must be recast, but before this can be done, the physical characteristics must be recast. In some instances, this may mean drastic reductions in the area served by urban utilities and services; in other instances, it is necessary to bull-doze out unsightly and uneconomic structures and uses of land in order to eliminate their costly upkeep and to create a fresh clean field for new types of economic development. Imagination and economic evaluation must determine what resources and what enterprises can be developed. Outside capital from every available public and private source must be obtained, due to the reversal in the flow and availability of capital. It is essential to captivate the interest of young people by providing them with

the training and the incentives to put their shoulders to the wheel and to re-inject the virile enthusiasm that helped settle the region, but to do so means creating employment opportunities.

Urban planning in this situation is just the opposite of urban planning in the fast-growing and sprawling subdivisions of southern Michigan or southeastern Wisconsin. Up here, planning for continued retraction rather than for continued growth is needed. More skill and more courage is needed, and there is far less precedent.

b. Planning is more urgently needed in time of stress. It is axiomatic that when things are growing and booming, we can somehow stumble and bumble along and everything will come out all right. When the chips are down, when the resources and the alternatives are as limited as they are in the Upper Peninsula, planning becomes vastly more necessary and more important. It is a tremendous challenge to every community and county in the region to be able to evaluate its potentials and then to activate the necessary public and private capital investments.

c. Urban planning is a new concept. In spite of all the region-wide efforts to plan and develop the economy, there has been relatively little organized planning at the community and county levels. Most of the other programs were thrust upon the region by well-meaning outside agencies and organizations. Few of them were created or inspired by people in the counties and communities. Until the past year or two, there were almost no functioning urban or county planning commissions. There was almost a complete disregard for the need and importance of zoning or of building and subdividing controls. The communities grew fast in a helter-skelter manner and during the period of growth there was no planning, and during their decline, there was no realization of how planning could aid in the adjustment. Compared with southern Michigan, urban planning in the Upper Peninsula has been almost non-existent and consequently, local people and local governing bodies find it a new and perplexing concept.

d. Planning must provide for reinvestment. In southern Michigan, most planning efforts are designed to give direction to growth. Here, planning must give guidance to redevelopment investment if the communities are to survive and justify their existence. Planning must be followed by budgeting of both public and private investment, but many basic public investments are necessary before the environment can be made attractive for private investment. Outside sources of capital must be used, and this requires the preparation of specific proposals which will justify such investments on a cost-benefit basis. This becomes a selling job, and the very finest tools of analysis and of promotion must be employed. New investment is needed immediately, not at some remote time in the future.

It is of state-wide and national interest that the economy of the Upper Peninsula and northern Wisconsin be redeveloped. Continued economic decline is a costly burden to everyone, both within and without the region. New public investments in utilities, transportation and in job-producing industries are justifiable just as the investments the public previously made in land grants to help finance canals, railroads, roads, education, and both agricultural and industrial development of this nation's vast resources. If America is to be strong and productive and free everywhere, America must be called upon to shoulder a substantial part of the cost of redeveloping areas like the Upper Lakes Region.

e. Highly detailed plans are needed. Generalized kinds of planning studies and recommendations will not suffice. Minute and painstaking detail is needed in order to fairly assess alternatives to estimate costs of public and private redevelopment projects that must be constructed immediately, not merely suggested. This is not to discount the vital need for idealistic planning proposals, for these are fully as important to the Upper Peninsula as they are in burgeoning downstate metropolitan areas. But here the very survival of communities and institutions is predicated upon the practicality and reliability of planning estimates of construction costs and benefits.

For example, it is vitally important that urban planning programs be based upon accurate and definitive data regarding such land features as topography, relief, drainage, soil type and permeability, present land use and cultural structures. This type of data can be most economically compiled by using modern photogrammetric methods, coupled with minute on-site field observation and classification. Armed with such data, cost estimates for recommended redevelopment construction can be made a part of a long-term capital improvement program and budget for the municipality and for private investors in commercial and industrial projects. Inaccurate or inadequate basic data will discourage the new investment that is so vitally needed and will thwart the intent and purpose of the planning and redevelopment efforts. This was Ironwood's approach.

f. Planning must provide for participation. If the Upper Peninsula is to "rise again" it is essential that the people of the communities and counties become personally involved. The very best brainpower of the Upper Peninsula must be mobilized. People must understand the reasons for the problems and the possibilities for solutions, and they must be armed with facts so that they can make intelligent political and economic decisions, and so that they can demand the same from their elected and appointed representatives. As mentioned earlier, too many programs have been thrust upon the Upper Peninsula from the outside and not enough have been initiated and carried out by the people themselves. No amount of "outside" planning or subsidy will solve the basic problems of the region until the people themselves take hold and decide to do something about them.

g. Regional approaches must be employed. The nature of the communities and of the region as a whole demands regional approaches and inter-community and inter-county and interstate cooperation. Gogebic County is to be commended for being the first county planning commission in Michigan to take advantage of the Federal urban planning assistance program to engage in county-wide planning and redevelopment,

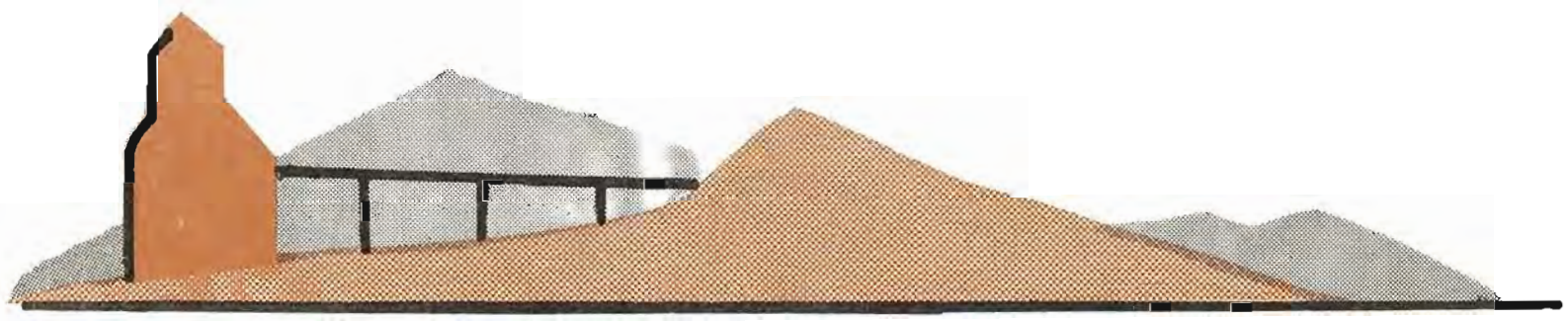
and Ironwood can be proud of the influence the city has had upon the county and nearby municipalities.

Local governmental boundaries and jurisdictions have lost much of their initial meaning as a result of the modern mobility of people and goods and because of the evaporation of the initial basis for their separate existence. This is not to be so naive as to suggest that we immediately abolish existing units of government by consolidation. It took nearly a hundred years to get the way we are, and it may take another hundred years to untangle the situation, although the accomplishment in school district reorganization in recent years is most encouraging, except in Gogebic County. Certainly cooperative approaches to the problems of urban and area-wide planning and redevelopment must be exploited to their fullest, yet within such regional approaches, each civil jurisdiction must take care of its own housekeeping.

Tremendous sums must be expended on such activities as mineral exploration and new processes of beneficiation. Additional research and experimentation is needed in forest product processing and marketing. The recreational resources which abound in the region have scarcely been touched, and bold new ventures must be tried. Most of these kinds of programs are beyond the scope of individual communities and counties. The problem is bigger than Ironwood alone and this must be realized as we look to regional economic development through the route of specific individual community planning.

FOUNDATIONS FOR PLANNING 1963

TWO



HISTORY

II. HISTORY*

A review of previous events is useful in understanding how the present situation evolved as it did, and this in turn has bearing on future plans. This brief summary of Ironwood's historical development is presented at the risk of causing local citizens to bask in the nostalgia of by-gone days, and to the outside observer there is, in Ironwood, an excessive use of the rearview mirror rather than facing forward. It is helpful in understanding present attitudes and apathy, pride and prejudice, to look back at the booming town of Ironwood of two or three generations ago.

The Original Plat:

Ironwood was platted in 1885 by the Milwaukee, Lake Shore and Western Railway, the predecessor of today's Chicago and Northwestern. The old M.L.S. & W. extended a line from Watersmeet to connect the mining location tent-towns of the Gogebic Range with Ashland and Lake Superior. Without the railroad, there was no way of moving the new-found iron ore to the steel mills along the Lower Lakes and the Ohio River. The first shipment of ore from the Range was in 1884 when it was shovelled onto flat cars by hand, and hauled by rail to Milwaukee and then by boat to the mills at Erie, Pennsylvania. Extension of

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*Sources: Havigurst, Walter, Vein of Iron, The World Publishing Company, Cleveland and New York, 1958.

Lemmer, Victor F., History of the City of Ironwood, Gogebic Industrial Bureau, Ironwood, June 13, 1960 (mimeo).

Gill, Joseph, Our Heritage, Wakefield.

the railroad to Ashland and the construction of the ore docks was the real impetus to mining on the Range.

Thus, the specific location and layout of the original townsite of Ironwood was the choice of that early railroad. The design of the plat, size of lots and blocks, and the location and direction of streets was the choice of a surveyor (or perhaps a section hand or gandy dancer) for a railroad whose sole purpose was to haul iron ore to the port terminal at Ashland. The townsite itself was incidental to the real purpose, although it afforded an opportunity to merchandise the land that was needed for the businesses and homes that were required to service the new mines.

Transportation Directs Development:

Nothing could more dramatically emphasize the role of transportation in opening up an area for the economic development of its resources and in shaping the pattern of land use and land values. The direction of the railroad trackage and rights-of-way and warehousing facilities in Ironwood was determined 79 years ago when there was nothing but rock knobs and swamps and trees to influence the choice of the route. That original choice caused the railroads to enter what is now Ironwood in the northeast corner and to traverse diagonally in a southwesterly direction. As a result, the plat of the original townsite was laid out with streets parallel to the tracks, and with cross streets perpendicular to the tracks. The location of the original plat also dictated where the central business district would be, and partly by omission, where the future residential areas would be.

As the mining enterprises prospered and expanded and multiplied, additional plats were laid out, built upon, and were "added" to the original railroad plat. However, most of the additions were laid out with streets oriented east and west and north and south, and thus tied into the downtown plat at angles that are a major factor in today's traffic congestion. An exception to the N-S and E-W street orientation

is seen in some of the "locations" where the residential plats laid out by mining companies were literally draped over the sides and around the hills and rock knobs, causing street patterns that are not at all conducive to automobile travel and that are next to impossible for snow plows.

From this review of the history of plat development in Ironwood, it should be apparent that the control and regulation of subdivisions is one of the most influential aspects of urban development and redevelopment. In spite of the receding population in Ironwood during the past 40 years, there has been considerable residential and commercial construction. There has been opportunity, therefore, had there been an overall comprehensive plan for land use, buildings, traffic, utilities, and plat control, to have corrected some of the mistakes of 75 years ago. An additional opportunity now exists through the process of urban renewal and blight removal or reduction, along with the availability of mining company lands and the possibility of Federal funds for the acquisition of "open spaces."

Boundary Decisions:

Iron deposits and mines within the city limits and outside have also been a major determining factor in the shape and form of what is now Ironwood. In the early days, municipalities attempted to incorporate as much land as possible in order to include the maximum amount of taxable mining property. Exploration and the initial opening of mineral deposits actually preceded civil settlement and civil government organization. Jessieville, for example, was incorporated as a village of Ontonagon County before the county of Gogebic was organized, but it was subsequently consolidated with Ironwood as that city flexed its growing muscles.

The boundaries between the cities and townships of the Range indicate the scramble for territory. The City of Ironwood covers about

5.6 square miles, yet nearly half of the area contains no buildings or anything else that is now taxable or usable. The population density of Ironwood (average number of people per square mile) was 1,833 in 1960, as compared with the extreme of municipal gerrymandering in Gogebic County, the City of Wakefield has only 394 people per square mile and it contains 8.2 square miles; the City of Bessemer covers 6 square miles and has a density of 551 per square mile.

The townships, from the outset, attempted to place their boundaries in such position as to get as much mining wealth as possible. Erwin Township, which joins the City of Ironwood along its south and east boundaries, was successful in retaining a strip of land one-half mile wide which separates the city limits of Ironwood from Bessemer Township. There is no question but what this was a wise move on the township's part, for in that half-mile strip were some of the richest mines on the Range, such as the Newport, and the Geneva was just to the east in Bessemer Township, but outside of Bessemer City.

State-Line Squabbles:

Past political decisions, therefore, have a decided bearing upon the form and the philosophy of urban organization and development. These decisions were further confused by some of the early surveys and boundary descriptions. By one early definition, Ironwood and all of the Upper Peninsula were a part of Wisconsin Territory, and by another definition, Michigan's first consitution gave an additional 600 square miles to the west of Ironwood to Michigan.

In 1802, the State of Ohio was admitted to the Union, and in 1805, the Territory of Michigan was separated from Indiana Territory. At that time, the southern boundary of Michigan was considered as running from the southern tip of Lake Michigan due east to the point of intersection with Lake Erie, somewhat south of Toledo. Boundary surveys were ordered by Congress in 1812, 1816, 1818, 1827, 1837, 1842, and it

was not until 1875 that the location of the southern boundary was amicably settled. In the meantime, all of Michigan was in the hands of the British from July 16, 1812 to September 29, 1813, and had the Redcoats won the War of 1812, Ironwood's development would have been somewhat different.

To settle the Ohio-Michigan bloodless civil war over the Toledo Strip, the territory of Michigan was awarded the Upper Peninsula. The boundary with Wisconsin was to begin at the mouth of the Montreal River, thence through the middle of the main channel of the westerly branch to its headwaters, thence in a direct line to a channel between two islands in Lake of the Desert (Lac Vieux Desert), thence in a direct line to the southern shore of Lake Brule, and thence down the main channel of the Brule and Menominee Rivers and the center of the most usual ship channel of Green Bay.

Shortly after Michigan was granted statehood, Congress authorized the first survey of the western boundary with Wisconsin in 1838. In 1840 and 1841, Captain T. J. Cram located the east branch of the Montreal and mistook it for the west branch, and he also discovered that the Montreal, the Brule, and the Menominee did not have their headwaters in Lac Vieux Desert. In 1847, the erroneous line was laid out and in 1848, it was approved as the official boundary.

As recently as 1900, the attorney general of Michigan filed a brief disputing the location of the line, but with the cessation of lumbering and the decline of mining, the matter has been dropped. Had the west branch of the Montreal become the state line, it would have been about 7 miles further west and 7 miles further south, adding about 600 square miles of highly productive iron ore land to Gogebic County, and Ironwood would not have been the western "gateway" of Michigan. Or had the Upper Peninsula not been added to Michigan in exchange for giving the Toledo Strip to Ohio, Michigan would have had about 1,200 square miles in the Maumee Valley, including Toledo and its half million people

and industries and port facilities. The history of area development is interesting, for the destiny of the future is often the product of previous mistakes.

Civil History:

The first permanent settlement in what became Ironwood was in 1885, and it was then that the town was platted. The famous North Norrie, East Norrie, Aurora, Pabst, and Newport mines were opened on ore measures which were extensions of the original discovery made by James Wood. Many mining companies were organized as the iron ore fever spread; in 1887, there were 184 companies, but only two remained by 1889.

The Village of Ironwood was incorporated in 1887, the same year that Gogebic County was separated from Ontonagon County. In that year a large part of the downtown business district was destroyed by fire, and the redevelopment was of a higher type that enabled Ironwood to become the major business and trade center on the Range. In 1889, the Legislature granted permission to incorporate as a city, and the voters immediately authorized construction of a sewer system. Also, in 1889, permission was granted to construct an electric lighting system. The Gogebic Electric Railway and Light Company was organized in 1890 and a four-mile street car line was built to serve Ironwood, Jessieville, Hurley, and Gile.

A charter commission was elected in 1924, and the following year a commission-manager charter was adopted. A new charter was adopted in 1947. Now, in 1963, a codification of all city ordinances is underway, and coupled with the revised zoning, building, and subdivision ordinances resulting from the comprehensive planning program, the city is adapting itself to modern conditions.

Today's Decisions Are History-Making:

Ironwood is currently involved in the most serious soul-searching of its entire life. Planning and development decisions now being made will have as much influence on the future form and function of the city as those made 70 or 80 years ago. The planning program is dedicated to the process of improving the decision-making processes.

FOUNDATIONS FOR PLANNING 1963

THREE

LOCATION

III. LOCATION

Ironwood is the most westerly municipality in Gogebic County and in the State of Michigan. It is located on the Montreal River which forms the boundary between Michigan and Wisconsin, and it is about 12 miles south of Lake Superior which forms the international boundary between the United States and Canada. The city is in the center of the so-called Gogebic Range which extends about 20 miles to the east and west of Ironwood, and which is the site of the once-prosperous deep-shaft iron mining industry.

The character of the broad, tri-state region termed the Upper Lakes Region has major effect upon the past and future of Ironwood, for the city is located squarely in the center of it. For nearly half a century there have been public and private programs designed to rehabilitate the economy of the Northern Michigan, Wisconsin, and Minnesota Region as the mining and lumbering employment declined. This is a region, generally, in which the major economic activities have been mining, lumbering, and forest products manufacturing. There has been relatively little agricultural development and almost no other manufacturing in the entire region. Every county in the region has been classed as economically distressed in every national planning and development program.

Throughout this vast border region, for years known as "The Cut-Over," the population is small and sparsely settled, and distances between urban places are great. Distances to the major population centers of the Lower Lakes Region and the Central Midwest are also great. The cost of transporting raw materials, finished goods, and people is expensive, both within the region and interregionally.

Ironwood is isolated from the populous part of Michigan by Lake Michigan and the circuitous overland route via the Straits of Mackinac or via Chicago. Ironwood is nearly 550 road miles from the State Capital of Lansing, being closer to the capitals of Wisconsin, Minnesota, Iowa, and Manitoba. Minneapolis-St. Paul are only 218 miles to the southwest of Ironwood, Milwaukee is 312 miles to the southeast, and Chicago is about 400 miles away. The economic and social orientation of Ironwood is toward Duluth, the Twin Cities, Milwaukee, and Chicago rather than toward Detroit or other Michigan metropolitan areas. Newspapers, radio, television and big league sports all emanate from these closer Midwest cities than from cities of lower Michigan. Although Ironwood is a remote part of Michigan, the city and the state are far apart in most respects.

The odd configuration of the Upper Peninsula places Ironwood 307 miles west of the Mackinac Straits, as far west, in fact, as Davenport, Iowa or St. Louis, Missouri. It is one of the most northerly of Michigan cities, and is actually 300 miles further north than Windsor, Ontario, 200 miles further north than Toronto, and 75 miles further north than Montreal or Quebec. Ironwood is in a remote, northern location and this is a major factor in considering its economic future.

Being the largest and the central city of the Gogebic Range Urban Complex, Ironwood's business and service establishments draw from a populous local trade area which includes all of Gogebic and Iron (Wisconsin) Counties and about half of Ontonagon and Vilas (Wisconsin) Counties. Within a 10-mile radius of Ironwood, there are about 27,000 people, in a 30-mile radius there are over 35,000, and about 52,000 people reside within 40 miles. Ironwood accounts for over half the population of this four-county trade area, nearly two-thirds of the food sales, 73 percent of the automotive sales, and 80 percent of all the sales of apparel, furniture, and appliances.

If the Gogebic Range Communities are considered as a unit, there are more people within 10 miles of Ironwood than in any other

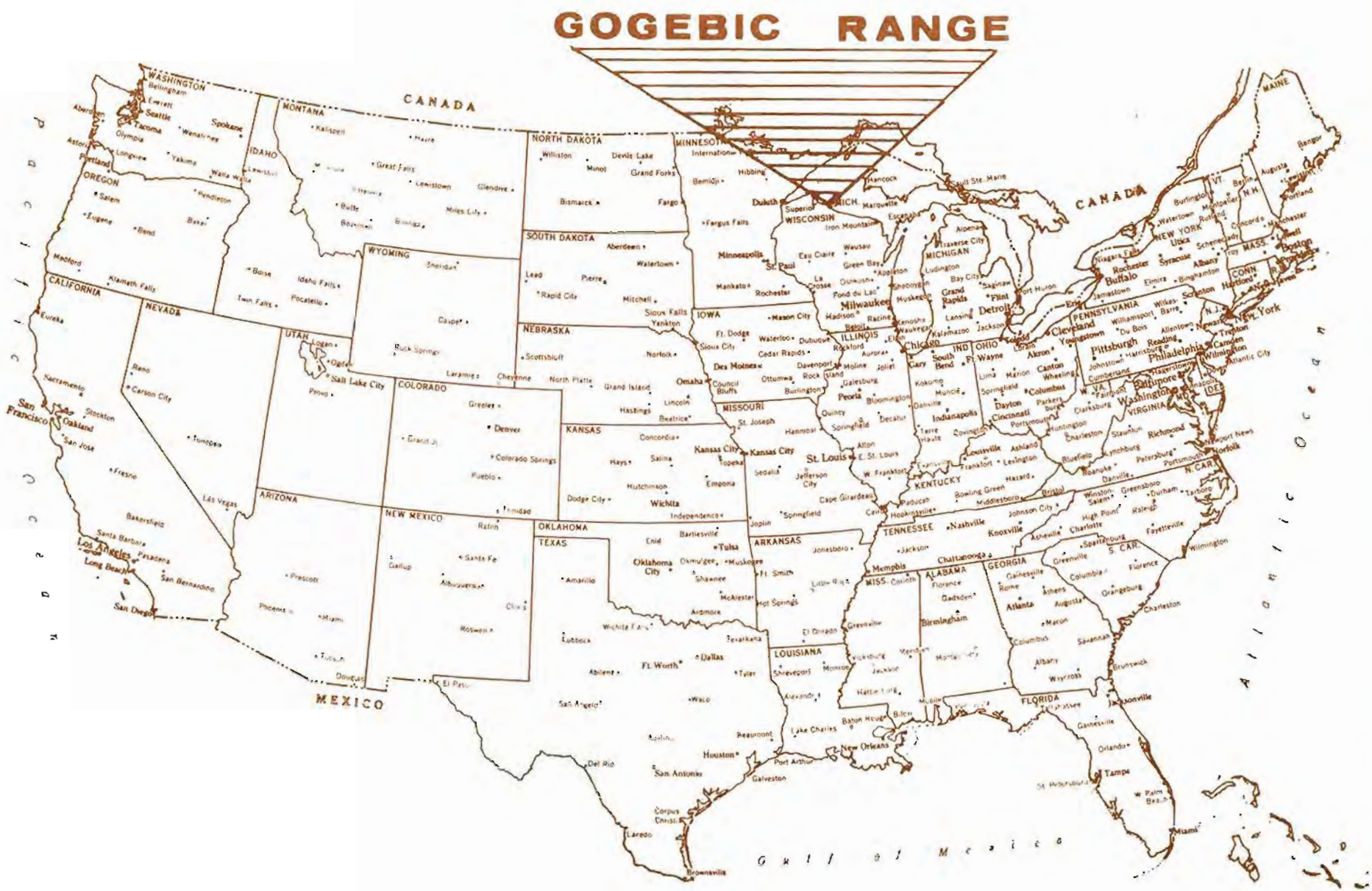


PLATE 1. REMOTE NATIONAL BORDER LOCATION.

PLATE 2. GREAT LAKES SETTING

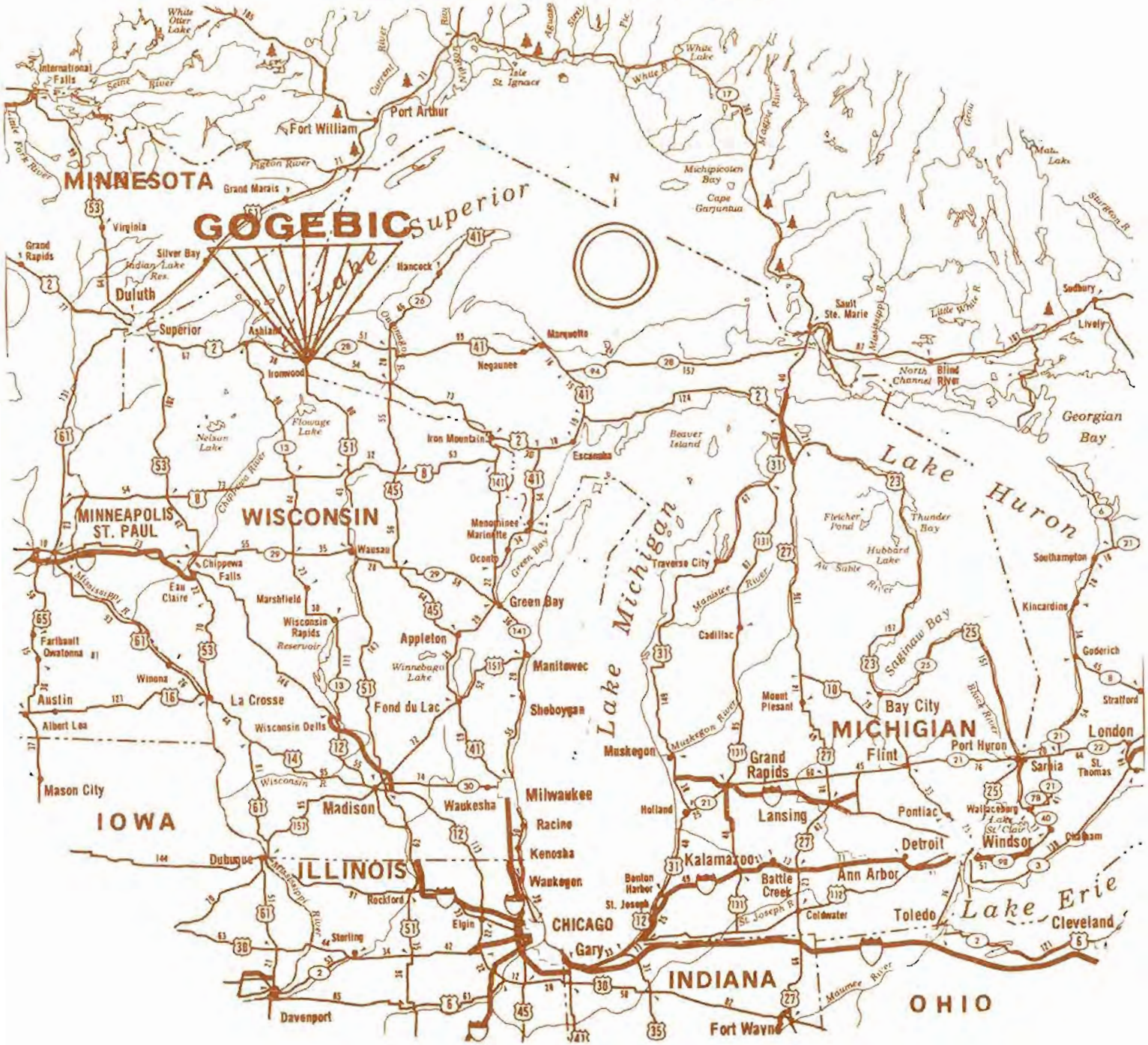


PLATE 3. IN THE MIDDLE OF THE "CUT-OVER" REGION.

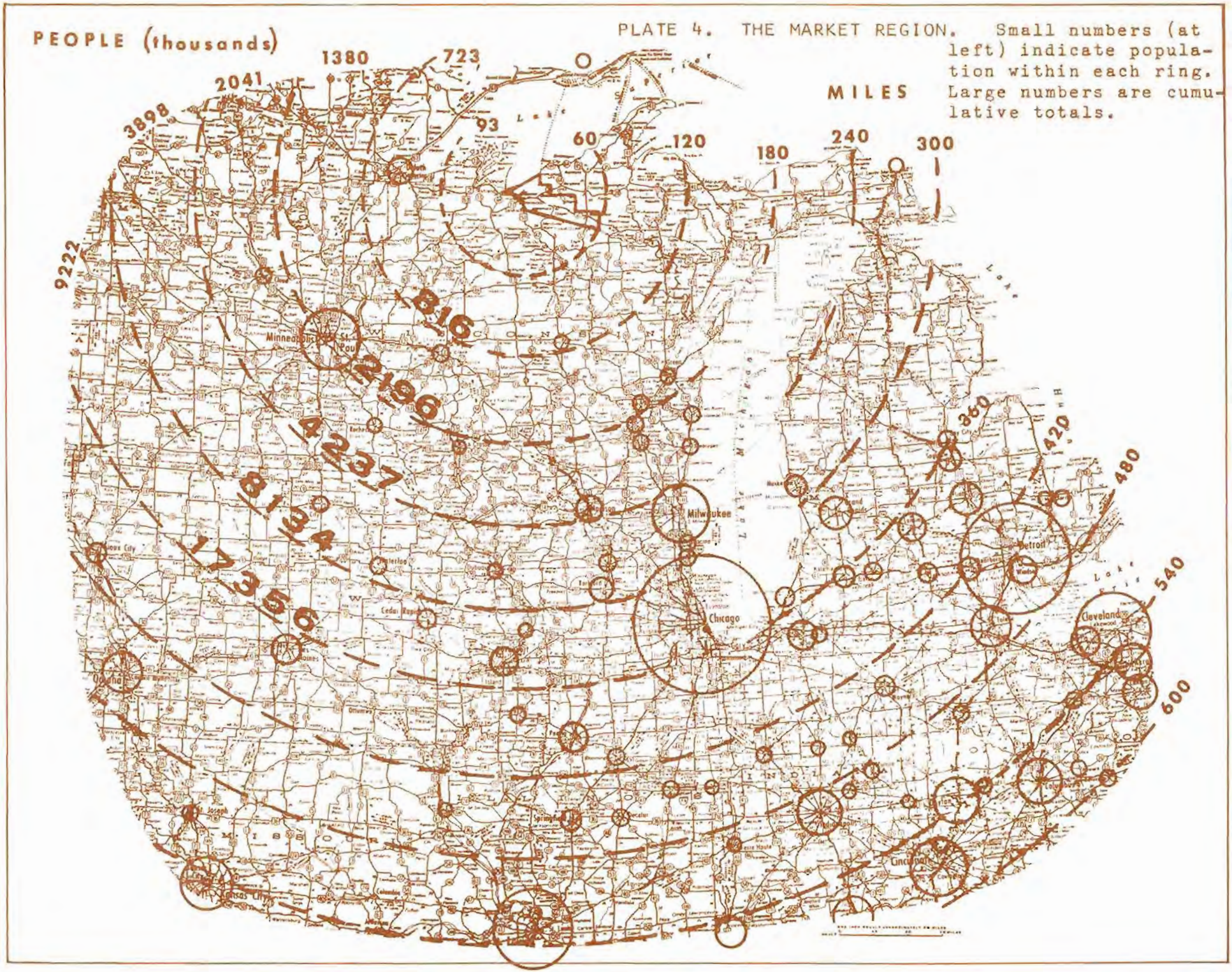
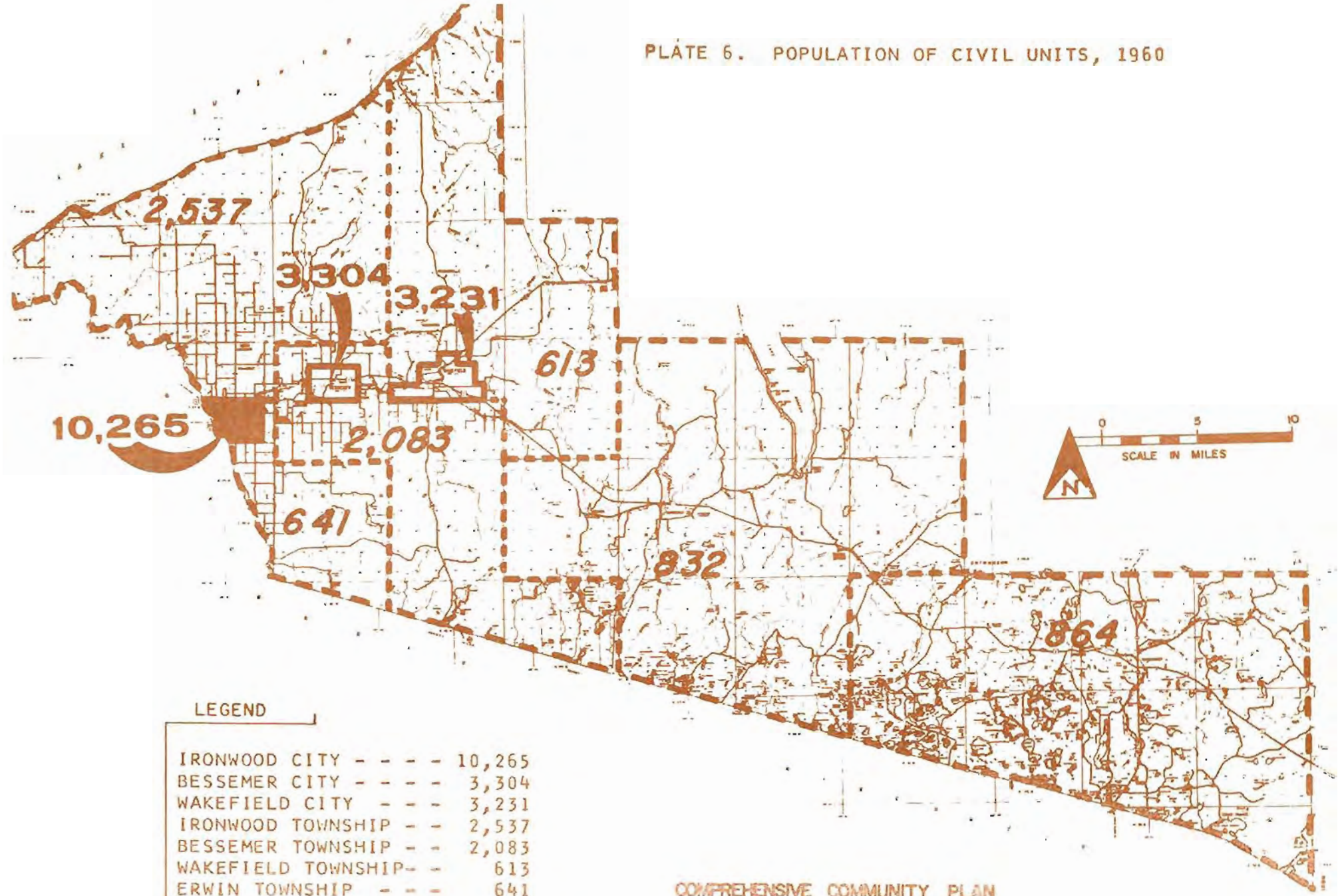

PEOPLE (thousands)
PLATE 4. THE MARKET REGION. Small numbers (at left) indicate population within each ring. Large numbers are cumulative totals.
MILES
1380
723
2041
3898
93
9222
60
120
180
240
300
360
420
480
540
600
Minneapolis
St. Paul
Milwaukee
Chicago
Detroit
Cleveland
Cincinnati
Kansas City
St. Joseph

PLATE 6. POPULATION OF CIVIL UNITS, 1960



LEGEND

IRONWOOD CITY	10,265
BESSEMER CITY	3,304
WAKEFIELD CITY	3,231
IRONWOOD TOWNSHIP	2,537
BESSEMER TOWNSHIP	2,083
WAKEFIELD TOWNSHIP	613
ERWIN TOWNSHIP	641
MARENISCO TOWNSHIP	832
WATERSMEET TOWNSHIP	864

COMPREHENSIVE COMMUNITY PLAN
GOGEBIC COUNTY, MICH.

GOGEBIC COUNTY PLANNING COMMISSION

WILLIAMS & WORKS ENGINEERS & PLANNERS GRAND RAPIDS MICHIGAN

FRANK W. SUBBITT PLANNING CONSULTANT MASON, MICHIGAN

PLATE 1963

TABLE 5 - POPULATION SERVED BY GOGEBIC RANGE URBAN COMPLEX

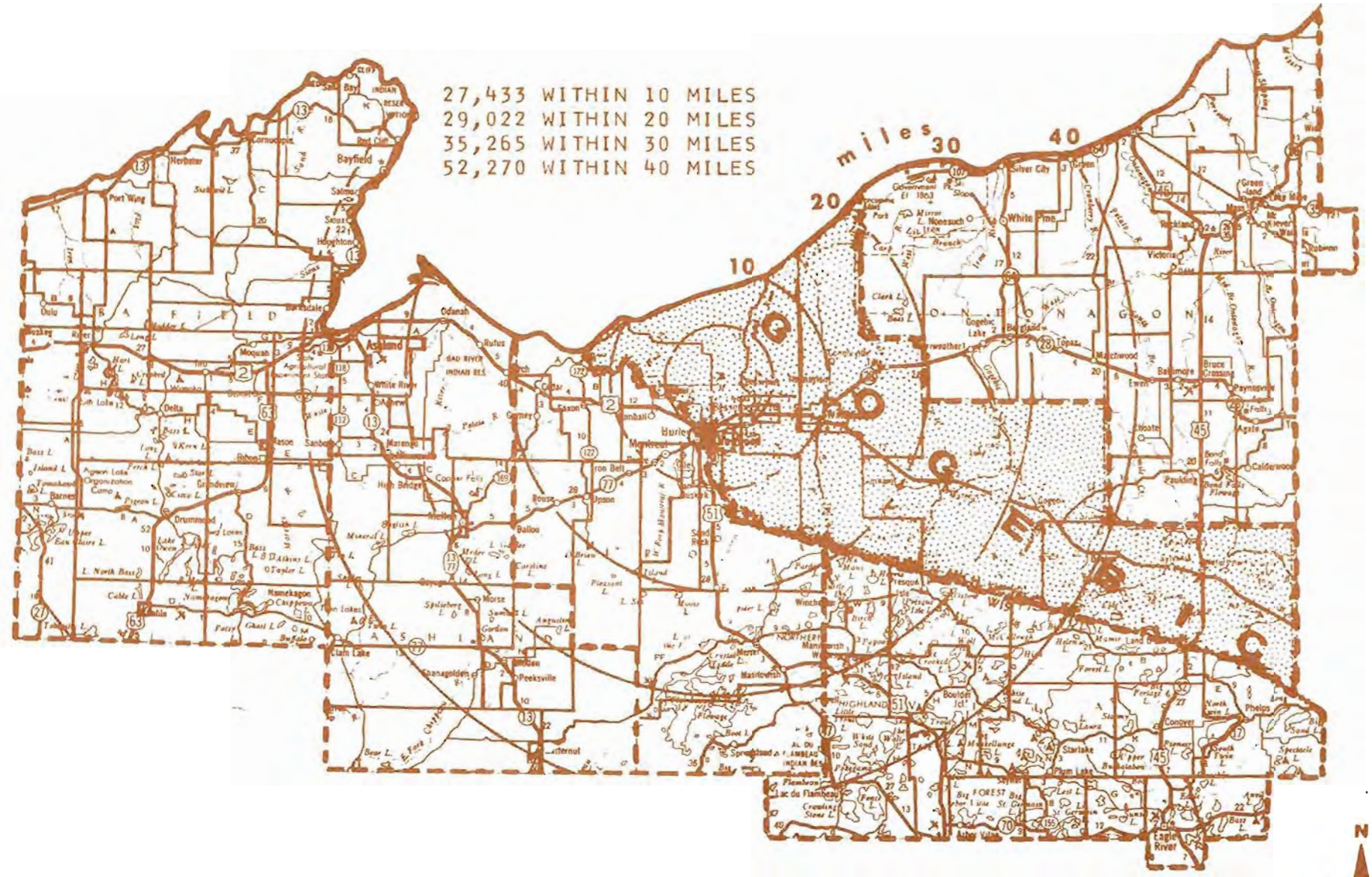


PLATE 6. BI-STATE TRADE AND SERVICE AREA.

Upper Peninsula urban complex except Marquette-Negaunee-Ishpeming. Ironwood is the largest city to the west of a line connecting Marquette and Menominee-Marinette, and it is the largest city east of a line connecting Duluth-Superior and Eau Claire, an east-west span of over 225 miles. It is larger than any northcentral Wisconsin city except Wausau, 125 miles to the south.

Ironwood is in an excellent location to develop its potentials as a bi-state regional trade, service, and wholesale and distribution center. Its capabilities and assets as a manufacturing center are more limited, yet they are more favorable than in any other municipality in northern Wisconsin or the western Upper Peninsula. Its proximity to Lake Superior and the ore docks at Ashland enabled economic water transport of the iron ore, yet the fact that the city is not located directly on the Great Lakes limits its economic development potentials. It cannot, for example, attract heavy water-using industries, such as pulp and paper mills, unless greater quantities of water can be made available at reasonable prices.

A significant locational feature that influences the economic future of Ironwood is in the field of both winter and summer tourism and recreation. This can, conceivably, become the economic stabilizer, provided adequate steps are taken to develop the potentials.

FOUNDATIONS FOR PLANNING 1963

FOUR

NATURAL RESOURCES

IV. NATURAL RESOURCES

The City of Ironwood and, in fact, the entire Gogebic Range, owes its present day existence to the development of the region's natural resources. Hunters and trappers were the first to explore and admire the vast stands of virgin timber and the wild life in the area. Then, with the discovery of iron ore and a corresponding increase in lumber operations, the area became an economic center serving a wilderness region. With the construction of transportation facilities and a ready market for raw materials, the Range communities started to grow as healthy, well-balanced cities. Through the years of many social and economic changes, each city has maintained its own individual identity and function, with the city of Ironwood emerging as a trade and service center for the Range. The era of the once famous timber baron is past, and the large scale extraction of high-grade iron ore is rapidly diminishing. Still, many of the natural resources of the area are unique to the entire Midwest and may well hold the key to future growth.

This section concentrates on describing and evaluating the many natural resources in the Ironwood planning area. It must be noted, however, that the natural resources of the broader region will affect economic growth of the city. The Ironwood City Planning Commission's Natural Resource Committee's report and corresponding sections of the Gogebic County Planning Commission's Natural Resource analysis are cited as sources of additional detail and portions are included in the Appendix.

A. TOPOGRAPHY

The topography of the Ironwood area and Gogebic County in general is similar to other areas in the western portion of the Upper Peninsula, but it differs considerably from the relatively flat, open areas of most of the Lower Peninsula. The area is characterized by precipitous

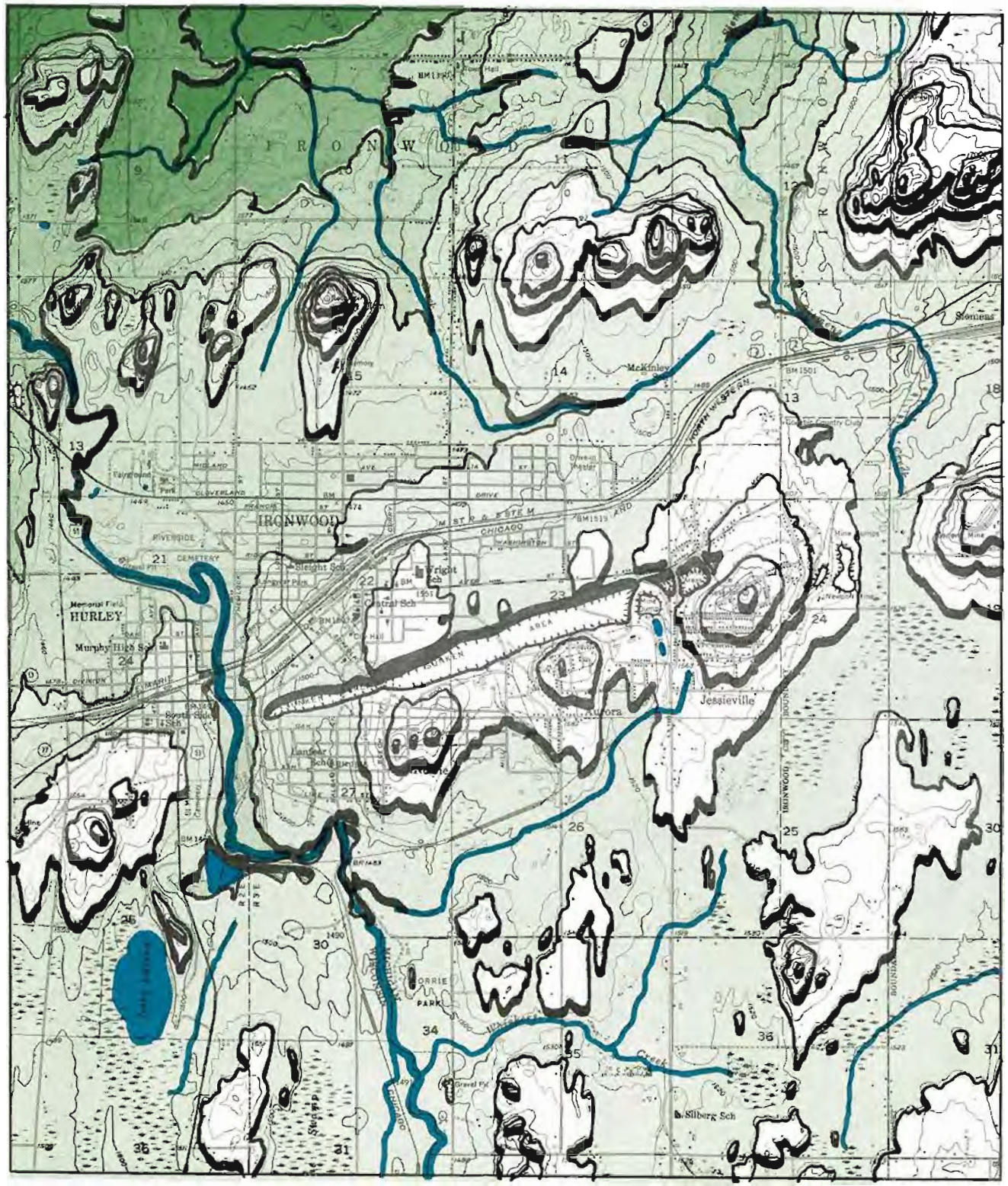
rock outcrops and extremely rocky soil common to many semi-mountainous regions.

The City of Ironwood is located in the heart of the Gogebic Range, which forms a divider between the high, relatively flat, wet lands to the south and the dissected plain sloping northward to Lake Superior. It is interesting to note that the difference in elevation between Ironwood and Lake Superior, ten miles north, is greater than the total height of the Lower Peninsula above the sea level.

Referring to the Area Relief Map, the extent of the rock knobs and semi-mountainous terrain is quite evident. In studying the map, it is evident that most of the City of Ironwood is located on relatively level ground which forms a valley between a range of hills to the north and a smaller, but well-defined, range of hills to the south. This map is included to pictorially demonstrate the severity of the slopes and rock knobs, and to emphasize the fact that the Gogebic Range is the remnant of a mighty range of mountains. For simplicity, contours are shown at sixty-foot intervals, each contour line representing points of equal elevation, and by shading the contour lines, the element of depth is suggested on a single plane map. The severity of slope is represented by the horizontal distance between any two contour lines, therefore, the narrower the band between any two lines, the more severe the slope.

There are many streams in the Ironwood Planning Area, the most important and largest being the East Branch of the Montreal River, which forms the boundary between Michigan and Wisconsin. The City of Ironwood is within the Montreal River basin and its many tributaries serve the high, poorly-drained areas to the south of the Range and the slopes to the north. The location of streams in the Planning Area is important since it indicates suitable gravity sewer routes.

Referring again to the relief map, it is noted that three separate water courses are available for the discharge of storm and surface waters. The Montreal River traverses the west side of the city, and



RELIEF MAP

LEGEND

ELEVATION
BELOW 1300
1300 — 1360
1360 — 1420
1420 — 1480
1480 — 1540
1540 — 1600
ABOVE 1600

NOTE:
CONTOURS ARE ACCENTUATED AT 60 FOOT INTERVALS

NORTH

0 1000 2000 3000 4000 5000
SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN
CITY OF IRONWOOD, MICHIGAN

CITY OF IRONWOOD PLANNING COMMISSION
WILLIAMS & WORKS – ENGINEERS – PLANNERS
GRAND RAPIDS, MICHIGAN
FRANK W. SUGGITT – PLANNING CONSULTANT
OKEMOS, MICHIGAN

PLATE
7
1963

provides natural drainage for the older, built-up portion. The area south of the caves can be provided storm water relief by utilizing the Montreal River tributaries in the vicinity of the Jessieville location. The Lake Road area and the northeast portion of Ironwood can be provided storm drainage by the tributary stream located to the east of Mt. Zion Park.

A study of drainage courses is also important from the standpoint of providing trunk sanitary sewers. The stream itself cannot be used for conveying sanitary waste as is the case with storm water. However, the stream basins indicate where future trunks may be located.

In general, the topography of the Ironwood area is quite picturesque and offers many opportunities for the development of scenic parks, recreation, and residential areas. A topographic feature which is man-made, rather than natural, is the sunken area formed by the mining operations. This condition is a result of undermining the area through the extraction of iron ore. Subsidence in this area has occurred for many years and portions are still in motion, therefore, development of this section of the city is unlikely for the period of this planning report.

The topographic study is conducted to outline areas most suitable for various uses. The development of attractive residential areas can best utilize gently rolling terrains, and irregular slopes. On the other hand, industrial sites require terrain with a gradient of less than 5 percent. It is necessary for drainage to be available either naturally or through storm sewers for both types of areas.

From the standpoint of topography, industrial sites could be located to the south of the present city in the area north of the railroad and south of the caves where there is relatively flat land and natural drainage. Considering the requirements for future residential sites, the area north of the present city limits will provide the most scenic

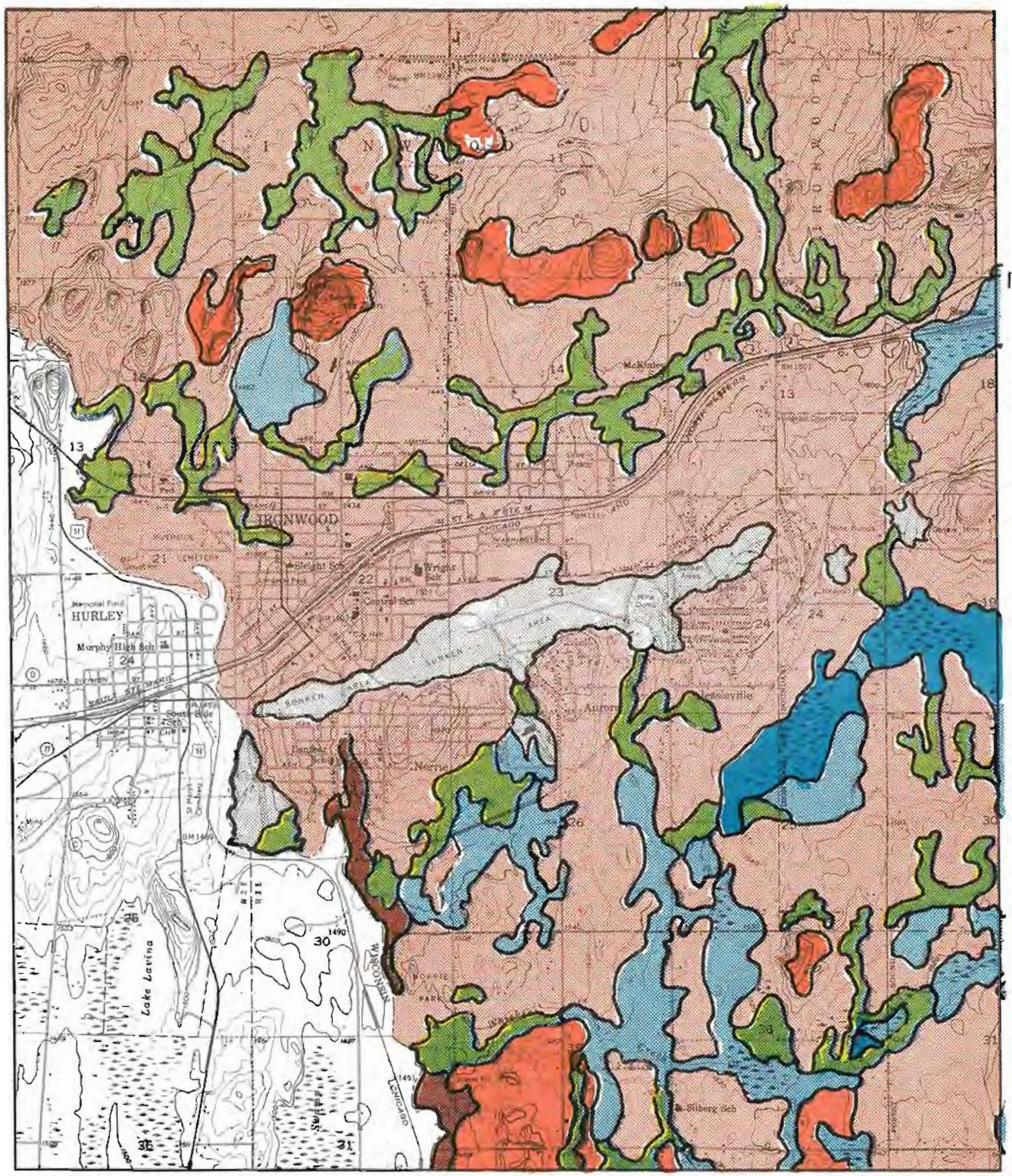
and easily served residential area.

Each of the individual studies which follow under the heading of "Foundations for Planning" will evaluate each phase of the comprehensive plan. Consideration of the topographic study will insure that the best possible use of land is recommended and that natural scenic and recreation areas be maintained.

B. SOIL TYPES

A study of the soil types in the planning area is important to the comprehensive plan, for it is another physical feature which may enhance or limit the type and direction of future developments. A study of soil conditions offers an indication as to the type of development best suited for certain areas. In the case of a rapidly expanding city with limited sanitary and storm water service, it is imperative that proposed development areas be located on well-drained soil which will support individual sewage disposal systems and will provide natural storm water drainage. This situation is not characteristic of Ironwood, but such a problem does exist in the area north of Ironwood. Most of the new residential construction in the Ironwood area has been to the north of the present city limits, and if this trend continues, soil conditions should be considered in the location of new development areas. The area is outside of the present sanitary service area of the city and it is not provided sanitary service by the township. It is important, then, to consider this and comparable areas in the soil survey to determine the proper location for new developments if individual disposal systems will be required. The soil survey also provides indications as to the agricultural productivity of the land, the stability of the soil for supporting heavy structures; and information which may control the location of future developments.

Referring to the Land Type Map, it is noted that there are



LAND TYPE MAP

LEGEND

- POORLY DRAINED LOAMS
- WELL DRAINED STONEY RED LOAMS
- ROCK OUTCROPS
- BOGS AND MARSHES
- TIMBERED SWAMPS
- OPEN PIT MINES
- ALLUVIAL SOILS

NORTH

0 1000 2000 3000 4000 6000

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN
CITY OF IRONWOOD, MICHIGAN

CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS - ENGINEERS - PLANNERS
GRAND RAPIDS, MICHIGAN

FRANK W. SUGGITT - PLANNING CONSULTANT
HARBOR, MICHIGAN

PLATE
8
1963

seven soil classifications in the Ironwood Planning Area. The most prevalent soil condition is that of well-drained stoney red loams. This soil consists of a mixture of clay, sand and enough coarse stoney material to provide good natural drainage. The second soil classification most common to the Planning Area is the poorly drained loam which is similar to the stoney red loam, but which contains a higher percentage of heavier soil. Consequently, the soil does not offer the natural drainage ability which the red loam provides. The remaining classifications indicate the physical feature of the terrain rather than actual soil type. The rock outcrops are indicated as solid red and show areas where the rock is at, or near, the surface, and outlines areas which can be used only for limited types of development. The solid blue symbol outlines bogs and marshes, which are wet swampy areas and offer limited potential for future development. The light blue areas are timbered swamps common to the high level ground south of Ironwood. The light grey symbol indicates areas of subsidence in which development of any type, at the present time, is limited. The purple symbol indicates alluvial soils which are commonly found adjacent to stream beds and are of little consequence in this survey.

Considering the City of Ironwood, proper, it is noted that the soil condition is basically stoney red loam and from a soil standpoint, this type of material will provide adequate surface drainage and suitable individual disposal systems. The City of Ironwood, however, is completely served by sanitary sewers, so the second condition is of little consequence. A look at the surface soil condition is not always a true indication of the drainage characteristic of the soil. In the case of Ironwood, the soil at the surface is well drained. However, many areas in the city are underlaid with rock or slate several feet below the surface. The area south of the caves consists of surface soils over granite rock which, in many cases, is ordinarily near the surface. In the area north of the city, there are many locations where slates are found just below the surface. In the area east of the fair grounds and in the central business district, slates are found three to eight feet below normal ground level.

The soil types in the Ironwood Planning Area may be described as primarily well drained, sandy loams, with intermixed areas of poorly drained heavy loam. All soils in the planning area overlain by bedrock at or near the surface, and before development of future structures are proposed, should undergo a detailed soil exploration to determine the additional construction costs involved. In summary, it is apparent that the entire area, with the exception of the swamp, bogs, and open pit mine areas, is suitable for development pending exploration of the bedrock formation.

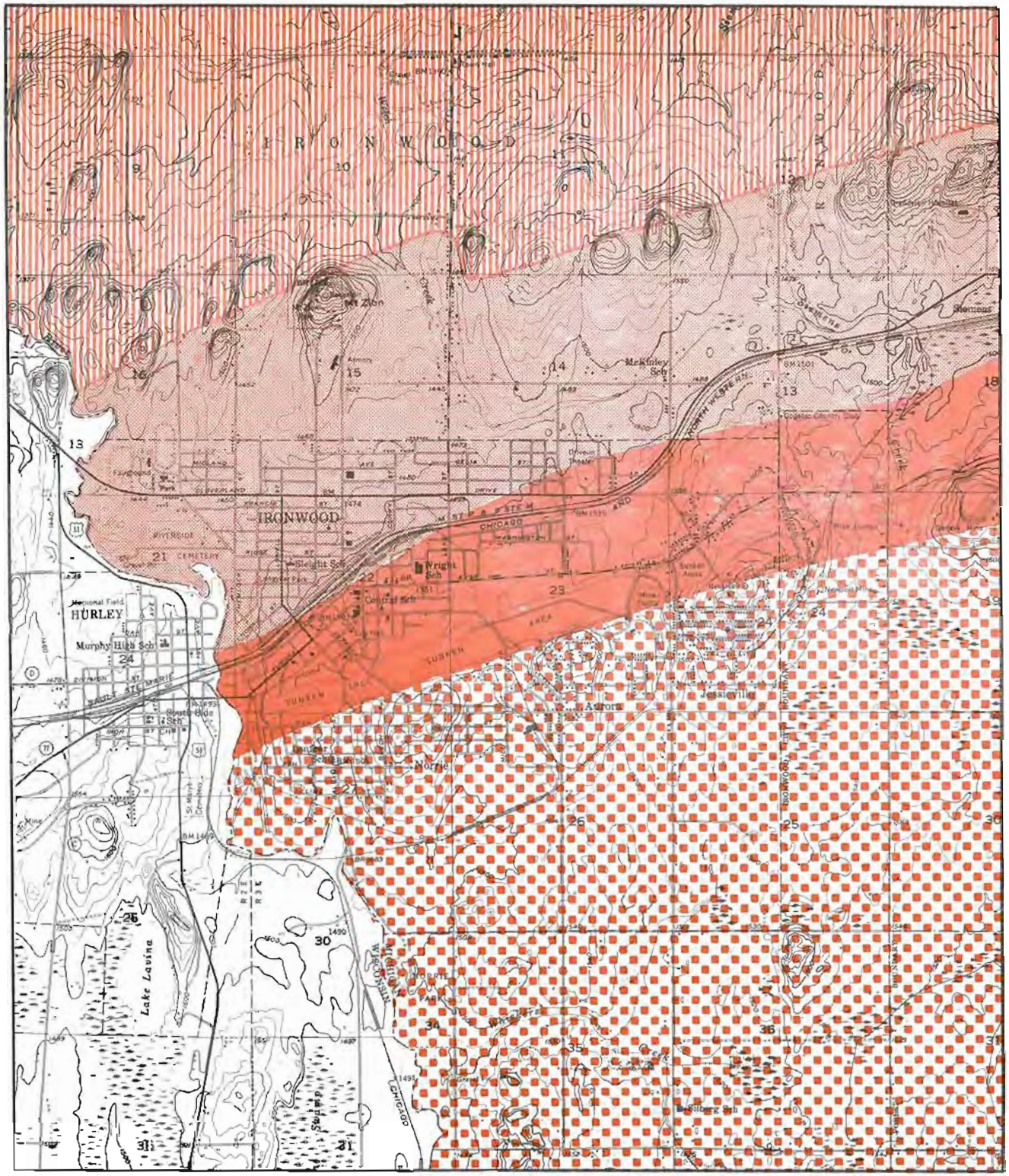
C. GEOLOGY AND MINERALS

A significant body of knowledge exists regarding the geology in and around Ironwood. It is by no means complete in every detail. The Land Type Map presented in the previous section and the Bedrock Formation Map summarize the basic geologic formation in respect to the unconsolidated surface soils and the underlying consolidated bedrock formations. The Land Type Map is used to illustrate the surface geologic formation in the Ironwood area because of the very shallow glaciated soils overlying the bedrock formations.

1. Surface Geology:

The surface formations owe their presence to the action of glaciation during the most recent glacial invasion, and to modifications since the retreat of the glaciers from the area. The soils are composed of materials derived from the local bedrock and mixed with materials transported into the area by the glacier. Regional variations in the materials and discussions of the soil characteristics were described in the preceding section.

The thickness of the surface formations were strongly influenced by the pre-glacial bedrock surface, and by the local action of the glaciers. The records of wells and mine shafts indicate a glacial soil

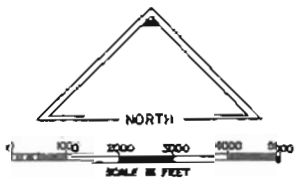


BEDROCK FORMATION MAP

LEGEND

SYMBOL			
ERA	PROTEROZOIC		ARCHEOZOIC
SYSTEM	ALGONKIAN		ARCHEAN
SERIES	KEWEENAWAN	HURONIAN	LAURENTIAN

ECONOMIC RESOURCES	SYMBOL
BUILDING STONE, COPPER, SILVER, CRUSHED STONE, SEMI-PRECIOUS GEMS	
IRON ORE, GRAPHITE, ROOFING SLATE, TERRAZO CRUSHED ROCK	
MAIN IRON ORE BEARING FORMATION	
BUILDING STONE, CRUSHED ROCK, VERDE ANTIQUE MARBLE	



COMPREHENSIVE COMMUNITY PLAN
CITY OF IRONWOOD, MICHIGAN

CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS - ENGINEERS - PLANNERS
GRAND RAPIDS, MICHIGAN

FRANK W. SUGGITT - PLANNING CONSULTANT
MASON, MICHIGAN

PLATE
9
1963

average thirty to thirty-five feet in thickness, although in many places the bedrock comes to the surface. Some of the glacial deposits contribute to the economy of the area, through the provision of sand and gravel.

2. Bedrock Formations:

The bedrock formations underlying Ironwood are made up of consolidated soil materials of very ancient origin. It has been estimated that the formations vary in age from five hundred million to two billion years old, and as such, are among the oldest known rocks occurring in the United States. The symbols shown on the map portray the distribution of various rock series, as they are believed to occur beneath the surface soil. Each unit represented is composed of various types of rock material. Various economic resources are available in the rock formations, and are indicated in the legend on the map. The extraction or mining of high-grade iron ore has been of primary economic importance to the City of Ironwood, and for that reason, a detailed description of the high-grade iron bearing formation is included in this report. This study will also describe the presence of low-grade iron ore formations and the manner in which the mining resulted in the areas of subsidence.

North of the iron formations indicated the Bedrock Formation Map, younger rocks of the Huronian and Keweenawan age occur, while to the south, older rocks outcrop or lie just beneath the glacial soils. The pattern of occurence of the iron formation is complicated by the presence of two sets of faults. One set roughly parallels the east-west trend of the formation (bedding fault) while the other crosses these in a general north-south direction (cross fault). Prior to the faulting, the formation was subjected to intrusions of molten rocks which resulted in the formation of dikes, which also complicated the geologic conditions. The ore bodies within the formation are found associated with the dikes and the faults.

A north-south cross section or profile of the main iron-bearing formations indicates the various rock units and the manner in which they dip or slope steeply to the north. The relative position of the various formations is indicated in the accompanying profile section. The steep dip of the beds increased the cost of mine operations because of the ever increasing depth and lift as mining progresses. In addition, the iron formation and ores of the range are softer than those on the Marquette or Menominee Ranges, hence, collapse and instability are important mining problems. These factors and others appear to be impeding the development of low-grade mining and beneficiating processes for the Gogebic Range, although they are well under way in other areas.

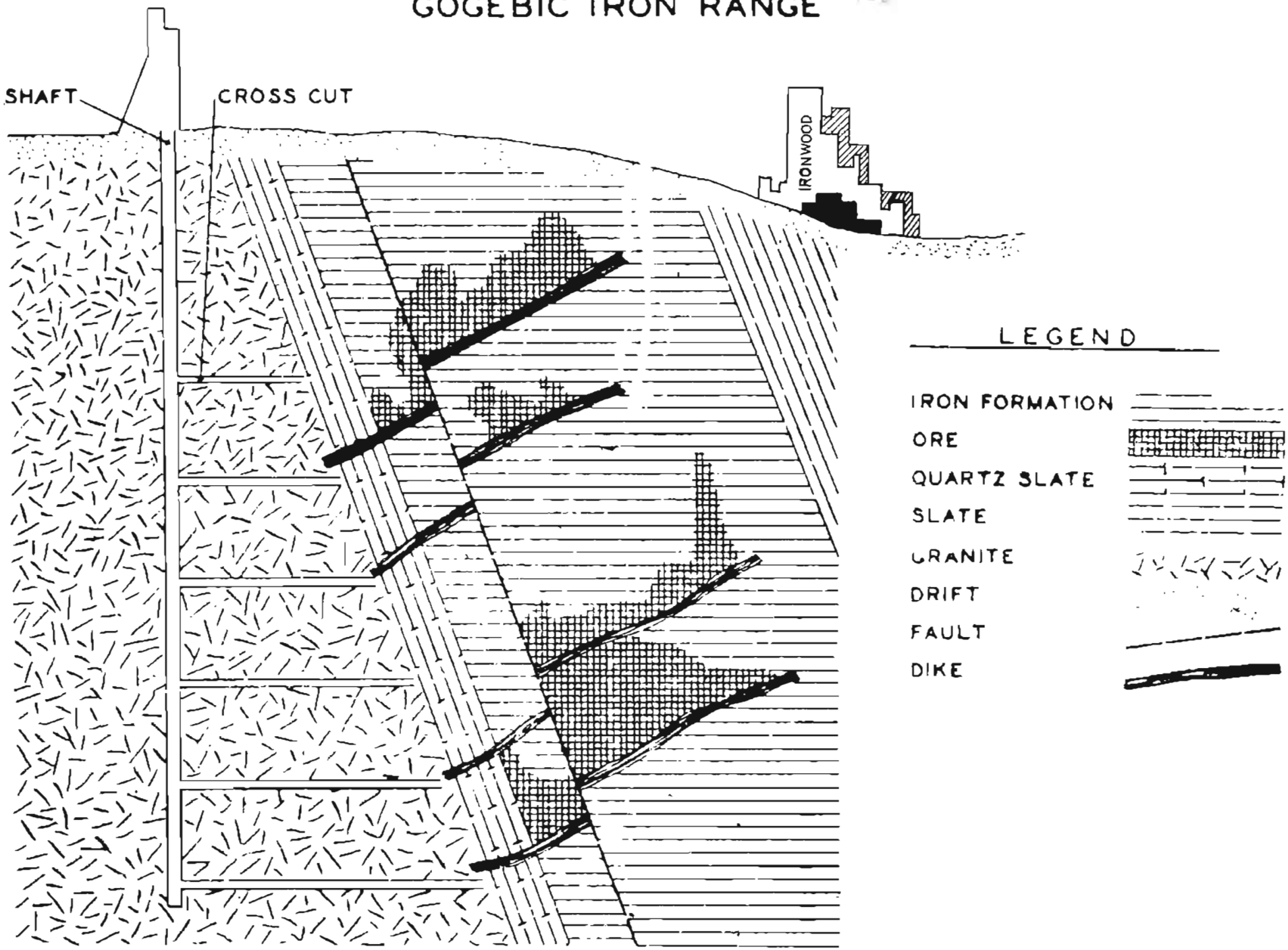
In very general terms, the iron mining operation consists of constructing horizontal cross shafts in the stable granite formations and removing and undermining the iron deposits by cave method of extraction. The development of voids where the ore is removed and the relative instability of the high-grade ore formation has brought about the areas of subsidence so prominently seen in this city.

3. Water:

Surface water, although not generally thought of as such, is a type of mineral resource. The occurrence of water in lakes, rivers, and underground formations, like other mineral resources, is largely controlled by the geologic environment. Unlike other resources, the present climatology exerts a decided influence on this mineral and makes it a renewable resource. Much local and national attention has been directed toward water resources generally, and within the past year, a water supply study was completed concerning the western portion of Gogebic County and the eastern part of Iron County (Wisconsin). Our concern in this report, however, will be a discussion of the water resource as it applies to the Ironwood area.

The largest stream in the Ironwood Planning Area is the Montreal River and the remaining streams are tributaries to this. The

GENERALIZED GEOLOGICAL CROSS-SECTION
GOGEBIC IRON RANGE



entire planning area is located in the Montreal drainage basin. There are no natural lakes within the Planning Area, and consequently, the Montreal River provides the only local swimming or bathing facility. Characteristic of many streams in the area, the Montreal River is highly colored as a result of the origin of the stream in the high, swampy area to the south of the Range. The river starts as runoff from this swampy area and is channeled to the headwaters of the Montreal. As the water flows through the swamps and marshy lands, it becomes highly colored. For this reason, the source has not been utilized for a water supply since the early 1900's.

Because of the extremely shallow drift formations, adequate ground water aquefers for the supply of domestic water are very limited in extent, and it is doubtful if a ground water supply sufficient for municipal purposes is available in the Ironwood Planning Area. The City of Ironwood obtains its present water from a drift supply located approximately five miles north of Ironwood, and the quality of the water is excellent.

D. FORESTS AND FOREST PRODUCTS

The economic influence of forests and milling on the City of Ironwood is second only to the production of iron ore. Many reminders of the timber era are still evident in large tracts of private land, the remnants of past saw mills, and the large cut-over regions of the Northern Peninsula. There are no stands of virgin timber remaining in the Ironwood area and young second growth northern hardwood dominate.

The City of Ironwood is located in the small agricultural portion of Gogebic County. Consequently, most of the land in the area around Ironwood and the other range communities has been cleared, and either in the past or at present is farmed. Surrounding the farmland is a vast forested area of state, Federal, and county forest and large

private holdings. The second growth timber and associated timber products could well become a major industry in the Ironwood area in the future. Another factor which may more fully utilize the timber lands of this area would be the development of various recreational uses.

E. WILDLIFE AND RECREATION

Fishing and hunting are two recreational uses which are increasing every year throughout the county. The Ironwood area has an abundance of wildlife and with decreasing travel time, due to the construction of new roads and air facilities, it should be anticipated that an increasing number of sportsmen will be attracted to the Ironwood area to enjoy the many streams, woods, and camping facilities made available by state and local groups. The attraction of tourists to the area to enjoy the wildlife and recreation will have a specific influence on the economies of Ironwood and the other Range communities.

F. CLIMATE

In a study of natural resources, it is important to understand the climate conditions of the area as they relate to other physical features, and to economic development. Temperature, precipitation, and snowfall effect the environment of the area as well as the ease of maintenance of community facilities. Climate has a direct bearing on the operation of municipal services, since the sizing of storm sewers and the removal cost of snow are based primarily on past rainfall and snowfall records. Many industrial processes are affected by the climate in addition to the influence upon agriculture, recreation, and general living condition. Tables 6 and 7 summarize the climate characteristics of Ironwood and comparative climate characteristics with the Upper Peninsula, the northern Lower Peninsula, and the southern Lower Peninsula.

TABLE NO. 6 - IRONWOOD'S CLIMATE CHARACTERISTICS.

	TEMPERATURE					PRECIPITATION	
MONTH	MEAN	MEAN MINIMUM	MEAN MAXIMUM	RECORD HIGH	RECORD LOW	MEAN PRECIPITATION IN INCHES	MEAN SNOWFALL IN INCHES
Jan.	13.9	5.0	22.7	48	-34	1.88	26.5
Feb.	15.8	5.5	25.9	60	-34	1.79	23.0
Mar.	25.1	14.7	35.5	79	-23	2.03	18.9
Apr.	40.7	29.7	51.6	86	- 1	2.36	10.2
May	53.6	41.0	66.1	100	18	3.67	1.2
June	63.0	51.1	75.0	99	25	4.92	T
July	68.3	56.5	80.1	104	38	4.03	T
Aug.	66.3	54.7	77.9	101	31	4.07	T
Sept.	57.4	46.4	68.4	96	21	3.45	0
Oct.	46.9	36.6	57.2	86	9	2.53	4.0
Nov.	30.3	22.8	37.8	75	-15	3.09	21.9
Dec.	18.5	10.7	26.2	55	-29	2.01	24.9
Annual	41.6	31.2	52.0	104	-34	35.83	130.6

Note: Location of Weather Bureau Station - Ironwood. T=TRACE

Source: Climate of Michigan, Michigan Weather Service, February 1963

TABLE NO. 7 - COMPARATIVE CLIMATIC CHARACTERISTICS

10 Upper Peninsula Stations (U.P.)
10 Northern Lower Peninsula Stations (N.L.P.)
10 Southern Lower Peninsula Stations (S.L.P.)
State Average for 30 Stations

	Iron-wood	U.P.	N.L.P.	S.L.P.	State Aver.
Temperature					
Monthly Mean	41.6	41.2	43.8	48.6	44.5
Minimum Mean	31.2	31.5	33.4	39.1	34.7
Maximum Mean	52.0	50.9	54.1	58.1	54.4
Record High	104	101.4	104.6	104.0	103.3
Record Low	-34	-30.9	-35.5	-17.7	-28.0
Mean Degree Days	9,000	8,868	8,006	6,604	7,826
Precipitation					
Mean	35.83	31.22	29.88	31.52	30.87
Greatest Daily	6.70	4.31	3.94	4.00	4.08
Snow & Sleet:					
Mean	130.6	95.8	67.7	47.0	70.2
Maximum Monthly	58.5	50.7	36.8	38.0	41.8
Greatest Daily	19.0	16.3	14.2	13.3	14.6

Source: Michigan Weather Service, Climate of Michigan by Stations, February, 1963.

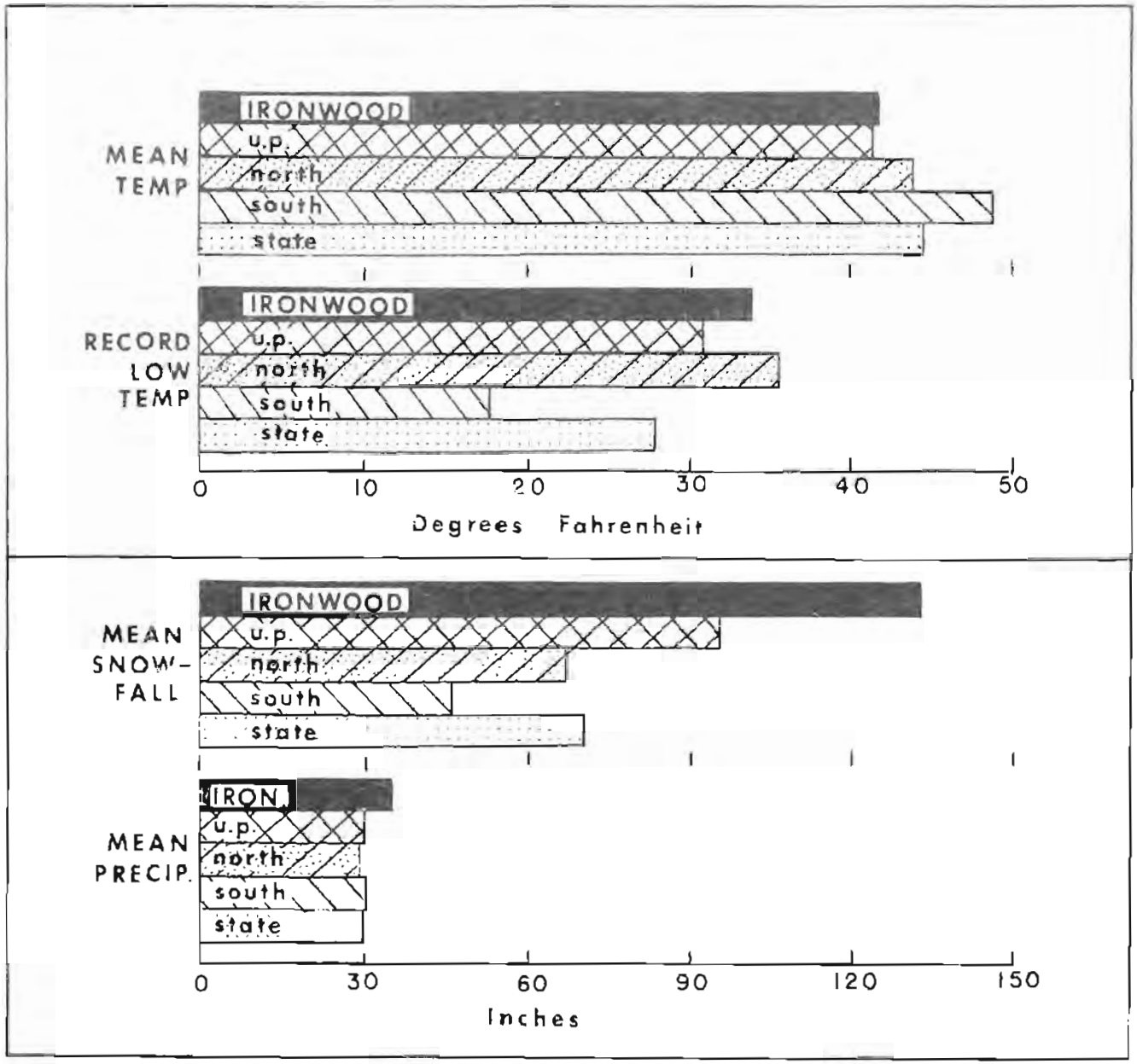


FIG. 2. COMPARATIVE CLIMATIC CHARACTERISTICS OF TEN WEATHER STATIONS IN THE UPPER PENINSULA, TEN IN THE NORTHERN AND TEN IN THE SOUTHERN LOWER PENINSULA AND A STATE AVERAGE OF THE 30 STATIONS.

SOURCE: CLIMATE OF MICHIGAN, MICHIGAN WEATHER SERVICE, EAST LANSING, FEBRUARY 1963.

The growing season in the Ironwood area, on the average is as long or longer than it is in about two-thirds of the Upper Peninsula, and it is as long or longer than all the northern Lower Peninsula except for the narrow coastal fringe fronting on Lake Michigan and Lake Huron. The average annual precipitation in Ironwood is exceeded by only one of the sixty-eight stations in the state, with at least 20 years of record. A significant feature of the seasonal distribution of rainfall is that during the three months of June through July and August, Ironwood receives an average of 13.02 inches for 36.3 of the annual total snowfall. Ironwood average annual snowfall is 130.6 inches and is second only to Calumet with 152.1 inches. The important factor in regard to snowfall is that Ironwood's snow is more uniformly distributed than that of Calumet or any of the other weather stations in Michigan. This fact alone sets Ironwood aside as a potential winter sport or recreation area that is tops in the Midwest.

C. SUMMARY

An attempt has been made in the preceding section, and in the accompanying Appendix data to take a broad look at the many natural factors which have influenced the development of Ironwood and which have characterized the economic and social problems of the area, and to present sufficient data to help evaluate the other factors which are the foundations for planning. The area, in general, from the standpoint of natural resources, can be summarized by quoting from the Gogebic County Planning Commission Report on Natural Resources as follows: "To summarize those natural resources in which Gogebic has an edge or comparative advantage over other areas, the ones that stand out most clearly are water, snow, topography, scenery, remoteness (and thus more of the wilderness values including less pressure upon fishing and hunting). Gogebic County does not have a comparative advantage in mining with production and utilization for agricultural capabilities."

The natural resource environment of Ironwood and the Planning Area is basic to future planning and development. The topography, the rock outcrops, the kind of soil, the drainage, the flora and fauna, and the climate all represent rather fixed quantities in the planning and development equation. In planning for the future, it is necessary to reckon with these natural factors, for although most of them can be modified, they are physically and economically rather rigid.

SNOW - - - FROM NUISANCE TO NEW WAY OF LIFE!

FOUNDATIONS FOR PLANNING 1963

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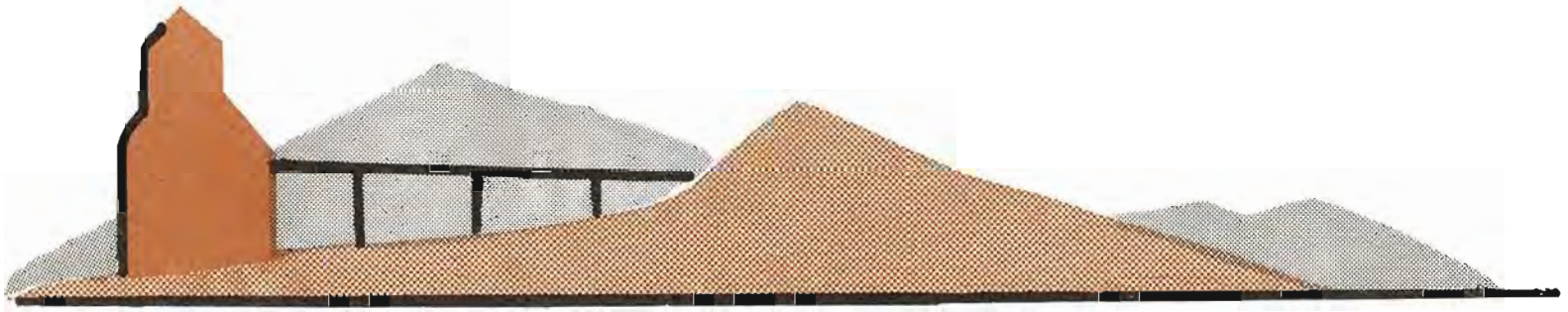


ECONOMIC BASE

V. ECONOMIC BASE

No aspect of the preliminary studies or of the comprehensive plan is of more importance than consideration of the economic base. There is no question but what this was a prime motivation for the City of Ironwood to embark upon this planning program. In the introductory chapter, some provocative questions were raised as to why there is a City of Ironwood, what supports it, what changes have occurred, what has happened to the tax base, and what are its economic potentials.

These are fundamental considerations in view of the decline of population and of the employment base. Some 10,000 people live within the city and another 40,000 live within 40 miles, but the crucial question is, *"What is their livelihood base and what will it be 10 or 20 or 30 years from now?"* In this chapter, the answers to such questions will be detailed, and in the final comprehensive planning report, recommendations will be made as to what conscious and deliberate steps can be taken to influence the future economy.

A. ANALYTIC APPROACHES AND CONCEPTS

It is necessary to look closely to the actual function of Ironwood, to the region it serves, to evaluate certain changes in retail shopping patterns and to consider future changes in general economic demand. Anything short of such an approach would provide no sound basis for future planning for Ironwood, for it is not a self-sufficient island.

1. Functional Analysis:

A logical point of beginning for studying the City of Ironwood or any other urban concentration is from the functional approach. In short, what needed functions does the city perform? Many cities and

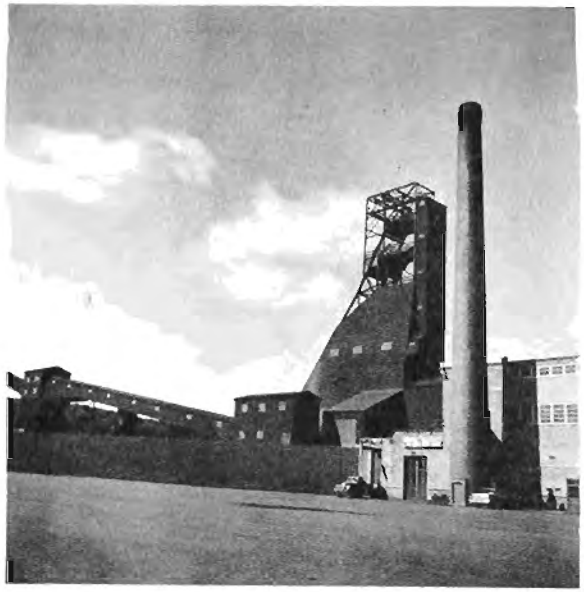
small towns have outlived their functional usefulness. The reasons for their establishment and development have, for a variety of reasons, ceased to exist.

The North Woods is full of former lumber towns where it is now difficult even to find the foundations of buildings that once accommodated communities of hundreds and even thousands of people. In the Corn Belt, the Great Plains, the Cotton Belt, the New England textile region, and in mining areas everywhere, there are thousands of towns that are now but ghosts of their former selves. In some cases, the original urban settlements were by-passed by the railroads or by trunkline highways and their initial functional usefulness was transferred to more favorably located centers. In other cases, the increased mobility of people and goods enabled concentrations in larger centers rather than relying upon neighborhood or crossroads market and service centers. The shift of agricultural production from the Southeast to the irrigated Southwest withered many a Cotton Belt town.

Ironwood has experienced a functional change, like dozens of other mining and lumber towns in the Upper Peninsula, northern Wisconsin, northeastern Minnesota, West Virginia, Kentucky, Pennsylvania, Montana, Colorado, and in many other parts of the world. Ironwood was founded for the sole purpose of capitalizing upon *iron and wood*. To do so required people to work in the mines, the woods, the mills, and on the railroads, and it required other people to build homes and to build, operate and finance stores and places providing various personal, professional and governmental services. Streets, sewers, water, fire and police protection, parks, health, education, religion and entertainment were needed, demanded and paid for by the people. But it all stemmed from the primary industries centered upon *iron and wood*.

2. Regional Analysis:

Ironwood, as a city, is a corporate municipal entity which has



U.S. Forest Service Photo

INDUSTRIES OF THE RANGE

well-defined urban service functions within specific jurisdictional and geographic boundaries. Yet Ironwood, as a business and professional service center, covers far more territory than the 5.4 square miles within the city limits. In planning for future parking, traffic, land use and recreational needs within the corporate limits of Ironwood, the entire trade and service area must be considered.

Changes and trends occurring in the broader service area are fully as important to the planned future of Ironwood as are any changes and trends occurring within the city itself. It is quite possible that the economic rehabilitation of Ironwood will be determined by decisions and actions outside the city - - - some of them thousands of miles away, and some of them within the normal trade and service area.

The report of the Gogebic County Planning Commission detailed county-wide economic and employment conditions and changes. Ironwood, being located on the state line and being the largest urban center between Marquette and Duluth, must give even more consideration to its interstate regional trade and service area.

3. Analysis of Local Consumer Preferences:

Ironwood is in the most fortunate position of any of the Gogebic Range communities because of the larger size and greater diversity of its business district and its business and professional services. The downtown business district provides a variety of retail shops and services that can no longer be justified in other nearby cities. Modern mobility has caused neighborhood shops to decline in favor of the one-stop, multi-shop shopping center - - - this is happening everywhere, but here in Ironwood and in the surrounding communities, it is a more conspicuous manifestation of shifts in consumer preference.

Evidence of such a shift is apparent by comparing the abundance of vacant store buildings in downtown Bessemer, Ramsay, Wakefield,

Marenisco, Watersmeet, Bergland, Ontonagon, Montreal, Saxon, or Iron Belt with the apparently prosperous situation in downtown Ironwood. The entire region has experienced about the same degree of economic and population decline, but there has been a very conspicuous migration of business and service from the smaller outlying communities to Ironwood. This, then, is a major factor in planning for Ironwood's future - - - it is predicated on the axiom that *the big get bigger* - - - that there are economies of scale and of diversity that are available in a larger operation than in a smaller one - - - that the larger operation has its own inertia which provides proportionately more momentum for continued growth.

To a very considerable extent, the present economic basis of Ironwood is dependent upon this principle. As long as there are people living within a 50 or 60-mile radius of Ironwood, regardless of what eventually happens to mining employment, there will be a fairly prosperous downtown business district.

4. Analysis of Broader Preferences:

Several nation-wide shifts in preference have bearing upon the present and future economic base of Ironwood. These are largely beyond the control of local people, but they are vitally important and should be understood.

First has been the decision on the part of the blast furnace owners and the major mining interests that the quality of Gogebic iron ore is no longer satisfactory and that better quality ore can be produced for less cost in other parts of the world. This has resulted in the decision to invest in multi-million dollar low-grade ore production and beneficiation rather than to re-invest in the deep shaft mines of the Gogebic Range. Technical problems associated with the non-magnetic, high silica low-grade ores of the Gogebic have shifted the preference to other areas where these problems do not exist. These are momentous decisions, representing hundreds of millions of dollars both in the new

operations and in the abandonment of the old ones. Such decisions can not be easily reversed by local community action.

A second kind of change in market preference is in the field of forest products manufacturing, in which it is now possible for a manufacturer to obtain his raw material from water-borne foreign or West Coast or Southern sources more economically than from local, second-growth stumpage. A community which is not blessed with a deep sea shipping port or favorable rail rates is at a disadvantage, and it is equally as disadvantaged in the pulp and paper manufacturing field if it lacks adequate and economical water supply for processing and waste disposal. The continued expansion of wood substitutes further limits the market for wood products and makes it more difficult for smaller operators, who must rely upon overland transport, to compete favorably.

In the field of general and specialty manufacturing, fabricating or processing, it is essential to objectively evaluate what Ironwood could offer that other communities could not. There is certainly a trend toward industrial decentralization to smaller communities in order to avoid the congestion, traffic, high taxes, high land and rent costs, and high labor costs of metropolitan areas. There are also indications that at least some industrialists prefer locations in proximity to recreational areas where hunting, fishing, boating, and skiing are readily available. These do represent shifts in preference, and it behooves Ironwood to critically examine its assets and liabilities.

A fourth general shift in consumer preference is the rapid growth of all phases of recreational travel and tourism, and this can provide some positive benefits for Ironwood if the necessary ventures are taken. In this field, and only in this field, the Ironwood-Gogebic Range Region has some interregional comparative advantages that can be found nowhere else in the Midwest. The raw resources of the Range - - - scenery, slopes, snow, water, and woods - - - can be converted into valuable economic assets as has already been demonstrated to a limited extent.

B. THE CITY AND REGIONAL ECONOMY

In view of the fluidity of people, goods, and services, statistical description of the Ironwood economy is extended to include the entire Ironwood Service Area. For convenience, the service area is arbitrarily defined as including all of Gogebic and Iron Counties and one-half of Ontonagon and Vilas Counties. For some goods and services, the economic sphere of influence of Ironwood is actually larger than this, and for some, it is much smaller, but this definition represents a valid average.

Comparisons are made between Ironwood City and its service area to stress the importance of the former as a regional market, shopping and service center. Up-to-date, accurate information is not uniformly available, so reliance is placed upon U. S. Census reports, Sales' Management Magazine's Survey of Buying Power, and Michigan's retail sales tax returns. Much valuable information was supplied by the Ironwood Chamber of Commerce, the Ironwood District Office of the Michigan Employment Security Commission, and the Gogebic Industrial Bureau.

1. The Livelihood Base:

The categories of workers, by broad industrial or occupational groups, are shown in Tables 2 and 8 for the City of Ironwood and for the Ironwood Service Area. Brief summarizations follow for several of the more important categories.

a. Mining:

Table 2, in the first chapter showed that in 1960, over one-quarter of all employed workers in the City of Ironwood were employed in mining. Of the major occupational groups in the city, mining was the largest and most significant. The same is true of the four-county market region in which mining

accounted for 28.9 percent of all employed workers (26.0% in Ironwood City). The relative dominance of mining is apparent when these figures are compared with the fact that only 0.6 percent of Michigan's total employed labor force is engaged in mining (see Table 2) and that a mere 0.1 percent of Wisconsin's employed labor force is involved with mining.

TABLE 8. EMPLOYMENT BASE, IRONWOOD AND ITS SERVICE AREA, 1960*:

	Ironwood Service Area	Ironwood City	
		Total	% of Service Area
Employed Persons, Total	12,827	3,249	25.3
Agriculture	412	7	1.7
Construction	608	93	15.3
Mining	3,705*	848	22.9
Manufacturing	1,921	419	21.8
Transportation & Communications	634	236	37.2
Wholesale & Retail Trade	2,479	730	29.4
Finance, Insurance & Real Estate	227	56	24.7
Educational Services	799	148	18.5
Public Administration	628	175	27.9
Forestry & Fisheries	78	8	10.3
White Collar Workers, Number	4,150	1,267	30.5
White Collar Workers, Percent	32.4	39.0	-
Working Outside County of Residence, Number	1,491	405	27.2
Percent	11.6	13.1	-
Workers Using Public Transport., No.	327	50	15.3
Percent	2.5	1.6	-

Source: U. S. Census, City and County Data Book, 1962.
Ironwood Service Area: All of Gogebic & Iron (Wisconsin) Counties and half of Ontonagon & Vilas (Wisconsin) Counties.

* All of Ontonagon Co. mining employees are included in view of proximity of White Pine Mine to Ironwood.

There has been a steady decline in mining activity since about 1920, but from January 23, 1960 to August 13, 1962, the Gogebic County economy suffered its most serious and most permanent reversal. During this period, there were 4 mine layoffs which involved 742 miners to the extent of a total of 79,100 man-days lost. Another 474 were laid off as the mines were curtailing production, and 732 jobs were completely wiped out when three large mines closed permanently.

The rich, high-grade iron ore deposits of the Gogebic Range have been the principle basis for the economy and its urban development since the beginning in 1884. The decline of mining has affected every person and every business and industry in the region. At the peak of iron ore mining, 1920, there were between 6,000 and 6,500 miners in Gogebic County and the output was 8,763,000 tons.

Today only two iron mines are operating in Gogebic County, employing 480 men, and another 200 are employed in the one remaining mine in Iron County, Wisconsin. The White Pine Copper Mine in Ontonagon County employs about 400 Gogebic County workers, and it is the brightest spot in the entire region. The trends in iron mining employment in the past decade in the Gogebic Range are shown in the next table.

In 1961, the value of iron ore shipped from Gogebic County mines was $11,957,087, a 51.6 percent decrease since 1955. During the same period the tonnage shipped declined by 57.2 percent, the 1961 total being 1,361,855 tons.

The Ironwood economy has been based on a single industry, and the opportunities or the incentives for diversification have been limited. There are possibilities for the development of low-grade iron ore bodies and for new copper development, but they will require millions of dollars for basic research and hundreds of millions for development. National and international factors control whether or not such investments are forthcoming.

TABLE 9. TRENDS IN MINING EMPLOYMENT, GOGEBIC RANGE, 1952-1963*:

	Gogebic County	Iron County Wisconsin	Total Gogebic Range
1952 - - - - - - - - -	2,500	1,000	3,500
1957 - - - - - - - - -	1,800	950	2,750
1958 - - - - - - - - -	1,800	950	2,750
1959 - - - - - - - - -	1,600	925	2,525
1961 (January) - - -	1,500	900	2,400
1961 (June)- - - - -	360	625	985
1962 (January) - - -	580	875	1,455
1962 (August) - - -	485	320	805
1963 (January) - - -	480	200	680

* Source: Ironwood District Office, Michigan Employment Security Commission.

b. Manufacturing:

Manufacturing has traditionally been much less important than mining in Ironwood and its service area than in either the states of Michigan or Wisconsin generally. In 1960, only 12.9 percent of the city's employed labor force was engaged in manufacturing, somewhat less than the 15.0 percent for the trade area as a whole. But this is minor when considered in the light of state totals of 38.0 percent of Michigan's and 32.9 percent of Wisconsin's employed labor force in manufacturing.

The U. S. Census of Manufacturers for 1954 and 1958 presents a bleak picture of manufacturing trends for the city and the county, as shown in Table 10.

TABLE 10. MANUFACTURING EMPLOYMENT TRENDS, IRONWOOD AND GOGEBIC COUNTY, 1954 AND 1958*:

	Manufacturing Employees 1954	1958
Gogebic County	1,134	795
Percent Change		-29.9
Ironwood City	549	312
Percent Change		-43.2
Percent of County Total	48.4	39.3

* Source: U. S. Census of Manufacturers.

The 1963 situation is depicted for the Ironwood service area in Table 11.

TABLE 11. MANUFACTURING EMPLOYMENT, GOGEBIC RANGE, JANUARY 1, 1963*:

Industry Group	Number	Percent of Total
Total manufacturing employees	965	100.0
Lumber and wood products	710	73.6
Food processing	120	12.4
Trailer manufacturing	70	7.3
Other transportation equipment	25	2.6
Electronics (Mercer, Wisconsin)	40	4.1

* Source: Ironwood District Office, Michigan Employment Security Commission, January 1, 1963.

c. Agriculture:

Although there is some farmland within the city limits of Ironwood, the important consideration is the nature and extent of the agricultural industry in the hinterland or service area. The 1959 Census of Agriculture lists only 590 farms in the entire 4-county service area, and the 1960 Census of Population enumerates a total of only 412 persons employed in agriculture. If the 1960 Census is accurate, only 3.2 percent of the employed labor force of the service area is employed in agriculture, and there were, then, nine times more mining workers than farm workers, and there were 4.7 times more factory workers than farm workers. Agriculture contributes relatively little to the regional livelihood base, and the trend, as in mining and manufacturing, is downward, for between 1949 and 1959 in Gogebic County alone, there was a 59.5 percent decrease in the number of farms.

d. Trade and Service Employment:

More than one out of every five employed workers in the City of Ironwood is engaged in retail or wholesale trade. There are now more trade employees than there are mining or manufacturing workers. Trade has become the major economic activity while the mining and wood products industries have declined.

In the city itself, 22.5 percent of the employed labor force is engaged in retail and wholesale trade, as compared to 19.3 percent in the 4-county Ironwood service area, and 17.7 percent in Michigan as a whole. This begins to fortify earlier statements that Ironwood is the trade and service center for a large region, and that herein lies a good share of its hope for economic stability. This will be stressed in more detail shortly.

e. Summary to Date:

About 1,000 jobs in mining and 450 in manufacturing and lumber industries have been lost since the last U. S. Census. On the last day of 1961, a glove factory closed its doors to 112 employees, and another 338 (approximately) jobs in manufacturing and lumber industries were lost from 1960 to 1963. The following table is a reconciliation of the 1963 MESC figures with the 1960 Census, and it shows that unemployment in the basic industries is felt throughout the economy.

TABLE 11A. LABOR FORCE CHANGES, 1960 TO 1963, GOGEBIC COUNTY*:

	Workers	Change 1960-63 Number	Percent
Total Labor Force	6,974	-1,096	-13.6
Employed Labor Force	5,974	-1,322	-18.1
Mining	880	-1,113	-55.8
Manufacturing	965	- 135	-12.3
Agriculture**	174	+ 18	+11.5
Construction	150	- 123	-45.1
Transportation, Communica'n. Util.	490	+ 136	+38.4
Retail Trade	830	- 426	-43.9
Wholesale Trade	150	- 33	-18.0
Finance, Real Estate & Insurance	85	- 45	-34.6
Other Business & Profn'l.Services	1,060	- 466	-30.5
Public Employees:	1,190	+ 191	+19.1
Education	407	- 57	-12.3

* Source: 1960 data from U. S. Census and 1963 data from estimates by the Ironwood Office of the Michigan Employment Security Commission.

** The number of agricultural workers in 1963 is questionable.

2. General Economic Activity:

Table 12 summarizes, for the City of Ironwood and for its 4-county service area, the number of business and manufacturing establishments, the number of employees, the annual payroll, and the dollar volume of business. In total, the city, compared to the service area, has:

One-fifth of the business establishments (20.5%).
One-third of the employees (34.3%) and payroll (33.3%).
Two-fifths of the sales or receipts (41.3%).

This should again emphasize the concentration of businesses and services within the city, and it should emphasize the need for planning to maintain this central marketing and service function. It also stresses the advantages to Ironwood resulting from any kind of economic expansion anywhere in the trade region.

In Table 13, the significance of retail sales to the Ironwood economy is depicted. Compared to the larger service area, Ironwood has about:

One-quarter of the total population (24.6%) and purchasing power (26.8%).
Two-fifths of the total retail sales (43.2%).
Half the automotive (52.8%) and drug (50.5%) sales and nearly half (45.7%) of the food sales.
Three-quarters of the sales of furniture and appliances (74.7%) and of apparel (73.1%).

A similar concentration in Ironwood exists with regard many of the personal and professional services. For example, of 17 law firms in Bessemer, Wakefield, Hurley, and Ironwood, 14 are located in the latter. There are 10 physicians and surgeons listed for Ironwood and a total of 4 in the other three cities. There are 2 chiropodists, 2

TABLE 12. GENERAL ECONOMIC ACTIVITY, IRONWOOD AND ITS SERVICE AREA, 1958*:

	Ironwood Service Area	Ironwood City	
		Total	% of Service Area
Number of Establishments: (total)	1,380	283	20.5
Manufacturing	117	14	12.0
Retail	759	175	23.1
Wholesale	62	21	33.9
Selected Services	442	73	16.5
Number of Paid Employees: (total)	3,968	1,363	34.3
Manufacturing	1,504	312	20.8
Retail	1,805	808	44.8
Wholesale	190	102	53.7
Selected Services	469	141	30.1
Payroll, Entire Year ($000):(total)	11,359	3,781	33.3
Manufacturing	5,463	956	17.5
Retail	4,122	2,101	51.0
Wholesale	726	428	59.0
Selected Services	1,048	296	28.2
Sales or Receipts ($000): (total)	75,577	31,248	41.3
Manufacturing (value added)	9,177	1,533	16.7
Retail	43,500	19,337	44.5
Wholesale	17,300	8,925	51.6
Selected Services	5,600	1,453	25.9

* Source: U. S. Census of Business, 1958.
Ironwood Service Area - All of Gogebic and Iron (Wisconsin) Counties and half of Ontonagon and Vilas (Wisconsin) Counties.

TABLE 13. POPULATION, PURCHASING POWER AND RETAIL SALES,[1] IRONWOOD AND ITS SERVICE AREAS,[2] 1961

	Ironwood Service Area	Ironwood City Total	Ironwood City % of Service Area
Population	41,700	10,265	24.6
Purchasing Power ($000)	54,600	14,649	26.8
Purchasing Power Per Capita	1,309	1,450	
Retail Sales, 1961, Total ($000)	44,600	19,283	43.2
Food	15,500	7,085	45.7
Eating & Drinking Places	6,100	1,011	16.6
General Merchandise	3,500	1,459	41.7
Apparel	3,000	2,194	73.1
Furniture & Appliances	1,500	1,121	74.7
Automotive	5,200	2,745	52.8
Gas Stations	3,800	1,070	28.2
Lumber, Bldg. & Hdwe.	4,500	1,018	22.6
Drugs	1,500	758	50.5

[1] Source: Sales Management, Survey of Buying Power, June 10, 1962.

[2] Source: Ironwood Service Area includes the counties of Gogebic and Iron (Wisconsin), and half of Ontonagon and Vilas (Wisconsin).

chiropractors, and 2 optometrists in the service area, and all but one are located in Ironwood. Four out of the 7 dentists on the Range are in Ironwood. Of 17 beauty shops in the 4 Range cities, 12 are in Ironwood. Four out of 5 florists and gift shops and 6 out of 7 jewelers have their businesses in the central city. Five different photographic businesses are listed in Ironwood, as are 5 laundries, with none of either in the other cities.*

* Source: Yellow Pages, Michigan Bell Telephone Directory for Ironwood, Bergland, Bessemer, Hurley, and Wakefield, May, 1963.

A number of specialty type services such as advertising, accounting, air conditioning, landscape architecture, travel service and the like are located only in Ironwood. This is truly a central shopping and service city, and there can be little question but what Ironwood's most promising future is to improve this kind of function, while striving to broaden the basic industries.

3. Finance and Tax Base:

There are two banks in Ironwood and four in Gogebic County. The aggregate resources of the two Ironwood banks was nearly $17,000,000 at the end of 1962, more than twice as much as the other two county banks combined. This is still another evidence of the economic concentration in Ironwood, for it makes up only 42.1 percent of the total Gogebic County population, but the resources of its two banks comprise 68.4 percent of the total for the county.

TABLE 14. BANK DEBIT TRENDS:

1951	$69,506,000
1952	73,211,000
1953	74,807,000
1954	71,047,000
1955	67,664,000
1956	76,263,000
1957	82,626,000
1958	75,754,000
1959	81,117,000
1960	84,560,000
1961	82,981,000

Bank Debits, for the most part, are checks against depositors' accounts and thus represent payments for goods, services, debts, etc.,

but they also include transfers of funds which, of themselves, have no business significance.

The total state equalized valuation of personal property and real estate in Ironwood was $21,500,971, as of October 8, 1962. This represented 38.8 percent of the county total; it is more than three times greater than the valuation of any other civil unit in the county, and it is more than 10 times greater than one of the townships. About two-fifths of the taxes raised in the city in 1963 were for municipal operation, one-fifth was for county operation, and one-third was for the Ironwood School District.

Reference was made in Chapter I to the shift of incidence of taxes from mining to non-mining properties over the past 35 or 40 years. The valuation of mining properties was 130 times greater in 1925 than it was in 1963, while the assessments on non-mining properties increased 177.6 percent in the interim. The gravity of the recent declines is underscored by the fact that just in the past 10 years, the equalized valuation of mining property in Ironwood has dropped over four and one-quarter million dollars, thus, it has been necessary for non-mining property to pay nearly $4.5 million more than in 1954. In 1954, mining paid 22.6 percent of the taxes in Ironwood, but in 1963, mining paid only 0.81 percent.

Significant steps have been made by the city toward objective, scientific property assessment, but much more must be done. The prevalence of elderly people presents acute hardship situations that must be considered. Mining company ownership of many houses leaves but a little personal property assessment against the occupant. Some difficult readjustments are in the offing.

4. Retail Sales Trends and Implications:

In spite of population declines in Ironwood and its service

area, the volume of retail trade in the city has shown remarkable stability. Capitalization of state retail sales tax collections indicates that in 1957-58, the city's retail sales reached their peak of $18,587,000, whereas the county's maximum was $27,983,000 in 1956-57. In fiscal 1961-62, the city's retail sales were $17,469,000 and the county's were $25,670,000.

More than two-thirds of the total retail sales taxes collected in Gogebic County are collected in Ironwood. In 1956-57, Ironwood accounted for 64.8 percent of the county total, but by 1961-62, it had risen to 68.1 percent, to strengthen the evidence that Ironwood is becoming relatively stronger as a trade center.

TABLE 15. RETAIL SALES TRENDS, GOGEBIC COUNTY AND IRONWOOD: (Millions of dollars capitalized from sales tax returns)*.

	Gogebic County	Ironwood	
		Total	% of County
1961-62 - - - -	$25,670	$17,469	68.1
1960-61	26,360	17,749	67.3
1959-60	26,431	17,864	67.6
1958-59	26,142	17,335	66.3
1957-58	27,712	18,587	67.1
1956-57	27,983	18,127	64.8
1955-56	26,652	17,600	66.0

* Source: Michigan Department of Revenue Annual Reports.

The chart in Figure 3 compares monthly sales tax collections of Ironwood with Gogebic County for the past five years, indicating almost identical seasonal trend lines in both total tax and in food tax. Food was plotted to suggest the relative importance of tourism, on the assumption that food consumed in excess of requirements by local residents is consumed by tourists.

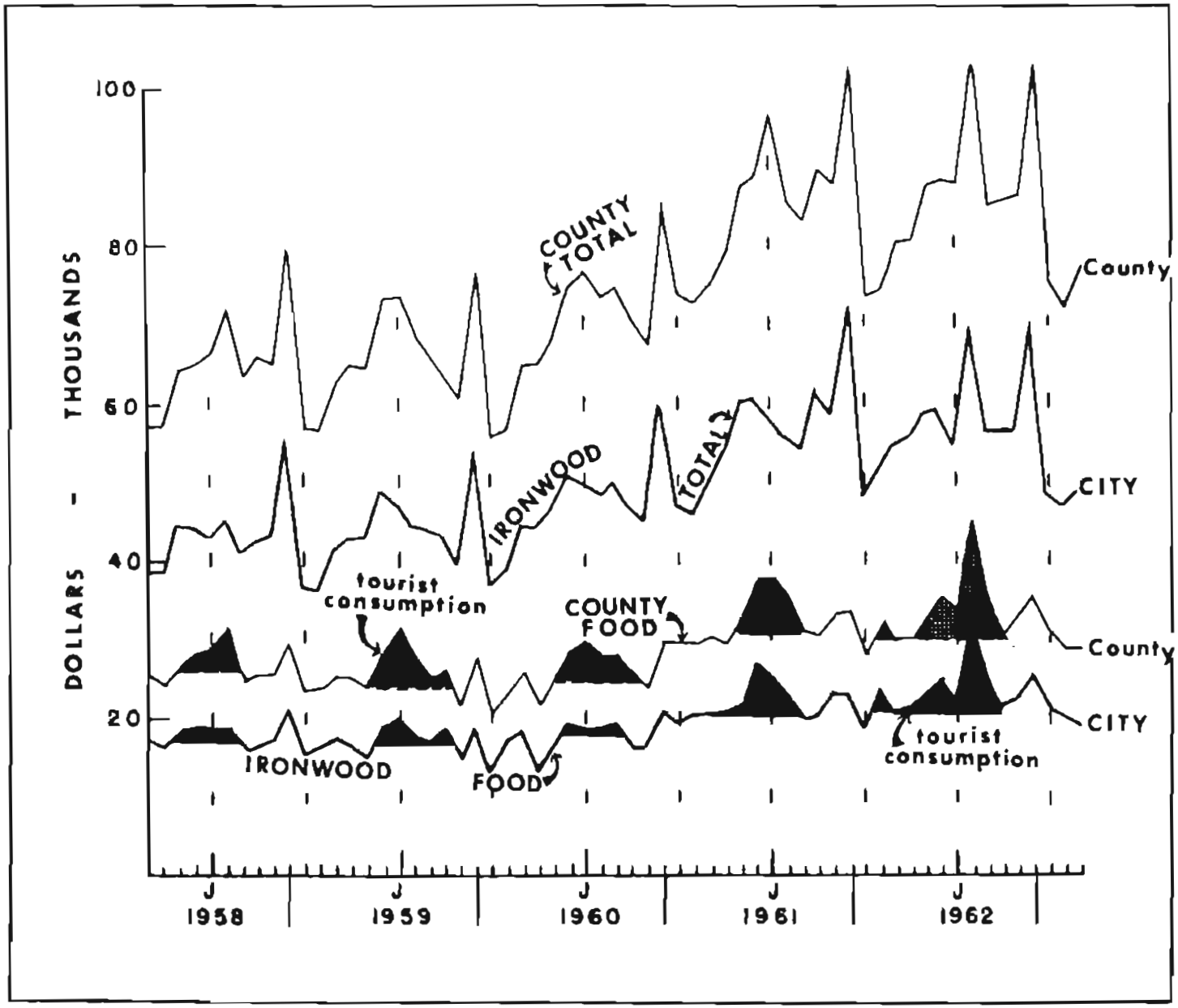


FIG. 3. SEASONAL TRENDS IN SALES TAX RECEIPTS, GOGEBIC COUNTY, AND IRONWOOD.
(NOTE: SINCE JULY, 1961, THE TAX RATE WAS 4%, AND BEFORE THAT IT WAS 3%.)

SOURCE: MICHIGAN DEPARTMENT OF REVENUE, MONTHLY BULLETINS.

Using food consumed by tourists as an indicator, and assuming that food represents about one-fourth of all expenditures by tourists, it is possible to estimate the total dollar value of tourism, as shown in Table 16.

TABLE 16. COMPUTATION OF 1962 TOURIST EXPENDITURES*:

	Gogebic County	Ironwood	Ironwood as % of Co.
Total Food Tax Collected - - -	$ 398,282	$281,387	70.1
Resident Food Tax Collected, (12 times March)- - - - - -	355,428	248,268	69.9
Total Food Tax from Tourists -	$ 42,854	33,119	
Tourist Food Tax Capitalized at 4% - - - - - - - - - - - -	$1,071,350	$827,975	
Total Tourist Expenditures, (times 4) - - - - - - - - - -	$4,285,400	$3,311,900	77.3

* Source: Michigan Department of Revenue, Monthly Reports, 1962-63.

Such a computation places the value of tourism to Ironwood at about three and one-third million dollars, or more than three-fourths of the county's total tourist expenditures. This means that more than 3.5 times as many new, outside dollars were placed in circulation by tourists in Ironwood than by the total manufacturing payroll of the city (see Tables 12 and 16).

Prior to 1962, the peak spending in the summer ("S" on Fig. 3 indicates July) approached, but did not equal, the holiday spending in December. In 1962, however, the summer peak, August, equalled December both in the county and in the city. February of 1962 showed significant increases in food sales, and this suggests the influence of winter sports.

The implications of this sales tax analysis should obviously suggest that tourism is a field that is already highly significant to the Ironwood economy and is one that is growing and has great growth potential. Reference is again made to the report of the Gogebic County Planning Commission for more details on this phase of the economy.

FOUNDATIONS FOR PLANNING 1963

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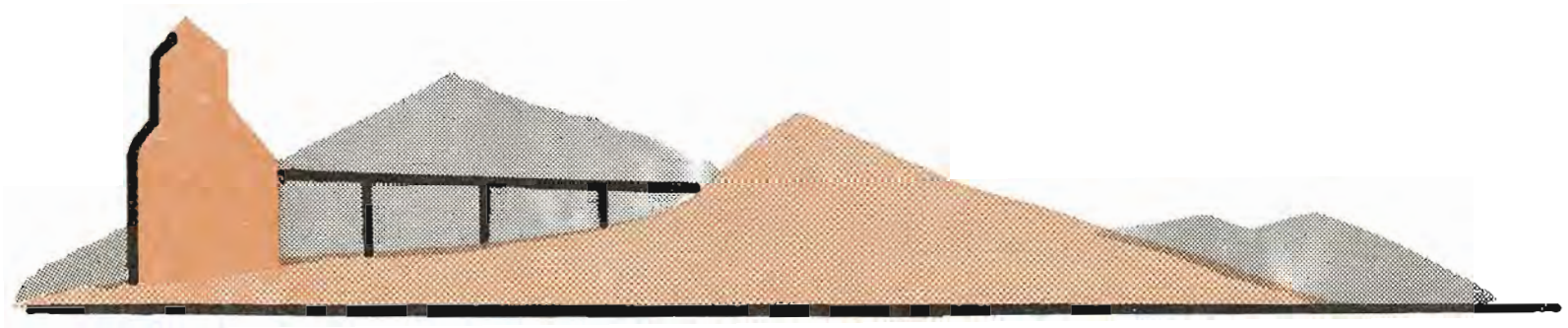


LAND USE

VI. LAND USE

The history of growth and development in Ironwood is typical of many mining towns throughout the country and a study of the growth patterns reveal certain cyclic changes common to all. Following the discovery of minerals, the wilderness areas witnessed a great immigration of people and speculative money. Haphazard tent communities were formed overnight, and if the mineral bodies were productive, towns sprang into existence. The formation of the towns, however, was strictly utilitarian in providing a place for the miners and others to live. As so often happens in unplanned or haphazardly developed areas, the attraction did last, and the tent towns gave way to permanent communities. In many cases the communities were built around the original settlements and compounded the mistakes of the original pattern or layout.

A. HISTORIC EVOLUTION OF THE LAND USE PATTERN

The land use study considers the history of growth and land development in Ironwood and attempts to recreate the development trends since the iron mining era. This will be followed with a more complete study of present day land use. The first part of this report, regional location and history, describes the development of the mines, the people, and the history of the area in general. Therefore, this study will consider history and development only as they pertain to the present use of land.

As noted above, the general pattern of development in Ironwood may be compared to other mining towns, but each town, regardless of its background, maintains its own identity and individuality. In many cases

there is evidence of a boom town era, and in the case of Ironwood, this is reflected by the present pattern of land use. The development of iron mining on the Gogebic Range, and specifically in the Ironwood area, has directed and controlled the pattern of land use since the birth of the community. The days of the deep shaft mine in Ironwood are approaching the end of an era, and the future of the community, be it manufacturing, commercialism, tourism, or a continual and progressive retraction to a much smaller service community, will never overshadow the indelible marks which iron mining has left on the community.

As stated previously, the purpose of this study is to survey and evaluate the present use of land within the City of Ironwood, and to outline various factors which may influence future development of land in the area. For land use plans to be meaningful, it is important to understand certain aspects of the mining era and the influence it had on both the citizenry of Ironwood and the development of the present land use pattern. High-grade iron ore was discovered on the Range in the late 1800's, and as exploration indicated where mines should be developed, settlements occurred. Communities were established and railroads pushed through the wilderness to transport the extracted ore to various lakeheads and ore docks.

Ironwood was incorporated in 1887 and developed a commercial center along the main railroad line north of the iron-bearing formation. The original community was basically a commercial center serving the various mine "locations" on the south side of the formation. Originally, there was a great deal of separation between the commercial center and the individual mine-owned residential "locations." Evidence of this unit-type development is apparent today for the general pattern has not changed. In fact, the residential "locations" south of the present cave area still maintain the original names of the mines. To the extreme east is the Jessieville "location" and proceeding west is the Aurora, the Norrie, and the Ashland "locations," all of which were developed by the mining companies to provide residence for the miners in the immediate vicinity of the workings.

As the mining industry grew, so did the city, and by the middle 1920's, the City of Ironwood had a population of approximately 20,000 people. The economy was flourishing and most of the people in the city were employed in mines or serving those who were. The commercial center provided all of the necessities and many of the luxury items found only in much larger cities. Property taxes assessed on the mining companies provided an adequate base on which to build much needed community improvements. The City Fathers at that time realized the need for community facilities and installed complete utility systems and municipal buildings superior to many in major cities today. However, in the midst of this recurrent economic boom period, there were people who felt that the mining industry was perhaps slowing down and a need existed for development of a broader tax base. In 1928, the City of Ironwood, as a provision in its revised charter of 1925, authorized the preparation of a complete comprehensive plan. The content of this plan is of current interest in that few of the planning recommendations were actually incorporated as part of the city plan. *Planning was not then an integral part of municipal policy and administration*. But, to assist in understanding the development of the city, several issues outlined in the plan of nearly 40 years ago will be described.

B. REVIEW OF PREVIOUS LAND USE STUDIES

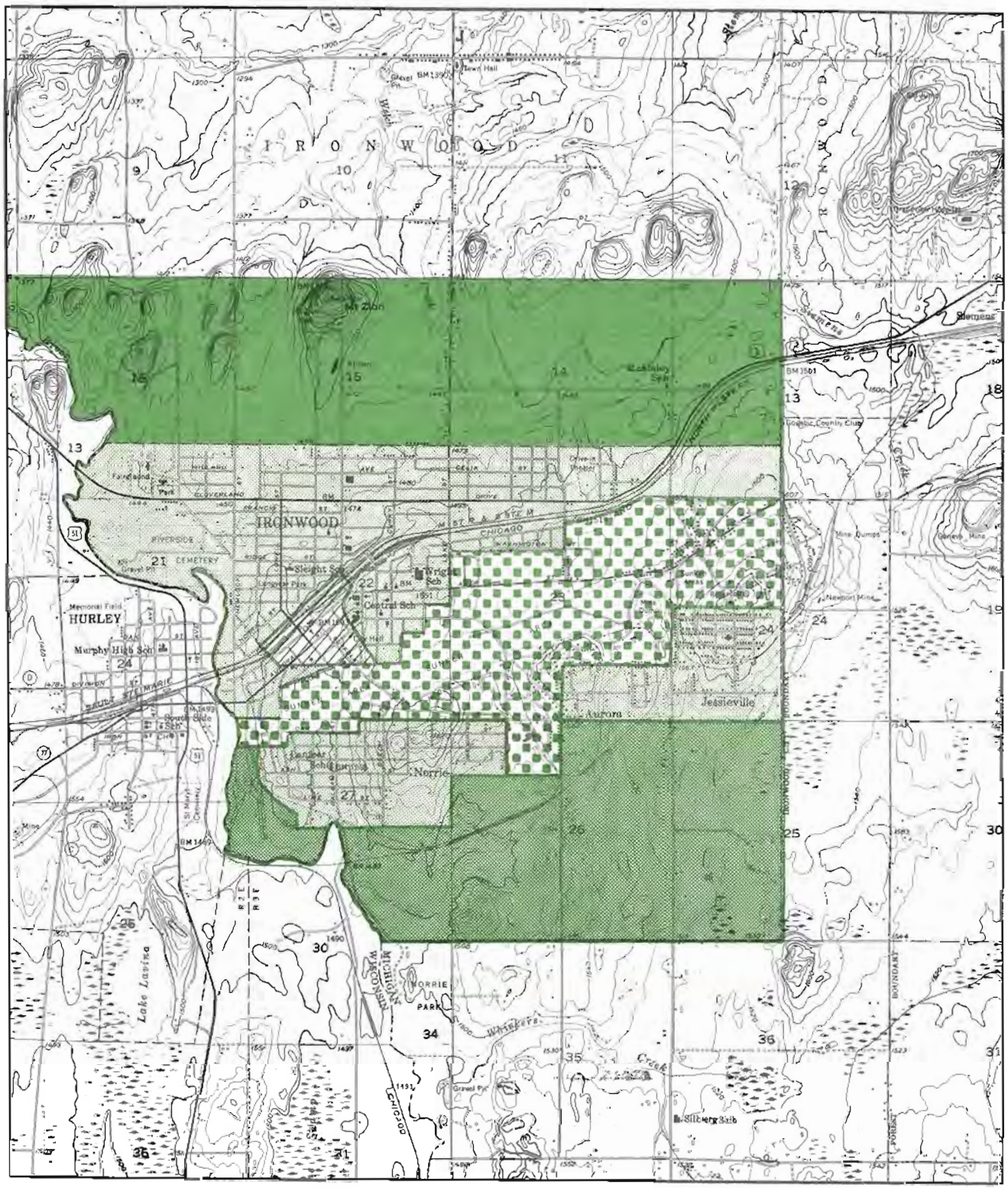
Of primary interest is the fact that in 1928, the population of the city was estimated at 18,400 people. Based on the past growth trends and the development of the lumber industry and the influx of several small manufacturing plants, a conservative population projection was made for the year 1970, which indicated a 1963 population of approximately 37,000 people. This projection, unrealistic as it appears today, was based on the stipulation that the city recognize that the mining industry was not permanent and that sooner or later, the iron ore which provided the base for the city would be eliminated. This transition had already started in the mid 1920's, and for this type of projected

growth to become realistic would require the city to attract other industry, perhaps related to the mining or lumber field. *The handwriting was already on the wall.* The land use plan which was a part of the 1928 plan, suggested that the area south of the mines and north of the then existing railroad be set up as a future industrial area. It was also recommended that the present business district be improved and expanded as much as possible to provide a commercial center for the rapidly expanding population, and that an area one mile north be annexed to the city to provide for future residential developments. It was recognized in 1928 that the trend in residential development was to the north, and that the population center was slowly shifting in that direction. Considering that the land use in 1928 was practically identical to the present land use pattern in terms of area and type of use, it becomes apparent why this plan was never enacted, for at about that time, as predicted, the mining industry started a decline which brought about a corresponding decline in population.

Another point of interest discussed in the 1928 plan was that if the mining companies were to continue to prosper, it would be necessary to realign the tax structure in relation to the mine. *It was proposed that community improvements such as streets and sidewalks which benefited the property owners be paid for on a special assessment basis rather than by taxing the mines for general benefit improvements.* In fact, the report states that the "let the mines pay" attitude of the city should be abandoned and that those benefiting directly from the services should pay.

C. PRESENT LAND USE

This discussion of the development of the City of Ironwood and the various factors which have governed its growth bring us to the point of evaluating the present use of land in the city. Prior to the preparation of the present land use plan, it is necessary to conduct a



1928 LAND USE

LEGEND

DISTRICTS

- PROPOSED INDUSTRIAL
- PROPOSED ANNEXATION FOR RESIDENTIAL USE
- MINING
- BUSINESS
- RESIDENTIAL

NORTH

0 1000 2000 3000 4000 5000

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN
CITY OF IRONWOOD, MICHIGAN

CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS - ENGINEERS & PLANNERS
GRAND RAPIDS, MICHIGAN

FRANK W. SUGGITT - PLANNING CONSULTANT
MASON, MICHIGAN

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land use survey for which purpose is to determine as accurately as possible the present use of all lands in the planning area. Many sources of information are available to assist in determining the various land uses, and all are utilized in the preparation of the land use map. Of significant importance was the availability of aerial photographs and planimetric maps which are provided as part of the current comprehensive planning program. Other background data which was utilized in the survey included the U. S. Department of Agriculture photos, U. S. Geological Survey maps, a photographic mosaic prepared in the 1930's, and most important of all, a recent property evaluation survey which was conducted by private consultants for the City of Ironwood and Gogebic County.

The procedure used for mapping the land use in the City of Ironwood consisted of tabulating and platting data obtained from the assessed valuation files through the cooperation of the city assessor's office. The availability of an evaluation survey in any community is an asset to a land use study, for this information includes all data pertaining to each structure and property listed within the city. With the assistance of the city staff, each building in Ironwood was classified as to its use, age, type of construction and condition, and this information was plotted on city base maps. The next step in conducting the land use survey was the gathering of comparable data for the area outside the city, including that portion of Iron County, Wisconsin and the City of Hurley adjacent to Ironwood. This required a field survey of the area whereby significant land uses, building classifications and types of use were noted. Also included in the field survey was a field check on the information obtained from the evaluation data for the City of Ironwood proper. There still remained the classification of land not accessible by automobile and not covered by the evaluation survey. This information was gathered and mapped by using the air photos provided for the project and the U. S. Department of Agriculture photos. The resulting data, after being assembled and evaluated, and plotted on base maps, resulted in a complete compilation of all public lands, mining company lands, commercial establishments, and industrial areas.

In addition to classifying the use of lands, the survey data also included the classification of all structures. As previously mentioned, this information was tabulated as to type of use, age, condition, and type of construction of all buildings. The evaluation of this data was accomplished by assigning point values for the various classifications, thus providing a comparative standard for all buildings in the City of Ironwood. This data forms a base for the housing section which follows, and will not be discussed further as part of the land use analysis.

1. Land Use Classes:

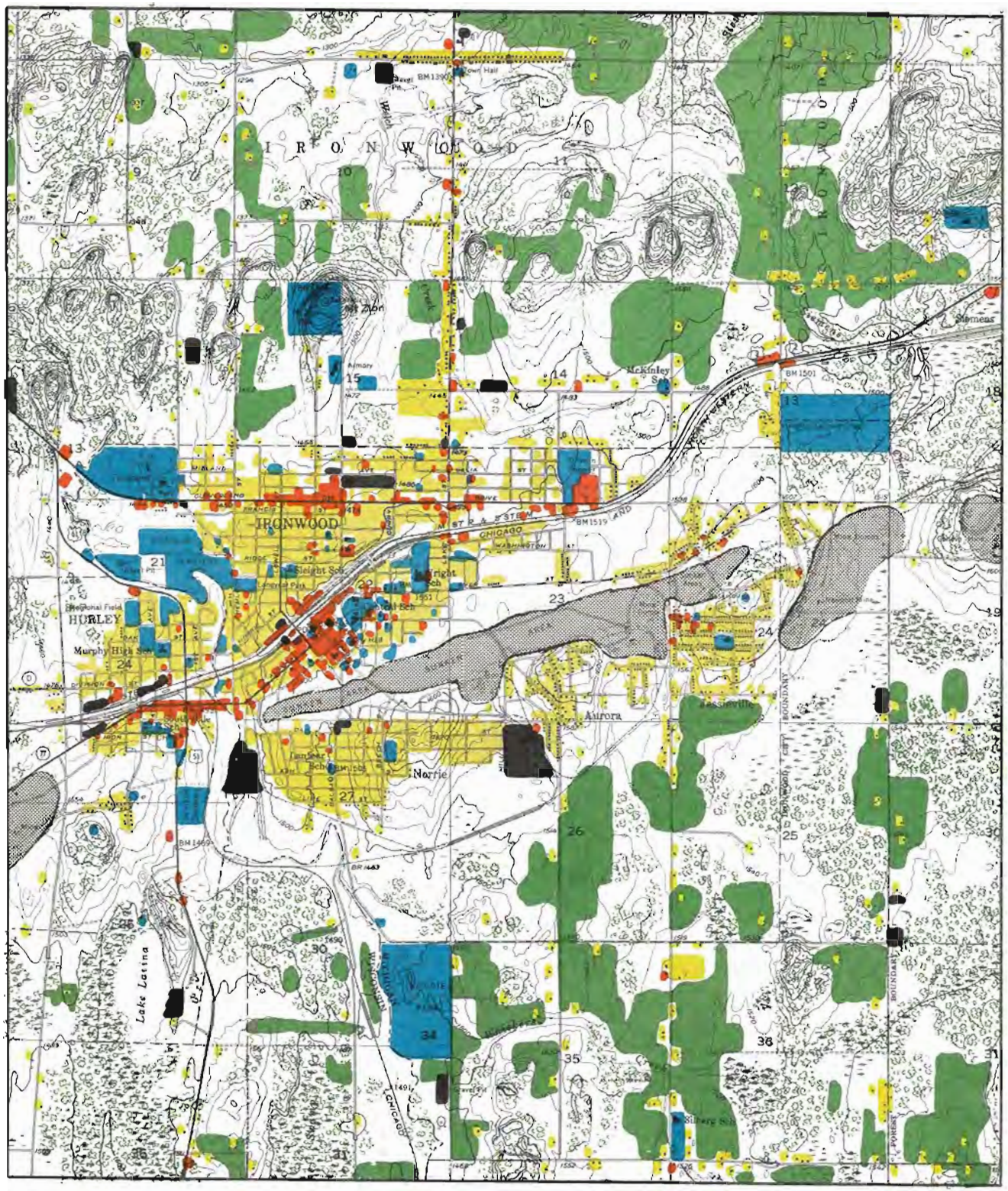
Land use in the Ironwood planning area was classified as residential, commercial, industrial, mining, public land, productive agriculture, non-productive agriculture, or vacant lands and woods. The interpretation of each of these items is described specifically as follows:

Residential Land

All lands, regardless of ownership which are used for the express purpose of single or multi-family dwellings have been classified as residential. The delineation of the basic areas indicated on the Present Land Use Map considered only that portion of land actively being utilized for the particular use. In the case of farm homes, only that area adjacent to the buildings (farm home and out-buildings) has been classified as residential, and all other rural lands have been classified as vacant or productive agriculture.

Commercial Area

All businesses dealing with the sale or service of products have been classified "commercial." This classification includes businesses, stores, wholesale, warehousing establishments, professional services, and supply houses. A complete tabulation has been prepared



PRESENT LAND USE

LEGEND

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- MINE LOCATIONS
- PUBLIC
- PRODUCTIVE AGRICULTURAL
- NON-PRODUCTIVE LAND
- WOODS

NORTH

1000 2000 3000 4000 5000

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN
CITY OF IRONWOOD, MICHIGAN

CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS - ENGINEERS + PLANNERS
GRAND RAPIDS, MICHIGAN

FRANK W. SUGGITT - PLANNING CONSULTANT
MARION, MICHIGAN

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for commercial and industrial establishments, however, no attempt has been made to further differentiate this general classification on the Land Use Map.

Industrial

The industrial classification considers businesses that deal with converting raw products or materials into manufactured goods for direct sales. In this case, it includes lumber yards, poultry farms, junk yards, and extractive resource uses.

Public

All public areas as outlined on the present land use map consist of properties or structures maintained and owned for the purpose of providing services or recreation to the general public, or groups within the city. The land use map includes both public and quasi-public land in the general "public" classification. Lands which are publicly-owned and operated include parks, cemeteries, and municipal buildings, and semi-public lands include churches, halls, and all lands used by groups of people within the community, although this differentiation has not been made on the land use map. The community facilities study and land ownership study outlines how the various lands are used in more detail.

Agriculture

The general classification of agriculture is subdivided into (1) productive agriculture, (2) non-productive or vacant land, and (3) wooded areas. Areas indicated as "productive agriculture" were determined by the use of aerial photos which indicate land which has, at one time or another, been farmed.

D. EVALUATION OF EXISTING LAND USES

As indicated in Table 17 and Figure 4, the amount of land in the City of Ironwood presently used by the mining interests is 271 acres or 7.2 percent of the total area inside the city limits. Compared to the amount of vacant land in the city, this appears relatively insignificant, but compared to commercial and industrial acreage, it amounts to almost twice the land presently used for business and industry. The sunken areas are a natural barrier between the northern and southern portions of the city and impose severe problems in the provision of utilities and in the maintenance of roads between the two areas.

The area within the City of Ironwood devoted to residential use amounts to 24.2 percent of the total area of the city proper. This single use of land is second only to the agriculture classification which amounts to 42.1 percent of the area. However, it is interesting to note that of the total agriculture classification, 30.1 percent is vacant or non-productive. There is more vacant land in the City of Ironwood than is presently being used for residential purposes. At first glance, this represents a healthy balance between available and present residential areas. However, if it is assumed that industry may be attracted to Ironwood and that a population increase may occur, the trend of new residential construction in recent years has been to the north of Ironwood Township. Although Ironwood has sufficient vacant land within its present boundary to double its residential area, there is virtually no space for expansion in the northerly direction which past trends indicate future growth would occur.

Another significant use of land, and one which is many times neglected, is the transportation classification. Land used for transportation facilities within the City of Ironwood amounts to 16.9 percent of the total land area. Most of this is land which the City of Ironwood owns and must maintain for the convenience of residents and businesses in the city, and for suburban and inter-city transportation. Of the

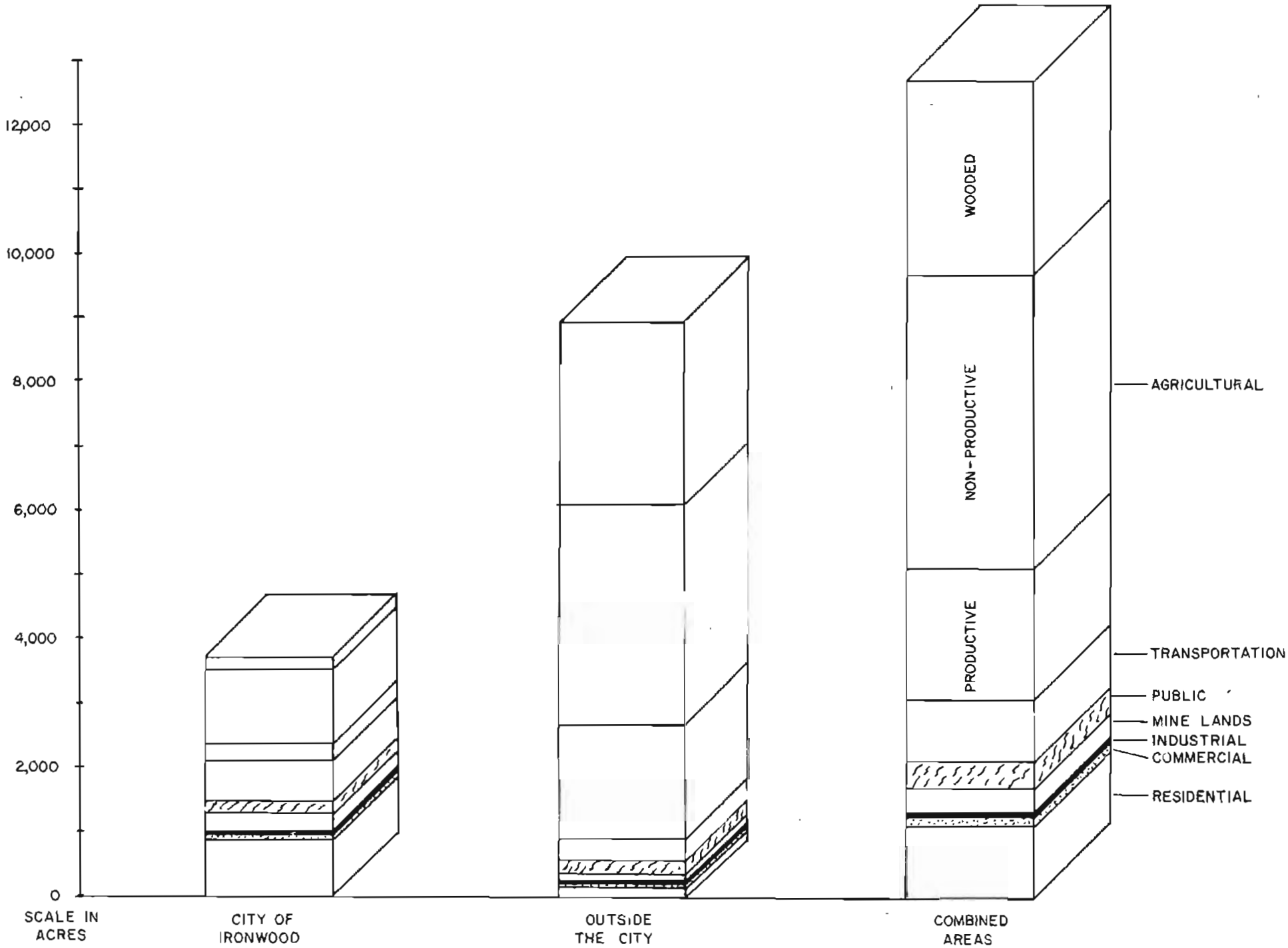


Fig. 4. PRESENT LAND USE FOR THE CITY OF IRONWOOD AND PLANNING AREA WITHIN MICHIGAN

TABLE 17. PRESENT LAND USE, CITY OF IRONWOOD AND PLANNING AREA, 1963:

	Planning Area Within Michigan					
	City of Ironwood		Outside City		Total	
	Acres	%	Acres	%	Acres	%
Residential	909	24.2	184	2.1	1093	8.6
Commercial	96	2.5	19	.2	115	.9
Industrial	69	1.9	13	.1	82	.6
Mine Lands	271	7.2	89	1.0	360	2.8
Public	195	5.2	240	2.7	435	3.4
Transportation:						
A. Streets	379	10.1	304	3.4	683	5.4
B. Alleys	29	.8			29	.2
C. Railroads	225	6.0	41	.5	266	2.1
Agriculture:						
A. Productive	266	7.1	1777	19.9	2043	16.1
B. Non-Productive	1130	30.1	3446	38.4	4576	36.0
C. Wooded	183	4.9	2850	31.7	3033	23.9
Total	3752	100.0	8963	100.0	12,715	100.0

total land used for transportation, streets and roads represent the greatest use. There is nearly twice the acreage devoted to transportation in the City of Ironwood as compared with the area outside the city, even though the area outside the city includes nearly three times the amount of land.

Lands in the planning area devoted to public and semi-public use represent 435 acres. The majority of this land is in the form of city-owned public parks or recreation areas. The city maintains much of this

for the use of the public and therefore incurs considerable expense to provide the service.

Land used for industrial purposes inside the city amounts to nearly 2 percent of the total or 69 acres. Referring to the present land use map, it is evident that there is no pattern of industrial location. A study of the map reveals that there are industries intermixed with commercial and residential areas, and it is also apparent that if the future of Ironwood is dependent upon attracting new industries, provision must be made for adequate location of new industries. It is most important that industrial areas be established which provide adequate transportation and utility facilities and afford protection to the industry through proper land zoning. It is apparent that a suitable area for proposed industrial expansion would be south of the caves. There are two significant reasons for this; first, rail facilities are available at the present time in this area, and secondly, the cave or sunken area provides a natural buffer between the proposed industrial area and the more stable residential and commercial districts. Development of this area would also be an advantage to the industry because of its proximity to the proposed state highway trunk system and the central business district of Ironwood.

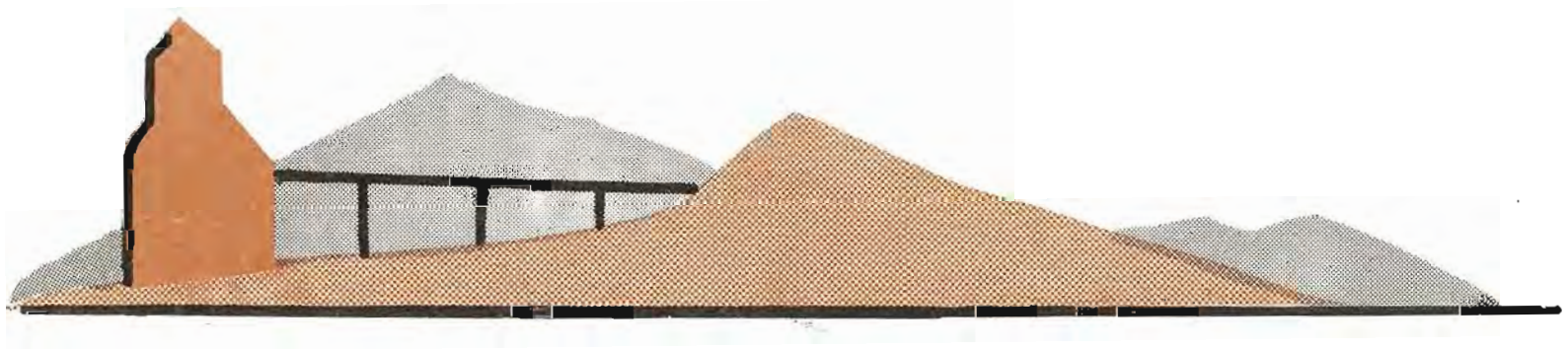
SUMMARY

The purpose of this report has been to take a broad look at the factors influencing the present use of land, the method of surveying and evaluating this use, and a discussion of certain factors which may contribute to the future development or use of land in Ironwood. There has been no attempt, at this stage in the planning program, to prescribe this use. This report is only one of the foundations for planning, all of which must be completed and interrelated to provide the background data for the comprehensive plan. The future land use will become one of the most important factors of the comprehensive plan, and the comprehensive plan will, through the cooperation and effort of the City Planning Commission and the

City Commission, offer a logical plan for orderly adjustment. However, before final land planning decisions can be made, some basic questions as to the ultimate economic character and population levels must be answered. These are imponderable questions, but it is hoped this analysis helps.

FOUNDATIONS FOR PLANNING 1963

SEVEN



POPULATION

VII. POPULATION

The people of Ironwood represent the only reason for engaging in comprehensive planning, and all other aspects of the program are contingent upon or for the benefit of the people. Up to this point in this report on the foundations for planning, we have analyzed why there are people in Ironwood, what they do for a livelihood, what some of their economic and resource problems are, and how they use the land of the city and the planning area. Subsequent chapters will evaluate where and how the people live, and the utilities and facilities necessary to maintain them in an urban situation.

It is important at this point to look more directly at the characteristics and trends of the population of Ironwood, so that the previous and subsequent sections will be more useful in the final planning decisions. People are individuals and should not be camouflaged by statistics, but unfortunately, this seems to be the only way of dealing with sizable numbers.

A. NUMBER OF INHABITANTS, TRENDS

The most recent and most accurate estimate of Ironwood's population was the 1960 U. S. Census of Population which listed 10,265 people in the city. The 1963 estimated population is 10,000, based upon about the same rate of decline that has occurred since the official peak of 15,739 reported by the 1920 U. S. Census of Population. In the Ironwood City Planning Report of 1928, the population was estimated at 18,400, but the downward trend had already set in, so it is probable that the actual peak occurred around 1925 at about 20,000 inhabitants.

The offocial population (U. S. Census) in 1960 was one-third less than it was in 1920, the 40-year decrease amounting to 5,474 people or a 34.8 percent reduction. The 40-year average rate of reduction per decade was 8.7 percent, but it has ranged from 5.5 percent to 14.2 percent per decade, as shown in Table 18.

TABLE 18. NUMBER OF INHABITANTS, TRENDS*:

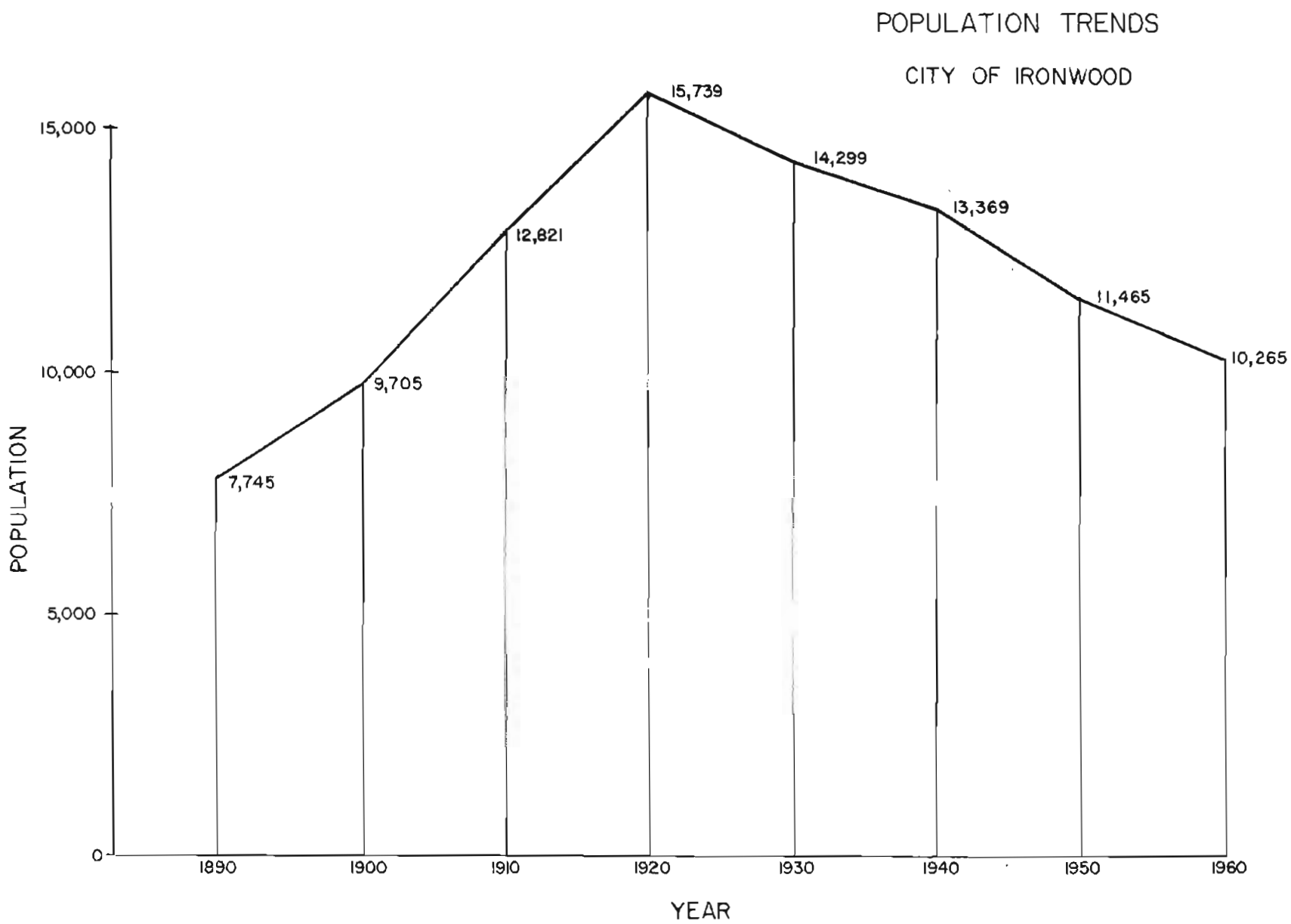
	Population	Change	Percent
1890	7,745	7,745	100.0
1900	9,705	1,960	25.3
1910	12,821	3,116	32.1
1920	15,739	2,918	22.8
1930	14,299	-1,440	- 9.1
1940	13,369	- 930	- 5.5
1950	11,465	-1,904	-14.2
1960	10,265	-1,200	-10.5

* Source: U. S. Census of Population.

The critical question, for planning purposes, is the projected rate of population decline and at what point stability or an uptrend might occur. In spite of a one-third drop in population between 1920 and 1960, the most decisive reduction of the basic element in the economy has taken place since 1960. Does this mean that from 1960 on, people will migrate at a more rapid rate than previously?

If, for example, the rate of decline from 1960 to 1980 is the same as it was between 1940 and 1950 (14.2 percent during the decade), the 1980 population will be 7,360. On the other hand, if the national economy is sluggish and the rate of population decline is comparable to the period between 1930 and 1940 (5.5 percent in the decade), there will be 9,136 people in Ironwood in 1980. This is quite a significant difference and

Fig. 5


POPULATION TRENDS
CITY OF IRONWOOD
POPULATION
15,000
10,000
5,000
0
7,745
9,705
12,821
15,739
14,299
13,369
11,465
10,265
1890
1900
1910
1920
1930
1940
1950
1960
YEAR

it presents some major uncertainties for the municipality to anticipate its future tax revenue and demand for services.

B. IRONWOOD'S RELATIVE SIZE

Mention has been made of the fact that Ironwood's 1960 population of 10,265 places it among the largest cities of northern Michigan and Wisconsin. The Gogebic Range Urban Complex, which centers upon Ironwood with 27,433 people in a 10-mile radius, is even more significant. Before delving into more detail as to the population characteristics of Ironwood, some present and previous comparisons of magnitude will be helpful in understanding the situation and the attitudes of Ironwood people.

In 1920, when Ironwood's official population was 15,739, it was not only a robust, prospering, expanding municipality in its own right, it was also one of the most important cities in either Michigan or Wisconsin. This was just in advance of the full impact of the automotive revolution which transformed Michigan from a state of small farms and small towns into one of the major urban-industrial areas in the world.

In 1920, Ironwood was the 16th largest Michigan city out of 93 having 2,500 or more people. Ironwood comprised 0.702 percent of the state's total urban population of 2,241,560, and *it was the largest Michigan city north of the Muskegon Bay City line.* When Ironwood was in its heyday, about the time the Memorial Building was constructed, it had every reason to be proud of its size and its affluence.

During the next 40 years, however, while Ironwood lost 5,474 people for a decline of 34.8 percent, the total urban population of Michigan increased by nearly 3.5 million, a 156 percent gain between 1920 and 1960. In 1960, there were 70 Michigan cities larger than Ironwood, and it comprised only 0.179 percent of the total urban population in 191 places of 2,500 or more. Six Michigan cities north of the Bay City-Muskegon line

were larger than Ironwood in 1960, two in the Northern Lower Peninsula (Alpena and Traverse City) and four in the Upper Peninsula (Escanaba, Marquette, Menominee, and Sault Ste. Marie). No longer is Ironwood the king of the north, and this presents some psychological, as well as physical and economic, obstacles to planning and development.

C. AGE STRUCTURE

Ironwood has the questionable distinction of possessing the most senile population of any city of its size in Michigan. *One person in six in Ironwood is 65 or over.* In fact, only one other city with 2,500 or more population, Charlevoix, exceeds Ironwood in the proportion of its population over 65, and only one county, Lake, has a higher proportion of elderly than Ironwood. The proportion of people past 65 in Ironwood is nearly twice as great as it is in the state as a whole and it is more than double that of all urban places in Michigan. Some comparisons follow:

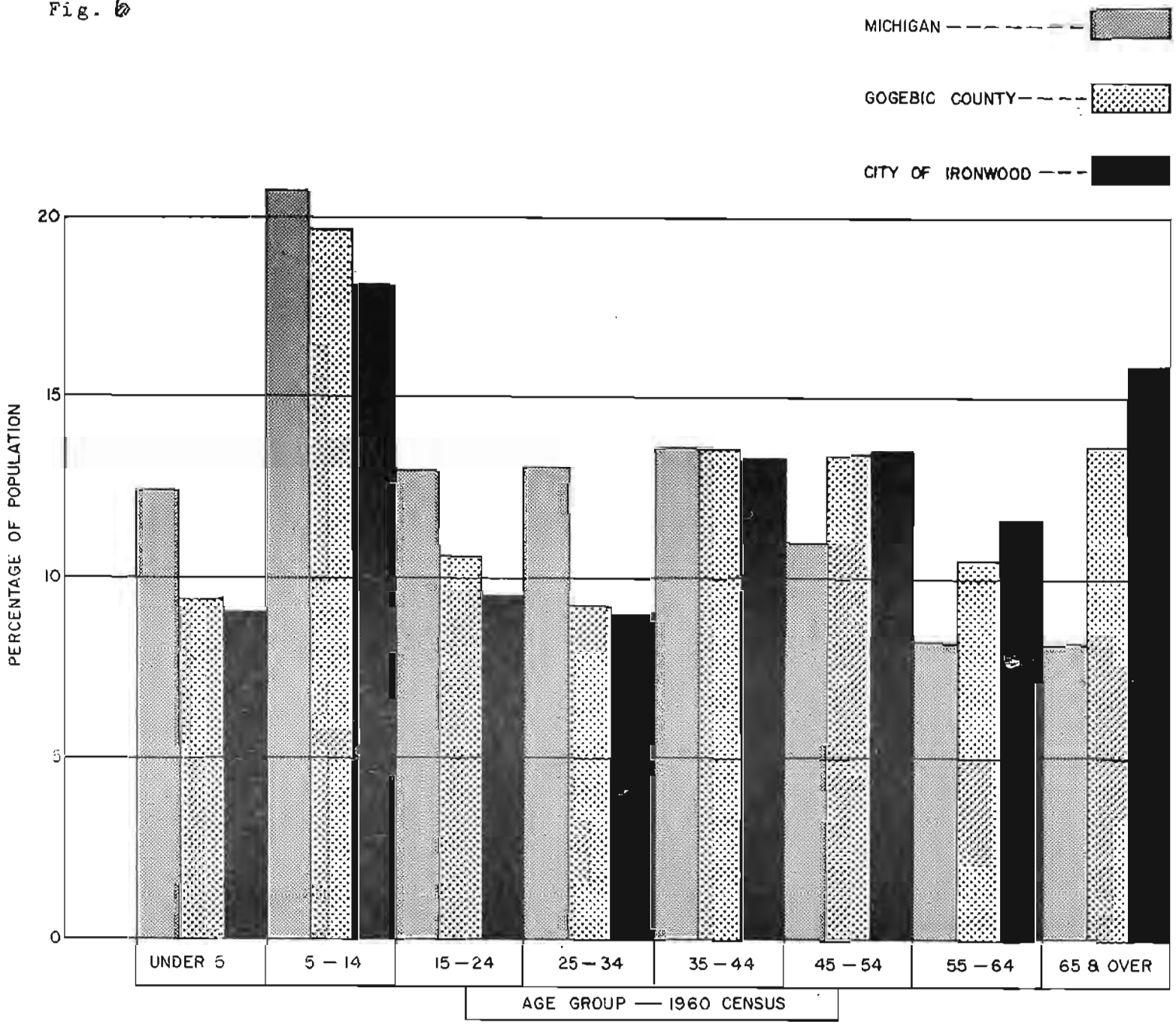
Ironwood	15.9%	*age 65 or over*
Charlevoix	16.0%	" " " "
All Urban Places	7.9%	" " " "
Michigan	8.2%	" " " "
Lake County	19.1%	" " " "
Gogebic County	13.7%	" " " "

Table 19 and Figure 6 compare the percentage of Ironwood's population in each age group with Gogebic County and with Michigan as a whole. Ironwood has relatively fewer school age youngsters, fewer in the most productive working years of 25 to 34, and relatively more people past 45.

This imposes some serious questions in allocating tax assessments, in allocating funds, space, and facilities for parks and recreation, and in the type of educational services provided for youth, young adults, and the elderly. The nature of the age structure has particular

Fig. 6

POPULATION COMPARISONS BY AGE GROUPS



significance with regard the capabilities of the available labor force.

TABLE 19. AGE STRUCTURE OF IRONWOOD COMPARED WITH GOGEBIC COUNTY AND MICHIGAN, 1960:*

Age Group	Ironwood		Percent	
	Number	Percent	Gogebic County	Michigan
Under 5	925	9.0	9.4	12.4
5-14	1,863	18.1	19.6	20.7
15-24	971	9.5	10.6	12.9
25-34	921	9.0	9.2	13.0
35-44	1,367	13.3	13.6	13.6
45-54	1,384	13.5	13.4	11.0
55-64	1,202	11.7	10.5	8.2
Over 65	1,636	15.9	13.7	8.2

* Source: U. S. Census of Population.

D. CHANGES IN AGE STRUCTURE

Even more important to the planning program than the present age structure is an analysis and projection of the trends, for planning must deal with the future, not the past. However, past trends are about the only clue as to the future, but in the case of Ironwood and the Gogebic Range, the drastic economic reversals of the past five years make future estimates extremely hazardous.

Ironwood's total population decreased by 1,904 people, or 14.2 percent, between 1950 and 1960, as compared to a 9.9 percent decrease for Gogebic County and a 22.8 percent increase for Michigan as a whole. The following chart and the supporting table merit detailed study, for they

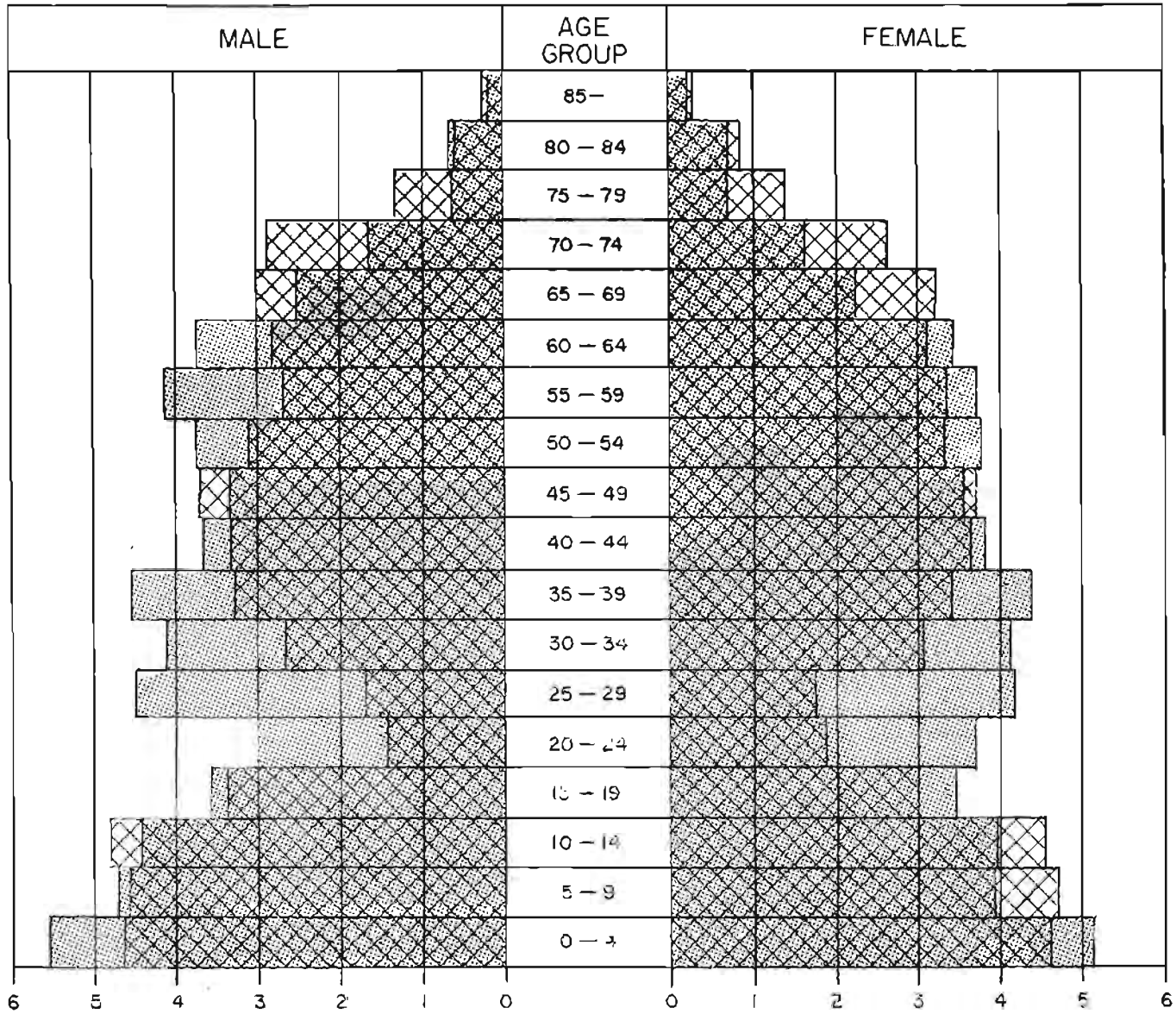
show that the bulk of Ironwood's population loss has occurred in the age groups normally associated with the productive labor force, and that the proportion beyond 65 years of age have increased surprisingly.

TABLE 20. AGE STRUCTURE CHANGES, 1950-60*:

Age Group	Persons		1950-60 Change	
	1960	1950	Number	Percent
0-4	925	1,070	-145	-13.6
5-9	925	865	+ 60	+ 6.9
10-14	934	820	+114	+13.9
15-19	642	703	- 61	- 8.7
20-24	329	668	-339	-50.7
25-29	348	842	-494	-58.7
30-34	573	823	-250	-30.4
35-39	670	870	-200	-23.0
40-44	697	749	- 52	- 6.9
45-49	741	687	+ 54	- 7.9
50-54	643	748	-105	-14.0
55-59	607	784	-177	-22.6
60-64	595	715	-120	-11.7
65-69	621	477	+144	+30.2
70-74	553	324	+224	+70.7
75-84	412	277	+135	+48.7
85 and over	50	44	+ 6	+13.6
Total	10,265	11,465	-1,904	-14.2

* Source: U. S. Census of Population.

Fig. 7 POPULATION CHANGE, 1960 COMPARED WITH 1950, BY AGE AND SEX



CITY OF IRONWOOD

To summarize, between 1950 and 1960:

Total Ironwood population change	(-)1,904	or (-)14.2%.
20 to 65 age group	(-)1,683	or (-)24.4%.
20 to 39 age group	(-)1,283	or (-)40.1%.
40 to 65 age group	(-) 400	or (-)10.9%.
65 and over group	(+) 514	or (+)45.8%.

The rather complex chart in Figure 8 shows the sequence of changes in age groups by decades since 1940. The white portion at the bottom of the chart graphically represents the 1960 population by each age group. The cross-hatched portion represents the 1950 distribution of population by age groups, but it has been shifted 10 years to the right (since the 1950 population became 10 years older by 1960); thus the cross-hatched portion of the chart actually indicates the 1950-60 population loss in each age bracket.

Similarly, the black portion at the top of the graph represents the 1940 population in each age group, shifted 20 years to the right, and this then indicates the 1940 to 1950 population loss in each bracket.

This should pictorially emphasize what has been happening over the past 20 years. It is obvious that the major out-migration has been by the relatively young adults who have been forced to leave to seek employment elsewhere. This lends credence to the statement that the high school graduates receive their diplomas in one hand and pick up a suitcase with the other.

E. OTHER POPULATION CHARACTERISTICS

Ironwood's population has a number of unique characteristics that distinguish it from most other cities of Michigan. Mention has

been made of the rapid growth and of the steady decline of population, and the out-migration of young people, leaving a residue of elderly folks. Other characteristics are significant to the planning program, as indicated by the following.

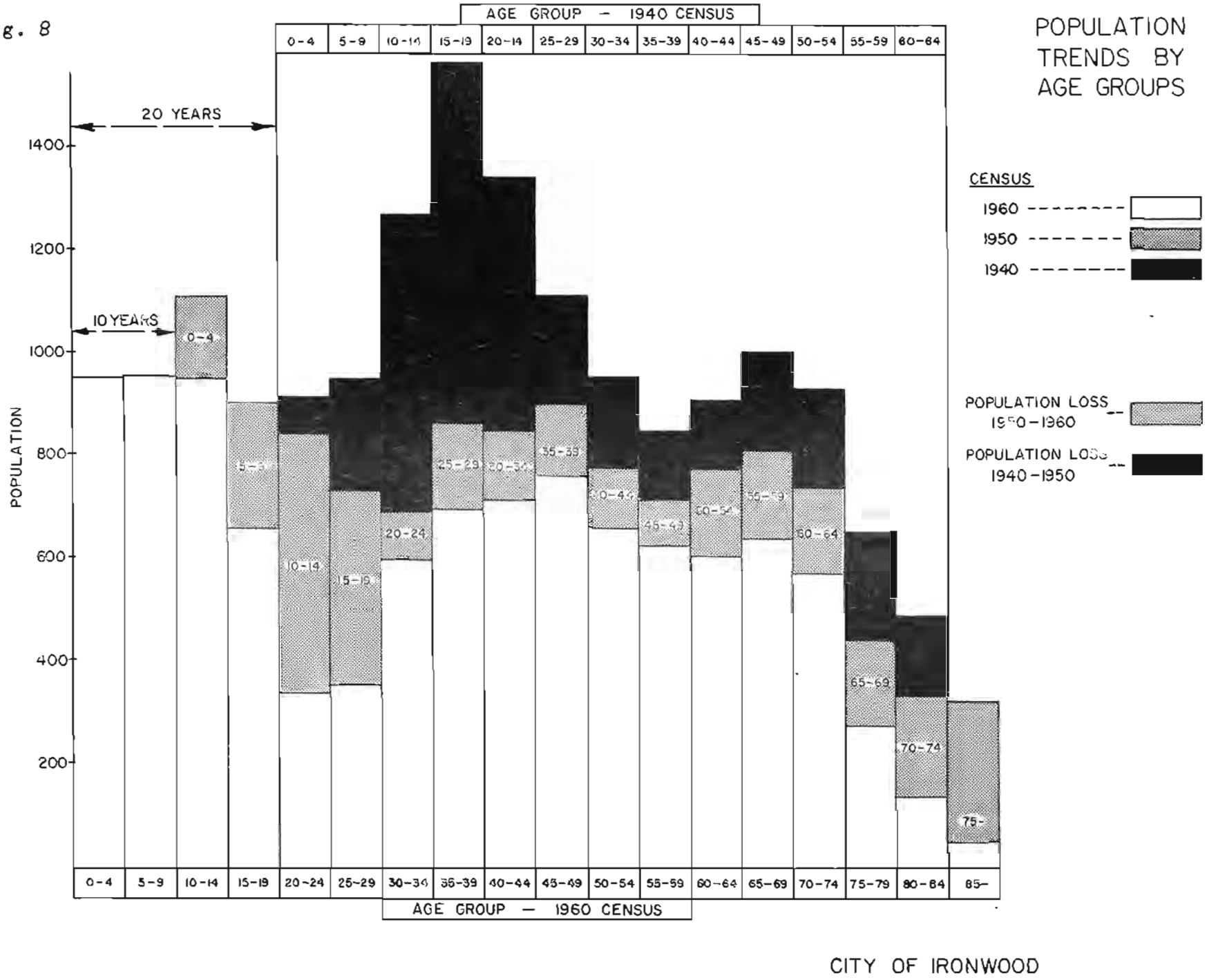
1. Educational Attainments:

The data in Table 21 indicates that the adult population of Ironwood has achieved more years of schooling, up to the point of college, than either the adult population of Gogebic County or of the state of Michigan. A higher percentage of Ironwood adults completed 4 or more years of college than did those in the county, but both are considerably below the state in this regard. This speaks well for the attitude toward education in the city, but it does point to the expanded role which might be played by the Gogebic Community College.

2. Foreign Born:

Only 4 Michigan cities of 10,000 or more, all in the Detroit Area, exceed Ironwood's 13.5 percent of the total population having been born outside this country. By way of comparison, the percentage of foreign born in Gogebic County was 12.1 percent, and in Michigan as a whole it was 6.8 percent in 1960. More than one-third of Ironwood's population (37.9 percent) were foreign born or have mixed parentage, as compared with 36.0 and 17.5 percent for Gogebic County and Michigan, respectively. Ironwood typifies the "melting pot" character of America, where strange-sounding family names reflect the many national groups that have amalgamated to make this nation what it is. Finns, Swedes, Poles, Czechs, Italians, Cornish English, and Irish are mixed with so-called native Anglo-Yankee stock from New England to provide a hybrid vigor that is unique to Ironwood and the mining regions of the North.

Fig. 8



CITY OF IRONWOOD

TABLE 21 - EDUCATIONAL ATTAINMENTS, TEENAGERS, AND ADULTS, GOGEBIC COUNTY COMPARED WITH MICHIGAN

	Gogebic County	Ironwood	Michigan
Percent of Teenagers in School:			
14 and 15 year olds	98.1	98.6	95.8
16 and 17 year olds	90.8	85.4	84.7
18 and 19 year olds	64.6	*	44.2
Educational Attainment, Adults 25 years and over:			
All adults:			
Median school years completed	10.4	10.9	10.8
High school, 4 years or more	27.6	28.4	26.0
College, 4 years or more	4.3	4.9	6.8
Males:			
Median school years completed	9.9	10.6	10.4
High school, 4 years or more	24.7	26.0	22.1
College, 4 years or more	4.6	5.5	8.4
Females:			
Median school years completed	11.0	11.3	11.1
High school, 4 years or more	30.3	30.6	29.8
College, 4 years or more	3.9	4.3	5.2

Source: U. S. Census, 1960.

* Not available.

3. Women in the Labor Force:

A striking indication of the inadequacy of employment opportunities is the relatively small proportion of Ironwood women in the labor force. In 1960, 32.7 percent of all females of 14 years or more in Michigan were in the labor force, as compared to only 24.3 percent of Ironwood's women and 25.5 percent of those in all of Gogebic County.

4. Median Family Income:

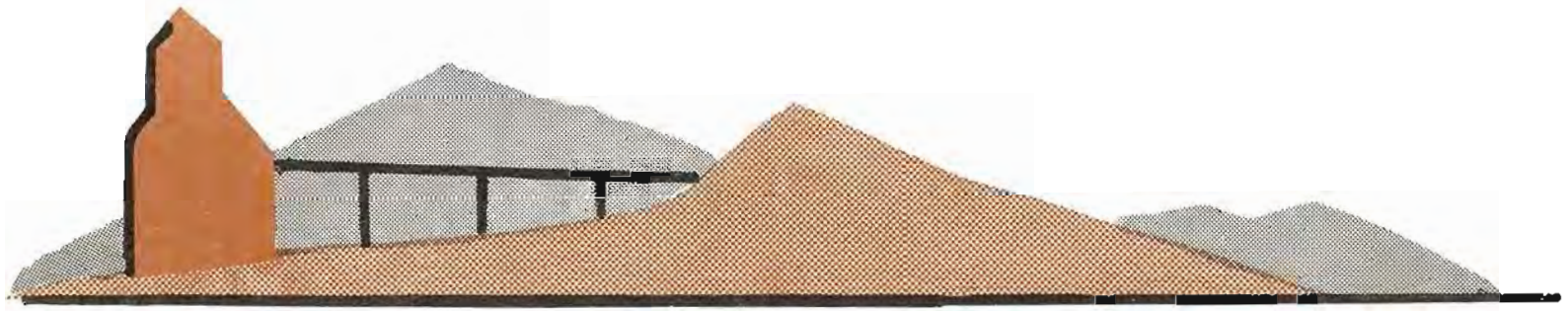
Closely related to the lack of employment opportunities for women and to the general character of the Ironwood population and economic conditions is the low level of family income. In 1960, the median income of all families in Michigan was $6,256, as compared with $4,356 for Ironwood families and $4,287 for all families in Gogebic County.

Even more significant than the relatively low median income (the "median" is the midpoint - - - there are as many families with more income than the median as there are with less) is the comparative distribution by income brackets. In 1960, 25.6 percent of the families in Ironwood and in Gogebic County had annual incomes of less than $3,000, as compared with only 15.7 percent of all Michigan families who received less than $3,000. In sharp contrast is the situation in the upper income brackets; only 4.7 percent of Ironwood families had incomes of $10,000 or more, as compared with 17.4 percent for the state and a mere 3.7 percent of all families in Gogebic County.

These general and specific features of Ironwood's population must be considered in planning for the future of the people and of the city. Each of the foregoing points should be kept in mind as we proceed with the analysis of housing, utilities, facilities, and transportation, and before we formulate the comprehensive planning recommendations.

FOUNDATIONS FOR PLANNING 1963

EIGHT



HOUSING

VIII. HOUSING AND OWNERSHIP

A fundamental cornerstone in the foundations for the Ironwood Planning Program is the analysis of housing. This relates directly to the historic and economic background, to natural resources and land use, to population, and to the concept of "urban service areas." Normally, land and housing ownership would be considered as a part of the land use studies, but in Ironwood, the presence of occupant-owned homes on mining company lands creates complications. The essential data regarding housing includes its location, density, condition, age, value, and occupancy, along with discernible trends and changes, and the relationship of various housing areas to other elements of the urban environment. The first part of this chapter presents general statistical comparisons of housing characteristics in Ironwood with those in Gogebic County as a whole and in Michigan. The second part deals with the important aspect of density of dwelling units. Thirdly, detailed survey data is presented as to the condition of housing, while the fourth section describes the general land ownership pattern and its implications.

A. GENERAL HOUSING CHARACTERISTICS

To obtain an overall view of the character of housing in Ironwood, it is necessary to recall that the city grew rapidly from 1885 to the mid-1920's and then declined. It is also significant that the original townsite became the downtown business district and that several separate residential "locations" were built by the mining companies. The nature of the topography and rock outcrops and the surface subsidence which left the "caves" have influenced the nature of housing development and have made the situation in Ironwood much different than

in most other municipalities. Many homes have been moved to make way for subsequent mining operations and others have been moved to prevent being engulfed as the surface caved.

The general characteristics of housing in Ironwood are compared with those of Gogebic County and with housing in Michigan as a whole in Table 22, and in the following sub-sections.

1. Occupancy and Ownership:

Contrary to expectations, the percentage of vacant homes in Ironwood is much less than in Gogebic County or in the state. The county percentage of vacancy is two and one-half times more than in Ironwood and the vacancy rate for Michigan is double that of Ironwood. Part of the explanation for this, in spite of a one-third reduction in the city's population during the past 40 years, is the fact that many homes have been moved or razed in connection with mining or subsidence.

The percentage of owner-occupied homes is appreciably higher in Ironwood than in either the county or the state, and a possible explanation is that mining companies sold many of the homes to tenants at very reasonable prices, although title to the land generally remained with the company. Ironwood has a higher tenancy rate than the county, but it is identical with the state percentage.

2. Comparative Condition:

A broad-based comparison by the U. S. Census of Housing shows that Ironwood has the same percentage of houses in "sound" condition as Michigan, and that Gogebic County's houses are, on the whole, of somewhat poorer condition. There are less houses that are "deteriorating" or "dilapidated" in Ironwood than in the county, and the city's percentage is about comparable with the state's. Houses in Ironwood are slightly larger (more rooms) than are those in the county or state, and

TABLE 22. HOUSING OCCUPANCY, CONDITION, AGE, AND VALUE*:

	Ironwood	Gogebic County	State of Michigan
Occupancy:			
% Owner occupied	71.3%	65.9%	65.4%
% Renter occupied	22.5%	18.3%	22.5%
% Vacant	6.2%	15.8%	12.1%
Condition of Housing:			
% in Sound Condition	85.0%	81.1%	85.0%
% Deteriorating	12.6%	14.9%	11.7%
% Dilapidated	2.4%	4.0%	3.3%
% With complete plumbing	80.8%	70.9%	93.7%
% Median number rooms, per unit	5.3%	5.1%	5.2%
Age:			
% Built 1950-60	3.5%	5.7%	32.8%
% Built 1940-50	7.2%	15.7%	17.8%
% Built before 1940	89.3%	78.6%	49.4%
Values of Owner Occupied Houses:			
% Under $5,000	33.0%	39.2%	6.3%
% $5,000 to $10,000	47.0%	42.7%	28.4%
% $10,000 to $20,000	17.5%	16.2%	53.4%
$ Over $20,000	2.5%	1.9%	11.9%
Length of Occupancy (year occupant moved into present house):			
% Between 1954-60	23.3%	25.2%	53.2%
% Between 1940-54	41.3%	40.7%	33.2%
% Before 1940	35.4%	34.1%	13.6%

* Source: U. S. Census of Housing, 1960.

80.8 percent have complete plumbing facilities as compared with 93.7 percent for Michigan and only 70.9 percent of the homes in Gogebic County.

3. Age:

On the average, the housing in Ironwood is much older than it is in the state and significantly older than the county's housing. Nearly 9 out of 10 (89.3%) houses in Ironwood were built prior to 1940, in comparison with 78.6% in Gogebic County and only 49.4% of all houses in Michigan. Half of the houses in Michigan have been built since 1940, as have about one-quarter of the houses in the county and only one-tenth in Ironwood. This is an extremely important point in considering urban renewal and redevelopment projects in the city and in the general planning and upgrading of neighborhood areas.

4. Value:

About four-fifths of the houses in Ironwood are worth less than $10,000, whereas only about one-third of all Michigan homes are in this value bracket, according to the 1960 U. S. Census of Housing. Only one house out of 40 in Ironwood is valued at more than $20,000, while one in 8 is in that range in the entire state. Houses in Ironwood are generally of higher value than in the balance of Gogebic County.

5. Length of Occupance:

Over half the owner-occupants of houses in Michigan moved into their present homes between 1954 and 1960, while less than one-fourth did so in Ironwood in the same time span. More than one-third of the owner-occupants in Ironwood moved into their homes prior to 1940, while only one in 7 did so in Michigan. This is a clear indication of immobility of people and the housing market in the city, resulting from the declining population and the relative senility of both people and houses.

B. DENSITY OF HOUSING

The population density in any community is perhaps the most important criterion for new development and for the redevelopment of the existing areas, because density of population relates directly to the needs of the community. The more dense the population, the more serious the problems of public health become, and the greater the need for providing adequate utility service. The same criterion applies to streets, sidewalks, parking facilities, parks, playgrounds, police, fire protection, and the remaining community facilities which are provided for the convenience and enjoyment of the people.

Another aspect which can be evaluated from a study of population density is that of overcrowding. Land developed in the 1800's, when it was necessary for families to live in close proximity to each other because of the lack of transportation facilities, now are considered inadequate because more room is required for the enjoyment and convenience of the homeowner and his family. Therefore, many of the high density areas are, by present standards, overcrowded and may be considered potential blight areas. This is not necessarily the case in all overcrowded situations, but in general, overcrowding leads to blight. The trend in the past few years has been to provide spacious areas for residential development. This is in direct contrast to core areas of many older cities developed in the late 1800's, where it was necessary for residential areas to be located within walking distance of the business district.

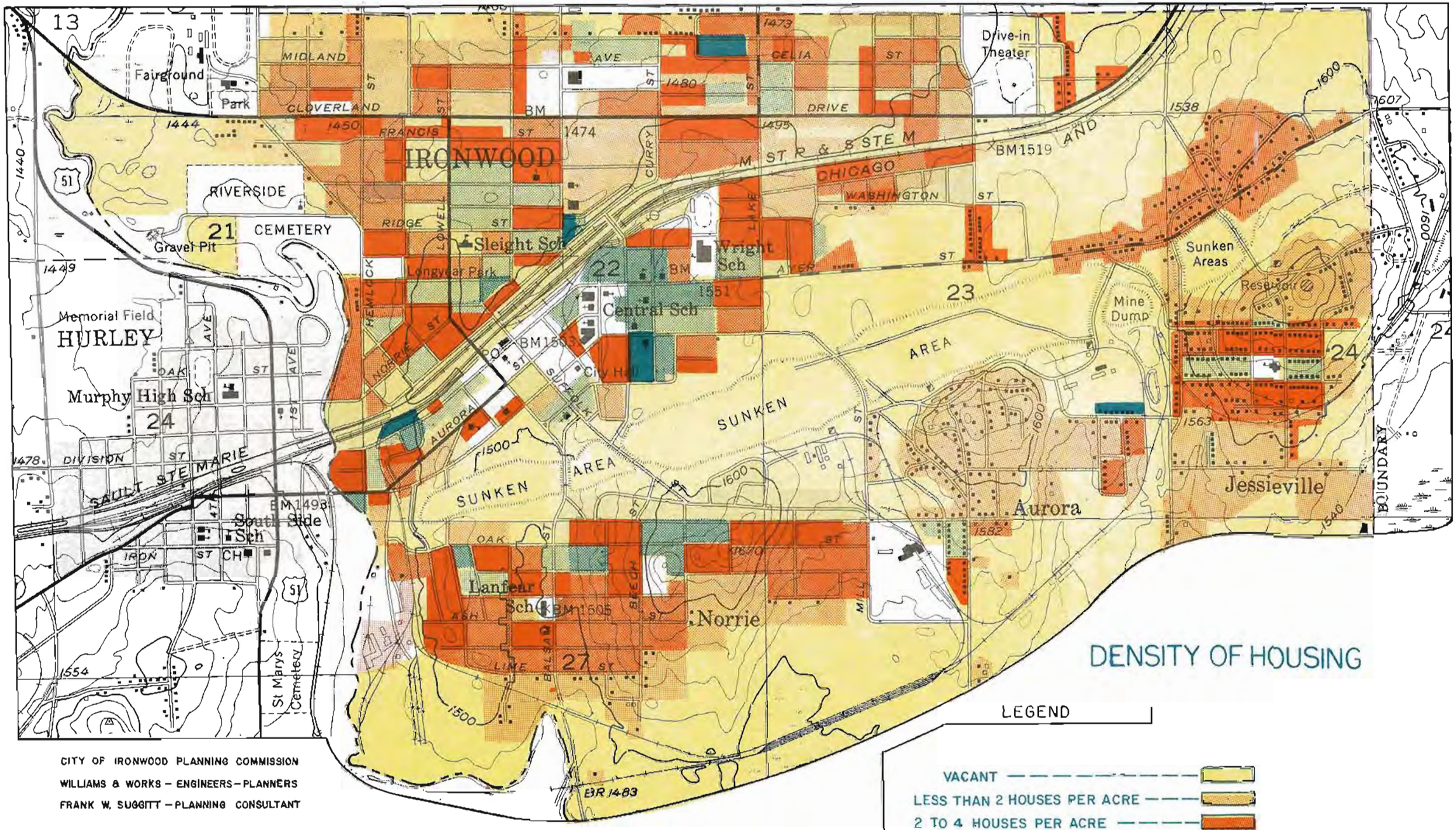
Referring to the Density of Housing Map, it is noted that one of the high density areas is located in the general vicinity of the Memorial Building and the downtown district. This area supports a density of 8 to 10 houses per acre, and in some cases, more than 10 houses per acre. In terms of lot size, this density represents an average area of approximately 4,000 square feet, or a typical lot 50 feet wide by 80 feet in depth. A lot of this size would represent the absolute minimum

for today's standards, and in most cases would not be acceptable.

The method of determining the density of housing in the City of Ironwood consisted of plotting locations of all dwelling in the city, determining the actual area in each block, and then calculating the density per block in terms of houses per acre. After an average density per block was established, the information was color-coded and placed on the Density of Housing Map. The solid blue color represents the areas of highest density with the lighter shades of blue, red, and yellow representing lesser degrees of density. The disadvantage of describing the density of housing in this manner is that it is difficult to visualize the apparent density pattern. Compared to other acceptable methods of indicating population density, the ease of readability is sacrificed for more reliable and useful data obtained by means of actual calculated densities.

In general, the density pattern in most cities consists of the core area being heavily populated and the population density of the remainder being somewhat proportional to the distance from the core. This is not exactly true in all cases, and Ironwood is an exception. The mining operations in the past have forced the development of separate residential areas on the south side of the cave area and each unit forms its own core area and individual density pattern. Consequently, there is no uniform density pattern in Ironwood.

Two additional factors should be considered as part of the density study. First, the area north of U.S.-2 represents relatively new construction, and the average density is considerably less than in the older built-up portion of the city. This density indicates a relatively high standard of development and provides a base for expanding the residential areas to the north. On the other hand, there are medium to low density areas surrounding two of the mine locations, the Aurora and the Jessieville, both areas having an average density of two to four houses per acre. This would normally indicate spacious and healthy



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CITY OF IRONWOOD, MICHIGAN

DENSITY OF HOUSING

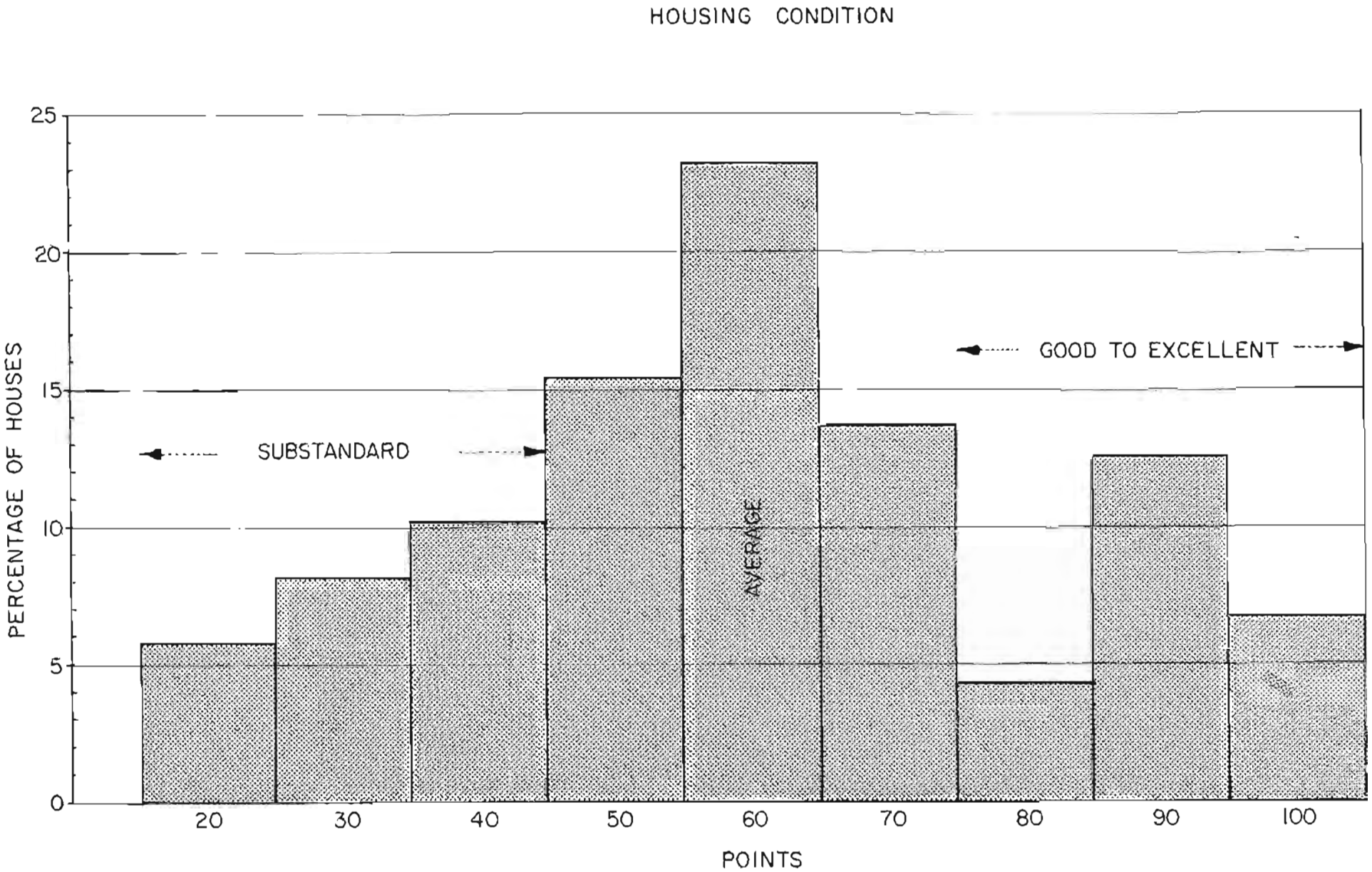
LEGEND

- VACANT
- LESS THAN 2 HOUSES PER ACRE
- 2 TO 4 HOUSES PER ACRE
- 4+ TO 6 " " "
- 6+ TO 8 " " "
- 8+ TO 10 " " "
- MORE THAN 10 HOUSES PER ACRE

PLATE 12

1963

Fig. 9


HOUSING CONDITION
PERCENTAGE OF HOUSES
25
20
15
10
5
0
SUBSTANDARD
AVERAGE
GOOD TO EXCELLENT
20
30
40
50
60
70
80
90
100
POINTS

development; however, the areas were developed by the mining companies for residential use with little regard for planning, and consequently, because of their low density, the areas are difficult to service with utilities.

Density of housing, considered as a separate study, is somewhat misleading, for this data can only be used effectively in combination with land use, condition of housing and utility studies. The purpose of discussing density as a separate item in this case is merely to form a background for following discussions of the condition of housing and mining company lands, and to add more detail to the land use study previously discussed. Density in itself is not a conclusive criterion of basic development, but the study has revealed possible study areas such as the high density areas bordering the central business district which are potential blight areas, and secondly, the medium to low density areas adjacent to the mine "locations."

In summary, there are two factors that should be considered in discussing density; first, the areas must be of low enough density to provide adequate space for desirable development; and secondly, dwellings must be close enough together to service economically.

C. CONDITION OF HOUSING

The data presented in the preceding section may be summarized as follows, in comparing Ironwood with state-wide housing conditions:

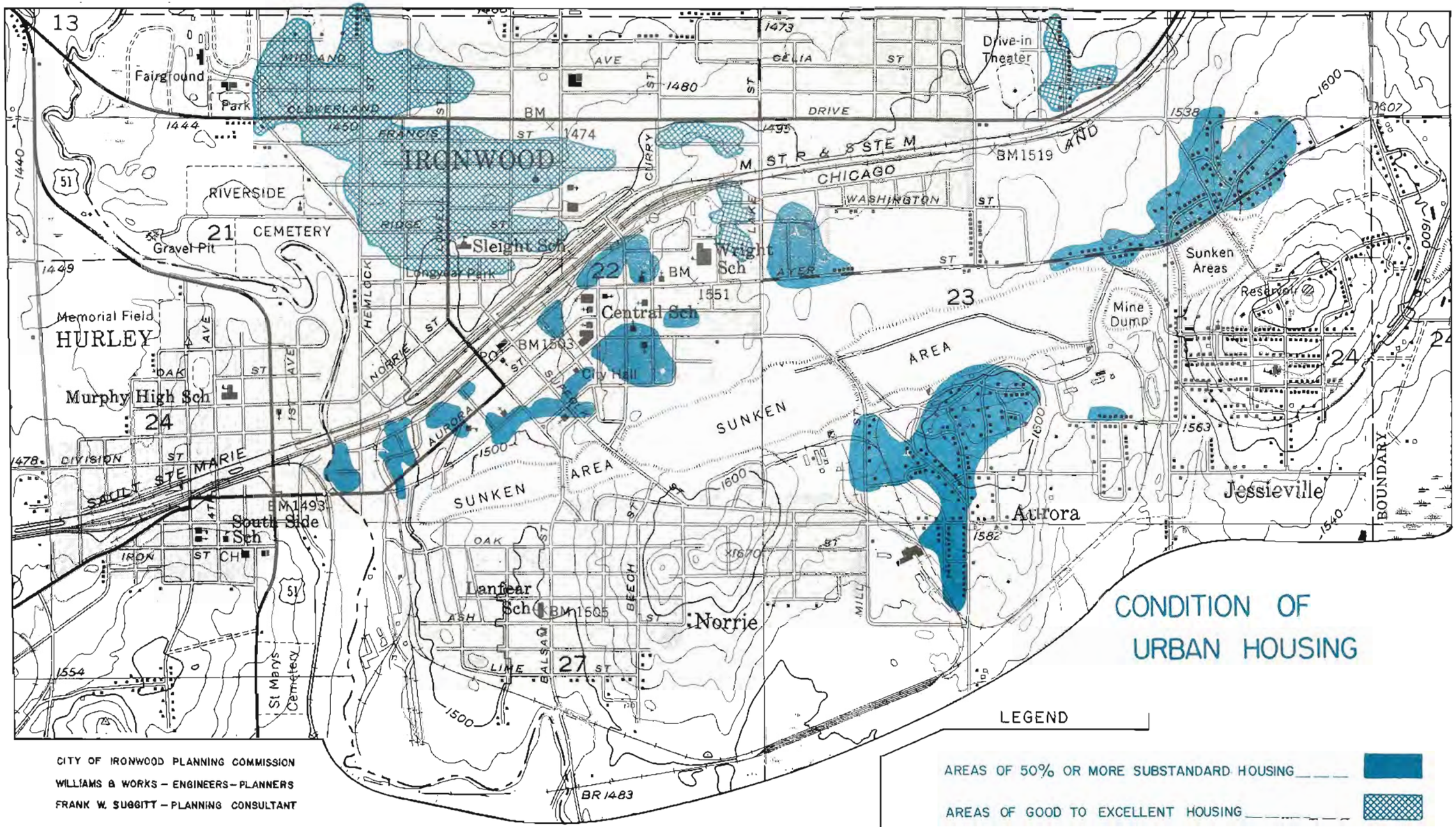
(1) A greater percentage of owner-occupied housing; (2) a lesser percentage of housing with complete plumbing facilities; (3) a greater percentage of houses built before 1940; (4) a greater percentage of houses with a market value of less than $10,000 in Ironwood than the average for the State of Michigan.

This information is of value in pointing out the factors which affect the environment with which people are associated in the City of Ironwood. However, the above data offers very little in terms of isolating areas of substandard housing or those that are tending toward substandard condition. It is apparent that for the percentages in the various brackets to diverge as much as they do from the average for the State of Michigan, there must be some abnormally low standards in Ironwood. For detailed comprehensive planning to be effective, these areas must be located, and if a pattern or grouping of below-standard housing can be isolated, the location of such areas must be determined. Once this has been accomplished, the comprehensive plan can take steps to eliminate or improve those areas. To isolate areas of substandard housing requires first a complete survey and evaluation of each individual home in the city, then an analysis of this data to determine areas of below-standard housing.

1. Condition of Housing Survey Method:

The condition of housing survey consisted of two separate and independent phases. The first survey considered only the City of Ironwood proper and was conducted by the city Engineering and Assessor's offices. The second survey consisted of a field inspection of the planning area outside the City of Ironwood.

The method of conducting the condition of housing survey for the City of Ironwood consisted of utilizing a recent tax evaluation study of the city, and the plotting on base maps of every structure in the city, and coding each building as to its type of construction, condition, and age. Each classification consisted of four units; the first described the type of use as being residential, commercial, industrial, or public. The second classification described the age of the structure and there were five age brackets used: built prior to 1900; 1900 to 1920; 1920 to 1940; 1940 to 1960; and built after 1960. A number was assigned to each age group and this number was used in the classification



CONDITION OF URBAN HOUSING

LEGEND

AREAS OF 50% OR MORE SUBSTANDARD HOUSING

AREAS OF GOOD TO EXCELLENT HOUSING

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COMPREHENSIVE COMMUNITY PLAN

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1963

to indicate the age group of each particular structure. The third unit describes the type of construction and utilized a three-letter classification, "A" representing an outstanding architectural design, through "C" which represented poor quality construction and basically no design. The final unit of the classification described the condition of the structure and employed the terms "excellent," "good," "fair," or "poor" with a corresponding classification.

For example, a typical Ironwood residence built between 1900 and 1920, of average type construction and poor condition, would have the following classification: R-1-CP, and that particular residence was symbolized on the maps and tables.

The second survey consisted of inspecting all dwellings outside the City of Ironwood and field classifying each dwelling in accord with the foregoing code symbols. All buildings in the planning area were then plotted on a base map and each building was coded as outlined in the preceding method.

2. Evaluation of Housing Survey Data:

The purpose of obtaining the survey data is to provide a base for comparing all dwellings in and around Ironwood. No attempt was made in this survey to check market values of dwellings or specific degrees of blight. The purpose of the survey was to develop a means where any one dwelling could be compared to all others in the planning area, so it could be evaluated relative to the actual condition and construction of other dwellings. This was accomplished by assigning a point value to each unit of the building classification and arriving at a summation of points for each structure in the city, and thereby providing a basis for comparison. The allocation of points was as follows:

1. Age of the structure = 40 points.
2. Type of construction = 30 points.
3. Condition of structure = 30 points.

TOTAL = 100 points.

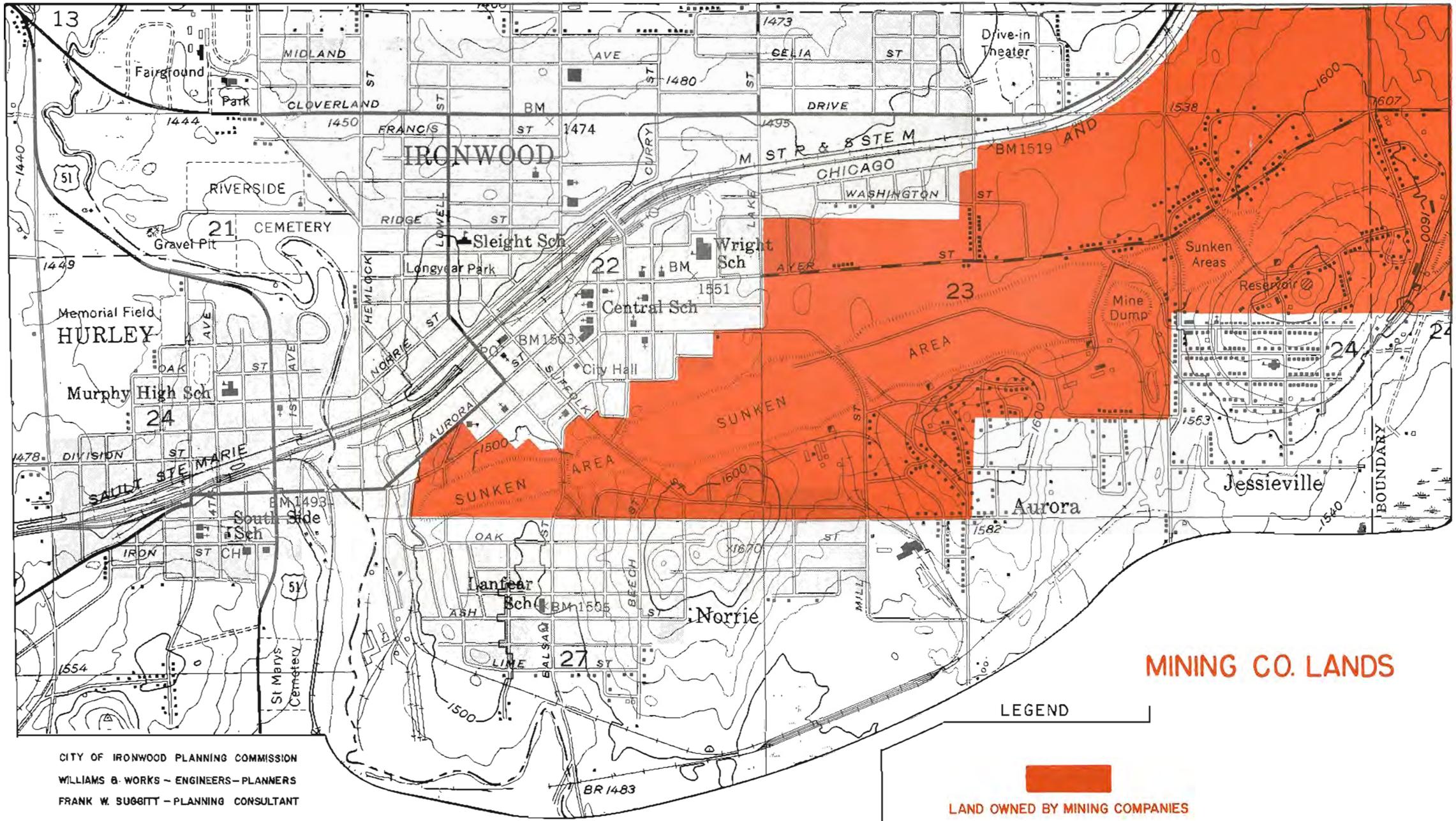
condition are located in the original section of the town adjacent to the downtown area, the only exception being the residential areas surrounding the mine locations. The significance of this conclusion is evident and provides the key to renewal and redevelopment.

D. OWNERSHIP

It has been established in previous sections of this study that a vital part of the comprehensive plan will be the orderly retraction of the community to economize upon municipal operations. An important factor in accomplishing retraction of services will be the relocation or elimination of some existing residential areas. The decisions as to which residential areas of the community will be eliminated or relocated will be governed by many factors of which density and condition of housing and land ownership will play very important parts.

The land use and historical studies outlined the manner in which the city grew and the factors which influenced the growth. The residential areas south of the present cave area were developed by the various mining companies to provide housing for workers in the mines. Many of the homes in this area are presently owned by the mining companies or have been sold to the present owners with the mining companies owning the land on which the houses are located. The fact that many of the houses south of the cave area are owner-occupied, but located on leased land offers the city an effective tool for the progressive elimination, if necessary, of certain residential areas. If a program is set up whereby the city purchases this land as it becomes available, many of these older mining areas may give way to more productive and less costly uses of land (less costly in the sense of being able to curtail urban services).

The map entitled "Mining Company Lands" indicates lands which at one time were owned by the mining companies, and on which the mining



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CITY OF IRONWOOD, MICHIGAN

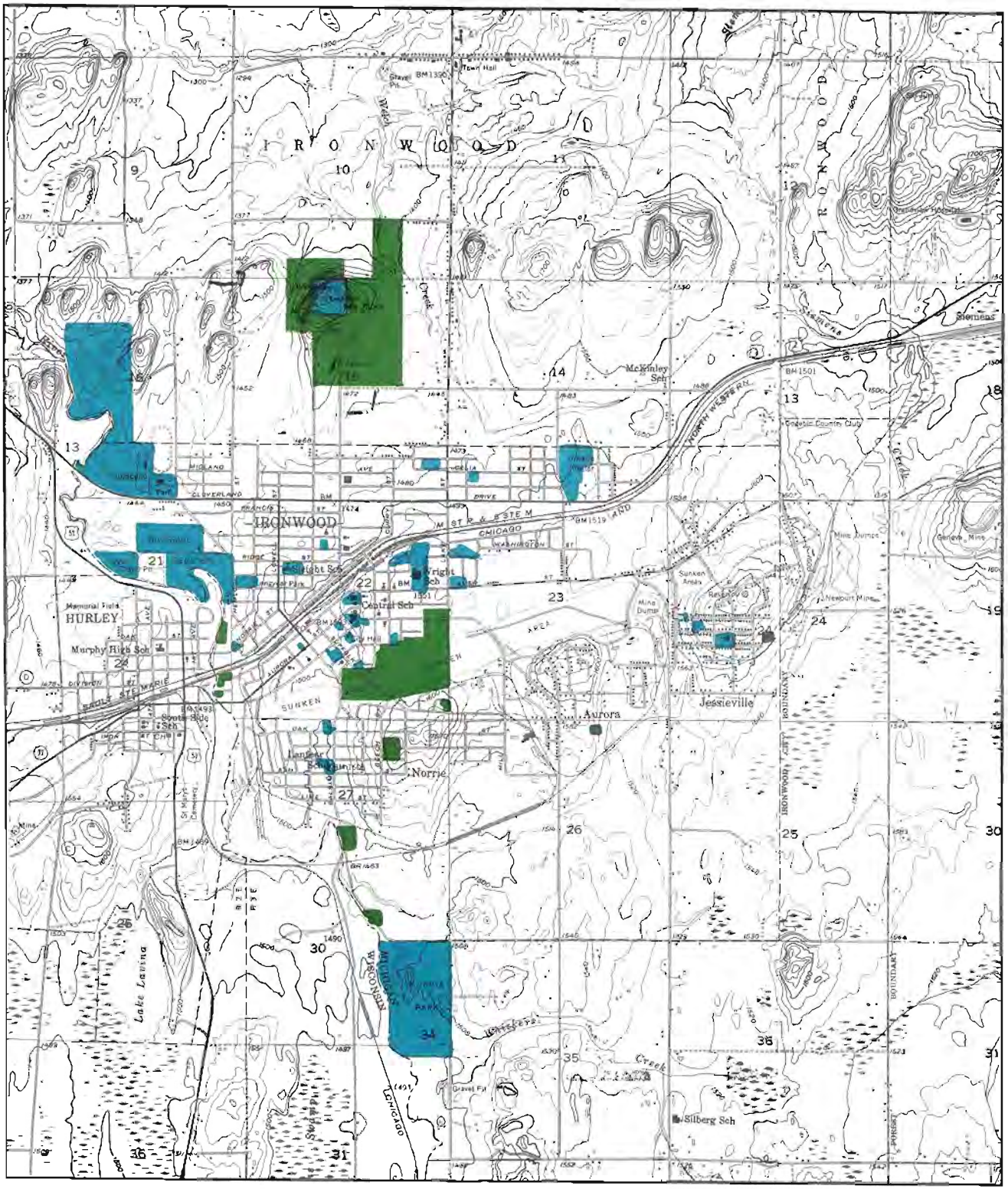
MINING CO. LANDS

LEGEND

LAND OWNED BY MINING COMPANIES

PLATE 14

1963



CITY LANDS

LEGEND

CITY LAND UTILIZED

CITY LAND VACANT

NORTH

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN
CITY OF IRONWOOD, MICHIGAN

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companies constructed housing. The purpose of this map is only to indicate general areas of the mining operations, and it is possible that many other homes or areas are actually mining company owned, whereas many of the designated areas are no longer company-owned. The map also illustrates how transfer of ownership may provide an effective tool for eliminating potential substandard areas and at the same time match a decline in population with a decreasing number of housing units.

Through the years, the City of Ironwood has acquired a considerable amount of property in and around the City of Ironwood. Much of this land has been put to use for needed community facilities, but some of the land which was acquired by tax delinquency or purchase is not being used, and it is important to evaluate its future contribution to the orderly development of the city.

For the City of Ironwood to effectively retract both housing and utilities will require the acquisition of additional lands for the elimination of substandard housing and for some relocation of existing buildings in other parts of the city. The justification for doing this will be for more efficient utility operations, and a thorough study of the economics of accomplishing this will be outlined in the comprehensive plan.

FOUNDATIONS FOR PLANNING 1963

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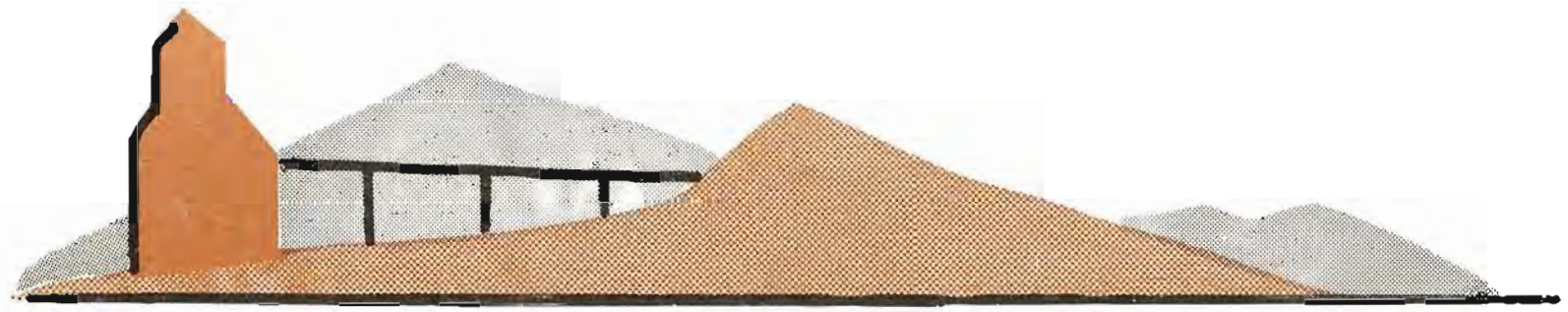


UTILITIES

IX. UTILITIES

A vital part of any comprehensive planning program is the analysis and evaluation of utility systems. While municipal services encompass much more than utilities, the utility service is essential to operation of the community. The problems existing in Ironwood are unique to this community and present some extremely challenging situations which must be resolved if the city is to marshall its resources for redevelopment. Many of the problems will require sizable expenditures, while others call for major policy decisions on the part of the Planning Commission and the City Commission in order to implement programs that will be outlined in the comprehensive development plan.

Before many of the utility problems can be solved, a review of all basic studies should be made to determine what the long range outlook is for the City of Ironwood. Will the city continue to shrink in population or will it grow or will it remain stable? If Ironwood is even to remain stable, that in itself will require the addition of many new jobs in the community to take up the slack of a dying mining industry. The answers to these questions will have a very profound influence upon what must be done to the city utilities in order to prepare for the future.

A. INTRODUCTION

This basic utility study reviews the history of growth, present conditions and problems of Ironwood's major utility systems. Solutions of utility problems will not be considered complete in this study but will be treated in detail in the comprehensive development plan, as

that report will go into the matter of the long-range development in the City of Ironwood.

In general, all cities provide municipal services to its citizens, part of which is usually in the form of such utilities as sanitary sewers, storm sewers, water distribution, electric power, gas supply, etc. In return for these services, the residents pay taxes for the construction of the utilities and they pay service charges for the operation and maintenance. For successful planning in a community, it is necessary to first develop efficient utility service so that funds previously spent because of inefficient operation may be allocated for the planned improvements of the city. The City of Ironwood is not an exception to this principle, and in many respects, it is a classical case example. Ironwood entered the 20th Century with a population almost identical to that of the present time, and during the past sixty years the city has experienced a population peak almost double the present; a considerable degree of inefficiency is to be expected.

In the early 1900's, the city was emerging from the mining camp era and was beginning to operate as a rapidly growing municipality. The problems of this young boom town were immense. The population was sky-rocketing and it was necessary for the city to provide utility service to the various mines, scattered residential developments, and commercial areas which were springing up along the Range. At that time the city had an adequate tax base with which to finance the services and a growing demand for services. The utilization of land within the City of Ironwood is basically the same now as it was when the city reached its peak population in the mid 1920's. The city is now providing utility service to basically the same area and maintaining the same size systems as it did in the mid 1920"s, except that the system is now serving only about half the number of customers, and only about half the customers are paying for the system. The present planning problem is one of redeveloping the utilities in order to provide a system which can efficiently and economically be supported by the present population.

Assuming that the major planning problem will be concerned with the retraction of the present system to enable more efficient operation, it is necessary to first study the method in which the utility systems developed.

A basic principle of land planning and land development and redevelopment should be borne in mind in connection with the Ironwood utility system and its role in effectuating the comprehensive plan. Utilities can become one of the most decisive instruments to induce land development in certain prescribed directions or to withhold development in other directions. New urban development in expanding communities gravitates to those areas which are serviced with streets, sewer, water, schools, etc., and new development is forced to avoid areas not so serviced. The reciprocal of this principle should apply in retrograding communities, whereby withdrawal of utilities and other urban services should induce the ultimate elimination of people, since they would be forced to relocate in areas which could be more economically serviced. Coupled with establishment of special assessment policies and city acquisition of mining company lands, some real progress is possible.

B. WATER SUPPLY AND DISTRIBUTION

1. Early Development of Water System:

At the turn of the century, the water supply system in Ironwood was owned by the Ironwood and Bessemer Railway and Light Company. On January 1, 1918, the City of Ironwood purchased the water company for a total price of approximately $77,000. The system which the City purchased utilized the Montreal River as its supply source, the location of the pumping station and intake being just south of Ironwood. The Montreal River is similar to many other rivers in Gogebic County, in that the headwaters are located in low swampy areas to the south and consequently, by the time the rivers reach the Range Area, the waters

are highly colored. When the city took over the water system in 1918, there were many objections to continued use of this supply, so the city immediately started investigating the possibility of developing a new source of supply. Many studies and much controversy elapsed before the city finally decided on developing a well field in the location presently being used. In May of 1921, the city constructed three batteries of four wells each in the Spring Creek area. The water was pumped from the wells to low level storage and then through high lift pumps to system storage in the City of Ironwood. This system has been adequate, but the original equipment is still in use and will need replacing in the near future.

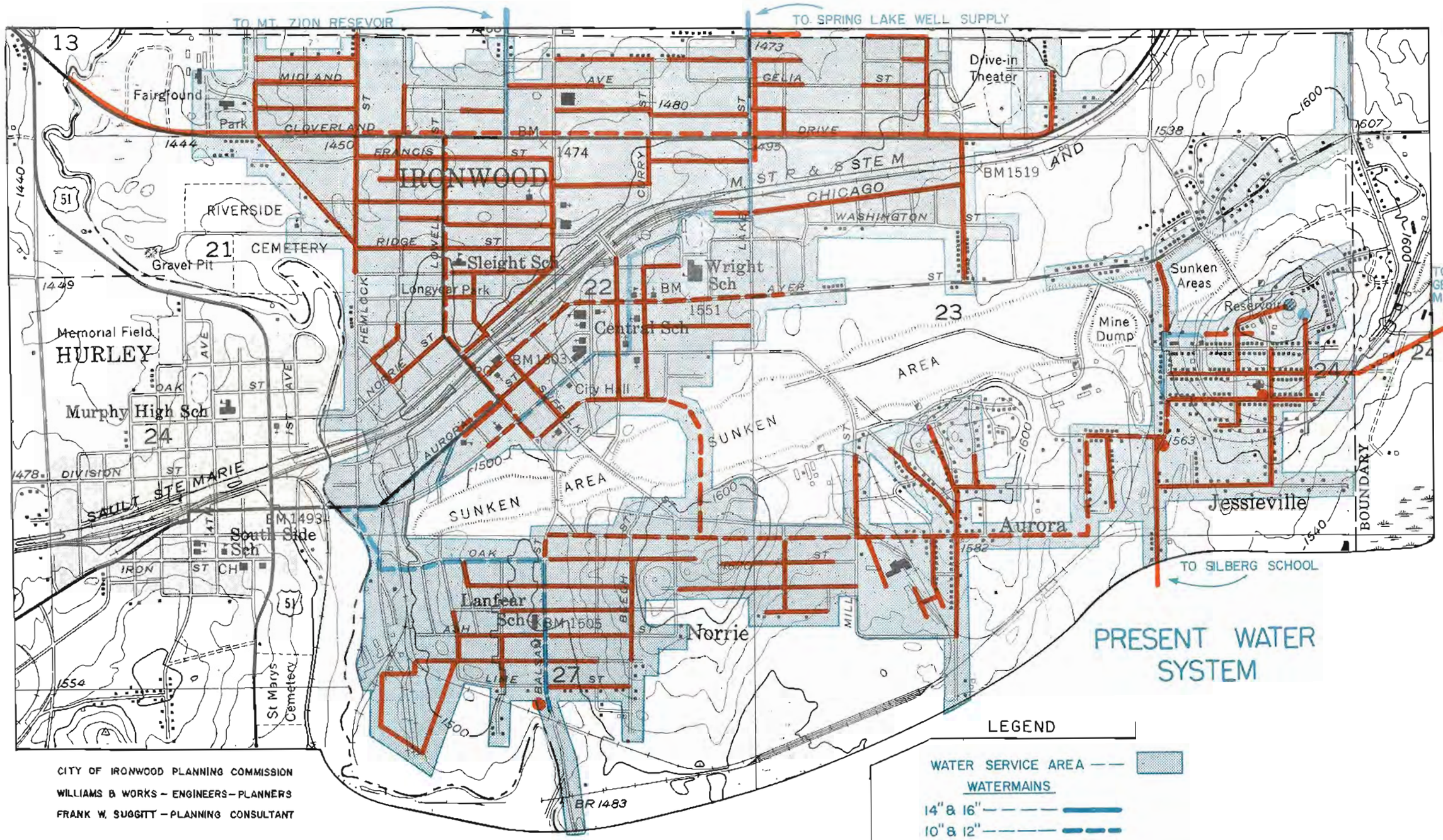
2. Alternative Sources of Supply:

Other communities on the Range are facing water supply difficulties, and in 1962 the Board of Supervisors of Iron County, Wisconsin and Gogebic County, Michigan, authorized a study to determine the feasibility of a joint water supply for all communities on the Range. This study was presented in 1962 and considered five alternate water supply sources, as follows:

a. Lake Superior - this system provided that an intake be constructed in Lake Superior, at Saxon Harbor, Wisconsin, with high lift pumps to supply water to the range communities.

b. Hewett Lake - a small inland lake directly south of Ironwood, just across the Wisconsin border was considered because of its high elevation, which would eliminate excessive pumping costs.

c. Montreal River - the Gile Flowage is an impoundment on the Montreal River just south of Hurley, Wisconsin, and has the high concentration of color which is characteristic



PRESENT WATER SYSTEM

LEGEND

- WATER SERVICE AREA
- WATERMAINS
  - 14" & 16"
  - 10" & 12"
  - 8"
  - 6"
- RESERVOIR
- PUMPING STATION

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of the rivers in this area. The Gile was considered because of its ability to supply water for future demands. The Gile Flowage is owned by and operated as a part of a power reservoir of the Lake Superior Power and Light Company, and any use of the Flowage water would require the purchase of the Gile Flowage from the power company.

d. Black River - this system proposed the construction of an earth dam near Chippewa Hill, providing an impoundment for water supply and a power generating station for pumping the water back to the Range. This project would tie in with impending recreational programs in the area, and also be in the direction of Lake Superior as the ultimate supply.

e. Ground Water Supply - this plan proposed an impoundment and new well field in the Spring Creek area which now serves the City of Ironwood.

All five systems were evaluated as to quality and quantity of water and cost to each customer. Also considered in the report was the interconnecting of the various independent distribution systems on the Range. Of the five systems considered, the ground water supply utilizing present facilities at Ironwood, provides for the most economic water system, but if the recreational development potential of the Black River impoundment is considered, this might yield a tremendous economic stimulus to the entire Range and to Ironwood. The comprehensive plan for the water utility should consider the economics of developing a County water supply for the Michigan communities on the Gogebic Range, and also the feasibility of supplying the Wisconsin communities.

3. Water Supply and Quality, Ironwood System:

As noted above, the present water supply source for the City of Ironwood is located at Spring Creek. The supply facilities consist

of two wells adjacent to Spring Creek west of Lake Road and three other wells located at the Big Springs approximately three miles west, also adjacent to Spring Creek. The water is pumped from the wells to a reservoir located near Lake Street and Spring Creek. The water is then taken from this holding reservoir, clorinated, and pumped to the main reservoir on top of Mt. Zion. The water then flows by gravity from Mt. Zion throughout the distribution system, except for a pump to lift it to the Jessieville storage. Ironwood is fortunate in that there has not been any acute water shortage since the system was put in operation. However, the comprehensive plan should be concerned with the fact that the Spring Creek drainage basin is very limited and does not provide extensive storage for any prolonged drought. An associated problem is that any large water consuming industry which might come into Ironwood would completely unbalance the present water system, and if this type of industry is to be attracted, it must be guaranteed an adequate water supply at a reasonable cost. The quality of water derived from Spring Creek is excellent, especially when compared with water supplies of many lower Michigan communities. Comparative water quality analyses are shown in Table 23, which shows that Ironwood's present source prcduces water that has extremely low iron content and a relatively low hardness. Continued use of this supply source would not require treatment other than a precautionary chlorination.

4. Water Distribution System:

As mentioned previously, the original water supply for the City of Ironwood was located south of Ironwood on the Montreal River. The pumping station and impoundment were located in this area and water was pumped through a wooden main to serve the various mines and the residential areas. With the development of the Spring Creek wells north of Ironwood, the system was rebuilt to provide adequate flow in the north side of the city.

The development of the present water system has progressed through three stages: (1) the original private water company which was organized to sell water to mine locations and to provide limited domestic service wherever there was a demand; (2) the first city-owned operation in which water was pumped from the Montreal River, south of town, and delivered through trunks to serve the remaining portion of the city; and (3) the supply source was shifted to the north side of town and delivered to the city system from the north. The result of this last development has been a system with oversize trunks in areas where they are not necessary and many under-size and deadend mains which should be corrected. The present water system is extended far beyond that necessary to serve a comparable population in any other community. However, through the years this system has been rebuilt and continually maintained to provide adequate flows and pressure. An Accelerated Public Works grant was recently approved for repair and reconstruction in major problem portions of the system.

5. Water Distribution Problems:

The City of Ironwood is faced with immediate problems in their water distribution system, and as stated previously, the more serious problems have been included in an Accelerated Public Works grant. The construction of the following improvements are necessary if the City of Ironwood is to maintain its present fire class grade whereby the insurance rates are based on a sixth-class grade of protection. The city is in danger of retrogressing to a seventh-class rating, and in July of 1958, the Michigan Inspection Bureau stated that the city should enlarge all four-inch mains in the distribution system. As a result of the correspondence and inspections by Michigan Inspection Bureau, the following recommendations were made:

1. Replace all 4-inch mains in the distribution system with 6-inch mains.

2. Install additional mains of ample size to provide sufficient circulation in the distribution system and to eliminate deadends.

3. Arrange grid system in residential districts so that with six-inch or smaller mains on the long side of blocks, eight inch or larger cross connection mains will occur at intervals not to exceed 900 feet.

4. Install gate valves in the distribution system so that no single case of accident, breakage or repair to the pipe system, exclusive of arteries, will necessitate the shutting from service of a length of pipe greater than 500 feet in the high value district, or greater than 800 feet in other sections, and will not result in shutting down an artery.

5. Install additional hydrants where necessary on long blocks, midway between hydrants at intersecting streets.

6. The average area served per hydrant in built-up sections, exclusive of the high value district, not to exceed 110,000 square feet, and in the principal mercantile district, not to exceed 85,000 square feet.

The problem of providing water service to the area south of the caves requires almost totally separate attention than does the area north of the caves. This will be outlined in more detail in the section entitled "Summary of Water System Situation."

6. Accelerated Public Works Project:

Under the Accelerated Public Works program is the replacement of a 10-inch Kalamein pipe in the vicinity of Aurora Street with cast

Table 23. - CHEMICAL ANALYSES OF WATER SOURCES

Components	MICHIGAN					WISCONSIN
	Bessemer Well & Spring	Ironwood Wells (1)	Black River (2)	Lake Superior (3)	Wakefield Spring & Mine	Montreal Wells (4)
Total Solids	135	150	230	61.5	190	143.7
Silica(SiO_2)	15	11.8	8.4	4.1	12	----
Iron (Fe)	0	0.02	0.72	0	0	0.95
Calcium(Ca)	30	30.2	35	12.9	40	83.8
Magnesium(Mg)	6	7.1	2.5	3.2	10	23.4
Sodium and Potassium (Na + K)	2.9	6.4	10.7	2.7	4.5	----
Chloride (Cl)	2	19	58	1	9	6.8
Sulphate(SO_4)	15	5.2	4	0	10	5.1
Bicarbonate (HCO_3)	100	100.4	32	56	147	106.9
Total Hardness ($CaCO_3$)	100	105.4	98	44.5	140	107.2
Fluoride (F)	0	0	0.1	0.5	0	----
Date	9-59	4-62	9-60	----	9-58	1-41

Note: All results are in P.P.M. (Parts Per Million).

(1) Average of 5 wells; no color, odor, or turbidity recorded.

(2) Color reported.

(3) Average of analyses of Northern Michigan Water Company, Houghton County and the City of Marquette; dated 3-52 and 10-58 respectively.

(4) Average of North and South wells; slight brown color, faint odor, and turbidity recorded.

iron mechanical joint pipe. Kalamein pipe is substandard and is not satisfactory for modern water distribution system use. This type pipe in the present water system could break at any time and result in serious damage to adjoining properties. To indicate the antiquity of such pipe, the following is quoted from an American Water Works leaflet: "The Association's first venture into the field of standardization is recorded in the proceedings of its fourth and fifth annual meetings, during which there was much discussion of a material known as "Kalamein," then being sold for use as a water distribution pipe. In a formal report presented at the fifth annual meeting, held in Boston in 1885, a special committee appointed to investigate the pipe expressed "grave doubt as to its (Kalamein pipe) fitness for the purposes for which it claims a place in the construction of permanent water works." Time has borne out the conclusion reached by that committee, the forerunner of the present AWWA Committee on Standardization, and Kalamein pipe has long been a forgotten material.

Included under the second phase of the Accelerated Public Work project is the replacement of substandard mains in Pabst Street and Hill Street, the installation of new fire hydrants on Pabst Street and Hill Street, and the valving of these mains so that they can be isolated in case of necessity. The water mains in the Soo Place, King Street, and Erie Place are a hodge-podge of three-quarter to one-inch mains that should be replaced with 8-inch pipe, provided with hydrants and valves, which will serve the area with sufficient pressure and adequate fire protection, and will serve as a circulating main.

The third item in the application will improve the water distribution system in the vicinity of the Ahonen Mill at Pine and Mill Streets. Proposed in this project is a six-inch main on Oak Street from Bacon to Mill, and a hydrant on the corner of Oak and Mill Streets. Also an 8-inch main on Mill Street from Pine to Tamarack Streets and to connect to the above mentioned Oak Street line and to the existing 6-inch main in Tamarack Street to provide a circulating system in this

area, as well as to provide additional water volume for fire protection at the lumber mill. Adjoining this 8-inch main, there should be constructed an additional 8-inch main into the mill yard itself to the existing 6-inch main which presently services the fire hydrants in the yard. Also, the two 6-inch individual lines in the mill yard should be interconnected with this system and all should be valved so that sections can be isolated.

The fourth application item is the construction of a new 6-inch water main on the north side of McLeod Avenue from Day Street east to a point about 200 feet east of the alley and then north to city-owned land to connect to an existing 6-inch main on Sutherland Street. This will provide a circulating main and replace a small substandard main on McLeod Avenue.

The fifth item is that an 8-inch main on Ayer Street which presently deadends at May street be extended to Hill Street, and then on Hill Street to Lake Street, and that the existing water line on Rowe Street and the alley between May and Rowe, between Rowe and Lake Streets be connected to the new main on Rowe Street to provide proper circulation and to prevent freezing. Three fire hydrants should be installed in this area to provide badly needed fire protection for the many residents. The last item in the Accelerated Public Works Program is that the 500-foot gap left in the 6-inch pipe line constructed on Margaret Street be completed to provide loop service in the Margaret Street area and U.S.-2.

The above mentioned projects are being readied for construction and when completed will alleviate many of the present problems associated with the operation of the water system. The planning program, however, must view the water distribution system in a much broader sense, and evaluation of the above projects will not be considered in this report. The planning program will consider these improvements as being part of the present system and consider further improvements when proposals

are made in a comprehensive plan for either extending or retracting various portions of the water system. The foregoing recommendations are included in this report only to show that the city is anxiously attempting to alleviate many of the problems within the system and to provide adequate fire protection for the residents of Ironwood.

7. Summary of Water System Situation:

Briefly reviewing the Ironwood water system, it is noted that the present supply source is from the north in the vicinity of Spring Creek and feeds into the Ironwood distribution system on Lake Street and from Mt. Zion reservoir. These are fourteen and sixteen inch mains which provide an adequate base for the area on the north side of the cave area. Extensions of mains to additional areas can be easily accomplished and with continuous replacement of undersized mains and elimination of deadend mains, this portion of the city can be provided adequate fire protection and water service.

The section south of the sunken area presents an entirely different problem. This district is comparable in acreage to the area north of the cave area, but is supplied only with one 8-inch main and one 12-inch main. The 12-inch main is at the extreme westerly end of this developed area and only serves the area adjacent to Balsam Street. From this point, an 8-inch main is extended to the east and connects with another 8-inch main which crosses the cave area approximately three-quarters of a mile to the east of the 12-inch main. This, then, forms a supply base for the entire area south of the caves. From this point, one 8-inch main continues east to supply the Jessieville area and supplies two reservoirs located in Jessieville, and from this point, it backfeeds to serve the mine area and the area south of the caves. A study of the Water Distribution Map indicates the inherent problems associated with this type of system. A break in either one of the mains crossing the cave area, or in the 8-inch line which runs from the intersection of the two 8-inch lines to the reservoir in Jessieville, would

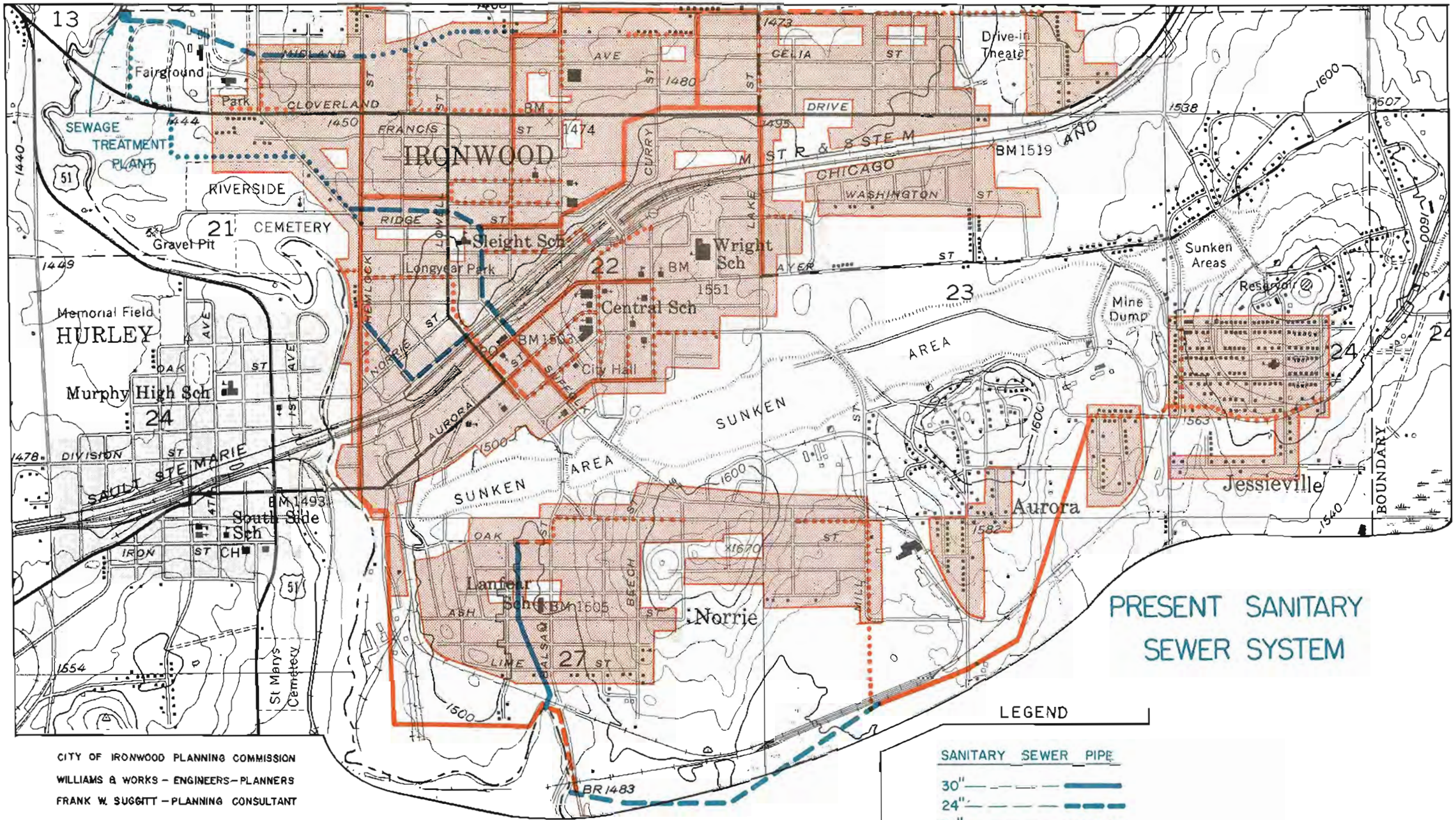
result in virtually no water service to this entire area, and it is questionable whether this system could provide efficient fire protection in case of a large demand. If sufficient water service is to be provided to the Jessieville area, it becomes apparent that some type of interconnection or loop will be required between Jessieville and the main system on the north side of the caves. If this is not possible, then a second feed-loop should be included south of the cave so as to guarantee service to Jessieville in case of any damage to the present 8-inch main supply in the area. These recommendations are predicated on the assumption that the entire area will remain in the present state, but they should be reviewed in the light of renewal and retraction proposals which will be outlined in the Comprehensive Development Plan.

C. STORM AND SANITARY SEWERS

The previous section of this study described how the water system developed through three basic stages. Although the growth of the water system appeared to be haphazard and inefficient, the system has been strengthened through the years to provide a workable distribution network. In contrast, the storm and sanitary sewer system in the City of Ironwood has merely grown.

1. Sewer Development:

At the turn of the century, the city was desperately attempting to provide sewers to remove storm waters from troubled areas and to provide sanitary waste collection for the rapidly growing city. Apparently the sanitary problem was more serious than the storm problem, for it is the sanitary sewer system which has developed. Through the years, the sanitary sewer system has evolved into a combined system whereby it collects the sanitary wastes of the area and also is utilized for collection of storm runoff. The result is a system which is oversized for a sanitary collection system, carries considerable ground water infiltration



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NORTH

0 1000 2000 3000 4000

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN

CITY OF IRONWOOD, MICHIGAN

PRESENT SANITARY SEWER SYSTEM

LEGEND

SANITARY SEWER PIPE

30"

24"

21"

18"

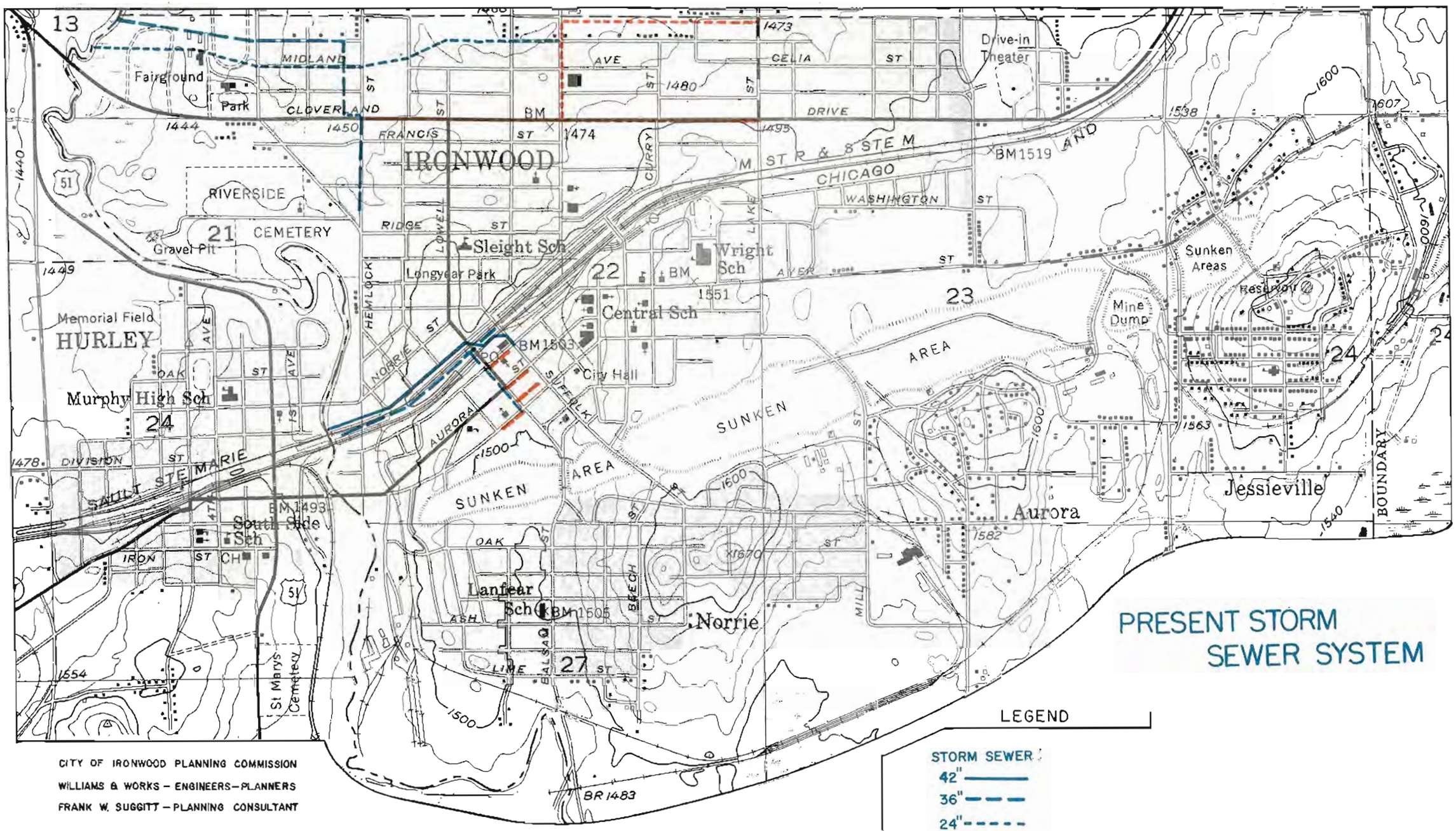
15"

12"

SANITARY SEWAGE SERVICE AREA

PLATE 17

1963



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NORTH

0 1000 2000 3000 4000

SCALE IN FEET

PRESENT STORM SEWER SYSTEM

LEGEND

STORM SEWER

42"

36"

24"

21"

18"

15"

COMPREHENSIVE COMMUNITY PLAN

CITY OF IRONWOOD, MICHIGAN

PLATE 18

1963

and storm water runoff, and is undersized for adequate storm drainage.

Referring to the Sanitary Sewer System and Storm Sewer System, it is apparent that the city storm sewer system is inoperable as a separate storm water collection system. In reviewing the sizes in the sanitary trunk system, it appears that the sanitary sewers are carrying much of the storm water runoff. Jessieville is served by a 12-inch trunk sewer which discharges into an 18-inch trunk. This sewer meanders along the south side of the range through low swampy areas and then discharges into a 24-inch sewer which continues to the river. At this point, there is an overflow into the Montreal River and a 15-inch sewer then continues to the north where it intersects a 30-inch sewer which is basically a storm sewer serving the Ashland "location." There is an 18-inch sewer discharge from this intersection and, consequently, another overflow is provided at this point. The 18-inch sewer then continues through Ironwood and out to the sewage treatment plant. To prevent basement flooding from this 18-inch sewer, it is necessary to maintain four storm water overflows or bypasses into the Montreal River, two of which are upstream from the business district of Ironwood.

2. Sewer Problems:

There are many problems associated with an operation of this nature. First, the sewer sizes are too large to operate properly as sanitary sewers and consequently, the velocities are too slow to carry solids properly. Secondly, the storm water runoff and street washings are carried by this system. This type of operation provides automatic flushing of the sanitary sewer, but the sewer is too small to properly handle the storm water, and consequently, storm water backs up and must be bypassed to the river. To relieve the storm water pressure in the sewer system, it is necessary to run the overflows into the Montreal River. Third, when storm and sanitary wastes are combined in a sewer, it is impossible to efficiently separate the wastes and, consequently, when the waste is overflowed into the river, a certain amount of sanitary

wastes are carried with it, thereby reducing the effectiveness of the treatment facilities. The fourth problem associated with this particular situation is that the city must maintain approximately two miles of trunk sewer for which it receives no revenue. The problem is compounded by the fact that the sewer is in poor condition and requires continual maintenance.

Physical features of the Ironwood area dictate the same utility problems in the sewer system as were pointed out in the water system, although the problem is more severe with a sanitary system. The cave area provides a barrier between the south side of Ironwood and the north. The sewage treatment plant is in the northwest section of the city and, consequently, to serve Jessieville, which is in the extreme southeast section, requires an enormous trunk system. Since the city is divided between south and north as the result of the caves, the two areas must be considered independently.

3. South of the Caves:

General system problems in the section south of the caves have been previously discussed but there are several local problems which should be considered. One of these is the storm sewer in the Ashland "location" which has been set up as Accelerated Public Works Project. The problem is that severe flooding exists as a result of the storm water not finding its way into the 30-inch combined sewer located to the west of Balsam Street and running parallel with it. It is proposed in the Accelerated Public Works Project to construct lateral sewers on Tamarack, Birch, Ash, and Larch Streets to intercept the storm water and carry it into the 30-inch sewer shown on the Sanitary Sewer Plan. The second storm water problem exists in the southwest section of the Jessieville area. The problem here is that the velocity of the storm water runoff is so high that it is not possible for the 12-inch trunk to carry the flow and consequently, the storm water backs up at this point.

The sanitary and storm sewer problems in the area south of the caves have been outlined and an attempt will now be made to suggest improvements. To begin with, Jessieville is remote from the center of population of Ironwood, and from a utility standpoint, it could possibly be considered as an independent development area. We have noted that the operation of the trunk sewer connecting Jessieville to the sewage treatment plant is in poor condition, and that the elimination of this trunk would result in considerable savings to the city, both from the standpoint of operating and maintenance costs and the elimination of storm water overflows, upstream from the city. It would further eliminate the treatment of some storm water at the sewage treatment plant. One method by which the Jessieville, Aurora, and part of the Norrie "locations" could be served independently with sewage treatment facilities would be the construction of a small lagoon located at the foothills to the south of the Aurora "location" with a discharge into the existing trunk sewer.

This type of operation would accomplish two things. First, the sanitary wastes would be treated to as high a degree as presently available and the outfall would be through the existing trunk sewer with discharge into the Montreal River at its present location. Secondly, the existing trunk below the oxidation pond could be used as a storm sewer serving the Jessieville area. The construction of a sewage oxidation pond in the Jessieville area would require that the majority of storm water presently carried in the sanitary system be removed. However, a small amount could be carried into the lagoon providing the lagoon is sized to handle this flow. The existing 18-inch trunk sewer would be utilized as a lagoon outfall for the Jessieville area and it would be necessary to provide a new sanitary trunk to serve the Ashland and part of the Norrie "locations." The 18-inch trunk which carries the sanitary wastes to the sewage treatment plant could be extended to provide a trunk sewer for a separate sanitary system in this area.

An attempt should be made to separate the storm and sanitary wastes now being collected in this area. One method of accomplishing this would be the continued use of the 30-inch sewer, parallel to Balsam Street, as a separate storm sewer and constructing an extension to the 18-inch sanitary sewer into the Ashland area serving as a separate sanitary system. It must be pointed out, however, that these are merely suggestions as to how this particular problem could be handled from a utility standpoint. There are many factors which will have to be considered before the final utilities proposals are made in the comprehensive plan. The most important consideration will be what the future development in this area may be, and also the type of service which will be required.

4. North of the Caves:

The section of Ironwood north of the cave area is well served with sanitary sewers and is provided limited storm sewer service. The sanitary wastes are collected and delivered to the sewage treatment plant through an 18-inch and 24-inch trunk sewer. No attempt has been made to evaluate the engineering aspect of the sanitary or the storm system, but it appears that the trunk system is more than adequate for present or future sanitary needs. The most serious problem associated with this area is that of storm water runoff being carried by the sanitary system. Although an attempt has been made to provide an adequate storm water system in this area, the sanitary system is still relied on for street drainage. This has resulted in the construction of two overflows into the Montreal River in this section of town.

Most of the area north of U.S.-2 appears to be well served with storm sewers and the only area within the city north of U.S.-2 that is not adequately served is the area to the east of Lake Street. The storm water in this area is carried by existing open ditches and it appears that the ditches flow into the Welch Creek drainage basin. It is probable that future storm water development in this area will seek

the Welch Creek drainage basin as the point of discharge.

The remaining area, south of U.S.-2 and north of the cave area, is the older part of the city, and the most highly developed from the standpoint of storm water runoff. There are, at the present time, existing trunk sewers adjacent to the railroads serving the downtown area. However, these sewers are interconnected with the sanitary sewer and again, are provided overflow into the Montreal River. It appears that the elevation of the overflow sewer is such that the majority of the storm water is actually carried by the sanitary system and the overflows are not utilized to their fullest extent.

At the present time, there is a second Accelerated Public Works project proposed for the area adjacent to Sleight School and Longyear Park. This project involves the construction of additional storm sewers to alleviate the runoff condition in the sanitary system. A third project is concerned with the area adjacent to Wright School, which also has a storm water problem. At the present time, there is a 42-inch and a 36-inch storm sewer outfall to the Montreal River adjacent to the railroad tracks in the heart of town; it would appear that this system should be extended to tie into the Accelerated Public Works Projects and provide a base for developing a separate storm water system. This would reduce the storm water presently carried by the sanitary system and reduce the need for treating or handling an excess storm water load at the treatment plant.

In recent years, the area north of Ironwood has developed at a relatively fast rate considering the various elements which have influenced Ironwood's growth for the past 40 years. The City of Ironwood may be called on to provide sanitary service to this area in the near future. If this should occur, the sanitary system should be studied to determine if the system is adequate to provide service out Lake Street to serve these newly developed areas. Considering the topography of the area, it appears that Welch Creek provides a natural barrier for the

extension of gravity sewers north of the present city limits. The extension of sanitary sewers in this direction may necessitate the installation of lift stations to pump the waste back into the Ironwood system.

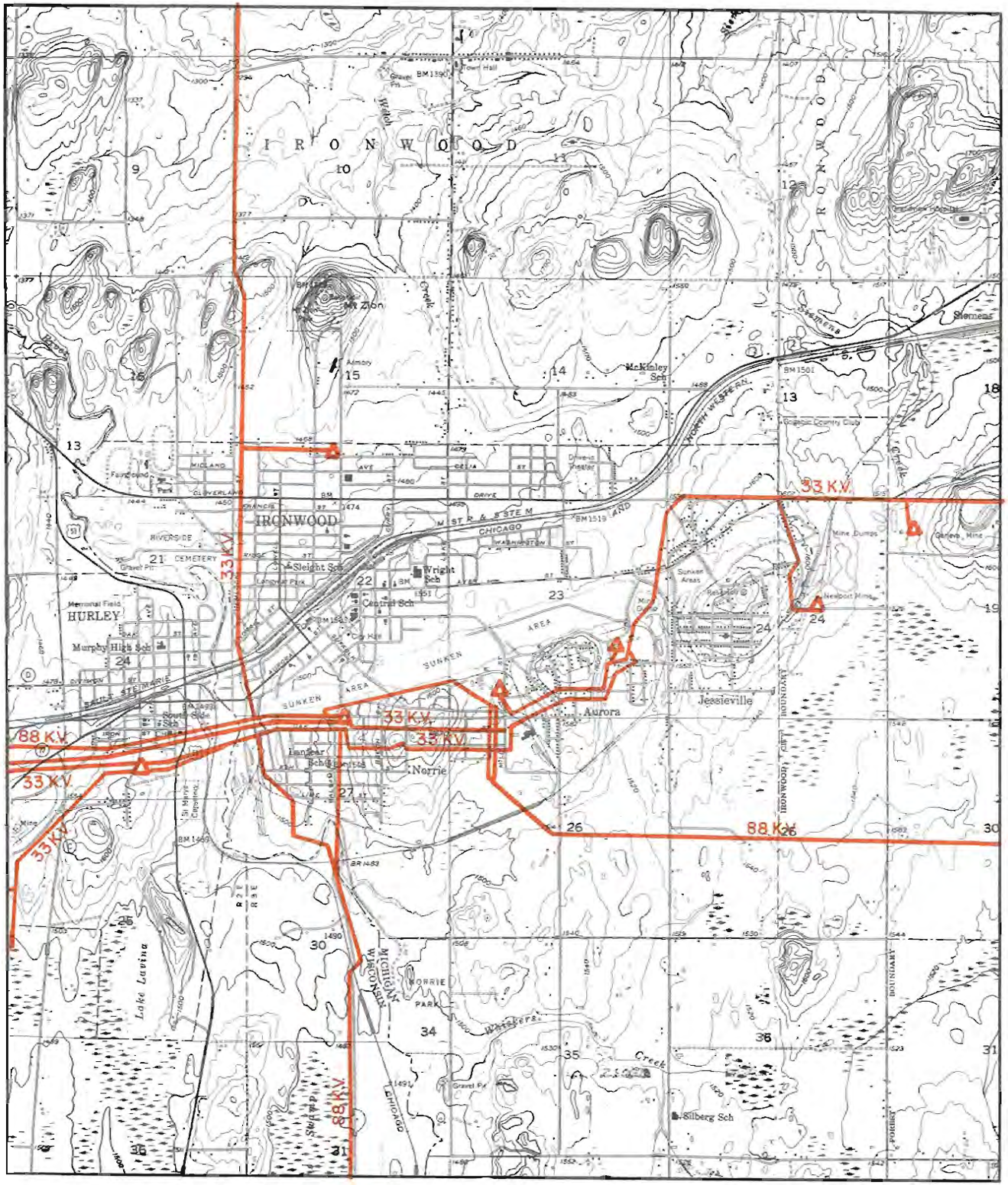
5. Sewage Treatment Plant:

The City of Ironwood recently completed a new activated sludge-type sewage treatment plant. The capacity of the plant is more than adequate to handle the present and estimated future needs of the city. The major problem associated with the treatment plant is that the facility is called upon to handle considerable storm water. At the present time, an effort is being made to provide another storm water bypass at the treatment plant site. This perhaps will remove some of the storm water load at the treatment plant, but the effectiveness of a sewage system is reduced considerably when an attempt is made to overflow combined sewage. The seriousness of this problem, however, must be weighed in terms of intended use of the river and the public health of the general area.

D. ELECTRIC POWER

The City of Ironwood is served by the Lake Superior District Power Company, with home offices in Ashland, Wisconsin. The original company was incorporated in Wisconsin on April 25, 1917 as the Big Falls Power Company. The name was later changed to Big Falls Water Power Company and in 1922, it was changed to the Lake Superior District Power Company. In 1922, the company acquired the electric gas and railway properties in Ashland, Wisconsin and the electric and railway properties in Ironwood and Bessemer, Michigan. Since 1922, the Lake Superior District Power Company has been serving Ironwood with electric power.

The Lake Superior District Power Company serves an area of thirteen counties in Wisconsin and portions of Gogebic and Ontonagon



ELECTRIC TRANSMISSION

LEGEND

SUBSTATION ——————— ▲

ELECTRIC TRANSMISSION LINES ——

NOTE:

AREA SERVICED BY LAKE SUPERIOR DISTRICT POWER SUPPLY.

COMPREHENSIVE COMMUNITY PLAN

CITY OF IRONWOOD, MICHIGAN

CITY OF IRONWOOD PLANNING COMMISSION

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MASON, MICHIGAN

PLATE 19

1963

Counties, Michigan. A review of the electric power service is important to the development of a comprehensive plan, for the amount of power available and the location of transmission systems assists in the determination of new industrial areas. An adequate power supply is a major factor in attracting new industries to the area. It is important to study the past history, development, and stability of the local power company, its operations, service area, development trends and availability of power to potential industrial users.

1. Generating Facilities:

The Lake Superior District Power Company serves thirteen counties in Wisconsin and two counties in the Upper Peninsula of Michigan. The total land area served by the company is 7,500 square miles. Included in this area are 73 communities and a total population of 140,000 people. The power company owns and operates two diesel generating plants with a combined capacity of 4,000 kilowatts, one steam generating plant with a capacity of 90,000 kilowatts, and ten hydro plants with a combined capacity of approximately 17,000 kilowatts. Two of the hydro plants, Saxon Falls and Superior Falls, are located on the Montreal River to the northwest of Ironwood, and are the closest generating plants to the City of Ironwood. The Gile Flowage located near Hurley, Wisconsin, is a holding reservoir, and is operated to supply water to the two generating plants during drought flows. The system as outlined in this study can provide 50,000 kilowatts to the City of Ironwood, which is ample power for considerable industrial expansion.

The Lake Superior District Power Company has recently joined the Valley Power Pool, which consists of eight area power suppliers. This fact, in itself, is important to potential industries because it insures that power will be available on demand, and that through coordinated planning with the regional power companies, more efficient operation and savings in production may be passed on to the various users in the form of rate reductions.

2. Transmission, Distribution, and Operation:

The Lake Superior Power Company's transmission system consists of 88,000 volt and 33,000 volt service through the Range Area, and as far east as Marenisco. The map, Electric Transmission System, indicates the location of the transmission system through the City of Ironwood. The power company has a total of 768 miles of transmission system, supplying 22,000 volts or more and a distribution system of 1,071 miles of service, 349 miles of which is in Gogebic County. The system now serves approximately 30,000 customers in all.

TABLE 24. KILOWATT HOUR SALES, PERCENT OF TOTAL BY TYPE OF USER, LAKE SUPERIOR DISTRICT POWER COMPANY, 1954-62*:

	1962	1960	1958	1956	1954
Residential & Rural	34.1	32.0	31.1	27.4	26.1
Commercial	11.4	10.5	11.1	10.8	10.9
Mining	15.6	25.5	24.0	32.3	33.4
Industrial	21.5	16.2	17.9	15.9	16.2
Other	17.4	15.8	15.9	13.6	13.4
Total Kilowatt Hour Sales (millions)	363	362	322	316	267

* Source: Lake Superior District Power Company, Annual Reports.

Analysis of recent trends in power consumption, by type of user, provides a striking reminder of the fundamental economic changes taking place in northern Wisconsin and the western Upper Peninsula. In 1954, mines consumed one-third of all power sold by the Lake Superior District Power Company, but in 1962, they consumed only 15.6 percent. The total power sales increased 38.2 percent during that period, while mining power sales dropped 40.2 percent. Commercial sales increased 47.4 percent, suggesting an increase in tourism and recreation, and industrial sales increased a surprising 73.3 percent.

E. TELEPHONE AND TELEGRAPH

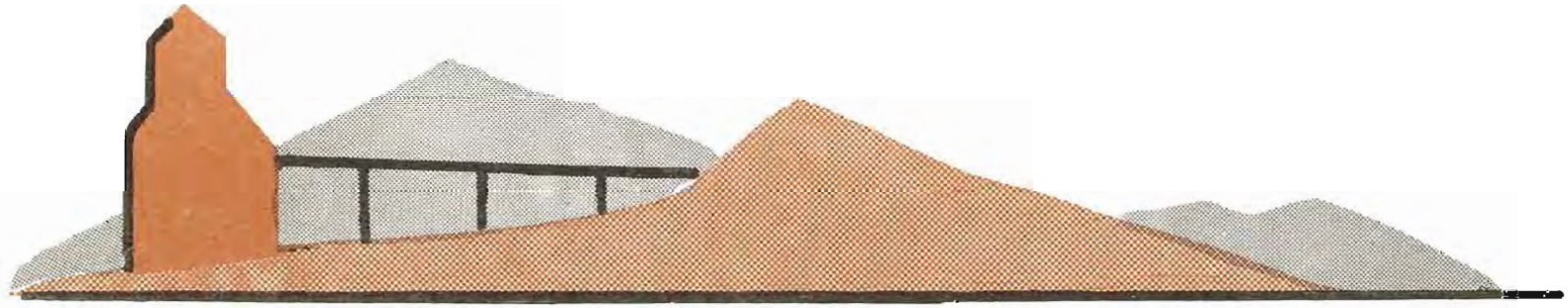
Within the past year, the Michigan Bell Telephone Company has invested about $2,000,000 in Ironwood on dial conversion, a new central office building and equipment, an auxiliary diesel plant, 3,100 feet of buried cable in Ironwood, and outside cable reinforcement. Direct distance dialing is now available to Ironwood subscribers, the only community on the Range with this service.

There are now about 5,000 phones in Ironwood, and improvements throughout the area give subscribers the very latest in communications service. Western Union Telegraph Service is also available in the city, and along with scheduled air mail service, the isolation and remoteness of Ironwood is far less significant than it once was.

FOUNDATIONS FOR PLANNING

1963

TEN



COMMUNITY FACILITIES

X. COMMUNITY FACILITIES

The community facilities of Ironwood include all schools, municipal buildings, parks, and playgrounds provided by the city for the well-being of its residents. Although the city does not control all of the above services, it has a responsibility to the residents of the community to insure that adequate facilities are provided.

In general, Ironwood has a highly desirable and adequate array of municipal facilities and services. They were designed, financed, and constructed during the period of ascendancy and affluence, and most were in excess of facilities and services in comparable communities elsewhere. The changes of the city and regional economy and population, along with the erosion of time, necessitate many changes to meet modern demands with an ever-shrinking budget. The following is mainly a description of the facilities, with Planning Commission recommendations being reserved for the final report on comprehensive planning.

A. RECREATION AND PLAYGROUND FACILITIES

The provision and maintenance of adequate park and recreational facilities is a vital part of modern day community development. It is important to provide neighborhood play yards and tot lots for the youngsters, and it is also important to provide recreational facilities and athletic areas for teenagers as well as adequate adult recreation facilities and programs. The purpose of this study is to describe and evaluate the present park and recreation facilities in the City of Ironwood, to compare these with recognized standards for adequate recreation facilities, and to suggest types and locations for new recreation and park developments.

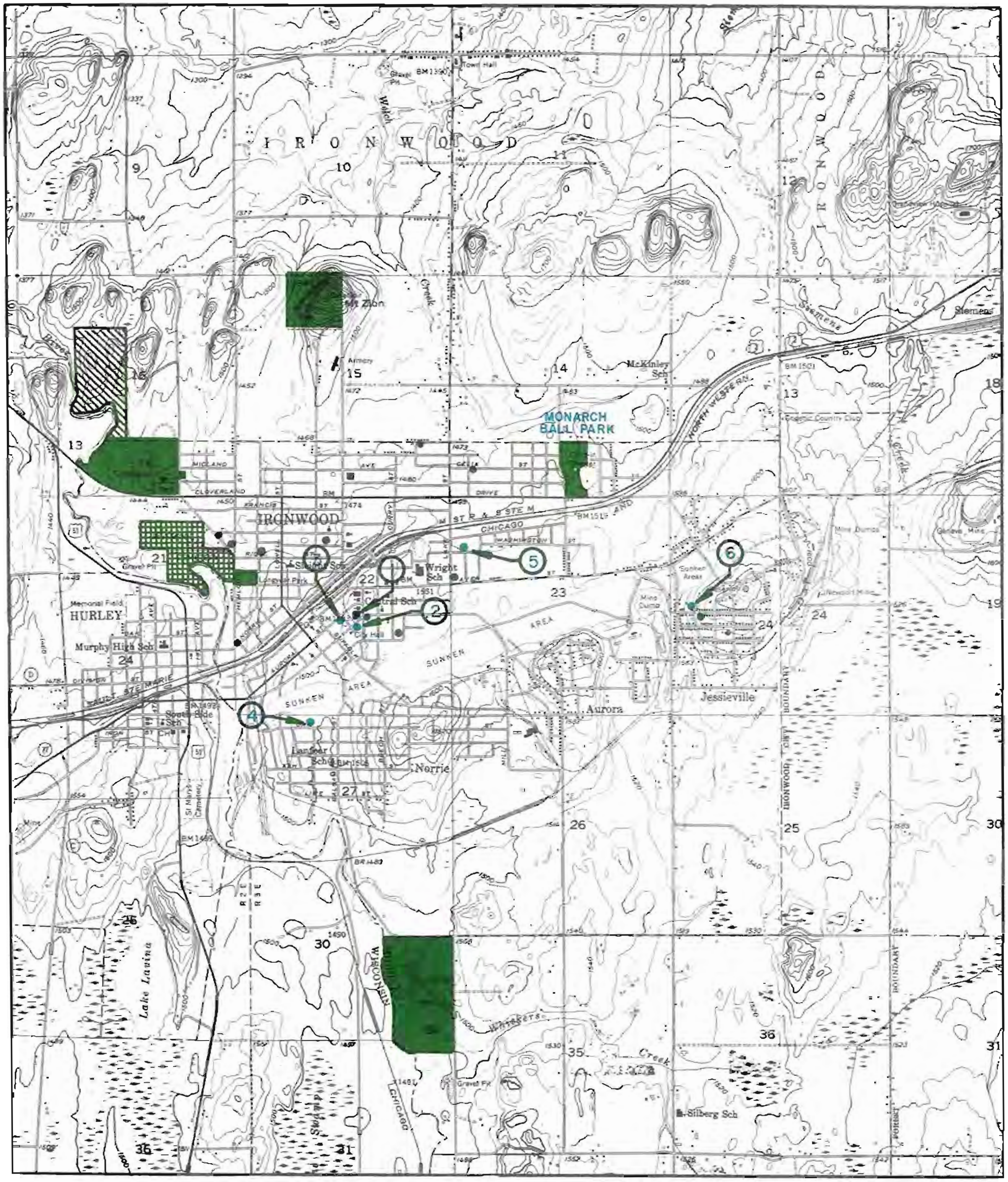
1. Park and Recreation Facilities:

The location of Ironwood's park and recreation facilities are indicated on Plate 20, Municipal Facilities. The park system in the City of Ironwood consists of three major facilities: (1) Mt. Zion Park north of the city, (2) Norrie Park south of the city on the Montreal, and (3) the tourist park on U.S.-2 in the northwest corner of the city. It is difficult to make a distinction between the function of recreation or playground facilities and park facilities in the City of Ironwood, for the three parks mentioned above provide multiple use facilities; because of their size and unique features, a differentiation has been made. The following is a description of each of the park facilities.

Mt. Zion Park: Mt. Zion Park is located approximately one mile north of the north city limits of Ironwood and includes the Mt. Zion Water Reservoir. The park provides winter recreation facilities for the residents of Ironwood and includes a ski tow and warming house. At one time, there was a challenging ski jump on the north slope, but it was apparently too rugged. The warming house contains a kitchen and concession stand and is used for meetings and dancing, but the facility is leased to the Mt. Zion Ski Club and is not maintained by the City of Ironwood. The steeply inclined, winding access road to the top of Mt. Zion is currently being rebuilt, after many years of disuse due to the cost of maintaining it in a safe condition.

The mountain-like ascent to the top of Mt. Zion, and the panoramic view of the entire Range and north to Chippewa Hill and Lake Superior, make this one of the most outstanding lookout points in the Midwest. When picnic tables and parking space is provided, and when tourists become aware of the existence of Mt. Zion, it will become a major attraction in causing more tourists to stay longer and spend more money in the Ironwood Area. This is an integral link in the proposed Gogebic Plan (Go-Plan) for tourist expansion.

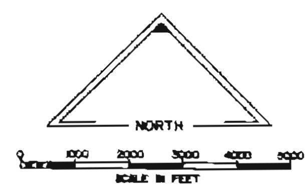
MUNICIPAL FACILITIES



LEGEND

1 ----MEMORIAL BUILDING
2 ----DEPARTMENT OF PUBLIC SAFETY
3 ----LIBRARY
4 ----CITY CONSERVATION CLUB BUILDING
5 ----CITY GARAGE
6 ----CITY STORAGE GARAGE

PARKS AND PLAYGROUNDS-
CEMETERY-----------
CITY DUMP-----------



COMPREHENSIVE COMMUNITY PLAN
CITY OF IRONWOOD, MICHIGAN

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PLATE
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The winter sports facilities add diversity to the region's attractions, for Mt. Zion complements Indianhead Mountain, White Cap Mountain, the Porcupine Mountain Winter Sports Area, and new developments such as the Copper Peak (Chippewa Hill) Ski Flying Area. Coordinated development and promotion are vitally needed.

Norrie Park: Norrie Park is located adjacent to the southwest corner of the city limits of the City of Ironwood, on the Montreal River, and it provides summer recreation facilities for the residents of Ironwood. The Kiwanis Club of Ironwood operates and maintains the park area and is primarily responsible for the development of this outstanding recreational facility. The facilities consists of a bathing area and beach on the Montreal River, a bath house and concession stand, and a spacious play and picnic area. This park provides one of the few swimming beaches on the Range, and it could add to the tourist appeal if handled properly.

Tourist Park: For many years the city has maintained a park on U.S.-2 in the vicinity of the county fair grounds and provides trailer and camping facilities. There is sufficient space to accommodate 30 trailers and the facility provides rest rooms and showers for both men and women. Operation of the facility requires one employee whose salary is paid in part by a $1.00 per day charge for trailers. With the new Michigan State Highway Department Tourist Information Center soon to be in operation just to the west on U.S.-2, this park is in an advantageous position to serve tourists and to entice them to stay longer in the area.

2. Playgrounds and Recreation Facilities:

In addition to the above described parks, which include the many recreation facilities, the city also maintains neighborhood playground areas at various points. There are seven such play areas and ball diamonds north of the tracks in the northern part of the City of

Ironwood, three playground areas between the tracks and the cave areas, and one additional playground area in Jessieville.

Ironwood's recreational facilities compare favorably with recommended standards of the National Recreation Association. The NRA designates three types of facilities; the play lot, playgrounds, and play fields. Play lots are designated for children under five and not a necessity in low-density residential areas such as characterize Ironwood. One acre of playground for the age group from five to fifteen, per one-thousand population, with a three to five-acre minimum to a single playground area, is favorable, and playfields for older age groups should be a minimum of ten to 20 acres with one acre per 800 population.

The above statistic would suggest that Ironwood have approximately 215 acres available for recreational facilities. It has been estimated that the city at present has over one-hundred acres developed and devoted to recreational activities.

3. Planning Criteria.

Definitive standards and minimum requirements for recreational space and facilities are not readily available and those that are available are antiquated and are useful only as general guides. In considering future recreational areas for Ironwood, several factors should be considered; (1) the city is located in a popular tourist and recreational area, and local residents and tourists engage in hunting, fishing, boating, sightseeing, hiking, and skiing, (2) another factor which must be considered is that many of the present park facilities were developed at a time when the population of Ironwood was much greater than it is today, and if the park system was anywhere nearly adequate for the city during a time when it had a higher population, it should be adequate for the present declining population. Recreational standards were lower then than now, but Ironwood built well, so it is in good shape today, (3) the average age of the population of Ironwood would indicate that more recreational facilities for older citizens may be required in the

future with less emphasis on playground and youth-type recreation programs. The future park development program for Ironwood must be considered in light of other city, county, and regional studies which have been made and related proposals made in the comprehensive plan.

B. MUNICIPAL FACILITIES

The buildings and services provided by a community for the convenience of the residents play an important role in city development. The city has a responsibility to its residents to provide adequate and efficient services, but at the same time, it must provide only those services which can be afforded and only those which are economic to provide and which improve the environment of the community.

It cannot be over-emphasized that Ironwood is caught up in a changing type economy. Many of the municipal buildings constructed by the city and many of the municipal services which have been traditional functions in the past are becoming a luxury which the City of Ironwood probably cannot afford. In reviewing the following structures, it must be kept in mind that many of the buildings were built at a time when the services provided by each facility were for a much larger population and the facilities were operated with a much larger budget than is available today. It must also be considered that since the advent of automobiles, radio, television, bowling, and many other things that have changed our behavior, the functional requirements of some municipal facilities have changed.

Each of the municipal facilities will be briefly described and evaluated in this section. A detailed description of each facility was presented by a subcommittee of the Ironwood City Planning Commission, that report being a model of citizen-participation, and it forms the framework for specific planning recommendations. The following photographs were taken by the Ironwood Department of Public Safety.

1. Memorial Building:

The Memorial Building is located on McLeod Street, immediately east of the business district, and by present day standards, would be the pride of any community much larger than Ironwood. The building was constructed in 1921 of steel and concrete, with marble walls at the entrance and terrazzo flooring throughout the building. Originally, the building was used as a complete community center, providing a swimming pool, theater or auditorium, kitchen and banquet facilities for social gatherings, and office and meeting space for various organizations. This is the most imposing structure and commands one of the finest sites in the city. It stands as a monument to the Ironwood and mining wealth of yesteryear.

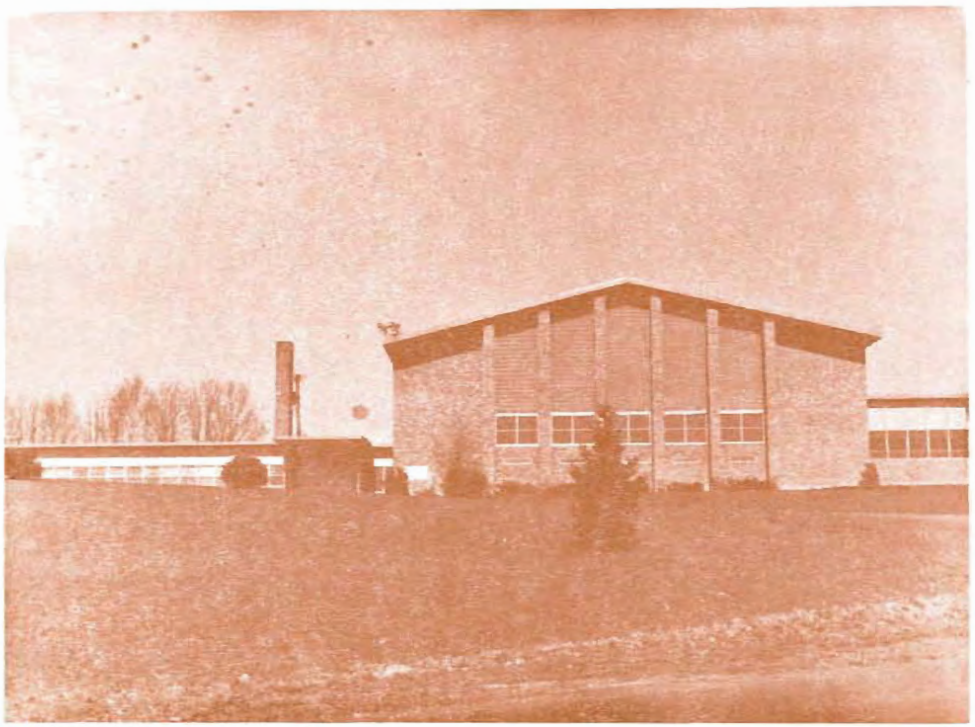
At the present time, the building houses the municipal offices on the first floor and there are a few municipal offices, a number of other agency offices and organizational meeting rooms on the second floor. The basement houses the American Legion which occupies approximately one-third of the downstairs floor space, and there is also a basketball court and swimming pool. The Memorial Building is of significance to the residents of Ironwood and plays an important role in the social activities of the community, although the social function was probably much more important in earlier years than it is now. Maintenance and operating costs of the Memorial Building average $30,000 per year, and the only revenues are minimal fees obtained from various organizations for use of the facilities. There is no fixed revenue from the building because the use varies from year to year, however, it is safe to say that the building operates at a considerable loss.

There are several courses available to the city for elimination or reduction of the large operating cost involved in utilizing the Memorial Building. If economics were to be the full consideration in charting the future course, then the obvious answer would be to board up the building and construct a new, efficient city office building or

4. LIBRARY

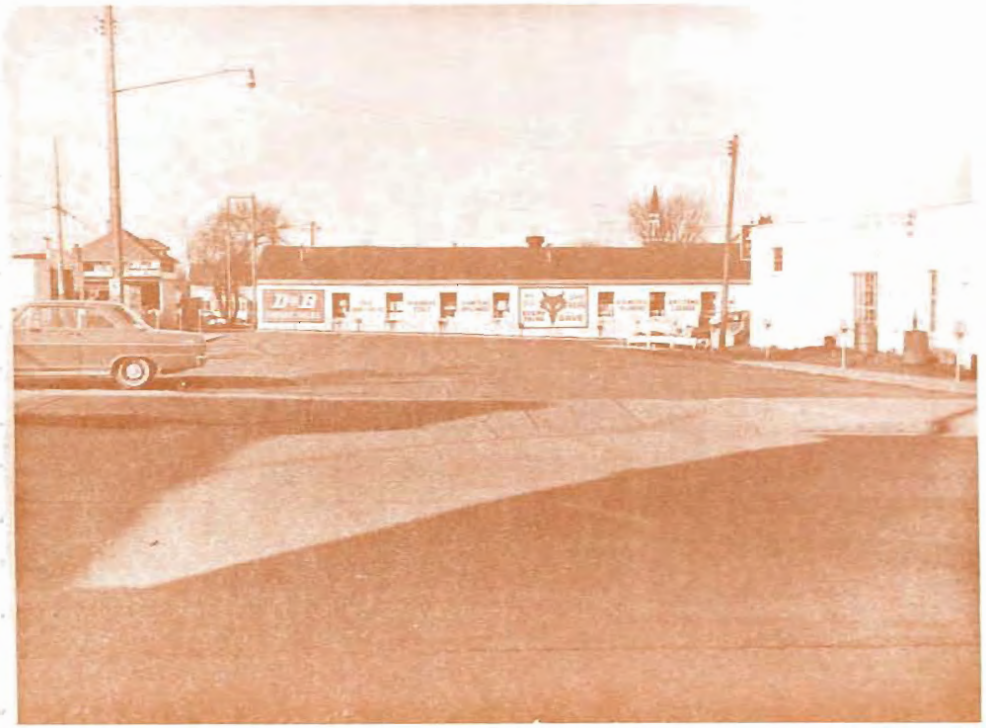
3. MEMORIAL BUILDING

5. MAUSOLEUM



6. ARMORY

7. CITY PARK



8. OFF-STREET PARKING

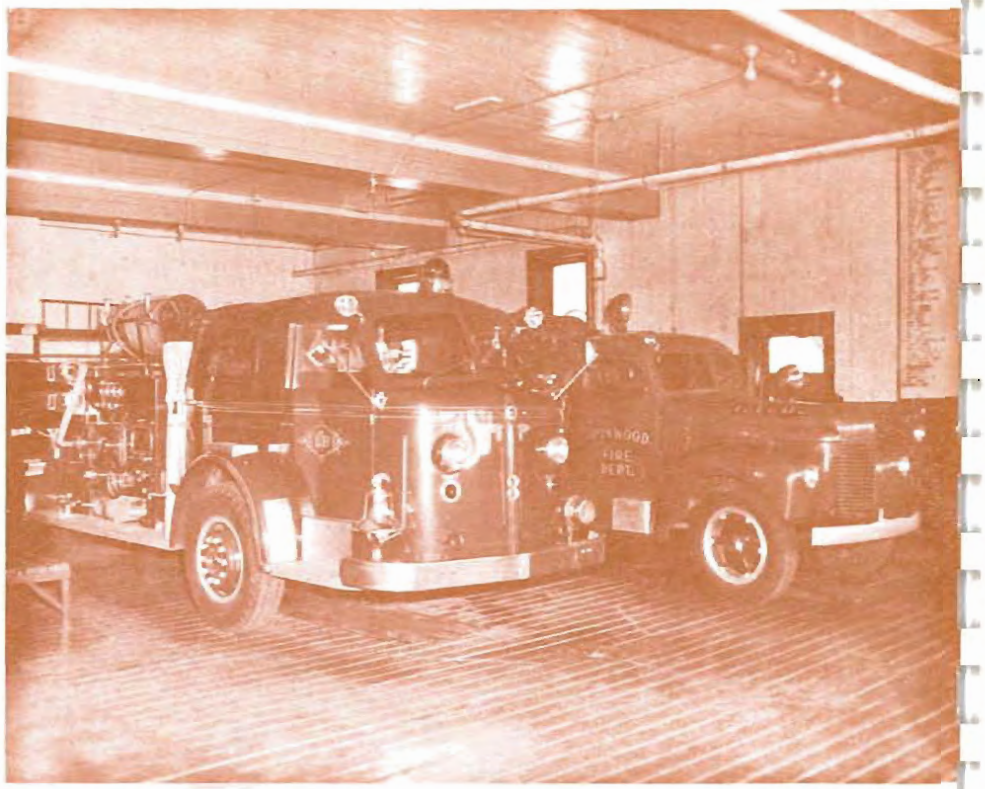
9. WARMING SHELTER,
MT. ZION SKI PARK

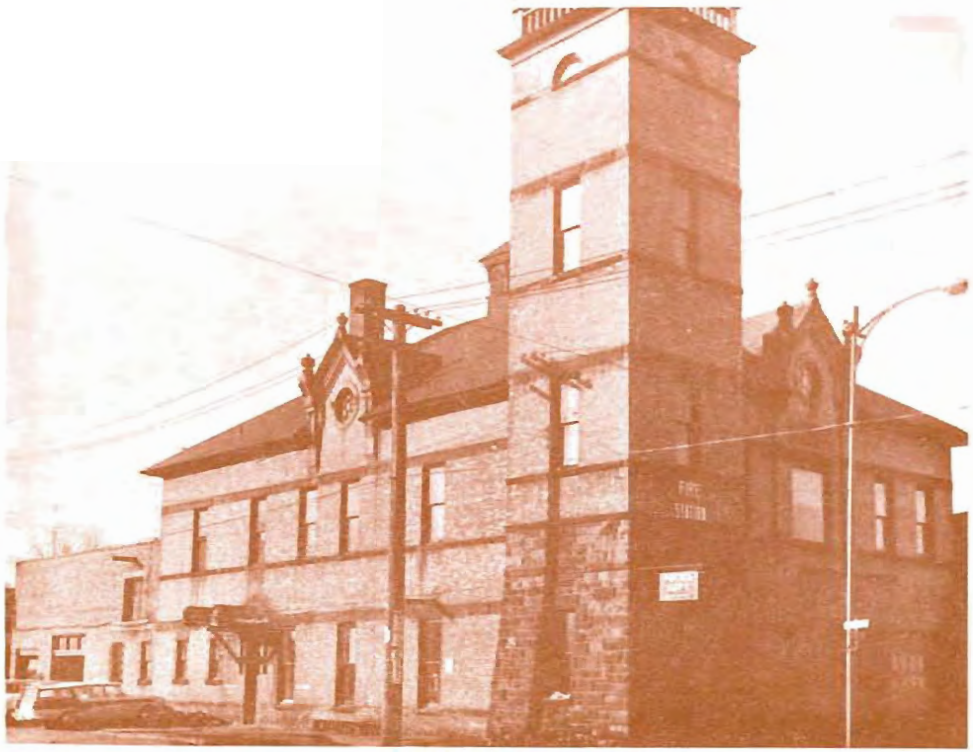
10. BATHHOUSE, NORRIE PARK

11. GARAGE

12. GARAGE

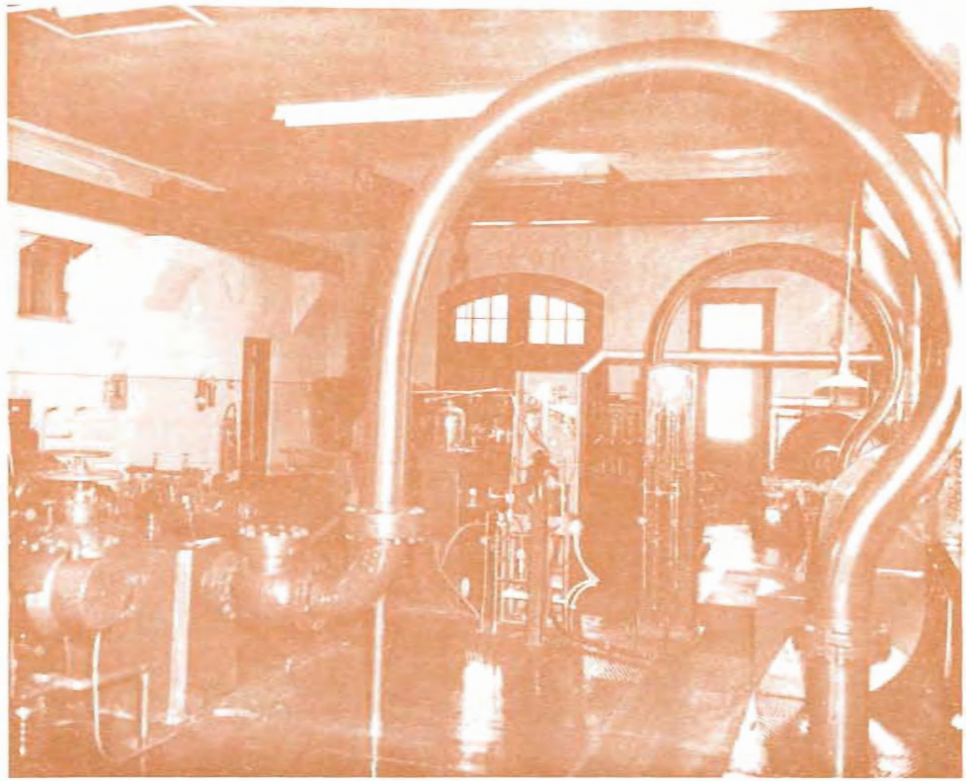
13. FIRE EQUIPMENT





14. FIRE STATION

15. WATER WORKS



16. CARETAKER'S RESIDENCE

17. WATER PLANT

18. SEWAGE DISPOSAL PLANT

rent either new or existing space elsewhere for municipal offices.

In considering the tradition of the building and in evaluating the benefit which the city derives from its existence, this drastic measure might be an example of false economy. A more reasonable solution might be the consolidation of city offices into one section of the building and the remodeling of the remaining area for lease to other governmental or private non-profit organizations.

It has been suggested that relocation of municipal offices to another building would make the Memorial Building available to the Gogebic Community College which is presently housed and functions as a part of the Ironwood High School. Such a change has many merits and problems, as will be discussed in the comprehensive plan. While on the subject, however, the advantageous location of the Memorial Building with regard the library, the business district, and the schools lends strength to this suggestion. Urban renewal and redevelopment is needed in the area surrounding the Memorial Building, and relocation of the college could provide a worthy impetus.

Before making any further recommendations, it would be well to review other municipal buildings in the city and the possible consolidation of functions. The solution to this problem cannot be presented in this report, as future development of municipal facilities depends heavily on the development of other factors which affect the City of Ironwood. A basic part of the comprehensive plan will be a discussion of proposed recommendations in regard to municipal facilities.

2. Maintenance and Storage Garage:

The City of Ironwood has storage and maintenance facility floor space totaling 14,900 square feet in two buildings located on Lake Street. One building is 70 x 110 feet and is used for storage and housing of Street Department equipment. The building was constructed in

1930, is of steel and concrete block construction, and is in usable condition.

The second building is located behind the storage garage, was erected in 1942 of steel and block, and it too is in satisfactory condition. This building houses a machine shop, blacksmith shop, welding shop, and repair shop, and is also used for equipment storage. Both buildings are well equipped and provide adequate storage facility for equipment stock, inventories, and machine shops, but there is a lack of available storage space for construction materials. Considering future population conditions for Ironwood, it is doubtful that the storage and stockroom facilities will have to be enlarged in the near future, but storage space should be provided for housing of construction materials which is now stockpiled outside. It is also possible that other structures could be acquired and used for storage in various parts of the city.

3. Department of Public Safety:

The Department of Public Safety is housed in the old city hall and is located in the heart of the city. The building was erected in 1890 and is of brownstone and brick. Until recently, the building housed a full-time fire department and provided sleeping and dining quarters in the upstairs section. At the present time, it is being used as a volunteer-type fire department and as the police headquarters, in accord with the recent integration of the police and fire functions.

The building in its present condition is unsafe for extended use and does not provide sufficient space for efficient police and fire protection operation. Consideration should be given in a comprehensive plan to remodeling or relocating the Department of Public Safety. The outward appearance and design of the building could contribute to a historical theme should this become a part of the redevelopment plan. Its proximity to the Memorial Building suggests that the old city hall might

be preserved as a part of the campus or civic area development, especially if the college were to be moved to the Memorial Building.

4. Library:

In 1900, the City of Ironwood constructed the Carnegie Library upon receipt of a $12,000 grant from the Carnegie Library Foundation. The Library contains at the present time 25,200 volumes, representing a total investment of over $50,000. The Library is of stone and brick construction and is in a reasonably good state of repair. A number of major improvements and expansion are necessary if it is to fulfill modern library functions, and especially if it is to augment an expanded community college and adult educational program.

The Library Subcommittee of the Education Committee of the Gogebic County Planning Commission has recommended either a county-wide library system or a federation of the several existing libraries. Should this attain, consideration must be given to a much better-equipped city-county library, and this would become an integral aspect of Ironwood's civic and campus area redevelopment.

5. Cemetery and Mausoleum:

The City of Ironwood cemetery embraces 48 acres which will be sufficient for the foreseeable future needs of the area. Maintenance cost of the cemetery amounts to $30,000 a year, but it is hoped that the earnings from the sale of lots will be sufficient to operate on a self-sustaining basis. The Mausoleum was constructed in 1928 and provides a receiving vault for 100 bodies, and the cost of operation is included in the cemetery operating schedule.

6. City Dump:

The city owns 64 acres north of the fair grounds in Ironwood

Township which is used for the disposal of rubbish and garbage, with weekly pickup by the city. The present operation of the dump is just that, and it is suggested that this area be converted to either a sanitary land fill type of operation or some similar process for the elimination of smoke and odor.

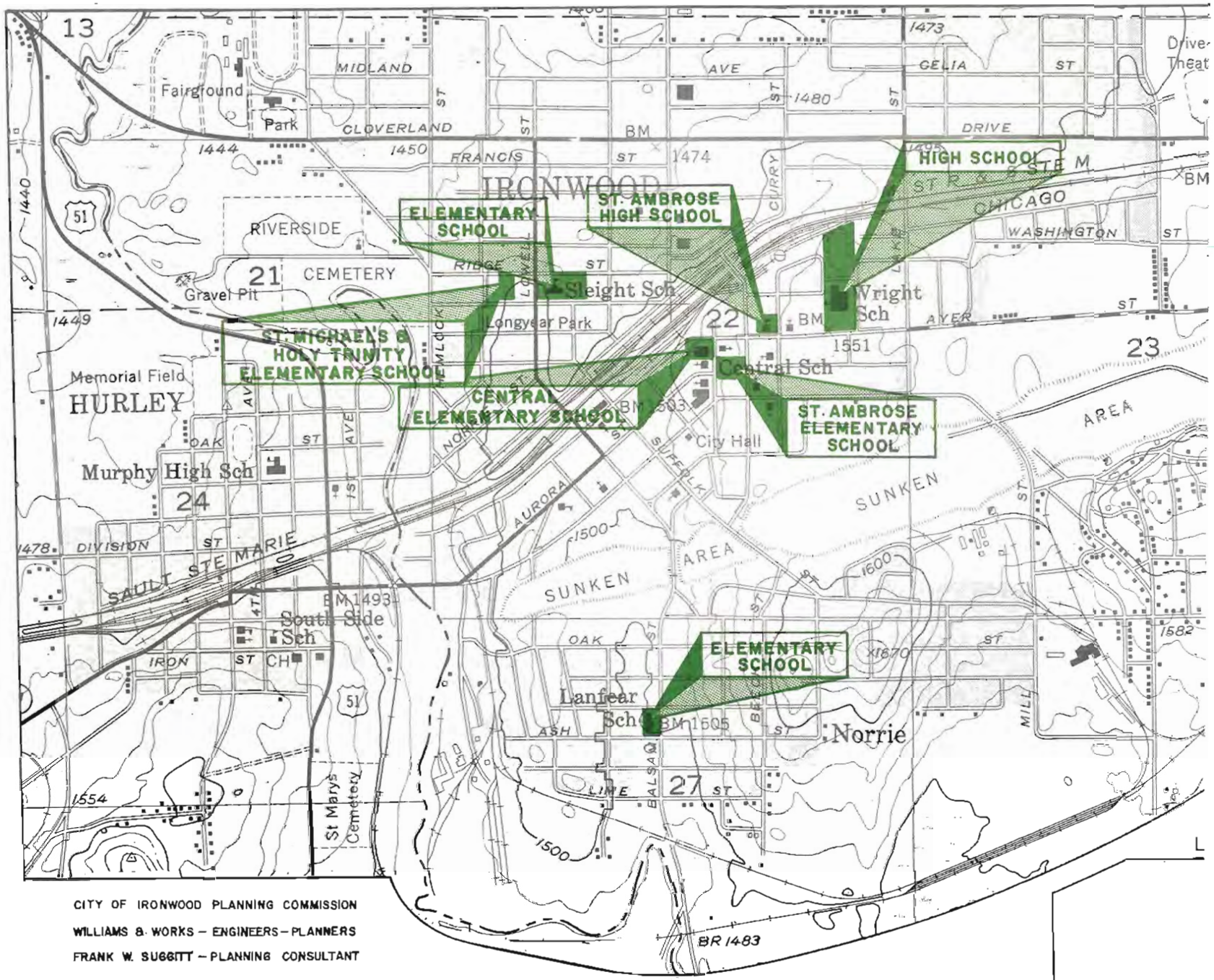
The dump is located in an area that has considerable potential for recreational development, and if that attains, a new dump site (or sanitary fill site) should be considered. The presence of a scenic waterfall on Montreal River and the proximity to the proposed greyhound track would suggest that a higher use be planned for the present dump area.

C. EDUCATIONAL FACILITIES

The accompanying map, "Educational Facilities" indicates the location of public and parochial school properties. The public high school also houses the Gogebic Community College which is an integral part of the Ironwood City School District.

This phase of the report on foundations for the planning of Ironwood merely presents the highlights of the city's schools, with the hope that this will provide factual background for the Planning Commission's final comprehensive planning recommendations. School reorganization is currently of high priority in Gogebic County, along with expanding the role and function of the Gogebic Community College. The Ironwood City Planning Commission can perform a vital service by offering sound recommendations to the public schools, the private schools, and the college.

County-level committees of the Gogebic County Planning Commission are currently studying school district reorganization, college expansion and library reorganization. Ironwood must likewise broaden its perspective to include county and regional factors in this vital phase of its planning program.



CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS – ENGINEERS – PLANNERS

FRANK W. SUGGITT – PLANNING CONSULTANT

NORTH

0 1000 2000 3000 4000

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN

CITY OF IRONWOOD, MICHIGAN

1. Physical Plant:

There are five public school buildings, the high school serving the entire city and Ironwood and Erwin Townships, and the four elementary schools serving more localized neighborhood areas. There is also the St. Ambrose High School and two parochial elementary schools.

The Gogebic County School Area Study, completed in 1961, indicates that the average age of the public school buildings in Ironwood is 41 years and that there have been no structural additions to any of them. The oldest building was erected in 1914 and the last new construction was in 1930. A point-score system was used in evaluating the present (1961) condition of all school buildings in the county, and on that basis the Ironwood high school and one elementary building rated "B-satisfactory" and the other three elementary buildings rated "C-fair." The value of public school land was placed at $143,175, and the value of Ironwood public school buildings and contents is shown in Table 25.

TABLE 25. VALUE OF IRONWOOD PUBLIC SCHOOL BUILDINGS AND CONTENTS:

	Building	Contents
L. L. Wright High School	$1,387,600	$223,000
Central	435,600	29,000
Sleight	223,000	23,000
Newport	403,000	25,000
Norrie	285,000	28,000

The St. Ambrose Elementary School is an outstanding, modern facility, the newest and finest school building in Gogebic County. The parochial high school, however, is an ancient three-story frame structure that does not contribute either to the aesthetic appearance of the

city nor to the safety and welfare of the pupils and teachers.

2. Enrollment:

The enrollment in the Ironwood Public School System has remained remarkably stable during the past ten years, in spite of a city-wide population decrease of 14 percent or nearly 2,000 people. The total enrollment for the 1962-63 school year was 2,134, as compared with 2,102 a decade earlier; high school enrollment rose from 706 in 1952-53 to 733 ten years later; two of the four elementary schools lost a total of 92 pupils, but the other two gained 97 during the decade. The school census in May, 1953, was 131 more than in May, 1962, there having been a decrease of 221 pre-school age youngsters (under 5 years of age) and an increase of 90 in the 5 to 19 age group.

The 1962 enrollment in the St. Ambrose High School was 130 and in the grade school, it was 281. The student enrollment represents 280 families.

3. Operation:

The operation of the Ironwood School District, including the Gogebic Community College, represents one of the largest industries in the county, and the injection of state aid for schools is one of the most important sources of new wealth in the entire region. The operating budget of the Ironwood schools is nearly twice that of Gogebic County government, and is appreciably more than the municipal budget of the City of Ironwood.

Over the past 6 years, there has been an upward adjustment of the school budget and an increasing incidence of local taxes, accompanied by a decrease of state aid.

TABLE 26

ENROLLMENT
IRONWOOD PUBLIC SCHOOLS
1952-53 to Present

Year	Central	Newport	Norrie	Sleight	High School	Total
1952-53	335	361	325	375	706	2102
1953-54	341	357	353	381	710	2142
1954-55	423	355	355	313	701	2147
1955-56	436	355	359	324	721	2195
1956-57	404	339	349	336	717	2145
1957-58	399	350	354	353	733	2189
1958-59	407	360	359	341	718	2185
1959-60	417	363	366	335	698	2179
1960-61	442	354	340	336	682	2154
1961-62	456	365	361	333	706	2221
1962-63	417	335	340	309	733	2134

TABLE 27

SCHOOL CENSUS
IRONWOOD PUBLIC SCHOOLS

1953 - 1962

Year	0-4 Years	5-19 Years	Total
May 1953	995	2557	3552
May 1954	987	2571	3558
May 1955	954	2620	3574
May 1956	943	2597	3540
May 1957	950	2604	3554
May 1958	949	2621	3570
May 1959	897	2664	3561
May 1960	873	2656	3529
May 1961	839	2712	3551
May 1962	774	2647	3421

TABLE 28. IRONWOOD PUBLIC SCHOOL OPERATING BUDGET:

	Total Budget	Total From State (%)
1962	$1,063,965	47.95
1961	1,085,135	50.46
1960	992,663	56.25
1959	950,495	52.22
1958	967,558	48.27
1957	853,528	56.27

In 1962, the expenditures of the St. Ambrose Schools totalled $35,243 and in 1961, the total was $33,243, not including the cost of utilities, capital investment or maintenance of the home for the Sisters. Total receipts in 1962 were $8,890 and in 1961, they were $11,549, indicating that significant subsidy was necessary to make ends meet.

4. Gogebic Community College:

The following is excerpted from the recent report, A Continuing Program for Economic and Physical Planning and Development, prepared by the Gogebic County Planning Commission. It should be reiterated that the college could be the impetus and focal point for an urban renewal and redevelopment program for the City of Ironwood, as well as functioning as the rallying and coordinating nucleous of many other aspects of the economic, social and physical redevelopment of the entire Gogebic Range.

"The Gogebic Community College derived its present name in 1953 to indicate that its services were available to the entire Gogebic Range, and since 1938 the Gogebic County Board of Supervisors have contributed modestly to its support. In June, 1931, the taxpayers of the City of Ironwood authorized the creation of the Ironwood Junior College and in

the fall of 1932, the first students were enrolled. This is a two-year college, housed in the Ironwood High School and administered and controlled solely by the Board of Education of the Ironwood School District. There is a College Advisory Board made up of representatives of the several school districts and of the County Board of Supervisors, but it is without authority and its function has been questioned.

"In the 30 years of its operation, this institution has graduated nearly 1,200, about 80 percent of whom went on to four-year colleges and universities while the others utilized their acquired knowledge and skills and have either remained in the area or have migrated. It is likely that the majority of those 1,200 people would never have gone to any college had it not been for the convenience and economy of the community institution. Many of today's leading citizens of the Gogebic Range are the products of the Community College and are quick to give credit where it is due. In addition, the college has provided many adult educational programs, summer schools for teachers, civic and cultural programs and has been the leader in many worthwhile activities.

"The Area Study Report of 1961 is endorsed by the Education Committee of the Gogebic County Planning Commission in its recommendation that the college be divorced both physically and legally from the Ironwood School District and that it be established as a separate county-wide or regional entity. This would be possible in accordance with Act No. 188, Michigan Public Acts of 1955, whereby a Gogebic County Community School District could be organized and the tax base of the entire county or region would help support it, along with state aid, tuition, fee payments, and gifts and grants.

"It has also been suggested that the college become a branch of an existing state supported four-year institution such as Houghton Tech or Northern Michigan University at Marquette. Although the Russell Report on Higher Education in Michigan frowns upon branch colleges, it does recommend community colleges where an enrollment of at least 200

TABLE 29

GOGEBIC COMMUNITY COLLEGE

Enrollment Figures

Year	College Credit Students	Graduates	Adult Evening Students (Approx.)	ARA	Co-sponsored Extension & Summer Session (Approx.)
1932	188				
1933	228	74	?		?
1934	192	36	?		?
1935	205	43	?		?
1936	224	37	?		?
1937	197	49	?		?
1938	191	35	?		?
1939	189	60	?		?
1940	167	51	?		?
1941	134	34	?		?
1942	80	24	?		?
1943	30	10	?		?
1944	18	7	?		?
1945	120	11	?		?
1946	325	23	?		?
1947	258	89	?		?
1948	189	50	150		120
1949	195	49	125		120
1950	126	38	100		120
1951	77	17	95		130
1952	135	23	90		120
1953	99	34	85		120
1954	114	25	90		110
1955	129	42	85		110
1956	128	34	85		100
1957	139	43	90		120
1958	189	41	90		100
1959	169	35	85		100
1960	194	43	90		100
1961	296	53	70		100
1962	236		60	72	100

TABLE 30 GOGEBIC COMMUNITY COLLEGE

Revenue

Year	Tuition Fees	County	State	Other	School District *Contribution	Total
1957-58	26,617.80	5,000.00	26,081.30	2,685.19	26,550.00	86,934.29
1958-59	33,125.70	(1)4,500.00	35,526.20	1,545.71	26,550.00	101,247.61
1959-60	29,387.15	7,500.00	32,152.20	2,043.50	26,550.00	97,632.85
1960-61	42,394.66	(2) ---	40,036.50	2,298.00	26,550.00	111,279.16
1961-1962	53,203.00	9,000.00	46,494.00	1,606.81	26,550.00	136,853.81

* Budget allocation; represents value of facilities and services.
(1) $1,500 received after June 30; included in following year's receipts.
(2) $6,000 received after June 30; included in following year's receipts.

Expenditures

Year	Actual Cash	School District Contribution	Total
1957-58	61,869.79	26,550.00	88,419.79
1958-59	68,575.66	26,550.00	95,125.66
1959-60	74,059.36	26,550.00	100,609.36
1960-61	80,273.77	26,550.00	106,823.79
1961-62	100,206.31	26,550.00	126,756.31

can be assured*. Enrollment at the Gogebic Community College has been in the vicinity of 200 the past several years, immediately after World War II, it reached 325, and the 1962 graduating class of 61 young men and women was the third largest in the history of the college. In view of the dwindling tax base of Ironwood and Gogebic County, a branch of one of the state-supported institutions might be the only alternative, although this entails numerous disadvantages that should be evaluated.

"Many things can be enumerated to justify the reorganization and expansion of the Gogebic Community College, one way or another, yet arguments can be presented for its abandonment in view of local financial conditions. A special subcommittee is studying the situation and alternatives, but this committee is dominated by educators and it is feared that it will be bogged down by political and jurisdictional conflicts.

"What is needed is an objective analysis, supervised by a citizen's committee, in which every possible alternative can be evaluated, in the light of the college's potential relationship to the overall economic and physical development of the entire Gogebic Range Region. Such an analysis can merely be outlined in the present report (final chapter), but its importance cannot be minimized. A reorganized and reoriented regional college could be the rallying point for many other developmental programs such as the vocational retraining program, the proposed Youth Employment Opportunities Program, and as a national conference and training center for area redevelopment, as an adjunct to the need to develop the conference and convention phase of tourism."

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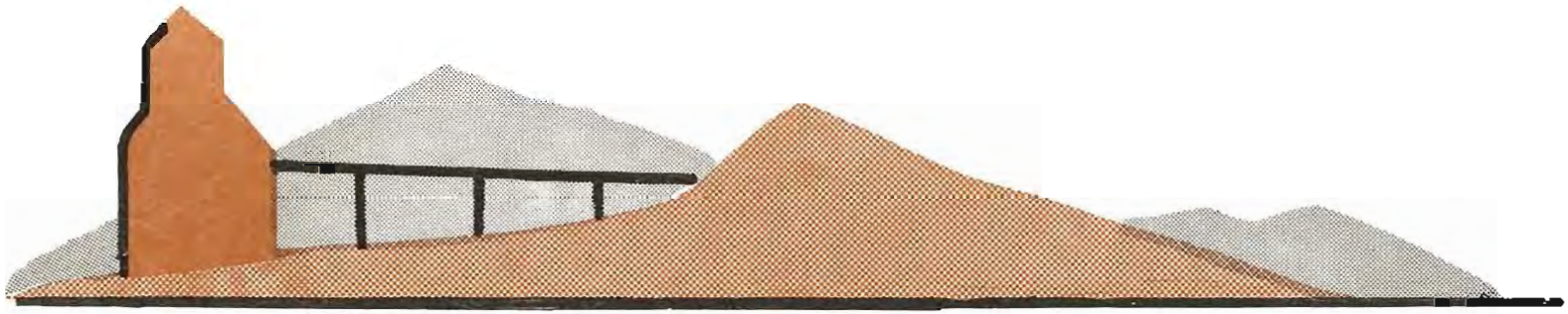
* Russell, John Dale, Higher Education in Michigan, Legislative Study Committee Final Report, 1958, pp. 97 and 134.

FOUNDATIONS FOR PLANNING 1963

ELEVEN



TRANSPORTATION

XI. TRANSPORTATION

Ironwood owes its original establishment, its shape, and configuration, and its past economic development to transportation. Rail, highway, air, and water transportation now link the people and resources of Ironwood with the rest of the World, and within the city, streets and railroads permit the movement of people and goods from one part to another. Regional and interregional transportation improvements are vital to the economic future of Ironwood if the time-distance-cost factors are to at least partially overcome the city's remoteness from its major markets.

Internal circulation, within the city, must also be inventoried and evaluated. The recommended improvements within the city will become major phases of the final comprehensive plan, so it is appropriate that this last section of the "Foundations for Planning" concern itself with the circulatory system, for it, like the circulatory system of the human body, nourishes and sustains the urban organism. The network of streets and railroads can also be likened to the skeletal framework, for they are generally rigid and determine the shape and arrangement of the various parts of the urban body.

A. THE ROLE OF TRANSPORTATION

Circulation takes place over permanent facilities which occupy from twenty to forty percent of the total developed land in urban areas. Because they are permanent, they determine the shapes of blocks and the various land uses within them, and they help fix the boundaries of residential, commercial and other major land uses. The transportation system is the skeleton or major structural element of an urban community, as well as functioning as the circulation arteries.

For most cities, this skeleton was formed many years ago when the cities were first founded. With modern technology and innovations, many of the principles and standards used in laying out the original transportation systems have become obsolete and outdated. Years ago transportation movement was slow, there were no cars or trucks, people lived in close proximity to one another and numerous right angle interchanges were of little danger. Today, with our almost complete reliance upon motor vehicles and with our high speed traffic, people are spreading out, traveling farther in a shorter amount of time and busy intersections become harmful to both vehicular and pedestrian traffic. Positive steps must be taken to restore efficiency and safety to the once popular gridiron street pattern.

As changes in land use are recommended in urban redevelopment, corresponding changes in transportation are necessary, along with changes in the utilities and services which serve land and make it usable or unusable. Proper identification of overall planning objectives when linked with identification of transportational needs can result in a coordinated approach to redevelopment.

B. REGIONAL TRANSPORTATION

Attention is directed to the detailed account of the regional transportation system in the report of the Gogebic County Planning Commission. Only passing reference will be made to it at this point in the Ironwood planning program, although the regional connections are the lifeline of the city's future.

1. Ports and Harbors:

Development of the iron deposits of the Gogebic Range would not have been economically feasible except for their proximity to the Great Lakes. Ashland, on Lake Superior, has been the major port serving

TRANSPORTATION FACILITIES

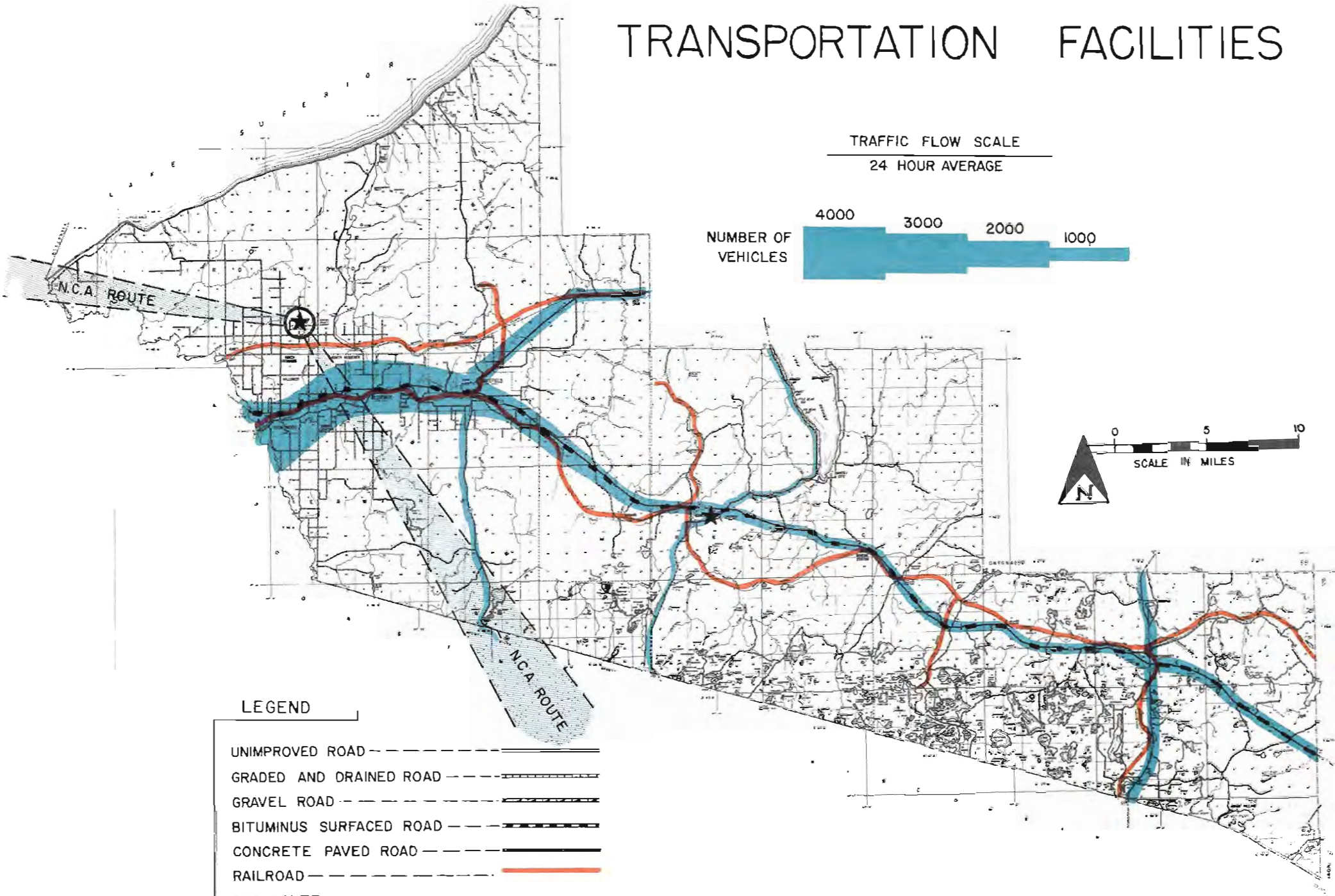


PLATE 22
1963

the Range over most of the region's history, but more recently ore dock facilities at Escanaba have permitted a shorter water haul without the necessity of passing through the Soo locks, but this requires a longer rail haul to the lakehead on Lake Michigan.

The absence of port facilities at Ironwood limit its chances for economic development, but improvement of nearby ports could be extremely beneficial. There are encouraging movements underway for Federal appropriations for a $4,000,000 deep sea port at Ontonagon, and this has important implications for Ironwood. Such a facility would improve the competitive position of the White Pine Mine, and since it is the largest single employer of Gogebic County people, this is significant. It is also likely that the Huss-Ontonagon Paper Plant would be a stronger bidder for Gogebic County forest products and that it would be more likely to expand its operation with a port facility.

The small boat harbor at the mouth of the Black River was recently improved under the Federal-state-local harbor refuge program and it is significant to the county economy. At Saxon Harbor, just a few miles west of Little Girls' Point, the Iron County Board of Supervisors envisions marina improvements. A similar program is under study in Ontonagon in connection with that community's comprehensive planning program. Both the pleasure boating and the deep sea shipping fields have untapped potentials that could be valuable to the future of Ironwood.

2. Railroads.

Two railroad systems serve Ironwood and link it with the rest of the continent. The Chicago and Northwestern Railroad traverses Gogebic County from east to west and the Soo Line Railroad traverses the northern portion of the county, with a line from the west into Ironwood.

The Chicago and Northwestern extends east to Iron River, Iron Mountain, Escanaba and thence north to Marquette, to Ashland on the west,

and south to the metropolitan areas of southeastern Wisconsin and northeastern Illinois. The Soo Line is the result of the recent merger of the Duluth, South Shore and Atlantic and the Minneapolis, St. Paul and Sault Ste. Marie and the Wisconsin Central; it links Ironwood with the Copper Country, Marquette, and the Soo, and extends west to Montana and Manitoba and south to Minneapolis and Chicago.

Southbound passenger service is provided by two C. & N.W. trains daily, leaving Ironwood at 9:20 a.m. and 6:10 p.m., and incoming passenger trains from the south arrive at 8:20 a.m. and 9:30 p.m. Travel time between Ironwood and Chicago varies from 10 to 13 hours, depending on the passenger train. The C. & N.W. has a way-freight to and from Watersmeet 6 days a week, and the regular freight leaves for Escanaba Mondays and Thursdays and returns Wednesdays and Saturdays. A time freight leaves Hurley 6 days a week at 9:30 a.m., arriving in Chicago the next morning. The Soo Lines have no passenger service to Ironwood, and freight service is provided by a daily train between Duluth and Marquette.

Both railroads have large warehouses and many spurs in Ironwood. A total of 84 local railroad employees drew an aggregate payroll of about $600,000 in 1962. In that year, the C. & N.W. hauled 1,400,000 gross tons of iron ore to the dock at Escanaba and 157,000 tons to Ashland, and the Soo Lines shipped 1,000,000 tons to Ashland.

It is obvious that the railroads serving Ironwood depend heavily upon the future of iron mining, and that the economy is substantially aided by the local expenditures of the railroads. The railroads have been extremely cooperative in attempting to improve the economic climate of the area. A great deal of staff time has been spent in attempts to improve mining conditions and in assistance in reforestation and in other aspects of economic development.

3. Motor Freight:

Two motor transport firms are located in Ironwood, along with a mobile homes drive-away and a moving van firm. Two other movers from Duluth and Iron Mountain do business in the city. The two local firms have offices and terminals in the city, and approximately 8 loads of freight are handled locally each day. Connections are available with terminals and other transport firms to provide service to and from any place on the continent. The two firms employ a total of 20 people locally, and the annual payroll is around $130,000. For transient trucking firms, there are sales, repair and service establishments in Ironwood for every kind of equipment.

4. Motor Bus Service:

The Greyhound and Zepher Bus Companies serve Ironwood and connect with other terminals to the east, west, and south. Three buses a day provide passenger and small freight service as follows:

To: (outgoing)	Leave	Arrive	Travel Time
Marquette, Mich.	7:18 p.m.	3:05 a.m.	7:47
Duluth, Minn.	5:45 a.m.	8:50 a.m.	3:05
Chicago, Ill.	7:18 p.m.	11:00 a.m.	15:42
From: (incoming)			
Marquette, Mich.	11:55 p.m.	5:45 a.m.	5:50
Duluth, Minn.	4:00 p.m.	7:18 p.m.	3:18
Chicago, Ill.	4:15 p.m.	5:45 a.m.	13:30

An average of 10 passengers per day arrive and depart by bus.

5. Taxi, Rental Cars, Express, and Travel Agents:

Seven firms provide taxi service to the Range Region and are based in the three cities of Gogebic County and in Hurley. Rental cars are available from two sources and airport limousine service is available.

The Railway Express Agency maintains an office and terminal in Ironwood, along with its Air Express Division at the Gogebic County Airport. Ambulance service is provided by three firms in the county. There is one travel agency in Ironwood, and a Duluth ticket agency also maintains an office in Gogebic County.

6. Aviation:

A detailed analysis of scheduled airline service and of general aviation was prepared as a parallel to the comprehensive planning programs of Gogebic County and its municipalities. That report forms the basis of the exhibit and testimony for the maintenance of scheduled airline service at the Gogebic County Airport in connection with the Civil Aeronautics Board North Central Area Airports Investigation (See CAB Docket No. 13743).

Improvements in the field of aviation are of vital importance to the economic future of Gogebic County and its four-county airport service region. Evidence has been supplied by the White Pine Mining Company, the Indianhead Winter Sports Resort and by many other area businesses and industries to substantiate the fact that Gogebic County is emphatically in the air age and that it must get further into it if the barrier of distance and time-enroute is to be minimized.

The complete report and the hearing testimony should be consulted for further details, along with the report of the Gogebic County Planning Commission. Suffice it to say that Ironwood is the major

originator and recipient of airline traffic, and that it stands to gain the most from continued improvement.

7. Trunkline Highways:

Ironwood is served mainly by U.S.-2, which extends from Interstate 75 at the Mackinac Bridge across the Upper Peninsula and westward to Ashland, Duluth and ultimately the West Coast. This is an important east-west transcontinental artery for both American and Canadian automobile and motor transport traffic. It is the most northerly east-west route in central and western United States, and as such it is an important collector-distributor route.

Intersecting with U.S.-2 at Hurley is U.S.-51 which brings traffic north from central and southern Wisconsin and the Chicago area. U.S.-45, a major transcontinental north-south route, intersects with U.S.-2 at Watersmeet, thus linking the metropolitan region with the Ironwood-Gogebic area.

The regional importance of the Bi-State Gogebic Range Urban Complex is dramatized by the fact that in 1962, more than three and one-quarter million vehicles crossed the Montreal River on U.S.-2 and U.S.-2 Business Route between Ironwood and Hurley. The average daily traffic on the two routes combined was 9,100. Only one other point in the Upper Peninsula registers more vehicles per day, that being just north of Escanaba on U.S.-2, and between Houghton and Hancock the volume is about the same as at Ironwood.

Figures 10 and 11 graphically compare the average daily vehicle volumes on U.S.-2 at Ironwood with select points across Gogebic County and across the region from Duluth to the Mackinac Bridge and Sault Ste. Marie. The dotted lines at Ironwood refer to the volume on U.S.-2 Business Route which meanders through the heart of the central business district. For a city its size, Ironwood has an extremely high

volume of traffic and a very poor mechanism to promote smooth, speedy flow.

C. LOCAL VEHICULAR FACILITIES AND TRAFFIC

At the community level, street and highway circulation is of most importance. To determine the character of the street system, a street classification survey was conducted and a field study of each street in the city was classified as to surface type, as shown on Plate 23, Street Classification Map. In determining the future needs for Ironwood, it is obviously essential to know the present conditions and the types of surface of each street. It provides a base from which further studies are required and it aids in the evaluation of the overall street system as a land and facility service and development instrument.

A traffic flow or volume study is conducted by the placement of traffic counters on various streets at different times during the day. The results of this survey are shown on Plate 24, Traffic Flow Map. The volumes of peak hour traffic are represented by the width of the red line for each street.

Considering both the Street Classification Map and the Traffic Flow Map, some interesting and pertinent factors can be concluded. The highest volumes of peak hour traffic are found in the central business area, and the larger volumes of traffic are an indication of traffic conjestion. Further indications of congestion result from a major railroad route, numerous intersections, numerous short streets, and the lack of sufficient streets to smoothly carry traffic to and from this central area.

The low volume of traffic south and east of the sunken mine area, particularly the area east of Norrie indicate that this area is not supporting itself in terms of streets. The cost of maintenance,

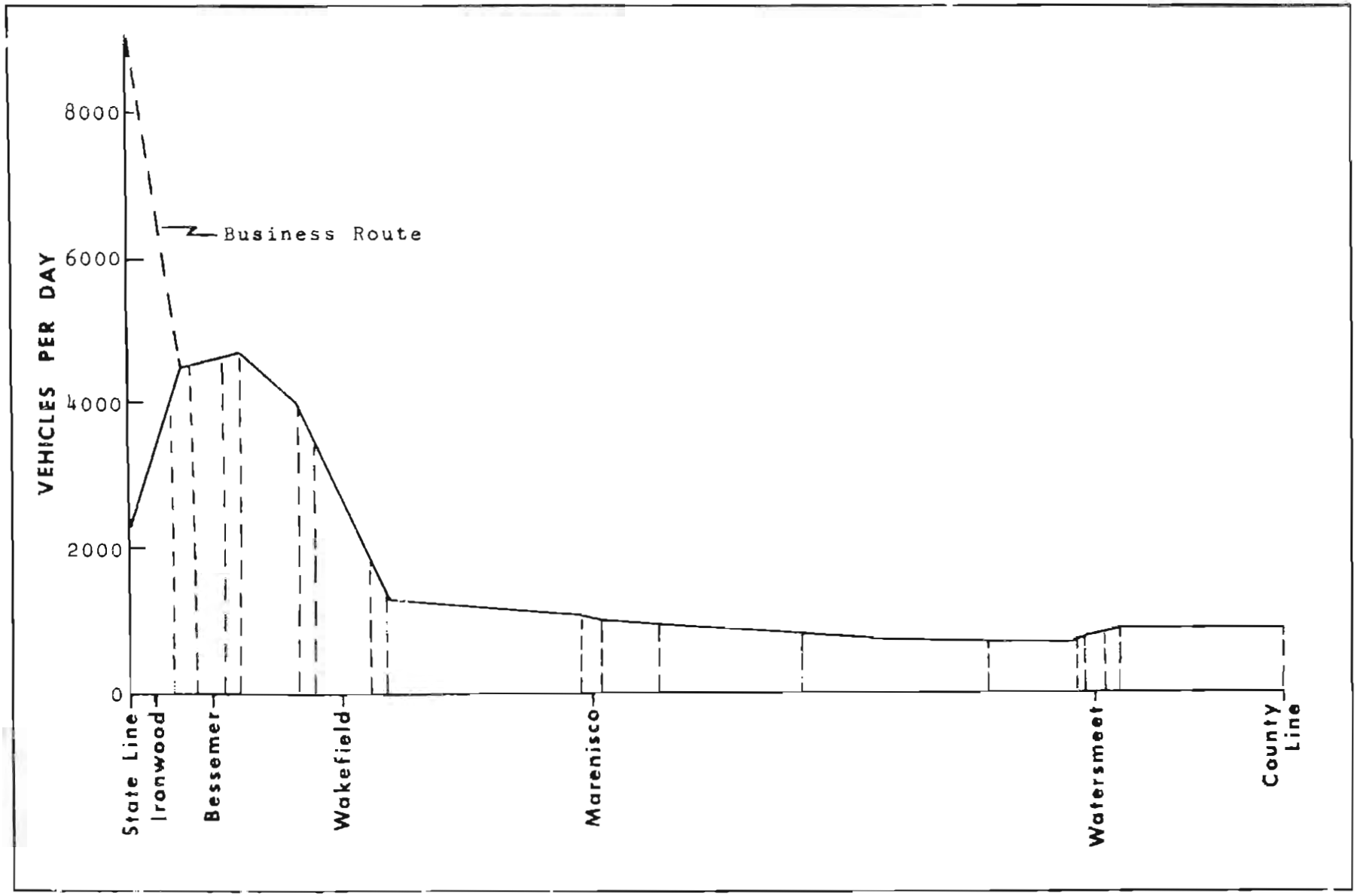


FIG. 10. TRAFFIC PROFILE, U.S.-2, GOGEBIC COUNTY, 1960 AND 1962 AVERAGE DAILY TRAFFIC.

SOURCE: 1960 TRAFFIC FLOW MAP AND 1962 ADVANCE DATA, TRAFFIC DIVISION, MICHIGAN STATE HIGHWAY DEPARTMENT.

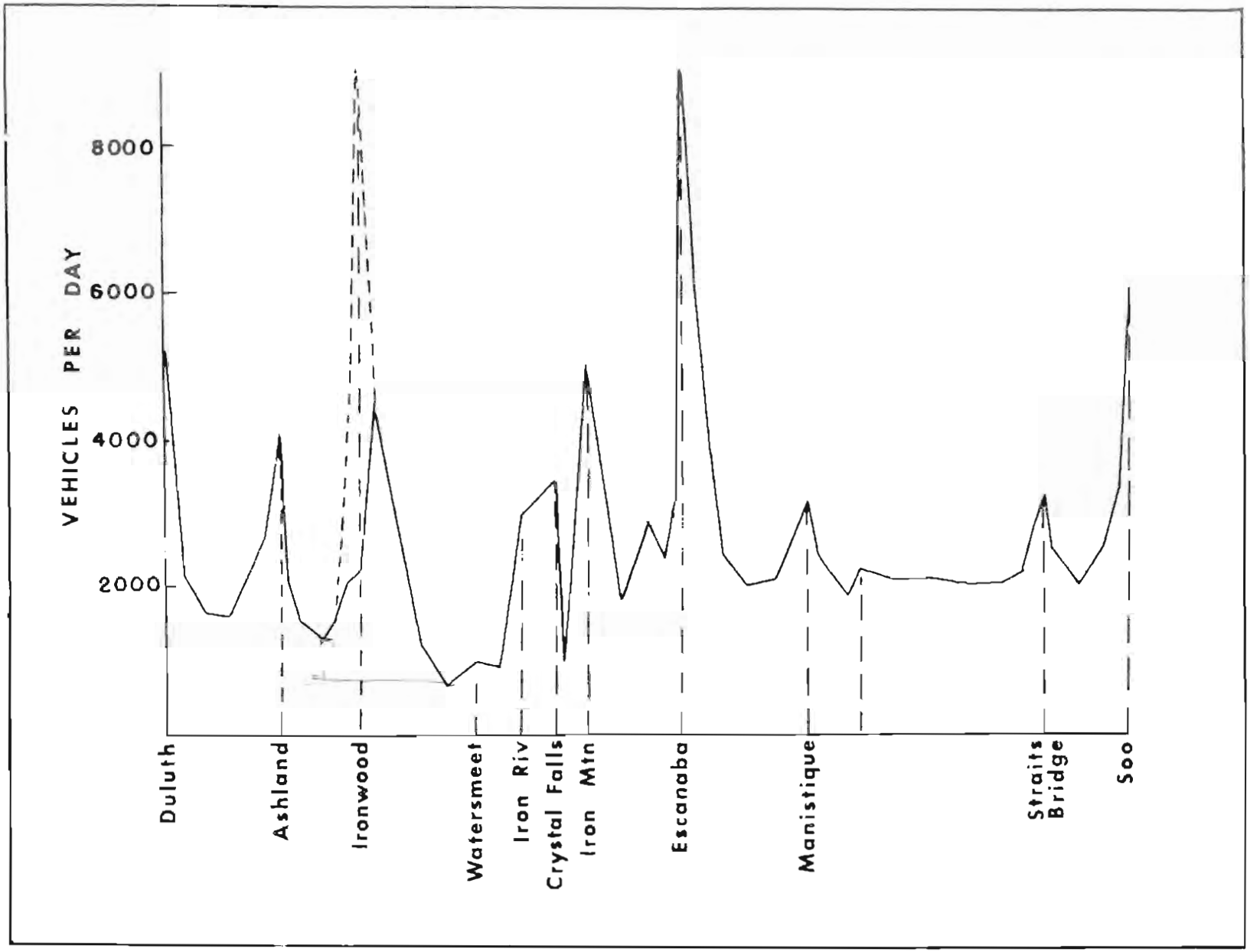
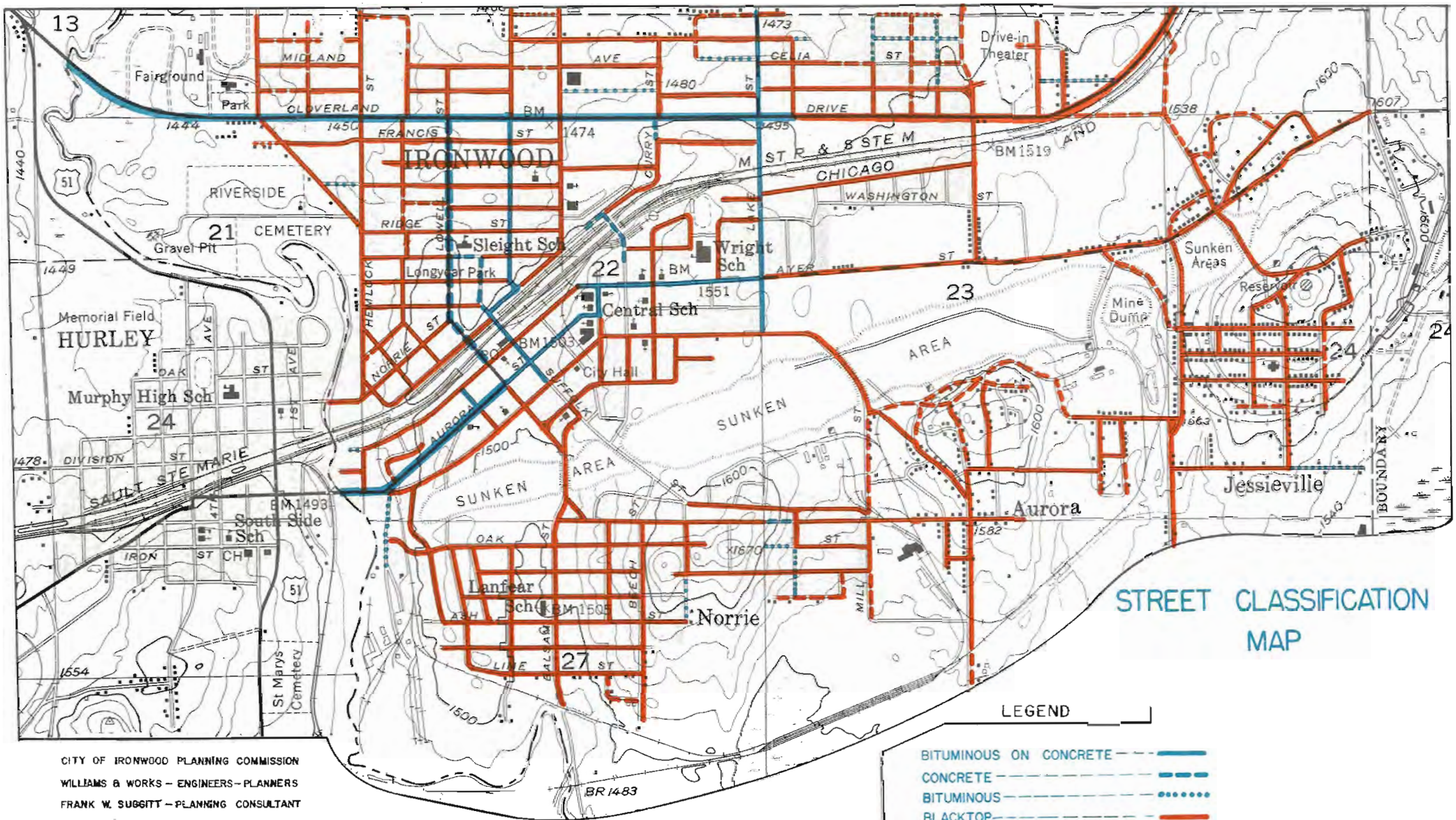


FIG. 11. TRAFFIC PROFILE, U.S.-2, DULUTH TO SAULT STE. MARIE.

SOURCE: 1960 TRAFFIC FLOW MAP AND 1962 ADVANCE DATA, TRAFFIC DIVISION, MICHIGAN STATE HIGHWAY DEPARTMENT.



STREET CLASSIFICATION MAP

LEGEND

- BITUMINOUS ON CONCRETE
- CONCRETE
- BITUMINOUS
- BLACKTOP
- GRAVEL
- DIRT

CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS – ENGINEERS – PLANNERS

FRANK W. SUGGITT – PLANNING CONSULTANT

NORTH

0 1000 2000 3000 4000

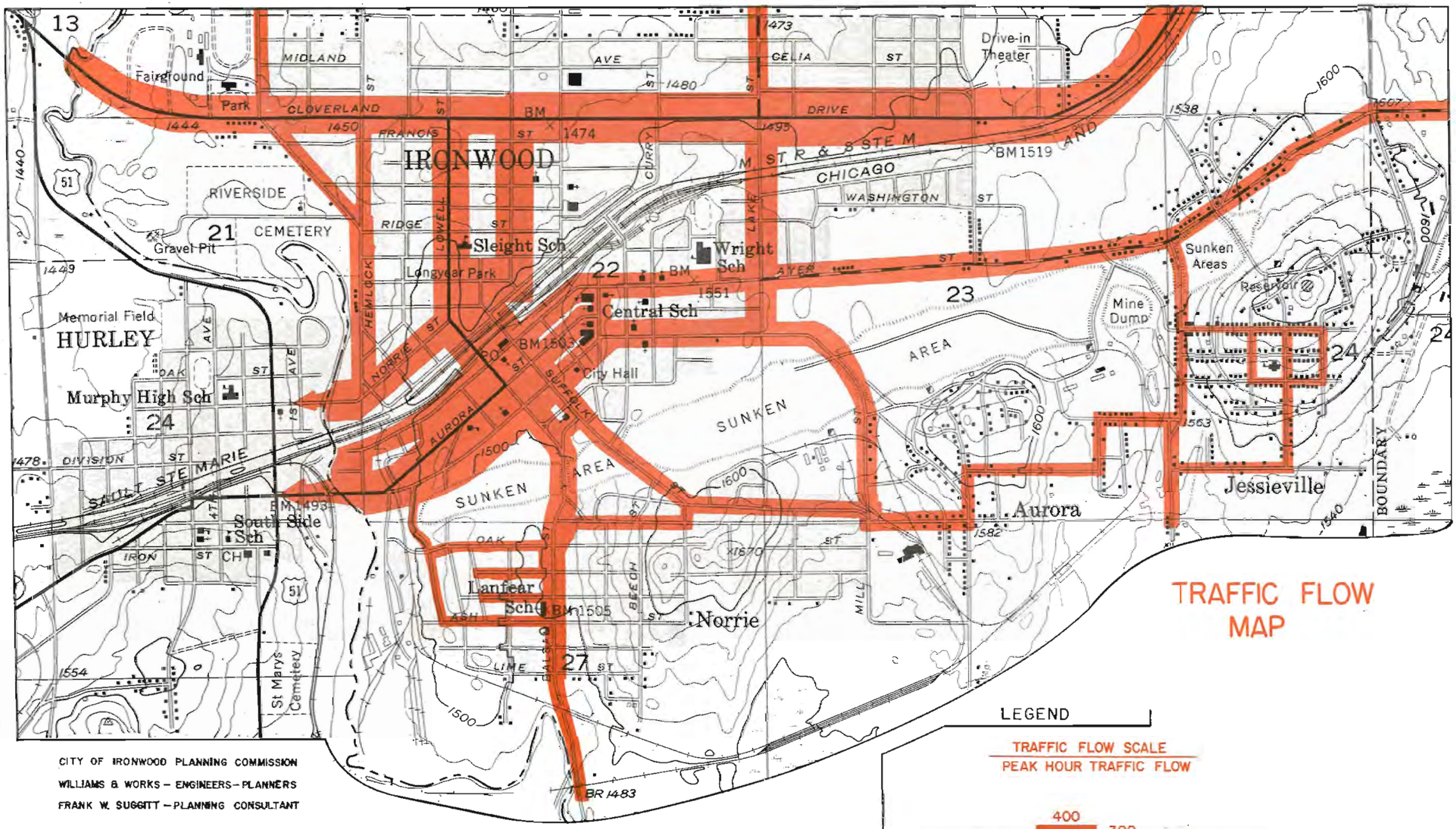
SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN

CITY OF IRONWOOD, MICHIGAN

PLATE 23

1963



CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS – ENGINEERS – PLANNERS

FRANK W. SUGGITT – PLANNING CONSULTANT

NORTH

0 1000 2000 3000 4000

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN

CITY OF IRONWOOD, MICHIGAN

TRAFFIC FLOW MAP

LEGEND

TRAFFIC FLOW SCALE

PEAK HOUR TRAFFIC FLOW

PLATE 24

1963

snow removal and provision of storm drainage is not adequately justified by the number of people benefiting from these services.

A final factor to be concluded from the two-street system maps is the relationship of traffic volumes and street surface types, for the streets with the best surface types are those which are most heavily traveled. This further indicates that little money has been spent on street improvements in Ironwood that is not warranted by the volume of traffic using these streets. Very few streets within the corporate limits of Ironwood have a lower class surface than blacktop and the few gravel and dirt roads that exist in the community carry very low volumes of traffic.

Due to the large area included within the corporate limits of the city, Ironwood is forced to improve and maintain a disproportionately large mileage of streets and roads in relation to the population. This is compounded by the scattered nature of the "locations," the necessity to circumvent the "caves," and by design and drainage problems associated with the topography and the prevalence of rock outcroppings.

The congested traffic in downtown Ironwood is an impediment to its function as a regional shopping center and to its expanding function as a tourist service center. Relocation of arterial and cross-town routes can be one of the most important activators of the comprehensive plan.

D. TRANSPORTATION AND THE COMPREHENSIVE PLAN

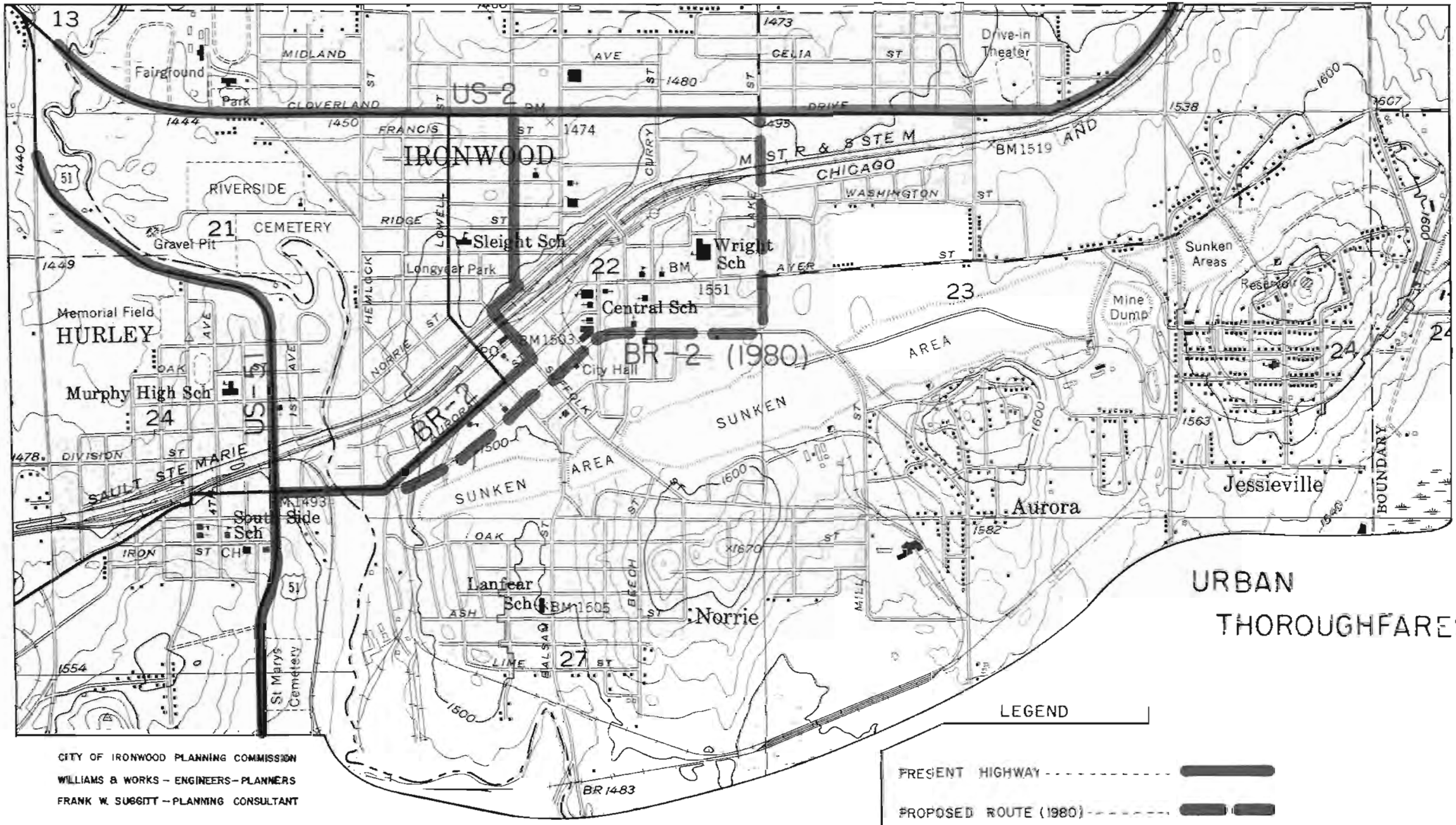
Plate 25, Urban Thoroughfares, shows the present location of U.S.-2 and its business route and it shows the recommended relocation of the business route by the Michigan State Highway Department. This map is an appropriate closing point for the report on Foundations for Planning for Ironwood, since it sets the stage for the year 1980 and it

indicates the scope of planned changes that must be made.

Whether or not this is the best location for U.S.-2 Business Route is dependent upon the vision and validity of Ironwood's planning recommendations. It also is dependent upon the ability of Ironwood to pursue a program of urban renewal which might, conceivably, necessitate a complete relocation of arterial traffic so that it totally circumvents the mercantile district and the possible civic-campus area.

The ability of Ironwood to change from a mining town to a factory town or a tourist and convention center or a college town will affect the location of new highways and every other aspect of the municipal environment and economy. The future for Ironwood is extremely uncertain, but it is hoped that this preliminary report provides guidance for the preparation of the comprehensive plan. Again, referring to Plate 25, if the citizens of Ironwood do not plan for themselves, and if they do not take steps to carry the plans into positive action programs, someone else will do the planning with little regard for the local situation.

* * *



URBAN THOROUGHFARES

LEGEND

PRESENT HIGHWAY

PROPOSED ROUTE (1980)

CITY OF IRONWOOD PLANNING COMMISSION

WILLIAMS & WORKS – ENGINEERS – PLANNERS

FRANK W. SUGGITT – PLANNING CONSULTANT

NORTH

0 1000 2000 3000 4000

SCALE IN FEET

COMPREHENSIVE COMMUNITY PLAN

CITY OF IRONWOOD, MICHIGAN

PLATE 25

1963