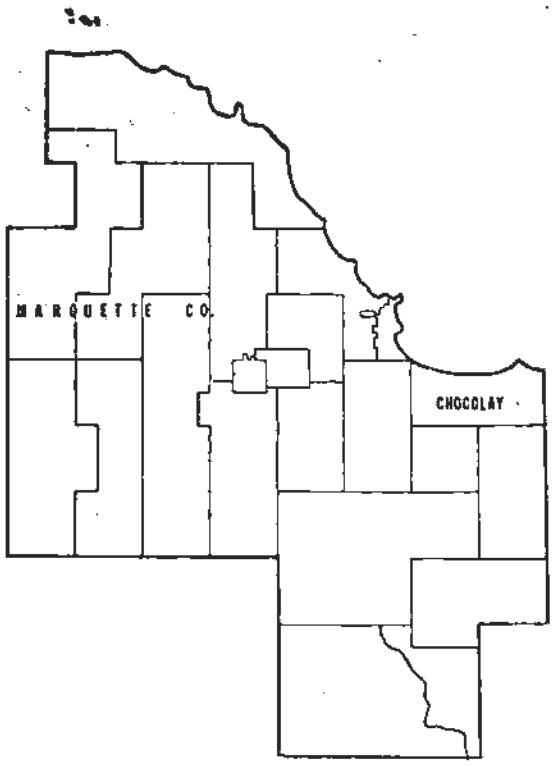

CHOCOLAY TOWNSHIP COMPREHENSIVE PLAN

CHOCOLAY TOWNSHIP PLANNING COMMISSION

WITH THE ASSISTANCE OF

CENTRAL UPPER PENINSULA

PLANNING AND DEVELOPMENT REGIONAL COMMISSION

August, 1976

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A NOTE TO THE READER

Who Prepared This Plan

This plan is a culmination of almost two years of intensive study, discussion and debate, by the Chocolay Township Planning Commission. The Planning Commission is a nine member advisory body appointed by and responsible to the Chocolay Township Board of Commissioners. The Planning Commission's duties and responsibilities are set forth in Act 168, Public Acts of 1959, as amended, a state statue.

The Commission was assisted in its work by the staff of the Central Upper Peninsula Planning and Development Region (CUPPAD).

What the Plan Contains

The plan consists of fourteen chapters, divided in three parts. Part I, consisting of Chapters One through Seven, is an indepth inventory of the Township's resources-physical, social, economic, natural, and cultural. It will outline present, past, and future conditions and trends (where applicable) within the Township. Specific issues and problem areas will be identified. This information provides the framework for establishing a comprehensive plan.

Part II, Growth Policy Alternatives, contains Chapters Eight through Eleven and provides a guide for decision making. It outlines alternative growth strategies and the goals, policies, and objectives to make decisions. It will define areas that require special interest and will include an overall decision-making map.

Part III, Continuing Planning, will contain Chapters Twelve through Fourteen. This portion will provide the tools to implement the plan. It will include a discussion of a capital improvements program; an inventory and explanation of the land use regulations in the township; and an analysis of the township's administrative structure.

The various maps included in the plan are intended to be diagrammatic. That is, they cannot be used to determine whether or not a specific parcel of land has poor soils or steep slopes, or whatever. Large scale maps showing a higher level of detail are on file with the Planning Commission. They were used to prepare the maps in this plan.

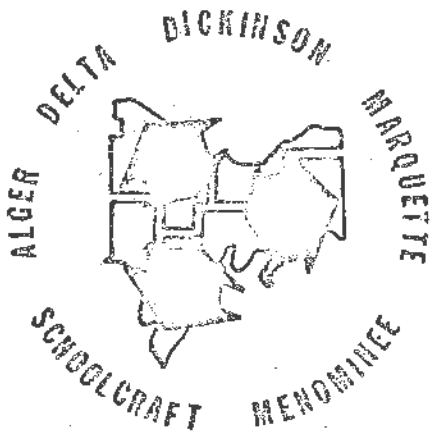
Why the Plan was Prepared

A common refrain heard throughout the county is "we have been studied to death; we need action, not more studies". While there is some truth underlying this comment, the fact remains that public decisions are not being made with any common purpose in mind. Consequently, unpredictable and often undersirable side effects result from these actions. This plan provides a framework for decision making. The plan does not, in and of itself, make any decisions. Neither is it cast in bronze. Periodic review and updating will be necessary, perhaps annually.

part one

the framework for planning

Part I provides detailed information and analysis of the basic components of the Chocolay Township Comprehensive Plan. A full chapter is devoted to each of the study areas: population, economy, natural features, land use, community facilities, housing, transportation, and governmental organization. It is called a Framework For Planning because it does provide all the essential quanitative data to understand where Chocolay Township is now and where it might be headed. Although much of the abstract qualities that characterize Chocolay Township and its people cannot be protrayed in the text, tables, figures, and maps that follow, the data herein is the most reliable and accurate information available to provide the basis for developing the functional analysis and goals, policies, and objectives found in Part II of this Plan.



CENTRAL UPPER PENINSULA

CHAPTER ONE

Population

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Population

The population study is the most basic component of the Comprehensive Plan. It provides an understanding of the people who live, work, and play in Chocolay Township. The study outlines who is in the Township now, where they have come from, and where they are likely to head in the future. This is a report of the people who make up the Township, who demand its services, who develops its lands, who pays the taxes, and who determines what direction the Township will take. Without first understanding the people of Chocolay - their demographic characteristics - no determination of future needs and no comprehensive plan can be developed. This Chapter will outline the population trends, its composition, and the population characteristics, concluding with a discussion of Chocolay's population issues and problems.

Population Trends

When looking at trends, the Township's total population is considered. This is looked at over time to indicate how fluctuations have occurred in the past, and possibly, identify patterns that will apply to the future. To provide a basis to judge the changes through the years, their Township figures are compared to other units of government in the area.

Table 1 below compares population changes of Chocolay Township with five other units of government over the last thirty years. For convenience, the percentage change has been included in each column for the previous decade. For example, it can be seen that since 1950 the Central Upper Peninsula population has been increasing steadily by about 5% every ten years. Marquette County and the City of Marquette each have increased considerably between 1950 and 1960, and increased at a lesser rate between 1960 and 1970. The Township's population has taken similar changes, but at a much accelerated rate. There was an 85% increase between 1950 and 1960, and then a 48% increase between 1960 and 1970.

Table 1

Comparison of Population Trends[1]

	1950	1960	1970	1980
Chocolay Township	1,205(+37)	2,235(+85)	3,299(+48)	
City of Marquette	17,202(+ 8)	19,824(+15)	21,967(+11)	28,600(+30)
Marquette County	47,654(+ 1)	56,154(+18)	64,686(+15)	71,770(+11)
Central U.P.[2]	149,865(- 3)	157,257(+ 5)	165,744(+ 5)	174,790(+ 5)
Michigan	6,371,766(+21)	7,823,194(+23)	8,875,083(+13)	10,031,000(+13)
United States	150,697,361(+14)	179,325,671(+19)	203,211,912(+13)	226,934,000(+12)

[1]Numbers in parenthesis are percent changes over previous decade.
[2]Central U.P. is an abbreviation for Central Upper Peninsula. It contains the Counties of Alger, Delta, Dickinson, Marquette, Menominee, and Schoolcraft.

Source: U.S. Census
STATISTICAL ABSTRACT OF U.S.--1973, No. 15 Population Projections-State, 1980 and 1990, Series I, Letter E

From Table 1 it is evident that the Township has been a rapid growth area, much more rapid than the City of Marquette, Marquette County, or the Central U.P. People have found the Township to be very inviting, but what is in store for the future. Will this trend continue for the next ten years?

Population in 1980

The past trends of population growth in the Township indicate fast increases of population over the last three decades. Township citizens, as well as Township board members, are asking themselves if this fast growth of population is going to continue, level off, or decline. Such questions, if easily answerable, would indicate to present Township officials how many school children would be in their schools, the number of potential sewer system users there would be, the number of patrons of the garbage disposal system, etc.

In effect, by knowing the number of future residents in the Township, the officials could begin today to invest in the proper community facilities that will be needed to serve this future population. Many methods of projecting future population have been developed and tried over the years but they all have the same shortcoming. They all use past information to predict what is going to happen in the future. Some of the methods are more elaborate than others, but they all use assumptions of future actions based on past trends.

Recognizing the limitations of any population projection is essential. However, they are important in planning for a community. The projections offered here for Chocolay Township represent a possible range of growth that can be expected. The growth range is based on assumptions that will be stated below. So future population, as presented here, is not a fixed number but a range that will be a reasonable approximation if the assumptions are accurate.

To arrive at a 1980 population for the Township, two steps are taken. Step A is to estimate the 1975 population using building permit records for the last five years. Step B is to estimate the population change between 1975 and 1980.

Step A is done to estimate the rate of growth in the last five years and compare this to the rate of growth that has occurred in the previous three decades. This comparison will help identify what method is appropriate in estimating the 1980 population.

Step A

To calculate the 1975 Township population, the following steps shall be taken:

1. Define total housing units in 1970 from the U.S. Census.
2. Add the number of residential building permits issued between January, 1970, and December, 1974.
3. From this gross number of 1975 housing units, subtract the percentage (12%) that are vacant and the number (170) that are seasonal to obtain the number of households.
4. Multiply this number of 1975 households by the average household size (3.3 persons/household) for Chocolay Township.
5. Result is a population estimated for January 1, 1975, based on building permit records.

Before the numbers are applied to each of the steps above, an explanation is necessary of the assumptions made to arrive at this process. Items 1 and 2 are a matter of record. The 1970 total housing units for Chocolay Township comes from the U.S. Census and the building permits issued is information retrieved from Township records. In item 3, the 170 seasonal units were counted in a land use study done in the Township during the summer of 1974. The first assumption made in Step A is:

> "the vacancy rate of vacant year-round units to total housing units will be the same in 1975 as it was in 1970."

This vacancy rate includes units vacant for sale, vacant for rent, and other. The "other" is units out of the available market because of remodeling, repairing, involved in an estate, etc. In addition, some of these are vacant because of their delapidated condition rather than because they are being repaired. The census records 111 "other" in this category. This leaves 30 rental units, 13 units for sale, and 111 "other" as the base for figuring the vacancy rate. So by dividing the total housing unit (1,316) by the number of vacant year-round units (154) it gives a vacancy rate of 12% in 1970.

The second assumption which relates to step 4 in the process has to do with average number of people in each household. Census information and building permit data gives a figure for number of households in the Township in 1975, but this must be transferred into number of people.

Over the last twenty years, the U.S. Census has recorded the household size for Marquette County. It has gone from 3.42 in 1950 to 3.39 in 1960 to its 1970 level of 3.22 persons per household. This downward trend in number of persons per household has taken place across the State and the Nation. Chocolay Township had a household size of 3.42 in 1970 and has probably been declining some since then, just as the county trend indicates. Therefore, to arrive at the 1975 population figure for the Township, the second assumption states:

> "the average household size for Chocolay Township will decline slightly by 1975 to approximately 3.3 persons per household."

Based on the above explanation of steps 1 through 4 and the two assumptions listed, the 1975 population can now be calculated.

1,316	Total Township Housing Units in 1970
+ 335	Building Permits, 1970 - 1974
1,651	Total 1975 Housing Units
- 198	Minus 12% that are Vacant
1,453	
- 170	Minus Number of Seasonal Units
1,283	Number of Households in 1975
x 3.3	Times 3.3 Persons Per Household
4,234	1975 Population

This gives an idea of the 1975 population for Chocolay Township. The 4,234 figure represents a 28% increase in population from 1970 through 1974. This would indicate that the Township is still growing at a fast and steady rate. Table 1 revealed that the rate of population increase over the last three decades has been at least 37% for each decade and this 28% increase is just over the first five years of the next decade.

Step B

Population changes are affected by two main factors: natural increase and net migration. Natural increase refers to the ratio of births to deaths in an area. The age distribution table for Chocolay Township shows a decline in young people age 0-20 years between 1960 and 1970. Another look at the age distribution of Township citizens shows increases in all age groups from 21 to over 65 years of age. This, along with the county trend of smaller family sizes, would indicate that the natural increase aspect of population change was not an important factor in the Township's rapid growth. That leaves the net migration factor as primarily responsible for the growth. This factor and the local knowledge of many new people moving into the Township from nearby Marquette and surrounding areas verifies a high in-migration taking place.

Therefore, in-migration is the major element affecting the increase in population for Chocolay Township. The past migration to the Township was for a number of reasons. Some of the easier reasons to identify are more rural environment, escape from city taxes, lake front property, available developable land, proximity to Marquette without living in the city, and many more. Most of these Township characteristics are still valid and will be for the next few years. So by putting these two factors of natural increase and net migration into assumptions as to their affect on the future population, the projection can be continued to 1980. The assumptions are as follows:

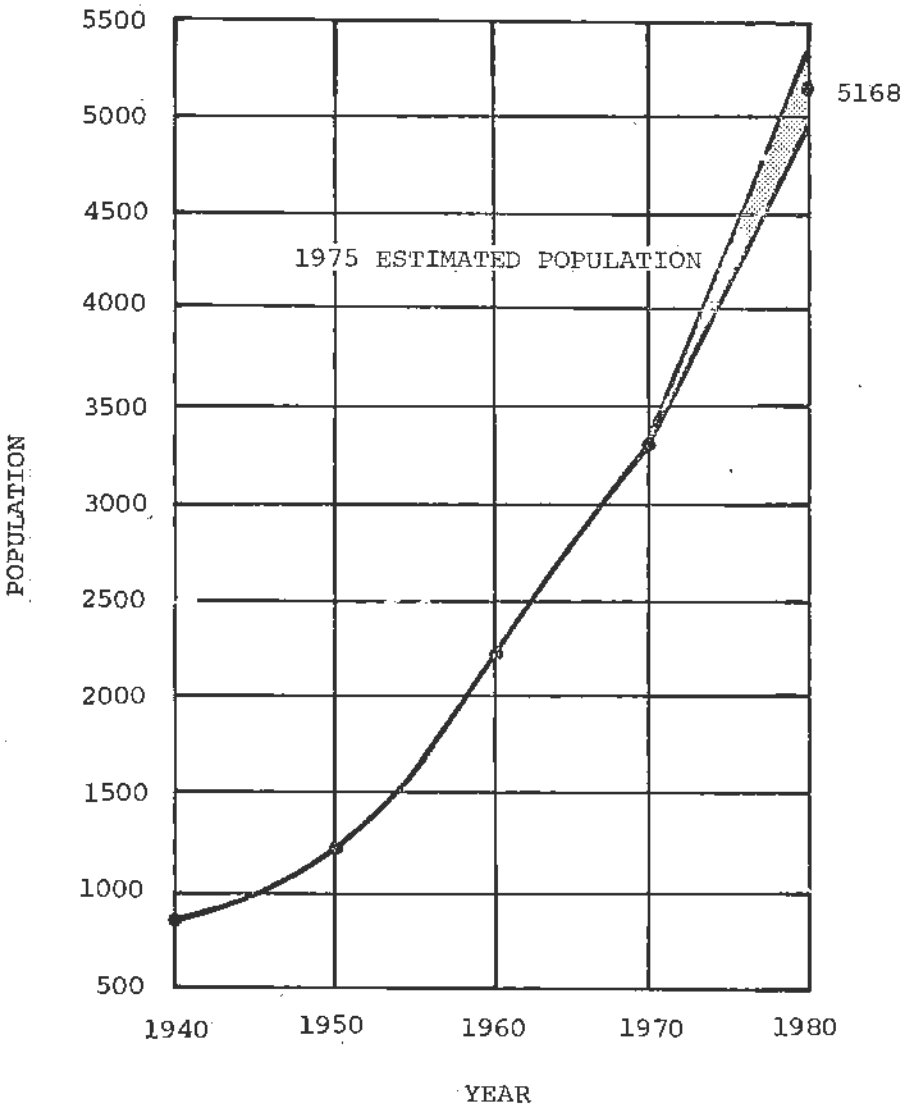
1. Natural increase will have a slightly declining affect on the future population of Chocolay Township because of declining household sizes.

2. Net migration will continue to have an in-migration affect at a rate similar to past trends for the next five to ten years.

Based on these two assumptions, the 1980 population can be projected using the exponential curve method. This method is based on the idea that growth is continuing at a constant rate or percentage. By applying the growth rate of the last three decades to this exponential curve method, a 1980 population of 5,168 is indicated.

As mentioned at the start of this discussion of future population, the projection represents a range of future growth based on some basic assumptions. Figure 1 illustrates by a shaded area above and below the 5,168 population, what the magnitude of growth in Chocolay Township will probably be by 1980.

Figure 1
CHOCOLAY TOWNSHIP
POPULATION TRENDS
1940-1980



Population Characteristics

Now that the total number of persons in the Township has been identified, the characteristics are important. The plan must reflect the character of its people. When looking at needed facilities and services later in the plan, these have to be based on who is to be using them. If the population is primarily older, it would point to different needs than a younger population should have. Therefore, the age, sex, education, and income of persons in the Township will be studied.

The age distribution of persons in the Township is shown in Table 2. The population has been divided into four age groupings for both 1960 and 1970. Similar data for the City of Marquette, Marquette County, and the Central Upper Peninsula is included to show the differences. The proportion of young people 0-20 years old has decreased slightly since 1960, but is still a larger percentage of population than in any of the other three locations. Correspondingly, if there are a lot of young people, there

should be a large proportion in the young child-bearing age of 21-44 years old. This is true for Chocolay Township as indicated by their present 34.5% of population in this age group. The next age group, 45-64 years old, has increased slightly sinc 1960 but is still less than that of the other three areas. This age group is considered part of the prime working force and a more permanent resident segment of the population. The last age group, those persons over 65 years of age, was only 4.9% in 1970, which is quite low in relation to the City of Marquette, the County, and the six counties of the Central Upper Peninsula.

Table 2

Change in Age Distribution[1]

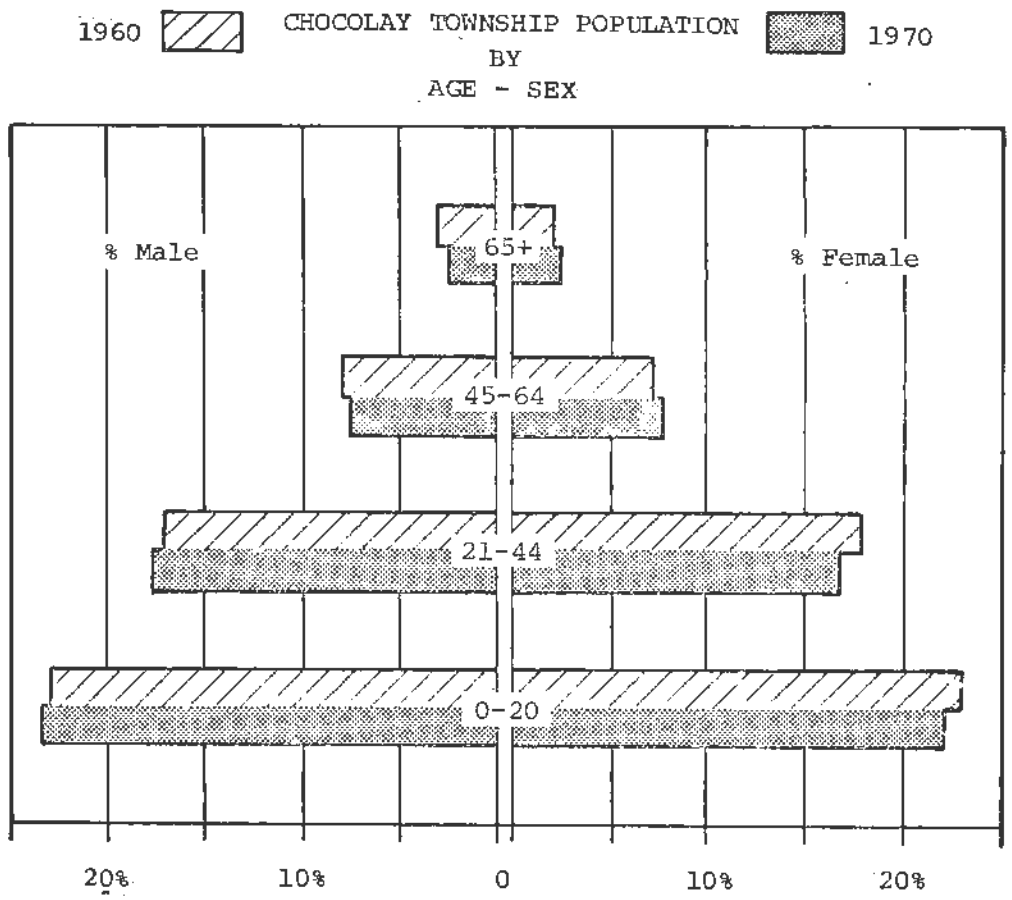
Chocolay Township					City of Marquette			
0-20	21-44	45-64	65+		0-20	21-44	45-64	65+
47.8	33.6	14.6	4.4	1960	38.8	33.6	19.1	8.5
45.4	34.5	15.2	4.9	1970	43.9	31.9	16.1	8.1
Marquette County					**Central U.P.[2]**			
0-20	21-44	45-64	65+		0-20	21-44	45-64	65+
42.0	29.7	19.3	9.0	1960	41.6	27.2	20.5	10.7
42.6	31.7	17.7	8.0	1970	41.2	27.0	20.7	11.1
Michigan					**United States**			
0-20	21-44	45-64	65+		0-20	21-44	45-64	65+
41.5	31.2	19.3	8.0	1960	39.7	30.9	20.2	9.0
42.0	29.7	19.8	8.5	1970	38.5	29.9	20.5	9.8

[1]Numbers for each age group are percentage of total population
[2]The Central U.P. contains the Counties of Alger, Delta, Dickinson, Marquette, Menominee, and Schoolcraft

Source: U.S. Census

Figure 2 is a graphic representation of the 1970 age distribution for Chocolay Township. To the left of the center line is the male population percentage for each age group and, similarly, the right are the percentages for females. The general shape of this graph is a pyramid going from the broad base of young persons to the small percentage of elderly. This distribution of age groups is considered very stable and balanced. This mix gives a large working class to support the community through taxes and wages with the accompanying large younger generation that should maintain a sustained level in the upper age groups. In addition, there is not a large non self-supporting elderly group within the Township.

Figure 2



Education of persons in the Township is depicted in Table 3. The figures indicate the percentage of persons 25 and over that have completed the years of school shown at the top of each column. For example, 22.9% of Chocolay Township's population has received just 5 to 8 years of schooling. Whereas, for the Central Upper Peninsula, 25.2% have only 5 to 8 years of schooling. The education level of Township people is comparable with the State averages and higher than those for the Central Upper Peninsula. However, persons in the City of Marquette indicate a higher level of education according to the table. This is understandable because of Northern Michigan University staff and the large amount of government employment in the city. But Chocolay Township has a higher education level than most townships in the Central Upper Peninsula.

Table 3

Years of School Completed by Persons 25 Years Old and Over[1]

	0-4	5-8	9-11	12	13+	Median
Chocolay Township	2.3	22.9	14.8	41.5	18.5	12.2
City of Marquette	1.6	16.0	15.4	36.8	30.2	12.5
Marquette County	2.7	19.8	18.5	39.0	20.0	12.2
Central U.P.[2]	3.5	25.2	19.1	36.6	15.6	12.0
State of Michigan	3.8	21.4	22.1	33.6	19.1	12.1
United States	3.9	22.7	19.3	31.0	21.2	12.1

[1]Numbers in table are percentages 2.3%, 22.9%, etc.
[2]The Central U.P. contains the Counties of Alger, Delta, Dickinson, Marquette, Menominee, and Schoolcraft

Source: U.S. Census

The last aspect of Chocolay Township's population considerations is income levels. As the previous tables indicated, the education level of township residents is somewhat higher than the comparable units. This is reflected in the income figures for township residents. Table 4 below shows the range of incomes by family for the residents of Chocolay Township.

Table 4

1970 Family Incomes for Chocolay Township

Income Range[1]	Number of Families	%
Under $1,000	20	2.3
1,000 - 1,999	18	2.1
2,000 - 2,999	5	.6
3,000 - 3,999	10	1.2
4,000 - 4,999	31	3.6
5,000 - 5,999	82	9.5
6,000 - 6,999	94	10.9
7,000 - 7,999	65	7.6
8,000 - 8,999	95	11.1
9,000 - 9,999	22	2.6
10,000 - 11,999	162	18.9
12,000 - 14,999	112	13.0
15,000 - 24,999	120	14.0
25,000 - 49,999	4	.5
50,000 and Over	18	2.1
TOTAL	858	100.0

[1]Income figures on gross family income

Source: U.S. Census

Then for comparison purposes, Table 5 shows family income, per capita income, and families below poverty level. It is evident that on the average, Chocolay Township residents have higher incomes than the residents of Marquette, the County, or the Central Upper Peninsula. This will be followed up when the economic chapter looks at types of employment and occupations of the township citizens.

Table 5

Income Levels

	Median Family[1] Income, 1969	Per Capita Personal[1] Income, 1969	Percent Families with Income Below Poverty Level
Chocolay Township	$9,409	$3,004	5.5
City of Marquette	9,252	2,655	8.9
Marquette County	8,562	2,521	8.7
Central U.P.[2]	8,356	2,482	10.4

[1]Median Family income based on gross income yearly as in per capita personal income
[2]Central U.P. contains the Counties of Alger, Delta, Dickinson, Marquette, Menominee, and Schoolcraft

Source: U.S. Census

Issues and Problems

This chapter has thus far investigated the major characteristics of citizens living in Chocolay Township. From the compilation of this data, a better picture of who lives in the Township can be formed. What is important in this chapter and all the following chapters is to identify future problems and needs. The existing situation has been defined, and the potential future population is estimated. From this basic data, some issues and problems can be identified that will affect all other aspects of the Township. These issues and problems are as follows:

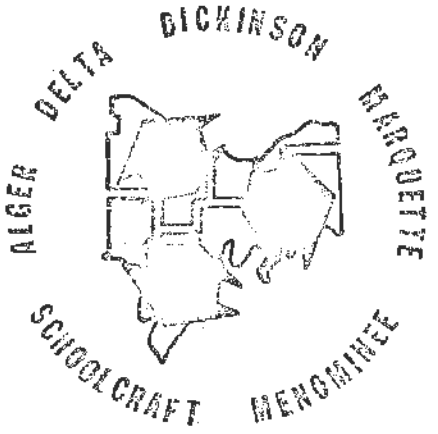
- Population growth in the Township has averaged a 56% increase each decade for the last three decades.

- Population growth has been due primarily to in-migration. This makes predicting future population characteristics very difficult.

- Nearly 80% of Chocolay Township residents are under the age of 44. Only 5% of the residents are over 65 years of age.

- Median family income levels are higher than most Central U.P. communities.

- The percent of families with income below poverty level is much lower than other communities in the Central U.P.



CENTRAL UPPER PENINSULA

CHAPTER TWO

Economy

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Introduction

The economy of a political unit, such as Chocolay Township, is a complicated maze of ties with the surrounding area. The employers within the Township only form a small segment of the economic picture for the Township. Neighboring employers, in Chocolay's case, are a major income and employment source for Township residents. For this reason, the economic situation of the Township will begin with studies of the County and then narrowing to Township employment data.

The organization of this report is as follows: the area economy section begins by studying employment and income data for Marquette County. This is looked at historically, as well as using current data. Major employers that are influential in the Chocolay economic area are also listed. In addition, labor force and unemployment figures compare the County with the Region, the Upper Peninsula, the State, and the United States. Next, the Township economy section covers specific Township employment data from the U.S. Census and citizen's comments as presented in the development survey. The final section will outline issues and problems.

Area Economy

This section will begin with a historical perspective of employment over the last three decades in Marquette County. Table 1 below shows employment figures by broad industrial categories.

Table 1

Marquette County
Employment by Broad Industrial Sector

	1940	%[1]	1950	%	1960	%
Total Labor Force	17,946		16,934		18,952	
Unemployment	2,239	12.5	1,129	6.7	1,502	7.9
Total Nonfarm Employment	12,755	71.1	15,011	88.6	15,035	79.3
Government Employment[2]	731[1]	4.1	1,455	8.6	2,087	11.0
Private Nonfarm Employment	12,024	67.0	13,556	80.0	12,948	68.3
Manufacturing	2,378	13.3	2,797	16.5	2,255	11.9
Mining	3,074	17.1	3,408	20.1	2,830	14.9
Contract Construction	588	3.3	710	4.2	997	5.3
Transportation, Communications, & Public Utilities	1,295	7.2	1,659	9.8	1,451	7.7
Wholesale & Retail Trade	2,225	12.4	2,714	16.0	2,625	13.8
Finance, Insurance, & Real Estate	152	0.8	294	1.7	300	1.6
Services[3]	2,312[2]	12.9	1,974	11.7	2,490	13.1

[1]Percent figures are percent of total labor force
[2]Does not include public education services
[3]Includes public education services

Source: U.S. Census, 1940-1970

The figures on total labor force show that there has been an increase from 1940 to 1960, but not at a steady rate over those years. A drop of 5.6% was recorded between 1940 and 1950. Then an increase of 11.9% took place between 1950 and 1960 to bring the

labor force back above the 1940 figure. The unemployment figure took a large drop in 1950 but then rose again in 1960. Unemployed persons represented 12.5% of the labor force in 1940 but had diminished to 7.9% by 1960.

During this three-decade period, total nonfarm employment increased. Its 17.7% increase between 1940 and 1950 was followed by another increase during the 1950's, but this represented less than a one-percent change. Within the classification of nonfarm employment is the government employment sector that is very significant in Marquette County. In 1940, there were 731 employed at government jobs but by 1950 this had jumped by 99% to 1,455 persons. The 1950 to 1960 increase was also dramatic with a 44% increase taking place.

Under the category of private nonfarm employment, the mining sector employs the largest number of persons. Employment in this sector has fluctuated over the three decades but still remains larger than any other category. There were 3,074 employed in 1940 and 3,408 employed in mining in 1950. This 11% increase was followed in the next decade by a 17% drop which brought the mining employment down to 2,830 persons for 1960.

The second largest sector of employment within Marquette County is almost a tie between manufacturing and wholesale-retail trade. Manufacturing was recorded in 1940 as employing 2,378. An increase of 18% was experienced during the next decade raising the employment figure to 2,797. But then by 1960, manufacturing employment had dropped 19% to a sum of 2,255. Wholesale-retail trade employment is almost identical and took similar fluctuations during the 1940-1960 period. In 1940, there were 2,225 employed in this category. By 1950, the figure had changed to 2,714, reflecting a 22% increase. This was followed by a slight decline in employment for 1960. There were 2,625 employed at this time which represented a three-percent drop.

Employment within the service category has also fluctuated during the period 1940-1960. A 1940 employment figure of 2,312 was trimmed 15% by 1950 to a level of 1,974 persons then took an upward jump during the 1950's. In 1960, employment in the service sector of the economy had increased by 26% and reached a figure of 2,490 persons.

One of the more rapidly growing parts of the Marquette County economy is contract construction. Total number of persons employed in this sector is not large but the percentage increase over the 1940-1960 period has been high. Between 1940 and 1950, there was a 21% increase and another 40% increase between 1950 and 1960.

Another sector of the economy that has few people involved but has been the second fastest growing is finance, insurance, and real estate. Just during the 1940 decade, employment increased 93% but then remained fairly stable through 1960.

Historically, from Table 1 it can be seen that government employment has been the fastest growing sector of Marquette County economy. The largest sector of the economy is mining. Mining is closely followed by manufacturing; wholesale-retail trade; services; transportation, communication, and public utilities; government employment; contract construction; and finance, insurance, and real estate in descending order.

More recent figures of Marquette County employment are provided in Table 2 that follows. The time period of 1967-1972 is covered with the same basic categories included as discussed in Table 1. Data is on a yearly basis rather than by decades.

Total employment in the County has been increasing steadily since 1968. This has not held true for the farm proprietors. They made up a very small portion of the County's employment in 1967 and have declined each year after that.

Table 2

Marquette County
Employment by Broad Industrial Sectors
1967-1972

	1967	1968	1969	1970	1971	1972
mployment	23,560	23,022	23,458	24,185	24,646	25,560
r of Proprietors	1,673	1,680	1,688	1,699	1,759	1,775
m Proprietors	123	115	105	103	100	99
farm Proprietors	1,550	1,565	1,583	1,596	1,659	1,676
and Salary Employment	21,887	21,342	21,770	22,486	22,887	23,785
m	36	35	31	32	32	33
farm	21,851	21,307	21,739	22,454	22,855	23,752
overnment	8,974	8,823	8,933	9,471	9,960	10,555
Total Federal	4,750	4,378	4,306	4,673	5,045	5,375
Federal Civilian	1,029	941	1,043	1,045	1,160	1,233
Military	3,721	3,437	3,263	3,628	3,885	4,142
State and Local	4,224	4,445	4,627	4,798	4,915	5,180
rivate Nonfarm 1/	12,877	12,484	12,806	12,983	12,895	13,197
Manufacturing	1,539	1,456	1,413	1,140	1,082	1,016
Mining	(D)	(D)	3,334	(D)	3,010	2,955
Construction	577	531	540	570	661	814
Transportation, Communication, & Public Utilities	942	925	976	929	897	916
Trade	2,909	2,995	3,148	3,297	3,476	3,709
Finance, Insurance, & Real Estate	444	457	466	471	512	556
Services	2,777	2,838	2,915	3,150	3,230	3,202
Other	(D)	(D)	14	(D)	27	29

shown to avoid disclosure of confidential information. Data are included in totals.
mary source for private nonfarm employment: ES-202 covered employment - Michigan Employment Security
Regional Economics Information System
Bureau of Economic Analysis

Total employment in the County has been increasing steadily since 1968. This has not held true for the farm proprietors. They made up a very small portion of the County's employment in 1967 and have declined each year after that.

Table 1 showed mining the largest employer and increasing over the three decades. Table 2 shows a slight decline and that it is not the largest employer as of 1972. The employment sector of state and local government has grown steadily to its 1972 level of 5,180 persons in the County. Also, the wholesale-retail trade sector has been increasing and now is larger than mining employment.

Another definite change is the decline in manufacturing that appears in Table 2. By 1972, this sector had dropped to just over 1,000 employees. This is below the 1940 figure as reported by the U.S. Census.

Thus far, the investigation of area economy, Marquette County, has relied solely on the County employment figures. The next table will compare the County employment with that of the national employment averages. The comparison is put in the form of location quotients.

Location quotients are simply a ratio of the County employment versus national employment. For example, if the total County employment for 1966 equalled 21,000 and employment in the government sector equalled 3,000, than the government sector represents 14% of the County's employment. By doing the same type of calculation using the total national employment and that portion employed in the government sector, an assumption will be made that it shows 9% of the total national employment is in government. This tells us that, nationally, 9% of the persons work in government, and in Marquette County 14% work in government. By dividing the national figure into the County figure, .14/.09, a factor called the location quotient is obtained. In this example, the location quotient equals 1.55.

This means that the percentage of government employment at the County level is higher than the percent of government employment nationwide. The example concludes that there are 1.55 times as many government employees in the County as there are in the nation as a whole.

Table 3 shows the actual location qoutients for Marquette County from 1967 through 1972. It reveals that there are 1/10 the proportion of farmers in Marquette County as there are in the nation. The government employment category shows that the County has approximately 2 1/4 times the government employees as the nation. The proportion of employees in manufacturing; construction; transportation, communication, and public utilities; wholesale-retail trade; finance, insurance, and real estate; and services are all much less than the proportion at the national level. However, as expected, the employment in mining is greatly above the national average. Marquette County employment has over 16 times as many persons in this industrial sector than the national averages.

Another measure of Marquette County economy is related to the actual earnings in each of the industrial sectors that have been discussed in the previous two tables. As shown in Table 4, the sectors that consistently earn the largest proportions are government employment, mining, wholesale-retail trade, and services.

Table 3

Marquette County
Employment by Type and Broad Industrial Sources
(Location Quotient for Total Employment)

	1967	1968	1969	1970	1971	1972
of Proprietors	.6105	.6443	.6492	.6322	.6313	.6264
Proprietors	.1265	.1279	.1210	.1175	.1136	.1121
rm Proprietors	.8750	.9164	.9159	.8847	.8740	.8632
d Salary Employment	1.0513	1.0454	1.0438	1.0460	1.0470	1.0466
	.0968	.1007	.0942	.0942	.0956	.0992
rm	1.0683	1.0616	1.0587	1.0610	1.0618	1.0607
ernment	2.2340	2.2240	2.2101	2.2467	2.2895	2.3527
otal Federal	3.2674	3.1283	3.0909	3.4014	3.7354	4.0835
Federal Civilian	1.2450	1.1890	1.3323	1.3012	1.4360	1.5110
Military	5.9361	5.6553	5.3500	6.3559	7.1636	8.2704
tate and Local	1.6480	1.7318	1.7467	1.6885	1.6371	1.6347
vate Nonfarm 1/	.7834	.7753	.7765	.7661	.7509	.7369
Manufacturing	.2735	.2663	.2553	.2088	.2033	.1839
Mining	(D)	(D)	19.4658	(D)	17.1972	16.2817
Construction	.6125	.5690	.5583	.5842	.6537	.7571
Transportation, Communication, & Public Utilities	.7648	.7761	.8031	.7342	.7013	.6992
Trade	.7356	.7671	.7798	.7762	.7895	.8084
Finance, Insurance, & Real Estate	.4772	.4938	.4818	.4567	.4749	.4955
Services	.7897	.8209	.8221	.8438	.8404	.7910
Other	(D)	(D)	.2500	(D)	.4400	.4400

shown to avoid disclosure of confidential information. Data are included in totals.
mary source for private nonfarm employment: ES-202 covered employment - Michigan Employment Security
Regional Economics Information System
Bureau of Economic Analysis

Table 4

Marquette County
Earnings by Broad Industrial Sector
(Percent of Total Earnings)

		1968	1969	1970	1971	1972
bor and Proprietors Earnings	1/	100.00	100.00	100.00	100.00	100.00
Earnings		.08	.05	.07	.06	.09
Nonfarm Earnings		99.92	99.95	99.93	99.94	99.91
vernment Earnings		39.29	39.90	42.03	43.72	44.00
Total Federal		22.04	22.17	23.67	24.84	25.97
Federal Civilian		4.57	4.84	4.80	5.15	5.15
Military		17.47	17.33	18.87	19.69	20.82
State and Local		17.25	17.73	18.36	18.88	18.03
ivate Nonfarm Earnings		60.64	60.05	57.90	56.22	55.92
Manufacturing		6.17	5.86	4.56	4.40	4.02
Mining		(D)	21.96	(D)	19.55	19.10
Contract Construction		3.84	3.81	3.92	4.27	5.19
Transportation, Communication, & Public Utilities		5.05	5.55	5.25	4.97	5.04
Wholesale and Retail		11.58	11.39	10.99	11.24	10.70
Finance, Insurance, & Real Estate		2.02	1.96	1.90	2.00	2.01
Services		9.10	9.26	9.40	9.59	9.66
Other		(D)	.25	(D)	.19	.18

shown to avoid disclosure of confidential information or for items $50,000 or less. Data are include
otals.
ings is the sum of wages, other labor income and proprietors income
Regional Economics Information System
Bureau of Economic Analysis

Table 5
1972
Major Employers of Marquette County

yer	Address	City & State	Estimated Employme 30-50	50-100	100-200	200-
reenhouses	1007 N. Third	Marquette, Michigan	X			
Iron Mining	1460 Union Commerce Bldg.	Cleveland, Ohio				
Cliffs Iron	1460 Union Commerce Bldg.	Cleveland, Ohio				
Mining Co.	1460 Union Commerce Bldg.	Cleveland, Ohio				
on Mining Co.	1460 Union Commerce Bldg.	Cleveland, Ohio				
struction Co.	208 W. Hampton Street	Marquette, Michigan	X			
and Sons, Inc.	560 Mather Avenue	Ishpeming, Michigan			X	
xcavating & Asphalt	Westwood Road	Marquette, Michigan	X			
akeries, Inc.	845 Washington Street	Marquette, Michigan			X	
Dairy, Inc.	Route #2, Box 52	Marquette, Michigan		X		
Marquette Co.	502 Division Street	Marquette, Michigan		X		
o.	111 N. Canal Street	Chicago, Illinois				X
looring Co.	P.O. Box 16900	Memphis, Tennessee		X		
en Lumber Co.	P.O. Box 387	Marquette, Michigan	X			
n	305 E. Michigan	Marquette, Michigan	X			
Concrete Corp.	P.O. Box 336	Marquette, Michigan	X			
Automatic Electric	North Lake Location	Ishpeming, Michigan	X			
e	U.S. 41 Highway	Negaunee, Michigan			X	
	P.O. Box 460	Marquette, Michigan	X			
nsula Generation	616 Shelden Avenue	Houghton, Michigan	X			
otor Supply, Inc.	211 S. Fifth Street	Marquette, Michigan	X			
rothers Co.	312 N. First Street	Ishpeming, Michigan	X			
Steel Corp.	North Lake Location	Ishpeming, Michigan	X			
ons, Inc.	741 Washington	Marquette, Michigan	X			
ores, Inc.	P.O. Box 3650	Green Bay, Wisconsin			X	
Ward	P.O. Box 7337	Chicago, Illinois		X		
ey Company	117 Washington Street	Marquette, Michigan	X			
Merricks, Inc.	348 Iron Street	Negaunee, Michigan	X			
c.	218 S. Front Street	Marquette, Michigan	X			
ey Co.	100 Main Street	Ishpeming, Michigan		X		
	200 South 3rd	Marquette, Michigan		X		
rquette, Inc.	502 West Washington	Marquette, Michigan		X		

Major Employers of Marquette County
(Continued)

yer	Address	City & State	Estimated Employm 30-50	50-100	100-200	200
	145 West Spring	Marquette, Michigan	X			
Public Service	246 W. Washington Street	Marquette, Michigan	X			
upply Co., Inc.	P.O. Box 380	Ishpeming, Michigan	X			
, Inc.	Route 1, Box 626	Ishpeming, Michigan	X			
ig Boy, Inc.	U.S. 41 West	Marquette, Michigan		X		
Marquette	Box 349	Kewanee, Illinois	X			
ri	U.S. 41 West	Marquette, Michigan	X			
y Burger Chef	1416 Presque Isles	Marquette, Michigan	X			
e Gas Co.	Lake Shore Drive	Marquette, Michigan	X			
Bank and Trust Co.	Washington & Front Street	Marquette, Michigan		X		
ional Bank	Front & Washington Street	Marquette, Michigan		X		
Bank of Negaunee	237 Iron Street	Negaunee, Michian	X			
t National Bank	101 North Main	Ishpeming, Michigan	X			
otels, Inc.	P.O. Box 30189	Memphis, Tennessee		X		
ls Restaurant	R.R. #2, Box 97	Marquette, Michigan	X			
Motel		Marquette, Michigan	X			
n's Parkway Restaurant	5045 U.S. 41 South	Marquette, Michigan	X			
Hotel Co.	Canda Street	Ishpeming, Michigan	X			
Laundry & Cleaners	136 W. Baraga Avenue	Marquette, Michigan	X			
rsing Home, Inc.	Isabella Street	Palmer, Michigan		X		
0	601 Carr Street	Negaunee, Michigan	X			

CUPPAD

A list of the actual employers in Marquette County is shown on Table 5. These represent the major employers as of 1972 information. Chocolay residents rely on these employers throughout the County for their livelihood. To the right of each employer's name is the estimated number of employees working at that company.

Marquette County's labor force fluctuated considerably from 1940 to 1964. As shown in Table 6, there has been a steady increase since 1964 to the 25,515 figure in 1974. The increases were slow from 1967 through 1971 with larger yearly jumps occurring in the past three years.

Unemployment trends are also shown in this table. For comparison purposes, the unemployment rates of other areas are included. The other districts are Central U.P., Upper Peninsula, Michigan, and the United States. It appears that Marquette County has consistently, since 1940, had a lower unemployment rate than the Central U.P. or the Upper Peninsula. But when compared to the State as a whole, Marquette has steadily been just above their figures until 1970. For the next four years, beginning in 1970, the State has had a higher unemployment rate. As for comparing the County with the United States, 1940 is the only year that the County had a lower rate of unemployment.

Table 6

Labor Force and Unemployment

	Marquette County			Unemployment Rates			
Year	Labor Force	Unemployment	Percent Unemployed	Central U.P.	Upper Peninsula	Michigan	United States
1940	17,946	2,239	12.5	11.9	14.6	9.4	15.2
1950	16,934	1,126	6.6	8.3	9.0	5.4	5.3
1960	18,952	1,502	7.9	8.8	10.3	6.9	5.5
1964	16,700	1,450	8.7	8.5	9.8	4.8	5.2
1965	17,400	900	5.2	6.2	7.7	3.9	4.5
1966	18,900	750	4.0	5.1	7.0	3.5	3.8
1967	20,250	1,225	6.0	6.5	7.9	4.5	3.8
1968	20,800	1,150	5.5	6.2	8.0	4.3	3.6
1969	20,750	1,150	5.5	5.8	8.2	4.0	3.5
1970	21,200	1,380	6.5	7.8	9.3	7.0	4.9
1971	21,675	1,675	7.7	8.7	10.0	8.2	5.9
1972	21,975	1,075	7.6	9.2	10.9	8.3	5.6
1973	23,150	1,300	5.6	7.0	9.9	7.0	4.9
1974	25,515	1,739	6.8	-	-	-	-

Source: U.S. Census, 1940-1960; Michigan Employment Security Commission, 1964-1974

Township Economy

Thus far, the discussion of economy has been centered around County data. The Township is mostly residential in character and relies heavily on the industries investigated under the County statistics. Now, the study will center on Township employment.

Based on the 1970 U.S. Census, employment of Township residents is shown in Table 7 by industry. Two primary areas of employment stand out as the largest. The category of wholesale-retail trade indicates that 27.6% of the employed Township persons work in this industry. Marquette County only had 21.5% of its persons employed in this category. The second largest employment industry for Township persons is

professional and related services. This same category is not available for the County, so a comparison is not possible. The remaining employed persons are very evenly divided among the remaining industrial categories, such as mining, construction, manufacturing, transportation, etc.

Table 7

Employed Persons Living in Chocolay Township*
by Sex and Industry
1970

	Total	Percent	Male	Female
Agriculture, Forestry, & Fisheries	9	0.7	9	0
Mining	61	5.0	61	0
Construction	77	6.4	77	0
Manufacturing, Durable Goods	34	2.8	34	0
Manufacturing, Nondurable Goods	56	4.6	25	31
Transportation	75	6.2	49	26
Wholesale & Retail Trade	334	27.6	219	115
Finance, Insurance, & Real Estate	36	3.0	25	11
Business & Repair Services	26	2.1	26	0
Personal Service Workers	35	2.9	0	35
Entertainment & Recreation Services	0	0.0	0	0
Professional and Related Services	278	22.9	118	160
Public Administration	65	5.4	60	5
Industry Not Reported	126	10.4	78	48
Total	1,212		781	431
Percent		100.0	64.4	35.6

*Includes persons 14 years old and older.

Source: 1970 U.S. Census

In the Township development survey, two specific questions were asked about the addition of businesses to Chocolay Township. The first question asked if citizens would like to see more retail and service businesses locate in the Township. The response was overwhelmingly, yes. Secondly, the citizens were asked if they would like large employment firms to locate in the Township. This question referred to firms employing 50 or more persons. A much wider diversion of response occurred on this question. A slight majority, 53%, of the responses said yes they would like these types of firms to locate in Chocolay.

These two questions were not asked in a manner that implied the respondent wanted to work in these establishments, but rather would he like more of these types of businesses available in his Township. Most respondents probably replied as a potential consumer of goods versus a potential employee.

Issues and Problems

- Area employment is based primarily on the following four industries: government, wholesale-retail trade, services, and mining.

- Dollar earnings of the industries place these four industries at the top in the area economy: government, mining, wholesale-retail trade, and services.

- Unemployment rates are usually lower than the rest of the Upper Peninsula and currently lower than the State.

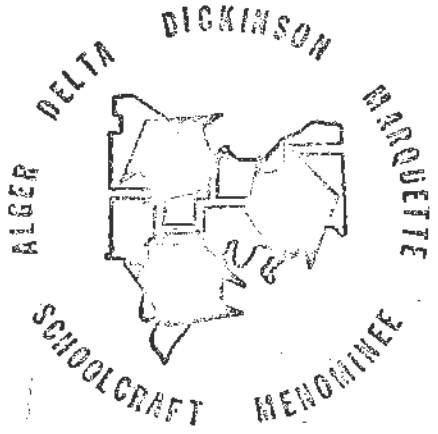
- Township employment is based on jobs located outside of the Township.

- Township employment is based in two categories that are major area industries; wholesale-retail trade and professional services.

- The development survey indicated that citizens would welcome more retail and service businesses in the Township.

- The development survey also reflects mixed feelings on the desirability of large firms or industries being added to the Township.

One important factor that this economic profile illudes to is that the main source of tax revenue for the operation of local government and schools is the citizen. The Township does not have many industries or large corporate bodies to help pay local property taxes. Chocolay Township's financial burden falls on the single-family home owners. As shown in the population study, the population is growing rapidly. This normally means the eventual need for more and more locally financed public improvements. Chocolay Township citizens are going to have to pay the bill. They have no corporate profits to rely on such as the mining companies.



CENTRAL UPPER PENINSULA

CHAPTER THREE

Natural Features

CENTRAL UPPER PENINSULA

PLANNING AND DEVELOPMENT REGION

Chocolay Township Natural Features

The physical elements that make up Chocolay Township are its natural features. This includes its surfaces and bedrock geology, soil characteristics, mineral resources, topography, wetlands, and its other unique land and water formations. Analysis of this is basic to planning because each of these features yield both opportunities and constraints for development. Soil and bedrock conditions will influence water supply and wastewater drainage. Steep topography can pose developmental problems, and in turn, community problems. The presence of valuable mineral resources can vastly determine future land uses. Where wetlands provide constraints to development, they provide the unique ecological setting for wildlife. The natural features themselves are dependent on each other. If one area is disturbed or abused, it will affect others.

All these factors are important and in planning for a community, these physical characteristics cannot be ignored. This Chapter intends to provide the proper analysis and inventors of Chocolay Township's natural resources. It will identify natural features, such as geology, topography, vegetation, water, etc., and it will focus on those characteristics which offer themselves as determinants for development. These factors, coupled with the man-made features to be identified in the following Chapter, will provide a framework wherein public policies can be formulated to produce a better environment.

Bedrock Geology

This is the solid rock layer usually found below the soils and surface geology. Its formation occurred during the earliest periods of the earth's history. Bedrock can be found hundreds of feet below the surface or protruding out of the soil as rock bluffs. In either case, the bedrock can help or hinder development.

The occurrence of bedrock at the surface can be a problem in constructing a septic tank drain field or a public sewer line. This factor has been considered in the soils section of this Chapter.

The major importance of bedrock as a resource in this investigation is its capacity to supply drinking water. The quantity and quality of well water varies with the type of bedrock the water is retrieved from, and the layers of material through which the water has passed before reaching the bedrock. For each type of bedrock in Chocolay Township, its location and water capacity will be discussed. This data was obtained from the Central Upper Peninsula Regional Water and Wastewater Plan approved September, 1971.

Jacobsville Sandstone

This sandstone occurs throughout Chocolay Township. The only area not having this bedrock is the extreme southwest corner. It is the only important source of water to wells in this area. Although this sandstone is over 1,000 feet thick, most wells tap water at less than 100 feet. As with all bedrock, permeability decreases with depth due to the tremendous pressure that squeezes together the joints and fractures.

Water from Jacobsville generally is moderately hard to hard, and locally it contains objectionable amounts of iron.

Cambrian Sandstones

This is the only other bedrock formation in the Township. It occurs in a triangular shaped area in the southwest corner of the Township. If a line was drawn from County Road 480 where it leaves the Township at the west boundary and where County Road 545 leaves the Township on the south, the line would define the corner where Cambrian Sandstone is located.

Most wells drilled into this bedrock will yield enough water for domestic purposes. Large diameter wells drilled over 50 feet into bedrock may yield more than 100 gallons per minute. Some wells in bedrock will fail because of impermeable shale or crystalline igneous and metamorphic rocks encountered at a shallow depth. Water quality is good except for moderate hardness.

Surface Geology

This material usually occurs between the soil at the earth's surface and the bedrock formations below surface. It is not as fine textured as the soil, but is a granular material far different from the bedrock. The different deposits of surface geology are categorized by names that related to the particular process of formation and also variances in material content. For example, glacial deposits occurred in three main ways: material deposited directly from the ice with little or no transportation by moving water are called tills; materials deposited in and by moving streams of water are called outwash; and those deposited in glacial lakes are called lake deposits. More specifically, surface geology categorizes the deposits by the individual or combined actions of wind, water, and glaciers that are responsible for their formation.

Each category of surface geology that occurs in Chocolay Township will be described as to location and water capacities. The following map shows the areas of Chocolay Township containing the different surface geology types.

Bedrock

These are areas which have thin or nonexistent layers of glacial deposits over the bedrock formations. Therefore, the bedrock formation is at or near the surface. In Chocolay Township, this area of surface geology occurs along the east border as shown on the accompanying map.

Glacial Lake Plain

This material is usually composed of sand, but sometimes contains silt or clay. Deposits are generally well sorted and well to moderately permeable. Moderate quantities of water are generally obtainable. The amount of silt or clay in the lake plain deposit determines permeability and water yield. Concentrations of more than 25 percent silt or clay impede drainage and the effect in most cases is a swamp or marsh.

These deposits are the most predominant of the surface geology features and occur throughout the Township. The locations of these deposits are shown on the accompanying map.

CHOCOLAY TOWNSHIP

SURFACE GEOLOGY

- Bedrock
- Glacial Lake Plain
- Wetlands
- End or Recessional Morraine
- Glacial Till-Bedrock

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT
REGION

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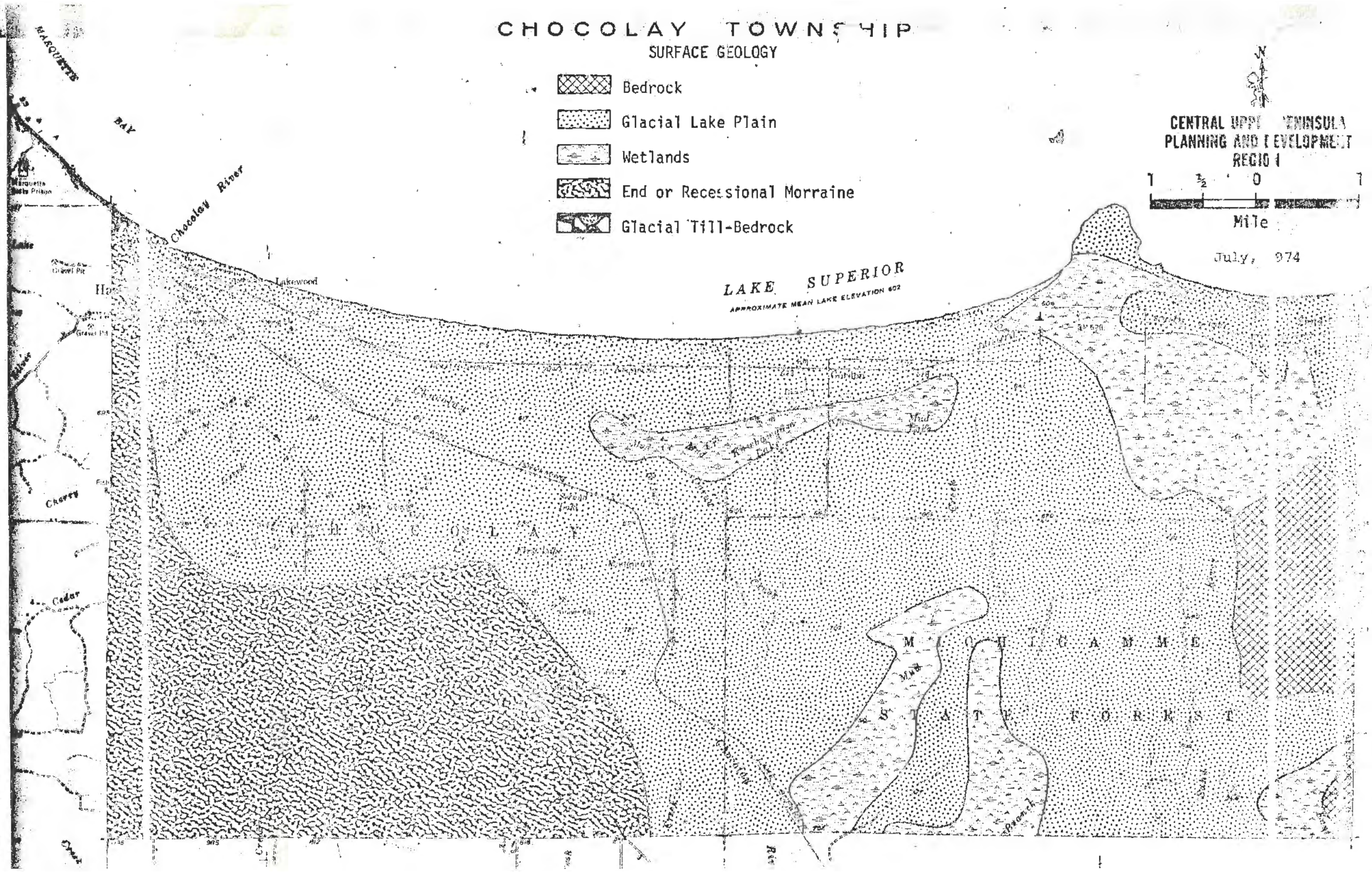


Wetlands

Wetland areas differ in one major way from glacial lake plain deposits. Because of poor drainage and high water tables, an accumulation of muck and peat overlies the glacial lake plain. Water yields are similar to lake plain yields. These deposits occur in several areas of the east half of Chocolay Township. More specific locations are shown on the map.

All wetland areas possess unique environmental qualities and should be preserved as Areas of Particular Concern. In the Township, the Lake LeVasseur waterfowl area is an excellent example of how wetlands provide a vital habitat area.

End or Recessional Moraine

These deposits show where the glaciers stopped their forward progress and began receding. On the surface, these deposits appear as large hills. End or recessional moraines are composed predominately of sands and gravel till, with small areas of sand and gravel outwash. Locally, till is clayey or silty. Permeability varies greatly, being low in clayey till and high in outwash areas. Moraines are a source of domestic water supply, and in some areas may yield moderate supplies of water. Morainal deposits can reach a depth of over 300 feet. On the surface they appear as ridges which are steep and rugged and were not exposed to wave action, elsewhere they are somewhat subdued. As shown on the Surface Geology Map, these deposits are found in the southwest corner of the Township.

Glacial Till-Bedrock

These areas are made up of bedrock with occurrences of glacial till in scattered locations. The bedrock in this area is of Precambrian origin and, like the glacial till, is a poor source of ground water. The till is thin and bedrock appears at the surface wherever the glacial till is nonexistent. This deposit just touches the northwest corner in the Harvey area of Chocolay Township.

Soils

Soil occurs at the earth's surface and has a finer texture than the bedrock or surface geology previously described.

Formation of the soil was by glaciers. As these huge sheets of ice slowly forced their way over the solid rock, a grinding action took place between the ice and rock. Material was shaved off the rock and trapped under the ice as it moved forward. While the glaciers moved, this trapped material was ground finer and finer, thus, forming the soil that is found here today. The glaciers traveled over various types of rock and added each new type to the trapped material it carried with it. This caused a mixing of rock types. As the rock material changed, so did the type of soil formed by the glacier change. This is why there are so many different soil types.

The composition and texture of the soil was dependent on the glacier's grinding action and the underlying rock material that entered. However, where the resulting soil was deposited also contributed to its final character. The primary factor is the presence of water. The amount of surface water present, depth to water table, amount of rainfall, and size of watershed all can have a great affect on the characteristics of soils.

By identifying these soil characteristics, the types of development that each can support may be cataloged. Ignoring the character of the material to be built upon

can prove a mistake. For example, a soil with seasonal high water table can seem suitable for building during part of the year, but be extremely troublesome during spring or periods of continued rain. Costly engineering and building methods can be used to overcome some soil limitations, but providing public roads and utilities in such areas can cause all taxpayers to share the financial burden. Some of the factors to consider about soil types are the moisture content needed for agriculture, weight supporting capacity for structures, permeability levels affecting drainage, cohesiveness for erosion resistance, and others.

With the cooperation of the Soil Conservation Service, soil types in Chocolay Township were identified and categorized as to their suitability for different potential uses. Following is a brief description of each major soil series found in Chocolay Township.

Au Gres: (AuA) — Somewhat poorly drained soils developed in 60 inches or more of sand. Occurs in outwash and till plains. Water table fluctuates between two and ten feet.

Alluvial: (Ad) — This is a soil that occurs along streams. It is subject to flooding by stream overflow. Drainage is variable. The water table fluctuates with the level of the stream. Textures are variable in short distances, but the sandiest material is usually closest to the stream. Water movement through the soil is variable.

Bohemian: (BhB) — Well to moderately well-drained soils with loamy surface layer over loam to light silty clay loam, which in turn is underlain with calcareous, stratified silts and very fine sands. Occurs in lake plains. Thickness and texture of layers variable.

Brimley very fine sandy loam: (BrA) — Somewhat poorly drained soils with loamy surface layer over loamy material. Calcareous, stratified silts and very fine sands at a depth ranging from 24 to 42 inches. Nearly level lake plains. Water table fluctuates between two and ten feet. Texture and thickness of layers variable.

Burt mucky sand: (Bu) — Poorly drained soils with less than 20 inches of sandy loam sand over sandstone bedrock. Numerous sandstone fragments and slabs on surface and in profile. Water table at or near the surface unless drained. Subject to ponding.

Burt loamy sand: (BwA) — This is a somewhat poorly drained sandy soil underlain by sandstone bedrock at 10 to 20 inches. It has a seasonally high water table which fluctuates between about six inches to below the bedrock. Water movement through the soil is rapid in the soil material. Natural fertility is low.

Carbondale muck: (Ck) — Very poorly drained soils with more than 42 inches of muck and peat. Derived from coniferous woody plants mixed with fibrous materials. Nearly level and depressional areas subject to water ponding. Water table at or near surface unless drained.

Chippeny muck: (Cm) — Very poorly drained soils with 12 to 15 inches of muck or peat over limestone bedrock. Organic material derived from wood material mixed with fibrous material. Subject to ponding. Water table at or near surface unless drained. Thin mineral layer is common between organic material and bedrock.

Croswell sand: (CrA)	Moderately well-drained soils with sandy surface layer over acid sands to 60 inches or more. Found in low dunes, outwash and lake plains. Drouthy and subject to wind erosion. Water table commonly below five feet, but can be within three feet of surface in wet periods.
Dawson muck: (Da)	Very poorly drained soils with 12 to 42 inches of extremely to strongly acid muck and peat over sands. Level and depressional areas subject to water ponding. Water table at or near surface unless drained.
Deer Park sand: (DkB)	Well-drained soils with sandy surface layer over acid sands to 60 inches or more. Found in low dunes, outwash and lake plains. Drouthy and subject to wind erosion.
Deerton sand: (DmB)	Well or moderately well-drained sand or loamy sand soils, 20 to 40 inches deep, over acid sandstone bedrock or 20 to 40 inches. Occurs in till plains and bedrock benches.
Deerton sand wet variant: (DoA)	This is a somewhat poorly drained sandy soil underlain by sandstone bedrock or 20 to 40 inches. It has a seasonally high water table which fluctuates between about 1 foot to below the sandstone. Water movement through the soil is moderately rapid to rapid in the soil materials.
Deerton sand shallow variant: (DsB)	This is a well-drained sandy soil underlain by sandstone bedrock at 10 to 20 inches. Water movement through the soil is moderately rapid to rapid.
Deford loamy fine sand: (Dt)	Poorly drained to very poorly drained soils with loamy fine sand surface soil over stratified fine sand, very fine sand and loamy fine sand. Thickness and texture of layers vary greatly. Nearly level and depressional areas of outwash and lake plains. Water table at or near surface unless drained.
Dune land: (Du)	This miscellaneous land type consists of long narrow strips of sand dunes which occur along the shore lines of Lake Superior. The areas of dune land comprise partly stabilized dunes which lie immediately inland from the lake beach. The dunes have slopes that range from 8-40%. Soil profiles developed in these areas are virtually absent. Vegetation is sparse and consists of beach grass, yew, and scattered jack pines.
Gay mucky sandy loam: (Ga)	Poorly and very poorly drained soils with loamy surface layers over sandy loam or light sandy clay loam. Acid sandy loam at a depth ranging from 33 to 48 inches. Depressional areas on till plains and moraines. Water at or near surface unless drained. Subject to water ponding.
Greenwood peat: (Gw)	Very poorly drained soils with more than 42 inches of strongly acid muck and peat. Derived from mosses and sedges in leatherleaf bogs. Nearly level and depressional areas subject to water ponding. Water table at or near surface unless drained.
Ingalls sand: (InA)	Somewhat poorly drained soils with 18 to 42 inches of loamy sand or sand, over calcareous stratified silts and very fine sands. Occurs in lake plains. Water table fluctuates between two and ten feet.

Kalkaska sand: (KaB)	Well-drained soils with sandy surface layer over acid sands to 60 inches or more. Found in low dunes, outwash and lake plains. Weakly cemented at 10 to 24 inches in some areas. Drouthy and subject to wind erosion.
Kawbawgam sandy loam: (KbA)	Somewhat poorly drained soils with 20 to 40 inches of sandy loam over sandstone bedrock. Sandstone fragments on the surface and throughout the profile in some areas.
Keweenaw loamy sand: (KeB)	Well-drained or moderately well-drained soils having a loamy sand surface layer over loamy sand with a thin sandy loam layer and a very weak to moderate fragipan. Acid loamy sand at about 30 inches. Occurs in till plains and moraines. Strata of sand or sandy loam below 24 inches in some areas.
Keweenaw loamy sand, wet variant: (KmA)	This is a somewhat poorly drained predominantly sandy soil. It has a seasonally high water table which fluctuates between about one and six feet. Water movement through the soil is moderately rapid.
Keweenaw loamy sandy, poorly drained variant: (Kp)	This is a poorly drained predominantly sandy soil. It has a seasonally high water table which fluctuates between the surface and about three feet. Water movement through the soil is moderately rapid.
Kinross mucky sand: (Kr)	Poorly to very poorly drained soils having a sandy surface layer over very strongly to strongly acid sands. Depressions and nearly level areas of outwash and lake plains. Water table at or near surface unless drained. Subject to water ponding.
Munising sandy loam: (MuB)	Well-drained to moderately well-drained soils with loamy surface layer over sandy clay to sandy loam. Acid sandy loam glacial till at a depth ranging from 30 to about 50 inches. Occurs in till plains and moraines. Stony in some areas. Moderate to strong fragipan at about 18 inches.
Ocqueoc fine sand: (OcB)	Well-drained and moderately well-drained soils with 18 to 42 inches of sand or loamy sand, over calcareous stratified silts and very fine sands. Occurs in lake plains.
Onota sandy loam: (OnB)	Well-drained and moderately well-drained soils having 20 to 40 inches of sandy loam glacial material over sandstone bedrock. Numerous sandstone fragments and slabs on surface and throughout profile in some areas.
Onota sandy loam poorly drained variant: (Op)	This is a poorly drained loamy soil underlain by sandstone bedrock at 20 to 40 inches. It has a seasonally high water table which fluctuates from the surface to about three feet. Water movement through the soil is moderate.
Rousseau fine sand: (RoB)	Well-drained soils with fine sandy surface layer over acid stratified fine and very fine sands to 60 inches or more. Found in low dunes, outwash and lake plains. Drouthy and subject to wind erosion.

Rubicon sand: (RuB) Well-drained soils with sandy surface layer over acid sands to 60 inches or more. Found in low dunes, outwash and lake plains. Drouthy and subject to wind erosion.

Seney sand: (SeB) This is a well-drained sandy soil. Water movement through the soil is rapid.

Skanee sandy loam: (SkA) Somewhat poorly drained soils with loamy surface layer over sandy loam or sandy clay loam. Acid sandy loam glacial till at a depth ranging from 24 to about 36 inches. Occurs in till plains and moraines. Water table fluctuates between two and ten feet. Weak to moderate fragipan, 5 to 18 inches thick, at about 24 inches.

Tawas muck: (Ts) Very poorly drained soils with 12 to 42 inches of muck and peat over sands. Organic material derived from coniferous woody plants mixed with fibrous material. Level and depressional areas subject to water ponding. Water table at or near surface unless drained.

Wainola fine sand: (WaA) Somewhat poorly drained soils with loamy fine sand surface soil over stratified fine sand, very fine sand and loamy fine sand. Thickness and texture of layers varies greatly. Nearly level areas of outwash and lake plains. Water table fluctuates between one and ten feet.

Yalmer: (Ya) This is a well-drained sandy soil underlain by loamy material at 20 to 40 inches. It has a hardpan (fragipan) in the upper 4 to 16 inches of the loamy material. Water movement through the soil is rapid in the sandy layers, moderately slow in the pan and moderate below the pan.

Yalmer loamy sand: (YaB) This is a poorly drained soil underlain by loamy material at 20 to 40 inches. It has a seasonally high water table which fluctuates between the surface and about three feet. Water movement through the soil is rapid in the sandy layers and moderate in the loamy layers.

Yalmer wet: (YsA) This is a somewhat poorly drained sandy soil underlain by loamy material at 20 to 40 inches. It has a seasonally high water table which fluctuates between about one and five feet. It has a hardpan (fragipan) in the upper 4 to 12 inches of the loamy material. Water movement through the soil is rapid in the sandy layers, moderately slow in the pan and moderate in the remainder of the soil.

As discussed earlier, now that the soils are identified they can be grouped according to their suitability for different uses within the Township. Two major uses are identified for study. These are urban uses and resource production. Resource production refers to farming activities and forest activities. The urban uses that were rated as to their suitability for residential development without public sewer, residential development with public sewer, and those areas not suitable for any urban development. The following tables indicate the suitability of each soil series for the uses explained above.

Table 1

Soil Suitability for Urban Uses in
Chocolay Township

Suitable Uses	Soil Series Abbreviations
Suitable for all urban uses	CrA, DkB, KaB, KeB, RoB, RuB, SeB
Suitable for urban uses if public sewer available	AuA, BhB, BrA, DmB, DoA, DsB, KbA, KmA, MuB, OcB, SkA, WaA, YaB, YsA
Severe limitations for all urban uses	Ad, Bu, BwA, Ck, Cm, Da, Dt, Du, Ga, Gw, InA, Kp, Kr, OnB, Op, Ts

Source: Soil Conservation Service

Table 2

Soil Suitability for Resource Production Uses in
Chocolay Township

Suitable Uses	Soil Series Abbreviations
Suitable for farming and forests	AuA, BhB, BrA, CrA, DmB, KaB, KbA, KeB, KmA, MuB, OcB, OnB, RoB, SeB, SkA, WaA, YaB, YsA
Suitable for forests	DkB, DoA, Ga, RuB
Severe limitation for all resource production uses	Ad, Bu, BwA, Ck, Cm, Da, DsB, Dt, Du, Gw, ImA, Kp, Kr, Op, Ts

Source: Soil Conservation Service

These groupings have been applied to maps of Chocolay Township to show physically where the areas are located. At this time, wall size maps have the data which will later be transferred to report size Township maps. It should be emphasized that the soil suitability data is a general indicator of suitable or unsuitable areas of the Township. Whenever a specific parcel is in question, detailed data for that piece of land should be obtained from the Soil Conservation Service.

The information is useful to the Township as an indicator of the best future development area for the Township. Such development decisions will include considerations of private development and related public improvements. Based on these soil ratings, the Township can encourage future growth in the appropriate locations through placing their public improvements accordingly and through the zoning ordinance.

Mineral Deposits

Over the years man has learned more and more about the formation of earth and the properties of the material around him. With this knowledge, new technologies to utilize the material found on earth have evolved. So, over time, the demand for various minerals has increased as the uses are expanded. Because of this demand for certain minerals and their limited supply, it is important to identify occurrences

of the minerals. Considering the potential for extracting these valuable minerals, development by man that would be in conflict with the extraction process should be discouraged if at all possible. It is for this reason that such deposits are investigated in Chocolay Township.

Valuable mineral deposits can be divided into two categories: 1) ferrous metals; and 2) non-ferrous metals. The ferrous metals, particularly iron ore, are prominant in Marquette County. However, current mapping of the Marquette Iron Ore Range by Cleveland Cliffs Iron Company shows the iron formation stopping some distance west of Chocolay Township. So, as far as ferrous metals are concerned, there are none in Chocolay Township of commercial value.

Non-ferrous metals include gold, silver, lead, zinc, copper, etc. There are also occurrences of these in Marquette County and gold has even been mined west of the City of Marquette. In relation to Chocolay Township, there have been some traces of copper, lead, and zinc found within the Township. These traces have appeared in test borings. The amounts found have been small and as yet are not considered large enough quantities to warrant any mining operations.

However, other low value mineral resources such as sand and gravel do exist throughout the Township. Extraction of these resources are dependent on local needs and location economies. Because the hauling costs can easily exceed the resources' market price, deposits must be located in close proximity to the user area. For this reason, these mineral resources should be preserved as Areas of Particular Concern.

Topography

When the earth was formed, it is obvious that the resulting surface did not end up flat. There are hills, ravines, mountains, flat plains, and a thousand other shapes to the earth. This changing surface can be said to have a changing topography. The vertical distance measured above mean sea level is elevation. These elevation changes in the landscape determine the size and shape of watershed.

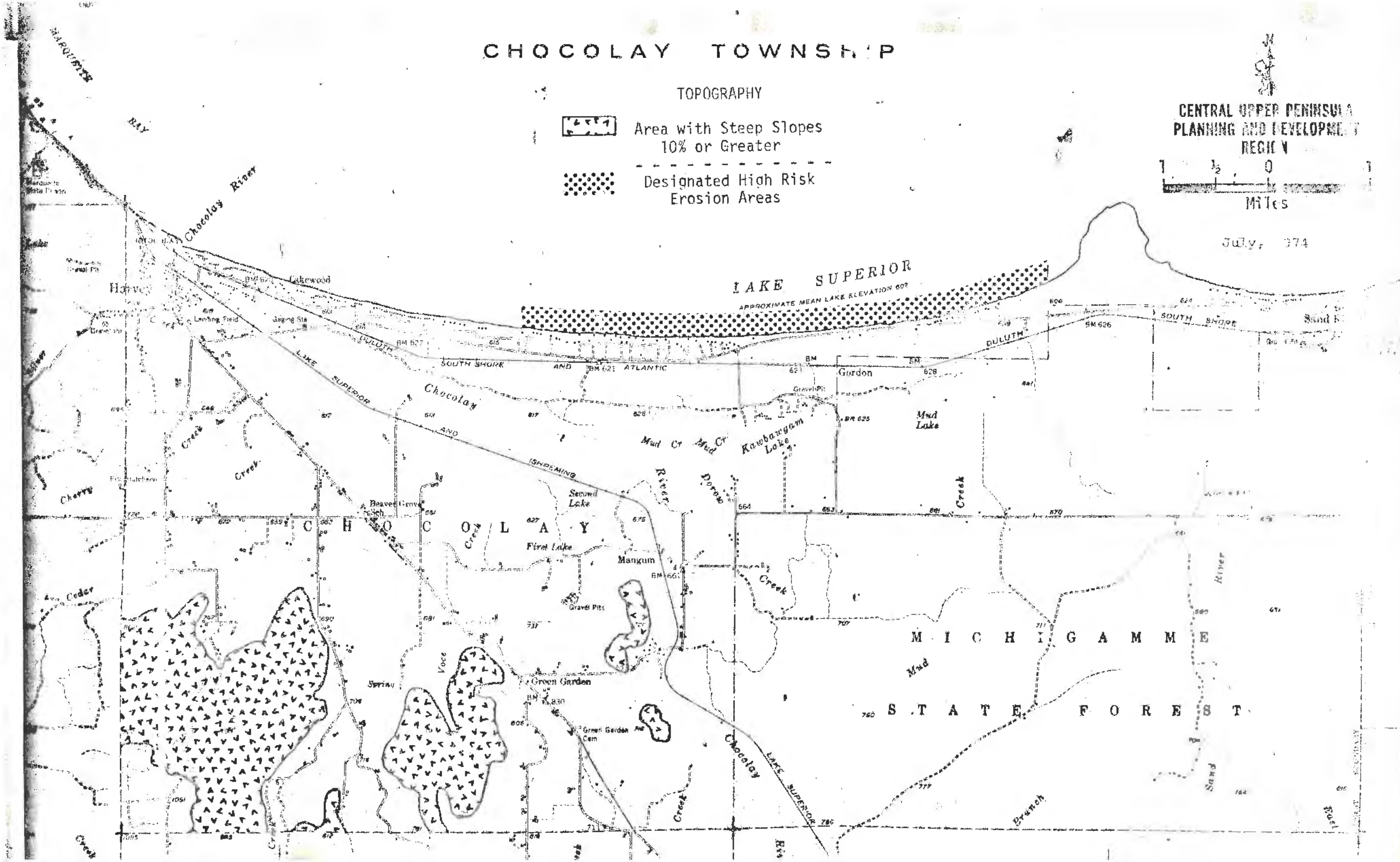
The importance of looking at topography in Chocolay Township centers on identifying the best suited areas of the Township for various uses. The steep topography (10% or greater slopes) is generally thought of as not desirable for most types of development. Construction costs are usually higher, chances of erosion occurring when this soil is disturbed are very high, and if public services are provided, the steep areas can cost more in providing service. For reasons such as these, steep areas are discouraged as prime development areas, especially when the flatter locations are available.

Other significant topographic characteristics are unique geologic formations. In Chocolay Township this would include the sand bluffs along Lake Superior and the protruding bedrock formations. These areas, in addition to the steep-sloped areas, are Areas of Particular Concern.

The following map indicates areas of Chocolay Township that have slopes of 10% or greater.

Water Features and Watersheds

These elements of natural features consider the bodies of water and their interconnection through drainage basins. Streams, rivers, lakes, and wetlands all play a


CHOCOLAY TOWNSHIP
TOPOGRAPHY
Area with Steep Slopes 10% or Greater
Designated High Risk Erosion Areas
CENTRAL UPPER PENINSULA PLANNING AND DEVELOPMENT REGION
Miles
LAKE SUPERIOR
APPROXIMATE MEAN LAKE ELEVATION 602
Chocolay River
Harvey
Lakewood
SOUTH SHORE AND ATLANTIC
DULUTH
LAKE SUPERIOR AND ISHPEMING
Gordon
Mud Lake
Kawbawgam Lake
Second Lake
First Lake
Mangum
Beaver Grove
C H O C O L A Y
Green Garden
Green Garden Cem
Gravel Pits
Cherry Creek
Cedar Creek
M I C H I G A M M E
S T A T E F O R E S T
Branch
Sand River

valuable role in Chocolay Township's natural features. Persons in Chocolay Township use the water for sources of domestic water. They use the same water for transporting and treating their human wastes. But these same waters are relied on for recreation by bathers, fishermen, boaters, nature lovers, and water-bound creatures. These uses alone put much strain on the water to stay at a high quality and useable in future years.

It is important that all persons in the Township realize that their small additions to the subsurface and surface water bodies is only a fraction of the impurities that enter the system. If each individual, municipality, business, or land user will do their share of protecting these water features from effluent, then no one will suffer the loss of these valuable natural features.

The major water features have been marked on the following map. They include the Chocolay River, Sand River, Mud Creek, Big Creek, Kawbawgam Lake, and Lake Levasseur. Lake Superior is also a water feature associated with Chocolay Township. It is influenced by all of the above named water bodies because of their drainage.

These water areas and the other lesser streams and ponds are all very important to the life cycle of both humans and animals, and deserve to be Areas of Particular Concern.

This brings us to the watersheds within Chocolay Township. Based on the topography of Chocolay Township, the surface and subsurface water flow together in watersheds or basins. Each stream has a watershed or area of land that drains toward a central corridor. Depending on the size of the watershed and amount of water collected within it, a body of water, usually a stream or river, will form to carry this water off. So all impurities or effluent released into one watershed eventually become consolidated in a stream or river serving the watershed. This is how each individual action affects all others downstream in the same watershed.

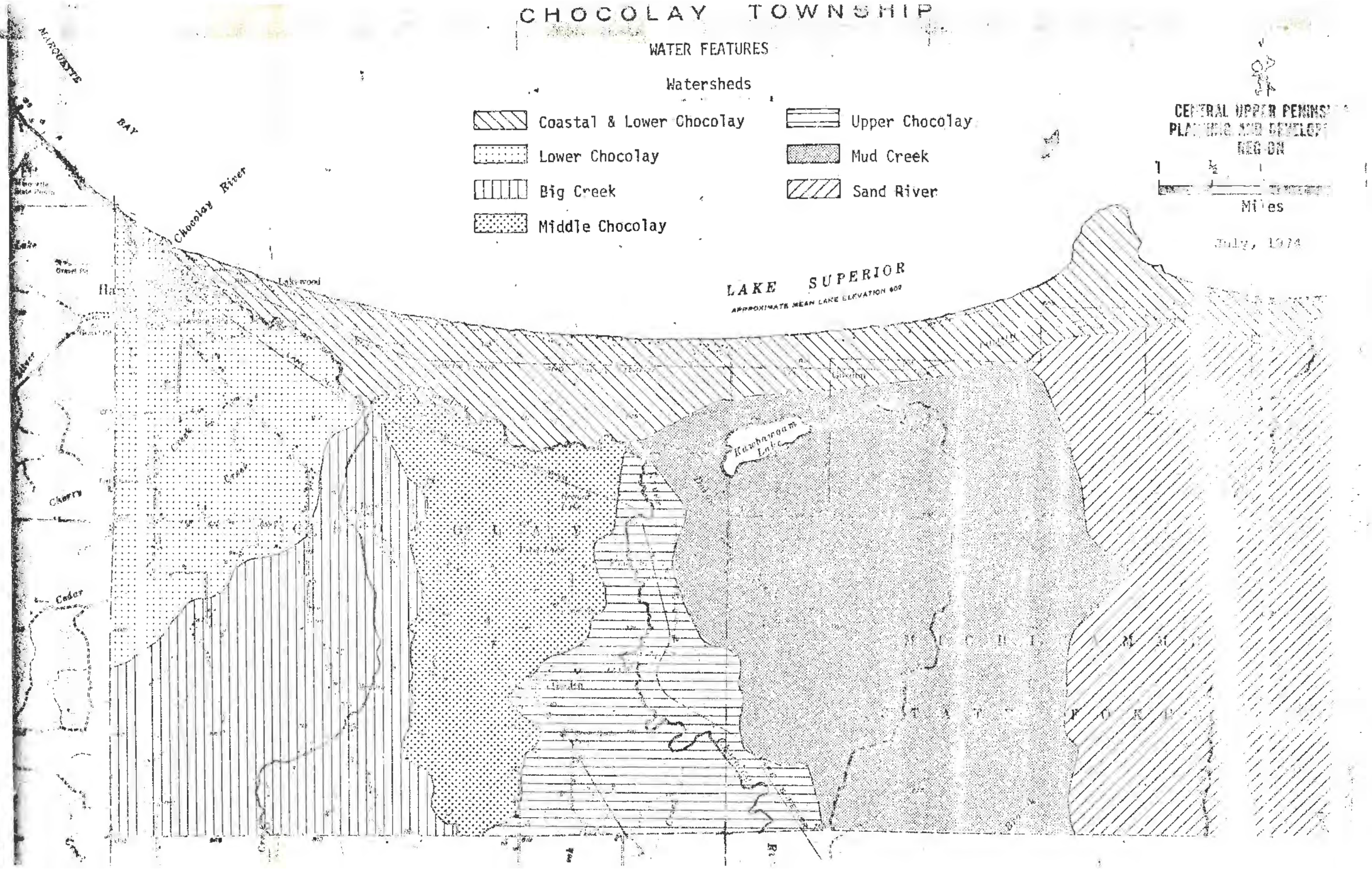
To show this collection action in the watersheds of Chocolay Township, the major watersheds were delineated on the water features map that follows.

Shoreland Features

Chocolay Township has approximately twelve miles of Lake Superior shoreline. This area of shoreland is looked at specifically because of recent legislation pertaining to the management of these areas. State consideration and finally legislation of the Great Lakes shoreline was prompted because of the high damage losses to shoreline development over the years. There is a great attraction to living along the shore as can well be understood. But with the lake level fluctuating over the decades, what often happens is development occurs close to the water during the years of low water and then is endangered by high water lines in the years that follow. Much federal, state, and private money is invested each year in shoreland protection structures and reconstruction of damaged developments.

The intent of the Shorelands Protection and Management Act (Act 245, Public Acts of 1970) is to prevent future damage to permanent residential, commercial, and industrial buildings that may be built in the future in high risk erosion areas of the Great Lakes shoreline. The aim is to prevent damage to buildings, including septic systems and tile fields, for a 30-year period after their construction by requiring a setback distance from the bluff.

CHOCOLAY TOWNSHIP



It is not the States intention to regulate all of the Great Lakes shoreline. Only to encourage setbacks at locations determined to be high risk erosion areas. The act only permits the State to regulate areas designated high risk erosion areas and only approximately ten percent of Michigan's Great Lakes shoreline fits this designation. It is also important to mention that the act does not give authority to ban persons from using their property, it just allows a setback requirement.

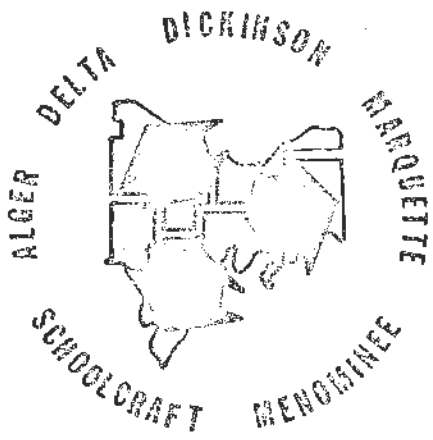
The act pertains to undeveloped, unplatted property in areas designated as having significant erosion. The Department of Natural Resources, by statute, must institute a permit procedure for approving building setbacks in all undeveloped, unplatted high risk erosion areas by July 1, 1975 if no local zoning is enacted by then. However, this permit procedure will be in effect only until a local zoning ordinance is developed and approved.

Chocolay Township has approximately five miles of shoreline that is designated as high risk erosion under the DNR guidelines. These high risk erosion areas are shown on the preceeding map. Parts of this shoreline are developed and parts are not. This act can only apply to those areas undeveloped in requiring future development to have the setback. Therefore, the Township should consider classifying these areas as Areas of Particular Concern and utilizing a setback provision in their new ordinance being drafted now. The recommended setback distances will be discussed later and included in the ordinance.

Issues and Problems

As the previous discussion investigated each element of natural features within the Township, particular issues and problems have been identified. These will be listed to allow the Township to concentrate their effort in these significant areas of concern.

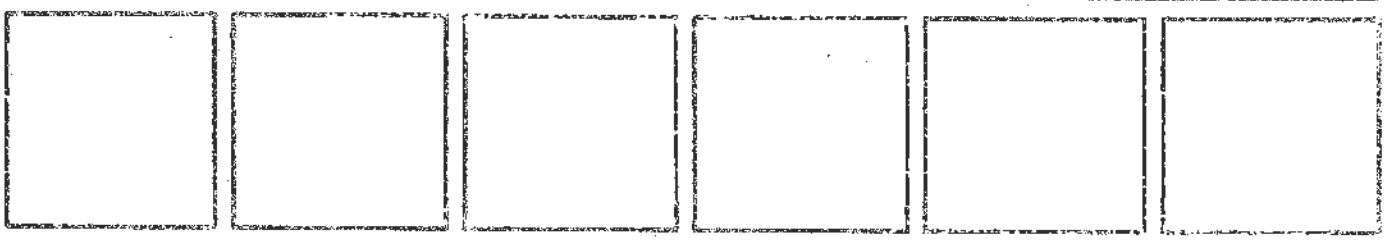
- Majority of soils in the Township are not suitable for urban types of development.
- A large percentage of the Township has soil suitable for forest production.
- Soil characteristics in the Township make septic tank operation only workable in very limited areas of Chocolay.
- Mineral deposits in the Township have only appeared in trace amounts and not of commercial value.
- An area of steep slopes (10% or greater slope) in the southwest corner of Chocolay Township is discouraged as a prime development area.
- Chocolay Township has five miles of designated high risk soil erosion areas.
- Areas of Particular Concern have been identified, the Township is encouraged to take steps in preserving them.



CENTRAL UPPER PENINSULA

CHAPTER FOUR

Existing Land Use



CENTRAL UPPER PENINSULA

PLANNING AND DEVELOPMENT REGION

EXISTING LAND USE

In a previous chapter, entitled "Natural Features", an investigation was made of the land forms and water features occurring in Chocolay Township. This included all aspects of the township that were put here by nature and could be affected by man's presence on the land.

This existing land use chapter looks at how man has developed the township to the present time. This is accomplished by doing an inventory of all existing land uses. This inventory categorizes all types of land uses in the township. It shows the areas of the township that are developing and the types of uses present.

Another aspect of land use is identification of growth areas. This is done by looking at development trends over the years. Chocolay Township is fortunate to have had another land use study of the urban portion of the township, done in 1963 by a Northern Michigan University class. This provides a comparison over time of the land use changes that have taken place.

1974 Land Use

A study of land use for any area must begin with an inventory of what exists. This provides basic information for present policy makers and gives future interested persons comparative data when they look back at this date in the township's history.

Before the inventory is begun, a classification system must be devised to catalog each land use. This guides the field worker in what level of detail he needs to collect his data. Since land use studies have been done for many years, it is not necessary to start from scratch to develop a land use classification system. What was used in Chocolay Township is the Michigan Land Use Classification System, which is described briefly below.

Under this system, the land uses observed in Chocolay Township were grouped into seven major areas. These are: residential; commercial, services, and institutional; industrial; transportation, communication, and utilities; open and other; agricultural; and forest. Within each of these areas, a more detailed breakdown was done. Table 1 shows the system used and serves as the legend for the land use maps.

Table 1

Classification System for
Chocolay Township Land Use[1]
1974

11. RESIDENTIAL

MULTI FAMILY, LOW RISE
1123. Low Density, Apartment

SINGLE FAMILY/DUPLEX
1132. Medium Density
1133. Low Density
1134. Non-Farm Residence
1135. Mobile Home
1136. Seasonal Dwelling
1139. Duplex

STRIP RESIDENTIAL
1141. High Density, Shoreline
1142. Med. Density, Shoreline
1143. Low Density, Shoreline
1144. High Density, Roadside
1145. Med. Density, Roadside
1146. Low Density, Roadside

MOBILE HOME PARKS
1151. High Density
1153. Low Density

GROUP AND TRANSIENT QUARTERS
1167. Hotels, Tourist Courts, Motels

12. COMMERICAL, SERVICES, AND INSTITUTIONAL

1211. Commercial
1212. Services
1214. Education
1215. Religious
1216. Correctional
1218. Government Administration and Services
1271. Cultural, Indoor

13. INDUSTRIAL

1327. Petroleum Refining and Related Industries
139. Warehouse

15. TRANSPORTATION, COMMUNICATION, AND UTILITIES

RAIL TRANSPORTATION
1529. Engineering Office

COMMUNICATION
1551. Telephone

UTILITIES
1564. Solid Waste Disposal

19. OPEN AND OTHER

OUTDOOR RECREATION
1911. Aesthetic and Resting Areas
1912. Play, Games, and Athletics
1915. Water, Picnic, Camping and Nature Study Activities

2. AGRICULTURAL LAND
21. Cropland, Rotation, and Permanent Pasture
28. Inactive Agricultural Land
2911. Farmstead with Active Residence
2912. Farmstead without Active Residence

3. FOREST
Detailed Maps
Township Maps

[1]Detailed definitions for each land use category are found in the Appendix.

Source: Department of Natural Resources "Michigan Land Use Classification System", Working Paper of February, 1974.

With this classification system as a basis, the land in Chocolay Township was inventoried. Each observed land use was so noted on the township map, and relative land areas used for each activity were collected. This information was then displayed on two different scale township maps. The one map shows all of the township at a scale of 1" = 2,000', which is used for the rural land use analysis.

The other map, used for the urban portion of the townships, is at a scale of 1" = 200' and covers an area from Lake Superior Shore, in one mile, and from Harvey to Kawbawgam Road. Each map has colors which correspond to the classification system in Table 1. These colors differentiate residential from commercial, from agriculture, etc. Because of the need to further define the differences between the types of land uses, a number is also provided to indicate mobile home or single family, seasonal home or year-round dwelling, and so forth as listed in Table 1.

As we look at the rural land use map for the township, it shows the open land cleared of trees in two categories: 1) active farm ground, 2) inactive farm ground. The inactive ground contains various weeds or grasses that perpetuate themselves, and sometimes, contains seedlings of nearby trees that are slowly encroaching on the open area. It will take many years, but baring development on the inactive land, the surrounding forests should eventually close in on this land.

The active farm ground is used for permanent pasture, potatoes, oats, and hay. The farming areas are scattered along the main roads of the township and vary in size from 30 acres to over 300 acres of contiguous farm land. Because active agricultural land is limited and valuable, it should be considered an Area of Particular Concern.

Now that the cleared land has been identified, it is important to relate it to the soil suitability maps that indicate preferable areas for farming. This comparison will show if present farms are operating on the best soils and where expansion of farming activities would be advisable. Map 3 contains the cleared land in the township, both actively farmed and inactive land, as well as the areas containing soils suitable for farming activities. (Map 3 is a wall display map.)

Looking at the residential pattern of growth, the rural area is definitely being built up at a fast pace. U.S. 41 from Beaver Grove to Harvey is almost a continuous residential strip, as is County Road 480 from Beaver Grove West. Cherry Creek Road is well on its way to being solid residential down to the end of its paved length. The other township roads are having less concentrated growth, but homes occur at least every quarter mile throughout the west half of the township. Kawbawgam Lake has solid seasonal homes on its north shore with concentrated year-round homes on the parallel paved road just off the lakes north side. Future road right-of-ways have been cleared in the jack pines north of the lake, which could bring many more homes to this Kawbawgam Lake area.

The Lake Superior shoreline on both sides of Shot Point consist of continuous residential strips. They are intermixed seasonal and year-round homes. Shot Point has a number of lots available along the shore. Several seasonal dwellings have been built with one year-round home on the east shore.

Table 2

Land Use Quantities for Harvey and Vicinity[1]
1963 and 1974

Category	1963 Acres	1963 % of Study Area	1974 Acres	1974 % of Study Area
Residential	552	17.9	668	21.7
Commercial, Service, and Institutional	19	0.6	31	1.0
Industrial	2	0.1	5	0.2
Transportation, Communication, and Utilities	1	0.1	1	0.1
Open and Other	0	0.0	4	0.1
Active Agriculture	20	0.6	20	0.6
Inactive Agriculture	200	6.5	200	6.5
Roads and Railroads	203	6.6	217	7.0
Forest and Vacant	2,028	65.8	1,879	61.0
Water Bodies	55	1.8	55	1.8
Total Acreage in Study Area	3,080	100.0	3,080	100.0

[1]The Study Area consists of sections 5, 6, 7, 8, 10, 11, 12 of R. 24W, T. 47N.

Source: 1963 Northern Michigan University Land Use Study, 1974 CUPPAD Land Use Study.

CENTRAL UPPER PENINSULA

CHAPTER FIVE

Community Facilities and Services

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Chocolay Township Community Facilities

Introduction

The gathering together of people in contiguous locations to live has established our complex communities. These communities are made up of many elements, such as homes, businesses, schools, roads, churches, and most importantly, people. Each of these community elements has needs which must be satisfied to provide a safe, sanitary, and viable community. These needs include, fire and police protection, governmental administration, recreational, educational, health, and library facilities. Cemeteries, solid waste collection, public water, and a host of other services are also community facilities. Individually, each element could not satisfy all of these needs, but collectively, through their government, these services could be provided.

Through time, local units of government, such as Chocolay Township, have been expected to provide these services. Private enterprise has generally been unable to supply this need because of the lack of profits in constructing and operating of the facilities/services.

Because the responsibility for all these facilities lies with the Township government, this Chapter is quite important in a comprehensive plan for Chocolay Township. The Township officials need a firm understanding of the facilities presently available, how they operate and function, what others may be needed, and the importance of each to the future of the Township. This Chapter of the Comprehensive Plan will try to do all of this so the Township officials will have some definite guidance in the providing of facilities to Chocolay residents. In this Chapter, there will be a description of the existing situation, an identification of problems, and suggested actions in the form of goals, objectives, and policies.

Existing Situation

Administrative Facilities

In the operation of Township business, some type of office space or meeting area is needed. The larger the unit of government, the more personnel and facilities are necessary to carry out business. In the case of Chocolay Township, a full-time staff uses office space 8:00 a.m. to 5:00 p.m., Monday through Friday. The facility used by this staff and all other Township committees is the Township Hall. Its condition and multiple uses will be discussed below.

The Chocolay Township Hall is located in Harvey. The building was built in the 1880's as a township hall. It contains a large meeting room with an office partitioned off for the Superintendent, another office for a secretary, storage room, restrooms, a basement with kitchen, and a vault in the basement to protect Township records.

The building is wood frame construction. Utilities in the building include a well for water, septic system for sewer, electricity, and fuel oil for heat. Operation of the building is for 12 months of the year with an annual operating cost of $4,500.

The Township Hall is not located in a central location geographically, but based on Township population, its location in Harvey is near the majority of the Township residents. The site contains 2.27 acres and provides adequate parking for most activities.

At present, the Township Hall is serving several functions. Its primary use is office space and meeting area for conducting Township business. Meetings to carry out the operation of the Township government include Township Board meetings, Planning Commission, Board of Appeals, and Board of Review meetings. Community groups also use the hall for those meetings not requiring room for a large crowd of over 50 persons. Such groups are the Harvey Homemakers, Lions Club, Cub Scouts, Brownies, senior citizens, community school classes, a monthly police school, and during the summer, a free health clinic twice a week. The hall is also available for social functions such as receptions for a fee of $10, plus $5 if the dishes are rented. A $50 deposit covers clean-up and damage if either are needed. Past records indicate that the hall is rented, on the average, five times a month. Township officials indicate that community groups and social events use the hall either as a last resort or because of the low cost.

Wastewater Facilities

As the Township developed, each person was responsible for providing his own sewage disposal system for his house or business. The proper functioning of these individual systems vary depending on their location in the Township because of a high water table in many areas. Currently, the County Health Department inspects all new systems to verify that soil conditions will allow it to operate properly and not contaminate streams or wells in the vicinity. Such septic systems are used in the rural areas, as well as in the Harvey area. However, a public sewer is being constructed at present in the Harvey and Lakewood Lane area that will replace these septic tanks for many Township residents.

Chocolay Township is putting in collecting sewers that will gather and transport the waste to the Marquette treatment plant. The system will service the Harvey area as marked on Map 1. When complete, the sewer will be available to the following users:

422 Housing Units
34 Motel Units
1 Public School (565 pupils)
3 Churches (580 seats)
20 Commercial Establishments
56 Vacant Parcels

Scheduled completion of the $1,817,000 project is July, 1975. At this time, it appears that completion will be on schedule, ready for use by late summer. The project is being funded by two sources. The first source is a grant from the Department of Housing and Urban Development amounting to $607,000. The second source is local money which is being used to finish the funding out to its total project cost. Local money, approximately $1,210,000 is being raised by general obligation bonds through the Marquette County Department of Public Works. By using the County Department of Public Works, the Township will be able to get a reduced interest rate on their bonds because the full faith and credit of the County also backs the bonds. These bonds will be retired by the Township through a three mill ad valorem tax, special assessment district fees, hook-up fees, and a user fee. The bonds are to be paid off over the next 20 years. The three mill tax will be evaluated each year to identify if a lowering of this tax is possible. A levy of three mills is not mandatory over the 20 year period and can be adjusted.

After the system is functioning, there will be a monthly users fee based upon a locally approved rate schedule. The rate schedule differentiates between single family homes, apartments, motels, commercial establishments, and other types of users. For example, the fee for a single family home is approximately $7 per month per house. Money from this fee is used to operate and repair the system on a day-to-day basis, building up

replacement funds for future system needs, and present debt retirement. See map of Chocolay's proposed sewer service area.

Water System

At present, all Township residents are served by their own private well, each varying in quality and capacity. The Township provides no public system for distribution of water, but as the Harvey area increases in population, the need for some central distribution and treatment of water becomes more apparent. In anticipation of such action, water main crossing pipes were placed under US-41 when the sewer lines were installed, thus, not requiring the highway to be disturbed when a water system becomes a reality.

Recreation Facilities

Chocolay Township has been growing very rapidly in recent years and so has their need for facilities. Recreation facilities did not grow with the population, but are now recognized as an important need. Other than the gymnasium at Silver Creek School, the Township had no recreation areas. The Chocolay River provides an opportunity to enjoy water based recreation activities, but the access to this stream was on private property. Lake Superior (one of the largest and most beautiful of the Great Lakes) forms the Township's north boundary, but the Township owns no land on its lakeshore. There are two roadside parks in eastern Chocolay Township that provide limited picnic and rest areas along Lake Superior. These are owned by the State Highway Department. The Township has two inland lakes named Kawbawgam and Lake LeVasseur. Lake LeVasseur is recognized as a natural waterfowl area and has a Department of Natural Resources public access site to it. Kawbawgam Lake has no access sites and its shoreline is principally made up of seasonal or year-round dwellings.

Residents and Township officials have recognized the need for recreation facilities and have taken the first steps toward providing more facilities. The long time privately owned marina in Harvey has been purchased by the Township for a public access site to the Chocolay River. There are docking facilities for eight boats and a launching ramp. A 50¢ launching fee is requested to help the Township defray costs of maintaining the docks and ramp. Another addition to the recreation facilities is the area being developed next to the Silver Creek School. In the summer of 1975, there will be completed and ready for use, a little league ball diamond, two tennis courts, a restroom/storage/warming house, and parking area. During the winter, part of the ball diamond will be flooded for skating with the building heated for a warming hut. The land this facility is built on is a 20-acre parcel that can handle additional facilities.

In addition to these outdoor facilities, Township residents are engaged in indoor recreation. As mentioned before, the Township Hall is used by the senior citizens, Cub Scouts, Brownies, and others. These recreational, cultural, and social activities are essential and must have a facility, such as a township hall or community building.

Fire Facilities

The Township operates a 22-24 man volunteer fire department. Equipment is located in Harvey just south of the Township Hall on US-41. The department has two pumpers. They also have a truck provided by the Department of Natural Resources for assisting in forest and grass fires on DNR land. This unit may also be used by the Township for their fire calls. This equipment is responsible for providing fire protection to the entire Township. As reported in the water facility section, the Township has no public system, so water used by the fire trucks must be obtained from the trucks themselves or nearby streams. The operating cost for the total fire department runs $8,000 annually.

The fire department is housed in a steel building just three or four years old. The structure is a two-stall garage unit with electricity, water, and heat. Costs quoted above include operation and maintenace of this building.

Police Facilities

The Township currently has police protection provided by two full-time officers and two part-time officers. The two full-time officers provide eight hours of coverage for each 24 hour period during the weekdays. During the weekends, all four officers work staggered shifts to provide 16 hours of coverage per 24 hour period. On the weekend shifts, one full-time officer and one part-time officer are on duty together. The department has two vehicles for use by the officers. One is a 1973 station wagon and the other is a 1973 pick-up truck. The vehicles are both equipped with communication radios that permit them to send and receive calls with the Michigan State Police. Their other equipment consists of the usual side arms and accessories.

Besides their regular police duties, one of the full-time officers is specifically assigned to dog control. When dogs are picked up, they are taken to the Township dog holding area just behind the fire hall. They remain there for at least four days and if not claimed by then, they are disposed of as strays.

Each of the Township officers is a sworn officer of the law with authority to arrest and enforce Township, State, and Federal laws. The two full-time officers have had basic training in police work plus advance courses in specific areas of police work. The part-time officers have attended courses at Northern Michigan University in advance police techniques, as well as receiving on-going guidance from the Township's Police Chief.

An office for the police department is part of the fire hall. The officers have one room in the back of the hall that is used for their administrative duties, storage of equipment, and interrogation of suspects. The annual operating cost of the police department is approximately $30,000, which includes equipment, salaries, gas, oil, etc.

Solid Waste Facilities

Solid waste facilities pertain to the collection and disposal of garbage, rubbish, debris, and most other discarded material. In Chocolay, the Township operates a collection system throughout the Township and disposes of the material in their own modified open dump. Collection is done by three men working a four-day week. They use a 1973 Diamond Reo 16 cubic yard packer. Each resident of the Township has pick-up once a week and for a one week period the truck averages 180 miles. This collection operates Monday through Thursday. If more that one commercial pick-up a week is requested, a fee of $2 is charged.

Disposal of the garbage is now done in the Township's modified open dump. The site is on Mangum Road, 1½ miles east of US-41. This site is currently operating but in violation of the Michigan Act 87 which stipulates the standards under which a landfill must function. The Township dump as it is operating today, is open twice a week, on Wednesday afternoons and all day on Saturdays. Operation of the collection system and disposal is costing the Township almost $28,000 annually.

Library Facilities

The Township of Chocolay does not have any library facilities with the Township. However, each year the State returns a small sum of money called "penal fine money" to the Township for use in providing library facilities. This money has been signed over by the Township to the Marquette City Library. In so doing, the Township residents are entitled to all use privileges of the City Library.

The Marquette City Library, as well as all the other libraries in the County, has recently taken the first step toward providing better service to the rural areas in Marquette County. Under State guidelines, all the separate libraries in the County have joined together to form what is called a library system. The purpose of this system is for the libraries to join together in a combined effort to provide the best possible service to all of Marquette County.

One of the first actions taken by the new system is the purchase and start-up of a county-wide bookmobile. This bookmobile will visit Chocolay Township every two weeks, stopping at Civil Center and the Township Hall. There will be 1,800 books available in the bookmobile covering children and adult volumes.

Cemetery Facilities

Chocolay Township does not operate nor own any cemeteries. All such facilities in this area are handled by local churches or nearby community cemeteries.

Issues, Problems, and Needs

Having investigated each area of community facilities for their existing situation, the discussion can now turn to the problems and issues. Each type of community facility will be discussed in the following section by relating the present situation to the future needs. Where appropriate, replies on the Citizens Development Survey will be included to point out problems as listed by the residents of Chocolay Township.

Administrative Facilities

It is obvious that a township the size of Chocolay must have a facility for conducting business on a daily basis. The present facility has a number of problems associated with its operation. These include the following:

- The present Township Hall is nearly 100 years old and becoming cramped for space, as the employees' offices expand into the meeting room.
- Because of the offices location in the building and the manner in which the offices must be built, there is a lack of privacy.
- The basement of the hall is used little because of its dampness in the winter and the kitchen facilities being out of date.
- The meeting room cannot accommodate large groups over 50 persons.
- Conflicts are occurring between committees of the Township and local groups wishing to use the hall the same evenings.

These conflicts point out the need for some major changes in facilities for the Township Hall. The response from residents on the development survey also show a concensus that township hall improvements are needed. Most comments on the survey went so far as to say a new Township Hall/Community Building was needed. Considering the many future uses of a Township Hall/Community Building complex it is unreasonable to consider remodeling the present hall to fill this facility need. Therefore, a new facility is a need in Chocolay Township. It would function as Township governmental center, social meeting place, recreation facility, and special service facility, such as health clinic, etc.

Having established that a new facility is needed, consideration should be given to its location. Such a complex should be centrally located to a majority of Township residents, and easily accessible by main traffic routes. The property on which the present Township Hall rests, meets these factors precisely. This land is owned by the Township and contains just over 2½ acres. Its use should be reserved as the new building site for the community building complex.

Wastewater Facilities

As reported in the existing situation, the Township is in the process of constructing its first sewer lines. Service areas of these first lines covers the concentrated residential area of Harvey, Silver Creek Road, and part of Lakewood Lane. This first phase of development raises several issues and problems.

- A tax has been levied across all Township property owners for a service provided to the Harvey area.

- Will this sewer service encourage Lakewood Lane residents with long narrow lots to split them in half when they are connected?

- Future additions to the lines will not be as economical to construct because of the linear development patterns of the remaining unserved areas.

- There is a need for a building to house the system maintenance equipment. No such building presently exists.

- Sewer lines should be provided in the poor soil areas where septic systems are least likely to operate properly. This pertains to the Harvey area.

Solutions to these issues and problems will be provided in the Goals, Objectives, and Policies of this plan. Some may be answered through the zoning ordinance while others may be solved by establishing a Township policy on spending of tax dollars. What remains to be done is to designate the future service area for the sewer system. This will be done when alternative growth patterns are considered at the end of the plan. This will define the extent of lines necessary and where they should be located.

Water System

As development continues, the drain by wells on the ground water supply will increase and chances of contamination of this ground water also increases. Eventually a public water supply will be needed to serve the Harvey area. There are three major problems to consider:

- What will the source of this water be and how will it be treated?

- What should be the service area of a public water supply in Chocolay Township?

- How should the Township finance such a system?

When the Township begins considering the system the sources of water should be either Lake Superior or the City of Marquette. The Township may be able to operate their own lake supply or connect with the City of Marquette's water supply. Cost comparisons should also include consideration of operation responsibility of running their own system. Manpower for such a facility and system improvements required by the State could amount to much more of a long term burden than it originally appears to be. The last two issues pertaining to service area and financing will be answered by the alternative growth pattern study and the Goals, Objectives, and Policies, respectively.

Recreation Facilities

The existing situation outlined how minimal the recreation facilities are for residents in the Township. Because of the abundant water and forest resources in the Township, the residents have a great opportunity to enjoy not only the basic recreation type activities,

but natural outdoor areas. A community the size of Chocolay Township should have as its basic recreation source a "community playfield". This would provide varied forms of recreational activity for young people and adults with an athletic field for organized team sports. Typical facilities found in the community playfield should include a baseball diamond and/or softball field, community center, ice rink, game courts (such as tennis, shuffle board, handball, basketball, horseshoes, volleyball, etc.), open lawn areas, picnic facilities, children play areas, restrooms, and adequate parking. This facility would be a center for outdoor activity on weekends or holidays by local families, clubs, organizations, etc. Organized team activities would also use the facilities for their practice and competition games. A community center is listed as a typical facility in the park but in Chocolay's case it would be best to incorporate it into the Township Hall complex as mentioned under administrative facilities.

The land that is currently being developed into recreational use adjacent to the Silver Creek School has 20 acres which is sufficient for development of a "community playfield". However, before any further building is done on the site, a total site plan should be completed to insure proper use of the land. This site plan would relate the features of the property to the expected uses. Time and money spent on this site plan may make the difference between ending up with 12 acres of useable land and 20 acres because of improper placement of facilities.

Because of the nature of the individuals that use recreation areas, young children without transportation other than feet or bicycles, it is important to have the park close to the children. The facility outlined above would serve a majority of the Harvey area with easy foot or bicycle access. However, because of the linear pattern of development to the east of Harvey it is important that at least one playlot be developed in the Lakewood Lane, Riverside, Riverdale, or Superior Street area.

Water based recreation should be developed more in the Township with the help of State and Federal agencies. The Township has begun by acquiring the small marina on the Chocolay River. This marina should be improved by upgrading the ramp and docks, developing parking area for cars and trailers, and possibly expanding the water area surrounding the docks.

Access by this facility gets boaters on the Chocolay River but not necessarily to Lake Superior. The mouth of the river is often shallow enough to prevent boaters from getting on the lake. This has long been a problem. The Township should obtain advise from the State DNR and Army Corps of Engineers on methods to keep the sand from collecting at the mouth. The course of action, if any is available, will not be cheap and outside funding will probably be needed.

Another issue noted from the existing situation is that no Lake Superior frontage is owned by the Township. In looking at Marquette County as a whole, there is practically no public ownership of shoreline for the use by the general public. Giving the private citizen a place to enjoy the shoreline is as much of a responsibility of units of government as building ballfields or tennis courts. The Township should locate potential shoreline property and negotiate a purchase. Development of the site should include only rustic facilities of picnic areas, restrooms, and parking.

In the consideration of water based recreation, it is important to note that Chocolay has many good quality streams; the major one being the Chocolay River and its tributaries. These streams at present are providing the Township with good quality water recreation. However, problems are developing as the Township develops over more and more of its land area. Pollution through human wastes and pollution by sediments is increasing. Sedimentation is recognized as a major pollutant locally but an organized approach to stopping it is not available. It is recommended that the Chocolay River and its tributaries be studied by the Soil Conservation Service in cooperation with the Department of Natural Resources to develop a plan of action for reducing and/or stopping this sedimentation problem.

Police Facilities

Police facilities and services are quite good for a township unit of government. However the Township is serving over 4,000 persons, and providing adequate protection and coverage is difficult in a rural township. After reviewing the existing situation, interviewing officers, and reviewing the citizens survey, several needs have been identified.

First of all, the department is presently using one room for their storage, interrogation, and administrative duties. Incorporation of this space should be considered in the Township Hall complex so that better communication will be realized between the main office and the police department.

The final need that has been identified is for longer hourly coverage by the officers. The citizen survey stated this as a need and the officers verified that they are not able to cover the prime crime times during weekdays with the existing number of officers. By giving the Township 16-hour coverage seven days a week, the high crime periods can be covered. This would mean two more full-time officers on the Township payroll in addition to existing officers.

Fire Facilities

As with most of the other community facilities in the Township, providing fire protection is difficult at best. The volunteer department does an admirable job, but there are needs which could help the department provide better protection.

First of all, the fire department needs to have in their possession at all times, an accurate and up-to-date street name map of the Township. A second step to improve the department's speed in finding the fire is to institute a numbering system throughout the Township. This would apply a number to each parcel of land along the Township roads and these numbers would be easily located on the volunteer fire department maps.

The second major need is a water source that would allow the fire trucks to refill rapidly. They now must use the Township well or local streams and lakes. The well is not a high capacity system suited to quick fills of the fire trucks. Filling from the streams is faster but danger of foreign material damaging the pumps is much greater. What has been suggested by the fire department is the installation of an elevated storage tank within the fire station. The building was built to accommodate such a tank and would permit very rapid filling of the fire truck.

Solid Waste Facilities

At the present time, every resident of the Township has door collection. This is financed through the Township taxes and included as a budget item each year for review by the citizens. One problem that does exist is the record keeping function for operating this collection system. There have only been sporatic attempts to collect data on hours spent by employees, miles driven by the truck, repair costs on the truck, fuel cost, etc. Such records are important to identify where cost cuts might be made and where cost increases will be originating. Therefore, the Township should set up a record system with report back to the Township Board at the end of a year.

Another need that might be coordinated with the building need identified in the wastewater section is a facility for storage of trucks. This building could also be used by the wastewater equipment.

In the area of disposal of the solid waste, the Township cannot run a sanitary landfill under State guidelines as economical as they can by cooperating with other units of government. The Township has two alternatives for such a cooperative venture. They can join with the City of Marquette or with a proposed organization called the South Marquette County Landfill Authority. The Township would probably have lower costs if they could join the South Marquette County Landfill Authority but its formation is still tenuous. Therefore, the City of Marquette should be considered as the most likely alternative at this time.

Library Facilities

Providing library facilities is a very expensive proposition for a township of Chocolay's size. The Township should continue to cooperate with the Marquette County System and promote its development. The bookmobile will give some service to the Township and if patronized by Township residents, could be expanded to include other services. The Township Board should assist through advertising the times and places the bookmobile will be in the area, provide parking space, and encourage additional programs, such as children's reading hours and puppet shows by opening the Township Hall to their use.

Cemetery Facilities

Since the Township is not in this service, there is no reason to add this to its functions. Citizens should rely on the surrounding area for this facility.

CENTRAL UPPER PENINSULA

CHAPTER SIX

Housing

CENTRAL UPPER PENINSULA

PLANNING AND DEVELOPMENT REGION

CHOCOLAY TOWNSHIP HOUSING

Introduction

Housing is the single element common to all the residents of Chocolay Township. The types of housing present in the Township is a reflection of the community, and to a significant degree, will determine what kind of Township Chocolay will become.

This Chapter attempts to identify what types of homes have been built, when they were built, where they are located, what condition they are in, if local controls had any impact on the type of housing and location of these units, and what problems have developed over the years with the housing in Chocolay Township. By investigating each of these aspects of housing, the Township Board can realize how their actions have been molding the housing situation of Chocolay. Therefore, when the Township develops its revised zoning ordinance and any other land use controls, they can better recognize what influence they are placing on future residents in choosing housing types and locations.

Existing Situation

The study of housing will begin by investigating the supply of units, their condition, and age. Table 1 below shows the relation of the supply of housing in the Township to the City of Marquette and Marquette County. The year-round housing units include occupied units and vacant available units. Chocolay has only 76.5% in the year-round category as compared to 98.2% and 90.8% in the City and County, respectively. The remaining 23.5% or 309 housing units in Chocolay are seasonal or vacant/not available. This is much higher than Marquette or Marquette County.

The housing units in Chocolay that are vacant and on the market, for sale, or rent is also much higher than the City or County. At the time this census was taken, there was a 3.3% vacancy rate. As a general rule-of-thumb, it is best for a community to have approximately 3% vacant units to provide adequate choice to families wishing to secure new or different housing and to those moving into the area. The other two units of government on Table 1 show a rate less than 2% which would indicate a tighter market for the person looking for housing.

Table 1

Housing Characteristics
1970

	Chocolay Township	Percentage	City of Marquette	Percentage	Marquette County	Percentage
Total Units	1,316		5,877		21,898	
Year-round Units	1,007	76.5	5,773	98.2	19,890	90.8
Vacant	154	11.7	193	3.3	1,706	7.8
Vacant Available	43	3.3	95	1.6	388	1.8
For Sale	13	1.0	19	0.3	131	0.6
For Rent	30	2.3	76	1.3	257	1.2
Owner Occupied	757	57.5	3,523	59.9	11,897	54.3
Renter Occupied	207	1.2	2,155	36.7	6,287	28.7
Seasonal	198	15.0	6	0.1	2,008	9.0
Condition[1]						
Good	161	16	750	13	2,980	15
Fair	705	70	1,790	31	7,760	39
Poor	141	14	3,233	56	9,150	46
Year Built[1]						
Prior to 1921	101	10.0	2,771	48.0	8,150	41.0
1921 to 1940	161	16.0	866	15.0	3,180	16.0
1951 to 1960	312	31.0	924	16.0	3,180	16.0
1961 to 1970	252	25.0	635	11.0	2,980	15.0
1971 to 1975[2]	244					

[1]Estimates based on review of County Tax Equalization records and interviews with tax officials.

[2]Estimated new housing based on Township building permit records.

Source: 1970 U.S. Census, County Equalization Records, and Chocolay Township Building Permits

The supply of housing in Chocolay Township is in much better condition than the units in Marquette or the County in general. By studying the county equalization records, an indication was obtained of the upkeep and maintenance efforts on the houses. These condition factors are recorded by the County in three levels: good, fair, and poor. The Township's housing only has 14% rated in poor condition while Marquette shows 56% and the County has 46% in this category. This leaves 86% of the Township's housing in fair or good condition. The City of Marquette's housing totals 44% and Marquette County totals 54% in fair and good condition.

Now, by examining the age of housing in Chocolay Township it becomes evident why such a higher percentage of its units are in fair or good condition than the City or County. Approximately 56% of the housing units in Chocolay have been built since 1951. This, compared to the City of Marquette at 27% and Marquette County at 31%, shows how new the housing supply is in the Township. Ten percent of the Township's housing, 48% of the City of Marquette's housing, and 41% of Marquette County's housing was built prior to 1921.

Next it is important to look at the character of the housing being built in Chocolay. Table 2 provides comparative data on the type of structures, number of rooms per unit, persons per unit, and persons per room. The first of these factors shows the very high percentage of single-family structures there are in the Township. It is also notable that nearly 10% of the units are mobile homes. This is particularly interesting when compared to the City of Marquette at 1.3% and Marquette County at 3.9%.

Table 2

Occupied and Vacant Year-round Housing Units by Structure, Size, and Type, 1970

	Chocolay Township	Percentage	City of Marquette	Percentage	Marquette County	Percentage
Type of Structure						
Single Unit	935	83.6	3,799	64.7	14,466	72.7
Two or More Units	80	7.2	1,994	34.0	4,646	23.4
Mobile Homes (Occupied only)	103	9.2	78	1.3	778	3.9
No. of Rooms Per Unit						
One	20	1.8	78	1.3	424	2.1
Two	60	5.4	309	5.3	746	3.8
Three	131	11.7	641	10.9	1,809	9.1
Four	276	24.7	1,076	18.3	3,815	19.2
Five	311	27.8	1,393	23.7	5,914	29.8
Six	174	15.6	1,186	20.2	4,125	20.7
Seven	89	7.9	603	10.3	1,698	8.5
Eight or More	57	5.1	585	10.0	1,359	6.8
Median	4.2		4.6		4.5	
Persons Per Unit						
One	111	11.5	975	17.2	2,795	15.4
Two	258	26.8	1,743	30.7	5,260	28.9
Three	170	17.6	995	17.5	3,152	17.3
Four	182	18.9	783	13.8	2,798	15.4
Five	122	12.7	573	10.1	2,009	11.0
Six	66	6.8	304	5.3	1,193	6.6
Seven	26	2.7	188	3.3	575	3.2
Eight or More	29	3.0	117	2.1	402	2.2
Median	2.7		2.1		2.3	
Persons Per Room						
1.00 or Less	852	88.4	5,320	93.7	16,662	91.0
1.01 - 1.50	86	8.9	282	5.0	1,248	7.0
1.51 or More	26	2.7	76	1.3	274	2.0

Source: 1970 U.S. Census

A housing unit tabulated by the census means the space used for living by an individual or family. So, a housing unit could be a single room or a two-story single-family dwelling with ten rooms. This is why the next category, rooms per unit, is important. By correlating the number of rooms per unit with the number of persons per unit an

indication of crowded living conditions can be obtained. At the bottom of Table 2, the figures under persons per room gives this indicator of crowded housing units. The Township's housing has over 88% of its units with less than one person per room. The general rule is that if there is more than one person per room that the unit is "crowded". Chocolay Township had nearly 12% of its housing units in this "crowded" condition in 1970.

As an update to this 1970 Census information, the building permits issued over the last five years show the following increase in housing units.

Table 3

1975 Estimated Housing Units in
Chocolay Township

Type of Structure	1970	Percent	1975	Percent
Single Unit	935	83.6	1,136	83.4
Two or More Units	80	7.2	120	8.8
Mobile Homes	103	9.2	106	7.8

Source: 1970 U.S. Census
Chocolay Township Building Permits

An indicator of the housing quality in Chocolay Township is shown by the plumbing facility table below. Housing units which have hot and cold running water, flush toilet, and bathtub or shower inside the structure are considered to have all plumbing facilities.

Table 4

Plumbing Facilities for
Housing Units in Chocolay Township

	Units with all Plumbing Facilities	Percent	Units Lacking One or More Plumbing Facilities	Percent
Total Occupied and Vacant Year-round	1,007	90	111	10
Total Occupied Units	925	96	39	4
Owner Occupied	722	95	35	5
Renter Occupied	203	98	4	2
Vacant for Rent	25	83	5	17
Vacant for Sale	12	92	1	8

Source: 1970 U.S. Census

Township housing, as presented in Table 4, is shown as being of better quality in the occupied units than the vacant units. A higher percentage of the vacant units are without at least one of the plumbing facilities than the occupied units.

Zoning Ordinance Effect

As people move to the Township, their choice of housing type and location is not totally based on their desires and resources. There are local constraints which help to guide their decisions. One of the more direct influences on housing that the Township has control of is their zoning ordinance. Within this ordinance, guidelines are established as to where housing should be located and the type of housing permitted.

The present ordinance has districts that permit single-family, two-family, multi-family, mobile home, seasonal, and boarding houses to be located in the Township. This represents a broad selection of housing types but a look at Chocolay's districts that permit these uses show why the housing supply has such a high percentage of single-family units. Within the text of the ordinance, four different districts permit single-family housing. These are one-family residential, multi-family residential, general residential, and farm and forest districts. The two districts, one-family residential and farm and forest, contain at least 93% of the Township land area. In these two districts, single-family homes are the only type of housing that is permitted. The multi-family residential district permits only two-family and single-family dwellings. There is less than two acres of Township land within this district. In the general residential district, permitted residential uses include single-family, two-family, multi-family, and boarding houses. The Township has just under 30 acres zoned general residential district. A mobile home residential district is also part of the ordinance and this district permits mobile homes in mobile home parks or trailer subdivisions. Within the Township, there are approximately 11 acres zoned for this district.

These districts are the areas that permit year-round residential units to be built. Tabulation of the districts show that 32 acres are zoned for multi-family or at least two-family dwellings. An additional 11 acres are zoned permissible for mobile homes. This is compared with the approximately 36,000 acres zoned to permit single-family dwellings. The ordinance has definitely made more land available for the single-family home versus multi-family units or mobile homes.

These acres zoned to permit various uses do not all represent undeveloped land available for construction. When the zoning districts were established, each district may have had vacant land within it for growth but that is not the case today. Land within the multi-family residential district is completely developed. There are only small areas in the general residence district not developed. The mobile home district has several acres available for future trailer parks or trailer courts as the ordinance defines them. Finally, areas permitting single-family development are almost unlimited. This being all the one-family residence and the farm and forest districts.

Future Needs

Present Township residents have housing of one type or another, so why should this study look at the future need for housing? There are several reasons for this which will have a substantial effect on the growth in the Township over the next few years. First of all, the people in the Township may not be living in the type of housing they would choose if more variety in types were available. Secondly, the population projection for 1980 indicated that growth in the Township would probably be continuing through the next five to ten years. These new people are going to need housing. This section of the study will calculate the approximate housing need in Chocolay for 1980.

In 1970 there were 1,007 year-round housing units in Chocolay Township. Based on the 1980 population projection, there will be approximately 1,570 households in the Township by 1980. The past building trends indicate that by 1980 the Township can expect 670 new housing units to be built in Chocolay between 1970 and 1980. Condition of the present housing supply is relatively good but according to the county tax equalization records there will be a replacement need for some of the older units. The units built prior to 1920 and one quarter of the units built between 1921 and 1940 are in poor condition. Because the local trend is to remodel and rehabilitate older houses rather than demolish and rebuild, the houses in fair condition will be counted as repairable. This means that approximately 150 units will need to be replaced by 1980.

Table 5

Computation of Chocolay Township Housing Need

Number of Year-round Units, 1970	1,007
Number of Households, 1980 (est.)	1,570
Units Needed	+563
New Construction Expected, 1970-1980	-670
	107
Replacement Needs	150
Net 1980 Needs	43

Source: 1970 U.S. Census and CUPPAD Estimates

These estimates and assumptions in the table above apply to the Chocolay housing supply and establishes a 1980 housing need. This need represents units that will be necessary in addition to the normal construction activity that can be expected.

Issues and Problems

The previous material covers the important facts and figures of housing in Chocolay Township. This information provides the base for identifying areas of possible concern. The list that follows enumerates what are felt to be the significant characteristics of the Township housing.

- A large percentage of housing units in Chocolay Township are seasonal units.
- A very small percentage of the Township housing units are renter occupied.
- Overall condition of the housing is good or at least fair as rated by the county tax equalization records.
- Housing units in the Township are relatively new.
- The percentage of single-family units in the Township is very large.
- The percentage of housing units in the multi-family category is very low.

- There are a large percentage of mobile homes in the Township.

- Mobile homes are only allowed in mobile home parks or mobile home courts.

- The present zoning districts allow very little room for multi-family housing.

- There is no vacant land available in the multi-family district of the zoning ordinance.

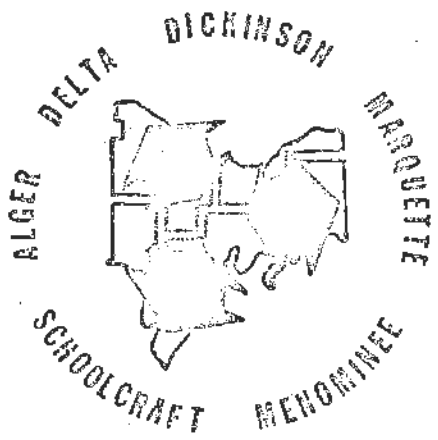
- There is very little vacant land left in the general residence district of the zoning ordinance.

- Zoned mobile home districts offer a few acres for future development.

- Single-family homes have almost unlimited vacant land zoned permissible for their development.

- In the Township development survey, respondents indicated they wished to continue to have single-family homes as the primary type of housing unit, but that more apartments and mobile homes should be built in the next ten years.

- The development survey indicates that respondents prefer living on lots of one-half acre to three acres.



CENTRAL UPPER PENINSULA

CHAPTER SEVEN

Transportation

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Chocolay Township Transportation

Introduction

In Chocolay Township, as in all communities today, the economy is heavily dependent on the transportation system. The economy section of this Plan outlined the large majority of residents that work outside the Township and auto to work. This in itself is making use of the local transportation system. Therefore, the growth of the area becomes largely dependent upon a safe, convenient, and economical transportation system to facilitate the easy movement of people, goods, and services within and outside the Township. This makes the local transportation system including highways, railroads, airports, and harbors, key elements in the future of Chocolay Township.

This study will consider the existing transportation modes, investigate the classification of roads, inventory the Township roads, develop a classification system and standards, outline the decision-making process, discuss road condition and improvements, identify potential for mass transit, and discuss an improvements program.

Transportation Modes

Within the Township there are two principal transportation modes. These are highways and railroads. However, other modes provide important transportation services to Township residents. These include air and water transportation.

There are two railroad lines active in the Township. The Soo Line track enters the Township along the Lake Superior shoreline north of Harvey and then continues east parallel to M-28 into Alger County. The second line is owned by the Lake Superior and Ishpeming Railroad. It also enters the Township north of Harvey but then takes a southeasterly course passing through Mangum. Both lines are cargo lines and do not carry passengers.

The Lake Superior and Ishpeming company has petitioned for abandonment of some of their line including that portion in Chocolay Township. No direct use of this line is made in the Township, so abandonment will not affect Chocolay directly to any great degree.

Air transportation services are available at the Marquette County Airport. The facility has a 6,500 foot main runway with instrument landing system. A new terminal building and air crash protection facility are under construction. Service is provided by North Central Airlines and a local charter flying company.

The area is also served by water transportation from the nearby harbor facilities in Marquette. Both recreational and commercial use is made of these local harbors. There are two deep-draft harbors within Marquette. The lower harbor is a coal unloading facility that supplies fuel for the local electric utility. Chocolay Township receives power from this utility. The second deep-draft harbor, the upper harbor, is used to ship iron ore from Marquette to the steel mills. A proposed project will add a coal unloading facility to the upper harbor to replace the present operation in the lower harbor.

Recreational use by local boaters is made of both the upper and lower harbors. Sport fishing and general pleasure boating are primary activities of the recreational boaters.

Bus transportation is another facility not based in the Township but serves the community through the transfer of people and a limited amount of goods. The Greyhound line has two runs daily to Calumet and four daily to Chicago with connections at Escanaba to and from the Detroit-Duluth bus. There is also a local mass transit system that will be discussed in detail in a later section.

The remaining transportation mode that everyone is familiar with is the road system. It is the primary transporter of goods, services, and people. Each of the roads within the Township has a specific traffic capacity, design standard, and designed use. So to begin with, a road classification system will be discussed and then the Township roads will be inventoried as to how they fit the system.

Classification of Roads

Roads have a two-fold purpose: the movement of traffic and the provision of access to adjoining property. All roads in the Township serve these two purposes to some degree. Through the process of defining road functions and correlating these with land use policies, several benefits should be realized by the local or even state government responsible for their operation. By defining the function of roads and their service to the community the appropriate land uses can be encouraged adjacent to these roads.

The design of a road depends principally on its functional classification and the traffic volume it is expected to carry at some future time (usually 20 years after completion). Such design factors as the number of lanes, width and surfacing of shoulders, width of structures, type of surface, and design speed all depend on traffic volume and functional classification, according to criteria set forth in the Road Design Manual of the County Road Association of Michigan. For example, for a rural road which has an ADT (Average Daily Traffic) below 750 (typical of most county roads in the Central Region):

- If it is classified as a Regional or Local Arterial (see explanations of these terms below, and definitions in Appendix I), shoulders are 10' wide, and pavement may be either asphalt or concrete; if it is classified as a Collector, shoulders are 6' wide and pavement is asphalt.

- Sharper curves and steeper grades are permitted if it is classified as a Collector or Local Arterial than if it is classified as a Regional Arterial.

- If it is classified as a local road, it is built to lower standards than a collector, with lanes only 11' wide, slower design speeds, sharper curves, steeper grades, etc.

Since land use patterns are largely determined by transportation facilities, functional classification is important because it permits coordination of land use policies with the transportation system. Once a functional classification is adopted, zoning ordinances can be structured to ensure that specific land uses are guided to locations on the road network which are consistent with the existing or planned capacity of the network to accommodate the traffic generated. Access controls can be employed along arterial routes whose principal function is to carry traffic. This will ensure that traffic carrying capacities are not usurped by turning movements to and from uses located along these routes. Similarly, subdivision regulations can provide for the dedication of sufficient rights-of-way, and in some cases, the installation of improvements based on the design standards outlined above.

The Federal Aid Highway Act of 1968 mandated that each state carry out a needs study for the 20-year period 1970-1990. These studies were to be based on a functional classification of all roads in the State. As a result of this mandate, uniform functional classification of highways was initiated by the Department of State Highways in 1968 for all counties in the State. The criteria employed by the State, as reproduced in Appendix I, included: service provided, such as inter-regional, inter-community, inter-area or local; predominant trip length; desirable operating speeds; access; and spacing. Preliminary classification for all counties, villages and cities was done by the State in the Lansing office; the local units were requested to review the State classifications, revise them as necessary, and advise the State of any corrections. Although local reviews were completed, their results were not always communicated back to Lansing, so that this classification effort for the 1970 needs study was never properly completed. Since then, there have been no efforts in functional classification.

The preliminary functional classification of existing roads in Marquette County, as completed in Lansing, was reviewed and revised to reflect such factors as County goals, travel patterns, population distribution, and land use. The suggested functional classification requires that many roads be upgraded, and that several be re-routed where the present alignments are inadequate; therefore, it is not implied that all roads should presently be fulfilling the indicated functions.

The classifications shown are Statewide Arterials, Regional Arterials, Local Arterials, Principal Collectors, and other roads. For definitions of these classifications the reader should refer to Appendix I. The roads included in each of these classifications in Chocolay Township are as follows. (See Map #1)

Statewide Arterials (US-41 and M-28) provide the highest level of traffic mobility available on the total highway system.

Regional Arterials interconnect and augment the Statewide Arterial system. Recommended for classification as Regional Arterials are: the bypass route consisting of County Road 551 (Cherry Creek Road) from Harvey to County Road 480, and County Road 480 from County Road 551 west.

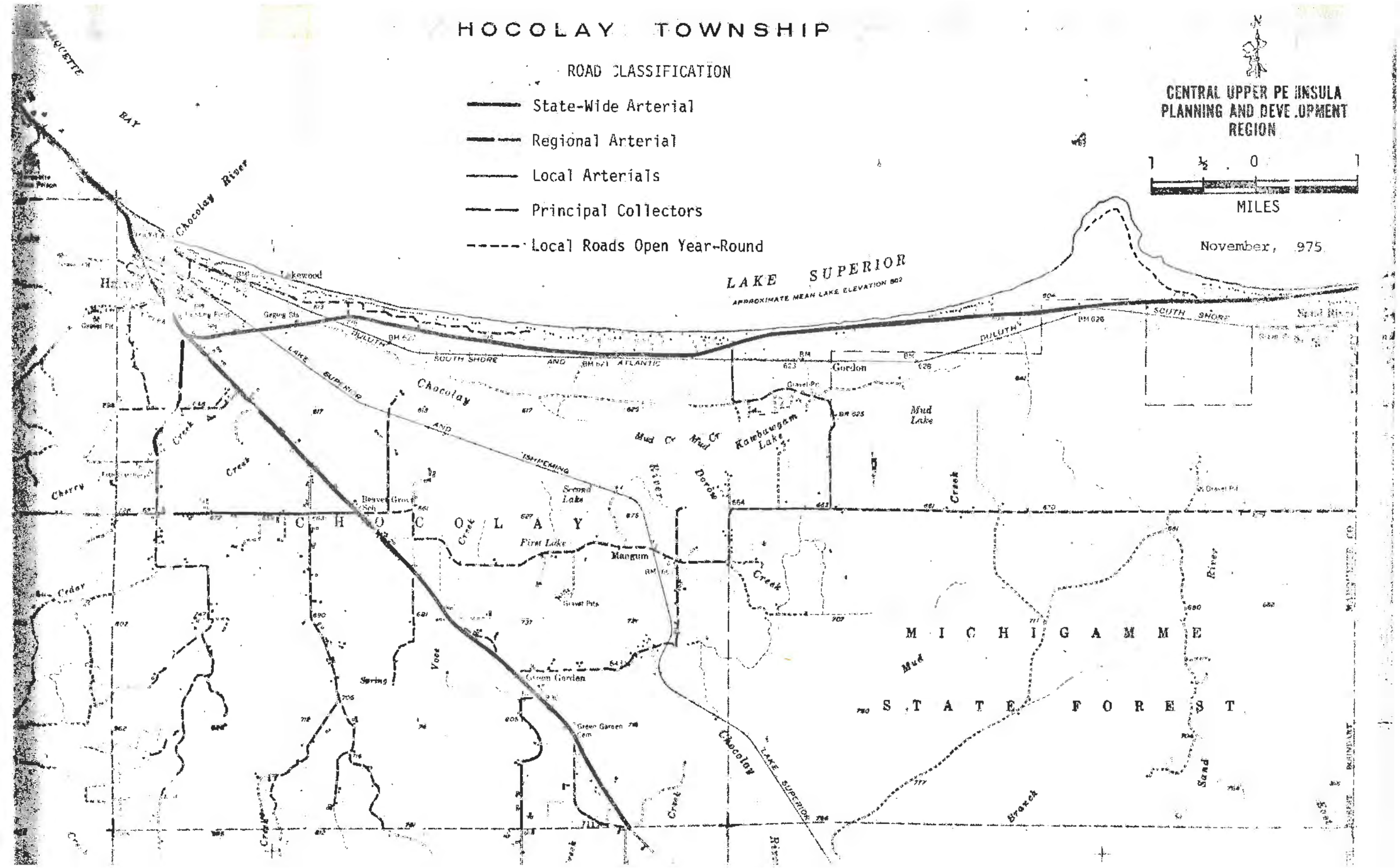
Local Arterials provide service for trips of moderate length at a somewhat lower level of travel mobility than the Statewide and Regional Arterials. Recommended for classification as Local Arterial is: County Road 480 from County Road 551 east to US-41 at Beaver Grove.

Principal Collectors function primarily as collector-distributor roads. Recommended for classification as a Principal Collector is: County Road 545 (West Branch Road) from US-41 south.

Residential Streets, Local Access Roads, and Commercial/Industrial Streets provide access to adjacent properties. The remaining roads in the Township are in this grouping.

For funding purposes, three systems of legal classification are used.

HOCOLAY TOWNSHIP



The federal aid classification which includes primary, secondary, and urban roads determines whether federal aid can be obtained for these routes.

The State legal classification includes five systems: state trunklines, county primary roads, county local roads, city and village major streets, and city and village local streets.

The county road systems (primary and local), and their respective federal aid classification are the only ones which are of concern to the Township. Within the Township, County Roads 480, 545, and 551 are the only county primary roads and they are all on the federal aid secondary system. All other roads are county local roads.

Transportation Decision Making

Most of the decisions concerning the roads in Chocolay Township are made on the county level by the County Road Commission. All roads in the county except M-28, US-41, and private roads, are under the Road Commission's authority. M-28 and US-41 are under the jurisdiction of the Michigan Department of State Highways and final decisions concerning these lies there, as discussed earlier.

Federal and state government have input on these county level decisions primarily through the funds they provide and the strings (the regulations and guidelines) they attach. The Township has input on the Road Commission's decisions in any of these three ways.

First, each year the Township Board decides its priorities for the roads in the Township; what roads need work, where, and when. The Township Board in an advisory role then meets with the Road Commission to present their priorities and to exchange other pertinent information. The Road Commission, to a large extent, follows the Township's desires fairly close.

It should be noted here that all of the Township's road needs (construction, repair, etc.) always outweigh the Road Commission's financial and physical abilities to meet those needs. Thus the degree to which the Township's priorities are acted on will depend in part on how much money the Township can come up with toward those priorities.

The second way the Township can affect Road Commission decisions is through the County Board of Commissioners who appoint the County Road Commissioners. However, this is likely to be a very limited route of influence, except in extreme or unusual circumstances.

The third way is for Township officials or citizens to call the Road Commission directly to provide information or give a complaint. This route of influence is probably the least appreciated by the Road Commission when used chronically by specific individuals. When used by the general citizenry, however, it may provide valuable information directly and immediately. Further, the number of calls can give a rough indication of the magnitude of a problem.

Road Conditions and Improvements

The county system consists of 290 miles of county primary roads and about 970 miles of county local roads. The County plows about 63% or about 800 miles of

roads. Plowed roads in the Township are shown in Map #1. About 197 miles of county local roads are considered to be inadequate, and therefore, in need of improvement.

Improvements to the county primary roads, both maintenance and construction are scheduled by the Road Commission as their funds allow. The County Road Commission bears the responsibility of construction and maintenance on both the primary and local road systems. The Township, however, must contribute 50% of the cost of construction on the local road system. The Road Commission must finance all maintenance costs on both the primary and local system.

On the local roads, because the Township's funds are usually scarce, the Township is often the determining factor of when the roads get worked on. The Township's share on construction projects may be anywhere from $10,000 to $30,000 for one project. Because of the tight budget that the Township operates under, a payment schedule is usually worked out over several years. This payment system is interest free to the Township and not a practice the Road Commission is required to do by statute.

Improvements to the township road system comes under two categories: (1) upgrading of existing roads, and (2) future roads. As far as the existing roads are concerned their general routes and locations are established. But as the roads come under increased pressure by traffic volume, their level of construction should correspondingly increase. Some of the first streets in the area were much narrower than current design standards would allow and their base is not as sturdy as present design would provide. A gradual improvement of the existing roads should take place so that they also meet the design specifications in the Road Design Manual of the County Road Association of Michigan.

Future roads should also meet these design specifications but consideration should particularly be given to where these roads should be located. An improved road is one of the fastest attractions of development. But you want the development where it can be served conveniently by local services, such as the sewer system, schools, recreation facilities, etc. Therefore, determination of where you want development should be a prerequisite to deciding where the new roads are to be built. This question will be answered in the Alternatives Chapter of the Plan and then applied to the future road system needed in Chocolay Township.

The state highways and the county primary roads in the Township are in fair to good shape. In the local road system, there are some problem areas.

-The one-lane bridge across the Chocolay River on Mangum Road needs to be replaced.

-The blacktop surfacing is breaking up in spots on the Little Lake Road and on Mangum Road.

-There are some problems with drainage. The storm drainage system as a whole in Harvey is rather inadequate which results in the flooding of some streets. Also, two sections of Lakewood Lane flood periodically.

-The sharp corner where Lakewood Lane turns to cross the Chocolay River is unusually hazardous.

-At some of the corners in Harvey there is the problem of limited or obstructed view.

-Another significant problem is with private roads. Private roads are frequently laid out without any consideration of road design standards. The result is roads that are located where geological conditions are unsuitable, roads that have insufficient or no roadbed preparation, roads that have inadequate drainage, roads with limited right-of-way due to houses or other buildings locating too close, etc. Such roads are often costly to maintain or upgrade and all too often, these tasks are left to or are expected of the county and/or township. The result is either hard-feelings on the part of residents denied services or waste of county and/or township funds.

Potential for Mass Transit

As discussed previously in this Chapter, the basic form of transportation for the residents of Chocolay Township is the automobile. This mode is used for getting to work, for shopping, and all other pleasure trips. At this time the Township residents have no alternative mode available to them other than the automobile.

Based on the employment data from the census and responses on the Township Development Survey, residents of the Township have very similar work destinations. It is reported that the majority of persons work in the Marquette, Ishpeming, and Negaunee area. This means that each day persons leave Harvey for similar destinations in separate vehicles and then return in the evening to Harvey also in separate vehicles. This type of travel pattern could lend itself to a mass transit system. A system is operative in Marquette at present and serves the general area used by Harvey residents.

The bus system is already functioning within the City of Marquette and between the three cities of Marquette, Ishpeming, and Negaunee. This system operates on a fixed route and time schedule that permits transfer from the Marquette intra-city bus to the inter-city bus. The general service area of these routes covers the work destination areas that Chocolay Township residents are driving to each day. By expanding the route to include Harvey, a potential new weekly ridership of 1500 to 2000 persons could be added. (Estimated ridership taken from Draft Copy of "A Transit Development Program for the Marquette Transit Authority", March 13, 1975.)

The possible extention of this line does not automatically mean that weekly ridership is going to increase in direct proportion with the 2,000 potential weekly users. A recently published report by the Michigan Department of State Highways and Transportation entitled "A Transit Development Program for the Marquette Transit Authority" has studied the current riders of that system and tabulated some of their characteristics.

In very general terms, the survey indicated that the riders were 0 to 40 years old, they earned less than $6,000 yearly in household income, and they were predominantly women. A large proportion, 45%, had no drivers license and 35% had no automobiles in their household. This indicates that many persons using the transit system are captives. They have no other convenient means of transportation.

It seems from the riders survey that women are a major user of the system in Marquette. According to the 1970 Census, 472 or 46% of the women over 16 years of age are in the labor force in Chocolay Township. This represents a sizable potential ridership. However, users of the Marquette transit system generally earned less than $6,000 yearly in household incomes which is much lower than

the median family income of $9,400 in Chocolay Township. So Chocolay's relatively high median household income may be a negative factor as far as potential users are concerned. Another characteristic of the Marquette users is the age group of those riding the transit system. The user survey showed a majority of riders were under the age of 40. Chocolay's age profile reflects a high percentage of persons under the age of 44; nearly 80% under 44 according to the 1970 Census. This corresponds favorably with the present users of the Marquette system.

The ridership potential indicated by this comparison is favorable. Chocolay's population has several characteristics that are compatible with the current users of the Marquette system and the trip destinations are similar to the present system routes.

In the Township Development Survey, residents of the Township were asked if they would use a public vehicle to get to work or go shopping. The respondents indicated that 44% would use it to get to work and 57% would use it for shopping. These percentages show a slight interest. However, this same question indicated that 83% of the respondents would have their teenagers use the public system.

The previous discussion has tried to get a feel of the advisability of operating a public mass transit system in the Harvey area of the Township. By relating the characteristics of Township people to those that are currently using the Marquette system, the indication is that the Township may be compatible with such a system. The persons using the Marquette transit system and the people in the Township have several common characteristics as discussed previously. However, mass transit systems are notoriously unpredictable as far as relating population characteristics to the potential ridership in a community. Most everyone in our County is conditioned to the freedom and convenience that an automobile provides. So no matter how efficient, economical, or logical the use of a mass transit system may be there is a non-quantifiable factor which keeps people from using a transit system.

Keeping this factor in mind and the previous discussion of user characteristics, the people of Chocolay do appear to be potential mass transit users. This leads to the conclusion that the Harvey area should be linked with the Marquette system. Such a linkup could be tried on an experimental basis of six months or a year. If the ridership merits continue, then a longer term operation could be planned.

A recent study, "A Five-Year Transit Development Program for the Marquette Transit Authority" completed April 1, 1975, studied short range development alternatives. Alternative #3 in this Plan suggested that the Harvey area be provided with service for approximately six months as a test period. Final adoption of this Plan has taken place and alternative #3 was not choosen. There will not be expansion of service to areas currently unserved according to the development alternative adopted.

Capital Improvements Program

The Township currently has a debt to the County Road Commission for construction on local roads. This is being paid off through yearly installment payments. New projects, such as the paving of Karen Road and replacement of the Mangum Road Bridge are already formalized and ready as soon as the Township can afford it. First of all, from the Alternatives Chapter it should be determined if these improvements should be done and secondly what other improvements should be planned for the near future. Secondly, the Township has smaller road construction projects appearing, such as new culverts which are not in the budget at all.

This points out the need for the Township to budget a yearly debt retirement amount that will cover their current debt and the future improvements that are identified in the Alternatives Chapter. Also, the budget needs some allocation for the minor construction improvements that currently are not provided for.

Issues and Problems

- Traffic pressures are increasing on the existing roads and creating more construction projects.

- Development pressure along existing roads in outlying areas are prompting requests for construction projects.

- The Township has no road development plan guiding design standards on Township roads.

- Decisions on which roads to improve are now based on the volume of complaints from residents.

- Minor construction improvements are appearing as expenses to the Township but are not budgeted.

part two

growth policy alternatives

Whereas Part I provided the framework for planning by outlining the functional components of the Plan; Part II could be termed the framework for decision making. Within this section of the Plan, alternatives are described, alternatives that Chocolay Township must discuss and determine. As a professional document, this Plan can only provide a guide to making the decisions. Each of the three Chapters view different decision-making areas; growth alternatives for the Township, Township goals, policies, and objectives for each of the Plan's functional areas; and preservation/utilization of the Township's unique lands. This Plan could be useless if these decisions are not made.

CENTRAL UPPER PENINSULA

CHAPTER EIGHT

Chocolay Township Alternatives

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Chocolay Township
Alternatives

The key ingredient in any comprehensive plan must be the policy of value judgement decisions made by the local people. The planning process must contain a point at which broad decisions are made concerning the form of the future township. As many people as possible should participate in these decisions. If the planning process is to have any function, the decisions made should directly affect the future community and all the people in it. If the plan is to be implemented, it will take the efforts of the whole community. For these reasons, as many residents of Chocolay Township as possible must participate in making the decisions presented in this Chapter.

This Chapter will first present the trends in Chocolay Township which were identified in earlier chapters. These trends represent what is happening now in the Township and what may reasonably be expected to happen in the near future. Secondly, the policies will be combined to form different concepts of the Township's future. Through this process policy choices can be made for the future of the Township.

The following annotated list of trends and problems were identified in earlier reports.

Economy

Township residents for the most part work outside the Township in the Marquette City area with unemployment at a relatively low level. The Township faces rising costs of governmental services with a tax base comprised primarily of single-family residences.

Population

The Township's population is growing at a very rapid rate, largely through in-migration.

Land Use

The Township's development has been concentrated largely in the northwestern corner in the Harvey-Lakewood area and along the Lake Superior shoreline. This pattern has serious implications in terms of costs of services and loss of open space.

Community Facilities

The Township is and will continue to experience growing demands for more and improved services. Presently, sewer lines are being laid. Needs in all other areas (administration, fire, water, recreation, police, solid waste, and library) are becoming more and more apparent. Many of the improvements in these areas will be expensive.

Housing

A large percentage of housing units in the Township are mobile homes (8%) or seasonal dwellings (15%+). Almost all of the rest of the housing is single-family, owner-occupied housing. Population projections for 1980 indicate that about 250 to 300 new housing units will be needed by then.

Assumptions

It will be assumed that for the next few years:

1. The Township's population will continue to grow by in-migration at a rate which can be influenced by Township policy.

2. There will be no annexations of Township land.

3. There will be no major new highway or rail facilities built in the Township.

4. Demands for new and improved governmental facilities and services will increase as the population increases.

5. Sanitary and other codes will be vigorously enforced.

Should there be significant changes in the above assumptions or other important unforeseen changes concerning the Township's future, much of the following with regard to alternatives will need to be reconsidered in this new light. But for the time being the above assumptions will be taken as given.

Policy Variables and Concepts

Below is a list of variables which were deemed to be subject to the influence of policy decisions. Under each variable is a set of alternatives. Some of these alternatives might be rather difficult to attain. However, they might be just the alternative desired or the only one which appropriately fits with the other variable alternatives already choosen.

A. Employment
   1. Commuter orientation
   2. Attract some local employment (retail and service establishments)
   3. Attract significant local employment (industry, large and small retail and service establishments)

B. Housing
   1. Single-family emphasis
   2. Multi-family emphasis
   3. Mixed orientation, single-family, and some multi-family housing

C. Transportation
   1. Private auto emphasis
   2. Mass transit emphasis
   3. Auto and limited mass transit orientation

D. Open Space
   1. Continued reduction of open space
   2. Preserve open space: stream and river valleys, lake shorelines, farm and forest lands, and lands unsuited to urban development

The most logically correlated alternatives were grouped together to form the following developmental concepts. Concepts other than those presented could be arrived at by the same process. Some groupings, however, are more likely than others. For instance a single-family housing emphasis would not be likely to fit well with a mass transit emphasis. Mass transit would fit better with a mixed housing emphasis and best with a multi-family emphasis.

Concept I

Concept I combines alternatives A-1, B-1, C-1, and D-1. It is essentially a continuation of present trends in the Township: continue emphasis on single-family housing, continue emphasis on the private auto for transportation, continue emphasis on commuting to Marquette for employment, and continue reduction of open space.

Implications

Economic: Of the various uses of land, single-family housing brings in low tax revenues for the public services required. These services then would probably be somewhat more costly than they might be otherwise.

Social: Single-family housing tends to locate in areas which are the most desirable for open space--along streams, rivers, and lakes; on productive farmlands; and in areas of special scenic quality. The result would be increasing loss of open space in these areas especially. If development along major roads is too extensive some restriction of traffic flow can be expected resulting in longer commuting times.

Environmental: Single-family housing tends to occupy substantial amounts of land compared to other housing types thus reducing open space generally. The low density of single-family housing, however, also reduces the public demand for open space. Because single-family housing is expensive, there may be an increasing tendency for households or developments to locate on unsuitable lands.

Implementation

The major problem in implementing this concept may be an insufficient tax base to support the public services desired. To insure maximum service per residence at minimum cost, special care should be taken in locating and concentrating development. Otherwise it will be even more difficult to keep up with the demand for public services as the population grows.

Steps might be taken to preserve at least portions of the lands most valuable for open space.

Care should also be taken such that development does not occur in unsuitable areas. Otherwise, health hazards, unrealistic demands for public services, and/or housing of questionable value may result.

Concept II

Concept II combines alternatives A-3, B-2, C-2, and D-2. It represents a much more urban development emphasis. Industrial, retail, and service employers would be attracted. Here multi-family housing would receive a stronger emphasis than would be required in the other two concepts. Mass transit within the Township, as well as between it, and Marquette would become feasible. Open space preservation would be a high priority.

Implications

Economic: The industry, businesses, services, and multi-family housing units included in this concept would provide by far the largest tax base for the public services required. This concept would entail substantially more economic growth than the other concepts and proportionally less commuting.

Social: Following this conceptual scheme would bring the greatest amount of population and the greatest variety of people to the Township. This would result from the greater number and variety of employment opportunities. Portions of the Township being more urban in nature would require a wider range and higher level of services.

Environmental: Of the three concepts, development by this one would place the greatest demands on the environment. Thus, the greatest precautions would be necessary to preserve the environment. Extra care would be needed in insuring the matching of land uses with land suitabilities.

The Township would have to place high value on the preservation of open space to insure a high quality of living environment. Parks and other public areas, such as trails and beaches would have to be purchased before extensive development occurs. Active zoning would insure sufficient private open area.

Implementation

The greatest problem here would be the timing or staging of the population growth, the economic development, and the provision of public services such that none of the three gets too far ahead or behind the other two. Planning, zoning, and other developmental tools would be critical in keeping these three aspects of the Township's growth going forward together in an organized fashion.

Concept III

Concept III combines alternatives A-2, B-3, C-3, and D-2. It is an intermediate of Concept's I and II. Here the Township would attempt to attract some retail and service establishments, thus providing somewhat more local employment. Commuting to work in Marquette would still remain heavy. Some mass transit may be feasible for these commuters, but elsewhere the private auto would continue as the primary means of transportation. Some multi-family housing would be promoted and various open space areas would be preserved.

Implications

Economic: The Township tax base would be somewhat broadened while inclusion of some multi-family housing would make provision of public services somewhat easier financially.

Socially: Population increase and diversity would be intermediary of Concept's I and II. The same would hold for the provision of private services (i.e., retail stores, laundries, etc.).

Environmental: Here there may be somewhat less pressure for extensive planning, zoning, etc., although these would still be necessary. Inclusion of multi-family housing might take some of the pressure off the land market for single-family housing development. Locating these multi-family housing units appropriately would be particularly important.

Open space requirements would be more than in Concept I, less than in Concept II. Greatest needs for open space would be in the vicinities of the multi-family residences.

Implementation

With Concept III some care will still need to be taken in locating and concentrating development such that necessary public services can be provided more economically. Appropriate timing of economic development, residential development, and provision of public services will also be necessary.

Goals

These concepts are not meant to be rigid options to be chosen between. Rather, they are meant to provide a broad framework within which the Township's future can be charted, knowing some of the consequences and problems with the directions that might be chosen.

The question now is, "What direction shall be chosen?" and it is important that a direction is chosen. For instance, suppose the Township merely continued developing along single-family housing lines covering much of the land with low density development. Later more urban, higher density development, might begin to occur here and there. Little open space would be left. Roads and other public services would very likely be inadequate for the higher density development. The result would be very expensive upgrading of public services where possible and quite possible continued inadequate provision of services where upgrading was impossible.

It is important then that the Township consciously decide on an overall growth strategy. At that point, the Township plan can be completed by deciding on specific goals, objectives, and policies.

Conclusion

Through discussion with citizens, the Planning Commission, the Citizen Advisory Board, and Township Commissioners, an initial step was taken in selecting an alternative which might best suit Chocolay Township now and in the future. They had selected a concept similar to Concept III.

Their intent was to provide for a controlled development of the Township as outlined in Concept III. They were not concerned with mass transit at this time, nor were they interested in large scale industrial developments.

They still felt the single-family home should continue to be the main thrust in housing, however, an opportunity for multi-family housing should also be increased. They also recognized that to meet the more diverse needs of their residents and to cover Township costs for providing necessary services, their economic base would have to be increased. This they felt could be accomplished by encouraging commercial services, both active and passive (i.e., retail stores and offices) in the community. Finally, they recognized that development would have to be controlled by the standard land use controls (i.e., zoning, subdivision regulations, etc.). Sprawling development would cost the Township in services. Therefore, development should be limited to the recognized areas of growth; new areas should be opened as the Township's needs require.

The implementation of this concept would be dependent on the enforcement and administration of land use controls and logical decision making in determining the goals, policies, and objectives of the Township. Decisions will have to be based on the Township's needs verses its ability to afford or absorb the cost incurred. The decisions will not be easy, and they will have to be made.

CENTRAL UPPER PENINSULA

CHAPTER NINE

Goals, Policies, and Objectives

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Chocolay Township
Goals, Objectives, and Policies

Introduction

The bulk of this comprehensive plan is composed of statistics, maps, figures, projections, and hundreds of details ranging from specific land use criteria and local soil conditions, to the location of a deteriorating one-lane bridge on Mangum Road. This information, when digested properly, will provide a framework for understanding the Township's planning needs and a rational growth strategy. To implement the growth strategy, decisions must be made by the Township leaders. This Chapter will assist those decision-makers in determining what directions the Township could take by outlining specific goals, policies, and objectives for each of the functional decision areas.

To assist in the complete understanding of this Chapter, three basic terms must be explained.

Goal: (Long-Term) The generalized end towards which all efforts are directed. It is normally stated in terms of fulfilling broad public needs or the alleviation of major problems. Goals tend not to be immediately attainable because they are generally unmeasurable and idealistic.

Policy: A statement of position or course of action which provides a means to attaining the stated goal. They are factual rather than value-laden, and can be measured by the impact it has on existing conditions. Since it is an adopted strategy, it must be periodically evaluated and revised. It must also be within the Township's authority and resource capabilities.

Objective: (Short-Term) A specific alternative towards which effort is directed and is derived from goals. It is expressed in measurable terms and is quantifiable; therefore, it must be attainable and realistic considering the Township's resources. Objectives are targets to be achieved, relating what has to be completed to achieve the goal.

Housing

Goal

- To encourage the creation of a housing supply to meet projected demands, which provides each family with a choice of housing types which are decent, safe, and sanitary.

Policies

- Recognize through the administration of land use controls and other development policies that the provision of housing is a public as well as a private responsibility.

- New housing should be located in environmentally sound areas.

- Encourage variety in the housing stock through revision and enforcement of the zoning ordinance, subdivision regulations, and other land use controls.

Objectives

- Annually review changes which have occurred in the Township's housing stock (new construction, demolition, conversions, etc.) to determine the extent to which choices exist with respect to housing type and price range.

- Revise the zoning ordinance to provide additional acreage for multi-family and mobile home development.

- Consideration should be given to the need for housing assistance for the elderly, low income, and handicapped families and other segments of the Township population.

Explanation

The goal and the accompanying policies and objectives recognize that currently there exists little variety in housing types within the Township. The predominant housing type is the single-family home (83.4%). The second most prevalent is the mobile home (7.8%). While the Township does not directly decide the precise mix of housing types, it does have an influence through the administration of zoning and other land use controls. Housing prices are also influenced by land use controls.

The strategy set forth above will help ensure that land use regulations do not present an obstacle to the construction of a variety of housing types and price ranges.

Transportation

Goals

- To provide for the efficient movement of people and goods with a balanced transportation network.

- To coordinate the improvement of the transportation network with the overall development of the Township.

Policies

- All road construction whether public or private should meet minimum design standards.

- Encourage alternative uses for abandoned rail and road facilities.

- Encourage the use of alternative forms of transportation, such as bicycles.

Objectives

- Continually revise and strengthen the Township's zoning ordinance, subdivision regulations, and other land use controls to reflect Township's transportation needs and design standards.

- In cooperation with the Marquette County Road Commission and the State, adopt and implement an annual Capital Improvements Program for road improvements.

- Annually review road conditions throughout the Township and recommend a priority for road improvements.

- Identify and classify roadways within the Township as suggested by the Department of State Highways.

- Periodically review the potential for providing public transportation service in the Township.

Explanation

Since the Township is inhabited by a large number of persons who commute to adjacent areas to work, shop, etc., the automobile is the most important transportation mode. For this reason, the goals, policies, and objectives strongly emphasize improvements to the road system and the coordination of these improvements with the overall development of the Township. This will ensure that future development, which will be influenced by the road network, will occur in areas which are consistent with the desires of the Township as expressed in the Comprehensive Plan.

Economy

Goal

- To provide an environment within which a diverse and stable economic base may be developed.

Policies

- New economic development should be limited to that which will significantly

increase local employment, tax revenues, and/or commercial services in relationship to the cost of providing services to the development.

- Balance the supply of public services provided by the Township with the demand and willingness to pay for those services.

- Wherever possible, services should be financed by users of the service through special assessment districts, user fees, etc.

Objectives

- Annually review the area economy to identify emerging trends.

- Encourage expansion of retail-wholesale and service industries within the Township through revision of the zoning ordinance and study the use of limited special tax incentives.

Explanation

Taken together, the above statements express the realization that further economic development is important, but that the character of the Township should not be sacrificed for the sake of short term economic gains. Similarly, the relationship between the Township's ability to provide services and the people's demand for, and willingness to pay for them is acknowledged. Lastly, it is suggested that the Township make use of special assessment districts and user fees whenever possible.

Natural Features

Goal

- Preserve and enhance Chocolay Township's natural environment (by utilizing the natural resources in an orderly and prudent manner).

Policies

- Ensure that the use of land and the intensity of use is suitable to the natural environment.

- Encourage the preservation of prime agricultural and forest production areas from more intense types of land use.

- Avoid further development of land in designated "areas of particular concern."

- Encourage the preservation of high quality fish and wildlife habitat.

Objectives

- Annually review designated "areas of particular concern" and enact strict controls on development in those areas of high risk erosion, steep slopes, wet lands, and other "areas of particular concern."

- Encourage the State DNR and the Soil Conservation Service to further study the sedimentation problem in the Chocolay River and its tributaries, and to recommend solutions.

- Enforce the Shorelands Protection and Management Act by including its provisions in the revised zoning ordinance.

- Annually review the zoning ordinance, subdivision regulations, and other land use controlling ordinances.

Explanation

Several concerns are embodied in the above statements. First, there is the need and desire to give full consideration to the natural character and qualities of the land and water resources in making development decisions. The vehicles for accomplishing this include: the designation of "areas of particular concern", zoning and subdivision regulations, and the provision or non-provision of utilities and services. Secondly, there is the need to learn more about the nature of the problems associated with the Chocolay River in particular. Lastly, it is recognized that the Township is developing rapidly, and therefore, development controls must be reviewed at least annually to assure that they are producing the desired results.

Community Facilities

Goal

- Provide public services as demanded by Township residents, and at the least possible cost.

Policies

- Continue to provide necessary administrative facilities for governmental and community use.

- Provide a sewage collection system in accordance with decisions based on environmental needs and public cost.

- Investigate the future need for public water facilities for the Township.

- Continue to provide solid waste collection with an economically equitable system.

- Provide adequate recreational facilities to meet the Township needs.

- Provide adequate police and fire protection for the Township.

- Provide areas designated for seasonal occupancy, with services on a seasonal basis.

- Develop and implement a Capital Improvements Program which meets the Township's needs.

- Provide other services to the Township in accordance with the ability and willingness of the people to pay for them.

Objectives

- Develop a policy of acquiring additional land for local park areas, public access to water areas, development of new recreation areas, hiking trails, and other scenic open spaces.

- Obtain advice from State DNR and Army Corps of Engineers on the feasibility of keeping the Chocolay River mouth open.

- Encourage the State DNR and Soil Conservation Service to study the sedimentatior problem in the Chocolay River and its tributaries, and to recommend solutions.

- Study the possibility of hiring additional police officers to provide better coverage during peak crime periods.

- Develop a mapping and numbering system of the Township to provide adequate fire protection.

- Install an elevated storage tank for rapid filling of fire fighting equipment.

- Study and adopt special assessment districts to equalize public costs in critical service areas.

- Annually review and prioritize a program of capital improvements.

Explanation

The provision of community facilities and services will remain a critical issue for many years to come. A number of needs are identified in the policies and objectives. Meeting these needs will severely strain existing revenue sources. For this reason, the Township should begin to program capital improvements on a multi-year basis; and greater use should be made of special assessment districts.

CENTRAL UPPER PENINSULA

CHAPTER TEN

Areas of Particular Concern

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

AREAS OF PARTICULAR CONCERN

Throughout this Plan mention has been made to Areas of Particular Concern. The term itself is new, however, the concept is not; the idea has been around as long as people have recognized potential problem areas in their environment. Areas of Particular Concern are those geographic areas which have a high value because of their contribution towards a quality of human living and the enrichment of the human experience by virtue of their unique values, resources, problems, or conflicts. They incorporate these key concepts: (a) they are limited in quantity either in total amount or within any given geographic area, (b) they are irreplaceable, once destroyed or altered, the resources will not or cannot be replaced, and (c) they are sensitive and fragile areas.

For areas identified as such, the underlining objective is to express some measure of concern, and to manage these areas so as to conserve resources, resolve conflicts and problems, and foster preferable land and water uses. It is inevitable that the expanding needs for development will impact Areas of Particular Concern, either directly or indirectly. However, to provide for the orderly and coherent development of those areas and surrounding lands, Areas of Particular Concern should not be planned separately from the development plans of the locality, region, or state. It is crucial that all jurisdictions identify areas of particular concern and then develop tools to protect, manage, and utilize these areas for benefit of future generations.

This Chapter will attempt to provide a guide in that direction. This discussion on Areas of Particular Concern will include an identification of both the natural and cultural areas. It will consist of those areas previously mentioned in this Plan and other significant Areas of Particular Concern found within the Township. In identifying these areas, a set of criteria has been established and it too is included. There will be a discussion of general management techniques to monitor, control, and preserve Areas of Particular Concern. The chapter will then conclude with suggestions for specifically managing Chocolay Township's proposed Areas of Particular Concern.

Proposed Areas of Particular Concern in Chocolay Township

The list below is an initial inventory of those areas deserving of being classified as Areas of Particular Concern. It is separated into natural areas and cultural areas. Natural areas are those that have developed outside of man's action, even though they may or may not be under his control now. Cultural Areas of Particular Concern are man-made or developed artifacts of his culture. The categories are clear-cut and self-explanatory; this listing is by no means conclusive.

NATURAL AREAS OF PARTICULAR CONCERN

1. Environmental (wetlands, wildlife, plant life areas, etc.)

   - Cherry Creek Watershed
   - Waterfowl area on Lake LeVasseur
   - All wetlands within Township as identified in Comprehensive Plan

2. Wilderness and Natural/Scientific Areas

   - Fish hatchery on Cherry Creek
   - Waterfowl area on Lake LeVasseur

3. Geologic Formations

   - Steep sloped area as identified in Comprehensive Plan
   - Protruding bedrock area as identified in Comprehensive Plan

4. Flood Areas

   - All flood areas identified in the FIA Flood Hazard Boundary Map for Chocolay Township

5. Erosion Areas

   - High-risk erosion area on Lake Superior shoreline as identified in the Comprehensive Plan

6. Shorelands

   - High-risk erosion area on Lake Superior shoreline
   - Chocolay River mouth
   - Coastal lakes of Lake Superior (Harvey and Shot Point area)
   - All Lake Superior waters and bottomlands

7. Lakes (inland)

   - Lake Kawbawgam and Lake LeVasseur

8. Rivers and Streams

   - All rivers and streams within Township

9. Agricultural Lands

   - All land currently under cultivation as identified in Comprehensive Plan

10. Prime Forestry Lands

   - Forested areas on steep slope areas
   - Forested area in northeastern part of Township along M-28

11. Mineral Resources

- Existing gravel and sand operations in Township

CULTURAL AREAS OF PARTICULAR CONCERN

1. Aesthetic Areas

- As determined by Planning Commission and Township residents

2. Recreation Areas

- State forest lands
- Highway turn offs (two on M-28)
- Public access site on Lake LeVasseur
- Marina on Chocolay River

3. Historic Sites

- Those areas to be identified by the Marquette County Historical Society

4. Urban Areas

- Lakewood Drive area east of Harvey
- Shot Point Residential area

Below is the criteria used in selecting the above areas and this standard is recommended for identifying additional Areas of Particular Concern. This discussion will be in the same order as they were identified.

NATURAL AREAS OF PARTICULAR CONCERN

ENVIRONMENTAL AREAS

Criteria for Selection

All Areas of Particular Concern will meet at least one of the criterion outlined. However, if any area does not reflect the intent of at least two or three of the criteria (unless otherwise stipulated) then careful consideration should be given to its listing as an Area of Particular Concern.

1. Wetlands:

a. Waterlogged within at least a few inches of the surface during the growing season.

b. Contain up to 12 inches of water until approximately mid-summer, at which time may dry up completely or remain waterlogged for remainder of season.

c. Covered with one to three feet of water during the growing seasons. Cattails and bulrushes are common.

d. Covered with open water of variable depth, usually under ten feet maximum, and has emergent vegetation restricted to a narrow border.

e. A shrub swamp in which the soil is normally waterlogged during the growing season or covered with as much as six inches of water.

f. A wooded swamp in which the soil is waterlogged to within at least a few inches of its surface during the growing season. In river bottoms, often covered with as much as one foot of water.

g. Bogs in which the soil is at least waterlogged and generally blanketed with a spongy covering of mosses, leather-leaf, and labradortea.

2. Wetland or upland areas as designated by State DNR that provide physical and biological conditions condusive for the reproduction of animal species or for any other life cycle phase of an animal species. This would include: nesting areas, migratory rest areas, feeding areas, spawning areas, areas of seasonal shelter, and mating areas.

3. Areas not necessarily associated with high productivity or high occupancy and use during the life cycle phase of an animal species, but of unusual or necessary botanical significance. These would include:

   a. Areas supporting plant species and aggregations associated with dune communities. Stability of these communities is essential for the natural erosion control and climatic moderation that these areas provide for more landward habitats.

   b. Areas supporting unusual plant species because of unique micro-environmental conditions.

   c. Marsh and other wetland areas, acting as a "filter-control" zone.

   d. Areas supporting disjunct plant species or aggregations of such species and any other latitudinally displaced plant species.

4. Areas necessary for the reproduction of any other phase of the life cycle of an endangered or threatened species. An adequate buffer area should be included around the identified habitat to guard against excessive encroachment or disruptions. (Endangered or threatened species are those on any designated state, federal, or other authoritative listing.)

5. Areas designated or proposed for designation as environmental areas under State authority.

WILDERNESS AND NATURAL/SCIENTIFIC AREAS

Criteria for Selection

1. Wilderness Areas:

   Wilderness areas are a sufficiently large enough tract of primitive, undeveloped, undisturbed and generally unaccessible land, so as to provide a certain sense of isolation and solitude. It should foster experiences and moods far removed from civilization and more closely attuned to that of the natural environment. (The Wilderness and Natural Areas Act, Act 241, P. A. 1972, contains statutory requirements for identification of wilderness areas.)

2. Natural/Scientific Areas:

   a. Has retained or re-established its natural character, or has unusual flora and fauna or biotic, geologic, or other similar features of educational or scientific value, but it need not be undisturbed.

   b. Has been identified and verified through research and study by qualified observers.

   c. Adaptive to development and use of facilities for conservation education and nature study, or much more intensive use than research natural areas.

   d. A managed biological community or ecosystem which has been maintained at a chosen state of development, or is brought to a desired stage of development, by the use of cultural techniques or controls over a short or long period of time, or sporadically, which are known to favor the maintenance of, for the development of, the kind of biological community desired, or which may be designed to preserve or restore a desired plant or wildlife species.

GEOLOGIC FORMATIONS

Criteria for Selection

1. Significant ridges and rolling hills; areas of steep topography with a ten percent or greater slope.

2. Significant gem stone, semi-precious stone areas, or fossil beds.

3. Perched sand dunes and other dunes of strongly developed relief.

4. Formations of historic or archaeologic value.

5. Sea stacks, sink holes, natural arches, tombolas and spits.

6. Sandstone bluffs and ledges, limestone bluffs, shale bluffs, ordovician bluffs, and lava flow escarpments.

7. Prominent drumlins, eskers, kames, and other dramatic evidence of glacial action as known to Geological Survey Division of DNR.

8. Significant spring lakes and waterfalls.

9. Highest points.

FLOOD HAZARD AREAS

Criteria for election

1. Michigan follows the Federal Insurance Administration in identifying a flood hazard area as being that area within the one hundred year flood plain. Flood hazard areas would consist of that land lying below an elevation which flood levels have a one percent chance of reaching or exceeding in any given year.

2. Informal indicators, such as known history of flooding may be used for determining flood hazard areas.

EROSION AREAS

Criteria for Selection

1. Areas that are visibly eroded.

2. A comparison of past and present air photos of the site (areas where bluffs have receded at least one foot per year are considered serious risks to future construction.)

3. Areas likely to experience erosion will exhibit at least two or three of the following:

   Vegetation removed
   Bank slumping
   Turbidity of adjacent water or excessive wind action
   Damaged erosion control structure
   Damaged land structures
   Protective works present (shoreline)
   Unusual angle of repose (shoreline)

4. Areas where erosion is likely to take place:

   Beaches, shorelines, and sandy bluffs
   River banks
   Sandy soil conditions and other soil types listed by Soil Conservation Service as having erosion potential
   Agricultural land with loose top soil
   "Torn-up" developed or intensely used lands

SHORELANDS

Criteria for Selection

1. Beaches and Sand Dune Areas:

   Those geomorphic features composed primarily of sand, whether wind blown or of other origin which are:

   a. Perched sand dunes or other dunes of strongly developed relief.

   b. Exhibiting unusual flora or geologic qualities.

   c. Experiencing intensive recreational use.

   d. In a natural state and deserving of protection from consumptive uses (including residential development).

   e. Threatened by mining activity.

   f. In need of reclamation due to past removal of sand and/or vegetation.

2. Rivers and River Mouths:

   Those rivers to the extent that they are influenced by other natural features which are of prime spawning value, heaviest recreational use and boat traffic, or are part of a coastal management program.

3. Bays:

   Those areas which exhibit the following characteristics and are generally out of tune with sound management policies: high value as wildlife and fish habitat; heavy recreational use or a high degree of conflicting use; and low water quality.

4. Off-Shore Waters and Bottomlands:

   a. Water over-lying critical shoal areas or shallows that are important as fish spawning and habitat areas.

   b. That part of the surface water within the euphotic zone (area of visible light penetration). This is the top layer of water and a zone of concentrated primary productivity (growth of phytoplankton). (This depth varies from one area to another within a lake and from one lake to another.)

   c. Water near areas of high human occupancy or activity.

   d. Water supporting a prime sports fishery or commercial fishery.

   e. Bottomlands are distinguished from uplands by an Ordinary High Water Mark, which holds regardless of where the water level is at any given time, which is either: (a) the level at which soil and vegetation

change from a predominantly upland character to a predominantly bottomland character, or (b) the officially established level in the case of an inland lake structurally regulated after proper legal procedures.

5. Coastal Lakes of the Great Lakes:

   a. Inland lakes directly connected with the Great Lakes by a channel or other natural or man-made waterway; particularly those navigable waterways.

   b. Inland lakes with an established importance as spawning and habitat areas for fish species.

   c. Inland lakes showing limnological similarities to the Great Lakes. Examples are those lakes supporting glacial relict species.

   d. Inland lakes supporting marina and docking facilities for commercial shipping and recreational boating of a total or partial Great Lakes nature.

   e. Inland lakes where changing Great Lakes' water levels have a substantial impact on the shoreland of the inland lake (i.e., increase erosion, flooding, etc.).

LAKES (INLAND)

Criteria for Selection

1. Wilderness Lakes:

   a. Undisturbed watershed with natural vegetation predominant.
   b. Human habitation absent from shoreline.
   c. One hundred percent of shoreline undeveloped.
   d. Watershed development low or absent.
   e. No industrial or agricultural development on watershed.
   f. Inaccessible by improved road.
   g. Provides unusual resources of educational or scientific value.

2. Wild Scenic Lakes:

   a. Undisturbed, stable watershed with natural vegetation predominant.
   b. Population density low on shoreline.
   c. At least 75% of the shoreline undeveloped.
   d. Development in watershed low.
   e. No industrial development on watershed.
   f. Limited agricultural development on watershed.
   g. Limited accessibility.
   h. Provides unusual resources of educational or scientific value.

3. Urban/Recreation Lakes:

   a. Watershed disturbed - natural vegetation less than 50% agricultural, municipal and/or industrial development on watershed.

b. Population density high in watershed and high on shoreline.
c. Less than 50% of the lake frontage available for development.
d. Experiencing some water quality problems or fluxuation.
e. Recreation not seriously impaired by water quality.
f. Lake's water quality sensitive to changes on shoreline and watershed.
g. Easily accessible to urban areas.

RIVERS AND STREAMS

Criteria for Selection

(Watercourses of particular concern can be identified in the three categories below. Backwaters in conjunction with these rivers unless separately identified, shall be included; and they should be at least ten miles in length.)

1. Wilderness Rivers:

   a. Exist in a wilderness environment.
   b. Waters are free of any impoundment or unaffected by activities of man.
   c. They are generally inaccessible.
   d. The surrounding land is undeveloped.

2. Wild Scenic Rivers:

   a. Wild bordering lands and perhaps a wild appearing stream.
   b. Essentially free-flowing.
   c. Limited accessibility by trails and roads which may occasionally bridge the river.
   d. Near-natural waters of high aesthetic quality.
   e. Bordering lands may only be lightly developed.

3. Country Scenic Rivers:

   a. Pleasant country-like surroundings.
   b. May have undergone impounding in the past.
   c. Readily accessible, with possibility of paralleling roads along river and numerous water access sites.
   d. Waters of high aesthetic quality.
   e. Bordering lands may be moderately developed.

PRIME AGRICULTURAL LANDS

Criteria for Selection

1. All lands of a workable size and in capability Class I to III should be considered as prime agricultural land. The Farmland and Open Space Preservation Act (Act No. 116 of the Public Acts of 1974) sets minimum criteria for workable size through a combination of acreage, type of crop and annual monetary yield per acre.

2. Agricultural land that produces specialty crops important to Michigan's economy, such as tart cherries, sweet cherries, dry beans, cucumbers, prunes, plums, grapes, asparagus, pears, apples, sugar beets, etc.

3. High lying areas or relatively frost-free fruit sites (these are found primarily along the Great Lakes coastline).

4. High water table, acid soil areas for high bush blueberries.

5. Organic and muck soils which are important for specialty crops and vegetable production.

6. Isolated areas that because of their isolation are especially suited for the production of disease free crops.

PRIME FORESTED LANDS

Criteria for Selection

1. A Forested Area, an area formerly having tree cover, or an area with superior soil characteristics to support timber production and not currently developed for non-forest use, of at least ten acres. (Roadside, stream-side, and shelter-belt strips of timber must have a crown width of at least 120 feet; clearings of less than 120 feet in width.) It must be at least in a medium class growing stock as identified by the Soil Conservation Service, DNR, or U. S. Forestry Service.

2. Forested lands within other areas of particular concern; vital for the preservation of flora and fauna; or necessary for erosion control.

MINERAL RESOURCE AREAS

Criteria for Selection

1. An existing demand for the mineral on a local, state, and national level. Local and regional demands for mineral commodities should receive greatest consideration since local needs for minerals with low unit value (such as sand and gravel) can only be satisfied by deposits in close proximity to the Region. At greater distances, hauling costs may exceed the market price of the mineral.

2. Quality of the deposit. Quality will greatly influence the feasibility of extraction.

3. Quantity of the deposit. Quantity can be a crucial factor in decisions necessitating large capital investments.

4. Location of the deposits. Transportation costs and modes of transportation available are dependent on the location of the deposit. Equally important will be available water supply, surrounding land uses, and possible environmental and economic impact on those uses by mining operations.

5. Accessibility of the deposit. Accessibility will influence the amount of surface overburden to be removed, possible threats to ground water and the type and cost of equipment required to excavate the materials.

CULTURAL AREAS OF PARTICULAR CONCERN

AESTHETIC AREAS

Criteria for Selection

(These areas should include a combination of natural and in some cases, man-made structures of influence or dependence, arranged in such a way as to create a visual or contemplative mood of aesthetic quality.

1. Public Awareness:

   a. Is acknowledged as a valuable scenic resource by local officials.
   b. Is of regional significance, is compatible with regional plans.
   c. Is considered to be of state-wide significance.

2. Location of View:

   a. Is viewable from a state and/or federal highway or scenic turnout.
   b. Is viewable from an established recreational trail or natural area.

3. Type of View:

   a. Areas of unique and unusual wind sculptured vegetation or blown out areas.

   b. Areas of unique wind or surf modified shoreline, such as escarpments and sculptured cliffs.

   c. High bluff areas that afford a wide visual panorama or distant views of the lake and surrounding land area. In particular, such areas on the slopes of bays or other areas of highly irregular shoreline.

   d. Areas of picturesque landscapes in combination with certain man-made structures, which together create a quaint and romantic scene.

   e. Areas of unusual surf action, waves breaking violently over off-shore rocks or against rock cliffs, creating unusual moods of spray and noise.

   f. Areas not necessarily of unusual scenic value on a state-wide basis, but of unusual scenic value in an area where many of these qualities have been already lost to other uses.

RECREATIONAL AREAS

Criteria for Selection

1. Sites of existing recreation facilities:

   This would include parks, recreational areas, state forests, state game areas, fishing piers, recreational harbors, and launching sites, bathing beaches, campgrounds, and so on.

2. Physical suitability:

The area should at least possess the rather obvious minimal characteristics generally expected by users. It should be accessible and meet with the environmental restrictions:

a. A swimming area should have a gradually sloping sand bottom. Water should be suitable for total body contact, with no nearby sources of potentially dangerous accidental spills. There should be space for parking cars according to the amount of use expected.

b. An area for hunting, fishing, or wildlife observation should provide a habitat known by qualified biologists to be favorable to the species intended.

c. An area proposed to be retained for public appreciation of its unique or unusual scenic, geological or biological character should have either openly visible or scientifically demonstrable evidence of such unusual character.

HISTORIC SITES

Criteria for Selection

(In the case of historic and archaeologic preservation, this in many cases requires varied degrees of expertise and direct familiarity with historic and prehistoric trends within the particular location. In addition, historic value will fluctuate in scope relative to the interests involved; some artifacts, sites, or structures being of extreme local significance but of a much lesser importance to regional, state, or national interests. For these reasons, it is difficult to formulate a universal set of criteria for evaluating cultural value except in very general terms.)

1. Is it connected with a pivotal event resulting in significant contributions to the patterns of history or prehistory.

2. Is it associated with an important phase of growth or decline of a locale, society, or movement.

3. Is it associated with the lives of historically significant persons.

4. Is it associated with important contributions to science, technology, politics, the arts or humanitarian causes.

5. Does it embody distinctive characteristics to type, period, or method of construction.

6. Does it represent the work of a master.

7. Does it yield or may be likely to yield information important in prehistory or history.

8. Does it possess a high artistic value or unusual and unique workmanship, or is it one of a kind.

9. Is it at least 50 years old (this criterion could be overruled in cases of something of anticipated potential historic value).

10. Is it a district or grouping of structures or other objects which individually are not unique, but which when taken together represent a certain historic scene or way of life. (In this case piece meal destruction of the individual parts of such a grouping would destroy the effect or mood created by the grouping, if it were left in its entirety.)

11. Is it currently registered as an historic site by any state, local, or national organization.

URBAN AREAS

Criteria for Selection

1. Satisfying the Bureau of Census definition of an urbanized area.

2. Those urban areas experiencing highly competitive environmental uses, such as encrouching intensive development on known Areas of Particular Concern.

3. Those environmentally sensitive areas or "Areas of Particular Concern" wholely within an urban setting, such as botanical gardens, zoos, marinas, parks, river fronts, shorelines, and beaches.

MANAGEMENT TECHNIQUES FOR AREAS OF PARTICULAR CONCERN

The salvation and preservation of Areas of Particular Concern involves a number of complex situations difficult to deal with because of local concerns, personal desires, and the intangible results of preserving these unique lands. Too often the direct economic and social gains of preserving and managing such lands are less apparent than the gains of developing those lands. This situation is particularly true in "hard" times, when preservation becomes second to satisfying material needs. Exacerbating the situation are the traditional societal attitudes and customs towards these "special" areas. The American ethic has held that land exists for developmental purposes; that our resources are plentiful; and that our environment is improving. The fact is, as we are now aware, that our land is limited, it is valuable, and the ecologic balance of nature is extremely fragile--and it is being tested. Perhaps our most crucial problem is created by not even recognizing the existence of these unique areas; and when they are identified, speculation and development pressure soon destroy their integrity.

Communities must both identify and protect Areas of Particular Concern. The means of protection can vary from federal and state regulation, to local control, to voluntary action. No one approach will satisfy each individual situation or functional Area of Particular Concern. Local attitudes, real and assumed property rights, development objectives, local priorities and many other factors, will determine which management technique that will best provide the protection for the resource and respect the welfare of the public. Generally, techniques for managing Areas of Particular Concern fall into six broad groups:

1. Registration:

   Registration generally involves the establishment of an official Register who would be responsible for inventorying current and potential areas, establish criteria for identification, and administer a management program for the preservation of those Areas of Particular Concern. Sites would be inventoried on both public and private lands, and designation would be accompanied by an agreement between the Register and owner, provided he does not alter the unique features of the area. Legislation should be coupled with registration to guarantee the program's authority and provide funds for the area's management. A model of this kind of management tool is the Register of Historic Places which has been very successful on both the federal and state level. Several Michigan counties have also instituted a less rigorous registration program.

2. Public Acquisition:

   Public purchase is generally the simplest form of protection for Areas of Particular Concern, but of course, it is very costly, particularly at the local level. Private donation is another means of acquiring the property (refer to Voluntary Action). A purchase and leaseback program is an acquisition tool, whereby the public body would hold title, but avoid the specific management responsibilities over the property and would have the opportunity to regain part or all of the purchase price. Deed restrictions could be written into the lease to provide the proper protection.

This method is best suited for those Particular Areas able to withstand moderate development and are not in a critical or threatened position. Similar to this is the Revolving Fund Technique where the public body (or private non-profit organization) will purchase and preserve Areas of Particular Concern with money from other Areas that were leased or sold with the appropriate deed or lease restrictions to guarantee their preservation. This technique has been successfully used in the preservation of historic sites.

3. Zoning Controls:

Zoning is perhaps the most common management tool utilized at the local level to control development and protect potential Areas of Particular Concern. State-wide zoning in Michigan does not exist, but the State does recognize certain unique areas, and provides legislation and enforceable guidelines for their protection. This action, when accompanied with local zoning, can sufficiently implement the protection of those areas. Zoning is appropriate for local protection; however, too often Areas of Particular Concern transcend local boundaries and no effective legal tool exists for coordination with other local units; therefore, local jurisdictions must cooperatively work to solve regional problems.

4. Voluntary Action:

Incentives for voluntary action through tax rebates and breaks, education of the public, and voluntary restriction on the resource use are the traditional methods of private preservation efforts. These methods have proven to be successful, but are subject to the whim of the private owner.

5. Controls Over Development:

Developmental controls, similar to zoning, is another popular local method of preservation and management. Subdivision controls and easements are the traditional tools. The use of easement (either purchased or donated) will provide public protection without public ownership. Similar to easement are covenants placed on those lands (owners would be compensated) restricting the types of particular practices allowed.

6. Legislative Action:

Legislation can be passed at both the local and state level which can almost completely accomplish the objectives of a program to preserve Areas of Particular Concern, if the citizenry so desires. Legislation will provide the legal guidelines for identification, management, and enforcement of Areas of Particular Concern, but as noted throughout, it must be coupled with other management techniques to ensure its proper implementation.

MANAGEMENT TECHNIQUES FOR CHOCOLAY TOWNSHIP'S PROPOSED AREAS OF PARTICULAR CONCERN

For those potential Areas of Particular Concern identified in Chocolay Township, a program of management and preservation must be explored. The kinds of management techniques employed are dependent on local decisions. To assist in this decision making, Chocolay must make a concerted effort to officially identify and develop an inventory of Areas of Particular Concern on a regular basis. This inventory is intended to begin that process. The discussion on the Criteria for Areas of Particular Concern will provide a minimum basis for the identification process. Once identified, the Township must prioritize its listing, recognizing that each area represents a certain "value". Areas will vary in importance, those given a higher priority will require more stringent protection. Those less important will have less rigorous regulations or be put off to a later point in the implementation process.

For the most part, the Township's management program will be limited to use of Zoning and Development Controls as described previously. It is recommended that they participate with the County, State, or Federal programs geared towards preserving these unique areas. They should continue to enforce the traditional protective ordinances, such as the county health codes, building permits, zoning permits, etc. The following discussion will identify possible management programs for those Areas of Particular Concern in Chocolay Township. Parts of this discussion will be more detailed than others. That is because many of the Areas of Particular Concern identified were general in nature (rivers and streams, lake wetlands, etc.), while others are more specific (the waterfowl area, fish hatchery, etc.), requiring specific management techniques.

Natural Areas of Particular Concern

1. Environmental Areas

A. Cherry Creek Watershed and Lake LeVasseur Waterfowl Area:

The Cherry Creek Watershed (which supports the State Fish Hatchery) and waterfowl area on Lake LeVasseur are both outside the jurisdiction of the Township. They are in State ownership and are presently under a management program. However, for zoning purposes, it is recommended that both areas be zoned Open Space. *(References to zoning districts reflects the intent of proposed 1976 Chocolay Township Zoning Ordinance).* The Township should take steps to safeguard the Cherry Creek watershed area by informing Sands Township (from where the majority of the watershed originates) of its program of Areas of Particular Concern and of the watersheds value as a regional resource.

B. Chocolay Township Wetlands:

A management program for the Townships wetlands should include enforcement of county health codes, state building codes, and Subdivision Control Act (Act 288 of the Public Acts of 1967). The Farmlands and Open Space Preservation Act of 1974 (Act 116 of the Public Acts of 1974) offers certain tax deferral options to property owners who enter into an open space agreement with the State or local unit for at least ten years. Township should also endorse and enforce those sections of the Inland Lakes and Streams Act (Act 364 of the Public Acts of 1972), Endangered Species Act (Act 203 of the Public Acts of 1974), and Shorelands Protection and Management

Act (Act 245, Public Acts of 1970) related to the preservation and utilization of wetlands. For zoning purposes, all wetland should fall into the Open Space and Resource Production districts unless it is currently being utilized or development pressure forces a more intense zoning classification.

2. Wilderness and Natural Scientific Areas

See discussion on subsection "A" of Environmental Areas for both areas identified.

3. Geologic Formations

A. Steep Sloped Areas:

The steeped sloped areas of the Township are generally less desirable for most types of development because of the higher construction costs, high erosion possibilities when soils are disrupted, and cost of providing public services are very high (road construction, snow plowing, sewage collection, etc.). Therefore, intense types of development should be limited. The two larger areas in the southwestern portion of the township can support good timber production; and this is encouraged to avoid erosion problems. The area should be zoned Open Space.

B. Protruding Bedrock Areas:

Protruding bedrock can create development problems in construction of septic tank drain fields, public sewer lines, or construction on its rock bluffs. It is recommended that intense development be limited in these areas because of those problems; and if development occurs, it can be monitored by enforcing the health, building, and subdivision controls. Most of the bedrock areas on the eastern portion of the township is on State owned lands and should be zoned for Open Space. The rock bluffs in the northwest corner of the Township should be closely monitored by the development controlling ordinances because the pressure for intense development exists.

4. Flood Areas

The Federal Insurance Administration (HUD) has issued a preliminary Flood Hazard Boundary Map identifying those lands lying within the one hundred year floodplain. It is recommended that the Township comply with the State Building Code, Subdivision Control Act, and Floodway Encroachment Act (Act 167 of Public Acts of 1968) to provide for orderly development within the floodplain areas and that they participate in the Federal Flood Insurance Program to provide proper protection for those areas affected by flood areas. Most major flood areas should be zoned for Open Space or Resource Production.

5. Erosion Areas

Management efforts to curtail Lake Superior shoreline erosion stem from the Shorelands Protection and Management Act. The State, through CUPPAD, is performing a survey of the High Risk areas and a detailed management program of which the Chocolay portion will be a part. Until those recommendations come out, it is suggested that the Township establish setback restrictions to provide a safety zone of at least 30 years protection for both developed and undeveloped areas. (The DNR establishes setbacks by calculating the known receding rate of the banks.) Those lands undeveloped should be zoned for Open Space.

6. Shorelands

A. High Risk Erosion Areas:

Refer to High Risk Erosion discussion above.

B. Chocolay River Mouth:

The Chocolay River mouth is experiencing a sedimentation problem. If the Township decides that they need the mouth open for public use, they should contact the Army Corps of Engineers and Soil Conservation Service to determine what procedures would be necessary to keep it free flowing.

C. Coastal Lakes, Lake Superior Waters and Bottom Lands:

Coastal lakes and rivers are covered by the Shorelands Protection and Management Act, it is recommended that the Township adopt the management program forthcoming from CUPPAD. Until then, it is recommended that reasonable setbacks be established ("reasonable" enough to provide protection for water quality, aesthetic quality, and the resource's integrity) within the zoning ordinance. All Great Lake waters and bottomlands fall within the jurisdiction of the State and are, therefore, the State's responsibility. The Shorelands Protection and Management Act will monitor adjacent development as discussed herein to protect those resources.

7. Lakes (Inland)

Lake LeVasseur is wholely within the jurisdiction of the State and is discusse in subsection "A" of Environmental Areas. Kawbawgum Lake is in private ownership and is experiencing rapid development along its shores. The area surrounding the lake is within the Proposed Flood Hazard Area and Wetland Area, and should respect those recommendations as discussed. For those areas developed, it is recommended that reasonable setbacks be established in the Zoning Ordinance to preserve their integrity. The Township should enforce all developmental controls (Subdivision Controls, State Building Code, and Health Code), as well as the Inland Lake and Streams Act.

8. Rivers and Streams

All streams and rivers should be afforded a minimum amount of protection from over use and intense development. Those portions surrounded by Wetlands or Flood Hazard Areas should respect the recommendations for those areas. Reasonable setbacks should be established through the Zoning Ordinance. The Township should enforce developmental controls, as well as honoring the Inland Lakes and Streams Act, and the Local River Management Act (Act 253, Public Acts of 1964).

9. Prime Agricultural Lands

Only agricultural lands under current cultivation have been identified as Prime Agricultural Lands for Chocolay Township. It is recommended that the Township work closely with the Soil Conservation Service to continually redefine Chocolay's responsibility to agricultural production needs. Zoning agricultural land as Open Space or Resource Production can provide the necessary protection from unwanted development. The Farmlands and Open Space Act will also control development, as discussed earlier.

10. Prime Forested Lands

Chocolay Township has no major commercial timber production even though it is extensively forested. Much of the eastern portion of the Township is within the Michigamme State Forest and, therefore, outside the Township's jurisdiction. It is recommended that Chocolay work closely with the Soil Conservation Service and DNR to determine the potential productivity of the private forested lands. To preserve the quality and quantity of forested lands along roadway, rivers, streams, lakes and ponds reasonable setbacks could be utilized. To preserve larger tracts of forested lands the Private Forest Reserve Act (Act 86, Public Acts of 1917) could be instituted. (If commercial land is involved: Commercial Forest Act, Act 94, Public Acts of 1925.) Lands intended to be preserved for its timber resources should be zoned Open Space (Timber Resource) or Resource Production.

11. Mineral Resources

Those gravel and sand operations existing are the only mineral resource areas in Chocolay (more valuable mineral resource only exist in trace amounts and not economically feasible at this time for extraction). To ensure protection to those resource areas and provide maximum limits on how much extraction should occur, it is recommended that an industrial zoning classification be used on only those specified areas.

Cultural Areas of Particular Concern

1. Aesthetic Areas

Since the selection of Aesthetic Areas is a judgmental decision, it was determined that the Township leaders are in the best position to make that decision. To protect those areas the Township should utilize developmental controls and setback regulations as determined necessary. Each area will have to be dealt with individually to meet its particular needs and problems. Zoning should also be used with that in mind.

2. Recreation Areas

The State forested lands, highway turnoffs, and Lake LeVasseur public access site, are out of the jurisdiction of the Township. For zoning purposes, they should be zoned Open Space. The Township's marina and public access sites fall under local ordinances and the Recreation and Playgrounds Act (Act 156, Public Acts of 1917). Monies for improvement are possibly available from DNR through the Land and Water Conservation Fund and State Waterways Commission those sites should be zoned Lake Shore/Residential (Commercial-3).

3. Historic Areas

Current protection for all state and federal registered sites come from the Historic Division of Michigan's Department of State. All local preservation efforts (funding and enforcement) should go through their office or the Marquette County Historical Commission. Each area identified is unique unto itself so will require individual attention in its management.

4. Urban Areas

The Lakewood Lane and Shot Point developments are encroaching on High Risk Erosion Areas and are within the Flood Hazard Area of Lake Superior. Since development exists, zoning and developmental control ordinances should be rigidly enforced to preserve the quality of the resources and protect existing and future development. Setbacks would be most useful here. Zoning in this area should be Lake Shore/Residential. (Although not an immediate problem, the Kawbawgum Lake area is a potential candidate. As an Area of Particular Concern, development is spreading in an area that is both wetlands and a Flood Hazard Area. Here too, zoning and developmental control ordinances should be rigidly enforced.)

CENTRAL UPPER PENINSULA

CHAPTER ELEVEN

Decision Map

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Decision Map

To compliment the framework provided by this plan, a decision map has been prepared for Chocolay Township. The decision map portrays the areas that are suitable for intensive development; that have high resource production potential; that have both intensive development and high resource production potential; and that are not suitable for any of these purposes.

In the process of making this decision map, several criteria were considered: soil characteristics, topography, bedrock areas, wetlands, floodplains, and marshes or swamps. All of these are considered as the key factors in determining whether a particular area is suitable for a particular use or not. The soil characteristics as interpreted by the Marquette County Soil Conservation District are used in regrouping the soils as those suitable for intensive developments or high resource production potential. However, it should be noted that within the same soil association there are several soil types, and each of these soil types have different soil characteristics. In regrouping the soils, the characteristics of soil types which occupy a larger proportion of the soil association are considered. The soil characteristics may present problems for foundations, basements, septic tanks, establishing lawns, etc. As far as topography is concerned, the areas which have steep slopes of 10% or more pose several development problems. These problems include the severe erosion hazard and the increased cost of construction due to excavation, leveling, filling or construction of retaining walls, etc. Bedrock areas are those areas where the glaciers did not leave behind any deposit materials. In such areas, excavation for foundations, basements, laying water and sewer mains, and other subsurface activity becomes extremely difficult. The wetland, floodplains, and marshes or swamps should be generally avoided to protect the property from damage.

Limitations should not be considered in isolation from one another; instead, they should be viewed in a comprehensive manner. This can be substantiated by the fact that in a given area, the soil characteristics may permit intensive development, while the same area may be a floodplain or in steep slopes or in a bedrock area.

The limitations of soils, topography, bedrock areas, wetlands, floodplains, and marshes or swamps were superimposed on one another in delineating the areas suitable for intensive development, high resource production potential, or both, on the Township Decision Map.

Although there are several areas that are suitable for intensive development in the Township, it is important for the decision-makers to know which of these areas are ideally suited for development in the existing circumstances; such as, the available facilities, transportation system, relationship to the existing developed areas, land ownership, and the like. In order to give a proper perspective to the decision-makers, the decision map is overlayed on a base map, which shows the existing transportation systems, recreation facilities, existing and proposed developments, sand and gravel sites, etc. In an area like Chocolay Township, land ownership is a significant factor in determining the best possible development pattern. This is due to the large areas which are publicly-owned or are owned by large corporations These areas are generally not available for development. In some cases, this is advantageous. Such is the case for areas which are well-suited for forestry. On the other hand, public ownership of land places a tremendous burden on local government, which is dependent upon property tax revenues for its operation. In any case, it is important to be aware of ownership patterns when developing land use policies.

Therefore, state-owned lands are overlayed on the decision map.

This composite map is a valuable tool for the Township decision-makers in guiding the future growth and development, in the general sense. For making specific decisions about specific sites, the more detailed maps, figures and data found in this Plan should be consulted.

CENTRAL UPPER PENINSULA

CHAPTER TWELVE

Capital Improvements

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Capital Improvements Programming

Introduction

Capital Improvements Programming (CIP) is a process that can and should develop into a vital tool towards implementing many of the goals, objectives, and policies expressed in Chocolay Township's Comprehensive Plan. Though there are widespread variations in the size, emphasis, and organization of every municipality's CIP, the intended purpose remains constant; that is, to prioritize and schedule public physical improvements over a certain period of time, basing the decisions on a set of criteria reflective of the comprehensive plan, and present and anticipated financial capacity. The actual products of the system are a long-range program of capital projects (generally six years), and a capital budget specifying projects to be funded in the next fiscal year.

A capital project is generally defined to be a new or expanded physical facility for the community that is relatively large sized, relatively expensive, and relatively permanent. Examples might include streets, sewage treatment plant, water tower, new fire station, etc.

The overall CIP process helps public officials to select future projects such as those utilizing a systematic, well-informed, more objective approach. However, it is not meant to be a substitute for legislative decision-making, for two important reasons. First, no feasible procedure is provided for choosing between projects of diverse functional areas. Second, the representative function of the legislature would be seriously weakened if the ultimate decision-making power did not lie with the public officials.

The remaining portions of this chapter will include a detailed outline of the CIP process as it best applies to Chocolay Township, and a sample CIP for the functional area of transportation.

CIP Process

I. Project Proposals

The initial step in the Capital Improvement Program is the suggestion of possible projects to the planning commission. Usually these recommendations stem directly or indirectly from the township board, the individual department heads, the general public in the form of a citizens advisory committee, or the planning commission itself.

Project proposals should be set forth according to some type of standardized format, possibly on forms prepared by the planning commission. The information requested on such forms should include:

1) Name, description, location, and purpose of the project.
2) Estimated costs involved in each project including planning, land, construction, equipment, and other related costs.
3) Financial impact of the project on the particular department under which it would be included. Estimated annual costs of maintenance, additional personnel, and related equipment needs, as well as anticipated revenue-producing potential, should be considered.
4) Scheduling of construction phases and project expenditures.

5) Justification for and department priority of the project, if it comes from a department head.
6) Recommendations concerning project finance.

In addition to initiating a project proposal format, the planning commission should also set a submission deadline. In fact, a timetable for each step of the CIP process is useful in that it promotes efficiency and order.

II. Evaluation and Prioritization

To accomplish this task, the projects must be grouped according to their respective functional area. The comprehensive plan's goals and objectives for each area must be translated into a set of criteria, with the maximum point total for each criteria reflecting its relative importance. Points are then allocated to a particular project depending on how well it meets the criteria. For obvious reasons, the scoring system should be developed prior to commencement of the evaluation process.

After the deadline for proposals has passed, the planning commission must begin to systematically evaluate each capital project so that the township board will have some basis upon which to choose. At this stage each proposal should be judged on its own merit, ignoring the financial aspects for the time being.

Let us, by way of example, consider how this system might work for those projects in the functional area of recreation. The comprehensive plan may state that the municipality's policy should be to develop recreation facilities that would appeal to senior citizens, as well as the remainder of the population. In terms of meeting this criterion, a golf course might receive three out of a possible four points, while a baseball diamond might only get one out of four. Another policy could state that recreational facilities should be located in close proximity to residential areas. Relative to this criterion, a project within a residential area might receive six out of a possible six points, while one proposed in an industrial area, miles from any residences, could get zero out of six.

Projects are evaluated against all of the criteria developed, and a final point total is tallied for each one. Highest point total becomes first priority, and so on down the list. The planning commission has now prioritized capital project proposals within functional areas in accordance with the comprehensive plan.

The difficult problem of evaluating projects across functional areas still remains. How is a choice made between a sewer line extension and a new branch library, for instance, if both are number one priorites? As mentioned before, the township board must make the final decision on this type of question, utilizing the evaluative work of the planning commission and its own awareness of the fiscal ramifications. However, it is good policy for the planning commission to make some attempt at prioritizing these cross-functional projects.

One method that has been moderately successful is the "essentiality of service" concept. It is not really adaptable to any exact system of criteria and scoring, meaning that the planning commission must discuss the issues until some consensus of opinion is reached. A community, for example,

might be forced to prioritize capital projects designed to alleviate the following problems: It has a school building condemned as dangerous for occupancy; Its filtration plant is outmoded and cannot deliver safe water in sufficient quantity; Its hospital is too small; It could use a new city hall; and some of its streets are unpaved. And, it has no golf course.

In terms of essentiality, replacement of the school building ranks as the number one priority since it now poses a serious safety threat to large numbers of persons. Either the filtration plant or hospital would be second, since their inadequacies are not as immediately dangerous to the public health as the school building. A new city hall and street paving, while definitely needed, are not critical for community survival and are, therefore, assigned lower priority. Finally, a golf course must be considered an amenity or luxury item by comparison, and while desirable, certainly is not essential. Therefore, it receives lowest priority.

III. Submission to Budget Officer (Financial Analysis)

After the planning commission prioritizes CIP proposals by functional area and perhaps cross-functionally, they are submitted to the budget officer. In Chocolay Township's case, it is unclear who the budget officer really is. Legally the power rests with the township superintendent, but currently the supervisor also assists in making the budget. (This is more closely addressed in the Administration Chapter.) The budget officer must perform a financial analysis, which determines how much the township can afford to spend. This step brings the Capital Improvement Program into realistic terms by limiting it to the township financial capacity. The financial analysis can be divided into two major categories, which will be looked at individually.

First, the township's anticipated future revenues and expenditures should be estimated to obtain a rough idea of how much money is available for capital spending. It is suggested that this be done for approximately six years into the future, although figures beyond two to three years should realistically be recognized as educated guesses. Total revenue will be the sum of forecasted moneys from each of the various revenue sources, that is, general property taxes, income taxes, licenses, fines, permits, fees, service charges, external government grants, shared taxes, and other miscellaneous sources. To make the revenue estimates, each source should be related to the appropriate factors or indexes. For example, property taxes should be based on projected residential, commercial, and industrial construction rates with an assumed market value, the relationship to assessed value, and the tax rate. Projections of federal revenue sharing funds would be based on population, per capita income, intergovernmental transfers, and adjusted taxes. Money to be obtained through licenses, fines, permits, fees, etc., can be estimated using past records relative to population size. All assumptions should be presented.

Operational expenditures are commonly categorized as either expenditures to pay for current services or debt service. Current service expenses usually comprise a much greater portion of a government's budget, and therefore are a limiting factor on tax-supported capital improvements. Estimation of future operating expenses should be based on past experience adjusted to increases in population, increased personnel and equipment costs, inflation, and changes in the public services program. Capital improvements already in the on-going stage will add somewhat to operating expenses through staffing and maintenance costs.

In terms of debt service expenditures, a compilation of all outstanding debts should be done so that the future debt burden of existing projects can be fully realized. The payment schedule should be studied to see how much is owed each year for the life of the debt.

The sum of yearly operating and debt service costs yields a rough total of the annual expenditures to which the government is committed in succeeding years. Subtracting these from the corresponding estimated yearly revenues provides a ball-park figure on the funds that will be available to service tax-supported debt on the proposed capital projects.

Often times public officials find that local revenues are inadequate to support the high cost of sorely needed capital improvements. Counties and charter townships make extensive use of bonding, in its various forms, and grants to bolster their financial capabilities.

1) General Obligation Bonds - General Obligation Bonds are based on the taxing potential of the township pledged for repayment of principal and interest. If approved through referendum, these bonds may be issued and utilized to finance the acquisition or construction of any public improvement. However, Michigan law limits the sale of General Obligation Bonds to an amount not exceeding ten percent of total assessed valuation.
2) Revenue Bonds - Revenue Bonds are used to finance improvements that are revenue producing in nature, such as a water system, sewage collection and disposal system, or parking facilities. The principal and interest are paid from the revenues produced.
3) Special General Bonds - A type of special assessment bond (a type of bond that generally operates in the following manner: the people within the district benefitting from a particular project are charged an additional amount on their taxes until such time as the bond's principal and interest are paid in full. The municipality in general will customarily assume some smaller percentage of the total cost.) secured by a pledge of the full faith and credit of the township. This is more advantageous than a standard special assessment bond since by carrying the pledge of the entire community it can usually be issued at lower interest rates. Charter townships can issue these bonds without referendum. The ability of property owners within the special district to make the required payments should be verified before issuance of these bonds.
4) Grants-in-Aid and Federal Loans - Grants-in-Aid are a frequent source of funds used for capital improvements. Generally, a local match is required. The township must plan a reasonable system for providing revenues to meet the local matching fund stipulation. Direct loans are another means of financing projects. Repayment normally is made from the increased revenue produced.

The second major task of the township supervisor or budget officer is to consider those projects desired to be completed, and tentatively schedule each according to the availability of funds and priority of need during the budget period (one year) and a six-year overall CIP program. This step, or course, climaxes the entire process of project evaluation, prioritization, and fiscal analysis. Each particular project must be looked at in terms of cost relative to the government's broad financial constraints, future budget impact, alternative methods available for funding, what segments of the population would bear the financial burden, and of course, its priority as judged by the planning commission.

It is a good idea to put together a CIP report to consolidate the significant quantity of information, evaluation, and decision making that have accrued to this point. Some or all of the following might be included:

1) Mapping of proposed projects.
2) Six-year program tabulated by departments and year of scheduling. Each project within each department should then be tabulated on more detailed tables. Information in the table should include total cost of the project, allocation of cost in each year of the capital program, and any amount that must be spent after the capital program period.
3) A summary of all projects in the capital budget (first year of program).
4) Tabular presentation of projects by states: recommended, under contract, in progress, and completed.
5) Presentation of projects by source of funds; for example, township federal funds, federal funds, state funds, special assessments, and bonds (type).
6) Tabular listing of projects not included in present program, and the possible future action to be taken.
7) Comparison of proposed program and improvements called for by the comprehensive plan.
8) Graph of total income and expenditures of city for past years and future estimates.
9) Comparison of request for capital improvements to funds for operating departments, by department.
10) Graph of outstanding bonds to date of liquidation and effect of new ideas on debt capacity.

IV. Township Board

The tentative capital budget and six-year program along with the CIP report (if done) are next submitted by the township supervisor to the township board for its review. The board, being the townships legislative body, naturally has the ultimate power concerning adoption of the capital budget and program. Like the supervisor, the board will also want to study the project proposals, their prioritization, and compatibility with respect to current and future financial limitations.

The board will address comments, criticisms, and suggestions back to the supervisor and/or planning commission. When the various differences of opinion are finally ironed out, the Capital Improvements Program, in its revised form, is voted upon by the board as a means of achieving official adoption.

V. Updating

In order to maintain the capital program so that it constantly looks six years into the future, the program must be updated each year, by one year. Therefore, the capital improvements process is an annual task of revising and updating the six-year program, and specifying the capital budget for the next fiscal year. Government officials should understand the compatibility that must exist between the CIP and comprehensive plan, and strive to coordinate their updates of both documents.

Criteria and the Plan

The transportation goals, policies, and objectives expressed in the comprehensive plan should provide the basis for developing a set of criteria to prioritize future road improvement projects. Of course, the actual criteria design will necessitate considerable amplification of the goals, policies, and objectives to obtain enough detail for point assignment. This process relies heavily upon the judgement of the Planning Commission and their understanding of the comprehensive plan. The actual criteria to be used for this sample CIP grew out of policies and objectives of Chocolay Township as contained in the plan.

One of the plan's transportation goals is "to coordinate the improvement of the transportation network with the overall development of the township." This recognizes the close relationship between road improvement and increased development and the need to use road improvement expenditures to influence development patterns. The plan further states that new development should primarily "occur in areas where it can conveniently be served by local services, such as the sewer system, schools, school bus, recreation facilities, etc." It was felt that the utilization of water/wastewater service area boundaries would adequately represent future growth areas and areas where better roads should be encouraged (See Map). Points were allocated according to which district a project fell into. That is, a proposed road improvement in a five-year water and wastewater service area would receive more points than one in a twenty-year water and wastewater service area, since it would occur in a more developed, service - accessible district. The result of this criterion will be more road investment in areas where growth is encouraged.

One transportation policy of the plan states that, "all road construction, whether public or private, should meet minimum design standards." This is done to ensure that roads are able to accommodate traffic quickly and safely. Standards for each road upon which a project was proposed were established from the Road Design Manual of the County Road Association of Michigan. A proposed project was given five points if it brought a road into compliance with surface design standards, or three points for various other design standards. The effect of this criterion will be to eventually bring all roads up to a specified standard, a design standard which varies by type of road. Because these standards are assigned to make road design and construction reflect road use, the end result will be wise expenditure of public road investment dollars.

The final criterion stems from the plan objective, "to annually review road conditions throughout the township and recommend a priority for road improvements." Under the system developed, a project receives points in an inverse relationship to the condition of the road for which it is proposed. For example, a road judged to be in good condition will receive zero points, since any improvements needed certainly aren't urgent. A project on a road in fair condition will receive two points, and one on a road in poor condition, since repairs are so vitally needed, will get four points.

Chocolay Township Transportation Criteria

Location	Points
1. Project occurs on road (or intersection) existing within (water/wastewater) service area.	5

Location	Points
2. Project occurs on road (or intersection) existing primarily within five-year (w/ww) service area.	4
3. Project occurs on road (or intersection) existing primarily within ten-year (w/ww) service area.	3
4. Project occurs on road (or intersection) existing primarily within twenty-year (w/ww) service area.	1
5. Project occurs on road (or intersection) not within (w/ww) service area.	0

Design Standards

1. Project brings a road into compliance with standards in terms of surface design.	5
2. Project brings a road into compliance with other design standards.	3

Road Conditions

1. Project occurs on road in good condition. (Can be traveled year-round, 80-100% of length at design speed.)	0
2. Project occurs on road in fair condition. (Can be traveled year-round, 50-80% of length at design speed.)	2
3. Project occurs on road in poor condition. (Can't be traveled year-round, and/or only 0-50% can be traveled at design speed.)	4

Project Definition, Prioritization

In this section, the sample road projects will be listed and defined, the criteria will be applied to each, and a priority list generated from the results. It should be stressed that this is only a sample project list designed to illustrate how the whole criteria-ranking process operates. Quite likely, there are road improvement projects not considered, along with projects designed to increase safety at intersections through curve straightening and/or installation of traffic signals (Cherry Creek - Ortman Road, Cherry Creek Road - M28).

Definition of Projects

1. Karen Road

   Presently a very rough, gravel-based road. Blacktopping is proposed (approximately 8/10 mile along Karen Road from the Little Lake Road intersection to serve new residences.

2. Little Lake Road

   Presently a paved road with surface in fairly good condition, narrow shoulders, and several areas of upheaval. Proposed is shoulder widening, some resurfacing, and improvement of basework in those areas of considerable upheaval.

3. Cherry Creek Road (Part 1)

Presently a gravel-based road, very rough, with considerable sand and rocks. Blacktop paving is requested for approximately a three-quarter mile stretch.

4. Cherry Creek Road (Part II)

Presently a very narrow roadway, sandy-clay surface, extreme problems in winter or foul weather. Proposed is widening, construction of ditches, and base improvements (probably gravel) on the present granular surface for a one and three-quarter mile stretch.

5. Timber Lane

Approximately one-quarter mile stretch is gravel-based, very rough, considerable number of stones. Blacktop paving is proposed to serve the large number of residents in this area.

6. Kawbawgam Road

An 880' stretch presently gravel, very bumpy, and many rocks. Blacktop paving requested to serve five to six new homes.

Karen Road	Location	0
	Design Standards	0
	Road Condition	2
	Total	2
Little Lake Road	Location	0
	Design Standards	3
	Road Condition	2
	Total	5
Cherry Creek Road (Part I)	Location	0
	Design Standards	0
	Road Condition	4
	Total	4
Cherry Creek Road (Part II)	Location	0
	Design Standards	3
	Road Condition	4
	Total	7
Timber Lane	Location	3
	Design Standards	5
	Road Condition	4
	Total	12
Kawbawgam Road	Location	0
	Design Standards	5
	Road Condition	4
	Total	9

Administrative Considerations

A Capital Improvements Program requires a significant commitment by the Planning Commission in terms of time and effort. Annually, the Planning Commission should review and update policies within the comprehensive plan, as needed. If policies are changed, then criteria (outgrowth of policies) must also be altered to properly reflect those changes.

Of course, the Planning Commission cannot hope to do all of this by itself. Strong staff support is needed, along with the assistance of various outside professionals. For example, very detailed information will be needed from the Road Commission or township superintendent in order to evaluate road condition criteria.

Lastly, it can be mentioned that a CIP for the area of transportation is relatively more difficult than for recreation, for example. This is due to the fact that many of the proposed projects are very similar, and require very technical criteria.

CENTRAL UPPER PENINSULA

CHAPTER THIRTEEN

Land Use Regulations

CENTRAL UPPER PENINSULA
PLANNING AND DEVELOPMENT REGION

Land Use Regulations

The following chapter presents a discussion of commonly used land use control methods. In particular, it addresses their intent, scope, methodology, and possible effectiveness in implementation of objectives expressed in the Chocolay Township Comprehensive Plan.

Zoning Ordinance

In Michigan, a township's power to zone is derived from Public Act 184, the Township Rural Zoning Act of 1943. Essentially, zoning may be defined as the division of any local government unit into districts, and the regulation within those districts of:

1. The height and bulk of buildings and other structures.

2. The area of a lot which may be occupied and the size of required open spaces.

3. The density of population.

4. The use of land and buildings for trade, industry, residence, etc.

Zoning is probably the single most commonly used device available for implementing a township's goals, policies, and objectives. When based upon a carefully conceived comprehensive plan, it is also extremely effective.

Obviously, the preparation of a good zoning ordinance, preceded by an equally good comprehensive plan, is no easy task. Voluminous quantities of information must be gathered before intelligent analysis can occur.

The final zoning ordinance and map represent the end result of a process involving the utilization of existing data to construct a framework under which future development can be wisely shaped. The following are just a sample of the important questions to be addressed while writing the ordinance:

1. How many districts shall there be?

2. What should each include?

3. For what district(s) is a particular tract of land naturally compatible?

4. How much area need be allocated to each type of district?

5. How should the districts be arranged in relation to each other?

The completion and adoption of a zoning ordinance is not a panacea for all of a township's land use problems. There are several reasons for this. First, it must be realized that zoning has natural limitations; it is neither intended nor equipped to act as the sole device for land use control. For example, zoning does not deal with the materials or manner of a building's construction. It doesn't regulate the design of streets, the installation of utilities, the reservation or dedication of parks, street right-of-ways, and school sites. Zoning is characteristically prospective rather than retroactive in its effect. In other words, a zoning ordinance is much more apt to prevent future problems than alleviate existing ones.

Historically, poor zoning administration has been another limiting factor. Responsibility usually lies with the zoning administrator, the zoning board of appeals, or both. The zoning administrator is the key person in the entire enforcement process. His/her duties include issuing and following up on zoning permits, checking for violations, administering the nonconforming provisions, initiating court actions, and keeping records. Obviously, laxity by the zoning administrator renders the ordinance virtually useless. The same holds true for the board of appeals. Over-liberality on their part in granting variances seriously harms the credibility of the document.

At this point, the reader is probably wondering what good is zoning, considering all of its limitations. The benefits to a township of a carefully administered ordinance, utilized in conjunction with the various other means of land use controls, are numerous.

In the past, many zoning ordinances were built on a cumulative principle. Districts were ranked from "higher" to "lower" uses, with a "lower" use allowing all uses higher than itself. For example, residential and commercial uses were permitted in industrial districts regardless of the ill effects.

Recent ordinances, including Chocolay's, have become more exclusive to a greater degree segregating differing uses from each other. There are two reasons for this, and together they present a strong case for zoning in general. Segregation of districts is a successful means to:

1. Prevent a mixing of incompatible uses which may have deleterious effects upon each other in terms of aesthetics, function, and property valuation.

2. Insure that uses requiring expensive public service facilities, such as major utility lines and heavily paved streets, are restricted to areas where these facilities exist or are planned.

The Chocolay Township Zoning Ordinance contains twelve zoning districts, some cumulative and others exclusive with respect to each other. It is felt that the administration of this ordinance will be an invaluable tool in realizing certain objectives stated in the comprehensive plan.

1. At the present time, there exists little variety in housing types within Chocolay Township. Increased development of multi-family and other affordable alternatives to single-family "stick built" units is considered desirable. This can certainly be encouraged (as it has been) by additional acreage allotments to these uses in the zoning ordinance.

2. It is hoped that a diverse and stable economic base will be developed in Chocolay Township. This will take in expansion of retail-wholesale and service industries. The zoning ordinance can encourage this growth. Moreover, it can do so without compromising the township's character, by providing areas to light industry that will not conflict with other land uses, and will be economical in terms of providing necessary facilities.

3. The zoning ordinance will play a major role in protecting the natural environment of Chocolay Township. Placing large amounts of land in the RR-1, RR-3, RP, and OS districts will preserve areas of prime agricultural and forest production, high quality fish and wildlife habitats, and areas of particular concern. The inclusion on the zoning ordinance of the Shorelands Protection and Management Act's provisions is also an excellent safeguard.

4. Through the zoning ordinance the township can set aside land that it acquires for local park areas, public access to water areas, development or new recreation areas, hiking trails, and other scenic open spaces by including these areas within a public land category.

Subdivision Regulations

Traditionally, the subdivision of land has been the way in which communities are built and grow. It follows logically that any land use planning program must include controls over this process. Subdivision regulations are defined to be locally-adopted laws governing the conversion of raw land into building sites with strict controls over the layout and dimensions of streets and alleys, utilities, blocks, easements, lots, etc. This is normally accomplished through plat approval procedures, under which a developer is not allowed to make improvements or to divide and sell his/her land until the township board and other governmental bodies have the proposed subdivision design. Compliance or noncompliance with standards set forth in the subdivision regulations is the determining factor as to whether the plat receives approval.

In general, subdivision procedures can be broken down into five steps:

1. Preapplication:

   A rough sketch of the subdivision is submitted so that the planning commission or township superintendent can make suggestions to the developer before large expenditures are incurred.

2. Preliminary Plat:

   The first formal action is the submission of the preliminary plat. The regulations usually describe in considerable detail the information that must be included. If it gains township board approval (based on recommendation from the township planning commission), work may commence on preparing improvements, etc.

3. Construction of Improvements:

   Once preliminary plat approval has been issued, improvements are required before the final plat is submitted. These would include street construction, grading for proper drainage, and installation of utility systems (water system or well, sewer or septic tank, electricity, etc.). Naturally these are governed by strict design standards.

4. Final Plat:

   The purpose of the final plat is two-fold. First, it allows the township board, after planning commission review, to make sure that the final recorded plat is in accordance with the prior-approved preliminary plat. Secondly, it furnishes a permanent record concerning the location, size, and design of underground utilities and information relating to land titles (exact lot lines, street and alley right-of-ways, utilities easements, deed restrictions, etc.).

5. Recording of Plat:

The recording of the final plat serves two functions. First, it may act as a legal dedication to the public of the streets, parks, utilities easements, and similar lands shown on the plat. Secondly, it becomes a convenient means for describing a particular lot which the developer wishes to deed to a purchaser. Lot purchasers and lending institutions frequently request to see this finalized plat.

The effectiveness of subdivision regulations depends upon many of the same factors that influence a zoning ordinance. First, its basis should be a comprehensive plan. Without one, the planning commission is operating in the dark as it attempts to coordinate the layout of a particular subdivision with others in the neighborhood. Secondly, subdivision regulations must be coordinated with the zoning ordinance and other forms of land use controls. For example, subdivision regulations, the zoning ordinance, and the board of health regulations frequently all have differing specifications concerning minimum lot size. If conflicts such as this do exist, it is customary to utilize the most stringent requirement.

Most important is the fact that a set of subdivision regulations is only as good as its enforcement. When strictly and fairly administered, it has significant benefits for the community as a whole. The following list illustrates positive impacts attributable to subdivision regulation enforcement:

1. Insures that a residential development has a safe water supply and sewage disposal system, and that they are properly drained.

2. Provides an adequate record of land title.

3. Assures safe design and proper construction of new streets, utilities, and drainage systems.

4. Secures water systems of adequate size and pressure, and streets on which fire vehicles can maneuver.

5. Preserves or secures needed school sites and recreation areas.

6. Assures that a lot purchaser will receive a buildable, properly oriented, well-drained lot; provided with adequate facilities in a subdivision whose value will hold up over the years.

7. Protects the developer against substandard competiters who might try to undersell him/her by building a shoddy subdivision nearby.

8. By requiring improvements during the construction phase, subdivision regulations insure that these costs will be born by the purchasers, and not later on by the township in general.

In addition to the above listing, subdivision regulations will also help to implement policies and objectives in the Chocolay Township Comprehensive Plan.

1. Proper enforcement will insure that all new public and private roads will meet minimum design standards, which is important in terms of safety and traffic flow.

2. Subdivision regulations will insure that new development, both commercial and residential, receive adequate utility service.

3. Will insure that sewage collection system is provided in those areas where septic tanks would be environmentally unsound.

4. The State Subdivision Control Act of 1967 attempts to prevent sprawl development in rural areas by limiting the number of lots that can be created without platting.

Building Codes

Building codes are another form of land use and structure regulation. Chocolay Township and all of Marquette County utilize the BOCA (Building Officials and Code Administrators) basic building code.

With the goal of insuring public safety, health, and welfare, the BOCA code regulations control matters concerning the construction, alteration, addition, repair, removal, demolition, use, location, occupancy, and maintenance of all buildings and structures and their service requirements. As much as possible these regulations are stated in terms of measured performance, rather than in rigid specifications of materials. This makes possible the acceptance of new materials and methods of construction, without adopting amendments for every variable. The designer is allowed the maximum possible freedom, and development is not hampered needlessly.

The building code is administered by the Marquette County Building Code Department, headed by the building inspector. It is his/her responsibility to actually enforce the provisions of the code. This is accomplished through a permit and inspection process, which operates in the following manner:

The building inspector receives a building permit application, which should contain a general description of the proposed work, its location, the use and occupancy of all parts of the building or structure, and of all portions of the site or lot not covered by the building, and other necessary information. Before issuing or denying the permit request, the building inspector must examine all buildings, structures, and sites for which an application has been filed to construct, enlarge, alter, repair, remove, demolish, or change the use thereof. If the permit is granted, follow-up inspections must be conducted during and upon completion of the work. Should the building inspector refuse to issue a permit, the owner may appeal the decision to a board of appeals.

The building inspector also is responsible for inspection of existing buildings where no work is proposed. If illegal or unsafe conditions are discovered, he/she is required to take appropriate action to insure compliance with the State Building Codes. Obviously, the building inspector needs a thorough working knowledge of the codes and construction technology to perform his/her job well. The BOCA code includes regulations in the following areas of concern: occupancy requirements; light and ventilation; means of aggress; structural and foundation loads and stresses; materials; steel, masonry, concrete, gypsym and lumber construction; building enclosures; walls and wall thickness; chimney, flues, and vent pipes; heating equipment and appliances; fire protection and fire extinguishing equipment; precautions during building operations; signs and outdoor display structures; elevator, dumbwaiter and conveyor equipment; air-conditioning, refrigeration, and mechanical ventilation; and prefabricated construction. The Marquette County Building Codes Department is also responsible for inspections related to the plumbing and electrical codes.

The BOCA building code, as an aid in helping to implement the Chocolay Township Comprehensive Plan, is most closely associated with housing and other structures. Strict enforcement will ensure that buildings are structurally sound, and safe in terms of fire prevention, ventilation, etc. This fulfills a major goal of the plan: that there be a decent, safe, and sanitary supply of housing within the township.

Housing Codes

A housing code is an ordinance establishing minimum standards governing the condition and maintenance of dwellings; establishing minimum standards governing supplied utilities and facilities and other physical conditions essential to make dwellings safe, sanitary, and fit for human habitation. The code establishes responsibilities and duties or owners and occupants of dwellings; authorizing the inspection of dwellings; the condemnation of dwellings unfit for human habitation; and fixing penalties for violations. As might be expected, these are some areas of overlap with zoning ordinances, subdivision regulations, building codes, and health regulations. The most stringent specifications normally are applicable.

A typical housing code will contain requirements pertaining, but not limited, to the following: sink; water supply; bathroom; shower/bathtub; hot water; means or aggress; windows; electrical outlets; heat; ventilation; staircases; plumbing; hallways; bathroom floors; floor space; ceiling height; pest control; rubbish disposal; and basements.

An authorized inspector is usually appointed by the local unit of government to administer and enforce all of the code's provisions. In order to examine a dwelling for compliance with the code, an authorized inspector may enter any dwelling upon proper presentation of credentials. A notice of compliance is issued for those dwellings passing inspection; a notice of violation for those dwellings which violate the code.

A notice of violation must be in writing; specify the sections of the code violated; set a reasonable time to effect compliance; and advise the owner of the procedure for appeal.

Any person served with notice of violation or order which has been issued in connection with code enforcement may request and shall be granted a hearing of the matter before a Housing Appeals Board. After the hearing, the board may sustain, modify, or withdraw the notice of violation and order. Failure of the owner to abide by the decision will force the initiation of legal proceedings.

If a dwelling is judged to be a menace to public health and/or safety, it may be condemned as unfit for human habitation. Demolition can be enforced.

A housing code also has influence with respect to new development. Before construction, the owner or his/her architect must submit to the authorized inspector detailed specifications of the plans. These are examined in terms of their compliance with the housing code. If they do conform, a permit is issued. Refusal of a permit, means that a reworking of the plans must be undertaken.

Similar to the building code, a housing code will provide Chocolay Township with a supply of housing that is decent, safe, and sanitary.

Health Department Regulations

The Health Department or Board of Health is usually set up on the county level, with the county health officer also acting as the township health officer.

The board of health is entitled to make such regulations and by-laws respecting nuisances, sources of filth and causes of sickness as deemed necessary for the public health and safety. Junkyards, neglected cesspools, and unsanitary housing are common problems which must be given attention.

Health regulations, like zoning and subdivision regulations, generally contain minimum lot size requirements for situations where individual wells and/or septic tanks are necessary. This is because such facilities, improperly located, can have detrimental health effects.

Commonly, a developer will have to secure a permit from the board of health signifying that the construction plans are in conformance to health department standards.

Recent Trends in Land Use Regulations

Building or construction permit qualification systems are probably the most recent innovation in land use guidance. Their purpose is to determine the manner and order in which residential development will occur on residentially zoned land. Variously referred to as "time phased", "time controlled", and "growth controlling", these systems operate by specifying conditions for the issuance of building or construction permits. The conditions generally refer to some or all of the following: the availability of services, geographical location, environmental design, architectural design, and inclusion of low and moderate income housing. Two examples which have gained national prominence are outlined below. Lastly, it should be noted that no such concept has ever been applied in Michigan, and due to the lack of any authorizing statute, court acceptance seems doubtful at this time. However, local units should be aware of the concepts for the future.

Ramapo Plan

A developer's permit application must include information on the availability of five types of public services: 1) sewage disposal systems; 2) drainage facilities; 3) parks and recreational facilities; 4) road systems; and 5) firehouses. The application is then evaluated on a 0-5 scale for each category, in terms of how adequately that particular service is provided. If the total is 15 or greater, the permit is issued.

Petaluma Plan

This plan allows only a predetermined number of development permits per year, and is most suited to a municipality that is seriously attempting to limit growth. As with the Ramapo Plan, the applications are evaluated and given a point source. Permits are then issued from the top of the list down until the predetermined limit for the year is reached.

CENTRAL UPPER PENINSULA

CHAPTER FOURTEEN

Administrative Structure

CENTRAL UPPER PENINSULA PLANNING AND DEVELOPMENT REGION

Administrative Structure

It may seem strange to some to be concerned with administration in a process designed to formulate public policy. It is felt that some concern with township administrative provisions is both appropriate and necessary due to the great influence administrative action has in forming policy and, of course, in implementing that policy. The following chapter will be concerned with township administration. Special attention will be given to those areas where Chocolay Township officials have indicated the existence of difficulties. An evaluation of township administrative practices is not intended. Neither, does this work pretend to critique the actions or policies of the township board.

It could be said of most township governments that they are uniquely "government by the people." The elected citizen not only expresses the will of the people but he is also the one who executes that will. He not only makes the political decision as to what governmental policy should be, but he also carries out that policy by administrative action.

By contrast, larger units of government usually separate the political and administrative functions and place them with different people. Citizens sit on elective boards and make policy, while professional administrators are hired to carry out that policy.

Chocolay Township finds itself halfway between these two forms of government. The administrative tasks of government are too great to assign them to elected officials who must earn their living in other jobs. Yet the township is probably not yet large enough to be able to afford professional administrators for all tasks. The result is a mixture of professional administrators in some functions and elected officials contributing substantial time to the township to administer other functions. The result is a break-down in the traditional lines of responsibility (where the chief administrator would be ultimately responsible for all administrative functions). This is apparent in Chocolay Township, for instance, where the superintendent enters very little into the process of providing financial reports to the township board. This "mixture" diffuses responsibility and may make it more difficult to maintain a cohesive and cooperative administrative unit.

Due to these considerations, Chocolay Township finds itself in a difficult situation, and one from which it will probably not escape for several years. However, there are measures which township officials can take to make the best of the situation.

First, township board members should be fully aware of the problem. When administrative functions are assigned to employees, it should be done carefully and with a full description of assigned duties. The township superintendent's job description, for instance, quotes from the rather broad, vague, language of the Charter Township Act. There is probably a need for more explicit definition of his duties and responsibilities. When these definitions or descriptions are prepared, they should be designed to allow the employee the full administrative descretion which he needs to perform his job. Secondly, the township board should be fully aware of the difficulties that can arise when administrative functions, which should theoretically be under the responsibility of the superintendent, are performed by an elected official. The situation could be compared to that of an army general who finds that one of his lieutenants is an elected official and those responsible only to the voters. The best answer to the problem is probably the nurturing of "team spirit" among all those responsible for administrative functions, both elected and professional. This team spirit can flourish only in a situation in which all parties clearly understand what is expected of them. Each individual must be fully aware of the limits of his/her authority and responsibility.

These measures can be used to avoid several pitfalls, all tied to the distinction between policy and administrative responsibilities. There is always room for questions as to where the policymaking function (expressing the will of the people) stops and the administrative function (executing that will) begins. In spending decisions, for instance, it is clear that the decision to appropriate money for a particular item is a policy decision and the mechanics of purchasing the item are best left to administrative discretion. In personnel matters, the policy decision involves the decision to fill a position and what qualifications would be met, etc. The administrative function is to interview and hire someone to fit those qualifications.

Another pitfall sometimes discovered by townships, is the oftentimes difficult matter of getting both parties, elected policymaker and administrator, to accept their proper role. Elected officials who are accustomed to performing administrative functions find it difficult to leave that role and become only policymakers. Administrators find it easier, at times, to involve elected officials in administrative decisions so that the responsibility for a poor decision can be shared by several others. Hiring committees are frequently a good case in point.

Many of these problems can be avoided by a township board which clearly defines and designates policy and administrative responsibilities. The chief reward is happier and more accountable administrators. He or she is comfortable knowing his limits of authority and responsibility, and he can be held accountable precisely because he has the authority. It is difficult to hold an administrator responsible for a job poorly done if he has not had full knowledgeable authority to administer.

The above paragraphs have considered some general trends in the administration of Chocolay Township and the problems faced as the township is in transition from a government administered by elected officials to one administered by professional employees. This change also involves problems and needs in specific management areas, including fiscal and personnel management and the growing difficulties of township regulatory and service needs. The following paragraphs will briefly discuss these specific areas of concern.

Personnel Management

Good personnel management is, like most administrative tasks, not easy to achieve. Units of government seem to have special problems due to the public nature of their tasks and the often constant change in leadership. Added to these problems, small rapidly growing units of government often experience problems directly related to their inexperience in personnel management. The following paragraphs will consider some of the more prevalent of these problems. Interviews with some employees and township board members have indicated that these problems may exist to some degree in the township.

Perhaps the most elemental personnel management need is for a formally designated personnel manager or director. The Charter Township Act recognized this need and lists the responsibility as one which may be assigned to the superintendent. Unfortunately, the need is not always met with the simple assignment of responsibility. The person to whom the assignment is made must also have the time and ability to perform the needed tasks. Interview opinions have suggested that in the past two or three years, the work load on township personnel has been heavy enough so that many administrative tasks, including personnel management, have suffered from lack of attention.

The Chocolay Township superintendent's job description quotes the township charter in assigning to him the responsibilities of personnel director. However, there may be room for disagreement as to the meaning of the term in this context. In most instances, the personnel director holds a staff as opposed to a line position. These responsibilities are to administer the prescribed personnel system and assist the line administrator in the mechanics of such things or hiring and firing employees. It should be noted that in that job, the personnel director does not make the hiring and firing decisions, those are the responsibilities of the department head.

In Chocolay Township, the superintendent has apparently been assigned responsibilities as both a department head in several departments and as the personnel director for the township. This dual role gives him the responsibility both for making personnel decisions in several departments and also for administering the personnel system. However, the fact that he has dual responsibilities should not cloud the fact that he is filling two different roles. If and when the township designates another department head (other than the superintendent), that person should then be the line officer responsible for personnel decisions within his department and the superintendent should provide him staff assistance with the mechanics of advertising, holding interviews, etc.

Although the responsibility for hiring and firing should rest with an administrator, the policy body should set qualifications, job descriptions, and rate of compensation in the context of a job classification and compensation plan. If the township board is going to sit as a hiring committee for anyone other than its superintendent, the board should carefully define by policy which employees will be so hired and how such people are to be dismissed. In such cases, the board should realize that they may be making the superintendent responsible for the job performance of someone he did not hire and may not, depending on policy, be able to dismiss.

Other areas of administrative responsibility include the formulation of work programs and performance evaluations. The work program should be the first step in the township budget process. It also leads to a more satisfied and productive employee. It should be used as the basic tool by the superintendent in giving his employees guidance and direction. It also makes possible much better job performance evaluation by the superintendent and township board. Without specific standards against which to measure the performance of an individual, such evaluation is a meaningless exercise.

The final elements of personnel management include the need for job descriptions and good personnel policies. The township has job descriptions, although they should be reexamined and revised regularly and used to improve the administrative process. Personnel policies and a statement of general procedures and regulations can improve the working environment for both employer and employee. Charles E. Minner, the management consultant, suggested in a recent Township News that the following items be included in a policies manual for each employee:

1. Employment Policy - What is your policy concerning race, sex, age, religion, political affiliation, etc.?
2. Orientation - Do the employees have any? What is the policy? Where can the new employee get help?
3. Probationary Period - What is expected of new employees? What can the employee expect of the employer? How long on probation?
4. Workdays and Hours - How many hours a day will they be expected to work? What are the hours?

5. Attendance - What is expected as to daily attendance - absenteeism, tardiness?
6. Classification of Employment - What is permanent, temporary, full-time, and irregular part-time employee?
7. Hiring of Relatives - What is your policy? What is meant by term "relative"?
8. Physical Exam - Is one required? Do they go to their own physician or yours?
9. Transfers and Promotions - How to apply for transfers. What requirements have to be met for a promotion?
10. Records - Is there a centralized department where records are kept up-to-date as to address, phone, age, dependents, etc? Do they have to notify the employer of changes? When?
11. Overtime - When does overtime start? How are employees compensated for overtime?
12. Standards of Conduct - Guidelines for all employees to follow.
13. Wage and Salary Policy - What is the employer's general policy?
14. Payroll Errors - If they have an error in a paycheck, where do they go?
15. Wage Advances - What is the employer's policy on advances?
16. Leaves of Absence - What is a leave of absence? Procedure for applying for a leave? Guidelines for such leaves as military, maternity, etc.?
17. Resignations - What is the procedure? What benefits can be collected?
18. Dismissals - What guidelines are used? Can benefits be collected?
19. Absences - How do you report absences? To whom? When?
20. Tardiness - How will this be handled? When to deduct pay. How much for what portion of the hour?
21. Loss of Seniority - What constitutes loss of seniority?
22. Paydays - What day of the week? For what period? Do you hold pay back?
23. Problem Solving Procedure - How are problems handled? What steps to follow.
24. Evaluation Procedure - When should new employees be evaluated? Employees of five or ten years?

An explanation of fringe benefits, including such items as vacation and other types of leave, insurance, holidays, etc., should also be included. The township may also wish to develop a policy toward the career development of its employees.

Financial Management

As the township grows, its financial management needs grow more complex Cash flow problems may become more critical, requiring more sophisticated cash budgets. Management needs for financial reporting become greater. Considering fiscal policy, the budget process becomes the most important tool. In any unit of government, of course, the budget is the process used to allocate a scarce resource, money. As the township grows in size, it can become more difficult to determine what services are being purchased with the budget and how much they cost per unit.

The Chocolay budget is a line item budget by department. It is possible, for instance, to determine how much is budgeted for police salaries and how much for clothing, equipment, and gas and oil. But it is not possible to determine how much is being budgeted for animal control, routine traffic patrol, or for investigative activity. As the township grows larger with more diverse services and activities, it becomes more difficult for the policymaker to influence the provision of services unless the choices are clearly indicated through the budget. The program budget is being used increasingly as a tool for accomplishing this need. In that process, budgeting is done by program instead of by line item. In that way, the policymaker can clearly see what service he/she is buying and what unit/cost is being paid for them. Township growth and complexity also make the capital investment budget decisic more difficult. Suggestions for "managing" those decisions are contained in a

separate chapter. It is sufficient to say at this point, that however capital projects are proposed and prioritized, they should be considered at the same time other budget decisions are made. The policymaker needs sufficient information so that he can choose between capital projects and the provision of services to the township.

These more sophisticated budget techniques will place greater demands on the budget officer and the policy body. The present job description for the superintendent states that he will "prepare and administer the annual budget under policies formulated by the township board and keep the said board fully advised at all times as to the financial condition and needs of the township." The budget officer would not only have to build the budget from the bottom using work programs for each employee, but he would have to administer a program budget differently. Employee time cards would have to refer to the budget activity where time was expended and accounting procedures would have to reflect that distinction. The true equipment costs of each township activity would have to be reflected in each budget activity. The question quickly becomes one of how much sophistication in regard to budgeting and financial reporting the township can afford. At some point in township development, the question also becomes one of how much sophistication the township can do without.

Planning and Regulating

The final specific areas of administration to be discussed are the needs of the planning commission and the regulatory function. The planning commission has just finished the massive effort of developing a comprehensive plan and new zoning ordinance. Much of that planning effort will be wasted if the plan is not constantly revised and improved and if it is not implemented properly through the regulatory and budget processes. In order to use these tools for implementation, the planning commission will almost surely need staff assistance and possible assistance from outside of the staff on technical planning and legal problems. Most clearly, assistance will be needed to prepare information and analysis for plat reviews. It is probably unreasonable to expect planning commissioners to adequately prepare for these reviews. The issues in each review should be prepared and presented to them for decisions. As the commission gets involved in budgeting, especially capital budgeting, staff assistance in financial analysis and the development of criteria will be necessary. Much of this assistance, as discussed in the CIP chapter, will parallel other activities and can best be supplied by the chief budget officer of his staff.

The need for administrative support to the planning commission and zoning board of appeals is most immediate in the administration of the new zoning ordinance. If the ordinance is not enforced well, it will be unenforceable in short order. Technical planning assistance may be needed and legal assistance will most assuredly be needed. The zoning administrator is probably in the best position to supply or procure this assistance.

This chapter has discussed some of the various difficulties encountered by a township as it moves from an essentially rural limited service unit of government to a suburban full-service unit. These problems are of importance to the planner because of the bearing they have on plan implementation. If the policies of this plan are to be implemented, it must be done by effective township decision-making and administration. The township probably faces many years in which it will be neither "fish nor fowl." It will never be a rural township again and it will be some time before it has the full professional administration of a city. Of course, administrative problems will not disappear at that point, they will only be different

in nature. As the township board works with a hybrid system, it is probably most important that it fully recognizes the problems of the system. Most of all, it should be careful to clearly designate administrative responsibilities at all times. It is clearly possible to live with such a hybrid system if everyone knows the "size of the ballfield" and the "rules of the game."

Abstract

This chapter of the Chocolay Township Comprehensive Plan considers the administrative function in the township and its role in plan implementation. It considers the general problems of a township in transformation from a rural unit of government offering few services and comparable administrative capacity to a township offering many urban services with the resultant need for greater administrative time and skills. The methods that can be used by the elected policy body to ease those problems are discussed.

Particular administrative problems are identified in the areas of personnel and fiscal management, staff support of the planning commission, and enforcement of regulation. In the area of personnel management, the changing responsibilities of the township board, supervisor, and department head are discussed as well as the specific needs of good management.

In considering financial management, the crucial role played by the budget process in implementing township policy is considered. Suggestions are presented as to the nature of the future township budgeting practice, including the need to clearly identify the cost of specific township services and programs.

Finally, administrative needs in planning and regulation enforcement are considered. The needs of the planning commission in plot reviews, zoning administration, budgeting, and plan review are identified.

appendices

A Opinion Survey
B Functional Highway Classification for 1970 Needs Supply
C Chocolay Township Alternatives Land Use Comparison

APPENDIX A

CHOCOLAY TOWNSHIP DEVELOPMENT SURVEY
SURVEY SUMMARY

Prepared by:
Central U.P. Planning and
Development Region

January, 1975

CHOCOLAY TOWNSHIP DEVELOPMENT SURVEY

This development survey was taken so that the township planning commission would have additional community input to the development of the new comprehensive plan. It is extremely difficult for a group of nine persons to merely review statistics and data and then project the needs of some 4,000 persons over the next ten years. It is hoped that through the responses on the questionnaires that were returned, the planning commission will have a better understanding of community opinions on important issues. Better yet, the questionnaires will indicate what the citizens feel the important issues are to them.

Purpose and Objectives of the Survey

The planning commission undertook this survey to determine community opinion as to the desirable future development for Chocolay Township. The results will be used both in the preparation of the township comprehensive plan and the revised zoning ordinance. In conducting the survey, the following objectives were established:

A. Determine commuting patterns of residents. Place of employment, routes driven, time en route, occupation.

B. Determine citizen attitude toward population growth in the township.

C. Determine what type of economic base citizens would like within the township.

D. Determine what improvements or changes citizens feel are needed for township, community facilities and services.

E. Determine citizen attitude on desirable housing types and lot sizes.

F. Determine attitude of citizens toward use of mass transit.

G. Determine citizen opinion on the effective use of taxes.

H. Determine citizen awareness of the zoning ordinance and their opinion of its use.

Method of Conducting Survey and Sample Size

A review of different survey methods was discussed at some length by the planning commission. The merits of personal interview versus mail-out surveys were presented

and it was decided by a majority vote of the planning commission that the mail-out was preferable. It was also decided by a majority vote that the mailing would be a 100% sample.

Sample Selection

Stating that the questionnaires will be sent to everyone in the township is easier said than done. The first problem is what does 100% of the township citizens mean? Does it mean 100% of township residents or 100% of township property owners. If the property owners were mailed questionnaires based on the tax roll listing, then the persons renting property are being discriminated against.

This is why a list of utility customers from the Marquette Board of Light and Power was used with a list of township customers from Alger-Delta Cooperative. It was felt that a list of persons using electricity in Chocolay Township would be as complete a list as possible.

Survey Results

It is important to preface this section with a few comments on the accuracy of the survey. Because of a number of factors, such as the list of utility customers not being a "true" list of township residents, and using a 100% sample does not represent a statistically accurate random sample, the survey is not a pure statistically accurate representation of citizen opinion. This means that a statistician could not draw precise and distinct conclusions from the responses. However, the survey does represent a useful tool for the planning commission. Each survey is a personal response from a township citizen.

Every opinion in the township is important and should be considered in the development of the plan.

So, conclusions drawn from this survey represent an important guide to citizen's desires for Chocolay's future, but not the only source to be used. It is with this understanding that the following survey interpretations are presented.

Analysis of Response

There were a total of 421 surveys returned, but as expected, each survey did not come back completely filled out. It was explained in the directions of each survey that questions the respondent did not want to answer he could leave blank. This was done to encourage people not to throw the entire survey away just because they chose not to answer every question. The table below is a tabulation of the total responses to each question on the survey.

Question	Responses	% of Total Questionnaires Returned
# 1	411	98%
# 2	373	89
# 3	405	96
# 4	404	96
# 5	383	91
# 6	392	93
# 7	336	80
# 8	370	88
# 9	391	93
#10	371	88
#11 and 12*		
#13		
Work	303	72
Shopping	248	59
Teenagers	173	41
#14	377	90
#15	370	88
#16	384	91
#17		
Township Hall	289	69
Fire Department	216	51
School	235	56
Recreation	265	63
Police	224	53
Other Needs	115	27
#18 Written Responses		
#19	298	71
#20	274	65
#21	381	90
#22	368	87
#23	238	56
#24	205	49

* The many parts of these two questions do not lend themselves easily to this table.

In designing a survey, it is impossible to include questions that will have the exact same meaning to everyone that reads the question. What was done with this survey, as with all surveys, is to design questions that are as clear and specific as possible to anyone that reads the question. This survey was not perfect and some questions probably confused the reader. However, from the preceding table there does not seem to be any one question that was totally confusing to a majority of respondents. This indicates that the questions were generally understood.

It is noticeable that the type of question had a definite affect on the response rate. There were two general types of questions in this survey. They were the short answer and the fill in type. The beginning questions one through ten and 14, 15, 16, 21 and 22 were either check-the-box or one word answer questions. The response rate on these questions was high. Each of these received at least 87% response. This type of question is easy to answer with little time or effort

by the respondent. People do not like to spend much time filling a survey out, even if it pertains to something of personal interest. So if anything gets filled out, it is the questions that require short snappy answers. This is further shown by questions 21 and 22. They are near the end of the survey among the questions asking for written answers. They each received a high response while the questions before and after received considerably less response. Besides showing a preference for the short answer questions, this also indicates that most everyone read through the entire survey and filled in the quick response questions.

The questions that needed a written response showed a noticeable drop in response rate. Generally, the response was down in the 50% to 60% level. These questions were located more toward the end of the survey which could also have contributed to a lower response.

Conclusions

When first considering the use of the survey, the Planning Commission established eight objectives, which are listed on page one of this report. Now that the surveys are returned, generalizations can be made with respect to each of these objectives and with respect to the characteristics of the people that returned the surveys.

For the convenience of those using this report, the conclusions will be put into short, concise statements rather than lengthy paragraphs.

Characteristics of the Respondents

1. Respondents were predominantly new to the township. Seventy-three percent had moved to Chocolay Township since 1960 and 44% since 1970.

2. Majority of respondents moved from somewhere in Marquette County to Chocolay Township (67%). Another 9% moved to the township from somewhere else in the Upper Peninsula. Ten percent had moved from Lower Michigan to Chocolay Township.

3. Average household size of respondents was 2.9 persons per household. This is less than the 3.4 persons per household tabulated from the 1970 Census.

4. There was good response from each age group from 25 years old to those over 65. However, response was heaviest from persons 25 to 39 years old, and also, from persons over 65.

5. The respondents were overwhelmingly home owners with 91% owning and 9% renting their current housing. According to the 1970 Census, this is not representative of the overall township. In 1970, there were 79% home owners and 21% renters.

6. The majority of respondents (56%) expected to live in the township indefinitely. Another 36% answered they would live there the rest of their life.

Objective A

Nearly three quarters of the respondents worked in the City of Marquette. Most frequently used roads were U.S. 41, M-28 and County Road 480. Eighty-six percent of the

respondents use a car for transportation with another 6% using some type of car pool. It takes an average of 18.6 minutes for the respondents to get to work. Occupation of the head of household, in most cases, was a professional, craftsman, retired or a manager. The predominant occupation of the spouse was either a professional or clerical occupation.

Objective B

A majority (57%) wanted the township population to stay the same size. Another 33% indicated that they would like an increase in population.

Objective C

The respondents want more retail and service businesses. However, they are very evenly divided as to the desirability of having large employment firms or industries.

Objective D

Three quarters of the respondents said there was a need for a new township hall and/or community building. Over 70% of the responses said no improvements to the fire department were needed. A slight majority of respondents (56%) indicated no improvements were needed with regard to the schools. A strong majority (72%) indicated that there was a need for recreation facilities. Specific recreation needs identified were playgrounds, tennis courts, ice rinks, ball fields, beach areas, boat access, community building, harbor improvements, bicycle paths, library and community theater. The response on the need for police department improvements was very evenly divided. There were 53% no responses, and 47% yes responses that improvements are needed. The improvements listed most often are more patrol cars, more policemen, better trained personnel and a police station is needed. Other needs, listed by frequency of occurrence, on the questionnaires include: need cable TV, water system, more recreation for all ages, sewer system, road improvement, better street lighting, library facilities, improved snow plowing in winter, more police patrol for residents, and improved garbage collection and disposal.

Objective E

Very generally speaking, the respondents want to own their home, live in a single family dwelling and have a lot somewhere between ½ acre and three acres. When asked what housing type the respondents hoped to be living in in the future, 93% said single family, 2% said apartment, 1% said condominium and 4% said mobile home on private lot. When asked what housing types should be built in the next ten years, respondents indicated very strong desire for single-family and much less for other types. This response shows a noticeable difference in what housing type the respondent hopes to be living in in the future, and what types of housing he hopes will be built over the next ten years within the township. On one hand, the respondents are saying, "we want to live in single-family homes"; but then they indicate in the very next question that more apartments, condominiums, and mobile home units should be added to the township's housing supply.

Objective F

Generally speaking, half of the people would use a public vehicle for transportation to work or shopping, and half would not. However, it appears that the respondents would like the service for their teenagers. Eighty-three percent said they would have their teenagers use such a system.

Objective G

The respondents did not feel that township taxes were returning an equitable amount of services as indicated by the 72% no response and 28% yes response. The written comments that specified where the taxes should be spent are as follows: more street lights needed, better snow removal needed, more receation needed, streets need repair, better police protection needed, improved garbage collection needed, and taxes are township-wide but service is not.

When asked if there were any community facilities and services that they would support a tax increase to improve, nearly 70% said no. The 31% that responded yes added comments stating where the taxes should be spent if increased. Their responses, in order from most frequently listed to least frequently listed, are: need a community building/township hall, more recreation, better schools, better fire protection, better police protection, and more street repairs.

Objective H

The respondents (88%) were aware of a zoning ordinance being in affect in the township. Only half of the respondents have come in direct contact with the ordinance through a request of any kind. Of those that have used the ordinance, it was through a request for building permit or addition. Nearly 50% of the respondents believe that the existing ordinance is being enforced through fair and consistent decision. Twenty percent said they were uninformed about the ordinance with the remaining 34% giving a no response. When asked if any changes are needed in the township zoning ordinance, 50% responded yes, 33% said no and 17% said they were uninformed about the ordinance. Specific comments about what changes in the ordinance are needed and why the respondent feels that it is not being enforced through fair and consistent decisions can be found in this report after question 23 and 24.

Individual Question Summary

There were 1,435 surveys mailed out on the tenth of October. As of the 18th of November, 421 had been returned. This is a 29% response and considered very good percentage return.

Now each question will be reviewed individually with overall conclusions added at the end of this report. Responses on each question do not total 421. This means that as people went through the questionnaire, some questions struck them as personal or they forgot to fill them out, or the wording of the question was confusing. Response totals for each question will be discussed at the end of the report.

Question 1 - How long have you lived in Chocolay Township?

		Number of Responses	% of Response
Year Moved To Township	1970-74	180	44
	1960-69	120	29
	1950-59	41	10
	1940-49	27	6
	1920-39	12	3
	Life	12	3
	Summer Resident	19	5
	Total Responses	411	100

A predominantly large number of persons responding to this question moved into the township within the last 14 years. Seventy-three percent of the responses on this question are from persons that have moved to Chocolay since 1960.

Question 2 - Where did you live before moving here?

		Number of Responses	% of Responses
City, State or Location of Previous Residence	Marquette	205	55
	Ishpeming	12	3
	Negaunee	12	3
	Marquette County[1]	249	67
	Central Upper Peninsula	20	5
	Eastern Upper Peninsula	7	2
	Western Upper Peninsula	6	2
	Lower Michigan	38	10
	United States	49	13
	Foreign Countries	4	1
	Total Responses	373	100

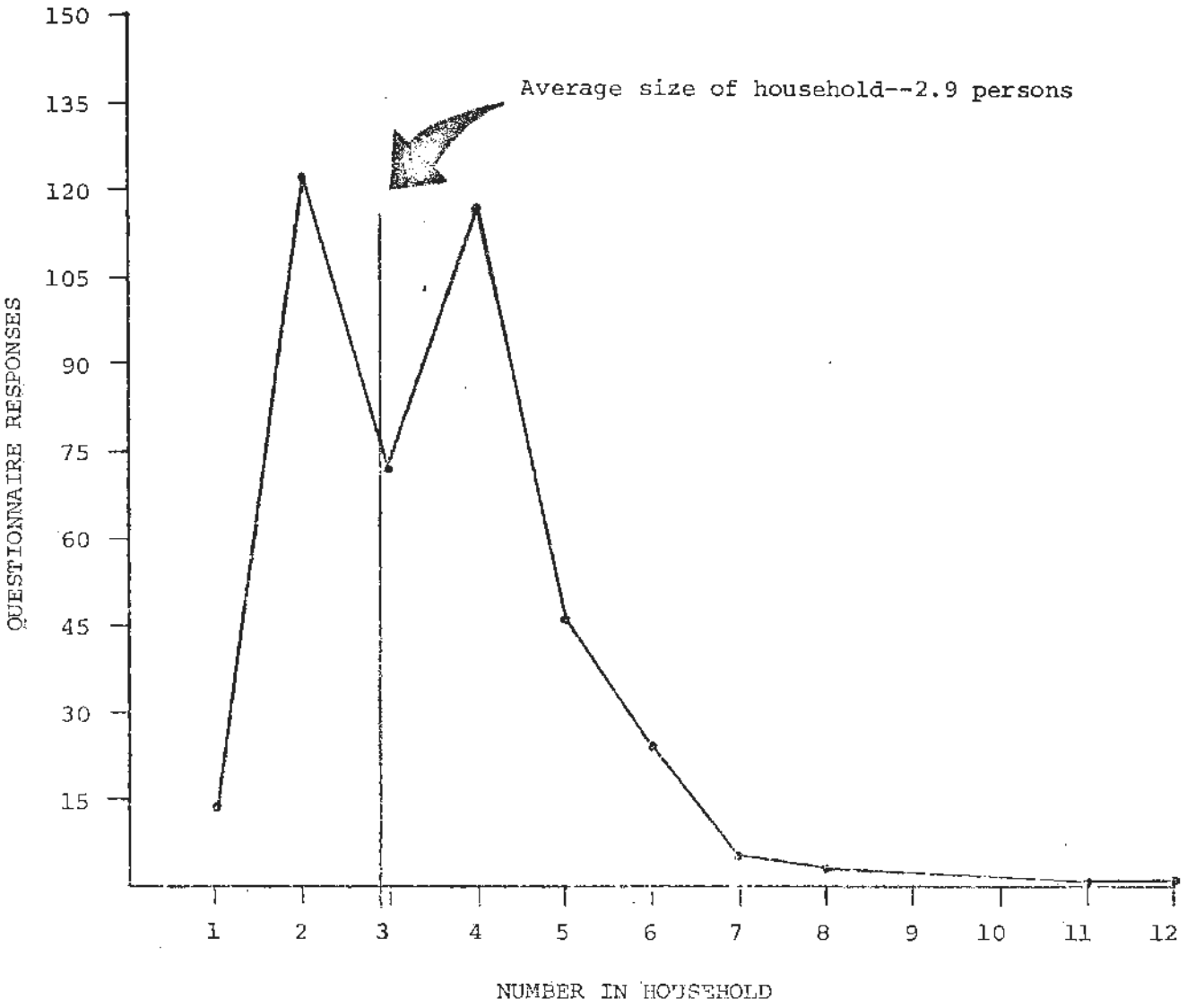
[1]Marquette County includes the three cities of Marquette, Ishpeming, Negaunee.

The majority of persons responding to this question had lived in Marquette County before moving to the township. Sixty-seven percent of the persons had come from the County and fifty-five percent of the total respondents had moved from the City of Marquette. Another ten percent had lived in Lower Michigan and thirteen percent moved to the township from other areas of the United States.

Question 3 - How many persons live in your household and what are their ages?

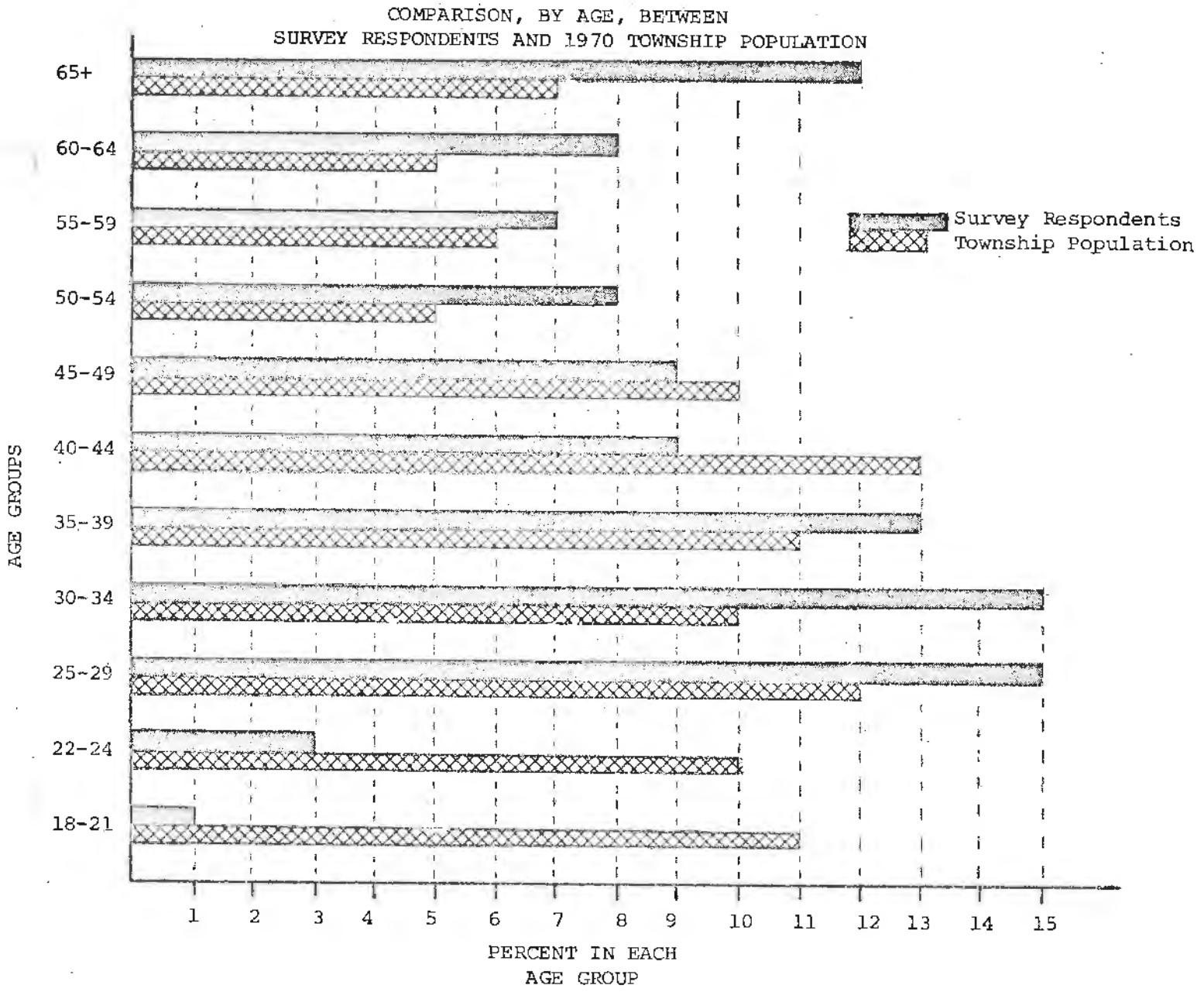
The graph below indicates persons per household of the respondents to this question. As indicated on the graph, 2.9 was the average household size. There was a total of 405 responses to this question.

HOUSEHOLD SIZE OF RESPONDENTS



The following bar graph shows the age of the persons responding. This was obtained from each questionnaire by assuming that the oldest person in each household would be filling out the responses. For example, if the following ages appeared on the questionnaire: 29, 27, 7, 5 and 4, it was assumed that 29 was the age of the respondent.

The bar graph compares the percentage in each age group that responded to the survey with the percentage of persons in the 1970 Census in the same age group.



Question 4 - Do you own or rent your home?

Of the 404 persons that responded, 368 (91%) owned their homes and 36 (9%) rented their home.

Question 5 - When first moving to Chocolay Township, did you wish to own or rent your housing?

There were 383 responses to this question. Of these respondents, 52 (14%) wished to rent when they moved to the township and 331 (86%) wished to purchase.

Question 6 - What type of housing did you seek when you first moved to Chocolay Township?

Type of Housing	Responses	Percent
Single Family	351	90
Apartment	12	3
Condominium	1	0
Mobile Home on Private Lot	21	5
Mobile Home in Mobile Home Park	7	2
Total Responses	392	100

As the table indicates, single family housing was the type desired by 90% of those responding. Persons wanting apartments represented 3% and those wanting to live in mobile homes totaled 7%.

Question 7 - How much land did you want when you sought housing in the Township?

Type of Lot	Responses	Percent
A typical lot (150' X 150')	152	45
A large lot (1 to 3 acres)	137	41
A large parcel (3 to 40 acres)	47	14
Total Responses	336	100

The responses are very evenly divided between the typical lot and large lot. Forty-five percent wanted a typical lot and forty-one percent wanted a large lot. The remaining fourteen percent of respondents wanted the larger parcel.

Question 8 - How long do you hope to live in Chocolay Township?

Of the persons responding to this question, 132 or 36% expect to live in the township the rest of their life. Another 208 (56%) responded they would be living in the township indefinitely. The remaining 30 responses varied in expected residency from one month to 40 years. A total of 370 persons answered this question.

Question 9 - What type of housing do you expect to be living in in the future?

Type of Lot	Responses	Percent
Single Family	365	93
Apartments	8	2
Condominium	2	1
Mobile Home on Private Lot	15	4
Mobile Home in Mobile Home Park	1	0
Total Responses	391	100

From a comparison of question nine with question six, more persons expect to be living in a single family home in the future than were looking for that type of housing when they moved to the township. But less people expect to live in apartments or mobile homes in the future than were looking for that type when moving to Chocolay.

Question 10 - What type of housing would you prefer to have built in Chocolay Township during the next ten years?

Type of Housing	Responses	Percent
Single Family	348	94
Apartments	64	17
Condominium	33	9
Mobile Home on Private Lot	27	7
Mobile Home on Mobile Home Park	26	7
Total Responses 371		100

This question shows a desire by respondents to have more apartments, condominiums, and mobile home units added in the township but according to question 9, not an equal desire to live in these type units. The total responses are more than the number of questionnaires returned because persons were to check one or more of the categories.

Question 11 and 12 - This question asked where the head of household and his spouse worked, what their occupations were, what roads they took to work, what means of transportation was used, and travel time to work.

Place of Work	Responses	Percent
Marquette	224	73
Chocolay Township	27	9
K.I. Sawyer Air Base	14	5
Ishpeming	12	4
Negaunee	11	4
Palmer	10	3
Skandia	3	1
Throughout U.P.	3	1
Gwinn	1	0
Total Responses	305	100

Of the 305 responses to this question, 82% worked in Marquette or Chocolay Township. Five percent work at the Air Base with another 8% working in the Ishpeming-Negaunee area. These locations include the head of household and their spouses place of work.

The occupations of the persons answering the questionnaire are shown below.

Occupation	Survey Responses for Head of Household - %	1970 Census Figures for Males - %	Survey Responses for the Spouse - %	1970 Census Figures for Females - %
Professional	39	16	43	17
Craftsman	19	23	-	-
Manager	14	13	2	1
Laborer	9	5	-	3
Service	5	14	15	15
Sales	4	7	2	10
Transport	3	6	-	-
Manufacturing	3	9	-	6
Clerical	3	6	36	43
Farming	1	1	-	-
Private Household	-	-	2	5
Total Responses	100	100	100	100

It appears that persons responding as head of household are employed at professional, skilled craftsman, or manager types of occupations. The spouses that are employed have 43% listed as professional and 36% in clerical occupations. The table above shows the comparison of occupations between the survey respondents and the 1970 Census figures.

The roads traveled by respondents are listed below in order of most used to least used.

Roads	Responses	Percent	Roads	Responses	Percent
U.S. 41	395	90	Karen Road	7	2
M-28	178	41	Ortman Road	6	1
County Road 480	57	13	College	5	1
Lakewood Lane	48	11	Hiawatha	5	1
Main Street	37	8	Superior Street	5	1
Cherry Creek Road	35	8	W. Washington Street	5	1
Green Bay	21	5	Willow Road	5	1
Front Street	19	4	County Road 553	4	1
M-35	15	3	Fairbanks	4	1
Little Lake Road	12	3	Green Garden Road	4	1
Kabawgam Road	10	2	Big Creek Road	3	1
Silver Creek Road	10	2	County Road 492	3	1
Mangum Road	9	2	Lake Shore Boulevard	3	1
Riverside	9	2	County Road 545	2	.5
County Road 460	7	2	Seventh Street	2	.5

TOTAL RESPONDENTS - 438

(Includes Wives Driving Separately)

Next, the respondents indicated what means of transportation they used to get to work.

Transportation Mode	Responses	Percent
Car	363	86
Car Pool	28	6
Motorcycle	17	4
Trucks	12	3
Company Car	3	1
Total Responses	423	100

Also, each respondent was to answer how long it took him to travel to work. Based on the figures below, it takes an average of 18.6 minutes, for persons responding to this questionnaire, to travel to work.

Travel Time	Responses	Percent
0-10 Minutes	32	9
11-20 Minutes	162	47
21-30 Minutes	117	34
31-40 Minutes	24	7
41-50 Minutes	5	2
60 Minutes	3	1
Total Responses	343	100

Question 12 asked the respondents to indicate if the spouse works. Thirty-nine percent worked; with 23% having full-time jobs.

Employment	Responses	Percent
Full-time	79	23
Part-time	54	16
Not Employed	205	61
Total Responses	338	100

Question 13 - If a bus or other public vehicle was available, would you use it?

Type of Use	Yes Responses	No Responses	Total Responses
To get to work	134 (44%)	169 (56%)	303
To go shopping	141 (57%)	107 (43%)	248
For your teenagers	143 (83%)	30 (17%)	173

The responses show a pretty even split of persons that would and would not use a public vehicle for work and shopping. But of the persons that answered if their teenagers would use it, 83% said yes they would. The number of total responses on this teenager segment is down significantly from the other two parts. However, looking back at the age distribution of the respondents, there are 207 respondents between the ages of 30 and 55. This is the age group of parents that would be most likely to have teenagers. So assuming that this is the age group that would respond

to the teenager segment of the question, the 173 represents 84% of the persons in the township 30 to 55 years of age.

Question 14 - Would you like to see more retail and service businesses, such as grocery stores, clothing shops, hardware stores, and the like in the township?

Answer	Responses	Percent
Yes	301	80
No	76	20
Total Responses	377	100

This indicates that a majority of those persons that answered this question favor more retail and service businesses in the township.

Question 15 - Do you think large employment firms or industries are a desirable addition to the township?

Answer	Responses	Percent
Yes	197	53
No	173	47
Total Responses	370	100

This question received a very even split between the yes and no votes. The yes votes won by a very slim margin.

Question 16 - Would you like the township to increase or decrease in population, or remain the same?

Answer	Responses	Percent
Increase	129	33
Decrease	37	10
Stay same	218	57
Total Responses	384	100

The respondents to this question wish the township would stay the same size by a 57% majority. Combining this with the persons wanting a decrease, 67% of the responses want anything but increase in population.

Question 17 - Do you feel there are building or equipment improvements needed for the township hall, fire department, school, recreation areas, police department or other needs?

	Improvements Needed				
Facility	Yes	Percent	No	Percent	Total Responses
Township Hall	217	75	72	25	289
Fire Department	63	29	153	71	216
School	104	44	131	56	235
Recreation	192	72	73	28	265
Police	106	47	118	53	224
Other Needs	69	60	46	40	115

Each person answering the questions above was allowed to comment on what type of improvements were needed. A summary of the written comments follows.

Township Hall Comments

Overwhelmingly, the single most common statement was that a new hall or larger hall was needed. Remaining comments centered on the need for a community building used by all. It was also expressed that one building should serve as township hall, fire department, and police department.

Fire Department Comments

There were only 40 comments written in on this section. The most frequent suggestions were to have a permanent rather than volunteer force, more trucks and equipment, add an ambulance, better system for locating fires, and need for better water sources.

School Comments

Comments here suggest that the school should be bigger, it needs a hot lunch program, needs more playground equipment, an intermediate school or high school is needed in the township, better bus service and a library is needed. Several comments mentioned either remodeling or eliminating the Beaver Grove School.

Recreation Comments

The majority of comments said there was a need for playgrounds, tennis courts, ice rinks, ball fields, beach areas, boat access and some type of community building. Protection and development of the harbor was mentioned several times. Also listed was a need for bicycle paths, a library, and a community theater.

Police Department Comments

The most frequent comments are that more patrol cars and policemen are needed, better trained personnel are needed and a police station is needed. Some other comments that appear just once include: better pet control needed, business establishments should be patrolled every night, the budget is too high, better speed limit enforcement on Kawbawgam Road, more policing in summer months and too many officers with too little protection.

Other Comments

The other needs listed under this question were many and varied. Comments that were

listed by more than one questionnaire include: road improvements needed, need community center adequate for all functions, dog control, more street lighting, cable TV service, better snow removal and harbor and launch improvements. Some of the comments that were listed just once include: have Marquette Board of Light and Power serve the entire township, housing for the elderly, water lines as well as sewer lines, clean-up junk cars, try to attract industry, need a shopping center, need a post office, need activities for senior citizens and better garbage collection and ambulance.

Question 18 - Can you suggest any way the township could improve its service?

This question prompted numerous responses as to the way township services could be improved. The need that was repeated the most was better dog control. Other needs, listed by frequency of occurence on the questionnaires include: need cable TV, water system, more recreation for all ages, sewer system, road improvements, better street lighting, library facilities, improved snow plowing in winter, more police patrol for residents and improved garbage collection and disposal. These needs were listed the most often and reflect the respondents highest needs.

Question 19 - Do you feel the township taxes are returning an equitable amount of services?

Answer	Responses	Percent
Yes	85	28
No	213	72
Total Responses	298	100

The responses on this question are very similar to the previous responses of community needs. The comments, beginning with those listed the most often are: more street lights needed, better snow removal needed, more recreation, many streets need repair, better police protection needed, improve garbage collection and taxes are township wide but service is not.

Question 20 - Are there any community facilities and services that you feel strongly about and would support a tax increase to finance?

Answer	Responses	Percent
Yes	85	31
No	189	69
Total Responses	274	100

Those who answered yes to supporting a tax increase list their needs in the following order of importance: need a community building/township hall, more recreation, better schools, better fire protection, better police protection and more street repairs.

Question 21 - Did you know a township zoning ordinance is in effect in Chocolay Township?

Answer	Responses	Percent
Yes	335	88
No	46	12
Total Responses	381	100

Question 22 - Have you ever requested a building permit, zoning change, or variance?

Answer	Response	Percent
Yes	177	48
No	191	52
Total Responses	368	100

Type of Request	Response	Percent
Building Permit or Addition	156	99
Zoning Change	2	1
Total Responses	158	100

Question 23 - Do you feel the township zoning ordinance is being enforced through fair and consistent decisions?

Answer	Response	Percent
Yes	110	46
No	80	34
Uninformed about ordinance	48	20
Total Responses	238	100

Respondents were asked to comment on why they thought the ordinance was not enforced fairly and consistently. The comments were many and varied. There was no natural grouping of the responses that could be done without losing the message of each individual comment. Therefore, each comment that appeared on the questionnaire has been listed in this summary.

Comments:

It depends on who you are and who you know.
It should not matter where you live to be able to have a home built by a mobile builder.
Sewer system was pushed hard on residents that didn't need the service.
Outlying areas should not be taxed for facilities which only benefit Harvey area residents.
Building permit issuance is inconsistent.
Township board does not listen to zoning board.

Farming area is going to housing.
Too inconsistent
Some groups are more persuasive than others. We have lost tax money because of this.
Zoning ordinances not enforced the same in all areas.
There are people building without permits.
Random zoning and disorderly maintenance
I think zoning is unfair because you own your property and can't do what you want with it.
Not enough people are involved in our zoning problems.
Ordinances are not consistently enforced.
Because 100-foot lots have been allowed to build on recently
Shanty Town, across from Harvey Inn, is still polluting the Chocolay River. It's too bad that this housing development was allowed to destroy Harvey's only river front.
This is one pleasant factor in living here.
I think Township Board was stupid to change original zoning ordinance.
Mobile home ordinance changed
Property tax equalization or improvement
I have been told permits have been issued to build on lots not meeting frontage requirements.
Inconsistent
Impression is that it has been too loose, somewhat subject to favoritism
No, because if somebody wants to build something else other than what it is zoned for, it will be done without care of what people in that area feel.
What about the junk dealer right behind the Township Hall?
Building permits
Too many junk cars in Harvey.
Lost sale of our home because of the zoning.
Personalities have entered into past decisions. The system of county, State and local regulations is near cohesion.
There are too many discrepancies in the present zoning ordinance.
The present zoning laws should be written more specific.
Too many variances granted.
Lot size restrictions have not been consistently applied.
Ordinances are being changed in the interest of those that have monetary representation.
I know of many violations
Lack of enforcement personnel.
It's improving since the formation of the Planning Board.
Township Board has failed to follow the advice of the former zoning board.
Too harshly administered
Decisions have generally encouraged growth development and expansion without due regard for the impact on residents, their taxes and their environment.

Question 24 - Are there any changes you would like to see in the township zoning ordinance?

Answer	Response	Percent
Yes	103	50
No	68	33
Uninformed about ordinance	34	17
Total Responses	205	100

Each respondent was asked what the specific change is that he would like to have made. The comments can not be grouped into general categories so each answer has been listed below.

Comments by Category:

Residential

Allow mobile home on private lot.
Less trailer parks
More trailer parks
Require larger piece of land to plan a home on.
Raise minimum area of floor plan in building code for single-family residents.
Make single family elimination of ghettos, such as Hotel Road and trailer parks.
Minimum building sites one acre
Allow more apartments to be built in outlying areas.
Limit the number of residents per square mile.
Additional property should be made available for multiple construction or condominium development.
We want no more trailer parks or multiple-family dwellings. Stay with large home-sites anything that will keep population concentration down.
Go back to one acre lot sizes and stay there. If people want to live shoulder to shoulder let them move or stay in town.
Mobile homes confined to specific area or trailer court - one main court - not scattered on private land.
Provide for multiple housing. If the density of population would not exceed double that of single housing.
Permit mobile home on ten acre lot.
Lay off small home and mobile home housing.
Require that the private homes built meet some type of uniformity in a sub-division area.
Strict enforcement in the construction of types of homes and apartments. Should be inspections to determine compliance with Michigan Building Code.
Have no idea what it specifies at present, but suggest stronger control over trailers and trailer parks.
More cooperation needed for the development of single-family sub-division or lots.
Enforce rules about quality and size of houses adjacent to one and another, encourage the cleaning up of premises.
Minimum side yard of 150' lots changed to total side yard of 15' instead of 30'.
Houses too close to river should be set off further from river.

Commercial

Limit extension of commercial property.
Opening areas along main roads to any business.
More commercial property available
Commercial business on 41 and 28 highways only, no other place in township
Increase the commercial zoning property available to try to attract businesses and industry.
Zoning more of U.S. 41 for commercial

Special Use District and Spot Zoning

More districts with specific uses outlined.
I would like to see an end to "spot" zoning. If an area is zoned residential, it should remain so.
It is unfair to allow "spot" zoning to exist on Lakewood Lane.
Development of more commercial property and industrial park areas, totally separate from influence of real estate and banking interest.

Industrial

An industrial park area. Rezone residential areas presently being used for commercial purposes.
Do not allow business and industry enter the township many come here for peace and would like it to remain so.

Agriculture

Like to see tax break for working farmers through some zoning guarantee that provides farmers with assurances that it is now and will be in the future profitable to keep their farm intact.
Areas of farm and forestry are still needed contrary to subdivision developers.

General

We need a master plan something definite to go by.
Too many changes making lot sizes too small to suit real estate holders already.
I am against many ordinances that I've seen because they are too restrictive.
General public knows little or nothing about zoning ordinances.
Better enforcement
I would say your Variance Committee should be aware of the fact there are exceptions to rules.
If I cannot build on 30' of my property why should I be taxed on it?
Cancel the zoning ordinance-zoning is for the city; this is still a township not a city.
Only that the entire township be considered from a progressive point of view for future building and expansion.
A new plan with some teeth and opportunity. The old ordinance is outdated. The right zoning ordinance can properly control this and provide areas for all types of growth.
Be fair and be consistent. Be observant buildings have been built and permits gotten after.
Close the loopholes and apply ordinances to all persons.
To be able to build as many buildings on property in the period of one building permit with no extra charge than the first charge.
To be able to do what you want with your own property.
More thought must be given to orderly controlled growth.
Zoning ordinance is too inflexible to cope with varying needs of different areas of the township.
Enforce the ones that are on the books and the new ones we are not aware of.
The zoning laws should be rewritten to avoid loopholes.
I feel the present ordinance is basically adequate, but it does need updating consistent with the growth in the past few years. And there are various sections that need to be more specifically spelled out and defined as to intent and meaning.
For the most part, I feel the zoning ordinances are fair and O.K.
Septic systems should be approved or disapproved on the basis of soil surveys.
The appeals board lets anything go.
Eliminate the zoning board.
Entire ordinance must be made more specific.
I believe that residents concerned should be notified of this fact (when their property is being re-zoned).
Equal zoning for everyone not a selected few.

APPENDIX B

Functional Classification

Reproduced from: "Functional Highway Classification For 1970 Needs Study" prepared by the Joint Coordinating Committee and the Michigan Department of State Highways in consultation with Wilbur Smith and Associates, Consulting Engineers.

Statewide Arterials

The primary function of Statewide Arterial Highways is to provide the highest level of traffic mobility available on the total highway system. These provide direct and unrestricted routings between major metropolitan centers and principally serve movements between rather than within activity areas. These are generally located in widely spaced corridors of concentrated travel desire and are characterized by: high capacity design thereby facilitating sustained high speeds; minimal ingress and egress; and, continuity of routing for regional or interregional travel movements. These facilities should serve the longest trip desires in an expeditious manner. These should also link and serve major sections of metropolitan areas, carrying a majority of the total arterial travel on a minimum mileage with the highest degree of service. This system of highways should include all sections of the Interstate Highway System.

Regional Arterials

Regional Arterial Highways interconnect and augment the Statewide Arterial Highways, forming a continuous, high-mobility network of highways which will efficiently serve major travel desires in all areas of the state. A primary function is to interconnect major population and economic activity centers not served by Statewide Arterial Highways. These highways also provide service to other large areas of special interest and recreation areas which generate or attract a substantial amount of traffic, occasionally subordinating directness of routing in order to perform this secondary function. However, these offer a high degree of trip continuity either alone or as an extension of the Statewide Arterial System.

Local Arterials

Streets in this classification provide service to trips of moderate length at a somewhat lower level of travel mobility than the major arterials. They distribute travel within geographic areas which are smaller than those identified with the higher systems. Local Arterials include those facilities which serve a secondary arterial function at the local level, placing more emphasis on land access than the higher systems and offering a lower level of traffic mobility. They also provide service between smaller cities and connect these cities with the higher arterial systems. They should not, however, penetrate identifiable neighborhoods.

Principal Collectors

These roads function primarily as collector-distributor roads for relatively large areas. These also provide service between minor population and economic centers within the County. Traffic mobility and trip continuity are not as essential as on Local Arterials and serving thru traffic may not be a major consideration. Access controls are not provided on these routes thereby permitting a high level

of service to adjacent properties. These streets may also serve secondary traffic generators, such as schools, parks, and areas with high population densities.

Residential Streets, Local Access Streets and Roads, and Commercial Industrial Streets

These streets and roads carry practically no thru traffic since traffic desires are mostly local in nature. Thus, route continuity is not important. The major function of these streets and roads is to:

-provide access and service to the residential developments adjacent to them;

-provide access to homes, farms, and other low intensity land uses (these routes are usually the remaining section or quarter-line roads and not rural subdivision streets);

-provide access to commercial and/or industrial establishments, (these streets should be constructed to carry heavy vehicles if conditions warrant).

The following is a partial classification of those items of work that need clarification with regard to whether they are construction or maintenance:

Construction

1. All items normally included in a construction contract for a new road or street including removal of old roadbed, structures, detour expanse, and replacement of any sidewalks damaged by construction operation, or made necessary by change of grade.
2. Rebuilding short sections of roadway to super-elevate curves, to improve grades, to lengthen horizontal curves, and to improve sight distances.
3. Any resurfacing or reconstruction operation which changes the roadway surface type.
4. Resurfacing a bituminous, concrete, or brick surface with bituminous material which adds a thickness of 3/4 inch or more compacted to the original surface.
5. Placing three inches or more of new aggregate on prepared gravel or stone surfaces to substantially increase the thickness of the surfacing material beyond that originally built.
6. Curb or curb and gutter construction in block lengths.
7. Surfacing of shoulders with materials of higher quality than the adjacent roadsides.
8. Installation of new culverts, wash checks, baffles, drains, sewers, and catch basins on old or new roads or streets.
9. Installation of traffic signs, delineators, traffic signals and pavement markings on newly constructed roads or streets, or the original installation on old roads and streets.
10. Extending old culverts and rebuilding headwalls.
11. Building flood control, flood prevention, and earthwork protective structures.
12. Bridges, grade separations, or culverts that are rebuilt, and the resultant product increases the vehicular or pedestrian traffic capacity over that of the original design.
13. Bridges, grade separations, or culverts that require major modifications, consisting of strengthening, widening, or replacement of piers and abutments, or complete deck replacement.

Maintenance

1. Placing new aggregate on an existing gravel or stone surface to replace original material worn off.
2. Reconditioning of bituminous surfaces of any length section by scarifying and remixing, or resurfacing without scarifying when new material added increases the existing bituminous surface less than 3/4 inch.
3. Patching and repairing roadway surface of bituminous, concrete, or brick.
4. Cleaning of ditches and drainage structures.
5. Dust layers, sprinkling, and flushing.
6. Brushing and tree trimming.
7. Retracing pavement markings.
8. Replacement of kind or repair of traffic signs, delineators and traffic signals.
9. Guardrail or right-of-way fence repair or replacement and new installations of less than 500 feet on old roadways.

Transportation Definitions

Conflicts have arisen in the definition of construction and maintenance on these local roads. The Department of State Highways, in the interest of uniformity, has adopted the following definitions and rules as a basis for classifying expenditures for construction and maintenance:

Construction is the building of a new road or street and the improving of an existing road or street by correcting grades, drainage structures, width, alignment, or surface. It is the building of bridges or grade separations and the repair of such structures by strengthening, widening, and the replacement of piers and abutments. It is the initial signing of newly constructed roads or streets, major resigning of projects, and the installation, replacement, or improvement of traffic signals.

Maintenance is the routine work and materials required to keep the road or streets, roadbed, surface, and drainage in good repair; prevent damage by water or wind; repair and paint bridges and guardrails; provide for safe and convenient travel by keeping signs, signals, and pavement markings in good condition, and by snow and ice removal, and cleaning the road or street surface.

A Bridge is a structure of 20 feet or more clear span length crossing a drain, stream, or dry gulley.

A Grade Separation is a structure of 20 feet or more clear span length crossing over or under another highway or railroad.

A Culvert is a structure of less than 20 feet clear span.

APPENDIX C

CHOCOLAY TOWNSHIP ALTERNATIVES LAND USE COMPARISON

	Existing (acres)	I (acres)	II (acres)	III (acres)
SECTIONS 6 & 7				
Single Family	387	402	459	428
Multi-Family	3	3	47	12
Commercial/Industrial	25	31	82	48
Parks	4	6	19	12
TOTAL	419	442 (5)	607 (45)	500 (19)
SECTIONS 5 & 8				
Single Family	224	301	229	250
Multi-Family	0	0	30	13
Commercial/Industrial	25	31	82	48
Parks	0	0	113	4
TOTAL	249	332 (33)	454 (82)	315 (26)
SECTIONS 4 & 9				
Single Family	189	234	243	239
Multi-Family	-	-	-	-
Commercial/Industrial	-	-	-	-
Parks	-	-	-	-
TOTAL	189	234 (24)	243 (29)	239 (26)
SECTIONS 10, 11, & 12				
Single Family	448	513	466	464
Multi-Family	-	-	-	-
Commercial/Industrial	12	-	111	20
Parks	3	3	12	12
TOTAL	463	516 (11)	589 (27)	496 (7)
OUTLYING				
Single Family	683	1,251	1,035	1,045
Multi-Family	1	1	1	1
Commercial/Industrial	12	13	15	13
Parks	8	8	47	12
TOTAL	704	1,273 (80)	1,098 (55)	1,071 (52)

(Continued)

	Existing (acres)	I (acres)	II (acres)	III (acres)
TOWNSHIP TOTALS				
Single Family	1,931	2,701	2,432	2,426
Multi-Family	4	4	78	26
Commercial/Industrial	74	75	290	129
Parks	15	17	191	40
TOTAL	2,024	2,797 (38)	2,991 (48)	2,621 (30)
		TOTALS		
DEVELOPED LAND	2,024	2,797	2,991	2,621
FARM LAND	1,537	1,451	1,497	1,497
PUBLIC LAND	8,116	8,116	8,116	8,116

NOTES: Numbers in ( ) indicate percent increase above existing situation.

Single-Family Residential Development includes:

Low and medium density development
Low, medium, and high density shoreline and roadside development
Seasonal dwellings
Duplex
Farm residences
Mobile homes, low and high density mobile home parks
Hotels, tourist courts, and motels
Churches

Multiple-Family Residential Development includes:

Low, medium, and high density complexes

Commercial/Industrial/Government Development includes:

Commercial businesses
Service businesses
Educational buildings
Government administration and services
Cultural indoor
Industry
Warehouses
Engineering offices
Telephone building

Public Land includes:

State Department of Corrections Land
Fish Hatchery
River Gaging Station
State Department of Highways Land
State Forest
Township Dump
State Department of Natural Resources Land